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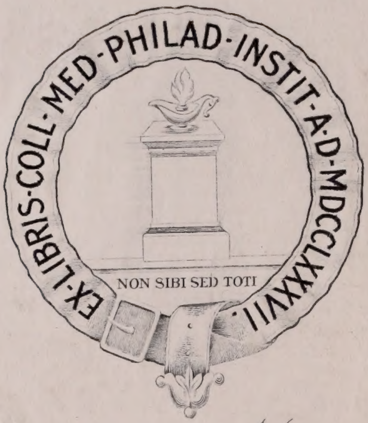
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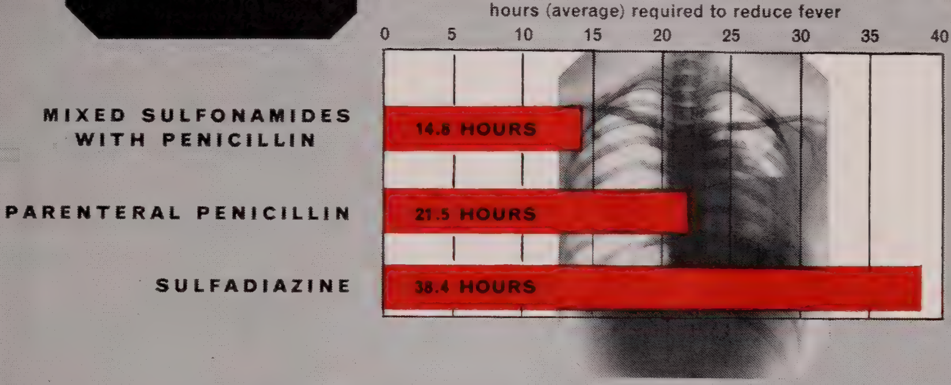

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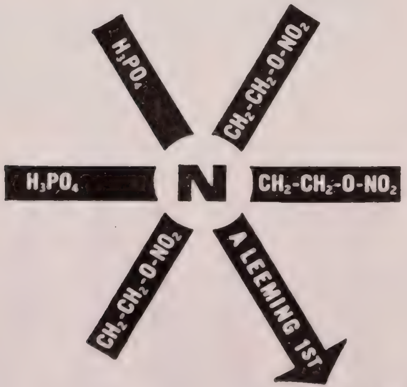

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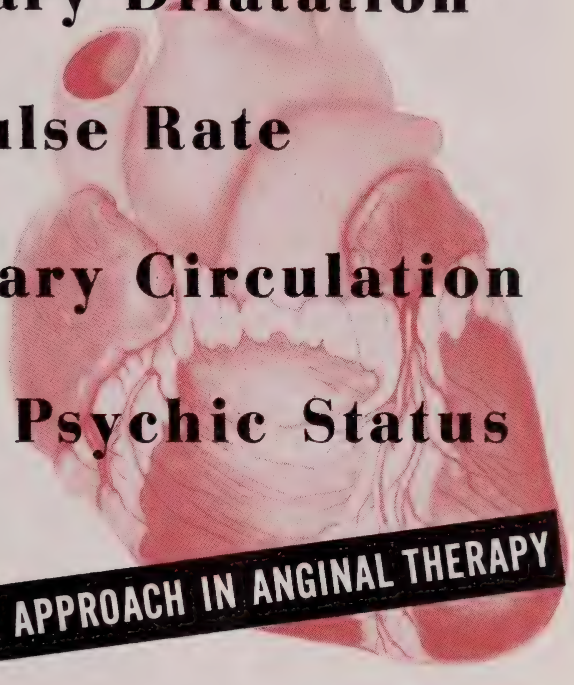

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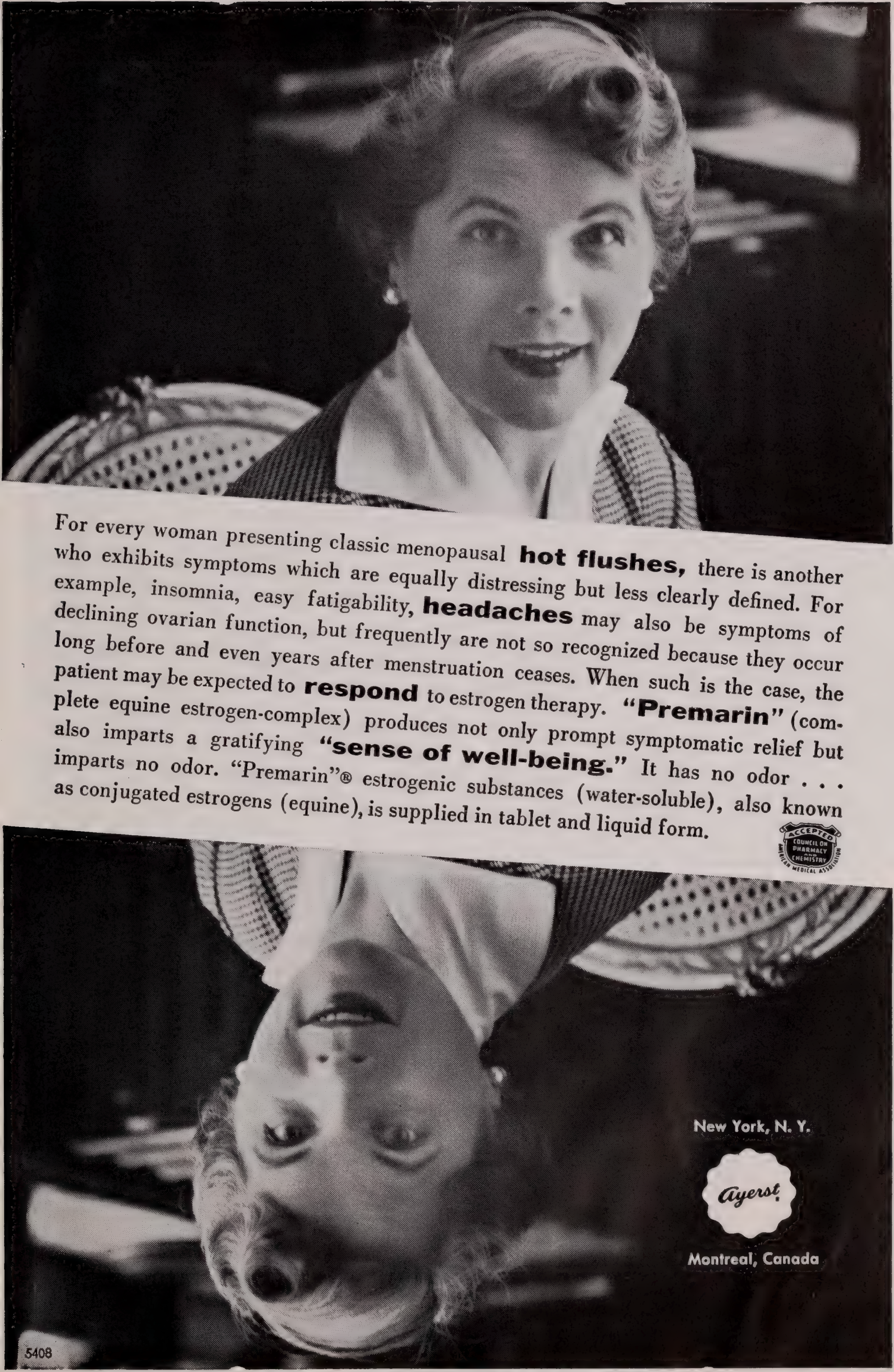

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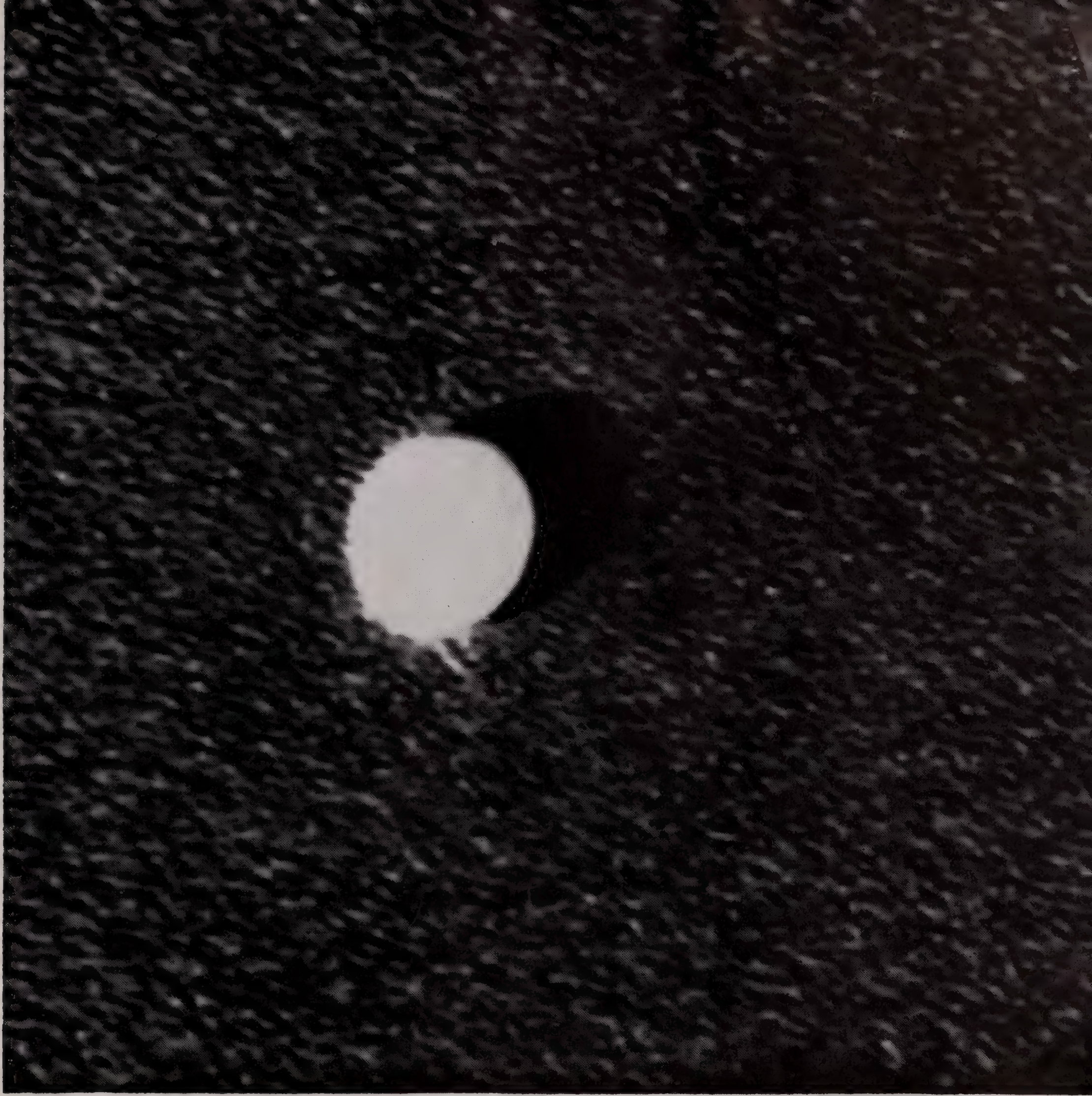

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100 mg. and 250 mg. capsules

Upjohn

*TRADEMARK, REG. U. S. PAT. OFF.

LORZINEX®

A VAGINAL CLEANSING AGENT

that is different!
that is efficient!

LORZINEX solutions cleanse at the *acid pH of 4* (normal to the vagina) and efficiently disperse mucus debris[1]. Inclusion of a zinc salt in the formula promotes astringency. Lactose (a good nutrient for Doederlein bacilli) is added to further establish the physiological flora.

Contains: The newly discovered trichomonacidal synthetic wetting agent *—Sodium Lauryl Sulfate.*

For: **EFFICIENT CLEANSING at Acid pH**
DISPERSION OF MUCUS DEBRIS
TRICHOMONACIDAL ACTION
ANTIFUNGAL ACTION
ASTRINGENCY

LORZINEX is recommended (before administration of therapeutic agents) as an aid in—

MONILIASIS OF THE VAGINA
VAGINAL TRICHOMONIASIS

Highly Effective . . .
Unusually Economical

(1) Lawrence, E. D., W. J. Surg., Ob. & Gyn., 58, 236-7, 1950.

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WALLACE & TIERNAN
BELLEVILLE 9, NEW JERSEY, U. S. A.

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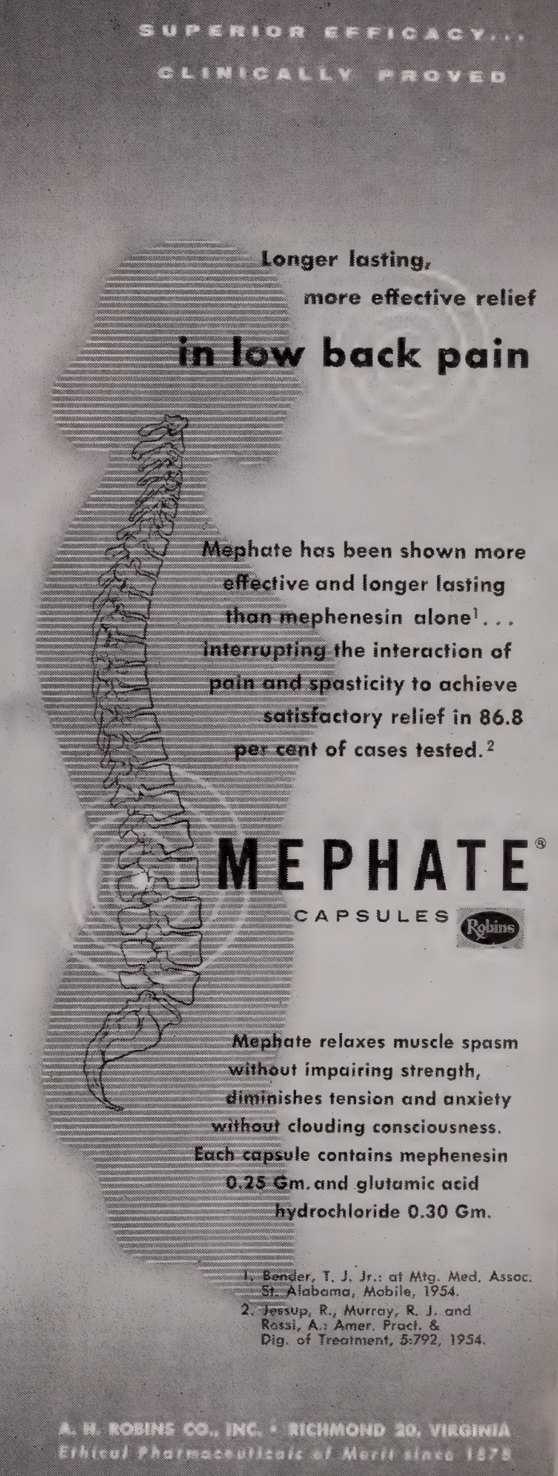

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Longer lasting,
more effective relief
in low back pain

Mephate has been shown more effective and longer lasting than mephenesin alone[1] ... interrupting the interaction of pain and spasticity to achieve satisfactory relief in 86.8 per cent of cases tested.[2]

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Mephate relaxes muscle spasm without impairing strength, diminishes tension and anxiety without clouding consciousness. Each capsule contains mephenesin 0.25 Gm. and glutamic acid hydrochloride 0.30 Gm.

1. Bender, T. J. Jr.: at Mtg. Med. Assoc. St. Alabama, Mobile, 1954.
2. Jessup, R., Murray, R. J. and Rossi, A.: Amer. Pract. & Dig. of Treatment, 5:792, 1954.

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Ethical Pharmaceuticals of Merit since 1878

wherever
Codeine + APC
is indicated

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TABLETS* **FOR PAIN**

Provides faster, longer-lasting, and more profound pain relief. Obtainable on prescription. Narcotic blank required.

*Salts of dihydrohydroxycodeinone and homatropine, plus APC.

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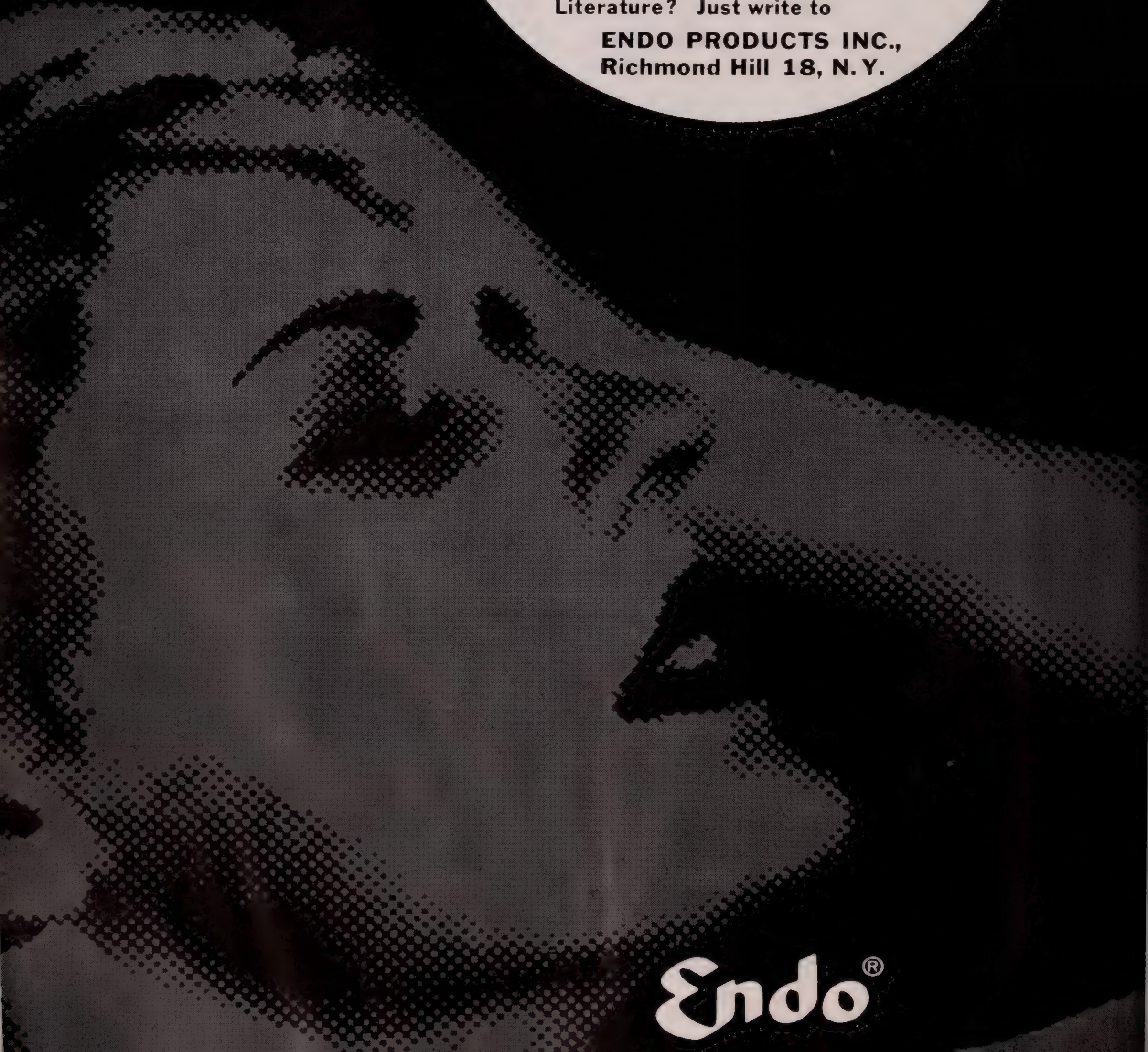

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prescribe **PEDIFORMES**

IN STOCK—

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You are assured alterations and fittings as you prescribe because of our interest, and experience gained in serving the medical profession for more than 40 years.

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in
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NEURALGIAS
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FORMULA

Each cc. contains:

Thiamine Hydrochloride	100 mg.
Neostigmine Methylsulfate	0.5 mg.
Atropine Sulfate	1/300 gr.

In a stabilized aqueous solution.

For Intramuscular Use

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Lederle

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Pyridoxine-Thiamine *Lederle*

For preventing and treating Hyperemesis Gravidarum

Pyridoxine (B_6) and Thiamine (B_1) have proved more effective in combination than either alone in the prevention and treatment of the nausea and vomiting of pregnancy. GRAVIDOX, in both tablet and parenteral form, combines these vitamins, providing you with a nutritional approach to the problem. GRAVIDOX may also be useful for the prevention and relief of the nausea and vomiting associated with radiation sickness.

Each GRAVIDOX tablet contains: Thiamine HCl—20 mg., Pyridoxine HCl—20 mg. Each cc. of GRAVIDOX parenteral solution contains: Thiamine HCl—50 mg., Pyridoxine HCl—50 mg.

Average dose: 5 to 12 tablets daily, in divided doses, at times when vomiting is less likely to occur; or 1 cc. parenteral solution 2 or 3 times weekly.

LEDERLE LABORATORIES DIVISION AMERICAN *Cyanamid* COMPANY Pearl River, New York

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"...the conclusion is warranted that hypothyroidism ...does reduce resistance to colds. In these patients, administration of desiccated thyroid is as essential to freedom from colds as correction of any of the other multiple influences that make people susceptible to colds."

Cheney, M. C.: GP 10: 32 (July) 1954.

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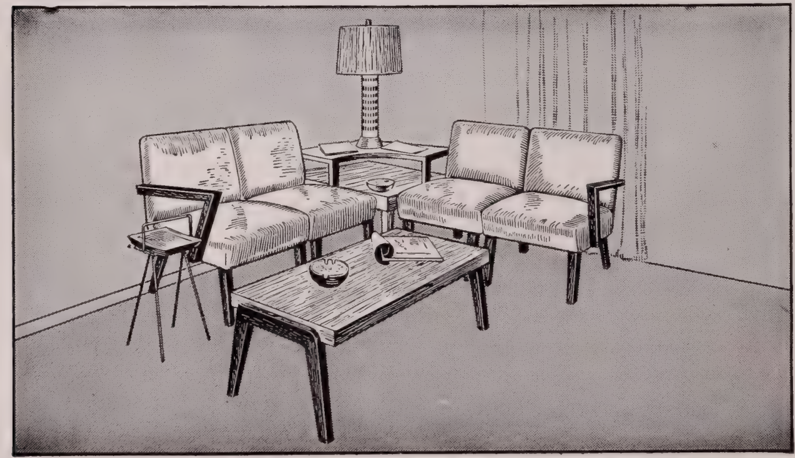

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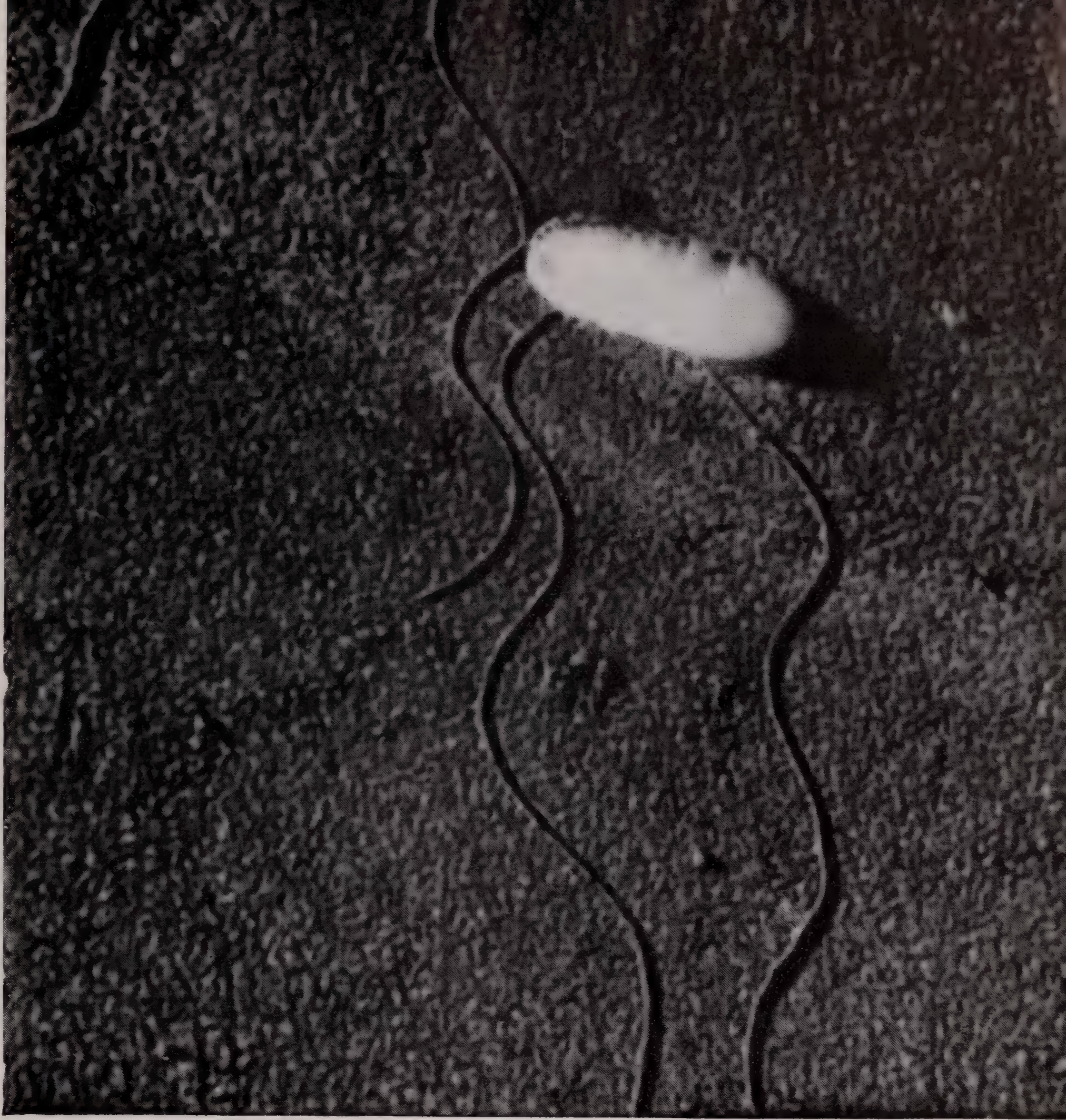

ELECTRON PHOTOMICROGRAPH

Salmonella paratyphi B 26,000 X

Salmonella paratyphi B (Salmonella schottmuelleri) is a Gram-negative organism which causes food poisoning • chronic enteritis • septicemia.

It is another of the more than 30 organisms susceptible to

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100 mg. and 250 mg. capsules

Upjohn

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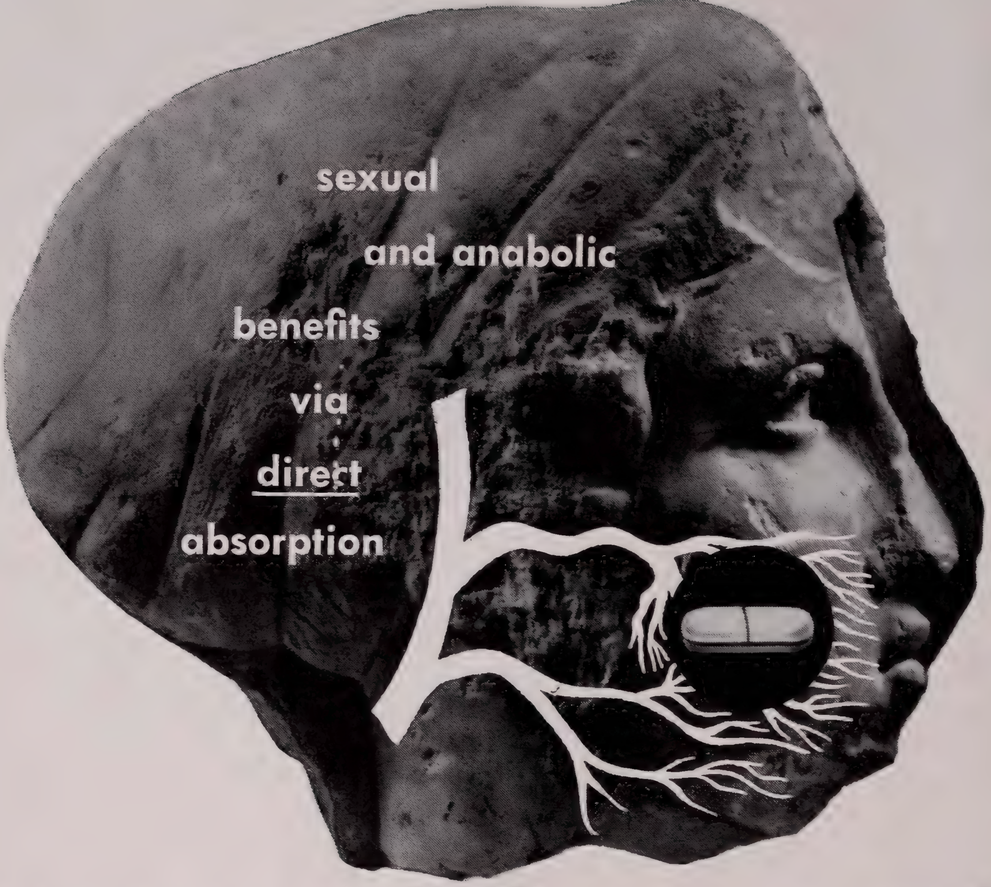

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the most potent oral androgen

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the most potent oral estrogen with the most potent oral androgen

Buccally or sublingually absorbed LINGUETS by-pass liver inactivation or gastric destruction—are virtually as potent as parenteral steroids—provide effective, convenient, low-cost hormone therapy.

Supply: Metandren Linguets, 5 mg. (white, scored) and 10 mg. (yellow, scored). Femandren Linguets (green, scored), each containing 0.02 mg. ethinyl estradiol and 5 mg. methyltestosterone.

Metandren® (methyltestosterone U.S.P. CIBA)
Femandren® (methyltestosterone with ethinyl estradiol CIBA)
Linguets® (tablets for mucosal absorption CIBA)

C I B A Summit, N. J.

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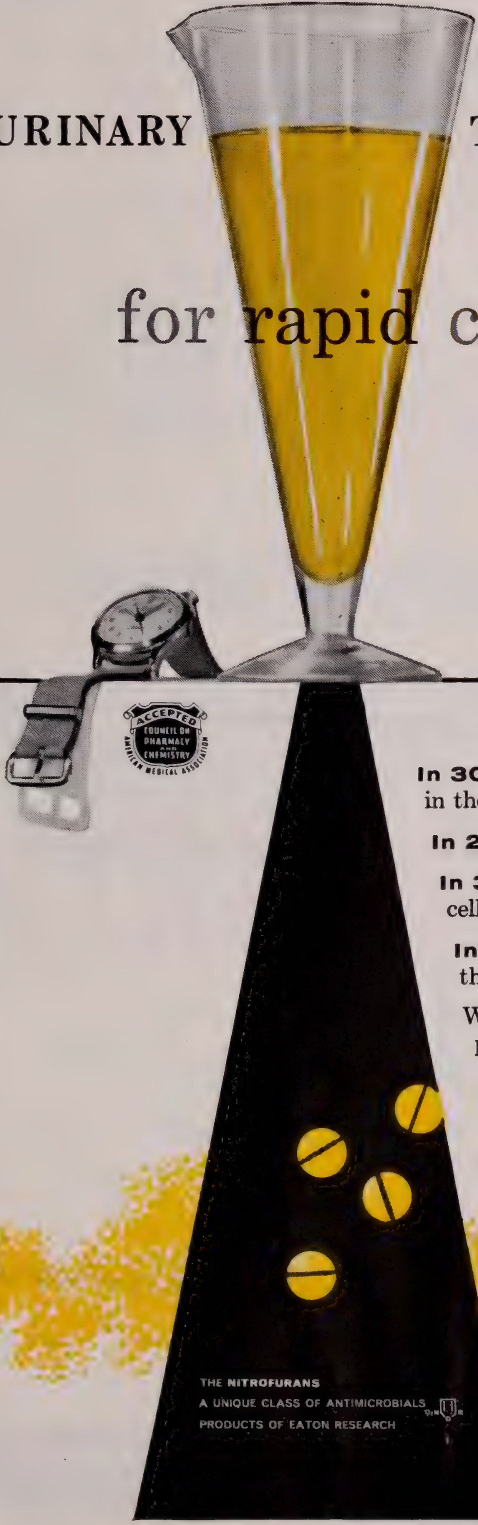
use FURADANTIN first...

IN URINARY TRACT INFECTIONS

for rapid clearing of the urine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In 30 minutes: antibacterial concentrations in the urine

In 24 hours: the urine is frequently clear

In 3 to 5 days: complete clearing of pus cells from the urine

In 7 days: sterilization of the urine in the majority of cases

With Furadantin there is no proctitis, pruritus ani, or crystalluria.

Average adult dosage: Four 100 mg. tablets daily, taken with meals and with food or milk before retiring.

50 and 100 mg. tablets.

Oral Suspension, 5 mg. per cc.

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NORWICH, NEW YORK

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A UNIQUE CLASS OF ANTIMICROBIALS
PRODUCTS OF EATON RESEARCH

FURADANTIN®
brand of nitrofurantoin, Eaton

This drug has proved able
to control the disease
in two-thirds of patients
with ulcerative colitis,
who had previously failed to
respond to standard colitis
therapy currently in use*.

Azulfidine

BRAND OF SALICYLAZOSULFAPYRIDINE

* See MORRISON: Rev. of Gastroent., Oct. 1953.

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270 Park Avenue, New York 17, N. Y.

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10 MG. CAPSULES
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1% LOTION

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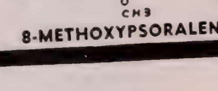

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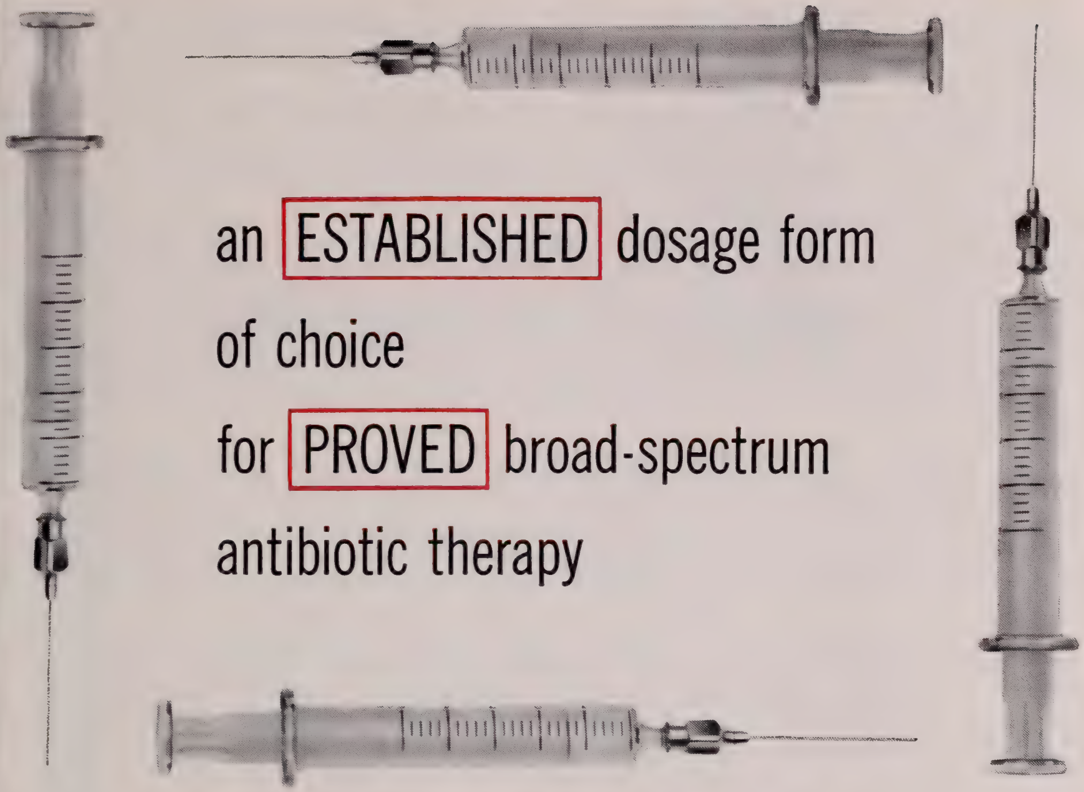

an ESTABLISHED dosage form
of choice
for PROVED broad-spectrum
antibiotic therapy

TERRAMYCIN Brand of oxytetracycline

INTRAMUSCULAR

the *first* broad-spectrum antibiotic available in this convenient parenteral form for the treatment of a wide range of infections due to susceptible organisms.

Supplied in single-dose vials. On reconstitution, each single dose contains: Crystalline Terramycin hydrochloride—100 mg. Magnesium chloride—5% (w/v). Procaine hydrochloride—2% (w/v).

Pfizer

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GRAY PHARMACEUTICAL CO., INC.
Products of Research for Medicine
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l-Glutavite
A cerebral tonic for the geriatric patient

Dear Doctor:

A new concept in the treatment of cerebral decompensation in the elderly was recently presented at the New England Postgraduate Assembly. By the use of the unique metabolic stimulant, *l*-Glutavite, you can demonstrate in your own practice that a majority of typical geriatric complaints can be alleviated. Among many recent clinical observations, certain are especially pertinent:

1. After glutamate therapy, "17 out of the 27 patients were improved.... Of the 17 who improved, 16 improved in action...patients...on occupational therapy do their jobs better...showed more interest in their work." (Himwich, H.E., et al.: Paper presented at American Psychiatric Association meeting, St. Louis, May, 1954.)

2. "Niacin produces often striking therapeutic effects in...'total cerebral decompensation'....A trial with nicotinic acid...is always indicated, particularly in elderly patients." (Lehmann, H.: Proceedings, 27th Annual Conference, Milbank Memorial Fund, New York, Paul Hoeber, Inc., 1952, p. 587.)

Besides these clinical trials, these facts emerge from basic studies:

1. Glutamic acid participates specifically in the nutrition of cerebral tissue.
2. Orally, monosodium levo-glutamate raises blood levels of glutamic acid much more effectively than the free acid itself.
3. Niacin has notable vasodilator effects on cerebral circulation.
4. Thiamine, riboflavin, ascorbic acid and their associated minerals are important in cerebral cellular oxidations.

l-Glutavite* is indicated in the following geriatric states: weakness and fatigue, anorexia, vertigo, insomnia, depression, anxiety, and apathy. *l*-Glutavite is palatable and taken in vegetable or tomato juice, or sprinkled on prepared foods, stimulates the appetite. 3 to 5 packets daily constitute adequate dosage. We urge you to put this new biochemotherapeutic concept to a practical trial.

Sincerely,

Francis L. Colpoys M.D.

Medical Director

***Formula** (per packet)

Monosodium levo-glutamate	3.48	Gm.
Niacin	45.0	mg.
Thiamine Mononitrate	0.6	mg.
Riboflavin	0.8	mg.
Ascorbic Acid	30.0	mg.
Ferrous Sulfate	11.0	mg.
Dicalcium Phosphate	910.0	mg.

two important new antibiotics

Broad spectrum antibiotic of choice

STECLIN

HYDROCHLORIDE

SQUIBB TETRACYCLINE HYDROCHLORIDE

With Steclin, blood levels are fully effective; distribution to tissues and body fluids is efficient. • Tetracycline is preferred to oxytetracycline or chlortetracycline because the incidence of gastrointestinal side effects is much lower. • As with all broad spectrum antibiotics, overgrowth of nonsusceptible organisms (particularly monilia) may occur.

50 and 100 mg. capsules. Bottles of 25 and 100.
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Mycostatin is highly effective in the prevention and treatment of intestinal moniliasis. It usually eliminates Candida from the stool in 24 to 48 hours. • Mycostatin may be used in conjunction with broad spectrum antibiotics in order to prevent intestinal proliferation of Candida occurring during oral administration of these compounds. • Mycostatin is virtually nontoxic and is compatible with commonly used oral antibiotics.

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'STECLIN' AND 'MYCOSTATIN' ARE SQUIBB TRADEMARKS

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Common Denominator?

NON-TOXIC

Ray-Formosil

BUFFERED FORMIC ACID AND
COLLOIDAL SILICIC ACID INJECTION

now found to be a potent

ALARM AGENT

"Alarm Agent"

Recent clinical studies reveal that Ray-Formosil parallels ACTH and Cortisone as an "alarm agent" in its effect on circulating eosinophils. Intramuscular injections of the usual therapeutic dose of Ray-Formosil (2 cc.) produced an average drop of 67% in both normals and arthritic patients.

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Eosinopenia characteristically follows administration of compounds established as effective anti-arthritic agents (including gold and salicylates, in addition to ACTH and Cortisone) Ray-Formosil also causes eosinopenia. Such action may be a common denominator of agents which affect adrenal cortex activity.

Safe, Effective:

An estimated 3½ million injections of Ray-Formosil have been given during the past 20 years without a single report of toxic reactions. An analysis of nearly 4000 recent case histories from the files of 36 clinicians revealed that 85% were effectively relieved of pain, swelling and joint inflammation.

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Only 30c a treatment ampul, Ray-Formosil therapy is inexpensive—an additional and important advantage to both the physician and the patient.

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2 cc. injected intramuscularly *in the region of the affected parts* at 2-to-5-day intervals for several weeks, then 2 cc. once weekly.

Supplied in 2-cc. ampuls in boxes of 25 ($9.00), 50 ($16.50), and 100 ($30.00).

Available through your usual source of pharmaceuticals or direct from the manufacturer.

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PHARMACAL COMPANY
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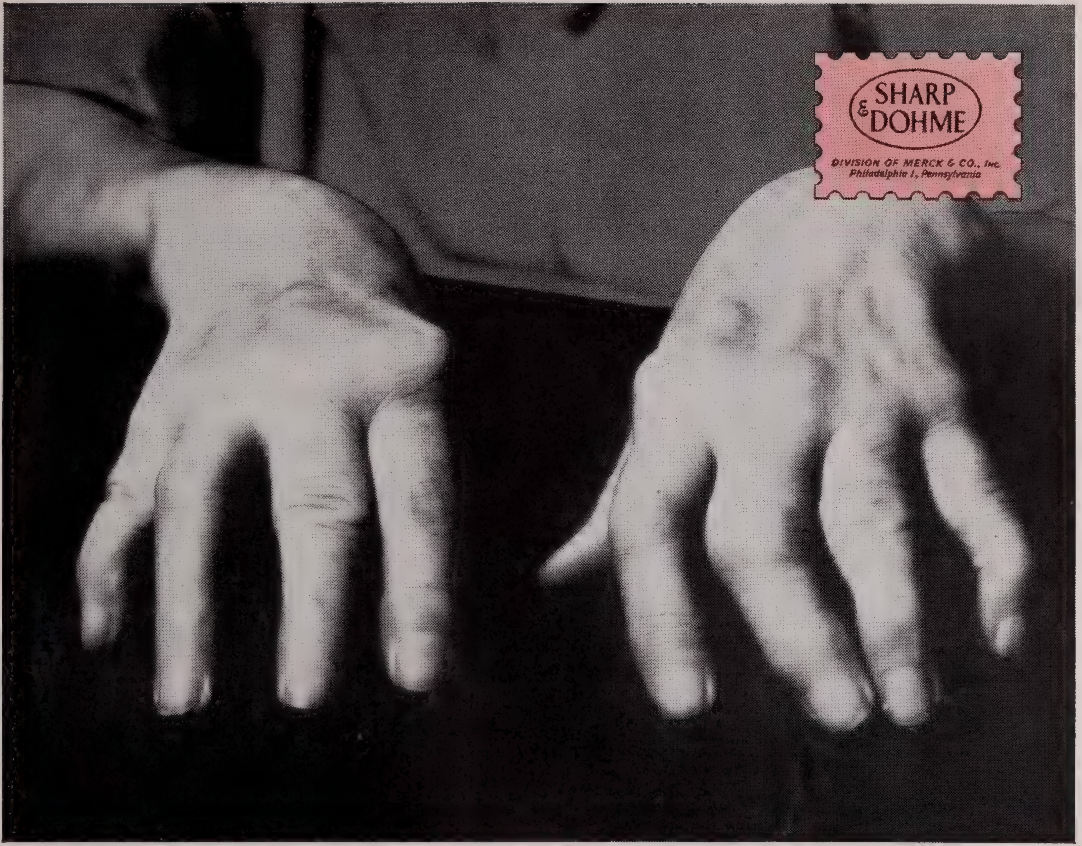
Serving the medical profession for over a third of a century



Cost of therapy with HYDROCORTONE is now substantially the same as with cortisone.

Offers significant advantages in treating rheumatoid arthritis

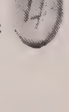
HydroCortone®

(HYDROCORTISONE, MERCK)

HYDROCORTONE possesses greater anti-rheumatic activity and is reported to be better tolerated than cortisone. Reports emphasize that hydrocortisone has produced clinical improvement faster than cortisone and with smaller doses. In several cases, endocrine disturbances encountered during cortisone therapy have been reported to disappear or diminish when the smaller but equally effective doses of hydrocortisone were substituted. Boland, E. W. and Headley, N. E., *J.A.M.A.* **148**:981, March 22, 1952.

SUPPLIED: ORAL—HYDROCORTONE Tablets: 20 mg., bottles of 25 tablets; 10 mg., bottles of 50 tablets; 5 mg., bottles of 50 tablets.

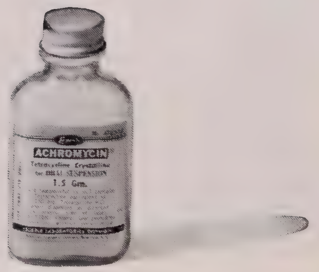
ALL HYDROCORTONE Tablets are oval-shaped and carry this trade-mark:



SPERSOIDS*:
Dispersible Powder
50 mg. per teaspoonful (3 Gm.)

OINTMENT *(3%)*

PEDIATRIC DROPS: *Cherry flavor.*
Approx. 5 mg. per drop.
Graduated dropper.



ORAL SUSPENSION:
Cherry flavor. 250 mg.
per 5 cc. teaspoonful.

ACHR

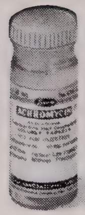
now available in these many convenient forms:

OPHTHALMIC OINTMENT *(1%)*

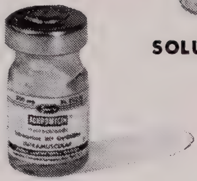
CAPSULES: *250 mg., 100 mg., 50 mg.*

TABLETS: *250 mg., 100 mg., 50 mg.*

INTRAVENOUS: *500 mg., 250 mg., 100 mg.*



SOLUBLE TABLETS: *50 mg.*



INTRAMUSCULAR: *100 mg.*

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Tetracycline Lederle

EAR SOLUTION (*0.5%*)

Achromycin, the new broad-spectrum antibiotic, is now available in a wide range of forms for oral, topical and parenteral use in children and adults. New forms are being prepared as rapidly as research permits.

Achromycin is definitely less irritating to the gastro-intestinal tract. It more rapidly diffuses into body tissues and fluids. It maintains effective potency for a full 24-hours in solution.

Achromycin has proved effective against a wide variety of infections including those caused by Gram-positive and Gram-negative bacteria, rickettsia, and protozoan organisms.

*REG. U. S. PAT. OFF.

LEDERLE LABORATORIES DIVISION AMERICAN Cyanamid COMPANY Pearl River, N. Y. Lederle

ELECTRON PHOTOMICROGRAPH

Diplococcus pneumoniae 35,000 X

Diplococcus pneumoniae (Streptococcus pneumoniae) is a Gram-positive organism commonly involved in

lobar—and bronchopneumonia • chronic bronchitis • mastoiditis • sinusitis otitis media • and meningitis.

It is another of the more than 30 organisms susceptible to

PANMYCIN*

—TETRACYCLINE HYDROCHLORIDE—

100 mg. and 250 mg. capsules

*TRADEMARK, REG. U. S. PAT. OFF.

Upjohn

Meat...

and the Dietary Management of Ulcerative Colitis

Restoration of depleted body proteins constitutes a cardinal aim in the control of nutritional disorders resulting from chronic ulcerative colitis.[1] Intestinal excretion of inflammatory exudate and blood contributes significantly to the protein deficit.[2,3]

For clinical improvement in the patient, a positive nitrogen balance must be achieved and maintained.[3] Correction of a serious protein deficit may require high protein feedings for several months. An incompletely corrected, unrecognized chronic protein deficiency may interfere with recovery.

Lean meat in liberal amounts (at least 8 ounces per day) will provide much of the high protein intake recommended in the nutritional management of the colitis patient.[4]

In cooked form it contains from 25 to 30 per cent of high biologic quality protein. Valuable amounts of B vitamins and iron, phosphorus, and potassium are other important contributions made by meat. Its appeal to the palate and its easy and almost complete digestibility enhance its usefulness in the therapeutic diet.

---

1. Bargen, J. A.: Problems of Nutrition in Ulcerative Disease of the Digestive Tract, J. Michigan M. Soc. *53*:407 (Apr.) 1954.
2. Kirsner, J. B., and Sheffner, A. L.: Studies on Amino Acid Excretion in Man; VII. Effect of Various Protein Supplements in a Normal Man, Two Patients with Benign Gastric Ulcer and Two Patients with Chronic Ulcerative Colitis, J. Clin. Invest. *29*:828 (June) 1950.
3. Sappington, T. S., and Bockus, H. L.: Nitrogen Metabolism in Chronic Idiopathic Ulcerative Colitis and Its Therapeutic Significance, Ann. Int. Med. *31*:282 (Aug.) 1949.
4. Committee on Dietetics of the Mayo Clinic; Chronic Ulcerative Colitis: Dietary Program, in Mayo Clinic Diet Manual, ed. 2, Philadelphia, W. B. Saunders Company, 1954, pp. 59-62.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

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10 mg. & 15 mg.	**Dexedrine* Sulfate Spansule*** dextro-amphetamine sulfate, S.K.F. **for day-long control of appetite in weight reduction**
No. 1 & No. 2	**Dexamyl* Spansule*** a balanced combination of dextro-amphetamine sulfate, S.K.F., and amobarbital **for continuous and sustained mood-ameliorating effect**
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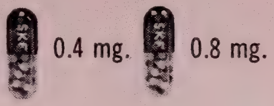
NEW 0.4 mg. & 0.8 mg.	**Prydon† Spansule*** a balanced combination of belladonna alkaloids **for sustained, uninterrupted anticholinergic activity in peptic ulcer, hypersecretion and G.I. spasms**
NEW 0.4 mg. plus 1 gr.	**Prydonnal† Spansule*** a balanced combination of belladonna alkaloids *plus* phenobarbital **for sustained, uninterrupted anticholinergic activity when combination with a sedative is desired**
8 mg. & 12 mg.	**Teldrin* Spansule*** chlorprophenpyridamine maleate **for continuous and sustained antihistamine effect**

*T.M. Reg. U.S. Pat. Off.   Patent Applied For   †Trademark

Announcing two new 'Spansule' capsule preparations that enable the physician to achieve—for the first time—**sustained, uninterrupted anticholinergic activity all day or all night with only one oral dose**

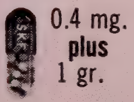
PRYDON*

belladonna alkaloids



PRYDONNAL*

0.4 mg. belladonna alkaloids
plus 1 gr. phenobarbital



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ELECTRON PHOTOMICROGRAPH

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It is another of the more than 30 organisms susceptible to

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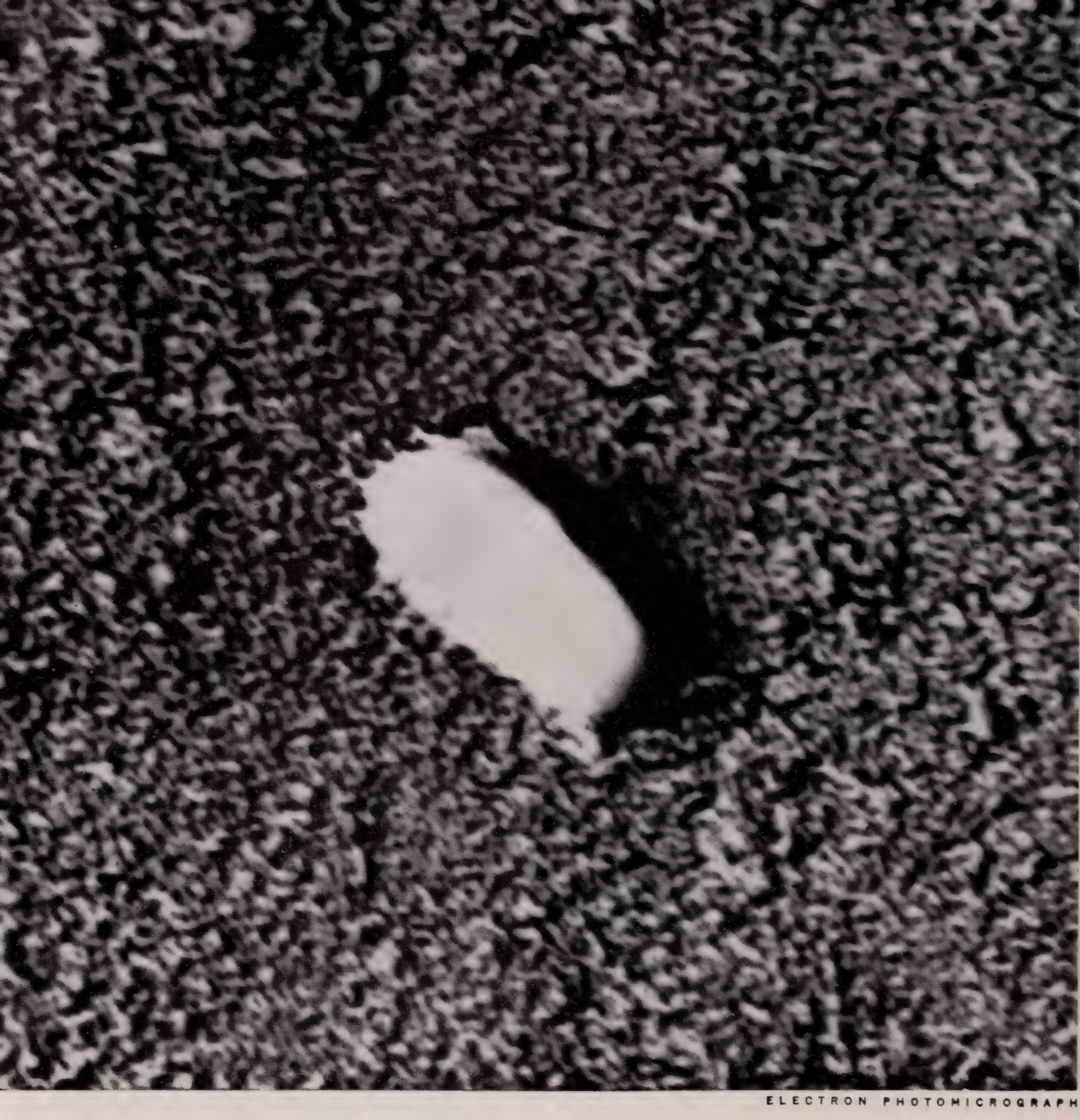

ELECTRON PHOTOMICROGRAPH

Klebsiella pneumoniae 35,000 X

Klebsiella pneumoniae (Friedländer's bacillus) is a Gram-negative
capsulated organism commonly involved in
various pathologic conditions of the nose and accessory sinuses,
in addition to bronchopneumonia and bronchiectasis.

It is another of the more than 30 organisms susceptible to

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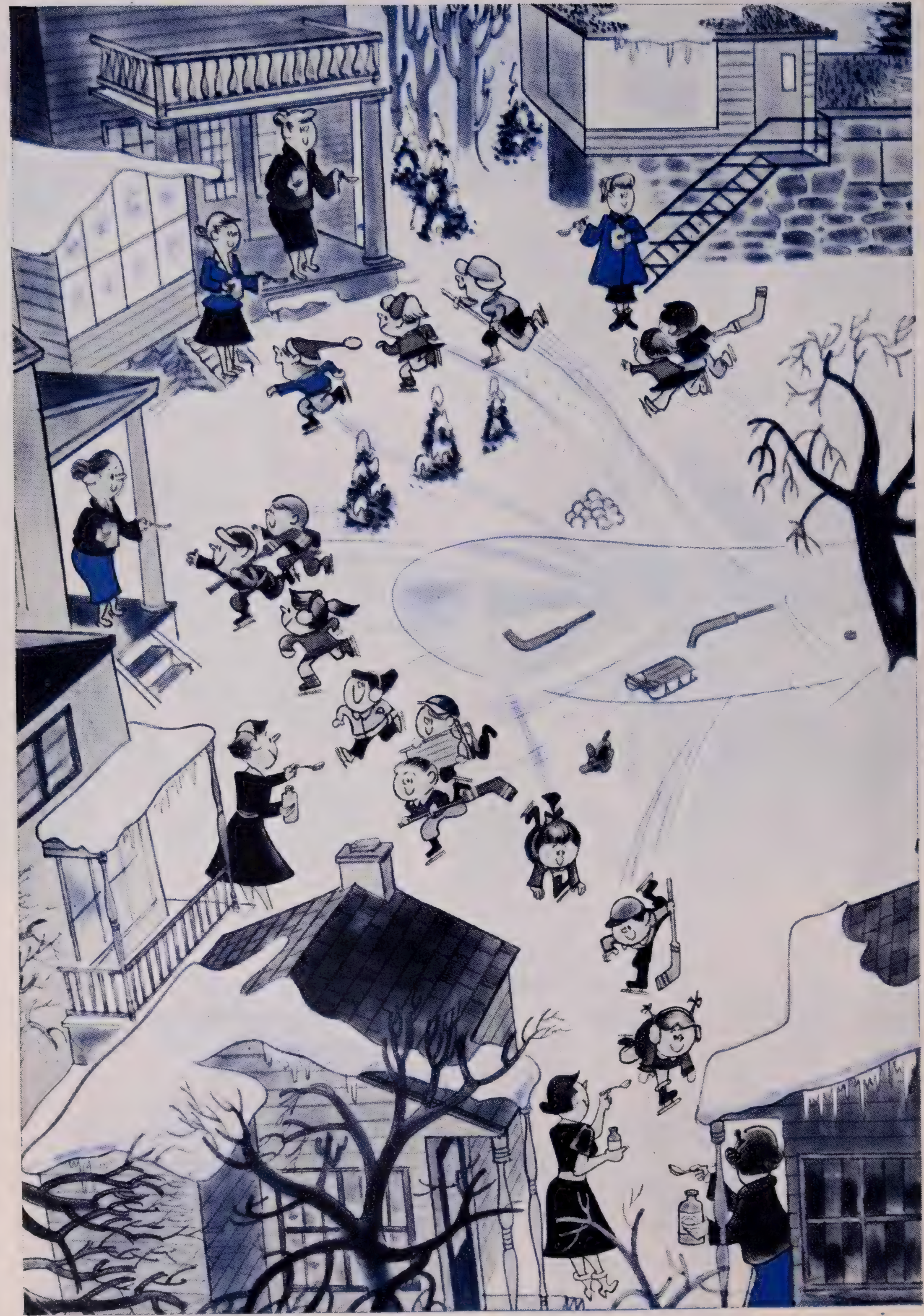

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the nutritional formula for growing children

Each 5-cc. teaspoonful of Vi-Daylin contains:

Vitamin A	3000 U.S.P. units
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Thiamine Hydrochloride	1.5 mg.
Riboflavin	1.2 mg.
Pyridoxine Hydrochloride	0.5 mg.
Ascorbic Acid	40 mg.
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Nicotinamide	10 mg.

501057

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Pain has two aspects—physical and psychic. Most analgesics, however, treat only physical pain. But as Krantz and Carr point out: ". . . the emotional trauma produced by the pain is an essential segment of the pain syndrome which must be treated."[1]

'Daprisal' does just that. 'Daprisal' relieves the psychic aspects of pain because it contains the components of Dexamyl* —S.K.F.'s widely prescribed mood-ameliorating preparation.

'Daprisal' also relieves physical pain because it provides the combined analgesic effect of acetylsalicylic acid and phenacetin —potentiated by amobarbital.

FORMULA: Each 'Daprisal' tablet contains Dexedrine* Sulfate (dextro-amphetamine sulfate, S.K.F.), 5 mg.; amobarbital, ½ gr. (32 mg.); acetylsalicylic acid, 2½ gr. (0.16 Gm.); phenacetin, 2½ gr. (0.16 Gm.).

DAPRISAL*

for the relief of pain and the mental and emotional distress that prolongs and intensifies pain

Smith, Kline & French Laboratories, Philadelphia

1. Krantz, J. C., and Carr, C. J.: Pharmacologic Principles of Medical Practice, Baltimore, Williams & Wilkins Co., 1951, p. 587.

*T. M. Reg. U. S. Pat. Off.

ELECTRON PHOTOMICROGRAPH COURTESY R.C.A. LABORATORIES

Proteus vulgaris 25,000 X

Proteus vulgaris is a Gram-negative organism commonly involved in

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It is another of the more than 30 organisms susceptible to

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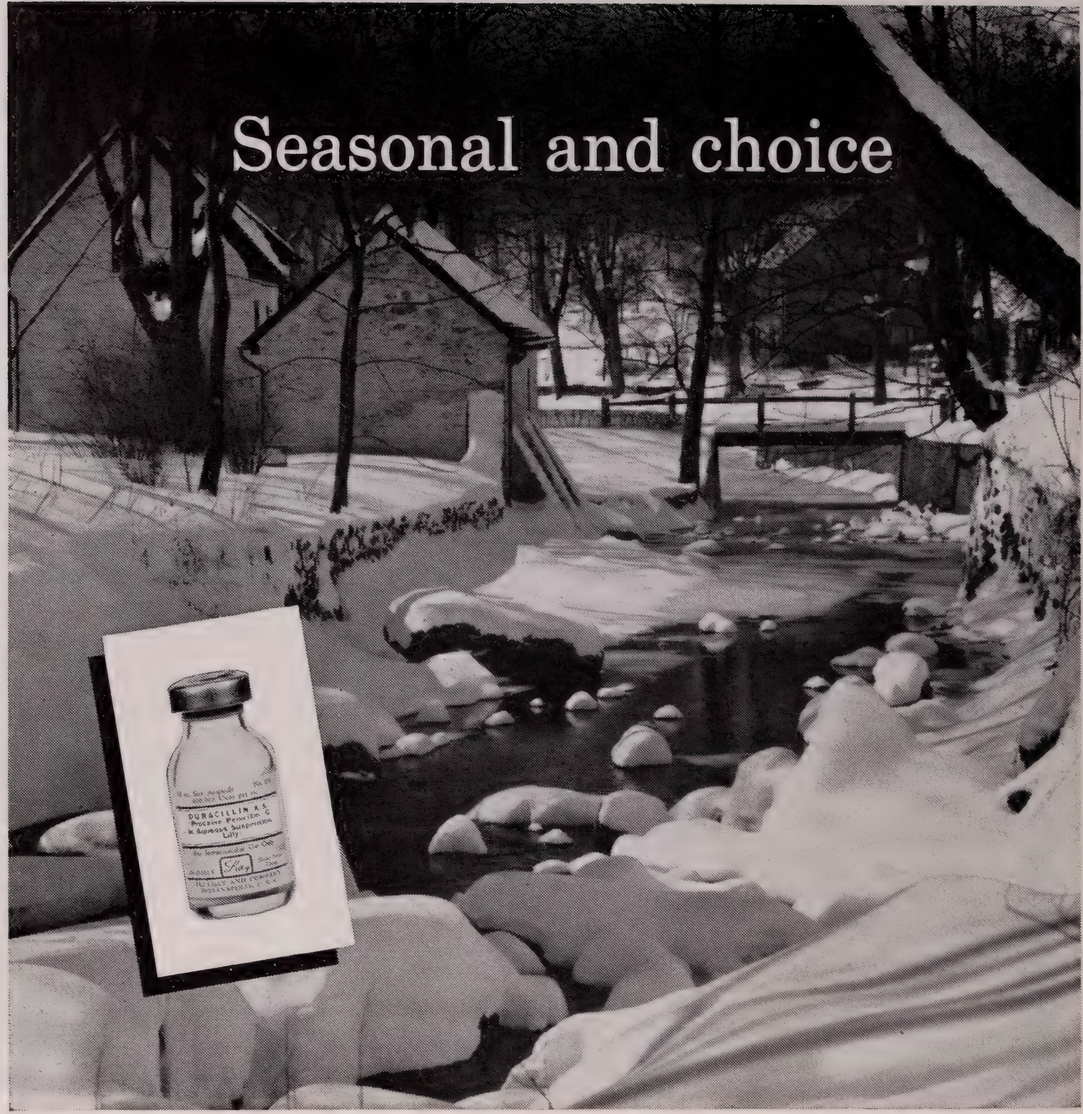

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EDITORIALS

The Annual Meeting

The 149th Annual Meeting of the Medical Society of the State of New York will be held in 1955 at the Hotel Statler, Buffalo, New York, May 9 to 13. All members of the Society are urged to note these dates now on their new memorandum pads and plan to attend.

As a further reminder of this important event, the JOURNAL will carry the meeting date on the front cover of every issue. Not that any member would forget so soon after making a firm New Year's resolution to attend—but it would be desirable to have this year's attendance a record breaking figure. As the Society grows in numbers, pressure becomes greater each year to find accommodations to house both delegates and visitors. So make your hotel reservations as early as your plans permit.

The JOURNAL also calls attention at this time to the fact that the annual reports of the chairmen of the several Council committees and of the officers of the Society should be in the hands of the secretary by February 15. The issue of April 1, 1955, of the NEW YORK STATE JOURNAL OF MEDICINE will be, as previously, the Convention Issue, and to have the annual reports printed in that issue, copy must be in the secretary's office on time. *Deadline is February 15.* The cooperation of all is earnestly requested. Copy for reports coming in after the deadline must be printed as a supplemental booklet to be distributed at the meeting or published in later issues of the JOURNAL, in which case the material will not be available for study by chairmen of reference committees, other members, and delegates sufficiently ahead of the time of the meeting to receive proper consideration.

The JOURNAL wishes to all a happy and prosperous New Year and again suggests that you come to Buffalo in the spring. No meeting can be a success without you.

> Come, and in the fires of Spring
> Your Winter garment of repentance fling.
> The bird of Time has little space to flutter
> And the bird is on the wing.

Looking Ahead

Speaking to members of the district branches recently in various parts of the State, Dr. Dan Mellen, president of the Medical Society of the State of New York, referred, among other matters, to the forthcoming sesquicentennial celebration of the Society. He said, in part, "As you know, the State Legislature passed a law in 1806[1] providing for the establishment of the Medical Society of the State of New York. It was not until 1807, however, that the Society was formally organized. The one hundred fiftieth anniversary of the establishment of the Society, therefore, will take place in 1957.

"While we have almost two years in which to work, now is the time to start intense planning. At the September meeting of the Society's Council, I was empowered as president to appoint a special committee to prepare for this event. Such a committee, however, will need much help. I can think of no better source of assistance than the nine district branches of the Society.

"My principal purpose in speaking to you at this meeting is to invite each one of you as members, and each county medical society as a component part of the State Society, to help us in planning this sesquicentennial affair. What form the celebration will take, we do not yet know. Perhaps an affair honoring the men who have been outstanding in the Society or an event celebrating a particular period or historical development would be proper. Whatever is decided upon, we should like to have it said that the entire celebration was the result of the teamwork of the members, the county societies, and the State Medical Society. We are anxious to avoid after the affair any criticism that the event was due solely to a handful of active men at the State level. The opportunity is now being given to you to do your part in making this a real event representative of all the members and the county societies throughout the State.

"The sesquicentennial, naturally, should be a dignified event in keeping with the great progress made by medicine during the past century and a half. In the early 1800's medicine was in what might be called a 'primitive state' compared with the so-called 'miracle medicine' of 1954. While due credit must be given to various scientific, State, health, and welfare groups allied with the medical profession, we should not overlook the fact that the State Medical Society played a prominent role in this march of progress.

"Time will not permit me to cite the many great accomplishments of the past one hundred and fifty years. Allow me, however, to mention in passing that the State Medical Society was instrumental in the promotion and improvement of medical education, both in medical schools and in postgraduate education work carried on by the Society itself. The Society also made possible more rapid distribution of medical knowledge by the publication of the New York State Journal of Medicine, which carried news of medical organizations in addition to scientific articles. The Society also sponsored better medical care for the chronically ill, the tubercular, and the mentally ill in the State institutions.

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[1] April 4, 1806, in the 29th Session of the Legislature.

"As members of the State Medical Society, we should take an active part in the forthcoming celebration, since the Society has always been most interested in our personal welfare. All of us are familiar, for example, with the War Memorial. As you know, the Memorial is a fund of almost $250,000 contributed by more than 20,000 physicians in this State. The purpose of the fund is to provide seven years of education for each son or daughter of our colleagues who fell in battle or died of service-connected illness during World War II. Nineteen have taken advantage of the War Memorial Fund to this date, although about 65 individuals are eligible to receive this benefit.

"While recognizing the Society's record of past achievements, we sometimes overlook the fact that today it is a very potent factor in furthering the health and welfare of the people of this State. Only a few months ago, for example, the State Society was asked by a joint committee of both Houses of the New York Legislature to voice its opinion on air pollution. I was privileged on that occasion to speak for the State Society. This important meeting was attended not only by leaders of health and welfare agencies but by representatives of outstanding industrial firms.

"As we approach our one hundred fiftieth anniversary, we might well apply to ourselves a few sage words uttered by our elder statesman, former President Herbert Hoover at his eightieth birthday celebration. Observing that it has been dinned into us that this is the 'Century of the Common Man,' he condemned the whole idea as another cousin of the Soviet proletariat and the negation of individual dignity as well as a slogan of mediocrity and uniformity. The former president maintained, 'The greatest drives of human progress have come from uncommon men and women.' And he cited as examples, Washington, Lincoln, and Edison . . . ."

The progress of medical art and science has indeed been the work of uncommon men all over the world, both in ancient and modern times. And the Empire State since its founding has produced many of them. Thus it seems appropriate that, at this writing, work is under way on a history of the Medical Society of the State of New York from 1806 to the present time. Its publication by the Society in 1957 will be one feature of the sesquicentennial from which the membership may well derive great satisfaction.

Such a history will cover a period of most extraordinary development in all forms of learning, of almost incredible progress in manufacture, transportation, communications, and agriculture. In that period men have been given tools for a more intense form of existence; they have been somewhat hurriedly inoculated with the pride and power of modern instruments, modern drugs, and procedures, but not necessarily with their spirit, nor, regrettably, with a sufficient feeling for their own historic duties. Some of the new generations are getting ready "to take over the command of the world as if the world were a paradise without trace of former footsteps, without traditional and highly complex problems."[2]

The historical significance of one hundred and fifty years of medical development in this State can be of inestimable value in plotting a course for the future. The history should be placed in the hands of every new member of the Society as a reminder that he has obligations to the past which made possible the present and should guide the future course of the profession of medicine.

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[2] José Ortega y Gassett. The Revolt of the Masses, p. 55.

Guide for Cooperation

There has just been issued at this writing by the Medical Society of the State of New York a guide for the information of the membership to "assist its members in their relations with representatives of the media of public information."

The guide has been approved by the House of Delegates of the Society at its 148th Annual Meeting and is the result of numerous conferences and many minds. It is the work of the Subcommittee of the Council Committee on Public Relations, assisted by representatives of the press, radio and television stations, photographers, magazine writers and others connected with the dissemination of news, and by representatives of the hospital associations.

The purpose of the guide is to promote a greater and smoother flow of medical news from the medical profession and hospital associations to those who collect and disseminate such news. It is mutally agreed that the primary responsibility of the doctor and the hospital is the welfare of the patient. It is also agreed that the media of public information exist for the common good and function to bring matters of general interest to the public quickly and correctly. Within the framework of this guide, county medical societies and local hospitals may wish to make adjustments in their provisions to facilitate cooperation with the several media of public information.

Recognizing the responsibilities of press, radio and television newsmen, science and magazine writers, under their "Canons of Journalism," and of television and radio codes under which all responsible members of such media function, the Medical Society's "guide" urges physicians to be less reluctant to discuss problems with representatives from any branch of the media of public information. Both they and the doctor "recognize that the first obligation of the doctor and the hospital is to safeguard the life, health, and legal rights of patients."

The new "Guide for Cooperation" should be thoroughly studied. It has been painstakingly worked out and will be revised frequently. It is freely available from the Medical Society of the State of New York and should, if properly and freely used, help to solve the many problems of medical men and the representatives of the media of public information.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

149th Annual Meeting

May 9 to 13, 1955

Hotel Statler ***Buffalo***

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New, Effective, Non-Mercurial Oral Diuretic

STRUCTURE

Mictine, brand of aminometramide, is 1-allyl-3-ethyl-6-aminotetrahydropyrimidinedione. Mictine—result of years of research—*is not* a mercurial, xanthine or sulfonamide agent.

ACTION AND EFFECTIVENESS

Mictine inhibits reabsorption of sodium ions by the renal tubule. In therapeutic dosage it has not caused any effect on glomerular filtration rate, renal plasma flow, cardiac output, heart rate or blood pressure.

Approximately 70 per cent of unselected edematous patients respond to Mictine.

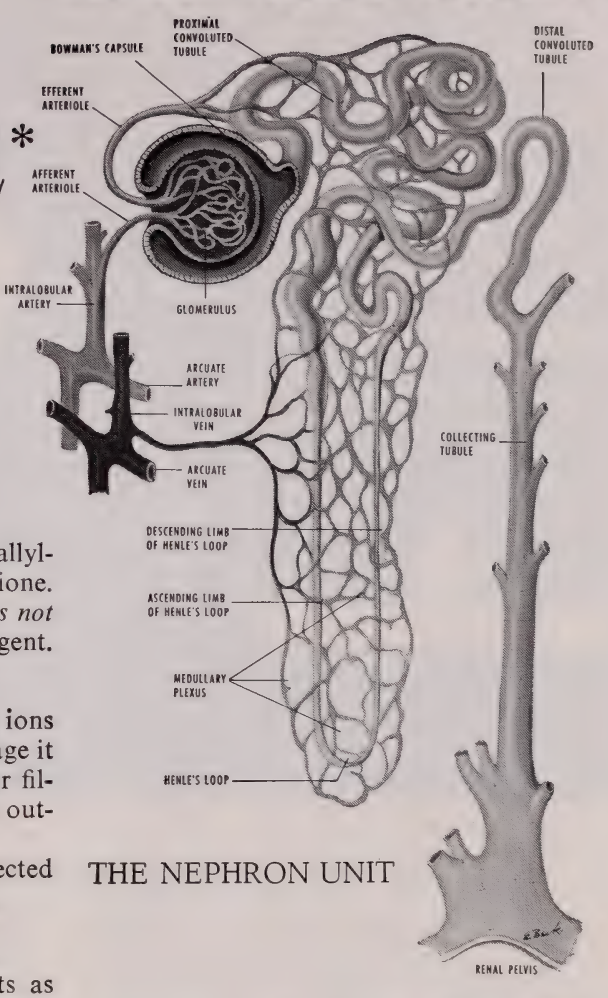
TOLERANCE

Mictine is without serious toxic effects as used. It has not produced any alteration in the blood or blood-forming organs or in renal or hepatic function. At times headache or gastrointestinal symptoms (anorexia or nausea but rarely vomiting or diarrhea) have occurred, however, these effects may be reduced to a minimum by giving Mictine on an interrupted dosage schedule.

ADMINISTRATION

Mictine is useful primarily in the *maintenance* of an edema-free state and in the *initial and continuing* control of patients in mild congestive failure. In such patients, dosage is one to four tablets daily *with meals*, in divided doses on an interrupted schedule. An interrupted dosage schedule may be accomplished by giving the drug on alternate days; or by its administration for three consecutive days and its omission for four consecutive days.

Mictine also may be used for *initial* diuresis in *more severe* congestive states, particularly when mercurial diuretics are contraindicated. In these more severe congestive states, dosage is four to six tablets daily *with meals*, in divided doses on an interrupted schedule similar to those mentioned above.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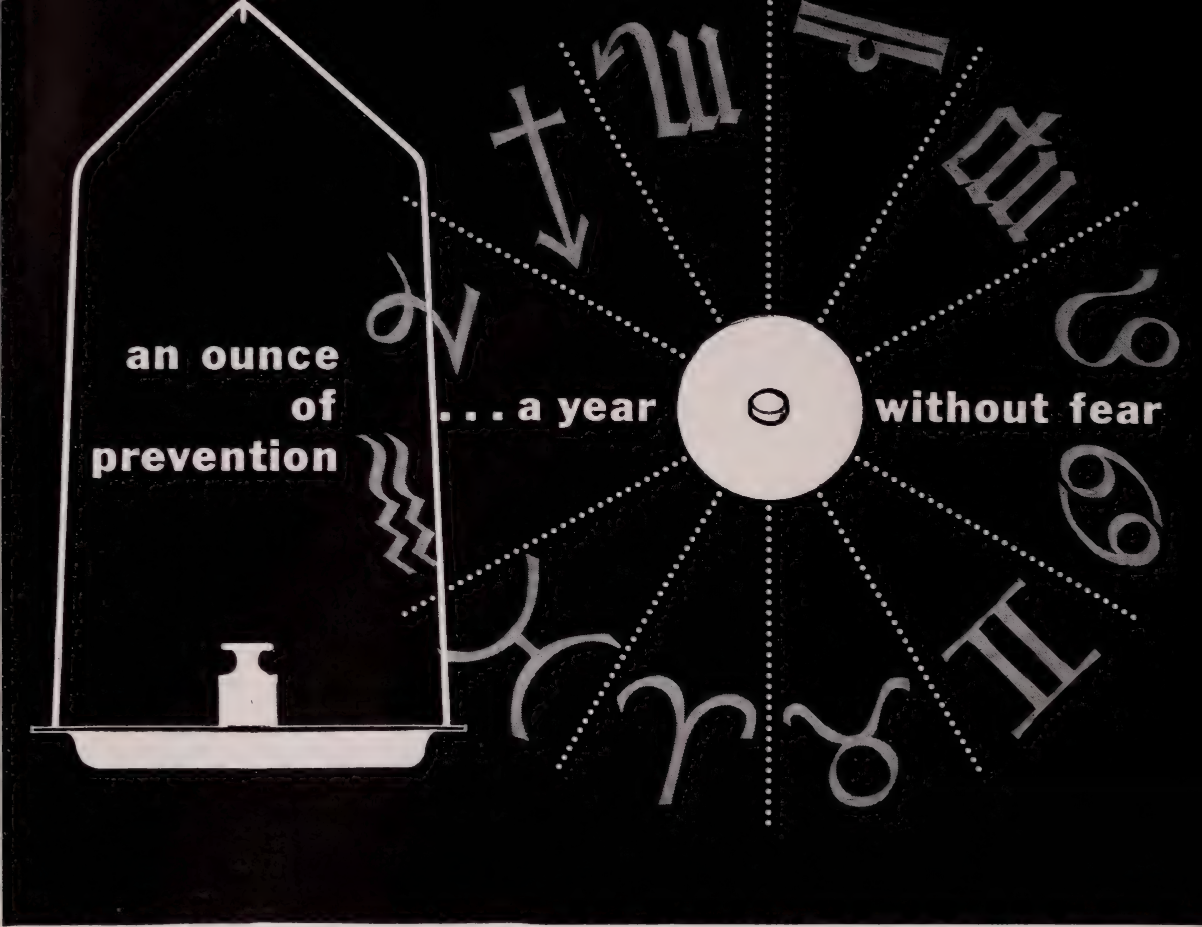

for the patient with angina pectoris

With Peritrate, the long-acting coronary vasodilator, an ounce of prevention (28,350 mg. of Peritrate) lasts a full year or longer, since only 10 or 20 mg. are needed to protect most patients for 4 to 5 hours. Yet, no arithmetic formula can adequately define the effectiveness of Peritrate in providing dramatic relief from pain and from the fear of anginal attacks.

According to tests made by Russek and coworkers, Peritrate is unexcelled in exerting a prolonged prophylactic effect in angina pectoris. The results achieved ". . . were comparable to those obtained with glyceryl trinitrate (nitroglycerin), but the duration of action was considerably more prolonged."[1] Patients on Peritrate generally exhibit significant EKG improvement,[1,2] and their need for nitroglycerin is often reduced.[3] A continuing year-round schedule of 10 or 20 mg. 4 times a day will usually:

1. reduce the number of attacks (in 8 out of 10 patients[2,3]);
2. reduce the severity of attacks not prevented.

Available in both 10 mg. and 20 mg. tablets and, for extended night-long protection, in Enteric Coated tablets (10 mg.).

1. Russek, H. I.; Urbach, K. F.; Doerner, A. A., and Zohman, B. L.: J.A.M.A. *153*:207 (Sept. 19) 1953. 2. Winsor, T., and Humphreys, P.: Angiology *3*:1 (Feb.) 1952. 3. Plotz, M.: New York State J. Med. *52*:2012 (Aug. 15) 1952.

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WARNER-CHILCOTT

SCIENTIFIC ARTICLES

Complications of the Use of Antimicrobial Drugs

RALPH TOMPSETT, M.D., NEW YORK CITY

(*From the Department of Medicine, New York Hospital-Cornell Medical Center*)

It is probable that no single group of drugs can be used with so few complications as occur with the use of the antimicrobial agents commonly employed in clinical practice today. Despite this fact, however, they are so very frequently used that the complications attendant upon their use are brought to the attention of the practitioner almost daily. It is the purpose of this report to review certain of the complications encountered during the use of antimicrobial therapy. It is not intended that this review will be inclusive, nor is it intended to stress the most frequent or most important of the complications encountered. Rather, it is meant to call attention to certain general types of drug reactions, in particular those which may be confused with signs of infection. The discussion is conveniently divided into two parts. The first includes the development of new signs and symptoms under antimicrobial therapy and the second, the masking of signs and symptoms as a result of antimicrobial therapy.

Development of New Signs and Symptoms

The production of new signs and symptoms would include virtually all of the toxic reactions encountered with antimicrobial drugs. The most important of the toxic reactions to the antimicrobial drugs in terms of frequency are those generally classified as hypersensitivity reactions. The most common offender in the production of hypersensitivity reactions is, of course, penicillin. The variety of this type of penicillin reaction is truly remarkable and has been well summarized by a number of authors, particularly Kern and Wimberley.[1] The mildest type of reaction is dermatitis medicamentosa. This includes a variety of minor skin eruptions which are usually of brief duration and of little significance in themselves. Others include urticaria, lesions resembling erythema nodosum, and a wide variety of others including the most severe type of exfoliative dermatitis. This latter type of reaction, as with other drugs, can be extremely serious and even fatal.

Perhaps the commonest type of reaction is that which is generally referred to as the "serum sickness" reaction. This generally occurs some four to ten days after the initiation of penicillin treatment and is accompanied by urticaria, joint pain, frequently with fever, at times leukocytosis, and occasionally eosinophilia. The severity of this reaction varies considerably. It is frequently very mild, but in some cases symptoms may persist for many weeks. Whereas this reaction is generally not a great threat to life in itself, certain manifestations in it can become a considerable threat to life.

Case 1.—A forty-three-year-old man had been well until two weeks before admission when, because of some trouble with his teeth, he was given an injection of penicillin. He remained well until two days before admission when he noted puffiness of his eyes. Later he developed an itching eruption over the shoulders and back and noted some pain on motion of his arm. Subsequently, he developed swelling of the hands and pains in the fingertips. At the time he was first seen, periorbital edema was noted, and there was an urticarial eruption on the face, neck, back, and arms. He was treated with antihistaminic drugs as well as epinephrine and sedatives. Despite this he continued to have severe pruritus, and the rash continued to spread. He gave a history that

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Presented at the 148th Annual Meeting of the Medical Society of the State of New York, New York City, General Sessions, May 13, 1954.

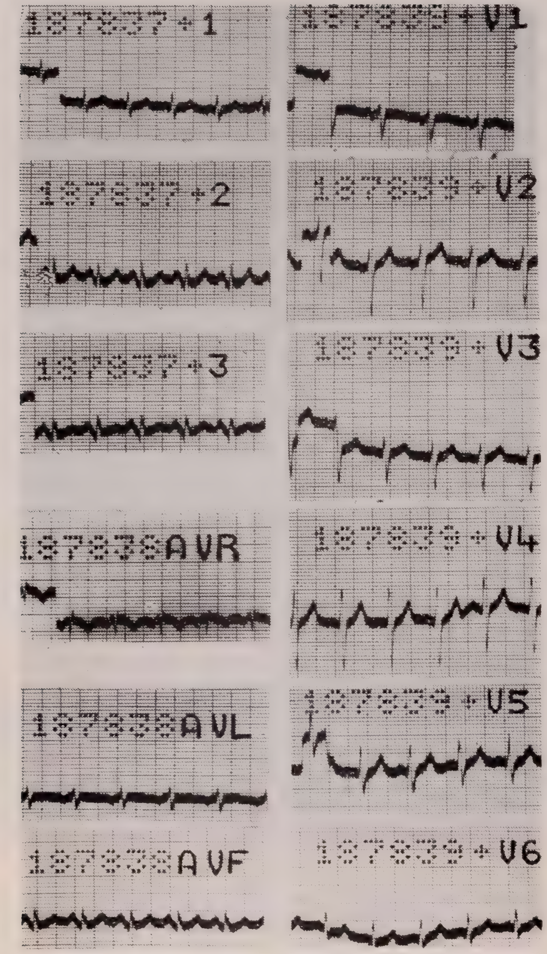

FIG. 1. *Case 1*—Electrocardiogram taken at time of onset of chest pain, showing decreased amplitude of QRS complexes and prolonged QT interval.

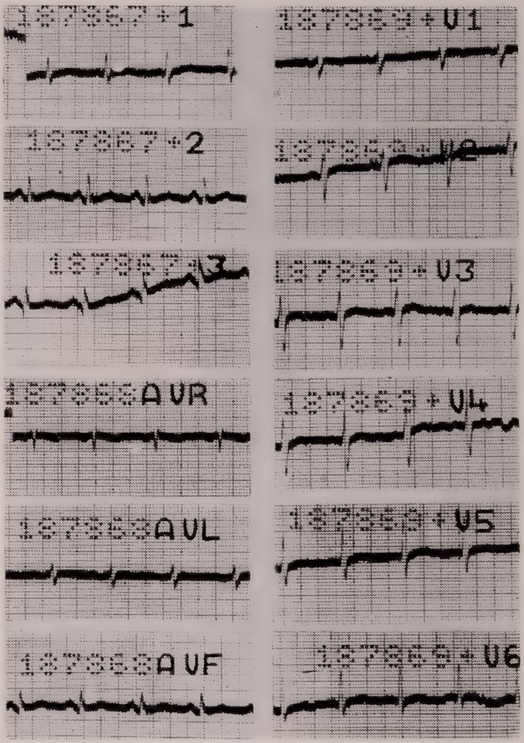

FIG. 2. *Case 1*—Electrocardiogram taken six hours after onset of chest pain. Note changes in the T waves in all leads.

thirteen years previously he had a reaction to an injection of tetanus antitoxin. He denied other symptoms of allergy. On admission to the ward his temperature was elevated, and he was quite uncomfortable from the numerous urticarial lesions. The blood pressure on admission was 140/90. His leukocyte count was 13,200. An electrocardiogram taken at the time of admission showed normal rhythm with sinus tachycardia. The patient was initially given 25 mg. of corticotropin without beneficial effect. On the night of admission he complained of a severe pain and pressure sensation in the anterior chest; within a few hours his blood pressure fell from the previous level of 140/90 down to a level of 90/50, and he manifested signs of shock. Hypotension persisted, and he was started on an infusion of Levophed. An electrocardiogram showed low amplitude of the QRS complexes and QT interval prolonged (Fig. 1). A second electrocardiogram taken a few hours later showed decrease in the T waves in all leads, particularly well shown in the precordial leads (Fig. 2). These changes and their subsequent evolution were interpreted as evidences of myocarditis as a part of the reaction to penicillin. The clinical picture closely resembled that of serum sickness. It should be stated that this patient appeared gravely ill at the time his blood pressure fell, and although he recovered, it would not have been difficult to imagine this episode terminating fatally.

This type of reaction is to be distinguished from the anaphylactic reactions which occur following administration of penicillin. These are customarily much more rapid in onset and may terminate fatally. Such reactions have been described after a variety of types of penicillin, but certain types have been incriminated more frequently than others, in particular penethamate hydriodide which is thought to be associated with a higher incidence of anaphylactic reactions.

In describing some of the above reactions, it was mentioned that fever and leukocytosis may be features of them. These manifestations may be a part of a more serious drug reaction but may also occur without other important manifestations of hypersensitivity. Two general types of drug fever have been observed to occur with penicillin. The first of these is the more important type which, as a rule, develops between the fourth and the tenth day of drug administration. Under continued drug administration it is associated with progressively increasing fever with relatively little in the way of systemic manifestations. There may be leukocytosis with or without eosinophilia. Although not common, this is mentioned inasmuch as it may be particularly confusing when a patient, who has fever and leukocytosis associated with an infection, appears to be improving for the first few days and then again develops leukocytosis and fever which the physician can easily interpret as possible manifestations of continuing or recurring infection. When possible, this type of drug fever is readily distinguished by the simple expedient of stopping the drug and using another antimicrobial agent. Prompt defervescence and fall in the leukocyte count generally ensue.

The second type of drug fever has been associated with the administration of large doses of penicillin by intramuscular injection. This type of fever is characterized by the persistence of a relatively low-grade fever and is peculiarly flat, showing relatively small fluctuation in temperature throughout the course of the day. This has been observed most frequently in patients who receive doses upwards of 10,000,000 units of penicillin a day and has often been ascribed to an irritative myositis. It has appeared to have no further significance than that its occurrence should not be confused with continuing signs of infection. This particular fever is also customarily alleviated promptly by the cessation of drug.

The problem of management of hypersensitivity reactions to penicillin is a complex one and can be dealt with only in outline form here. Perhaps the most important point is the prevention of sensitization of patients by avoiding the use of penicillin for minor infections whenever possible. Certainly penicillin should be avoided in the treatment of common upper respiratory infections where it is clearly recognized that penicillin is of no value. Each patient who is to receive penicillin should certainly be questioned as to whether he has taken penicillin previously. One may be reasonably sure that a patient who has never received penicillin will not exhibit the more severe type of penicillin sensitivity, but apparently death has resulted even from the first injection.[2] Careful history of personal or family allergy should be taken on patients who are to be given penicillin, and a positive history should certainly make one proceed with more caution. The history should also include a question as to whether previous reactions to penicillin have occurred. Patients who have previously had reactions to penicillin or who have previously had penicillin and who give a family history or personal history of allergy should be subjected to skin testing. Scratch test is probably the first test advisable, and if an immediate positive test occurs, there is considerable danger that sensitivity of real importance is present. A negative test may then be followed by an intracutaneous test with penicillin, and again an immediate positive is probably indicative of an important degree of sensitivity. Delayed reactions to the intracutaneous test are not as readily interpreted and are probably of little value in determining whether penicillin should be administered.

There is really no complete agreement as to the value and significance of skin tests. They may serve as a guide, and in each case the dangers of penicillin administration must be weighed against the gravity of the particular infection one is called on to treat and whether or not another drug can be suitably used without compromising the patient's chances for recovery. It should also be emphasized that there is no accurate way of estimating the duration of hypersensitivity in any particular patient. In general, it may be said that the more severe the reaction, the longer the period of hypersensitivity is likely to persist, but this is only the broadest of generalities and may be of little help in the individual patient.

The importance of the hypersensitivity reactions, however, should not be overemphasized. The occurrence of a reaction to penicillin of one of the types mentioned does not necessarily preclude the administration of penicillin a matter of weeks or months after the reaction has occurred. Proper precautions should be taken before giving full dosage of penicillin to any such patient, but very frequently it is found that months or years after a reaction to penicillin has occurred, it will be quite possible to administer long-term penicillin therapy. One should certainly proceed with caution, however, in its initiation in such patients.

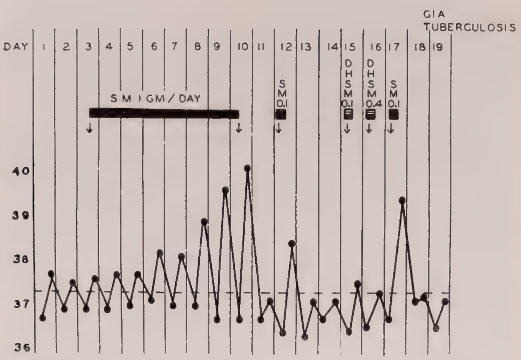

FIG. 3. Use of dihydrostreptomycin in a patient with drug fever due to streptomycin.

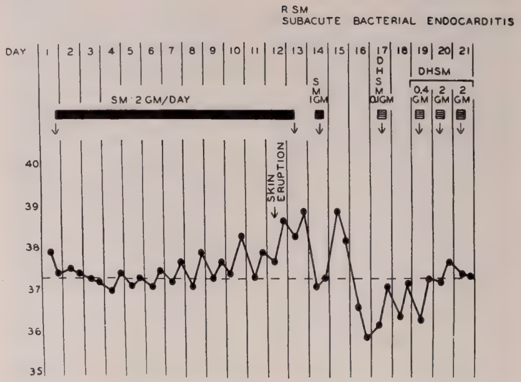

FIG. 4. Use of dihydrostreptomycin in a patient with drug fever due to streptomycin.

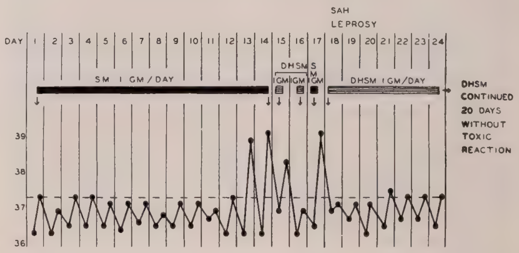

FIG. 5. Use of dihydrostreptomycin in drug fever due to streptomycin.

In any patient with hypersensitivity to penicillin G to whom it seems necessary to administer penicillin, a trial of penicillin O should be made. Similar precautions of skin testing should be made with this drug also since hypersensitivity to both may be present.

Among the other antimicrobial agents perhaps the commonest one causing hypersensitivity reactions is streptomycin. This drug may cause a good many of the same types of reactions which are encountered with penicillin. Obviously they are not as frequently encountered because this drug is not used as frequently. A few examples will serve to illustrate the type of reaction which may be confused with continuing signs of infection and which is encountered in perhaps 3 to 5 per cent of patients who receive streptomycin.

In Fig. 3 may be seen the temperature record of a patient with tuberculosis who received 1 Gm. of streptomycin per day. It will be noted that about the sixth day the patient's temperature started to rise and rose progressively until the tenth day when the drug was stopped. This was accompanied by the development of leukocytosis. A day of rest resulted in the patient's becoming afebrile, and on the twelfth day a test dose of 0.1 Gm. of streptomycin evoked a febrile reaction. On the fifteenth and sixteenth days test doses of dihydrostreptomycin were given and caused no reaction. The fact that sensitivity to streptomycin still existed on the seventeenth day is shown by febrile reaction again evoked by streptomycin. It was possible to continue therapy in this patient by the administration of dihydrostreptomycin. A number of such examples has been noted in which this type of reaction has occurred following streptomycin therapy, and in these patients it has thus far been possible to continue therapy with dihydrostreptomycin without the evocation of this particular reaction.

Another example of this may be seen in Fig. 4. This patient received 2 Gm. of streptomycin a day for twelve days. About the eighth day the temperature started to rise, and he developed a skin eruption. Cessation of drug for one day resulted in fall in temperature, and a test dose again evoked a reaction. It was thereafter possible, however, to continue therapy with dihydrostreptomycin without development of fever.

Another similar example is shown in Fig. 5. This patient received streptomycin for fourteen days and developed a febrile reaction. Test doses of dihydrostreptomycin did not elicit fever. A test dose of streptomycin on the seventeenth day did cause a reaction, and subsequently it was possible to continue dihydrostreptomycin without febrile reaction.

Thus it appears that these two drugs which are quite similar if not identical in their antimicrobial activity appear to differ antigenically, and in at least some cases when manifestations of hypersensitivity to one drug appear, it is possible to continue therapy if necessary by the use of the other drug. It will be apparent also from the examples shown that in patients who are under therapy with either penicillin or streptomycin for some acute febrile illness, the occurrence of these reactions may prove quite disturbing because of the fact that these symptoms are the same as those of continuing infection. There is generally little difficulty in solving this problem if the physician is simply aware of the possibility that these reactions may occur and that as a rule they occur in a relatively fixed period of time.

Some mention should be made of the choice between streptomycin and dihydrostreptomycin because this has seemed to be the source of considerable confusion. Both streptomycin and dihydrostreptomycin can produce important neurotoxic reactions of the same type. One of these is the vestibular reaction with evidences of vestibular dysfunction and even apparent loss of vestibular function as shown by the caloric test. The second is deafness apparently due to eighth nerve damage. Although both of these drugs can produce both of these reactions, the tendency to do so in therapeutic dosage differs between the two drugs. Gram for gram dihydrostreptomycin is considerably less likely to cause damage to the vestibular apparatus than is streptomycin. By the same token, streptomycin gram for gram is considerably less likely to cause deafness than is dihydrostreptomycin. It should be noted here that the vestibular reaction, when it occurs, usually occurs within the first month of therapy and most frequently in the fourth week of therapy. In contrast, deafness as a result of streptomycin or dihydrostreptomycin therapy generally is a later occurrence and customarily is encountered after three to four months of drug administration. Because these are the most important toxic reactions to these drugs, they deserve a major consideration in deciding which to use.

It should also be added that these two drugs, in contrast to most of the antimicrobial drugs, should probably be administered in the highest dosage which it is reasonable to give when they are being used for the treatment of acute infections. For these reasons, when therapy is to be initiated with one of these drugs, one should consider what the duration of therapy is likely to be. Generally this is a very simple decision inasmuch as most acute infections will not be treated for more than four to six weeks, and about the only situation in which these drugs are apt to be given for a longer period is in the treatment of tuberculosis. Considering all of these things it seems most advisable to employ dihydrostreptomycin in the treatment of acute infections. This drug can be given in doses of 40 mg. per Kg. for four to six weeks with very little risk of damaging the vestibular apparatus, and when given for this short period of time, one does not encounter auditory damage if the patient's hearing is originally normal and if his kidney function is normal. On the other hand, if therapy is to be prolonged beyond this time, as it is in tuberculosis, dihydrostreptomycin by itself is probably not advisable. Here, one should employ either streptomycin by itself or equal mixtures of streptomycin and dihydrostreptomycin which may obviate both of the toxic reactions mentioned.

A third drug, para-aminosalicylic acid, is responsible for a significant number of hypersensitivity reactions, and these appear to be becoming more and more common. They include a variety of skin eruptions, fever, urticaria, development of asthma, and finally a syndrome resembling infectious mononucleosis which has been recently described.[3,4] This may be associated with some enlargement of lymph nodes, fever, and the appearance in the peripheral blood smear of a relative lymphocytosis. It has not been associated with any changes in the heterophil agglutination. It is sometimes possible to continue PAS by the simultaneous administration of antihistaminic drugs. Nevertheless, these hypersensitivity reactions to PAS have proved quite troublesome.

Turning now to the broad-spectrum antibiotics, the tetracyclines and chloramphenicol, one finds that the picture is considerably different. Thus far these drugs have seldom been incriminated in hypersensitivity reaction. Gastrointestinal disturbances, nausea, vomiting, and diarrhea occur in a certain proportion of the patients who receive these drugs. Chloramphenicol and tetracycline generally are less likely to produce gastrointestinal reactions than are the other two of the broad-spectrum drugs. The use of chloramphenicol has, of course, been sharply restricted because of the reports of the development of aplastic anemia following its use. It is quite proper that this should have been the case. Nevertheless, the occurrence of aplastic anemia following the use of chloramphenicol is undoubtedly a rare occurrence. On the other hand, the occurrence of severe diarrhea in a critically ill patient may be extremely important, and its avoidance may make a considerable difference in the recovery of that patient. This applies not only to certain surgical cases but to a fairly large number of critically ill patients, especially those in whom the antimicrobial drug is given largely as prophylaxis. It would appear that more attention should be paid to the possible use of chloramphenicol in such patients despite the fact that some risk is taken of the development of aplastic anemia. In some instances the avoidance of nausea, vomiting, and diarrhea, which can frequently be done by the administration of chloramphenicol, should take precedence over the small risk of aplastic anemia. If further experience with tetracycline bears out its initial promise of lack of toxicity, the use of this drug may prove the solution of this problem.

In addition to the reactions to the antimicrobial drugs customarily considered as toxic reactions, there are the examples which have been referred to generally as superinfection. The commonest of these occur after the administration of one of the broad-spectrum antibiotics. They are manifested chiefly by the development of pharyngitis, stomatitis, proctitis, and vaginitis. Frequently in these situations cultures of the area involved show a predominance of Monilia, and it is generally believed that these represent examples of invasion of Monilia in areas in which the bacterial flora has been reduced by the broad-spectrum antibiotics. These are, of course, very troublesome reactions in everyday practice. The discontinuance of the particular drug being given seems almost a necessity in the management of these infections. Moreover, when the drug is discontinued, there is seldom little difficulty in reversing the process.

In addition to these Monilia infections, certain instances of staphylococcal superinfections have been described following the use of the broad-spectrum drugs and a few examples following the combined use of penicillin and streptomycin, although the latter combination probably is only rarely associated with such superinfections. These cases are probably quite rare, but that they constitute a real clinical entity there seems to be little doubt. They have been associated with the development of acute fulminating enterocolitis which may progress to the point where fluid loss becomes important and a shocklike state ensues. Indeed, in some instances death has followed. Cultures of the stools in these patients have sometimes shown a predominance of Staphylococci which are resistant to the particular antimicrobial drug being given. In a few instances therapy with erythromycin has been reported successful in terminating the symptoms so produced.

Perhaps the commonest example in everyday practice of what is frequently and possibly unwisely regarded as a superinfection is that which occurs in the presence of an infection in an area in which some anatomic abnormality exists. The commonest of these, of course, is in the genitourinary tract, and perhaps the second most common is in the lung. It is a frequent experience in treating a patient who has urinary tract obstruction and infection to alleviate the initial symptoms, to note clearing of the urine for a period of time, and subsequently to have a return of symptoms with a return of infection by another microorganism which is resistant to the particular drug being given. With the multiplicity of agents now available it is possible to do this a number of times, frequently with the same end result. It would appear that this is an example in which the anatomic abnormality causing obstruction to the flow of urine has such a potent influence in the perpetuation of the infection that infection almost certainly will occur and can be caused by any one of a wide variety of microorganisms. The obvious conclusion from these events is that, whenever feasible, one should correct the anatomic abnormality as soon as possible if success of antimicrobial therapy is to be anticipated.

Similar situations have been encountered in the lung in which it is found that in the presence of anatomic abnormalities such as bronchiectasis, repeated infections with different microorganisms are possible. Whereas this series of events is well recognized, it is perhaps not as commonly recognized that the mere occurrence of such repeated infections may in itself indicate the presence of some anatomic abnormality which, if not known, could perhaps be discovered on further investigation. It seems advisable, therefore, that when so-called superinfection occurs in the lung, one should pay particular attention to the possible presence of some anatomic defect such as bronchiectasis which can account for these events.

Masking of Signs and Symptoms

Finally, an important complication of antimicrobial drugs is that of masking of signs and

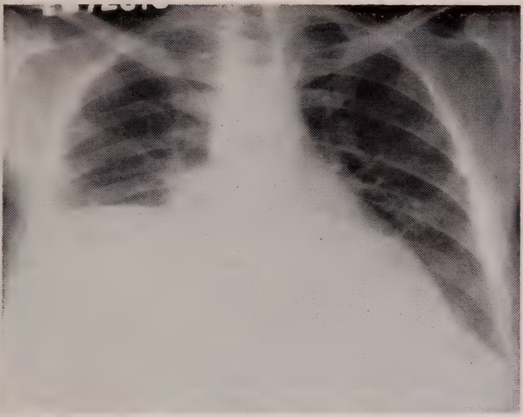

FIG. 6. *Case 2*—Roentgenogram of chest in a patient with subdiaphragmatic abscess. The clinical findings were those of a suppurative pneumonia; there were no signs or symptoms of intra-abdominal disease.

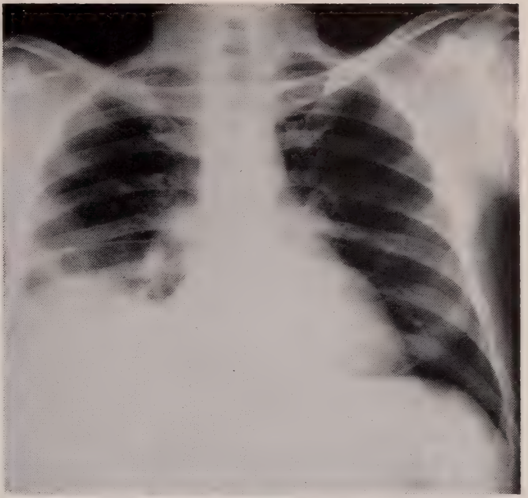

FIG. 7. *Case 2*—Partial clearing of pulmonary signs after antimicrobial therapy.

symptoms as a result of such therapy. It is well known that it is possible to treat certain infections with antimicrobial drugs and to suppress all or most of the clinical manifestations of infection without actually producing a cure. An excellent example of this is a sequence of events which is seen in bacterial endocarditis. It is becoming increasingly clear that in the average patient with bacterial endocarditis caused by Streptococcus viridans, although a cure is possible with one of the broad-spectrum drugs, it is not nearly so likely as it is with the proper therapy with penicillin. Nevertheless, it is possible to suppress fever, to increase the sense of well-being, and in general make it appear as if the patient is being cured. This will happen with a considerable degree of regularity despite the fact that cures are not the rule.

Not only is it possible to suppress the clinical manifestations with broad-spectrum drugs, but it is equally possible to make the blood cultures negative and to make it more difficult to establish a diagnosis. There are many examples, of course, in which inadequate or perhaps inappropriate therapy may make the bacteriologic diagnosis of the infection extremely difficult. This fact is well known and need not be emphasized.

It is becoming increasingly apparent also that in the presence of a localized infection with suppuration, antimicrobial therapy may be totally inadequate for the actual cure of such infections. It is possible for antimicrobial therapy to suppress the outward signs of such local infections and to make their clinical manifestations slow to appear and difficult to recognize. The most important examples of this occur as a result of some intra-abdominal disease with production of a localized abscess within the abdomen. Many examples have been seen in which antimicrobial therapy has successfully eliminated the clinical manifestations of a localized intra-abdominal abscess for long periods of time without in any measure effecting a cure. It is possible for large abscesses to exist within the abdomen, and yet the patient may have no signs of peritoneal irritation or any conspicuous degree of fever or leukocytosis.

Abscesses in the dome of the liver or beneath the diaphragm have been observed without even the few usual signs such as limitation of motion of the diaphragm being present. Indeed, it is sometimes intrathoracic disease which may call attention to the existence of such a subdiaphragmatic abscess.

CASE 2.—This patient was a forty-nine-year-old man who was admitted to a hospital in April, 1953, and had a gastric resection because of obstruction due to a chronic peptic ulcer. He received antimicrobial therapy in the postoperative period and was discharged to his home apparently well. After a short time at home he developed symptoms of cough and expectoration of blood-tinged sputum associated with fever. He was admitted to the hospital again where he had the signs of right lower and right middle lower pneumonia. Because of the nature of the symptoms, the character of the sputum, and the culture findings, it was suspected at the time that this patient might have an intrapulmonary abscess. On ordinary antimicrobial therapy his chest cleared markedly, and no concrete evidence of abscess was found. He was followed on antimicrobial therapy, however, with apparent further clearing in his chest. It was decided that there was no clear indication for thoracic surgery at that time, and he was followed with further antimicrobial therapy. During this time the signs of infection were suppressed, and the patient felt quite well. Over a period of several months there were two further episodes of apparent pulmonary infection with improvement on therapy. The last episode occurred in April, 1954, and he was readmitted to the hospital for possible surgery.

Figure 6 shows the appearance of his chest during a flareup in December, 1953. There appears to be a dense infiltration in the right lower and right middle lobe with possible fluid. Attempts were made on several occasions to tap the pleural space but without success. Figure 7 shows that a month later considerable clearing had occurred, although obviously it was not complete.

At no time had there been any suggestion of intra-abdominal pain or tenderness or other signs that would suggest that intra-abdominal disease was present. At operation it was discovered that this patient had a large subdiaphragmatic abscess and that there had been a small communication between this abscess and the right lower lobe of the lung. The subdiaphragmatic abscess had apparently originated at the time of operation one year before.

This is but one example of a number that have been observed after some intra-abdominal disease, such as diverticulitis, unrecognized acute appendicitis, or following various surgical procedures, in patients in whom antimicrobial therapy has reduced or eliminated the signs of infection for various periods of time but in whom it is obvious that the localized collection of pus has not been influenced to any appreciable degree. When these patients have come to surgery, relatively large intra-abdominal abscesses have been present despite the fact that no localizing signs could be elicited prior to surgery. These cases constitute a difficult group in terms of clinical management.

It would seem that about all one can say in generalizing is that the potency of antimicrobial drugs is distinctly limited in the management of localized infections, particularly those intra-abdominal infections previously mentioned. Moreover, one must be aware of the fact that relatively large areas of infection can be present within the abdomen under antimicrobial therapy without producing the usual systemic signs of infection or the localized signs of peritoneal irritation.

Summary

This review has considered some of the signs and symptoms which can be produced by antimicrobial agents and pointed out in particular those which may be confused with continuing signs of infection in the patient. It has also been noted that situations can be produced which may result in the occurrence of superinfection as a result of administration of these drugs. Finally, it has been emphasized that antimicrobial therapy in itself may not only suppress the bacteriologic evidence of infection in a particular case, but may obscure the signs of localized infection which require further management, usually surgical.

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Local Therapy of Nonrheumatoid Arthritis and Rheumatism

Dr. Joseph Broadman reports in the July, 1954, issue of *The Journal of the Medical Society of New Jersey* on his experience with local chemotherapy of chronic arthritis and rheumatism with camphor and salicylates in oil. He believes this therapy is an effective treatment and an advance over existing methods.

Emphasis is placed on the need for extreme accuracy in locating the rheumatic lesion before it is attacked. Not all osteoarthritic joints respond to this treatment in the same degree.

The Scott technic shortens disability time, the patient rarely requiring more than six treatments, all of which can be administered in the office of the physician. Only such patients who have too many lesions for office treatment, or who desire quicker results through massive treatments, need hospitalization or nursing home care.

Myocardial Insufficiency During Operation

Its Recognition and Treatment with Acetyl Strophanthidin

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THE incidence of myocardial insufficiency during operation depends on the volume and magnitude of surgical procedures and the quality of preoperative and anesthesiologic care. The frequency of its recognition, however, is related to the index of suspicion and the readiness to use digitalis as a specific therapeutic test of the diagnosis. Our own experience and the reports of others[1-3] indicate that myocardial insufficiency during operation occurs more commonly than is generally believed. This impression is supported by the records of the Anesthetic (Mortality) Study Committee of the Kings County Medical Society since 1947 which reveal myocardial insufficiency, either unrecognized or inadequately treated, as an important factor in many deaths during and soon after anesthesia. This situation may exist because physicians are aware of the dangers of intravenous digitalization with standard preparations and, therefore, hesitate to inject them in the operating room for diagnostic or therapeutic aid except in terminal or obviously advanced congestive failure.

Gold and his associates[4] have demonstrated that acetyl strophanthidin has special qualities which make it more controllable than any other clinically available digitalizing drug for emergency use. It has permitted us to explore with safety and precision the diagnosis and treatment of myocardial failure during the period of our supervision of surgical patients.

Criteria for the Selection of Cases

During the past four years, among several hundred surgical patients with cardiac disease, we have encountered 29 patients in whom acetyl strophanthidin* was used for diagnosis and/or therapy of myocardial insufficiency that required prompt management by the anesthesiologist. In some instances diagnosis was simple because congestive failure was evidenced by pulmonary edema or other classic signs of "backward" failure. When shock was the presenting syndrome, however, the detection of myocardial insufficiency was difficult because it resembled the common varieties of shock caused by hypovolemia or vasodilatation. Myocardial failure appeared in the guise of shock when the rate of onset was rapid in a patient with normal or depleted blood volume and low cardiac reserve.[5] Furthermore, even the characteristic picture of congestive failure was converted into one dominated by shock when hemorrhage or anesthetic vasodilatation was superimposed.

The type of circulatory derangement most difficult to diagnose was myocardial insufficiency caused by peripheral circulatory failure. Peripheral failure would appear first as a result of blood loss or anesthesia. Then, depending on the degree and duration of hypotension, myocardial reserve, and condition of the coronary arteries, myocardial insufficiency supervened. Myocardial failure as a cause or complication of shock was inferred from data such as a history of antecedent cardiac disease or the presence of serious arrhythmias or pulmonary edema. The diagnosis was strongly suspected when shock was not explicable by the more common or likely causes of peripheral circulatory failure during surgery and anesthesia. The diagnosis remained uncertain, however, until the shock-state finally responded to digitalization.

Treatment of shock began with measures suggested by the clinical circumstances surrounding its onset. The more common causes of shock in the operating room were considered and treated vigorously, even if only suspiciously present. Before the patient in shock was treated for myocardial insufficiency, we were reasonably certain that blood volume was approximately normal, peripheral vascular tone high, abnormalities of cardiac rate and rhythm absent or only secondary to shock, and, finally, that the venous return was not hindered by abnormal position,

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Presented at the 148th Annual Meeting of the Medical Society of the State of New York, New York City, Section on Anesthesiology, May 14, 1954.

* Acetyl strophanthidin was supplied by Eli Lilly & Co.

posture, or pressure. Because these criteria were scrupulously followed we have seen only 18 patients in shock for whom the final therapeutic test of digitalization appeared to be indicated among several hundred patients in shock in the operating room. These patients were unresponsive to earlier measures and appeared critically ill; the surgeons or internists present agreed to our trial use of ultrarapid digitalization.

The specific indications for digitalization in the operating or recovery room may be briefly listed as follows:

1. Congestive failure, especially pulmonary edema, even in the presence of suspected or proved acute myocardial infarction.[5]
2. Dyspnea or bronchospasm of cardiac origin, even without obvious failure.[3]
3. Shock refractory to blood volume expansion, vasopressor medication, and other therapy suggested by the circumstances of the case.[1]
4. Tachycardia with auricular fibrillation or flutter; sinus or nodal tachycardia presumed to arise from myocardial insufficiency in patients with antecedent heart disease.[3]
5. Cardiac enlargement or electrocardiographic evidence of left ventricular strain before or during thoracic surgery.[3]
6. Cyanosis unrelieved by adequate ventilation with oxygen, especially in a proved cardiac patient.[1]
7. Myocardial damage following cardiac resuscitation, expecially when surgery must continue.[6,7]

Case Reports

CASE 1.—A forty-five-year-old white male was admitted on December 3, 1952, for cholecystectomy. Two years earlier he had suffered an episode of myocardial infarction followed by unremittent angina pectoris. In February, 1952, a talc cardiopexy was performed; he then became symptom-free except for occasional dyspnea and marked biliary complaints of recent origin. Physical examination revealed no abnormality. The electrocardiogram showed extensive myocardial changes and evidence of an old posterior infarction.

On the morning of the day of operation, December 19, he received 2 grains of sodium phenobarbital and morphine sulfate 10 mg. and atropine sulfate 0.4 mg. subcutaneously two hours and one hour, respectively, before operation.

At 8:15 A.M. anesthesia was induced with intravenous Surital Sodium 0.5 per cent; then 2 mg. of Syncurine were injected, and orotracheal intubation was performed. Cyclopropane-oxygen and Mecostrin in divided doses were added to maintain surgical anesthesia. The pulse remained between 110 and 120 per minute, and the blood pressure was steady at 140/100 to 150/100 during the first hour. The blood pressure and pulse then began to rise; therefore, the soda lime was changed, ventilation was manually assisted, and ether was slowly introduced.

After ninety minutes of anesthesia the blood pressure was still rising, and the pulse was very rapid. Rales were noted for the first time. On aspiration of the endotracheal tube pink, frothy fluid was obtained. All anesthetic agents were discontinued, and only oxygen was administered. The cholecystectomy was about complete at this time (9:45 A.M.). Pulmonary edema was now obvious. Therefore, 3 cat units of acetyl strophanthidin were injected intravenously. Soon afterward the patient became restless and was given 15 mg. morphine sulfate intravenously. Six more cat units of acetyl strophanthidin were intravenously administered within the hour. At this time, 10:45 A.M., an electrocardiogram was obtained; it showed sinus tachycardia, multifocal ventricular extrasystoles, extensive myocardial changes, and a digitalis effect. The pulmonary edema rapidly regressed. He left the operating room at 11:15 A.M. In the ward he received oxygen therapy; digitalization was continued with 0.8 mg. of lanatoside C intravenously at 2:45 P.M. and, each day thereafter, 0.25 mg. digoxin. He was discharged as improved on the tenth day after operation.

Comment.—Pulmonary edema due to left ventricular failure in this patient with advanced myocardial disease was apparently precipitated by arterial hypertension and tachycardia, possibly aggravated by anesthetic poisoning of the myocardium. Acetyl strophanthidin was dramatically effective. By error this patient received 9 cat units within an hour, three times the necessary dose, yet failed to develop ventricular fibrillation.

CASE 2.—A. H., a thirty-five-year-old white female, complaining chiefly of sterility, was operated upon for a small ovarian cyst. History and physical and laboratory examinations were not abnormal. The heart was normal, and blood pressure was 100/70 mm. Hg.

Preoperative medication consisted of pentobarbital sodium, 0.1 Gm. at night, repeated at 8 A.M. the following morning, together with 50 mg. of meperidine and 0.4 mg. of scopolamine. At 9:45 A.M. blood pressure was 120/70, pulse 70. She received a hypodermic injection of 5 mg. of Neo-Synephrine followed by spinal anesthesia. The agents were 100 mg. of procaine hydrochloride in 2 cc. of spinal fluid and 1.6 cc. of 1 per cent Pontocaine solution. Soon afterward the patient complained of intense headache; systolic pressure at this time was 170.

An infusion of 0.2 per cent thiopental sodium and nitrous oxide and oxygen, 50:50, were administered.

Operation was started at 9:55 A.M. Blood pressure fell within a half hour to the preanesthetic level and then to 80 mm. Hg systolic. Neo-Synephrine by infusion, 5 mg. in 500 cc. of saline, promptly raised systolic pressure to 110. After the Neo-Synephrine infusion was discontinued, systolic pressure fell to 70; Neo-Synephrine was again infused. Similar fluctuations of blood pressure and similar treatment continued for the remainder of the operation which was concluded at 11 A.M.

A total of 300 cc. of Neo-Synephrine infusion (3 mg.) was used. The volume of blood loss was not significant. The operation consisted of partial resection of both ovaries, tubal insufflation, and appendectomy. At the end of the operation 50 mg. of ephedrine sulfate were administered hypodermically to support blood pressure in the immediate postoperative period during the residual spinal anesthesia. After five minutes the systolic pressure was 60; the patient's face and lips were cyanotic, although she was breathing room air normally. With 100 per cent oxygen skin color returned to normal. Ephedrine sulfate 10 mg. was administered intravenously, and the systolic pressure rose to 120. She was returned to the ward in conscious state with normal color. There was no evidence of dyspnea. The patient was placed in Trendelenburg position, but again systolic pressure was 70. Neo-Synephrine drip (about 100 cc.) was again used to restore the blood pressure to 110 systolic.

At 1 P.M. Neo-Synephrine infusion was started for several minutes because of persistent hypotension. At 2 P.M. the patient was in Trendelenburg position, color good, systolic pressure 80, and pulse rate 70. An infusion of 5 per cent glucose was running. The chest now showed many sonorous and sibilant rales throughout both lung fields. The diagnosis of aspiration was considered; therefore, a tracheobronchial toilet was performed. About 100 cc. of whitish, mucoid material were removed. The patient stated that she felt much improved. Oxygen by mask was started. With systolic pressure at 50, 500 cc. of blood were started. Repeated suction through the endotracheal tube yielded whitish, mucoid material. After forty-five minutes, during which 500 cc. of blood had been given without raising the blood pressure, the patient became cyanotic, restless, dyspneic, and began to cough up large amounts of frothy, serosanguineous material through nose, mouth, and endotracheal tube. The patient's color improved with 100 per cent oxygen. It was now evident that the patient was suffering from acute pulmonary edema. Three cat units of acetyl strophanthidin were given intravenously; after fifteen minutes systolic pressure was 120. The endotracheal tube was removed; the patient was raised to a sitting position and given 100 per cent oxygen bubbled through Alevaire. An immediate x-ray showed edematous changes in both lung fields.

At 5:30 P.M. systolic pressure again ranged about 60; pulse rate was 80. Her color was now good without oxygen; she was fully cooperative and could cough effectively. Oxygen, nebulizing through Alevaire, was continued throughout the night. Systolic pressure remained at 70. Lanatoside C, 0.8 mg., was given intravenously at 8 P.M., and 0.4 mg. was injected six hours later.

On the first postoperative day, the blood pressure was 65/50, respiration 36, pulse rate 70. Her skin color was good, and she did not appear seriously ill. Oxygen was administered intermittently. Electrocardiogram showed T waves inverted in leads I and aVL and isoelectric in V_6. Hemoglobin was 13.5 Gm.; erythrocytes were 4,450,000 per cu. mm. Urinalysis was not significant. On the second postoperative day the blood pressure was 115/70. The patient was free of dyspnea, cough, ankle or sacral edema, and hepatomegaly. Basal rales disappeared on the fourth postoperative day. The blood pressure was normal during the remainder of her ten days in the hospital. An electrocardiogram taken one month later was within normal limits. An x-ray of the chest was similarly interpreted. Physical examination was normal, and she felt entirely well.

Comment.—In this case of pulmonary edema caused by excess vasopressor medication compounded by excessive blood volume expansion, acetyl strophanthidin immediately proved the diagnosis of left ventricular failure, started her recovery, and justified the use of longer-acting digitalization.

CASE 3.—M. B., an obese white eighty-one-year-old female, was admitted for an emergency appendectomy following two days of vomiting and signs of peritonitis. She was known to have had cardiac disease for two years without regular medical therapy. She was in severe pain, toxic, totally irrational, and had a temperature of 105.4 F. She was dyspneic, orthopneic, vomiting, and draining fecal fluid through a Levin tube. The blood pressure was 120/80, and the pulse was totally irregular. An immediate electrocardiogram showed auricular fibrillation with a ventricular rate of 160 per minute.

Demerol, 50 mg., and atropine sulfate, 0.4 mg., were injected subcutaneously ninety minutes before operation. Incision and drainage of an appendiceal abscess were performed under anesthesia consisting of local infiltration of the abdominal wall with 50 cc. of 1 per cent procaine hydrochloride, light hypnosis with nitrous oxide and oxygen, 4:2, and relaxation with 40 units of intravenous d-tubocurare. When the local anesthesia was started, acetyl strophanthidin, 3 cat units, was injected intravenously because the heart rate could hardly be counted. The systolic blood pressure remained stable at 120 mm. Hg, and the pulse improved in quality so that it could be readily counted at 138 per minute at the end of the half-hour operation.

Because of the fecal vomiting the patient was subjected to a prophylactic tracheobronchial toilet by the blind nasotracheal method with topical anesthesia. Digitalis medication was continued with intravenous digitoxin, 0.6 mg. three hours after the operation and 0.3 mg. at six to eight-hour intervals for three doses, until the ventricular rate remained below 100 per minute. Other therapeutic measures were 500 cc. blood, parenteral fluids, antibiotics, and oxygen inhalation. The patient was discharged thirteen days after operation on a maintenance dose of digitalis with the auricular fibrillation controlled at a rate between 70 and 90 per minute.

Comment.—Acetyl strophanthidin was indicated and successful for the emergency control of tachycardia due to auricular fibrillation and severe congestive failure in a patient urgently requiring a major operation and anesthesia.

Case 4.—A. W., a fifty-two-year-old white female, was brought to the operating room at 8 P.M. for embolectomy at the bifurcation of the abdominal aorta. She had advanced congestive heart failure with mitral stenosis and auricular fibrillation and had been carefully controlled with digitalis for many years. Before embolization the pulse rate had been 80 and irregular. At operation the ventricular rate was 160 with a pulse deficit of about 20. Acetyl strophanthidin was injected in 1 cat unit doses during the course of the operation, which lasted ninety minutes and was performed under anesthesia with dilute thiopental sodium (0.5 Gm.), 40 cc. of ether, and 60 units of curare. Five minutes after the first unit of acetyl strophanthidin, the ventricular rate was 120. Two more doses of 1 cat unit each were given until the close of the operation when the ventricular and pulse rates were 110 and irregular. Blood pressure remained 160/100 throughout the operation. There were no sequelae indicative of digitalis overdosage. The patient recovered from the operation but failed to benefit from it; she required a supracondylar amputation ten days later.

Comment.—Acetyl strophanthidin permitted more intensive but controlled digitalization of this critically ill patient. The attending cardiologist, Dr. L. Sigler, who was present throughout the operation, was impressed with the precision of effect and the benefit obtained.

Case 5.—T. M., a forty-five-year-old white male, was hospitalized the sixth time for dyspnea. He had long attended the cardiac clinic and received regular therapy with Mercuhydrin, digitalis, and aminophylline. The remainder of the history was significant.

The salient physical findings on admission were blood pressure 120/80, pulse 88, respiration 20, temperature 101 F. The lungs were clear to auscultation. The cardiac apical pulsation was felt in the fifth intercostal space at the anterior axillary line. The sounds were of good quality, but a systolic gallop was detected over the precordium, and the second pulmonic sound was louder than the second aortic sound. The liver was not palpable, and no ankle edema was present. The diagnosis was arteriosclerotic heart disease with an enlarged heart and the possibility of subacute bacterial endocarditis. Urine and complete blood count were negative. Circulation time (Decholin Sodium) was twenty-two seconds. The electrocardiogram showed marked right ventricular preponderance. The patient was considered a difficult diagnostic problem.

During his preoperative stay heart failure advanced, and there were emboli to the pulmonary and popliteal arteries. Pericardial effusion was suspected because of recurrent dyspnea, hepatomegaly, blood pressure 98/80 with a low systolic and a narrow pulse pressure, 2 plus ankle edema, distended neck veins, lack of pulsation of heart by fluoroscopy, and only occasional basal rales. The venous pressure measurements were as follows: rising column 32 cm. water, falling column 30 cm. water, pressure over liver 46 cm. water. The patient was considered to be in right heart failure, probably on the basis of adherent pericardium. He was prepared for pericardiectomy with daily streptomycin for two weeks and regular doses of Mercuhydrin. He was not given digitalis.

In the operating room the patient was cooperative and sedated with 100 mg. of meperidine and 0.4 mg. of atropine sulfate administered subcutaneously ninety minutes earlier. Blood pressure was 110/100, pulse rate 100 and regular. Anesthesia began at 8:20 A.M. with 0.4 per cent thiopental sodium infusion, supplemented by a small concentration of cyclopropane in oxygen and 40 units of curare in preparation for endotracheal intubation. After 100 mg. of thiopental and within a few minutes of anesthesia, blood pressure and pulse became unobtainable and respiration gasping; pallid cyanosis was marked and venous distention of neck and arm veins pronounced. The airway was clear, and ventilation with oxygen only was manually maintained. Neo-Synephrine (5 mg. in 500 cc. 5 per cent glucose) was infused rapidly without effect. Apnea appeared, but the apical rate was 124 and regular. With the permission of the cardiologist present 2 cat units of acetyl strophanthidin were injected intravenously. Within two to three minutes a regular radial pulse of 116 was felt. Another cat unit was added within ten minutes. The blood pressure was now recorded at 150/120, pulse 148, and spontaneous respiration appeared. Curare, 20 units, was injected, and oral intubation was performed.

At 9:20 A.M. the operation was started, using local infiltration anesthesia with 1 per cent procaine and 60 mg. of meperidine by infusion (100 mg. in 500 cc. 5 per cent glucose). A gross arrhythmia due to ventricular premature contractions (as shown by electrocardiogram which had just begun to function) appeared but was controlled with 500 mg. of procaine amide injected intravenously over a period of four minutes. The pulse rate stayed regular at 130 to 140 for the remainder of the operation. Systolic pressure gradually fell to 70 by 10 A.M. but was restored to 130 with two doses of a cat unit of acetyl strophanthidin spaced over ten minutes. At the end of the operation, 10:45, systolic pressure was 100, pulse 120. A final cat unit of acetyl strophanthidin was added. Oxygen was administered until the patient recovered consciousness at 11:45 when he was returned to bed showing good color and respiration on room air and underwater drainage of the pleural cavity.

The operation failed to show pericarditis. The pericardium was tensely filled by a greatly enlarged heart, markedly sclerotic with a large old scar of an anterior wall infarct in the left ventricle. The pericardial sac was left open to drain into the pleural cavity.

The postoperative course was complicated by bronchopneumonia of the right upper lobe and pleural empyema. He was maintained with daily digitoxin and twice-weekly Mercuhydrin. Blood pressure remained 110/70, pulse rate 100 and regular. Four months later he was discharged to the cardiac clinic.

Comment.—The brilliant effect of acetyl strophanthidin is evident in this seriously ill cardiac patient who developed shock and congestive signs in the periphery superimposed on congestive heart failure existing at the start of anesthesia. The drug proved that myocardial insufficiency was the basic cause of the critical derangement of circulation following a minimal dose of anesthesia. Ultrarapid and controlled digitalization enabled the patient to tolerate a major intrathoracic exploration.*

Intravenous Digitalization with Acetyl Strophanthidin

From the emphasis on digitalization in this report one should not infer that other therapy for heart failure was not utilized. Whenever possible, cardiac work was lessened by reducing abnormally high venous and arterial pressures. Cardiac efficiency was improved by measures directed at factors known to impair the myocardium: ventilatory hypoxia and hypercarbia, anemic hypoxia, shock of extracardiac origin, high anesthetic concentrations, serious primary cardiac arrhythmias. We have used digitalis, therefore, only when other means were clearly inadequate or likely to be too slow.

Digitalization is a powerful and dangerous tool that should be reserved, whenever possible, for deliberate use by an internist. In the operating or recovery room, however, the speed and pressure of critical changes in circulation may oblige the anesthetist to assume responsibility. Often he is the first to suspect heart failure and, therefore, should take the initiative to confirm and treat the condition.

The specific pharmacologic treatment for myocardial insufficiency is digitalization because it increases the mechanical efficiency of the heart muscle in patients with heart failure. Consequently there is an increase in stroke volume, cardiac output, and pulse pressure and a decrease of oxygen consumption, diastolic heart volume, circulation time, venous pressure, and cardiac rate. Digitalization "is justified when any symptom or group of symptoms is present which can be accounted for by no other cause than myocardial insufficiency."[8] *Intravenous* digitalis should be used "in those cases in which it is imperative that the therapeutic effects shall be induced within two hours or less . . . In the face of such an emergency the risk must be assumed . . ."[8] In some of these very urgent cases "the circulation deteriorates so rapidly that, within a very short period after the onset, the patient is in circulatory collapse and beyond the reach of any form of stimulation."[4]

Maximum effect is unnecessary in the emergency use of digitalis. "Intravenous dosage . . . need rarely, if ever, be calculated for saturation . . ."[8] In an emergency the effect desired is that which will support the patient until more deliberate management of heart failure may be instituted. If auricular fibrillation is present, the ventricular rate is a most helpful guide; if acute hypotension is the critical sign, a rise of systolic pressure is a good index of effect. In the presence of regular sinus rhythm greater care must be observed; general clinical improvement may be the only criterion of a therapeutic effect. In moribund patients there is greater danger of overdosage with a single large dose. The urgent need for digitalis must not be interpreted as the need for large amounts. Occasion for the induction of full effect at the earliest possible moment seldom if ever exists. The margin between therapeutic and toxic doses is dangerously narrow

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*Additional case reports will be included in the author's reprints.

TABLE I.—Time-Curve of Action of Four Digitalis Preparations

	Intravenous Adult Dose Mg.	Intravenous Adult Dose Cat Units	Onset	Peak Action	Duration of Significant Effect
Acetyl strophanthidin	0.6 to 1.2	3 to 6	1 to 5 minutes	10 to 15 minutes	4 hours
Ouabain	0.5 to 1.0	5 to 10	4 to 15 minutes	30 to 120 minutes	1 to 3 days
Strophanthin K (Strophosid)	0.5 to 1.0	5 to 10	10 to 15 minutes	2 hours	4 to 5 days
Lanatoside C	1.3 to 2.0	5 to 8	10 to 30 minutes	2 to 3 hours	2 to 3 days

in the gravely ill, decompensated cardiac.[9] Older patients, especially when congestive heart failure and auricular fibrillation do not exist, are less tolerant of digitalis.[10] The hazard in these urgent cases is increased by lack of information on the amount of digitalis the patient has already had. Since the dose required for any one patient is unknown and may vary widely, the best practice is to give a safe initial dose and then additional doses until there is evidence of therapeutic response or minor toxic symptoms. Each increment should not be given before the full effect of the preceding dose has developed.

All digitalis preparations administered intravenously act quickly. Even the tincture, diluted 1:7 with normal saline, can be injected slowly with expectation of a prompt result. In general the peak of parenteral therapy is reached in about three hours.[11] The most useful drug in urgent digitalization, however, is the one that acts and attains its peak of activity most rapidly and disappears with equal speed. The closer a digitalizing agent approaches this time-curve of action, the better it serves the urgent requirements of the anesthetized patient and allows minute to minute control to avoid or minimize toxic effects. There are four drugs which approximate these ideal requirements: ouabain, strophanthin, lanatoside C, and acetyl strophanthidin. Table I compares their time-curve of action.

In general, an intravenous dose of 4 cat units (3 U.S.P. units) of any of these four agents produces a satisfactory degree of digitalization in the average patient who has had little or no digitalis in the past ten to fourteen days. This dose often will cause the full therapeutic action, although in more tolerant individuals several additional cat unit doses may be needed to complete the effect. The full therapeutic dose of each glycoside is equal to one-half the toxic dose and one-fourth the sublethal dose.[11] Individual variation in susceptibility to digitalis is a well-known phenomenon.

Acetyl strophanthidin is a synthetic preparation of the 3-acetate ester of strophanthidin, which is an aglycone (genin) obtained from the seeds of Strophanthus kombe. Its effects are those of the digitalis glycosides except that they are more rapid and more transitory than any other cardioactive digitalis-like body clinically available. The drug is packaged in a 1-cc. ampul containing 0.6 mg. (3 cat units).

In seven patients with auricular fibrillation and heart failure, Gold and his associates[4] demonstrated that 70 per cent of its full effect developed in about five minutes (the time in which a dose of 5 cat units was injected intravenously); that 85 per cent of the full effect arrived within ten minutes; and that almost all effects were gone in four hours. Ouabain, tested in the same patients, showed only 10 per cent of its full effect in five minutes, 50 per cent in ten minutes, full effect in one hour, and disappeared after thirty-six hours. To accelerate the onset and peak action of ouabain it is necessary to increase greatly the dose and the risk of toxic effects.[12]

The safety of acetyl strophanthidin in the patient who has not had digitalis has been demonstrated by Enselberg, Altchek, and Hellman.[13] They found that its clinical effect began in one to five minutes and reached a peak within sixteen minutes in 80 per cent of 154 administrations of 1.2 mg. (6 cat units) to 125 patients with paroxysmal auricular arrhythmias. The effect was largely gone in one to two hours. No fatality resulted, and toxic signs appeared in only 25 per cent of the patients, even though the intravenous dose of 6 cat units (1.2 mg.) is about twice that required to obtain satisfactory digitalization.[11]

The safety and clinical effectiveness of acetyl strophanthidin in digitalized patients have been proved by Lown, Crocker, and Levine.[14] They injected fractional doses of acetyl strophanthidin during fifteen to twenty minutes in 14 patients with congestive heart failure, who had received varying amounts of digitalis, to test the possible benefit of additional digitalis and to determine the degree of digitalization. The drug served the purpose well because of its characteristics of beginning action within one to seven minutes and disappearing in about two hours. Toxic effects were sometimes deliberately sought; they disappeared within twenty minutes.

On the basis of present knowledge[15] and our own experience the following dosage of acetyl strophanthidin is safe and effective in a patient who has not had digitalis in the past ten days: an intravenous injection of 0.6 mg. (3 cat units) followed by 0.2 mg. at intervals of ten to fifteen minutes until the therapeutic objective or minor toxic effects appear. The drug may be safely administered undiluted if it is injected over a period of one to two minutes. For the patient who is partly digitalized 0.2 mg. (1 cat unit) should be the initial dose followed by similar doses at intervals of ten to fifteen minutes. In a patient with previous digitalis medication the use of intravenous digitalis is especially dangerous unless one employs an agent like acetyl strophanthidin whose time-curve of action permits careful control of digitalis effect and rapid disappearance of toxic results.

Although there is no contraindication to digitalization for a serious degree of myocardial insufficiency,[16] cautious dosage is required by the presence of auriculoventricular conduction defects or bundle branch block[3] or by certain factors encountered especially in patients under surgical anesthesia. These are epinephrine,[17,18] ephedrine,[19] quinidine,[20] hypokalemia,[21] hypercalcemia,[22] cyclopropane,[23] Pentothal,[24] carotid sinus manipulation.[25,26] These relationships should be borne in mind by those who intend to digitalize anesthetized patients or anesthetize digitalized patients. Acetyl strophanthidin by fractional administration is the agent of choice when dosage must be cautiously achieved.

The electrocardiogram is helpful in recognizing digitalis effects. One should realize, however, that typical S-T segment shifts may be absent despite digitalis overdosage and present with inadequate doses and may also be caused by tachycardia, large auricular T waves, myocardial strain, injury, or manipulation.[3] Digitalis-induced changes are seldom seen after administration of two thirds of a full digitalizing dose. The pathognomonic criteria of digitalis toxicity are multiple premature beats and ventricular tachycardia.[27]

There have been two cases of ventricular fibrillation attributable to acetyl strophanthidin.[28] In both 1.2 mg. (6 cat units) were injected intravenously in spite of serious contraindications to ultrarapid, full digitalization, namely, thyrotoxicosis, frequent ventricular extrasystoles, history of intolerance of reduced doses of digitalis, terminal stage of chronic myocardial disease. The proper use of acetyl strophanthidin avoids this hazard.

Analysis of Cases

Acetyl strophanthidin has been used in 29 patients who required digitalization for diagnosis and/or treatment of myocardial insufficiency in the operating or recovery room (Table II). The drug has proved beneficial in all of our cases, probably because we followed only serious indications and injected the drug cautiously. The chief indications for acetyl strophanthidin in each patient are given in Table III.

Pre-existing heart disease was known before operation in 20 cases. In six other patients cardiac dysfunction was recognized only at operation where it became evident that cardiac signs and symptoms had been mistaken for acute abdominal indications; in two of these, myocardial infarction was proved later. Two elderly patients did not have any clinical evidence of myocardial disease before operation; in these the diagnosis was first suggested by their response to acetyl strophanthidin. One young adult with an apparently normal heart developed pulmonary edema because of excessive vasopressor medication and blood volume expansion.

Eight of the 20 patients with a preoperative diagnosis of cardiac disease had been digitalized either completely or partly during the week preceding operation.

A toxic effect occurred in only one patient who, by error, received 9 cat units (1.8 mg.). The telephoned order to give 3 cat units was mistaken to mean 3 ampuls, each of which contains 3 cat units. The resulting multifocal ventricular extrasystoles were transient and without ill effect.

The anesthetic methods employed are shown in Table IV. Intravenous anesthesia was used in small doses and high dilution (0.2 to 0.4 per cent), serving only for induction. Nitrous oxide was administered in concentrations lower than 66 per cent and with flow rates of 4 L. per minute or more. Spinal anesthesia was avoided, as a rule, in the most severe cases. It precipitated or ag-

TABLE II.—TABULAR SUMMARY OF 29 CASES

Case	Age	Sex	Urgent or Elective	Operation	Anesthesia	Preoperative Heart Disease (Class)	Preoperative Digitalis	Cause of Acute Myocardial Insufficiency	Acetyl Strophanthidin Indication	Acetyl Strophanthidin Cat Units	Results and Comment
1	45	M	Elective	Cholecystectomy	Surital-cyclopropane-ether-curare	3	No	Hypertension during anesthesia	Pulmonary edema	9	Digitalis continued. Recovered.
2	35	F	Elective	Ovarian resection	Spinal	None	No	Vasopressors and transfusion	Pulmonary edema	3	Lanatoside C for 12 hours postoperatively. Recovered.
3	81	F	Urgent	Appendectomy	Local-nitrous oxide-curare	3	No	Peritonitis	Auricular fibrillation	3	Digitalis continued. Recovered.
4	52	F	Urgent	Aortic embolectomy	Thiopental-cyclopropane-curare	3	Yes	Aortic embolus	Auricular fibrillation	3	Digitalis continued. Recovered.
5	45	M	Elective	Pericardiotomy	Thiopental-cyclopropane-curare-local-meperidine	3	No	Anesthesia	Shock, venous congestion	6	Digitalis continued. Recovered.
6	62	M	Elective	Cholecystectomy	Thiopental-cyclopropane-curare	3	Yes	Anesthesia	Shock, cyanosis, venous congestion	2	No further cardiac therapy. Died of cerebral embolus in 24 hours.
7	62	M	Elective	Cholecystectomy	Spinal	2b	Yes	Anesthesia	Shock, Cheyne-Stokes respiration	3	Digitalis continued. Recovered.
8	66	M	Elective	Cholecystectomy	Spinal	2b	No	Anesthesia	Shock, cyanosis	3	No additional cardiac therapy. Recovered.
9	70	F	Urgent	Incarcerated incisional hernia	Spinal	2b	No	Anesthesia	Shock	3	No additional cardiac therapy. Recovered.
10	69	M	Urgent	Cholecystectomy	Thiopental-cyclopropane-ether-curare	2b	No	Anesthesia	Shock, asthma	3	Digitalis continued. Recovered.
11	66	F	Urgent	Closure gastric perforation	Intercostal nerve block-nitrous oxide	3	Yes	Peritonitis	Shock	2	Digitalis continued. Died of peritonitis on third day.
12	60	F	Elective	Incisional hernia	Thiopental-cyclopropane-curare	3	No	Anesthesia and infusion	Pulmonary edema	2.5	Digitalis continued. Recovered.
13	69	M	Elective	Resection of colon	Cyclopropane-ether	None	No	Anesthesia	Shock, cyanosis	4	No additional cardiac therapy. Recovered.
14	67	M	Elective	Prostatectomy	Spinal	2b	No	Transfusion	Pulmonary edema	6	Digitalis continued. Recovered.

15	70	M	Elective	Gastrectomy	Cyclopropane-ether	None	No	Prolonged surgery and anesthesia	Shock	3	Digitalized for 3 days. Died of circulatory failure on fifth day.
16	35	F	Elective	Laparotomy—postponed	Cyclopropane	2b	No	Anesthesia	Pulmonary edema	5	Digitalis continued. Recovered.
17	60	F	Urgent	Exploratory laparotomy	Spinal	3	No	Anesthesia	Pulmonary edema and shock	3	Digitalis continued. Recovered.
18	48	F	Elective	Exploratory laparotomy	Thiopental-ether-curare	3	No	Anesthesia	Shock, cyanosis	3	Digitalized. Died of uremia on tenth day.
19	68	M	Urgent	Exploratory laparotomy	Thiopental-ether	3	Yes	Anesthesia	Shock	2	Digitalis continued. Recovered.
20	58	F	Elective	Exploratory laparotomy	Thiopental-cyclopropane	3	No	Anesthesia	Shock	3	Digitalis continued. Recovered.
21	69	F	Elective	Resection of colon	Thiopental-ether	3	Yes	Postoperative transfusion	Pulmonary edema	3	Digitalis continued. Recovered.
22	80	M	Urgent	Lysis adhesions, intestinal obstruction	Spinal	3	No	Anesthesia	Shock	3	No additional cardiac therapy. Died of embolism and uremia on twenty-first day.
23	75	F	Urgent	Exploratory laparotomy, biopsy	Thiopental-cyclopropane	3	No	Carcinomatous ascites	Auricular fibrillation	3	No additional cardiac therapy. Died of shock on first postoperative day.
24	73	F	Elective	Nephrectomy	Thiopental-ether-curare	3	Yes	Anemia	Auricular fibrillation	4	Digitalized. Died of hemorrhage 5 hours postoperatively.
25	64	F	Elective	Cholecystectomy	Thiopental-cyclopropane	2a	No	Prolonged surgery and anesthesia	Shock	3	Digitalized. Died of intestinal obstruction on seventh day.
26	63	F	Urgent	Lysis adhesions, intestinal obstruction	Cyclopropane-ether-curare	3	No	Anesthesia	Shock	4	Digitalis continued. Recovered.
27	71	M	Urgent	Control of postprostatectomy hemorrhage	Cyclopropane	3	Yes	Hemorrhage	Shock	2	Digitalis continued. Recovered.
28	75	M	Elective	Pulmonary lobectomy	Cyclopropane-ether	2b	No	Postoperative reaction	Shock, venous congestion	3	Digitalized. Died suddenly on fifth day. Cause unknown, probably myocardial infarction.
29	67	M	Urgent	Exploratory laparotomy	Spinal	3	No	Anesthesia	Shock	6	Maintained with procaine amide. Died of myocardial infarction on eighteenth day.

TABLE III.—Chief Indications for Acetyl Strophanthidin in 29 Patients

Indications	Number of Cases
Pulmonary edema	7
Rapid ventricular rate with auricular fibrillation	4
Shock	9
Shock with Cheyne-Stokes respiration	1
Shock with asthmatic respiration	1
Shock with disproportionate cyanosis	4
Shock with peripheral venous congestion	2
Shock with peripheral venous congestion and coma	1

TABLE IV.—Anesthetic Methods or Agents Employed

Anesthetic Method or Agent	Number of Cases
Spinal	8
Thiopental-cyclopropane	3
Thiopental-cyclopropane-curare	3
Thiopental-cyclopropane-curare-ether	1
Thiopental-cyclopropane-curare-local procaine-meperidine	1
Surital-cyclopropane-curare-ether	1
Thiopental-ether	2
Thiopental-ether-curare	2
Cyclopropane	2
Cyclopropane-ether	3
Cyclopropane-ether-curare	1
Regional block-nitrous oxide	1
Regional block-nitrous oxide-curare	1

TABLE V.—Operative Procedures Performed

Type of Operation	Number of Cases
Cholecystectomy, elective	5
Cholecystectomy, urgent	1
Incisional herniorrhaphy, urgent	1
Incisional herniorrhaphy, elective	1
Colon resection, elective	2
Pericardiotomy, elective	1
Intestinal obstruction, urgent	2
Aortic embolectomy, urgent	1
Prostatectomy, elective	1
Prostatic hemorrhage, urgent	1
Gastrectomy, elective	1
Ovarian cystectomy, elective	1
Closure of perforated gastric ulcer	1
Exploratory laparotomy, urgent	4
Exploratory laparotomy, elective	3
Appendectomy, urgent	1
Pulmonary lobectomy, elective	1
Nephrectomy, elective	1

gravated acute myocardial insufficiency in the less seriously ill cardiacs. Even though it was appreciated that spinal anesthesia was more hazardous than general anesthesia for patients with heart disease, the risk was assumed when justified by careful consideration of all the circumstances, particularly two: (1) the need to obtain maximal contraction of distended intestines and (2) the facilities of the anesthesiologist and the capabilities of the patient to maintain an adequate circulation, both peripheral and cardiac. Two of the spinal anesthesias were administered to patients with acute mycoardial infarction mistaken for "acute surgical abdomen."

Cyclopropane, ether, intravenous barbiturates, and curare in various combinations contributed to the appearance of acute myocardial insufficiency in the patient with advanced heart disease. Consideration of the mechanisms of these effects is beyond the purpose of this report.

The operations for which these patients were anesthetized were successfully completed in every instance.

Seventeen of the patients had elective operations; of these 14 had serious degrees of heart disease, and only four had received digitalis before operation. All 11 of the urgently operated patients had severe limitation of cardiac reserve, and only four of these had received digitalis before operation. The procedures performed are listed in Table V.

All 29 patients survived anesthesia and operation. Ten cases (34 per cent) died in the hospital. One died five hours later of proved postoperative hemorrhage. Two died twenty-four hours later of probable cerebral embolus and carcinomatous peritonitis, respectively. The time and cause of death of the remaining seven fatalities were as follows: one on the third day, peritonitis; two on the fifth day, peripheral circulatory failure (probably cardiogenic); one on the seventh day, intestinal obstruction; one on the tenth day, uremia; one on the eighteenth day, myocardial infarction; and the last on the twenty-first day, embolism and uremia.

All but one of the patients who received spinal anesthesia recovered without apparent residual effect and were discharged from the hospital. The one exception died suddenly after eighteen days of progressive recovery from severe myocardial infarction which simulated acute intestinal obstruction.

Comment

Peripheral vasoconstriction has been observed in animals and man in response to large intravenous doses of digitalis bodies.[29,30] These can produce a rise of blood pressure for about thirty minutes unrelated to improved functioning of the myocardium. In our cases, however, the doses of acetyl strophanthidin were rarely of the order required to obtain this effect. Furthermore, improvement in our hypotensive cases was sustained far beyond a transient nonspecific effect and was accompanied by other signs of increased myocardial efficiency.

It is reassuring to note that the cardiac output of the normal heart is not significantly affected by therapeutic doses of digitalis.[31–33] This fact becomes important when digitalization may be applied as a diagnostic measure in patients with reduced cardiac output not caused by myocardial depression.

The advisability of digitalization in the presence of myocardial infarction must be specifically considered since it may give rise to indications for digitalization during surgical anesthesia. In addition to Askey's specific report[33] on the safety of digitalization in 50 patients with proved acute infarction, there is general agreement that rapid digitalization is indicated in any case of acute myocardial insufficiency manifested either as shock or congestion or both.[5,34–36] Indeed acetyl strophanthidin is the most controllable and least harmful agent for testing the responsiveness of a heart to improvement by digitalization.[14]

Some of the patients who responded to acetyl strophanthidin ultimately died despite restoration of satisfactory circulatory function during and shortly after operation. This is to be anticipated since acute myocardial insufficiency during anesthesia generally occurs in major surgical patients with serious impairment of cardiac reserve. On the basis of the favorable short-term effect of intravenous digitalization in acute situations, one cannot always be certain of the continued response of the heart to digitalis when convalescence is complicated by more protracted noxious factors, e.g., postoperative metabolic demand for an increased cardiac output,[37] atelectasis, intestinal distention.

Epinephrine, ephedrine, and aminophylline[31,38] produce a transient increase of cardiac output at the expense of a disproportionate increase of oxygen consumption by the myocardium. The effect may suffice in many patients with only moderate loss of myocardial reserve. In a few instances (cases not reported here), we believe that ephedrine and aminophylline have supported patients through transient and less grave episodes of acute myocardial insufficiency. Usually, however, especially in the seriously ill cardiac, their effect was fleeting or failed completely, and digitalization was necessary.

Our experience has clinically confirmed Wiggers' thesis[39] that myocardial depression may play a significant role in aggravating the degree and prognosis of any type of shock occurring in a patient whose cardiac reserve was already markedly diminished before the episode of shock.

The efficacy of digitalization for myocardial depression caused by barbiturates has been experimentally demonstrated in dogs.[40] In heart-lung preparations digitalization improved myocardial contractility which had been impaired by phosphorus, chloral hydrate, and chloroform.[41] There is need for quantitative data on the value of digitalization in myocardial depression caused by hypoxia and modern anesthetic agents, especially in the intact animal. Theoretically it is possible that digitalization might be contraindicated when the myocardium has been damaged by hypoxia or cyclopropane because of an increased susceptibility to ventricular fibrillation.[42] In our cases an attempt was always made to correct hypoxic or anesthetic depression of the myocardium before resorting to acetyl strophanthidin. Yet it is quite likely that we digitalized patients in whom hypoxic or anesthetic depression persisted to some degree. In no instance was acetyl strophanthidin, properly used, responsible for undesirable myocardial effects, even when, as in one case, we were obliged to use an infusion of dilute epinephrine to treat a Stokes-Adams episode associated with pulmonary edema during operation and for three hours afterward. This patient survived and convalesced well only to die suddenly eighteen days after operation.

Emergency intravenous digitalization of surgical patients has long been practiced by many internists[8,15,43–45] and recently by a few anesthesiologists.[1–3,46] Because of the danger of ventricular fibrillation with drugs like ouabain or lanatoside C,[47,48] the benefits of intravenous digitalization during surgery have been restricted to far too few patients. To avoid digitalization in the operating room unless the patient is obviously in pulmonary edema or until the case can be managed by an internist is to lose many valuable opportunities for service to critically ill surgical patients. We have found acetyl strophanthidin to be a tool as controllable and precise in relation to the urgent diagnosis and treatment of a "hypodynamic failing myocardium"[31] as Neo-Synephrine is in shock associated with decreased peripheral resistance.

Summary

Acetyl strophanthidin has the desirable characteristics of extremely rapid and brief action in addition to the required margin of safety between

therapeutic and toxic doses. It needs only the correct indication and careful administration demanded of any clinician handling potent drugs. Although further study of the basic actions of acetyl strophanthidin is required, there is no doubt, even now, that it is clinically valuable and safe when properly applied in patients responsive to digitalization.

Its use for the diagnosis and/or treatment of acute myocardial insufficiency during operation has been discussed and demonstrated in 29 patients.

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Dr. Howard Rusk, New York City, in a lecture before the *American Academy of General Practice:* "Sick people ask their God, 'why must I suffer?' Possibly the answer is in the work of the potter. Fine ceramic pieces are not made by setting clay out in the sun. They come only from the white heat of the kiln. In the firing process some pieces are broken, but those that survive the heat are transformed from dull clay into objects of priceless beauty. And so it is with the sick, suffering, and crippled people. Those who, through medical skill, opportunity, work, and courage, survive illness or overcome handicap, take their places back in the world with a depth of spirit which we can hardly measure."

Mobilization of the Stapes to Restore Hearing in Otosclerosis

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This is a follow-up of a preliminary report made in May, 1953,[1] on the restoration of hearing by mobilization of the stapes in otosclerotic deafness. The cases reported at that time have been under continuous observation. This report brings the audiologic findings in these cases up to date.

In otosclerosis the ankylosed footplate of the stapes impedes sound from reaching the cochlea, and deafness results. This impediment to the free passage of sound is assumed to be permanent and irreversible. A new window into the labyrinth must necessarily be created to permit sound to reach the cochlea. However, if the fixed stapedial footplate can be freed and mobilized by simple manipulation through the external ear, then unobstructed sound can reach the cochlea naturally, and restored hearing results.

Two questions must be answered as quickly as possible in evaluating the validity of any new surgical treatment of otosclerotic deafness. First, can the operation restore useful hearing? Second, will the restored hearing be maintained? Evidence will be presented that mobilization of the stapes answers both questions in the affirmative.

Unsuccessful attempts to improve hearing by moving and removing the stapes were first made by Kessel [2,3] in 1876. Later Blake,[4–6] Jack,[7–12] and others performed stapedectomy. All of these operations on the stapes were abandoned over fifty years ago in favor of fenestration of the labyrinth.

Technic of Mobilization

The method consists of exposing the stapes through an ear speculum in the external auditory canal, under local anesthesia using the Zeiss binocular loupe. The lower half of the eardrum is lifted out of its sulcus and folded upward upon itself, thus exposing the contents of the tympanic cavity. This technic is similar to the one employed for section of the chorda tympani nerve in Ménière's disease.[13] The patient is given Nembutal, $1^1/_2$ grains, one hour before the operation. A total of about 1 to 2 cc. of a mixture of three parts 2 per cent Xylocaine to one part of 1:1,000 adrenalin chloride is injected (in equal amounts) subcutaneously into the posterior, superior, anterior, and inferior walls of the external canal at the junction of the cartilaginous and bony canals. An incision is made through the skin over the bony canal wall beginning about nine o'clock and continued downward and around to three o'clock on the right ear and vice versa on the left, about 6 to 7 mm. external to the drum (with instrument 1) (Figs. 1 and 2). The skin is separated from the bone as far as the drum (with instruments 2 and 3) starting the separation at the beginning of the incision. The drum is then lifted out of its sulcus. It is reflected upward upon itself like an apron (with instrument 4). In over 85 per cent of the cases the incudostapedial joint is seen at once. However, about 2 to 3 mm. of the very edge of the posterior bony canal just external to the incus is removed (with instrument 5) in order to get a much wider exposure, especially of the stapedial tendon which is inserted into the neck of the stapes. This makes clearly visible almost all the long process of the incus; the incudostapedial junction; the head, neck, sometimes the crura, and footplate of the stapes; facial canal; stapedius tendon; chorda tympani nerve; a portion of the incudomalleolar articulation, and the inner aspect of the hammer handle.

To test for mobility of the footplate of the stapes, a finely pointed probe (instrument 6) is placed against the upper aspect of the long process of the incus, close to its articulation with the stapes, and moved gently downward for a fraction of a millimeter. When the footplate of the stapes is freely movable in the oval win-

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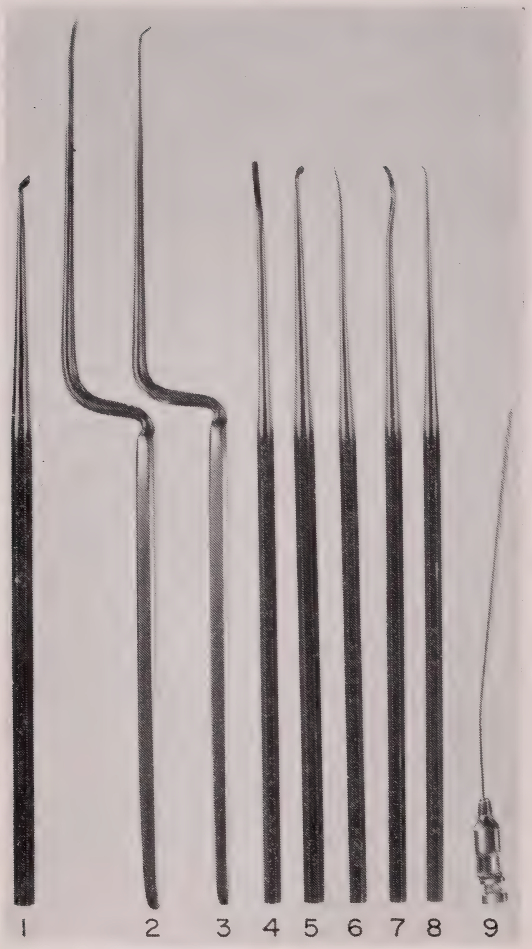

FIG. 1. Complete set of all the instruments required for mobilization of the stapes. During the operation they are used in the sequence in which they are numbered above and described in the text.

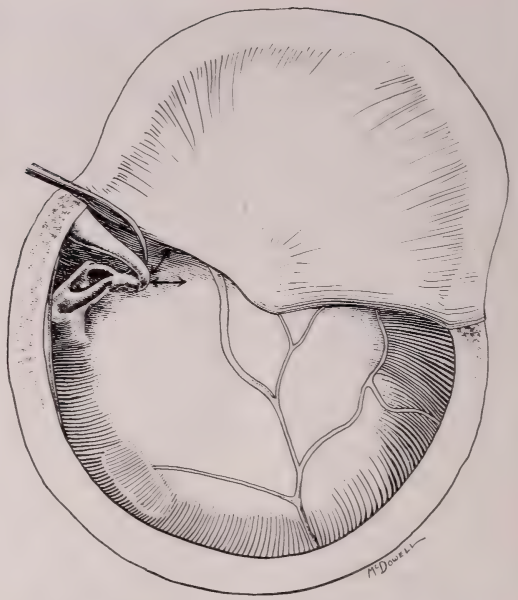

Fig. 2. More than the lower half of the ear drum has been elevated out of its sulcus and folded up upon itself, thus exposing the incudostapedial joint for manipulation.

dow, the gentlest pressure of the probe against the long process of the incus causes free and unimpeded movement of the incus, incudostapedial joint, the head, neck, and crura of the stapes, and stapedial tendon. The tendon of the stapedius is the structure to watch at all times since its movement is the reflection of the footplate movement. The footplate of the stapes moves invariably whenever the head and crura move, and when this happens, the tendon invariably moves in proportion to the movement of the stapes. These structures can all be seen to move together as one. The operator can also feel these structures moving. This associated sight and feel must be experienced often to master the technic.

When the stapes is partially fixed, it takes greater pressure of the probe against the long process of the incus to move the above structures only very slightly, as measured by the degree that the tendon can be seen to shorten and lengthen. Again, these structures can be seen to move together as one, however minutely. When the footplate of the stapes is completely fixed, very firm pressure of the probe against the long process of the incus causes the incus alone to move, but there is no movement whatever of the head, crura, footplate, or tendon of the stapes.[14]

When the stapes is rigidly fixed, variable pressure downward against the neck (only the neck) of the stapes may suddenly loosen the footplate with immediate improvement in the hearing. For this purpose a specially curved, narrow mobilizer is used (instrument 7). The palpating edge of the mobilizer is first inserted over the incudostapedial joint and is carried mesially and inferiorly until one can feel the anterior crus of the stapes close to the footplate. The instrument is pulled slowly upward and outward, hugging the anterior crus, until one suddenly feels a dent or depression which is the neck of the stapes. At this point the stapes withstands the greatest pressure without fracture of the crura (Fig. 3).[15] Pressure downward in the line of the stapedial tendon is made until the stapes is mobilized, sometimes with an audible

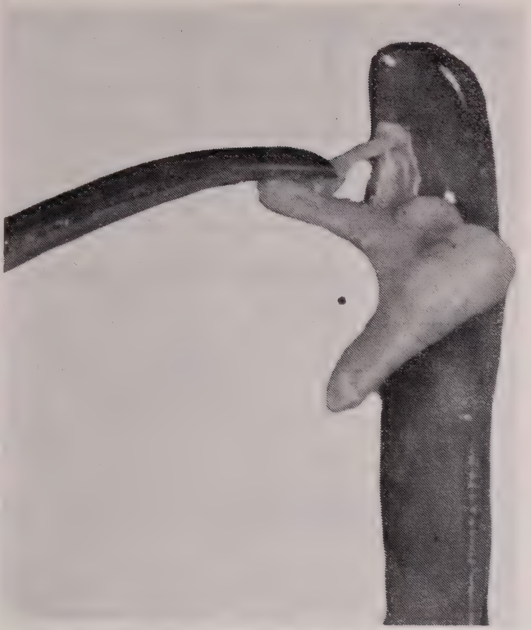

FIG. 3. Mobilizer can be seen exerting its force against the neck of the stapes in order to mobilize the footplate. Specimens like this were removed in situ from fresh cadavers.

crack. The direction of the stapedial tendon roughly follows the same direction as the crura and the long axis of the footplate. Less pressure on the neck of the stapes is needed to mobilize the less fixed footplate than the extremely rigid footplate. The amount of pressure which can be exerted on the neck of the stapes without fracturing the crura is considerable. If adhesions involving the ossicles are encountered during the procedure, they may be severed (instrument 8). A rounded and slightly bent spinal tap needle is used for suction (instrument 9).

After the stapes is mobilized, the intact ear drum and attached skin are finally put back in their original position. Healing of the skin of the canal is usually complete in about a week. Antibiotics are given for five days after the operation when the dressing is removed. The patient is ambulatory the day of operation, without vertigo, on full diet, and leaves the hospital the following morning.

Case Reports

CASE 1.—E. L., a married man of forty-three in good health, had bilateral progressive deafness for many years, more marked in his left ear. His mother and maternal grandmother have been deaf for a great many years. High-pitched tinnitus was present at times. Pure tone and speech audiometry had previously been done by outstanding otologists at various times in various parts of the country, all of whom strongly suspected otosclerosis as the cause of his deafness and leaned toward fenestration. He was referred to me for fenestration.

When palpation of the stapes as a means of determining its degree of mobility and therefore his suitability for fenestration was explained to him, he decided to postpone the fenestration operation until after the stapes was first palpated. On April 3, 1952, this was done. Firm pressure downward against the long process of the incus close to the stapes revealed only the very slightest movement of the head and crura of the stapes and the stapedius tendon (incomplete ankylosis), whereas similar

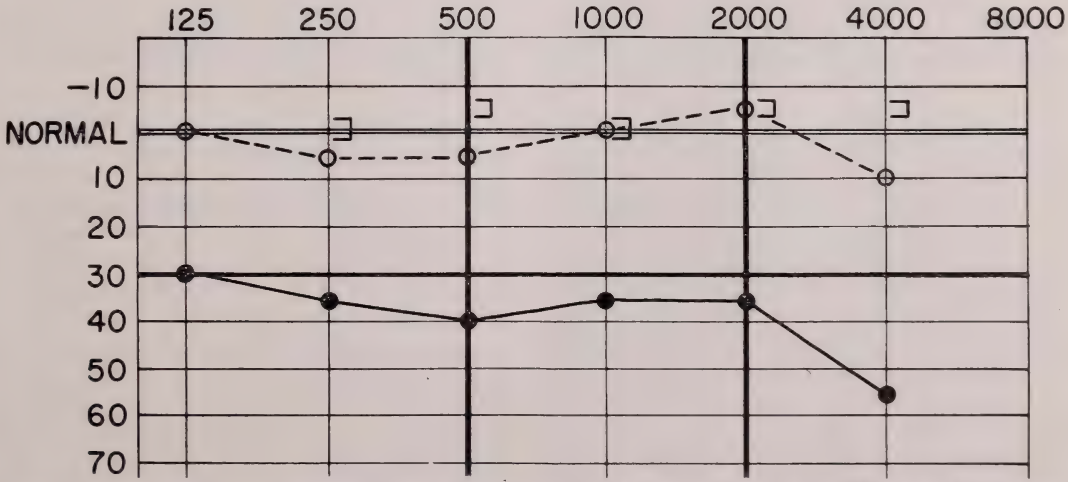

FIG. 4. *Case 1*—Air conduction audiogram of the left ear just before mobilization (solid line) and twenty-five months after mobilization (broken line). Preoperative bone conduction is also shown. Speech conduction thresholds were 40 decibels premobilization and 5 decibels twenty-five months postmobilization.

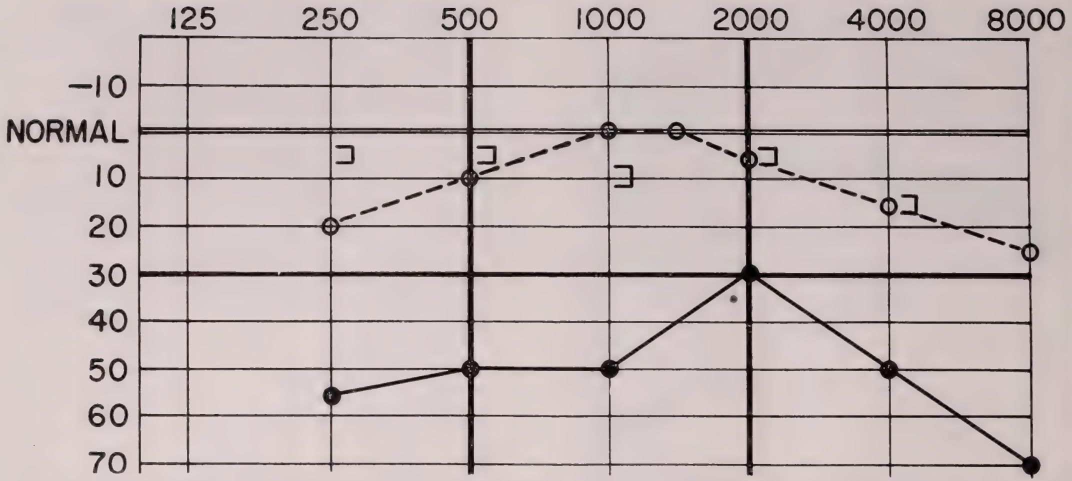

FIG. 5. *Case 2*—Air conduction audiogram of the left ear before mobilization (solid line) and twenty-one months after mobilization (broken line). Preoperative bone conduction is also shown. Speech audiometry was not performed because of a language problem.

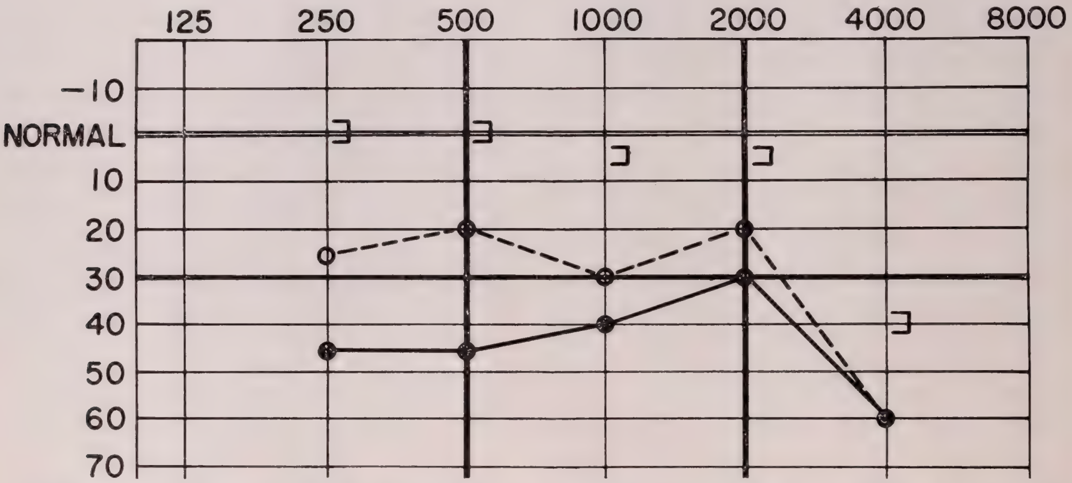

FIG. 6. *Case 3*—Air conduction audiogram of the left ear just before mobilization (solid line) and twenty-two months after mobilization (broken line). Preoperative bone conduction is also shown. Speech reception thresholds were 45 decibels premobilization and 30 decibels twenty-two months postmobilization.

pressure against the neck of the stapes caused greater movement of the head, crura, and tendon of the stapes. Suddenly while the neck of the stapes was being repeatedly palpated, the patient said: "I can hear everything now, things I haven't heard for so many years." This phenomenon was identical with the sudden return of acute hearing at the completion of the artificial fenestra during the fenestration operation. His drum was then placed back in its normal position. The patient was ambulatory the day of operation and on a full diet. There was no postoperative vertigo.

When his loss for pure tones was tested three weeks after the operation, the hearing had reached a level within 10 decibels of normal for tones up to 2,000 cycles per second. The speech reception threshold before stapes mobilization was 40 decibels. Three weeks after mobilization of the stapes the speech reception threshold was 10 decibels. One year after operation his pure tone loss averaged within 5 decibels of normal, and his speech reception threshold was 10 decibels in the operated ear. At the end of twenty-five months his hearing has been maintained at this level (Fig. 4).

Manipulation of the stapes loosened and made freely movable the incompletely fixed footplate. Restitution of the normal physiologic function of the ossicular chain including the now freely movable footplate of the stapes resulted in this case in normal hearing. Similarly normal hearing also followed mobilization of the completely

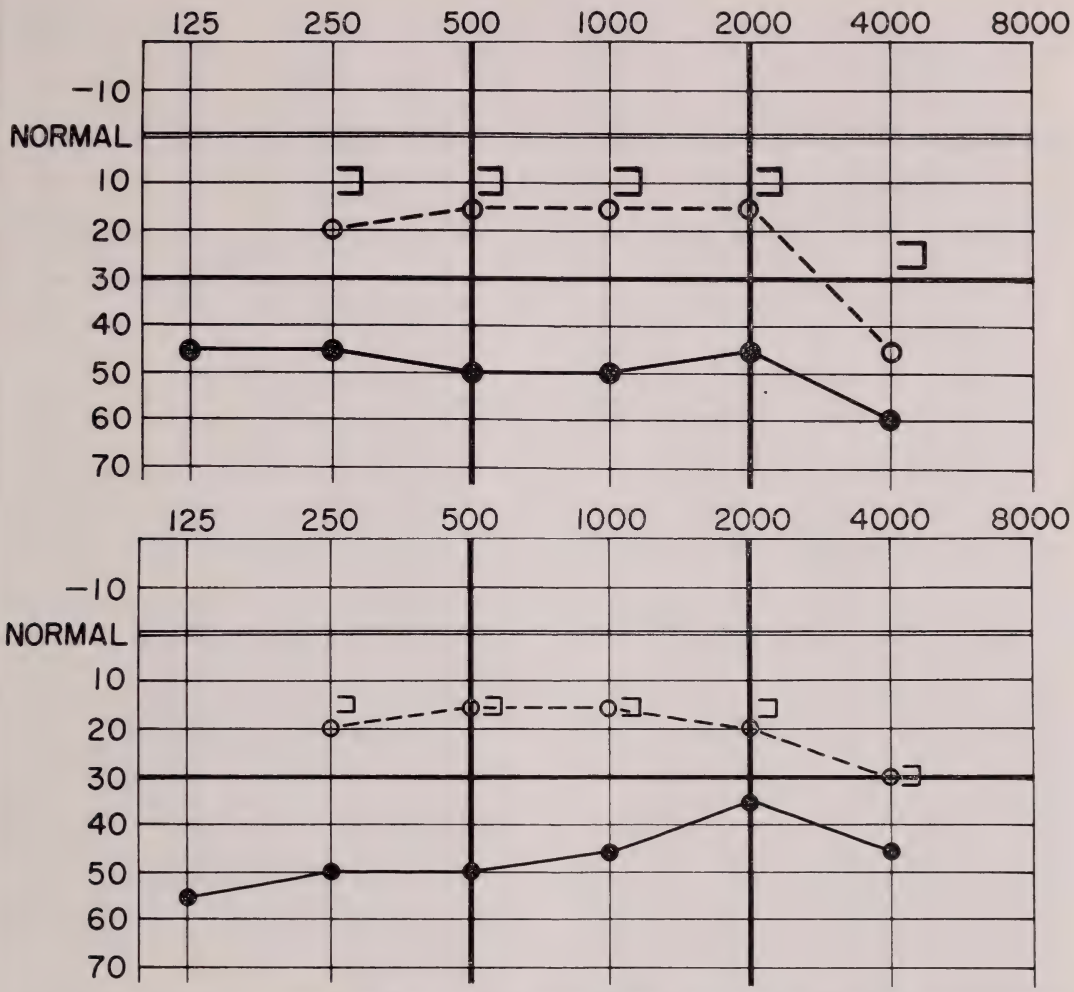

FIG. 7. *Case 4*—Bilateral stapes mobilization. This patient's right stapes were mobilized four months after the left. Air conduction audiograms were taken just before each stapes was mobilized (solid lines) and seventeen (left ear, *upper*) and thirteen (right ear, *lower*) months after stapes mobilization (broken lines). Preoperative bone conduction in each ear is also shown. Speech reception thresholds were as follows: left ear not tested premobilization, 15 decibels seventeen months postmobilization; right ear not tested premobilization, 15 decibels thirteen months postmobilization.

fixed stapes in Case 2 below. Mobilizing the footplate of the stapes restores the elements which nature has provided for normal physiologic hearing—a movable footplate of the stapes in nature's own oval window and an intact ossicular chain.

CASE 2.—A. M., age twenty-two, a soldier in the Israeli Army, had bilateral progressive deafness and tinnitus which he noticed had become rapidly worse for more than one year. Audiometric tests revealed typical conduction deafness with average pure tone loss of 43 decibels and with normal bone conduction. The operation was performed at the Military Hospital, Tel Aviv, on August 17, 1952, while on a medical mission for the Israeli Government. The left stapes was found completely fixed. Manipulation mobilized the stapes with dramatic return of hearing on the operating table. Within two weeks the hearing reached the normal level for pure tones. At the end of twenty-one months the hearing for pure tones has remained normal (Fig. 5).

CASE 3.—P. S., a housewife, age forty-five, had bilateral progressive deafness for fifteen years. There was no family history of deafness. The hearing became worse after childbirth in 1946. On January 14, 1947, examination of the right ear revealed average pure tone loss of 55 decibels and normal bone conduction. Right fenestration on March 13, 1947, resulted in improved hearing to the 20-decibel level which was maintained until the fall of 1951 when there developed a persistent perfora-

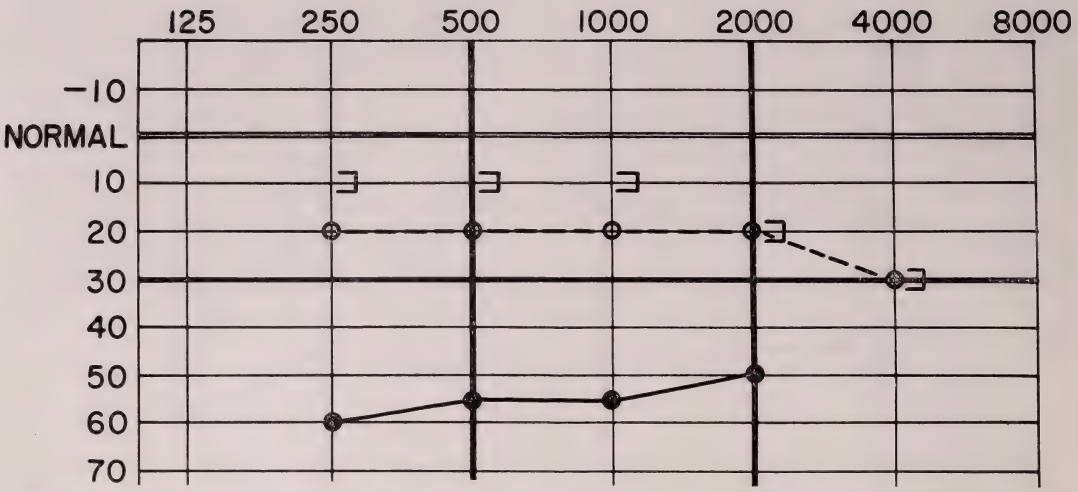

Fig. 8. *Case 5*—Air conduction audiogram of the right ear just before mobilization (solid line) and sixteen months after mobilization (broken line). Preoperative bone conduction is also shown. Speech reception thresholds were not tested premobilization and measured 15 decibels sixteen months postmobilization.

tion in Schrapnell's membrane following an upper respiratory infection. The hearing in the fenestrated ear fell to below the 30-decibel level.

Since this patient had referred Case 1 to me and observed the result of mobilizing his stapes, she requested that I try to mobilize her left stapes (unfenestrated side). This was done on July 7, 1952. The stapes was found to be almost completely fixed. Manipulation of the neck of the stapes mobilized it so that the incudostapedial joint and head, neck, and tendon of the stapes could be seen to move together freely. Her hearing improved on the operating table. She was ambulatory the day of operation, on a full diet, and had no postoperative vertigo. She left the hospital the next day. At the end of twenty-two months the improvement in hearing has been maintained (Fig. 6).

Case 4.—L. B., thirty-one-year-old machinist, had bilateral progressive deafness for several years. Hearing loss was about the same in both ears, for pure tones 48 decibels in the left ear and 43 decibels in the right ear. The preoperative bone conduction in the left ear was 10 decibels and in the right ear 15 decibels. On September 9, 1952, his left stapes was found partially fixed. It was mobilized, and then it moved freely. The hearing improved markedly on the operating table. The patient was ambulatory on the day of operation, on a full diet, and had no postoperative vertigo. He left the hospital the following day. The other ear was operated similarly on January 6, 1953, with the same findings and the same improvement in hearing. At the end of seventeen months and thirteen months, respectively, the improvement in hearing in both ears has been maintained (Fig. 7).

Case 5.—A. S., a housewife, fifty-seven years of age and in good health, was seen in the outpatient department. She had had bilateral progressive deafness for many years which had become much worse in the past three years. Tinnitus was present only occasionally. The average loss for pure tones in the right ear was 53 decibels with average loss by bone less than 15 decibels. On January 15, 1953, her right stapes was found rigidly fixed. The stapes was mobilized with immediate return of hearing on the operating table. The patient was ambulatory the day of operation, had no postoperative vertigo, and left the hospital the following day. At the end of sixteen months the hearing gain has been maintained (Fig. 8).

Comment

All the above patients can be seen to have maintained for sixteen to twenty-five months the degree of improved hearing which followed mobilization of the stapes. In two of the cases the hearing reached a normal level and has remained at this level. These observations suggest that the stapedial footplates have not reankylosed. Should this occur, however, the stapes could be remobilized. Cases suitable for fenestration are equally suitable for mobilization. Fenestration can be done without penalty in any case where stapes mobilization failed.

Mobilization is a simple procedure and requires only one day's hospitalization. There are no postoperative vertigo and no postoperative treatment.

It takes 50 operations on the cadaver to develop the necessary skill to perform it on the living.

Summary

Audiologic findings presented indicate that improved and normal hearing has been restored and maintained for sixteen to twenty-five months following mobilization of the stapes.

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Is Total Gastrectomy Justified in Carcinoma of the Stomach?

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In order to determine what improvement there has been over the years in the mortality and survival of patients following surgery for carcinoma of the stomach, 344 cases admitted to the wards of the Mount Sinai Hospital from 1938 through 1947 were divided into two five-year periods and reviewed.

The significant differences were an increase in resectability from 41 to 52 per cent and a decrease in mortality from 35 to 20 per cent despite the extension of the limits of resection. The reduction in mortality was due to the better understanding and control of fluid, protein, electrolyte, blood, and vitamin replacement, chemotherapy, improved anesthesia, and standardized operative technics.

It has been universally recognized that surgical treatment other than definitive resection offers little to those with gastric carcinoma. No patient was alive two years after simple exploration, after gastrostomy or jejunostomy for alimentation, or gastroenterostomy for the relief of obstruction. Radiotherapy for gastric carcinoma has proved useless. Since improvement in results depends upon eradication of the lesion, the limits of resection, especially during the second five-year period, were extended whenever feasible.

It became routine in all resections to remove a major portion of the stomach together with the regional lymph nodes along both the greater and lesser curvatures, the gastrohepatic and gastrocolic omenta, and the proximal centimeter or more of duodenum. In some instances in which distant metastases were not evident and in which the carcinoma invaded either the body or tail of the pancreas, the splenic pedicle, the transverse colon, or a combination of these viscera, an "en bloc" removal was done. When the entire stomach appeared involved, a total gastrectomy was performed, including part of the duodenum and esophagus, the spleen, and, if necessary, contiguous involved organs. When the malignancy seemed confined to the cardia and esophagus, an esophagogastrectomy was done. These extensive procedures represented 27 per cent of the definitive resections for "cure" as compared with 9 per cent during the first five-year period.

The follow-up results in the two five-year series were interesting. In Table I it will be seen that despite the extension of resectability in the

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TABLE I.—Survival Intervals for First and Second 5-Year Periods*

Survival Interval (Last Follow-up)	1938 Through 1942 Number of Cases	Per Cent of All Cases	Per Cent Resected Cases	Per Cent of Resection Survivors	Number Well but Lost to Follow-up or Having Last Follow-up in Period	1943 Through 1947 Number of Cases	Per Cent of All Cases	Per Cent Resected Cases	Per Cent of Resection Survivors	Number Well but Lost to Follow-up or Having Last Follow-up in Period
Operative deaths	36	24.0	..	..	..	31	16.0	..	..	..
No follow-up, assumed dead	38	..	..	..	..	74	..	..	..	..
1 to 6 months	33	..	..	..	3	19	..	..	..	5
6 months to 1 year	13	..	..	..	3	7	..	..	..	2
1 to 2 years	17	..	26.2	49.5	3	13	..	13.4	16.9	3
2 to 3 years	6	3.3	9.2	14.3	2	10	5.3	10.3	12.9	8
3 to 5 years	4	2.6	6.1	9.5	1	15	8.0	15.5	19.5	12
More than 5 years	10	6.4	15.4	23.8	8	18	11.6†	21.7†	27.3†	16
Total cases	157	..	..	..	..	187	..	..	..	..
Total surviving 3 years	14	9.0	21.5	33.3	..	33	17.6	34.0	42.0	..

* Reprinted through the courtesy of Surgical Publishing Co., Chicago 11, publishers of *Surgery, Gynecology and Obstetrics* (see reference 19).

† 1947 cases omitted since they could not be followed for 5 years.

second five-year group to include cases which previously would have been considered nonresectable, the survival rate increased. In the first five-year group 33 per cent of the patients surviving resection lived for more than three years. In the second five-year group 42.9 per cent survived for more than three years. In terms of five-year survival 23.8 per cent were alive five years or more in the first five-year group as compared to 27.3 per cent in the second (1943 through 1946).

As might be expected, the spread of carcinoma beyond the confines of the stomach adversely influenced survival. There were 75 cases in which the lesion was confined to the stomach; in 65 of these treated by resection 29 or 45 per cent survived three years or more. In 101 cases in which regional lymph nodes were involved without extension to other organs, only 16 patients or 19 per cent were alive more than three years following resection. Infiltration into the pancreas, colon, or mesocolon carried an extremely grave outlook, and a significant survival was rarely anticipated.

Our follow-up statistics correspond more or less with those reported by other surgeons (Table II). Stated briefly, one quarter to one third of the resection survivors lived for five years or longer, but when the tumor was confined solely to the stomach, the survival rate was as high as 50 per cent.

These results show improvement over those reported in the past, but they are not particularly good. A few surgeons have felt that the recurrences seen so frequently were due to the fact that the general principles of carcinoma surgery had not been adequately applied to gastric malignancies.[10–12] Therefore, they suggested a more radical procedure, even in early gastric lesions, which would embrace the removal of the entire stomach with its glands, a distal segment of the esophagus, part of the proximal duodenum, and the greater and the lesser omenta. It would include[13] excision of the peritoneum and areolar tissues over the pancreas and up to the inferior surface of the diaphragm and the nodes about the infradiaphragmatic portion of the esophagus, as well as the removal of the spleen and the body and tail of the pancreas.

The necessity for "total gastrectomy" was emphasized by McNeer *et al.*[12] They called attention to the fact that in a review of 92 autopsy protocols in patients surviving a sub-

TABLE II.—Operability, Resectability, and Survival in Various Series*

Author	Years	Number of Cases	Operability		Operative Mortality		Resectability		Resection Mortality		3-Year Survival			5-Year Survival		
			Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent Resection Survivors	Per Cent Total Cases	Number	Per Cent Resection Survivors	Per Cent Total Cases
Welch and Allen (Massachusetts General Hospital)[1]	1927 to 1936	691	441	64.0	..	..	171	25.0	..	..	..	..	..	..	..	5.0
	1937 to 1941	375	280	75.0	..	..	171	46.0	44	26.0	..	..	..	..	..	7.0
	1942 to 1946	457	352	77.0	..	..	245	53.0	27	11.0	..	..	..	..	..	..
Walters *et al.* (Mayo Clinic)[2]	1907 to 1938	10,890	6,242	57.3	..	..	2,772	25.5	..	16.2	..	..	..	..	28.6	7.0
	1942	420	277	66.0	..	..	154	36.6	..	..	..	..	..	..	..	..
Abrahamson and Hinton (Bellevue Hospital)[3]	1919 to 1938	444	148	33.0	77	52.0	24	5.4	14	58.0	..	..	..	..	..	..
Saypol and Hinton (New York Post-Graduate)[4]	1920 to 1939	196	151	77.0	53	35.0	50	25.5	22	44.0	..	..	..	..	..	..
Pack and McNeer (Memorial Hospital)[5]	1916 to 1930	272	141	51.8	..	32.7	8	2.9	5	62.5	..	..	..			
	1931 to 1936	245	149	60.8	..	13.8	19	7.7	6	31.6	..	..	..			
	1937 to 1941	278	205	73.7	31	15.7	73	26.2	14	19.2	..	..	..	26	1916 to 1941 34.7	3.4
	1942 to 1946	405	335	82.7	57	17.0	161	39.8	35	21.7	..	..	..	..	..	..
State *et al* (University of Minnesota)[6]	1936 to 1945	586	447	76.3	..	..	307	52.2	51	16.6	..	29.4	10.7	..	21.5	6.6
Wilson (Stanford University)[7]	1919 to 1928	82	48	61.0	..	..	17	21.0	..	24.0	..			..		
	1929 to 1938	108	62	57.0	..	..	27	25.0	..	37.0	..			..		
	1939 to 1948	120	102	85.0	..	..	50	42.0	..	6.0	..	1919 to 1945 35.0	8.5	..	1919 to 1943 23.0	4.6
Guiss (3 Los Angeles hospitals)[8]	1930 to 1939	1,295	500	38.6	..	..	100	7.7	46	46.0	..	..	..	..		
	1940 to 1949	1,596	654	41.0	..	..	193	12.8	41	21.2	..	..	..	..	33.6	1.4
Livingston and Pack (all available reports)[9]	To 1939	...	...	..	..	..	...	..	..	..	..	29.0	3.2	..	18.9	1.9
Present authors (Mt. Sinai Hospital)	1938 to 1942	157	147	93.6	36	24.0	65	41.0	23	35.0	14	33.3	9.0	10	23.8	6.4
	1943 to 1947	187	186	99.0	31	16.0	97	52.0	20	20.0	33	42.9	17.6	18	27.3	11.6

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total gastrectomy for varying periods, 50 per cent showed a recurrence in the gastric stump and 15 per cent in the duodenal. In 48 cases metastases were noted in the perigastric lymph nodes. Twenty-nine of these were associated with remnant gastric carcinoma. Their inference was that subtotal gastrectomy may have denied the chance of cure to about one half of the operative survivors and that to lessen the possibility of failure, either radical standardized subtotal or, preferably, total gastrectomy should be employed.

Whether total gastrectomy is justifiable as a routine procedure depends upon three factors: (1) Can a true improvement in survival be anticipated; (2) if so, will the higher survival rate be overbalanced by an increase in mortality, and (3) is the absence of a stomach compatible with relatively normal existence?

The operative technic has been greatly improved since Schlaetter's first successful total gastrectomy in 1893.[14] Nevertheless, while the operative mortality has been lowered during the past sixty years, it is still appreciable except for a few series.

In 1942 a total of 298 cases were collected from the literature with a mortality of 37.6 per cent; 8.5 per cent of the patients were known to have survived for more than three years, the cause of death in the remainder being attributed to carcinoma.[15] From about 1940 to 1950 Lefevre and Lortat-Jacob[16] collected approximately 826 cases with an operative mortality of about 20 per cent. As near as could be determined, 10 per cent of 599 survivors lived five years or more. Troell[17] reported a series of 54 total gastrectomies for carcinoma performed from 1940 to 1950 with a mortality of 51 per cent. Of the 26 who survived, 46 per cent were dead within the first year, 80 per cent within two years, and 88 per cent within three. Briefly only 12 per cent of those recovering from resection lived for more than three years. In a twelve-year period, 1940 through 1951, Kirschner and Garlock[18] reported 24 total gastrectomies with an operative mortality of 16.7 per cent. In this group there was not one long-term survivor, one patient having lived three years and then succumbed. In the small series of survivors in our 1938 to 1947 group, all died within two years.[19] In 1953 Sweet[20] reported on 44 survivors following transthoracic total gastrectomy performed three years or more from the date of the last follow-up. Twenty per cent were alive for three or more years (in six of these the lymph nodes were not involved), and of 28 patients whose operation was performed five or more years previously two survived. Lahey and Marshall[11] reported a mortality of 24 per cent in 127 total gastrectomies for carcinoma with a reduction in mortality to 9.4 per cent for 64 cases in the last six years of their series; 12.5 per cent survived for five years or more following resection.

It is seen that the mortality for total gastrectomy is still appreciable. While it has been greatly reduced in recent years, it remains considerably higher than that for subtotal resection in comparable hands. The salvage rate is low. No conclusions can be drawn, of course, as to what improvement might be hoped for from routine use of total gastrectomy for gastric cancer since the total resections in the series referred to were performed in large part for advanced lesions or lesions involving the cardia. True comparisons cannot be made, therefore. However, it is not to be supposed that all resections were done for hopelessly advanced growths. Of Lahey and Marshall's cases 34.6 per cent had no lymph node involvement, yet only 11 per cent of these were alive five years after operation. Twenty-five per cent of Sweet's cases had no node involvement, and of the nine cases surviving for three years or more six were free of lymph node invasion.

It is not only likely, therefore, that any increase in salvage from routine total gastrectomy would be more than offset by the increased mortality, but it is even doubtful whether there would be a true improvement in results over those obtained by radical subtotal resection. The amount of stomach removed is not nearly so important as adequate removal of the zones of lymphatic drainage. Even with total gastrectomy, it is impossible to resect glands behind the pancreas or about the celiac axis and aorta. Cardiac lesions have additional pathways of spread which are often inaccessible surgically. Although a high recurrence rate in the gastric remnant was demonstrated by McNeer *et al.*,[12] most of these cases died from distant metastases which might have been derived from the original growth. Moreover, the cases were collected from many sources, and it was the authors' impression that the resections performed may not have been adequate but rather of the same nature as those the surgeon usually did for ulcer. On the other hand, ReMine *et al.*[21] found no microscopic evidence of involvement of the line of resection either above or below the lesion in 34 patients with gastric cancer and lymph node involvement who survived the operation but died of metastases within a year.

The final point to be considered is the kind of existence that patients without a stomach may look forward to. There are undoubtedly those who have little digestive disturbance and appear to be economically restored. But most of the survivors are miserable. They have little appetite, remain underweight and anemic due to nutritional disturbance, and suffer from indigestion, the dumping syndrome, and often regurgitation and dysphagia. In other words, they are chronic invalids until they die. In Troell's series of 26 survivors, seven were able to do some work, six for two years and one for four years, but 19 required almost continuous nursing during their short survival. Sweet believes that it is possible for these patients with appropriate medical supervision and advice to lead useful active lives. However, they "should be considered as problems in medical care as long as they live thereafter."

Ultimate conclusions will depend upon a comparison of the morbidity and the three and five-year survival results in series in which total gastrectomy has been routinely performed for all cases of gastric carcinoma with equivalent series treated by radical subtotal resection. For the present, however, we agree with Crile,[22] Ransom,[23] Gray,[24] Walters,[25] and others that radical subtotal gastrectomy should continue to be the operation of choice, reserving total resection for those cases in which the entire or proximal stomach is involved.

ReMine *et al.*[26] stated that the amount of stomach resected is less important than whether the segment removed contains all the carcinoma. They assert that this is difficult to tell on gross examination, but the routine histologic study of the resected edges of stomach and duodenum give accurate information at the time of operation. Following subtotal gastrectomy most patients have a fairly comfortable existence for a few years, and about 25 per cent survive for five or more years.

Before surgeons in general are catapulted into this radical removal of viscera in the left upper abdomen, they should remember that "he who believes that life under any condition is bearable writes for himself a bloody epitaph." It might also have a sobering effect to read the recent invaluable contribution of MacDonald and Kotin.[27] They state that it is not the type of surgical treatment that gives the end results but that biologic determinism in gastric carcinoma is the limiting factor of curability. The evidence which they present is logical and impressive.

However, in spite of their pessimistic viewpoint there is no reason why we should not try to improve our present results further. This undoubtedly could be accomplished if patients with carcinoma of the stomach were brought to surgery earlier, at a time when the lesion is localized within the confines of the stomach and has not yet metastasized to the glands. This is not a simple accomplishment. Its solution provides a fruitful field for research. It is unfortunately true that carcinoma may be present for a long silent interval before it causes symptoms. This is evidenced by the fact that patients with complaints of extremely short duration are often inoperable at exploration because of advanced lesions not only with lymph node involvement but even with distant metastases. In our series 59 per cent of patients with symptoms less than six months had lymph node involvement, and of these half showed distant metastases. Unfortunately there is no available method yet by which an early lesion may be suspected in this group of patients. Even periodic x-ray for the population, if it were economically feasible, would not solve this problem.

However, there are cases which are being neglected. Patients with vague digestive disturbances, definite epigastric distress, and anorexia should not be disregarded, and those complaining of fatigue and weakness should not be dismissed with an inadequate workup. It cannot be stressed too strongly that any person, especially of cancer age, who complains of gastric symptoms or who has noticed an alteration in the previously existing symptoms, should be held suspect until it has been proved that a gastric carcinoma does not exist.

In our series the duration of symptoms was more than six months in 54 per cent of the cases and more than a year in 31 per cent. To put it another way, only 46 per cent of the patients were given their opportunity for cure within six months of the onset of symptoms, and an additional 23 per cent waited between six months and a year before the diagnosis was made and the operation undertaken. Moreover, the delay in 13 per cent of our cases was due to the acceptance of a diagnosis of gastric ulcer as an explanation of the symptomatology. Twenty-one of the ulcer cases had been followed and treated for more than two years before the diagnosis of gastric carcinoma was established or surgery resorted to. This delay has not been diminished with the passage of time, as shown by comparing the first with the second five years of the series. Similar experiences have been reported by others.

It has been stated that ulcers rarely undergo a malignant change and that "once a gastric ulcer, always a gastric ulcer." But the question arises whether clinically benign ulcers can be distinguished from malignant ones. There are no reliable criteria by which the differentiation may be made. Therefore, the danger of temporizing until the lesion is far advanced or even irremediable is a real one. X-ray examination with the barium meal is of inestimable value as a diagnostic aid and offers the best available method for the early diagnosis of gastric cancer. Fluoroscopy with spot films and mucosal studies, if early lesions are to be detected by the experienced observer, should be done. But this modality is not infallible, and the limitations of a particular examination must be thoroughly understood by the roentgenologist. If the surgeon at the operating table and the pathologist in the laboratory find it often impossible to arrive at correct diagnosis when reviewing a gross specimen, then the roentgenologist or the endoscopist cannot be asked to do the impossible.

The general practitioner, the internist, and the gastroenterologist should agree that all gastric ulcers, with the exception of small acute lesions which respond promptly to medical therapy, and every chronic or recurring ulcer should be treated surgically. All cases in which there is roentgen evidence of pyloric deformity or gastrocolic fistula should be explored without delay in order to eliminate the presence of malignancy.

Conclusions

1. Despite an increase in the resectability of carcinoma of the stomach through technical advance and extension of operative limits, the surgical mortality has lessened considerably.

2. Coincidentally there has been an improvement in results as evidenced by a comparison of recent and older three and five-year survival rates.

3. The question has been raised as to whether a further improvement in long-term results would not be obtained by the more frequent or routine use of total gastrectomy even for early limited lesions.

4. While the mortality of total gastrectomy has been much reduced, it remains appreciably higher than that for subtotal resection. It is likely that any increase in survival would be outweighed by the greater death rate from the procedure. Moreover, morbidity and invalidism following total gastrectomy are significant features.

5. Total gastrectomy does not solve the problem of eradicating lymphatic spread beyond the limits of technical accessibility, and this is the condition responsible for most survival failures.

6. A significant improvement in long-term survival will probably depend upon earlier diagnosis when the lesion is still relatively confined, permitting the performance of a standardized radical subtotal gastric resection.

Total gastrectomy should be reserved for those cases in which the entire or proximal stomach is involved.

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Discussion

Glenn H. Leak, M.D., *Buffalo.*—With knowledge and experience acquired since the second world war, the scope of surgery in the treatment of malignant disease has increased at a remarkable pace. It has been exceptionally prominent in the radical extirpation of primary pelvic cancer along with the local lymphatics to the level of the brim of the pelvis and, second, in the treatment of primary cancer of the oral cavity and larynx with "en bloc" neck dissections in continuity. It has been extended by the Urban procedure of including the internal mammary chain with a radical mastectomy and by Wangensteen's even more radical neck and mediastinal dissections for breast cancer. Continuity dissections of malignant melanomas with their local nodes have shown promise in increasing survivals in this desperate disease. The principle involved in these various procedures follows the concept laid down by Halstead in his description of the radical mastectomy, that is, a wide removal of the primary tumor along with a continuity dissection of the local lymphatics.

In considering total gastrectomy, however, this principle is challenged by the very location of the organ involved. It is a well-known fact that the stomach does not lend itself well to "en bloc" resections for technical reasons. The lymphatic drainage of the stomach, being so closely related to that of adjacent organs in a relatively confined space, does not allow for what, today, we consider to be a wide excision. Our principles of cancer surgery are, therefore, jeopardized at the onset of treatment.

With these facts in mind and with the survival rates as shown in this paper, it would at first glance seem logical that if we were more radical with every case of gastric cancer, our survivals should increase. To illustrate this point, our own cases at the Buffalo General Hospital were reviewed by Lipp for survival rate only. From 1936 to 1946 a total of 300 cases of gastric cancer were admitted. Of this group only eight patients or 2.6 per cent survived five years. Of these eight patients two had carcinomas in ulcers, one in a polyp, and the other five had typical infiltrating carcinomas. Interestingly enough, all of these patients had had routine subtotal gastric resections. It is natural, however, for all of us to think that total gastrectomy might have yielded a higher salvage. The authors, however, have answered this by their statement that an increase in salvage is offset by the increase in mortality.

It seems, however, that mortality rates will continue to decrease with experience. In 1952 McNeer and Bowden[a] reported a series of 33 consecutive total gastrectomies with an operative mortality rate of 6.1 per cent. Although the series is small, it shows what has been accomplished in the last few years and should be exploited further. Were such a mortality rate to be considered along with a higher salvage in early gastric cancer, it would be a major accomplishment, and total gastrectomy might be indicated.

Considering the problem of the so-called gastric cripple, we could enter into the field of philosophy. Is the cure worse than the disease, or is life worth living with a major disability? This, of course can be a social-economic problem. The ray of hope, of course, is that some patients remain asymptomatic following total gastrectomy. As McNeer stated in his series, "It has been gratifying to find that the patients subsequently ate the same meals as other members of their family, regained their appetites, gained weight, and again acquired a sense of well-being providing they had no recurrence of cancer." He felt that this usually required a period of six to eight months.

At the E. J. Meyer Hospital in Buffalo a small group of six patients who have survived total gastrectomy for various benign lesions are being studied by Anderson and others. These patients are survivors of three years or more. Of the group three or 50 per cent are completely asymptomatic with reference to their gastrointestinal tracts. One is classified as good, and two are gastric cripples. Since this series was started, two additional cases of total gastrectomy, one for ulcer and one for carcinoma, personally observed, have remained asymptomatic for over three years.

What do all these isolated facts mean? First, the over-all cure rate of gastric cancer is extremely low. Second, the major factor in improving our survival rates should be (*a*) an early cancer test (blood or gastric contents by simple methods) for the diagnosis of gastric neoplasms and (*b*) early radical surgery. With a constantly decreasing mortality rate and a possible 50:50 chance of a reasonably normal life, the door is still open for the possibility of total radical extirpation of the stomach with its accessible lymphatics.

Until these conditions can be met, what must our general thinking be?

1. We must agree with Drs. Colp and Jemerin that radical subtotal gastrectomy should be the operation of choice.

2. We must recall the natural history of the disease shown by the fine pathologic analysis made by Sunderland and others, i.e., (*a*) prepyloric and distal third carcinomas tend first to spread to the local nodes around the duodenal sweep, whereas proximal carcinomas tend to metastasize to the celiac axis, the pancreatic and splenic nodes; (*b*) from these observations at present, we should probably follow the reasoning that total gastrectomy should be reserved for lesions involving the entire stomach or proximal two-thirds in most institutions.

3. We should encourage certain groups to continue controlled series of total gastrectomies for all

operable gastric cancer. As the authors pointed out, "Ultimate conclusions will depend on morbidity and survival results in series in which total gastrectomy has been routinely performed for all cases of gastric carcinoma with equivalent series treated by radical subtotal resection." Even with this we may not know the complete answer because of the biologic predeterminism. The lesions appearing identical grossly and microscopically may react completely differently in different individuals.

4. We must encourage our medical colleagues to allow earlier exploration for gastric ulceration which could prove to be both prophylactic and curative cancer surgery.

5. As physicians, we cannot close the door on total gastrectomy for gastric cancer, even though figures show comparable if not better results by radical subtotal gastrectomy. I quote the authors again: "It has been universally recognized that surgical treatment other than definitive resection offers little to those with gastric carcinoma." Here, then, is the crux of the matter. The earlier the diagnosis, the more radical the surgery, the greater the reduction in mortality, and the better the postoperative care gained by experience, the better our results will be in the future. As we have seen from end results, anything that we can do to improve the salvage will be well worth while.

Knowing the incidence of gastric cancer, we must also take personal interest as physicians in this problem and realize, to use an old adage, that "the life we save may be our own."

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ANNOUNCEMENT

SCIENTIFIC EXHIBITS

1955 ANNUAL CONVENTION
MEDICAL SOCIETY OF THE STATE OF NEW YORK

Applications for space for the scientific exhibits should be made directly to the Chairman of the Subcommittee on Scientific Exhibits of the Convention Committee:

William L. Watson, M.D.
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W. P. Anderton, M.D., *Secretary*
Medical Society of the State of New York

An End Result Study of Spine Fusion for Lumbosacral Disorders Excluding Disk Herniations

EVERETT C. BRAGG, M.D., AND JOHN WOODCOCK, M.D., NEW YORK CITY

(*From the New York Orthopaedic Hospital*)

An end result study has been made of 214 clinic patients of the New York Orthopedic Hospital who underwent lumbosacral spine fusions for joint derangement from 1937 to 1945. Herniated disk cases were excluded by disk explorations in 36 cases and by clinical opinions alone in the others. Myelograms were not taken in those years but have been used more recently. Operations were done for prolonged pain and disability after conservative treatment.

The following analysis is based on the 100 cases with at least a five year follow-up. The other group will be compared at the end of the report.

The average postoperative interval was nine years ranging from five to fifteen years before examination and eight years before x-ray. Flexion-extension laterals were taken in 90 per cent of the cases, and of the remainder all had x-rays at least one year postoperatively. Forty-six per cent were males. The average age at operation was thirty-three; the oldest fifty-five and the youngest sixteen years. Disk exploration was done in 24 per cent.

The role of lumbosacral structural variations in the production of symptoms has remained speculative. Several large series of pre-employment groups and anatomic specimens have shown a high number of variations. Splithoff[1] compared a group of 100 various backache cases with 100 normal individuals over forty years of age. He found no significant differences. After disk removal Caldwell[2] studied a small number of poor results and found no relation to structural variations. On the other hand, Stewart and Larsen[3] found significant relationships in a comparative study, and Badgley[4] and Hodges and Peck[5] showed a higher incidence of thin disks and lumbosacral anomalies in sciatica than in backache alone. Structural studies of large operative groups since those of Hibbs[6] and Kimberley[7] have not come to my attention.

TABLE I.—Percentage of Preoperative X-ray Findings in 100 Cases

	Present Series	Splithoff's Normal Series
Spondylolisthesis of fifth lumbar	15	3
Incomplete sacralization	14	10
Spina bifida occulta (fifth lumbar or first sacral)	16	6
Posterior displacement of fifth lumbar	18	14
Osteoarthritis	18	22

Spondylolisthesis with bilateral pedicle defects occurred in 15 per cent of our series (Table I). Various studies have shown that the normal expectation may be about 3 per cent. Willis[8] found a separate neural arch in 4 per cent of lumbosacral specimens. That displacement may be an important factor in the production of pain was indicated by Stewart who found that the majority in the pre-employment group had no slipping, while nearly all of the symptomatic group had displacement. In our series all but two have displacement of at least $^1/_8$ inch, and in nearly half of the cases displacement is 1 cm. or more. Our results were satisfactory in all cases, although repair of pseudoarthrosis was necessary in two cases.

Incompletely sacralized vertebrae were present in 14 per cent of our series, and one half were unilateral. This is higher than the incidence reported in asymptomatic groups in which it varies from 5 to 13 per cent. Willis[8] found partial sacralization in 5.9 per cent of anatomic specimens. Stewart and Larsen[3] found that unilateral sacralization occurred 85 to 90 per cent more frequently in the backache group. The pretransitional vertebra was added to the fusion in all of the bilateral cases in which motion was absent or minimal and in only one of the unilateral type in which motion ranged from slight to moderate. Results were satisfactory in all but two in which there was pseudoarthrosis at the pretransitional joint.

Posterior displacement of the fifth lumbar vertebra occurred in 18 per cent of our series compared to 14 per cent in Splithoff's normal series. It has been mentioned by Smith,[9] Williams,[10]

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TABLE II.—MEASUREMENT OF DISK BEFORE AND AFTER OPERATION*

	Preoperative (81 Cases)	Postoperative (53 Cases) At Fusion Level	Postoperative (53 Cases) Above Fusion Level
Fifth lumbar-first sacral			
Anterior	11.3 mm.	8.8 mm.	. . .
Posterior	5.3 mm.	4.7 mm.	. . .
Fourth-fifth lumbar			
Anterior	12.2 mm.	7.7 mm.	13.3 mm.
Posterior	6.5 mm.	4.7 mm.	6.3 mm.
Third-fourth lumbar			
Anterior	11.3 mm.	. . .	11.5 mm.
Posterior	6.8 mm.	. . .	6.2 mm.

* Average posterior thickness of fifth lumbar body: 30.9 mm. preoperatively and postoperatively.

Friberg,[11] and others as a possible factor in producing pain but was called an optical illusion by Willis.[8] Its frequent association with thin disks and anteroposterior facets is confirmed in our series.

Spina bifida occulta of the fifth lumbar or first sacral vertebrae were found in 16 per cent of our series compared with 6 per cent of Splithoff's normal series. Various authors have reported an incidence varying from 6 to 21 per cent with no clear-cut relation to pain. Gill[12] described a mechanism whereby sciatica may be produced. There was a slight increase of sciatica (12 per cent) in our series.

Osteoarthritic changes were present before operation in 18 per cent of our series at the level of fusion in nearly all, compared to 22 per cent of Splithoff's normal group who were considerably older. The results of fusion in this group were comparable to those of the entire series.

The incidence of facet changes did not differ significantly from Splithoff's normal group. Stewart and Larsen found a high association of asymmetric facets with degenerative changes of disk and ligaments.

There were no average alternations of the lumbosacral angle. With sciatica there were 24 per cent more cases with decreased angles. In 28 cases with a list 44 per cent more had decreased angles, although the presence of spasm without list had no apparent effect. In spondylolisthesis 73 per cent had increased angles.

Transitional cases and spondylolisthesis were excluded from a study of thin disks. Thin fourth or fifth lumbar disks were found preoperatively in 75 per cent of our cases, in 62 per cent fifth lumbar and in 31 per cent at fourth lumbar. Extreme atrophy of the fifth lumbar disk with a posterior measurement of 3 mm. or less was present in 14 per cent. Splithoff found only a slight tendency to thinning in his backache group. Stewart and Larsen reported a significant relation of thin disks to back symptoms. Badgley[4] and Hodges and Peck[5] found an association with sciatica.

TABLE III.—LEVEL OF PSEUDOARTHROSIS

Primary Group	Number of Cases	Pseudoarthrosis (Per Cent) Incidence	Pseudoarthrosis (Per Cent) Total Unsatisfactory Results*
Fifth lumbar-first sacral	57	11	86
Fourth lumbar-first sacral			
No spondylolisthesis	28	32	64
Spondylolisthesis	15	20	. .

* Fair and poor.

The standards for disk thinning are unsatisfactory. A thin fifth lumbar disk was considered to have a posterior measurement of one sixth the posterior measurement of the fifth lumbar body or of moderate thinness if x-rays did not permit measurement. A thin fourth lumbar disk was judged when it was definitely narrower than the third lumbar disk or had a posterior measurement of one fifth or less of the fifth lumbar body.

A table of disk measurements is shown which illustrates the average lack of significant thinning postoperatively above the fusion level (Table II).

In cases with thin fifth lumbar disks there was a slight increase in sciatica and posterior displacement. Asymmetric facets were increased in cases with thin fourth lumbar disks. Thinning was much less frequent in spondylolisthesis. When present, it was nearly always at the fifth lumbar disk and was usually marked.

Pseudoarthrosis was found in 11 per cent of the fifth lumbar-first sacral group, in 32 per cent of the regular fourth lumbar-first sacral group, and in 20 per cent of the spondylolisthesis cases (Table III). The high incidence of pseudoarthrosis in regular fourth lumbar-first sacral fusions was found to be related to the infrequent use of extra bone, the use of screws at the fourth-fifth lumbar, and to the frequency of extensive laminectomy (60 per cent in five cases).

Secondary operations, chiefly for pseudoarthrosis, were done in 14 per cent of cases, 11 per cent at the fifth lumbar-first sacral and 20 per cent at the fourth lumbar-first sacral. Satisfactory results were obtained in 79 per cent, and their importance is shown in the improved end result (Table IV). Nine of the 11 pseudoarthroses were solid after one repair.

An analysis of the unsatisfactory end results

TABLE IV.—Reoperations

	Total Per Cent	Result Without Reoperations	End Result
Fifth lumbar-first sacral group	11	75% normal and good	85% normal and good
Fourth lumbar-first sacral group	20	73% normal and good	90% normal and good
Series total*	14	....	....

* Excluding spondylolisthesis

TABLE V.—Unsatisfactory End Results (Fair and Poor)

	Number of Cases	Fusion Group: Fifth lumbar-first sacral	Fusion Group: Fourth lumbar-first sacral
Pseudoarthroses	5	3	2
Osteomyelitis	1	0	1
Thin fourth lumbar disk above fusion	3	3	0
Multiple osteoarthritis	1	1	0
Complete laminectomy fifth lumbar	1	1	0
Total	11	8	3

TABLE VI.—Relation of Level of Single Pseudoarthrosis to Clinical Result

Level of Single Pseudoarthrosis	Number of Cases	Per Cent Unsatisfactory Results (Fair and Poor)
Fifth lumbar–first sacral	9	89
Fourth-fifth lumbar	7	57

TABLE VII.—Pseudoarthrosis and Result

	Number of Cases	Per Cent Unsatisfactory Results
Total solid fusions	..	7
Pseudoarthrosis at end result	11	45
Total pseudoarthroses (including repairs)	20	70

TABLE VIII.—Residual Symptoms Due to Thin Disk Above Fusion Area

	Number of Cases	Symptomatic Result (Per Cent): Normal	Good	Fair	Poor
Cases *with* thin third or fourth lumbar disk above solid fusion	25	18	64	14	4
Cases *without* thin third or fourth lumbar disk above solid fusion	55	64	33	2	2

TABLE IX.—Expectation of Satisfactory (Good and Normal) Results from Single Operation

	Series (Per Cent)	Solid Fusions Excluding Pseudoarthrosis (Per Cent)
Fifth lumbar-first sacral	77	86
Fourth lumbar-first sacral*	73	96
With 16% pseudoarthrosis	87	..

* Spondylolisthesis excluded.

is shown in Table V. The large number of unsatisfactory results when pseudoarthrosis is present, particularly at the fifth lumbar-first sacral level, reflects the effectiveness of fusion therapy (Tables VI and VII).

Thin disks above the fusion area bore a significant relation to unsatisfactory end results and to minor residual symptoms (Table VIII). The thinning was present preoperatively in two of the three poor end results.

Osteoarthritis postoperatively showed an 18 per cent increase in mild residual symptoms in 34 cases. It was usually adjacent to the fusion and mild. A poor end result was obtained in one of three cases with dorsolumbar involvement.

Age, sex, type of work, and structural variations showed no influence on the end results, with the exception of the 15 cases with spondylolisthesis which had 100 per cent satisfactory results after two repairs for pseudarthrosis.

Poor results were usually attributable to pseudoarthrosis in the fourth lumbar-first sacral group, but other factors played an important part in the fifth lumbar-first sacral group, perhaps related to the unfused fourth-fifth lumbar joint. The question of when to add the fourth lumbar to the lumbosacral fusion is of great interest in view of the known frequency of disk herniation and degeneration at the level even in the absence of x-ray changes. The fourth lumbar was added in 30 of 85 cases, excluding spondylolisthesis. This was usually done for disk thinning, asymmetric facets, or at the joint above a bilateral, incompletely sacralized vertebra with little or no motion.

The advantage of adding the fourth lumbar may be appraised by noting the 10 per cent increase in the satisfactory total results of solid fusions where there was also a 10 per cent increase in normal over good results (Table IX). However, the addition of the fourth lumbar resulted in a 9 per cent increase in secondary operations, all of which were attributed to pseudarthrosis. Since the pseudoarthrosis rate at the fourth lumbar is now thought to be about 16 per cent com-

TABLE X.—RESULTS IN 100 CASES WITH SPECIAL STUDY (PER CENT)

	Excel-lent	Good	Fair	Poor	Unclassi-fied
Symptomatic	67	21	7	4	1
Occupational	90	5	3	1	1
Functional	69	21	6	4	0
Patient's estimate	60	26	9	4	1
Physician's estimate	62	27	8	3	0

TABLE XI.—CLASSIFICATION OF WORK

	Before Disability Preoperative	Full-time Work Postoperative
Heavy manual	19	18
Light manual	21	23
Desk, clerical	16	16
Housework	36	37
Unclassified	8	1

pared to 32 per cent in this series, there would be only a slight over-all benefit gained by a routine addition of the fourth lumbar to the fusion (Table IX). The indications for addition might be extended from those mentioned to include cases with abnormal mobility in flexion and extension x-rays and local tenderness. Diskograms do not yet seem practical.

The clinical results are summarized in Table X. Symptomatic relief was satisfactory in 88 per cent of cases. Back pain was present in 94 per cent before operation and in 32 per cent at end result, at which time it was exceedingly mild in all but 11 per cent, being usually described as weather pains or aching after overexertion. Sciatica extending below the knee was present in 44 per cent preoperatively and in 4 per cent postoperatively. Reduced ankle jerks or sensory loss was present in 33 per cent of cases preoperatively. No significant relation was found between sciatica and individual structural variations in this series.

Occupational results were satisfactory in 95 per cent (Table XI). The classification of work was comparable before and after operation. Those returning to full heavy work included laborers, machinists, truck drivers, farmers, housepainters, and a carpenter. The patients' activities outside of work were satisfactory in 90 per cent of the cases (Table X). Restrictions were often a result of the physician's advice or of fear. Eighty-six per cent of the patients reported satisfactory results compared to the physicians' estimate of 89 per cent.

One hundred fourteen similar cases were operated upon in the same period and were seen in the regular follow-up clinic after an average interval of three years, but postoperative x-rays and examinations were often inadequate for study. Satisfactory results were noted in 82 per cent, and solid fusion was estimated in 94 per cent. Secondary operations were done in 12 per cent.

Faulty diagnosis occurred in 4 per cent (nine of 223 cases) and were excluded from the study. Of these, five cases (2 per cent) required subsequent removal of a herniated disk which seemed to have been present before fusion. The disk herniation was found at the fourth lumbar disk after fifth lumbar-first sacral fusion in four cases and at the fifth lumbar disk under a solid fusion in one case. The other four faulty diagnoses included Marie-Strümpell arthritis, sacroiliac tuberculosis, and a marked congenital deformity of the third lumbar body.

Conclusions

1. End results of spine fusion for chronic lumbosacral derangement exclusive of disk herniation were satisfactory in 89 per cent.
2. There was a high incidence of structural variations in this operative group. Facet variations seemed of little general significance.
3. Disk degeneration and thinning are considered to have an important bearing on symptoms.
4. Disk degeneration and symptoms of chronic lumbosacral derangement occur most frequently at the two lowest lumbar joints. This may be chiefly due to postural and anatomic characteristics. Posterior tilting of the sacrum and mobility are constant factors that may localize disk degeneration in the low back. The relation of the nerve roots, disk, and facets seems to be of fundamental importance in producing symptoms. The disk degeneration itself may be more important than the individual structural variations in exaggerating the fundamental anatomic vulnerability of this area.
5. Spine fusion did not seem to harm unduly the proximal joints.

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Discussion

Halford Hallock, M.D., *New York City.*—This study by Dr. Bragg, which I know to have been made carefully and thoroughly, attests anew to the efficacy of spine fusion in alleviating low back pain and disability of mechanical origin. The results were wholly satisfactory clinically in 89 and occupationally in 95 per cent. All patients with low back pain do not require operation, and this group represents only those who did not respond to other methods of treatment. At the Orthopaedic Hospital only about 10 per cent of all cases with lumbosacral pain are advised to have a spine fusion. The operative group, therefore, represents the more severe cases, and it is cheering to know that a very high percentage of lasting good results can be obtained in this more difficult class.

It is of interest that the analysis of this operative group showed a greater frequency of structural variations compared to the reported normal incidence and a very high occurrence of disk atrophy in this region (75 per cent). Facet variations, however, did not occur more frequently and, therefore, may be of little significance. It would seem from these facts that disk atrophy was of considerable importance in the production of back pain, and the authors' suggestion that degeneration of a disk, at least in many instances, may contribute more to the fundamental mechanical vulnerability of the lumbosacral area than structural variations is a valid one.

Preoperatively sciatica was present in 44 per cent of these patients, in all of whom it was felt that there was no herniation of a disk. Postoperatively it was found in four. This simply means that there are other causes of sciatica than nuclear herniations and that many cases of sciatica respond to fusion without disk operation. It may be difficult clinically to recognize these, and where uncertainty exists, myelography should be of help in determining the advisability of concomitant disk exploration.

Finally, it is important to emphasize that Dr. Bragg found no evidence of undue harm to the proximal joints following lumbosacral arthrodesis.

The Home Management of Tuberculosis with Newer Drug Therapy

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During the first half of this century there was a steady decrease in the death rate from tuberculosis and, due to improved technics, an increase in the case-finding rate. Since 1947 there has been an almost precipitous decrease in the death rate explainable by the efficacy of antimicrobial drugs and greatly improved medical and surgical technics. However, lest we tend to discount the importance of the disease, let us examine the rate at which new cases are developing and the case loads of tuberculosis registers.

We find that the old relationships do not hold and that we are finding almost as many new cases per year. Registers, at least in our own county, contain a greater number of names than ever before, and percentagewise, considering population growth, there has been little change since 1947. At present the county has over 4,000 cases of tuberculosis registered. It is our belief that every patient so registered is a continuous problem because of the tendency of the disease to recur even after years of apparent inactivity. Although many of these patients have lost their glamor; have been discharged from hospital or sanatorium with "maximum hospital benefits"; have been irregular discharges because of boredom or maladjustment to hospital neighbors and/or staff; have in anxiety states sought to solve what seems to them crushing social or financial problems at home; or have returned to their usual haunts and habits on Skid Row, their tuberculosis con-

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tinues as a community problem and a headache to harassed health officials and their family doctor. We can expect little change. We must recognize patients as people who exhibit their individual personalities, foibles, anxieties, and habits. Furthermore, the use of antimicrobial drugs often dramatically reduces the fever, resolves pulmonary infiltrates, allays other constitutional symptoms, and converts sputum so that many patients convinced of their good health resent or refuse adequate sanatorium care. This communication is concerned principally with a method of care for hospital and sanatorium discharges of any sort in our county and to a lesser extent for those who for various reasons have never been hospitalized.

Since 1947, when the use of streptomycin came into more or less general use, the treatment pattern of pulmonary tuberculosis has changed rapidly. After the introduction of para-aminosalicylic acid and later isoniazid, methods of drug administration have changed almost from month to month. On a couple of occasions I have stated "we do not know how to treat tuberculosis today." This statement still has merit. However, it is apparent that today antimicrobials should be withheld from few patients; they should be used over much longer periods, and their relationship to collapse and excisional therapy should be kept in mind. Because of these changing patterns of treatment it is more desirable than ever, from the standpoint of health officials, physicians, and patients themselves, that continued observation and therapy be carried out.

During the past year or so in our county the need for a therapy clinic for certain patients referred by private physicians or distant hospitals was recognized. Such a clinic was developed and began operating in December, 1953, under the direction of the Erie County Department of Health and the Buffalo and Erie County Tuberculosis Association. Since we firmly believe hospital care is highly desirable for almost all newly diagnosed patients for isolation, therapeutic, and educational reasons and since we also firmly believe cooperation with private physicians is highly desirable, operative rules were developed as follows:

1. This demonstration clinic during this period is being supported jointly by the Erie County Health Department and the Buffalo and Erie County Tuberculosis Association.

2. Such care is not intended to interfere with but rather to supplement private medical management. Also, it is not intended to replace hospital treatment. It cannot in any sense be considered a substitute for general medical care.

3. Inasmuch as this is a service offered to private physicians, patients referred by private physicians and meeting the criteria for selection will be eligible for care under the clinic program. A patient who has been referred by a private physician to the clinic for drug treatment is expected to see his private physician as often as the physician determines the need and not less often than once every two months. The clinic does not provide a substitute for general medical care.

Only certain types are selected for home treatment. Criteria for selection are as follows:

1. The patient must be a reported case of tuberculosis with adequate clinical and laboratory evidence to substantiate the diagnosis.

2. The patient usually should have as a prerequisite a minimum of six months institutional care because of the benefits of hospital or sanatorium care in being taught a new way of life.

3. The patient should have a suitable home environment with consideration given to space, stairs, provision of care, dietary regime, recreation, etc.

4. Protection of others in the household should be considered. This may involve the removal or immunization of children, sanitary precautions, etc.

5. The patient should be the type of case which can be helped by antituberculosis drugs.

A board of review was set up with membership consisting of representatives of the Medical Society of the County of Erie, the regional health director of the New York State Department of Health, the Erie County Health Department, the local tuberculosis hospitals, and the Tuberculosis Association. This board was appointed to maintain relations with the medical profession, to approve or disapprove categories of applicants for clinic service, to determine treatment regimes needed, and to accept responsibility for the operation of the clinic.

Antimicrobials are provided without cost to the patient. Streptomycin or dihydrostreptomycin may be given at the clinic or administered by a public health nurse depending on the patient's ambulatory ability. Direct supervision of the clinic is under a well-qualified medical director who interviews, examines, orders x-rays and sensitivity tests, and obtains

TABLE I.—Types of Patients Under Therapy at Health Department TB Association Clinic

Age (Years)	Number of Cases	Type 1	Type 2	Type 3	Extra-pulmonary	Post-operative	Average Hospital Duration (Months)	Pneumo-peritoneum or Pneumo-thorax	Returned to Hospital
10 to 19	3	1	1	0	1	0	8	0	0
20 to 29	15	4	7	1	3	3	10	2	0
30 to 39	20	5	10	5	0	2	18	3	1
40 to 49	14	2	7	4	1	2	13	2	3
50 to 59	15	2	9	4	0	2	18	1	2
60 to 69	15	1	10	2	2	1	13	0	0
70 and over	1	0	0	1	0	0	12	1	0
Total	83	15	44	17	7	10		9	6

TABLE II.—Types of Patients Under Therapy at County Hospital Clinic

Age (Years)	Number of Cases	Type 1	Type 2	Type 3	Extra-pulmonary	Post-operative	Pneumo-peritoneum or Pneumo-thorax	Re-turned	Male	Fe-male	Non-white	White
10 to 19	8	1	4	2	1	0	2	0	4	4	4	4
20 to 29	24	2	12	7	3	2	3	0	6	18	11	13
30 to 39	21	0	12	8	1	8	7	1	12	9	8	13
40 to 49	20	3	10	7	0	3	6	0	15	5	8	12
50 to 59	24	1	12	11	0	5	1	0	22	2	4	20
60 to 69	22	0	9	13	0	2	0	2	16	6	4	18
70 and over	9	0	3	6	0	0	0	1	8	1	0	9
Total	128	7	62	54	5	20	19	4	83	45	39	89

synopses of hospital or sanatorium records and information from the private physicians.

An evaluation of the clinic services will be made at the end of one year. Table I is a general picture of the types of patients under therapy.

Of longer duration is the clinic developed by the staff of the county hospital (Edward J. Meyer Memorial Hospital). This was started in the days when there was a bed shortage for tuberculosis patients in early 1952. In general, the admission requirements are much the same as for the Health Department-Tuberculosis Association clinic. Patients who have had "maximum hospital benefits," collapse therapy, or surgical procedures are continued on drug therapy, provided the adequate regime has not been completed in the hospital. A few patients who, for various reasons were not hospitalized but who appeared to need drug therapy have been treated in this clinic. One hundred and twenty-eight patients are under observation. Age and type of case bear a close resemblance to Health Department-Tuberculosis Association clinic as illustrated in Table II.

Although no evaluation of the clinical benefits can be given at this time, it is apparent that in such clinics we have more adequate supervision of the patient and his family through cooperation with the family physician; in the light of modern therapy more adequate treatment for various types of discharges; the opportunity to continue treatment on patients who have had resection surgery or medical or surgical collapse measures; a close association with those having positive sputa or unstable lesions so that rehospitalization may be "sold" to them; and a means of treating expectant and new mothers who have tuberculosis while they are under the care of their family physician or obstetrician. It is noteworthy that a large percentage of the patients in these clinics are over forty years of age. To have a closer medical association with this group which in later years of life often finds it difficult to adjust to a long period of hospital supervision seems to be worth while. A closer relationship with the private physician should result in patient benefits, particularly concerning such complications as diabetes, pregnancy, etc., and public health benefits through a greater interest by physicians in the disease, recognition of modern diagnostic measures, and treatment by newer methods of chemotherapy and surgery supplementing time-honored but modified measures of rest and diet.

Finally, health officials may be hopeful that "good chronics" may remain under close supervision and unstable or "open" cases may be more readily encouraged to return to hospital for futher isolation and therapy.

I am indebted to Dr. Berwyn F. Mattison, health commissioner of Erie County, and his staff for valuable assistance in developing the Health Department-Tuberculosis Association clinic.

Nisentil: A Preliminary Screening Study of Its Clinical Applicability

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DRUGS having analgesic properties are the object of many clinical investigations. One of the more recently introduced is Nisentil, a brand of alphaprodine. It is reported to provide excellent analgesia with a minimum of untoward effects. This report details some investigations into the clinical properties (Part I) and clinical utility (Part II) of Nisentil.

Nisentil (dl-alpha-1,3, dimethyl-4-phenyl-4-propionoxy piperidine) hydrochloride resembles meperidine in structure, and it is assumed that Nisentil is detoxified and eliminated in a similar manner.

Gruber, Lee, and Gruber[1] found that toxic doses of Nisentil in rats, mice, and rabbits are characterized by clonic convulsions and exophthalmos, with some animals dying of respiratory failure. Intravenous injection of as little as 1 mg. per Kg. in dogs produced a sudden decrease in the depth of respiration and a sudden fall in blood pressure, but tolerance to these effects was rapidly developed. The amplitude of ventricular contraction of an excised frog heart with Nisentil 1:300 to 1:700,000 in the perfusing solution will be reduced, and dilutions of 1:300 to 1:30,000 will reduce the rate of contraction. Randall and Lehman[2] reported that in rats tolerance to morphine developed rapidly, whereas no tolerance was noted to Nisentil within a period of seven weeks. Hurlbut and Dille[3] demonstrated that the intravenous administration of Nisentil in doses of 7 mg. per Kg. to rabbits at term completely abolished fetal respiratory movements for fifteen minutes. Normal fetal respiratory movements were restored in two and one-half hours. LaForge[4] used Nisentil (40 to 80 mg.) administered subcutaneously as an analgesic and sedative in 1,000 women in labor. He concluded that Nisentil reduced the pain and anxiety of labor without any maternal effects and with only minimal and transient infant depression.

Respiratory studies in man following the subcutaneous administration of 60 mg. of Nisentil are reported by Egge *et al.*[5] The minute volume decreased to 70 per cent (standard deviation ±17) and the tidal volume to 80 per cent (standard deviation ± 18). The maximum depression occurred fifteen to twenty minutes following the injection.

Part I—Clinical Properties

The method utilized in this investigation employed the drug alone and in combination with other drugs in a wide variety of patients. Analgesic, sedative, respiratory, and circulatory effects are reported.

Table I details the results of the administration of Nisentil to 45 patients. Analgesia was considered good when the patient was able to tolerate both a hemostat closed on the skin and the pain associated with the surgical procedure (painful dressing, cystoscopy, incision, and drainage, etc.). Analgesia was considered fair when the patient felt pain when a hemostat was closed on the skin and/or had some degree of pain during the surgical procedure. Analgesia was considered poor when the patient had either pain on hemostat pinch or exhibited marked pain during the surgical procedure. Evaluation started ten to fifteen minutes after the subcutaneous administration of the drug. Table II is a summary of the results detailed in Table I. The reduction of apprehension by the addition of scopolamine is readily apparent. The reaction of a seventy-five-year-old male, who received Nisentil, 45 mg., and atropine, 0.4 mg., is worthy of note. This patient became apneic when surgical manipulation ceased thirty minutes after the injection. Nevertheless, during the surgical manipulation, analgesia was poor and apprehension marked.

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TABLE I.—Analysis of Analgesia in 45 Patients According to Age

	Nisentil Dosage (Mg.)	Analgesia Good	Fair	Poor
Nisentil alone—10 patients (Age of Patients*)	12	81	..	..
	18	76	..	..
	24	..	35	78
	30	67†	..	..
		81	40	..
	60	58	60††	..
		58	..	..
Nisentil with atropine, 0.0004 Gm.—9 patients (Age of Patients*)	30	81	66†	..
	45	68	75†	75†, **
		73†	..	..
	60	66†	..	..
		77	..	..
	90	58	..	..
Nisentil with scopolamine, 0.0004 Gm.—26 patients (Age of Patients*)	18	73	..	..
	24	26	60	..
		40	..	..
	30	23	..	53
		48	..	..
		52	..	..
		60	..	..
		70	..	..
		75	..	..
	36	76	58	..
		..	60	..
	45	23	..	..
		38	..	..
		54	..	..
		56	..	..
		65	..	..
		66	..	..
		66	..	..
	60	38	27	..
		38	..	..
		46	..	..
		54	..	..

* Each number represents the age of a patient in whom the amount of Nisentil at the left produced the degree of analgesia indicated in the following three columns.

† Apprehension.

** Apnea.

†† Respiration 9 per minute and shallow.

TABLE II.—Summary of Results in 45 Patients

	Good	Fair	Poor	Apprehension	Respiratory Depression
Nisentil	6	3	1	1	1
Nisentil-atropine	6	2	1	5	1
Nisentil-scopolamine	21	4	1	0	0

Three patients with normal respirations during nitrous oxide-Pentothal anesthesia were given Nisentil 60 mg. subcutaneously. All three exhibited severe respiratory depression within five to ten minutes. No Pentothal was administered after Nisentil. Respirations were assisted or controlled for a duration of forty minutes before normal respiration resumed.

Two patients, given preanesthetic medication with pentobarbital 100 mg. and atropine 0.4 mg., received 60 and 45 mg. of Nisentil, respectively. Tidal volume was reduced in both cases with a respiratory rate of 8 per minute in the former and a normal rate in the latter.

Eight patients given preanesthetic medication with atropine or scopolamine received 30 to 90 mg. of Nisentil. Two of these had also received meperidine 75 mg. and one, morphine sulfate 10 mg. No respiratory depression was evident within ten minutes after the injection of Nisentil. Anesthesia was then induced with Pentothal or Pentothal-nitrous oxide. The amount of Pentothal (less than 250 mg. in seven of eight patients) necessary to produce severe respiratory depression was recorded, but the data are insufficient to make a quantitative analysis. Three patients became apneic, two had shallow bradypnea (2 per minute), two had bradypnea (8 per minute), and one who had also received morphine sulfate 10 mg. did not have respiratory depression. Two of the patients with severely depressed respirations following Nisentil-Pentothal were maintained with controlled or assisted respiration for ten and fifteen minutes each before adequate spontaneous ventilation ensued.

Ten patients with depressed respiration following the administration of Nisentil, Nisentil-Pentothal, or Nisentil-pentobarbital were maintained clinically well oxygenated by manually assisted respirations. All responded promptly with adequate ventilation following the intravenous administration of 5 to 10 mg. of Nalline. One patient, receiving Nisentil 45 mg. for cystoscopy, fell asleep.

When the surgical procedure terminated thirty minutes later, respirations became shallow at rate of 8 per minute; stimulation increased the rate to 12. Two minutes later, the respiratory rate was 2 per minute. Nalline 5 mg. was administered at the moment the patient became apneic. Apnea persisted, and forty-five seconds later an additional 5 mg. of Nalline were administered. In ten seconds the patient was cyanotic, and flaccidity ensued. Artificial respiration was then maintained for three to five minutes. Color and muscle tone improved during this period, and adequate spontaneous respiration began abruptly.

Pulse and blood pressure were taken at ten-minute intervals in 48 patients receiving Nisentil, 18 to 90 mg. alone or with other drugs, without any significant effect. This was true even in patients during apnea, provided adequate artificial respiration was maintained.

TABLE III.—Dosage Schemes for Minor Urologic Procedures in 199 Patients

Group	Age and Condition	Schedule A Scopolamine (Mg.)	Schedule A Nisentil (Mg.)	Schedule B Scopolamine (Mg.)	Schedule B Nisentil (Mg.)
I	55 or less, weight over 125, condition good	0.4	24	0.4	30
II	55 or less, weight less than 125, or debilitated	0.4	18	0.4	18
III	56 to 70, weight over 125, condition good	0.2	18	0.2	24
IV	56 to 70, weight less than 125, or debilitated	0	15	0	18
V	70 to 75, weight over 125, condition good	0.2	15	0.2	18
VI	Over 70, weight less than 125, or debilitated	0	15	0	18

TABLE IV.—Evaluation of Analgesia in Cases Treated According to Table III

Group	Schedule A Analgesia Good	Schedule A Analgesia Fair	Schedule A Analgesia Poor	Schedule B Analgesia Good	Schedule B Analgesia Fair	Schedule B Analgesia Poor	Control Good	Control Fair	Control Poor
I	28	5	7	55	5	8	0	3	8
II	0	0	0	1	0	0	0	0	0
III	19	3	2	12	0	3	1	2	6
IV	0	0	0	0	0	0	0	0	0
V	9	6	1	1	0	1	0	0	1
VI	14	4	2	7	2	4	0	1	1
Total	70	18	12	76	7	16	1	6	16

Impressions

Some of the aged patients obtained good analgesia with Nisentil 12 to 18 mg. Scopolamine increases the sedation and analgesia. Good analgesia and sedation were obtained in all age groups with scopolamine 0.4 mg. and Nisentil 30 mg. or less. Atropine with Nisentil increases the apprehension of patients. Nalline may tend to increase the sedation obtained with Nisentil.

Scopolamine does not increase respiratory depression with Nisentil. Nisentil and barbiturates tend to depress respiration in all age groups. Nalline will reverse the respiratory depressive effects of Nisentil or Nisentil-barbiturate, provided the patient is not permitted to become hypoxic.

Severe respiratory depression may occur with as little as 45 mg. of Nisentil, and this degree of depression is not paralleled by degree of sedation and analgesia.

Circulation, as reflected by pulse and blood pressure readings, was not depressed, even in patients rendered apneic with Nisentil or Nisentil-barbiturate, when adequate artificial respiration was maintained.

Part II—Clinical Utility

Nisentil and Scopolamine in Cystoscopy

Two hundred and twenty-two patients for cystoscopy, some undergoing retrograde pyelography as well, were used as subjects. These patients were evaluated according to the criteria established in Part I for analgesia. Each of 199 patients was placed into one of six groups according to age and physical status. The drugs were administered according to schedule A or B (Table III). Twenty-three patients received no drugs and served as controls.

The results for all 222 patients are given in Table IV. The results were evaluated by the method of Chi Square. The difference between patients on schedule A or schedule B was just significant, but the difference between these patients and those of the control group was highly significant. No toxic effects were noted in any of the 199 patients.

Postoperative Pain

The comparative efficiency of meperidine 50 mg., Nisentil 15 mg., and Nisentil 24 mg. in controlling pain and providing comfort in postoperative thoracic surgery was studied in 19 patients. One cubic centimeter of solution, identified by a code known only to the investigator, was ordered every four hours for pain. The results were recorded as good, fair, or poor for both pain relief and comfort. To obtain quantitative data, arbitrary values of 2, 1, and 0 were assigned to good, fair, and poor, respectively. The average pain relief and comfort per dose per patient was calculated from the mathematical average per patient and then the mathematical average for the group. Consistency of effect is indicated by the standard deviation. The results were eval-

TABLE V.—Comparison of Pain Relief and Comfort Obtained in 19 Patients with Chronic Severe Pain

	Dose	Number	Pain Relief*		
Drug	in Mg.	of Patients	Score	Standard Deviation	Comfort
Meperidine	50	5	1.00	0.83	1.0
Nisentil	15	6	0.65	0.33	0.5
	24	8	1.60	0.41	1.6

* Good = 2, fair = 1, poor = 0.

uated by the method of small *t* and are shown in Table V. Nisentil 15 mg. was not significantly different from meperidine 50 mg. in producing analgesia. Nisentil 24 mg. was significantly more effective (90 per cent level) than meperidine 50 mg. and (95 per cent level) than Nisentil 15 mg. in producing analgesia. The standard deviations indicate that Nisentil 24 and 15 mg. have a more consistent result than meperidine 50 mg. in controlling pain.

Chronic Pain

Method.—Nisentil was administered subcutaneously in a 15-mg. dose supplemented by smaller doses every ten to fifteen minutes until the hemostat test was satisfactory. After this evaluation of pain threshold, an adjusted dose was ordered on a schedule of every four hours as needed. Fifteen patients were maintained on doses of 15 to 24 mg. A comparison with meperidine was possible in nine patients.

Results.—Analgesia was maintained in seven patients with chronic pain on 15 to 24 mg. twice daily; three patients required 24 mg. three to five times daily for excellent pain relief. All ten of these patients remained alert. Four patients with anxiety in addition to pain were treated with Nisentil 24 mg. four to six times daily. They obtained some pain relief, but anxiety increased until Nisentil was abandoned and other more depressant narcotics used. One patient had no response to Nisentil or to 100 mg. of meperidine.

Addiction.—No evidence of a withdrawal syndrome was demonstrated in nine patients in whom the drug was terminated abruptly. Five of these nine patients had received Nisentil ten to forty-two days and the remaining four patients three to seven days.

Toxicity.—Only one patient complained of slight nausea and dizziness following the first injection of 24 mg. of Nisentil and continued to have the same complaint frequently with subsequent injection. Dramamine 25 mg. one hour prior to Nisentil injection was then given, and these symptoms disappeared. No toxic signs or symptoms were seen in 14 patients after receiving 18 to 24 mg. of Nisentil from four to forty-two days. Four of the 15 patients died of their primary disease (carcinoma) during the course of observation.

Cumulative Action.—After requiring more frequent administration of the drug during the first two days, some patients were kept comfortable on two doses daily thereafter. No evidence of tolerance was noted.

Comparison with Demerol.—Five patients received better pain relief with Nisentil than with Demerol, 75 to 100 mg. Three patients had as good relief with Nisentil as with Demerol 75 mg. One responded to neither drug.

Impressions.—Nisentil is a useful analgesic for chronic pain where anxiety is not present and where it is desired to relieve pain but not alter normal functions. The apparent lack of addiction must be further explored.

Obstetrics

Forty-eight patients in labor received Nisentil 24 mg. and scopolamine 0.4 mg. initially. When judged necessary, maintenance doses of 12 to 18 mg. were administered. It was the clinical impression that the duration of analgesia and sedation was approximately one to one and one-half hours and that this duration and the sedation were both inadequate. All but three of the infants born to these mothers were in excellent condition within one minute after birth. Two of the three improved rapidly after nasopharyngeal aspiration and oxygen inhalation. The remaining infant was born pale and flaccid and remained apneic three to four minutes despite laryngoscopy, tracheal suction, and oxygen therapy. This infant was found to have meningitis, and it is assumed that the poor condition was not related to the drug action.

Pentobarbital 100 mg. per os, scopolamine 0.4 mg., and Nisentil 24 mg. were given to the next ten patients in an effort to increase sedation. Sedation and analgesia were excellent. Five infants were excellent within one minute after delivery; four infants were clearly depressed and improved slowly with oxygen inhalation; one infant required laryngoscopy and artificial respiration.

A combination of Nalline 3 mg., scopolamine

TABLE VI.—ANALGESIA AND SEDATION OBTAINED IN 42 OBSTETRIC PATIENTS WITH NALLINE-SCOPOLAMINE-NISENTIL

	Good	Fair	Poor
Analgesia	35	6	1
Sedation	39	2	1

0.4 mg., and Nisentil 30 mg. was then explored. When this combination was administered intramuscularly to 42 patients, analgesia and sedation were excellent in five to ten minutes with a maximum effect in twenty to thirty minutes (Table VI). This effect lasted over two hours. Forty-one of the infants were in excellent condition within one minute after birth. One infant, delivered with a tight cord around the neck, was in fair condition one minute after delivery but improved rapidly and without untoward effect after oxygen therapy by mask.

CONCLUSION.—Nisentil-scopolamine alone secured inadequate analgesia and sedation. Nisentil-scopolamine-pentobarbital produced better sedation and analgesia, but the newborns were depressed. Nisentil-Nalline-scopolamine produces better sedation and analgesia despite the demonstrable ability of Nalline to antagonize the respiratory depression caused by Nisentil.

Summary

Avenues for the utility of Nisentil in the clinic are suggested and explored. The combinations of Nisentil-scopolamine or Nalline-scopolamine-Nisentil are effective analgesics and sedatives for the therapy of acute pain. Nisentil is an effective therapeutic agent for the management of chronic pain. Respiratory depression is the major untoward effect. Addiction to Nisentil was not evident in this investigation.

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Discussion

Edgar H. Bachrach, M.D., *Scarsdale.*—As Dr. Gottschalk stated in his opening remarks, anesthesiologists are constantly searching for analgesic agents which will produce maximal pain relief with minimal serious side-effects. The preliminary investigations seemed to indicate that Nisentil had sufficient merit to warrant clinical appraisal. The studies reported today and others being carried on indicate that Nisentil has clinical value.

In our clinic we investigated Nisentil as a postoperative analgesic in unselected patients undergoing routine surgical procedures. Meperidine was used as a control. Our results indicated, as did those presented here, that in comparable dosage Nisentil is at least equally as potent an analgesic as is meperidine. Side-effects occur no more frequently than with meperidine and are no more severe. In our series respiratory depression occurred in less than 2 per cent of patients and required no treatment other than discontinuance of the drug. We did not see the reduction in tidal and minute volumes reported by Dr. Gottschalk. This is perhaps due to the fact that although a barbiturate was used as a premedicant drug and intravenous thiopental was the anesthetic agent in many cases, no barbiturates were given postoperatively during the period Nisentil was being employed. The apparent synergism between Nisentil and barbiturates producing respiratory depression bears further investigating.

One complication which we noted and which was not reported by Dr. Gottschalk was diaphoresis. This occurred in 10 per cent of the patients and was severe enough to require discontinuance of the Nisentil in six of the 24 patients exhibiting this side-effect.

The onset of analgesic action following subcutaneous injection of Nisentil is much more rapid than with meperidine, and the period of activity is less. This is both an asset and a liability since patients require a greater total number of doses to maintain pain relief.

The problem of addiction must always be considered in studying analgesic drugs. In contradistinction to what was stated by the authors Isbell in 1949 reported that Nisentil had an addiction potential similar to meperidine. It prevented withdrawal symptoms when substituted for morphine in morphine addicts.

I believe it has been demonstrated that Nisentil is an analgesic of definite value. It is particularly useful where rapid onset and short duration of action are desired.

Man is the only animal that blushes—or needs to.—MARK TWAIN

Hematologic Observations in Short and Long-Term Treatment of Rheumatic Diseases with Phenylbutazone

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PHENYLBUTAZONE (Butazolidin) is a comparatively new synthetic antirheumatic drug. It is a nonhormonal compound which was synthesized in 1946 by Stenzl in the laboratories of J. R. Geigy, A.G., at Basle in Switzerland.

There it is available in a preparation called Irgapyrin which is a combination of phenylbutazone and dimethylaminoantipyrin. In the United States clinical investigation soon showed that phenylbutazone alone is a powerful antiarthritic agent.[1]

Chemically, phenylbutazone is 3,5-dioxo-1,2-diphenyl-4-n-butyl pyrazolidine and thus is not related to the steroids.

It is a white crystalline powder having a bitter taste. It is not soluble in water but can be dissolved in alkalis, in ethyl alcohol, and in other organic solvents.

Phenylbutazone appears to be rapidly and completely absorbed when a single dose is given by mouth,[2,3] the peak plasma level being attained in approximately two hours. Increase in dosage beyond 400 mg. daily does not cause a proportional increase in plasma concentration.

The drug has been shown to have an analgesic, antipyretic, and anti-inflammatory action.[4] However, there have been many contradictory reports regarding the effect of phenylbutazone on the blood platelets. The present investigation was set up, therefore, in an attempt to evaluate short-term and long-term therapy with the drug, particularly in regard to its effects on the platelet count. The Rees-Eckner method was used in counting the thrombocytes, and the normal figures were taken as 180,000 to 250,000. Counts were carried out before, at intervals during, and at the end of eighteen months treatment.

The dosage pattern was 800 mg. per day (200 mg. four times a day) until a therapeutic effect was obtained.* The dose was then decreased to the lowest level at which a therapeutic response could be maintained.

TABLE I.—TYPES OF DISEASES IN 150 CASES

Disease	Number of Cases
Degenerative joint disease (osteoarthritis)	99
Rheumatoid arthritis	19
Fibrositis	29
Gout	1
Scalenus anticus syndrome (associated with osteoarthritis)	1
Infectious arthritis	1
TOTAL	150

One hundred and fifty patients were selected at random in the arthritis clinic of a large metropolitan hospital. Selectivity occurred only in that the contraindications to the use of phenylbutazone were observed. The ages of the patients varied from thirty-seven years to seventy-one years with an average age of 52.3 years. Blood platelet counts were made before, during, and at the end of treatment. The patients fell into the disease groups shown in Table I.

Response to treatment was graded as follows: grade 1 maximum; grade 2 moderate; grade 3 mild; grade 4 no response (Table II).

These patients were observed particularly for side-effects severe enough to require interruption of treatment, such as edema, weight gain, nausea, dyspnea, epigastric pain, gastric ulceration, skin rashes, tarry stools, hematuria, anemia, purpura, vertigo, euphoria, insomnia, stomatitis, "blisters of the mouth," cardiac disturbances, fever, jaundice, leukopenia, thrombocytopenia, and agranulocytosis.

In our over-all treatment we encountered three cases of toxic manifestation in the three-month group where it was necessary to discontinue the drug permanently for the best interests of the patient. It was necessary to stop the drug in a sixty-year-old white female who developed a massive rash which extended

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* The drug was supplied by the Geigy Pharmaceutical Company, New York City.

TABLE II.—Improvement and Toxic Manifestations in Four Dosage-Period Groups

Number of Patients	Disease	Grade of Improvement				Number of Toxic Manifestations
		1	2	3	4	
	18-Month Group					
15	Degenerative joint disease	10	3	2	0	0
6	Rheumatoid arthritis	1	5	0	0	0
2	Fibrositis	0	2	0	0	0
1	Gout	0	1	0	0	0
1	Scalenus anticus syndrome	0	0	1	0	0
25	Total	11	11	3	0	0
	12-Month Group					
18	Degenerative joint disease	12	2	3	1	0
7	Rheumatoid arthritis	5	1	1	0	0
4	Fibrositis	3	0	1	0	0
29	Total	20	3	5	1	0
	6-Month Group					
38	Degenerative joint disease	20	8	6	4	0
3	Rheumatoid arthritis	2	1	0	0	0
9	Fibrositis	7	1	1	0	0
50	Total	29	10	7	4	0
	3-Month Group					
28	Degenerative joint disease	17	5	2	4	3
3	Rheumatoid arthritis	2	1	0	0	0
14	Fibrositis	10	3	1	0	0
1	Infectious arthritis	1	0	0	0	0
46	Total	30	9	3	4	3

over the entire body. There was no evidence of any blood dyscrasia.

The second patient, a forty-year-old white female, in the first week of treatment developed a thrombocytopenia and leukopenia and anemia. Treatment was immediately interrupted. Patient was given hematinics and antibiotics. Within two weeks the blood picture returned to normal without any residual effects.

A sixty-two-year-old white female developed a rash over the body and a sore mouth. The blood count was normal. Treatment was halted, and there were no residual effects after one week.

Case Reports

The following three cases are typical of the results obtained.

Case 1 (Degenerative Joint Disease).—A white male, aged fifty-two who was first seen on July 9, 1953, complained of pains in both hips and knees for the past five years. There was swelling, limitation of movement, and tenderness in all these joints. Hypertrophic change was seen on x-ray examination. Treatment was started with phenylbutazone, 800 mg. per day, and maintained for four weeks. Relief continued, and the dose was decreased to 200 mg. per day, this dose being maintained to date. There is marked improvement in movement and pain, and there have been no toxic side-effects. The platelet count at the beginning of treatment was 230,000, varied between 170,000 and 200,000 during treatment, and was 190,000 at the end of treatment. Complete blood counts at the beginning and end of treatment were as follows:

	Start of Treatment	After Treatment
Red blood cells	4,600,000	4,700,000
Hemoglobin	81%	87%
White blood cells	7,200	7,100
Polymorphonuclears	65%	66%
Lymphocytes	27%	28%
Monocytes	2%	2%
Eosinophils	2%	2%

There was no significant change in the blood picture.

Case 2 (Rheumatoid Arthritis).—A white female, aged forty, complained of pain in both hands and the left ankle for nine years. On examination tenderness and limitation of movement were found in the cervical spine, hips, and knees. There were deformities of both hands as well as subcutaneous nodules at the right elbow. Typical changes of rheumatoid arthritis were found in the wrists, metacarpals, and carpals on x-ray examination. Her sedimentation rate was 60 mm. Treatment was started with 800 mg. per day and maintained for five months with marked relief from pain. Her present dose is 200 mg. per day, to date with continued relief and no toxic effects. Her sedimentation rate is now 30 mm., and her platelet count, 210,000 at the beginning of treatment, was 240,000 at the end. Complete blood counts at the beginning and end of treatment were as follows:

	Start of Treatment	After Treatment
Red blood cells	4,800,000	4,750,000
Hemoglobin	90%	89%
White blood cells	8,000	8,200
Polymorphonuclears	70%	69%
Lymphocytes	26%	25%
Monocytes	3%	3%
Eosinophils	1%	1%

There was no significant change in the blood picture.

Case 3 (Fibrositis).—A white female, aged forty-two, complained of stiffness of the neck, swelling of fingers of one hand, and generalized fleeting joint pains, most marked in the elbows and shoulders. Physical examination and x-ray examination

TABLE III.—PLATELET COUNTS TYPICAL OF RESULTS OBTAINED

Patient	Initial Count	Interval Counts	Final Count January, 1954
C. B.	260,000	250,000 230,000 230,000	280,000
A. H.	250,000	250,000	260,000
J. G	190,000	140,000 240,000	220,000
M. H.	170,000	180,000	210,000
E. N.	230,000	170,000 200,000	190,000
F. D.	200,000	220,000 120,000	200,000
V. C.	210,000	240,000 210,000	240,000
B. G	240,000	220,000	240,000
G. S.	200,000	230,000	340,000
M. B.	210,000	210,000	260,000
W. W.	190,000	180,000 210,000 270,000	270,000
B. K.	150,000	170,000	280,000
R. F.	190,000	100,000	190,000
D. S.	130,000	200,000	290,000
E. G.	160,000	170,000	200,000
A. M.	250,000	270,000	380,000
E. M.	330,000	160,000	290,000
R. A.	220,000	190,000	240,000
M. G.	110,000	220,000	130,000
F. M.	370,000	350,000	350,000
C. D.	200,000	110,000 200,000	250,000
A. C.	220,000	210,000	240,000
J. R.	150,000	210,000 180,000	220,000
C. D.	250,000	240,000	260,000
R. K.	180,000	180,000	190,000

were both negative, and the sedimentation rate was normal. Treatment was started with 800 mg. per day and continued at this level for two months. Thereafter, the dose was lowered to 600 mg. per day for three months and then to 200 mg. per day. She has continued this last dose to date, has had much less pain, and there have been no toxic side-effects. Her platelet count at the start was 170,000. It was 180,000 during treatment and 210,000 at the end of treatment. Complete blood counts at the beginning and end of treatment were as follows:

	Start of Treatment	After Treatment
Red blood cells	4,800,000	4,700,000
Hemoglobin	86%	87%
White blood cells	8,100	8,000
Polymorphonuclears	62%	64%
Lymphocytes	27%	26%
Monocytes	2%	2%
Eosinophils	1%	1%

There was no significant change in the blood picture.

Comment

The most important aspects of this eighteen-month observation is the fact that there were only three cases of toxic side-effects severe enough to interrupt treatment in a group of 150 cases, and only one significant drop in the platelet count was encountered. Transient side-effects were considered unimportant except as an indication for more careful observation of the patient. In all but one of these 150 cases the platelet count at the end of treatment was over 180,000, the lowest normal figure by the Rees-Ecker method. In this instance the count was 110,000 at the beginning of therapy and 130,000 at the end. Another case started with a count of 170,000 and ended with a count of 210,000. A third started with 160,000 and ended with 200,000, while a fourth started with 150,000 and ended with a platelet count of 280,000 (Table III).

It is felt that reported variations in blood platelet counts are due to variations in technic and not to phenylbutazone. No evidence of blood dyscrasia such as agranulocytosis was found in spite of repeated blood counts.

The vast majority of these patients were relieved of pain.

On the basis of an eighteen-month period of observation phenylbutazone was found to be a remarkably effective drug, capable of producing rapid and prolonged relief in various rheumatic disorders. Severe toxic reactions have been reported, but only one was encountered in this series. The patients were closely and regularly observed so that side-effects would be detected as early as possible. This series included old as well as young patients.

It is believed that with the lower doses advocated at present (seldom exceeding 400 mg. per day for maintenance), and particularly if the patient is closely watched, serious side-effects from phenylbutazone are infrequent and the drug is a valuable adjunct to our armamentarium in the treatment of the rheumatic diseases.

Summary

1. A total of 150 patients with various rheumatic diseases were treated with phenylbutazone over a period of eighteen months.

2. There were two cases of rash and sore mouth and no other signs of toxicity (most of the mild side-effects were subjective, and it is not believed they were related to phenylbutazone therapy). One patient with a history of gastric ulcer took phenylbutazone against advice with no untoward effect.

3. There was only one case of thrombocytopenia and leukopenia and no agranulocytosis.

4. There were no permanent effects in any case.
5. There were no deaths.

Conclusions

Phenylbutazone may be given in small doses over prolonged periods. The following precautionary measures are suggested:

1. Patients with a history of peptic ulcer should not be treated with phenylbutazone.
2. Older patients should be watched carefully for signs of cardiac decompensation.
3. A rash should be looked upon as a warning sign of a more serious side-effect. Treatment should be stopped in all cases in order to avoid more serious allergic phenomena.
4. Blood counts should be carried out frequently.
5. Since toxicity may be related to blood level of the drug, we suggest that medication be stopped for one day each week.

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The Round-Number Barrier in Weight Reduction

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Many physicians still feel that neurologic, endocrine, and metabolic factors are paramount in the etiology of obesity. In recent years, however, many studies, such as the inquiry into the "Personality of the Obese Patient" conducted by the United States Public Health Service in Boston (1950–1953), have pointed to what appears to be a truer picture of the etiology of obesity.

Overeating as the cause of obesity is no longer debatable. There is controversy as to what causes the overeating. Some have favored the role of the hypothalamus and the so-called "appetite center." This is the neurologic point of view. The endocrine and metabolic points of view need not be discussed at this time since these theories are well known.

Overeating attributable to various factors in the emotional life of the obese patient is a point of view now strongly held by many. These emotional factors lie in the patient's unconscious unless brought into the conscious foreground by such technics as psychoanalysis. Intellectual and emotional insight, if attained by an obese patient, will generally effect a more lasting weight control than any other technic.

It has been observed in treating obese patients that many terminate treatment for varying reasons. Factors external to the patient are sometimes involved, moving to a location where the physician is not accessible or a change in the nature of the patient's employment. Other reasons for terminating treatment involve emotional factors, guilt or self-condemnation after a food "binge," or sense of shame in facing the physician and thus exposing the lack of "will power" after such an indulgence. Some patients will cease treatment because of the side-effects experienced due to medication utilized or because of complaints which involve an escape into "organ language" when the escape into overeating is denied them.

The point at which patients terminate treatment has in many cases involved "round" numbers. These cases are far in excess of what normally would be expected by mathematical chance. The following observations are offered for speculation, comment, and a possible source of further study.

It has been observed that obese patient will terminate treatment at a "round" number. For instance, should the desired weight be 178 pounds, treatment will reach termination at 200 pounds. This is the case even though the patient may express a strong desire and determination to reach a desirably normal weight.

The "round-number barrier" may be at weights such as 175 pounds, 150, 125, 140, 130, 120, or any like "round" number. Other common "round number barriers" are at 10 pounds more than the goal-weight agreed upon by the patient and physician or at a level 20 or 25 pounds less than the initial starting point.

Almost invariably a patient's enthusiasm at having lost 50 or more pounds is not sufficient to bring him across the "round-number barrier." This has been the case, although perhaps only another 10 pounds is involved in regaining normality. Even a frank discussion by the patient and physician of this barrier and of the difficulties experienced by other patients during this period does not seem to offer enough insight into the true nature of the problem. Apparently intellectual understanding alone is not sufficient in this case. Emotional insight must first be obtained.

The "fortress of fat" which insulates the obese patient against a "cruel and demanding" world is not easily disregarded, even though the conscious desire of the patient may be directed toward attaining the body beautiful. Obesity involving a "secondary gain" about which the patient is consciously unaware is another important factor in the "round-number barrier." It appears as if the patient were caught between his conscious and unconscious desires and stops at a symbolic barrier.

Case Reports

The following cases, which exemplify the "round-number barrier," were treated with racemic amphetamine sulfate because of its effect on hunger, a high-protein, low-carbohydrate, and low-fat diet, and psychotherapy which consisted of encouragement, noncondemnation for backsliding, complete explanation of side-effects, encouragement to "ventilate," and discussion of various obstacles in weight reduction.

In a check of the first 100 cases in my alphabetically arranged files, it was noted that 69 cases terminated either at a successful conclusion or at an unrelated odd number, and 31 cases exhibited some "round-number barrier" at termination. This barrier was either 10 pounds above the agreed upon end-weight or some such figure as 200, 175, 150, 140, 130, etc. All doubtful cases were put in the unrelated odd-number category.

The apparently high figure of 31 per cent seems to indicate an unconscious factor in the patient's emotional life which cannot be explained purely by chance.

The following illustrative cases were selected at random from the 31 which terminated at the "round-number barrier." They are typical of this group. As it happens, each is an individual of superior intelligence who has readily understood the concept involved. Each was greatly concerned consciously with the problem of obesity, was strongly motivated to attain normal weight, and had done excellently until reaching the barrier of the round number.

Case 1.—A thirty-eight-year-old white male concert singer with a past history of alcoholism had been a teetotaller for five years and recently had completed psychoanalysis. He was strongly motivated to lose weight since he was about to make a "comeback" in his career. He commenced treatment February 12, 1953, at 233 pounds. It was agreed that his normal weight should be 188 pounds. By April 17, 1953, he had reduced to exactly 200 pounds. At this point treatment was terminated by the patient. He returned October 12, 1953, weighing 213 pounds. Despite many apologies for the first termination, he again terminated treatment November 25, 1953, having last weighed 202 pounds and having progressed at a rate which would have found him less than 200 pounds upon his next visit.

On January 7, 1954, he returned once again, this time weighing 208 pounds. At this time a frank discussion was held with the patient. It was explained, and he clearly understood, that his termination of treatment at the same weight point could not be explained by chance. The patient said that had he not gone through analysis, he would not have believed this to be possible. He was, however, at a loss to explain his cessation of treatment since he was so strongly desirous of attaining normal weight due to its importance in his career. It is important to note that the patient had clearly solved his problems relating to alcoholism and was highly regarded by all his associates. He reduced to 201 pounds by February 3, 1954, when treatment was again terminated after both of us confidently expected that he would return the following week weighing less than 200.

Case 2.—A thirty-seven-year-old white female, housewife and high school teacher, first appeared for treatment March 26, 1953, at which time she weighed $165^1/_2$ pounds. It was agreed that her normal weight should be 125 pounds. By May 28, 1953, she had attained a weight of $151^1/_2$ pound after having lost a satisfactory amount each week. On her next visit, June 4, 1953, she still weighed $151^1/_2$ pounds, although at the rate she was losing poundage, she should have gone to less than 150 that week. She cancelled her visit the following week, claiming one of her children was ill. She appeared on June 18, 1953, weighing 151 pounds. Although she said she understood the mathematical implication, she said she couldn't understand the "devil" that got into her at this point and caused her to break the diet regime. She terminated treatment the following week by telephone, making many apologies and stating that she would like to try to lose weight again at some later date when she felt she would be more ready.

Comment

These two cases are typical. The "round-number barrier" in weight reduction is obviously another link in the chain of evidence which points to unconscious forces in the emotional life of the patient as the etiology for overeating in obesity.

A "round-number barrier" possibly may be understood in terms of magical thinking processes whereby certain numbers may for certain individuals acquire a symbolic magical meaning. The magical and symbolic significance of numbers is well known to psychoanalysts. It is well known that the numbers "5" and "10" acquire a special meaning inasmuch as they represent the numbers of the fingers on the hands. As such, the magical interpretation is connected and intimately tied up to the stage of formation of the body image, the stage in which the infant begins to become interested in his body, and is related to the early stages of the formation of the ego as a different entity from outside reality. The persistence of such primitive thinking mechanisms is particularly significant in patients such as the obese whose primitive pregenital (especially oral) mechanisms are so prominent.

Conclusions

1. For many years the etiology of obesity has been a matter of controversy. The overeating in obesity is no longer controversial, despite the fact that neurologic, endocrine, and metabolic factors have been incriminated as the basis for overeating.

2. It is held now by many that emotional factors are the source of overeating in obesity.

3. Case studies have shown that there appears to be a "round-number barrier" in the treatment of obesity which provides another link in the evidence pointing to the unconscious factors in the etiology of obesity.

242 EAST 19TH STREET

Rheumatic Fever Progress

Marked progress is being made in reducing the toll from rheumatic fever among American children, statisticians of the Metropolitan Life Insurance Company report on the basis of declining mortality from the disease over the past decade.

The favorable outlook for children who have rheumatic fever is brought out by a follow-up study of nearly 3,000 children insured in the Metropolitan who received nursing care during an acute attack of rheumatic fever during the 1936–1938 period. This study showed that the great majority of the children were still living at the end of fifteen years.

A survivorship rate of 94 per cent was recorded among girls under age ten at the time of attack for whom no evident heart disease was reported at first observation. The death rate among these children has declined with increasing time elapsed since attack.

"The various studies of rheumatic fever indicate that the prognosis of the disease has improved, with prospects of complete recovery in a high proportion of cases," the statisticians comment. "Early diagnosis and proper treatment are still of prime importance for a favorable outcome. Even persons with severe heart damage resulting from rheumatic fever are now being treated successfully. Surgical correction of such defects is becoming increasingly frequent, and a growing number of patients with rheumatic heart disease are being restored to health and working capacity."

Abrasive Instruments for the Detection of Cancer

KENNETH S. MACLEAN, M.D., NEW YORK CITY

THE purpose of this communication is to introduce a new series of instruments useful in obtaining material for cancer diagnosis from certain parts of the body which are difficult of access by present methods. Detailed results from the use of these instruments will be reported later.

The instruments include (1) a laryngeal abrasive cytologic brush, (2) abrasive cytologic brush auxiliaries for existing endoscopic instruments, (3) a device combining the uses of a uterine sound and an endometrial curet with an endometrial and endocervical abrasive cytologic brush or scraper, and (4) a proctoscope and a sigmoidoscope.

The laryngeal abrasive cytologic brush consists of two strands of thin, twisted, zinc-coated iron wire in the distal end of which bristles are held. The bristles are made of natural or plastic material. The holder is a hollow tube made of stainless steel with an attachment for holding or releasing the brush (Fig. 1). The brush may be substituted by a special scraper made of plastic material, now in the process of development.

Auxiliary instruments of special design having an arrangement for holding abrasive cytologic brushes or scrapers of special shapes, sizes, and materials have been developed for obtaining specimens for cytologic examinations when used in conjunction with existing endoscopic instruments including bronchoscope, esophagoscope, cystoscope, and culdoscope (Fig. 2).

The combined uterine sound, endometrial curet, and abrasive cytologic brush or scraper consists of (1) a graduated shield measuring 10 cm. long, (2) a brush or scraper holder, and (3) a third instrument which is graduated to serve as a sound and is hollow with a scraping edge to serve as an endometrial or endocervical curet. Mounted on the shield is a stop with captive screw to regulate the depth of insertion into the uterine cavity. The proximal end of the shield and combined sound and curet are fitted with a tapered hole for attaching a Luer syringe or other aspirating device (Fig. 3).

The proctoscope and the sigmoidoscope are made all or in part of a special inert material which requires no lubrication for insertion. The complete instrument includes (1) a trocar of the same inert material, (2) a brush or scraper, (3) a holder, and (4) a spider or cap for guiding the brush or scraper during its use (Fig. 4).

The urinary badder cytologic instrument consists of a shield 9.5 cm. long curved at one end

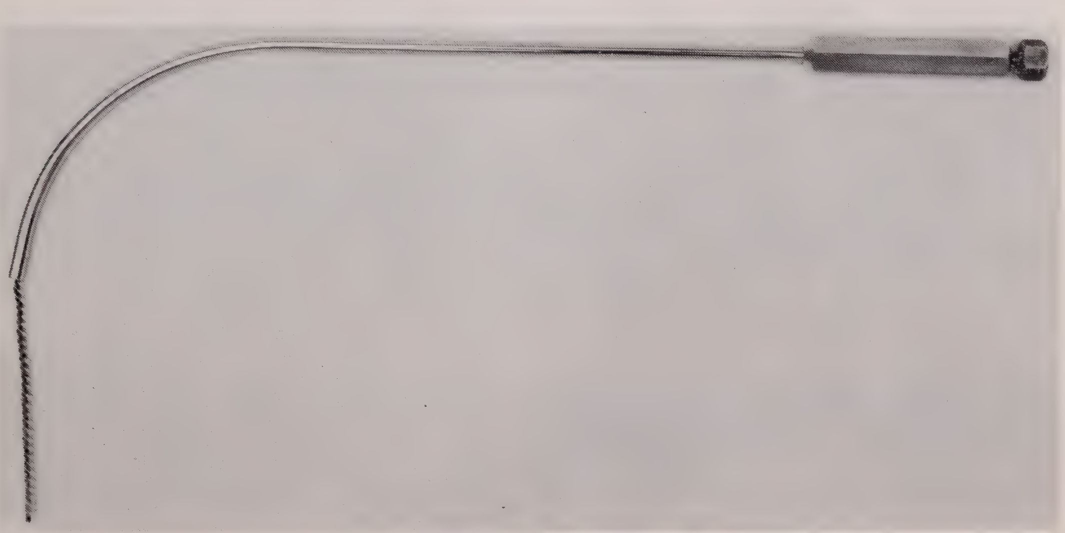

FIG. 1. Instrument for laryngeal use.

Presented at the Margaret Sanger Medical Bureau, May, 1954.

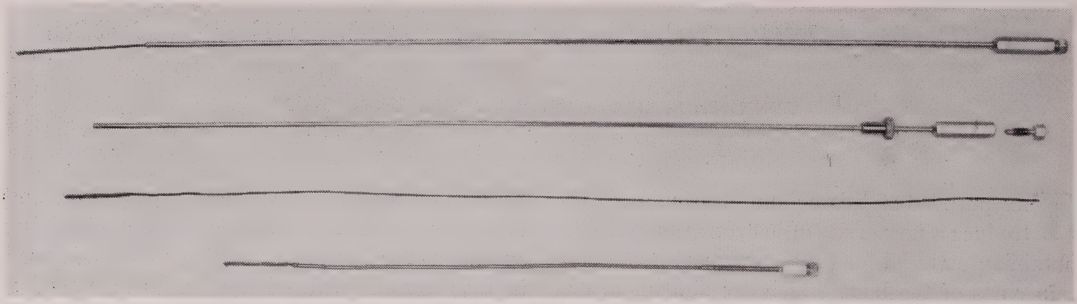

FIG. 2. Auxiliary for use with bronchoscope, auxiliary for use with esophagoscope, disposable brush, auxiliary for use with cystoscope and culdoscope (*top to bottom*).

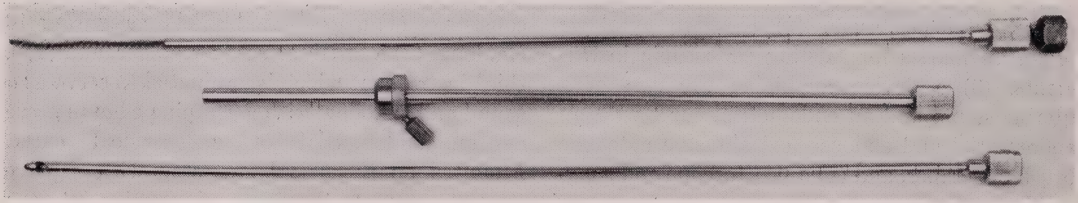

FIG. 3. Instrument for endocervical and endometrial use: combined sound and endocervical and endometrial curet, shield, brush holder and disposable brush (*bottom to top*).

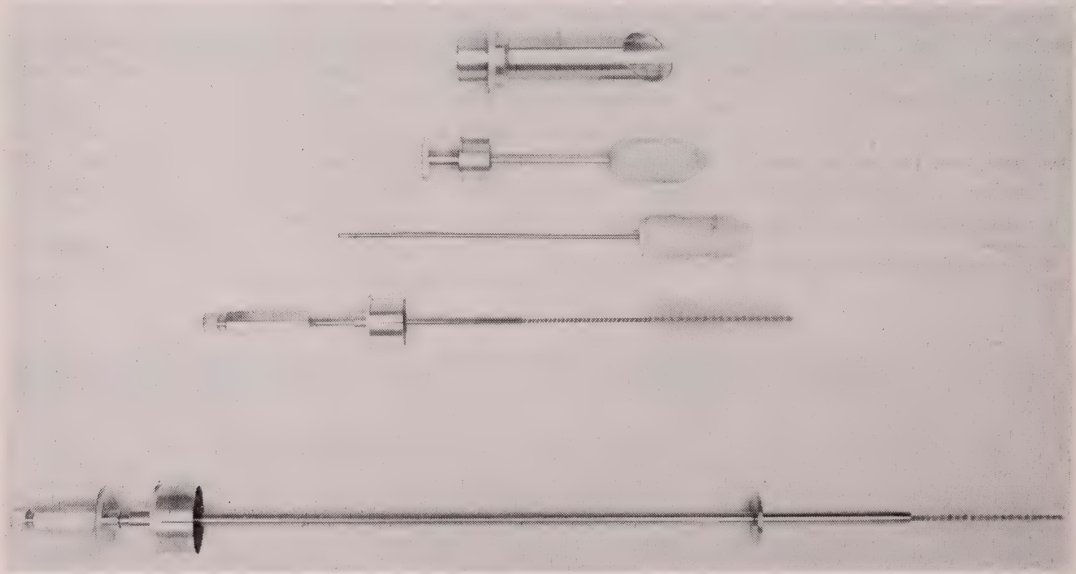

FIG. 4. Proctoscope, trocar, abrasive instrument, brush holder and holder, and brush holder and brush for sigmoidoscope (*top to bottom*).

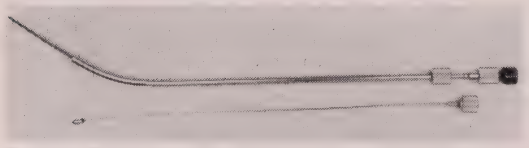

FIG. 5. Instrument for use in urinary bladder and trocar.

together with a flexible trocar and a brush holder with hexagonal handle and split chuck (Fig. 5).

All the above-mentioned instruments have in common a tube through which the stem of the brush or scraper is inserted, a hexagonal handle for ease of manipulation, and a split chuck with hexagonal head for clamping the stem of the brush or scraper. Giving the chuck one or two turns is sufficient to clamp or release the brush. All the brushes are disposable, but the scraper being of inert material similar to the trocar (described above) is for permanent use. Any or all of the instruments may be made in whole or in part of this inert material.

Comment

Despite the rapid progress of the science of cancer cytology and especially the development of many devices for obtaining material for cytologic examination, there still is need for simplification of instruments and technics. The purpose of presenting the instruments and ideas described above is to place these aids to cancer diagnosis in the hands not only of the trained endoscopists but also other experienced physicians.

The instruments described are simple in design and inexpensive to manufacture, and the brushes are disposable. It is expected that with their use cancer will be diagnosed in the early formative stage when it is not only easier to treat but is in the "safe" stage for study.

Cytology Institute for Cancer
Detection and Research

Grateful acknowledgments are accorded to Dr. M. J. Kopac, Professor of Biology at New York University, and to his associate, Mr. Jack Harris, consultant on instrumentation, Washington Square College, New York University, and consultant on instrumentation at the Cytology Institute for Cancer Detection and Research, New York City, for cooperation in the development and construction of these instruments.

Contact Lenses Can Be Worn by Most Seekers

Two thirds of those who want the new contact or corneal lenses—even just for appearance—can wear them safely, two New York City physicians maintain. However, they warned against "high-pressure advertising" and said the lenses "should be obtained only through qualified eye doctors who will ethically advise their use only when careful study and examination prove their need and indicate they may be used. This will protect the patients' eyes and pocketbooks," Drs. Maurice W. Nugent and Conrad Berens said in the September *Today's Health* magazine, published by the American Medical Association.

The newest of these invisible lenses is the corneal lens, which is much smaller than a dime and covers only the cornea, or transparent covering of the pupil and iris. The contact lens has a central portion over the cornea and a flange extending out over the sclera, or white part of the eyeball.

The latest lenses can be worn without fluid, which was a stumbling block to earlier types of lenses. The only real hazard in the new lenses is corneal abrasion. However, they said, the minute rubbed spots heal quickly by themselves when the lenses are taken off for a while.

Persons who can wear the lenses include first those who because of accident or disease cannot see well with spectacles; those who have had cataracts removed and find lenses more satisfactory than spectacles, and those who wish them for appearance only. Once this last group was not considered, but now it makes up the largest part of all wearers. There is no real danger in contact or corneal lenses if the patient will accept the advice of his qualified eye doctor, who examines for disease and eye muscle disorder, and accurately measures for the best type of lens. Then he supervises the important training period during which the patient learns to relax his eyelids and tolerate longer wearing periods.

About a third of all persons fitted cannot tolerate the lenses at all. Another third can wear them for special purposes for limited times—such as actors while on stage. The last third is "the fortunate group who can wear them to the exclusion of spectacles, if the lenses are well-fitted and the wearer cooperates completely with his qualified eye doctor."

The total cost varies between $150 and $300, the physicians said. Because of the lengthy training period, fitting, and examination, and the precision of manufacture necessary, "it is doubtful that this price can be lowered, at least at present."

"These new types of lenses are still too far from perfection to permit their being sold to the general public by any high-pressure advertising or salesmanship," they said. Obtaining them only through qualified eye physicians will protect the public and also "permit this type of lens development to continue without the unfavorable criticism that will come if too many people buy them only to find that their eyes won't tolerate them."

CLINICOPATHOLOGIC CONFERENCE

ST. JOSEPH'S HOSPITAL, ELMIRA, NEW YORK

Conducted by J. GEORGE GLADSTON, M.D.

JUNE 23, 1954

Discussed by EUGENE L. LOZNER, M.D., SYRACUSE, NEW YORK

Case History

The patient was a twenty-one-year-old white single female factory worker who was admitted to the hospital with an acute epistaxis. The patient had noticed that when she energetically blew her nose, she would often produce a small amount of blood. Three or four times a year this bleeding would be more severe and last up to an hour at a time. Twelve hours before admission, her nose began to bleed profusely from the left side. She had it packed and the following morning took the packing out herself. The bleeding restarted as profusely as previously, and she entered the hospital.

For the past three years the patient had noticed red spots on the arms, back, and neck, which would come and go irregularly. She had them once every month or two not related to menstruation. They did not follow trauma, and she thought that she did not bruise more easily than another person. However, she noticed for about two years that if she suffered a cut while at work, it would bleed a "long time." Her menstrual periods started at age sixteen; the interval was thirty-two days, and duration was three days; flow was scanty. For the past two to three years her periods had lasted three days, and the flow had been noticeably harder than previously.

She had always been well. No one else in her family was known to have any trouble with excessive bleeding.

Examination showed a pale, well-developed, well-nourished, young woman who was bleeding profusely from the left nostril; otherwise, the physical examination was within normal limits. Temperature, pulse, and respirations were normal. The blood pressure was 110/70.

The red blood cell count was 3,400,000 with 10 Gm. of hemoglobin or 64 per cent; the white count was 7,000 with a normal differential. The platelets were 150,000. The coagulation time was nine minutes five seconds. The bleeding time was eight minutes twenty seconds. The prothrombin time was eighteen with a control of fifteen. The urine was negative.

Packing was placed in the left nostril and was removed twenty-four hours later with no recurrence of bleeding. The patient was discharged after three days.

SECOND ADMISSION (TWENTY-THREE DAYS LATER).—Since her previous discharge, the patient had felt weak and tired. Her menstrual period had started at the expected time and had lasted for three days. After two days of no menstrual flow, the patient suddenly had periumbilical pain which was nonradiating. This lasted for a period of minutes; then uterine bleeding reappeared and was profuse and uncontrollable. She was unable to work because of weakness. On the seventh day of this profuse bleeding she fainted. Her family brought her to the hospital the next day. Four days before admission she noted red spots had appeared upon her legs, and between then and her admission, they rapidly increased in numbers.

The patient appeared pale and ill. The skin of the legs was covered with purpuric spots, and others were scattered over the trunk and arms. The remainder of the examination was negative, except for the pelvic examination which showed a tender, hard mass of about 10 cm. in diameter in the region of the left ovary. Temperature was 100 F., pulse 100, and respiration 20. The blood pressure was 140/80.

The red count was 1,400,000, and the white count was 13,300 with a normal differential. Platelets were 30,000; the coagulation time was eight minutes. A voided urine showed a 1 plus albumin with 40 to 50 red blood cells. Portable x-ray of the chest was negative.

Four units of whole blood were given in the next twenty-four hours after which her red count was 4,400,000 with 13.9 Gm. of hemoglobin; the platelets were again 30,000. Bleeding from the mucous membranes of the mouth appeared; the uterine bleeding was so severe as to saturate the bed frequently. ACTH, 25 mg. intramuscularly, was used for two days together with 1 unit of whole blood each day. The mass in the left pelvis remained the same. On the third hospital day an operation was performed.

Discussion

Dr. Eugene L. Lozner: The first thing I am interested in is what does this patient actually do in the factory?

Dr. J. George Gladston: She packs bottles.

Dr. Lozner: The connection is whether, as a result of occupation or as the result of hobbies there is any exposure to chemical toxins, particularly those with a benzol ring. Another question I ask almost every patient with a hematologic problem, and particularly those with a hemorrhagic disease problem, is the medication which they may have taken.

Dr. Gladston: To my knowledge, she never had any medication.

Dr. Lozner: And then the question comes up of over-the-counter medication. As far as thrombocytopenic purpura, which this patient seems to have had, at least during her second admission, the medications of interest are sulfonamides, quinine or quinidine, and a medication which I think can hardly be obtained in this country, a sedative known as Sedormid.

The next question that one would like to ask is the relationship of the hemorrhagic episodes to any infection. We know that thrombocytopenic purpura can be a complication of infection. I assume that because this had been going on for three years or so and that there had been no relation to menstruation, there probably had been no relation to anything else.

Next in the past history, I would be interested not only in the hematologic history of the family, but the allergic history of the patient as well as that of the family. The modern concept of thrombocytopenic purpura is closely tied in with the concept of sensitization; the term immunothrombocytopenia is used by some hematologists. We think it may occur more often in individuals who have some allergic background or in whom there is a familial allergic background.

Dr. Gladston: She has one sister, about five years younger, that I have hospitalized twice with giant urticaria.

Dr. Lozner: Well, there is a taint of allergy in the family. So much for the history. To go on to the first admission, the precipitating event seems to have been an epistaxis. That is slightly unusual in that most such girls will have as their chief complaint menorrhagia. The physical examination was not remarkable. I have a great deal of difficulty with the laboratory reports on that admission.

I have been in laboratory work for some sixteen years and have been concerned with the errors involved in certain procedures. It amuses me a little to find bleeding and coagulation times reported to the nearest five seconds. I know that it is most difficult to get checks in different tubes in the Lee-White coagulation time method nearer than one or two minutes, and when it is prolonged, the checks may be further apart than that. The bleeding time is an even more erratic test, depending considerably upon the width and depth of the puncture. Normal individuals, if they are stuck hard enough, can have bleeding times of ten minutes. Purpuric individuals, if they are stuck gently enough, and particularly with a round needle instead of a straight edged needle, can have bleeding times of less than four minutes. The platelet count, also, is a laboratory test with a high level of unreliability. Many people are extremely dissatisfied with the ordinary methods of counting platelets. The prothrombin time also disturbs me. We have an elevated prothrombin time. I must accept with reluctance the validity of some of the laboratory work on that first admission.

The second admission was a more clear-cut one. The menorrhagia was fulminating. It would appear that there may have been retrograde flow of blood through the fallopian tube into the peritoneum, a situation which is well known in thrombocytopenic purpura and menorrhagia or in other hemorrhagic diatheses in women. The patient noticed purpura. The hematologic examination showed a severe anemia, a slight leukocytosis which presumably is in response to hemorrhage, and a profound thrombocytopenia. Here, too, one has rather an interesting laboratory phenomenon. It is said that 4 units of blood were given, and the red count rose from 1,400,000 to 4,400,000. Now the red count we accept as a rather inaccurate laboratory test, and this perhaps proves the point. In someone of average size who is not hemoconcentrated or hemodiluted to start with and not hemoconcentrated or hemodiluted to finish with, the statement is relatively accurate that a unit of blood will raise the red count 500,000, the hematocrit between 4 and 5 per cent, and the hemoglobin between 1 and 1.5 Gm. This patient got 4 units of blood, and the red count went up 3,000,000. That's too much.

We might discuss the mass in the pelvis. It seemed to be in the region of the left ovary and was tender, hard, and some 4 inches in diameter. One thinks of masses in the pelvis in patients with a hemorrhagic diathesis as primarily hematomas or enlargements of organs. The organ which is most commonly enlarged in the female is the uterus. It is not at all uncommon for a patient with fulminating menorrhagia to have a uterus which is easily palpable by abdominal examination. In fact, the uterus may be 3 or 4 inches above the pubic symphysis. One may feel contractions in the uterus, and the patient may expel 500 or 1,000 cc. of blood from this organ. This mass seems, however, to have been in the region of the left ovary and must be considered either a hematoma within the ovary, a hemorrhagic cyst if you will, or a hematoma which has developed as the result of bleeding through the left fallopian tube and then clotting and forming a mass. I have no other explanation for this mass.

The last sentence in the protocol is the most intriguing one to me. The question is what was the nature of the operation? I can think of three operations that might have been performed on that third day, and I will give you my opinion as to which one should have been performed, even though I don't consider it an operation. On that day or earlier, I would have liked a bone marrow aspiration for two reasons. First, to eliminate from my own mind the possibility that this might be a malignant blood dyscrasia.[1,2] There is nothing at all to suggest that. The white count has a normal differential. There are no nodes palpable or spleen palpable, and the odds are greatly against the diagnosis. But despite those odds and because of the simplicity of the procedure, for one's own peace of mind, I feel that a marrow aspiration is desirable to eliminate a malignant blood dyscrasia.

Second, there is one other diagnosis that we think of more and more, disseminated lupus. It could produce this picture. We know that it occasionally occurs without obvious rash. We know that it occurs predominantly in women. We know that it occurs in certain families that have an allergic taint, as this family apparently does. We know that it may cause severe pancytopenia. What is against disseminated lupus? Several things. The elevated white count, which would be most unusual, the absence of a palpable spleen, and the absence of a rash. But we have made it routine to study all marrows for the so-called L.E. cell in young female patients with thrombocytopenia. The elimination of a diagnosis of disseminated lupus by failure to find the L.E. cell is not so satisfactory as the clinching of the diagnosis by finding the cell.

But since bone marrow biopsy is usually not called an operation, and since it is unlikely that the protocol would end on this note, I rather think that an abdominal operation was done. Here one has two choices. One has the operation for the tender hard mass in the pelvis, which would involve removal of that mass and, potentially, a hysterectomy. Or one has splenectomy as the treatment of the underlying disease, with a tentative diagnosis of idiopathic thrombocytopenic purpura of the so-called chronic variety.

The first choice bothers me considerably. About five years ago Dameshek and Rheingold[3] reported a series of patients whose presenting complaint was menorrhagia, who were investigated primarily by gynecologists, and who had all sorts of things done—dilation and curettages, hysterectomies, etc.—and who then turned out to have thrombocytopenic purpura. This was a striking example of hemorrhage occurring in a patient with a generalized hemorrhagic diathesis which was sufficiently acute in one system to cause the patient to consult the specialist for that system. In similar situations epistaxis may be handled by the otolaryngologist, the menorrhagia by the gynecologist, and the hemarthrosis by the orthopedist. This emphasized the point that whenever there exists the possibility of a generalized hemorrhagic diathesis, it is most important that the patient be examined fully.

This patient was fully examined, and I am reluctant to accept the operation as being one primarily directed to the pelvic mass or the uterus. It seems to me, therefore, that the operation to which the protocol refers was the removal of the spleen. As I said, the odds favor the diagnosis of idiopathic thrombocytopenic purpura. One might spend a moment considering this diagnosis and what you need to establish it.

Like any diagnosis which has the preface "idiopathic," it is a diagnosis which is established by exclusion, and therefore, it is not the first diagnosis to entertain but the last. We have already mentioned some of the other causes of thrombocytopenia which could have been eliminated, some by laboratory work and some by clinical acumen. I would like to mention now another group of diseases involving the spleen, producing so-called "secondary hypersplenism." Almost all such diseases are accompanied by enlargement of the spleen, and for that reason we have made it a routine in the study of our patients with thrombocytopenia to get a satisfactory flat-plate x-ray examination of the abdomen. We have not stopped at physical examination because if the abdominal examination is the least unsatisfactory, significant enlargement of the spleen may be missed. We insist on a flat plate of the abdomen to prove that the patient does not have splenomegaly. The reason for this interest in proving that the patient does not have splenomegaly is the old observation that idiopathic thrombocytopenic purpura is rarely, if ever, associated with an enlarged spleen. Absolutes are dangerous in medicine, and I would not like to say that an enlarged spleen never occurs in idiopathic thrombocytopenic purpura. Most hematologists say that it occurs in less than 10 per cent. Some say less than 5 per cent. Others say not at all. The truth is somewhere in that region. Why are we interested in the size of the spleen before going ahead with the operation? For two reasons: (1) the validity of the diagnosis and (2) the possible result of splenectomy. I call to your attention a statement made by Dr. Minot years ago to the effect that when the spleen is enlarged or palpable in thrombocytopenic purpura, don't take it out. The validity of the statement can be questioned in view of a study by Ehrlich and Schwartz[4] about three years ago in which they found that splenectomy may cause a satisfactory remission in splenomegalic purpura. By splenomegalic purpura they were referring to that which occurs in lymphoma, in congestive splenomegaly, and even in infectious mononucleosis. When the underlying disease is malignant, the prognosis is malignant, and certainly the question of splenectomy must be debated rather carefully.

I would like to say a word about the transfusion of fresh blood, taken in plastic apparatus with silicone needles and administered with similar apparatus, or the transfusion of platelet suspension. The recent evidence in the studies of thrombocytopenic purpura points to the existence of a platelet agglutinin in at least 50 per cent of these patients. The studies have been of two types: one the injection of plasma from patients with thrombocytopenic purpura into normal recipients causing a thrombocytopenia in the recipient and the other, the injection of platelets into patients with thrombocytopenic purpura causing temporary improvement in the platelet count of the recipient. It is now clear that the administration of fresh blood or platelet suspension increases the titer of platelet agglutinins. The agglutinin which develops following transfusion of platelets seems to be a panagglutinin, which affects all platelets regardless of type. Therefore, although the initial result is beneficial to the patient, the ultimate result may be detrimental with a higher titer of platelet agglutinins and with a more nonspecific platelet agglutinin than the patient had before. For this reason platelet transfusions and fresh blood transfusions are now reserved for the critical emergencies rather than for the first form of treatment.

There are two other forms of therapy for such fulminating situations as this patient presents. Obviously, this patient is not a candidate for expectant treatment with her exsanguinating menorrhagia. One is steroid therapy, either ACTH or cortisone, and the other is splenectomy. We have studied both of these forms of therapy recently and have found that the remission caused by steroid therapy is a useful one but is almost invariably temporary. Others have confirmed these observations. The dosage of ACTH used in this patient I would consider small. With the H.P. gel preparation we have used 40 mg. twice a day, with the aqueous preparation as much as 150 or 200 mg. a day, and with cortisone as much as 300 mg. a day. The results on the tourniquet test are dramatic, occurring within twelve hours after starting steroid therapy. The results on menorrhagia may be equally dramatic. However, for the maintenance of the effects the therapy must be maintained, and there is usually prompt relapse when therapy is discontinued.

So the definitive therapy is splenectomy when the diagnosis is idiopathic thrombocytopenic purpura of the chronic variety. What are the results to be obtained by splenectomy? They are roughly 60-20-20. What do I mean by that? Sixty per cent are "cured"; 20 per cent show clinical improvement with very little laboratory improvement and with failure to return to normal health, and 20 per cent are complete failures. That is the distressing aspect of splenectomy. When you have such a high percentage of complete failures, you must weigh the decision rather carefully. Steroid therapy may keep the patient in satisfactory condition while weighing this decision. The hematologist is in a dilemma. On the one hand, he has an operation which has a 20 per cent failure rate, and on the other hand, he knows that perhaps 5 or 10 per cent of patients will die of intracranial hemorrhage if he waits several months. Certainly, when the history is one of more than six months and when it is a reliable history, the odds would favor going ahead with splenectomy. When the history is not reliable, when the manifestations are not felt to be particularly severe, or when a reliable history of an acute onset is obtained, then expectant treatment may be the treatment of choice, and ACTH or cortisone may be given as supplementation to that expectant treatment.

I hate to end on a disturbing note, but we have recently studied[2] what happens to patients who have been splenectomized. As I say, 20 per cent have been complete failures. More than half of those die within a year. Of 200 splenectomies from all over the country, 11 per cent were dead within a year. Unlike some of the impressions given concerning splenectomy, it is far from a cure-all. Nevertheless, it represents the treatment of choice in so-called chronic idiopathic thrombocytopenic purpura, because of the 60 per cent cure and the 20 per cent improvement.

Question: You say that 11 per cent of splenectomized patients were dead within a year. From what causes?

Dr. Lozner: Usually from hemorrhage, usually intracranial.

Question: Then splenectomy neither helped nor hurt them. They might have been dead within a year or less anyway.

Dr. Lozner: Probably less than 11 per cent would die had no operation been done, possibly 5 or 10 per cent. But one does not have the opportunity of a controlled study. The evidence definitely favors splenectomy.

Question: What is the mortality from the surgical procedure itself?

Dr. Lozner: In clinics where a fair number of splenectomies are done, it is under 3 per cent. Another figure which is given is 5 per cent. These deaths are included in the 11 per cent one-year mortality. Pancreatitis is one of the plagues of the surgeon. In many patients injury to the pancreas is sometimes unavoidable.

Question: In those 200 cases, were there any postoperative thromboses?

Dr. Lozner: There was a small percentage of thrombotic complications. The thrombotic complications were never fatal as far as we could gather. Usually within two or three weeks the platelet count is down to normal. Occasionally, around ten to fourteen days, the platelet count will reach a million or two.

Question: What about the use of steroid hormones after the failure of splenectomy?

Dr. Lozner: They are sometimes quite satisfactory, sometimes fail completely. Sometimes small doses of cortisone will diminish the hermorrhagic tendency and put the patient in the 20 per cent improved group instead of the 20 per cent failure group. You can push them up to the 60 per cent group with large doses, but, in general, one likes to avoid large doses. Compound F is equally effective.

Question: Do you get evidence from a bone marrow study as to which patient will be and which patient will not be benefited by splenectomy?

Dr. Lozner: There are many people who would disagree, but I feel the prognosis cannot be accurately determined by bone marrow morphology, particularly numbers and morphology of megakaryocytes. The absence of megakaryocytes in the marrow is most disturbing, and I personally have never seen a patient with no megakaryocytes do well.

Pathologic Report

Dr. J. George Gladston: We thought

that the mass in the pelvis was a hematoma so a transverse incision was made to facilitate the operation. A splenectomy was performed. Several small accessory spleens were seen and removed. The diagnosis of hematoma of the left ovary was confirmed. It was left alone. The patient made an uneventful recovery, and the platelet count has returned to normal. She has had no further bleeding.

Dr. James A. Mitchell: The spleen was slightly enlarged, weighing 200 Gm. Microscopically it showed nothing, which is characteristic of the spleen in idiopathic thrombocytopenic purpura.

Dr. Lozner: The finding of accessory spleens raises the question of whether they ever play a part in relapses or in the failure of splenectomy to effect a cure. It has never been proved that an accessory spleen was the cause of a relapse. Doan[5] has reported a patient with hemolytic anemia in whom a 5-Gm. accessory spleen caused a relapse, and the removal of that accessory spleen was followed by a complete remission. At Washington University in St. Louis[6] a rather interesting study was recently reported in which Thorotrast was used in these patients with relapse of hemolytic anemia or thrombocytopenic purpura. They could not find an accessory spleen in any relapse of thrombocytopenic purpura. The evidence is that the accessory spleen has probably been exaggerated as a cause of relapse. However, if accessory splenic tissue is seen at the time of operation, it should be removed.

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Garden Soil May Be Source of Once-Rare Disease

Garden soil, particularly if taken from around chicken houses, may be the source of a form of lung disease once considered rare and fatal. The danger of spreading the fungus which causes the disease should be considered by gardeners, according to the July 31 *Journal of the American Medical Association.*

Two physicians and two scientists reported a case of the pneumonia-like disease, histoplasmosis, which resulted from inhaling the dust of infected soil. The patient suffered severe headaches, sore throat, general aches, and fever not long after sifting soil bought for his garden. He said the soil was dry and contained chicken feathers. It later was proved to contain the disease-causing fungus, Histoplasma capsulatum. A neighbor who used the same soil in her flower beds suffered a similar illness, but soil tests taken several months later did not show fungus. Both patients recovered without apparent after-effects.

Epidemics of the disease often have been associated with inhalation of dust in abandoned houses, dusty silos, storm cellars, and chicken coops, the article said. Chickens probably are not the source of the infection but areas frequented by chickens may favor development of the fungus. The experiences of the two patients reported on differed from all other reports because these patients were exposed to material "commonly used by gardeners and commonly transported to noninfected areas. Instead of a disease confined to groups of persons entering on or working at a remote or unfrequented site, it is apparent that smaller groups of persons may be exposed during a common procedure around the house," the article stated.

"The danger of infecting new areas with H. capsulatum and the danger of exposing new persons should be considered in gardening," it said. "There is a potential hazard of sifting garden dirt in areas where histoplasmosis is common."

The report was made by John H. Kier, M.D., and Wheelan D. Sutliff, M.D., Memphis; Charlotte C. Campbell, B.S., Washington, D.C., and Libero Ajello, Ph.D., Chamblee, Georgia.

CASE REPORTS

Chronic Progressive Chorea Masquerading as Functional Disorder

JOSEPH A. WINN, M.D., NEW YORK CITY

(*From the Mental Hygiene Treatment Group, Psychiatry and Neurology Unit, Brooklyn Regional Office, Veterans Administration*)

CHRONIC progressive hereditary chorea (Huntington's chorea) in its fully developed classic syndrome is easily recognized. Difficulty in diagnosis may arise in atypical cases and in the early stages of the disease. Wechsler[1] bases the diagnosis on "the association in an adult of bizarre chorea with mental deterioration, occurring in one or more members of a family on a hereditary basis; the chorea, mental defect and heredity constituting the pathognomic features." However, he observed a form of chronic progressive chorea in several members of one family without any mental deterioration, and he has also seen "almost classical types of Huntington's chorea in patients, who showed neither familial nor hereditary traits."

Nielsen[2] considers the diagnosis of Huntington's chorea "not easy in sporadic cases and early in the course of the disease." Laane[3] reports eight cases wherein there was considerable difficulty in making an early correct diagnosis and stresses the importance of investigation for familial occurrence to facilitate the early recognition of the disorder.

The author has observed a case which is considered worth reporting as an illustration of the problem.

Case Report

B. R., a white male, born in 1911, was inducted into the Army in 1942 and served overseas for forty-three months. In Manheim, Germany, in 1945, the patient had the first manifestations of his disorder; during a violin concert given for the armed forces by Jascha Heifetz, he suddenly began to utter queer sounds like a "Bronx cheer" which he could not control. The sound was formed by expelling air through closed, pursed lips. This lasted for about an hour, and he had to use a handkerchief as a gag and mouth cover. A similar episode occurred one month later during a Rosh Hashana observance in a Paris synagogue. This time it lasted for about three hours. On both occasions the patient was very embarrassed by his inability to control the involuntary sounds. In October, 1945, patient was regularly discharged from the Army on points without mentioning the episodes.

After he returned home from service, his family noticed that his voice had changed and had become slightly indistinct and that on occasions he would emit strange sounds, expelling air through his pursed lips. After these symptoms became gradually worse and more frequent, patient attended a psychiatric clinic in New York City in January, 1946, where he was treated until June, 1947, with psychotherapy, Sodium Amytal interviews, and electroshock therapy. Under treatment his "Bronx cheers" became less frequent, but he began to have bouts of involuntary forced spitting and some difficulty in swallowing. The meals just would not go down and seemed to regurgitate. At this time patient filed a claim for a service-connected disability, and a neuropsychiatric pension examination in July, 1947, resulted in a diagnosis of psychoneurosis, conversion hysteria, for which he obtained in October, 1947, a 10 per cent disability rating. The examiner observed at that time that the patient was a somewhat inadequate individual who showed emotional indifference, "la belle indifférence," to his disorder.

In February, 1948, patient applied for treatment at the Veterans Administration Mental Hygiene Clinic. The psychiatrist assigned to treat the patient had certain doubts about the functional character of the disease from the very first contact with the patient and initiated comprehensive studies and investigations which enabled a correct diagnosis to be established. Following is the summary of clinical findings in 1948:

DEVELOPMENTAL HISTORY.—Patient was born the fourth of five siblings, having two older brothers and one older and one younger sister. Parents were first cousins. Father died at the age of seventy-four of thromboangiitis obliterans. Mother, age sixty-five, was living. One of the brothers, six years older than the patient, had been hospitalized over ten years, suffering from "hereditary progressive chorea" with symptoms similar to those of our patient. Patient had always been a rather shy and quiet person with immature, childish behavior. According to a childhood friend "while everybody else grew up, R. remained a child." However, he graduated from high school at the age of sixteen and went for one year to City College. He quit when he had to go to work to help support the family after his father lost his job. Later he took night courses in Cooper Union College and in 1936 obtained a B.S. degree in chemical engineering. Thereafter he had many jobs and seemingly was also content in whatever menial job he obtained, most of which were out of keeping with his education and intellectual ability.

Mental Status.—Patient appeared somewhat untidy and sloppy. His behavior during examination revealed certain traits of childishness and immaturity. He kept a toothpick between his teeth and spit frequently into a handkerchief. His mood was euphoric, he joked a great deal and frequently hummed, sang, or whistled. Psychometric studies revealed an average mental capacity with an above average ability for handling the block designs and digit symbol tests. In Gestalt performance patient reproduced eight of the nine designs without distortion. There was a tendency to handle all tests impulsively and an infantile concept of persons. Rorschach responses pointed to immature, mixed sexual identification with emphasis on effeminate traits and fearful, aggressive, guilt-charged rejection of authority. The psychometric findings were considered incompatible with any cortical degeneration and did not seem to resemble records found in patients suffering from organic illness.

Neurologic Findings.—Results of the neurologic examination were as follows:

Cranial Nerves—Pupils were round and regular, the left one slightly larger than the right; both reacted promptly to light and accommodation. The external ocular movements were intact except for some lagging of the left eye on convergence. There were occasional unsustained nystagmoid jerks to extreme left lateral gaze. Fundi and visual fields presented normal findings. Visual acuity and hearing were normal. There was no real facial weakness, but there was slight asymmetry of the face, the left side of the lips moving less than the right on both voluntary and mimetic movements. The fifth nerve, both sensory and motor, was intact. The palate moved normally in phonation, and the pharyngeal reflex could be elicited. The tongue protruded slightly to the left of the midline without any atrophy or fibrillations. There was a constant generalized tremor of the tongue, however, and there was an erosion along the left lateral aspect due to a single molar tooth in the left lower jaw. Speech was nasal in quality and dysarthric.

Sensory Status—Sensation was intact for all qualities.

Motor Status—Muscle strength was well preserved throughout. Muscle tonus was within normal limits. There was moderate atrophy of the left calf without fibrillations and without any apparent weakness.

Station and Gait—Gait was normal with associated movements of the arms present, but there was a tendency to "bounce along." Romberg test was negative. Patient had some difficulty in maintaining balance when standing on toes or on heels and considerable difficulty with eyes closed. Walking on heels was more difficult than on toes.

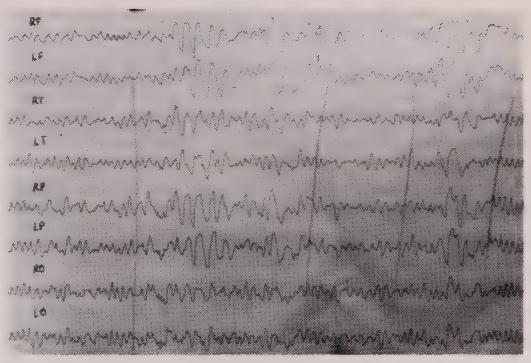

Fig. 1. Electroencephalogram taken July 9, 1948. Underlying frequency was $9^{1}/_{2}$ to 10 per second activity of moderate amplitude, most pronounced in the occipitals. Numerous paroxysmal bursts of high-amplitude irregular slow waves, 3 to 6 per second.

Coordination—Heel-to-knee and finger-to-nose tests were well performed. There was difficulty, however, in performing rapid successive movements of the upper extremities.

Abnormal Movements—There were frequent tic-like jerky movements and twitching of the forehead and eyebrows as well as about the mouth, in addition to pursing movements of the mouth with associated sounds very much like a "Bronx cheer." Occasional shrugging movements of the shoulders were observed. There was no drooling of the saliva. However, frequently with the described pursing movements of the lips, saliva did escape and was then sucked back by the patient.

Reflexes—All deep tendon reflexes were absent and could not be elicited even by means of reinforcement maneuvers. Superficial reflexes were present. No pathologic reflexes were found.

Electroencephalographic Examination.—A grossly abnormal tracing was obtained with numerous high-amplitude paroxysmal bursts of irregular slow waves, $2^{1}/_{2}$ to 6 per second, occurring during the entire waking record and becoming even more pronounced and diffuse after two minutes of hyperventilation. The underlying frequency was $9^{1}/_{2}$ to 10 per second activity of moderate amplitude, most pronounced in the occipitals (Fig. 1).

Course.—In 1949 the patient's condition became gradually worse, and he began to bite his lips and cheeks involuntarily and have a great deal of trouble in eating and speaking. His speech became almost unintelligible. His difficulty in swallowing became worse. Regurgitation appeared, and excessive salivation required continuous spitting. Patient was hospitalized three times during 1949. Before his third hospitalization in December, 1949, in Halloran Hospital, he was almost unable to eat and began to show signs of malnutrition. Due to continuous severe biting of lips and cheeks the mucous membranes in his mouth developed necrotic and gangrenous changes, although attempts to prevent injury by permanent use of gauze and rubber gag were tried. In addition, the patient began to pose a problem on the ward because of his abnormal behavior. He did not have too much regard for other patients, played his radio constantly and loudly, was sloppy and careless in his habits, and showed signs of some mental deterioration. In March, 1950, bilateral resection of masseter and temporalis muscles was performed to try to prevent the continuous injuries to lips and cheeks. Patient improved after the operation, was able to eat, and became more active. The operation, however, was only a partial success, and the involuntary movements reappeared, with patient reverting to clamping movements of the mouth and using his fingers as mouth gag. In addition, he had two definite grand mal convulsions.

Since last heard from the patient is continuing to deteriorate neurologically as well as mentally. Interestingly enough, during his first hospitalization there was still a differential diagnostic question as between a hereditary chorea and conversion reaction, with the latter being considered as the more likely of the two possibilities, mainly on the basis of the psychometric studies previously noted.

In November, 1949, patient consulted a reputable neurologist who made the diagnosis of "an unusually refractory compulsion neurosis... In spite of his denial of necessity to bite his cheeks and lips there is no doubt about the impulsive nature of this behavior. In view of the fact that he has failed to respond to therapy, including psychotherapy, ambulatory electroshock therapy is suggested. I have seen good results with electroshock therapy in refractory compulsion neurosis in which other measures failed. It may be necessary to continue psychotherapy later on."

Comment

Diagnostic difficulties may be encountered in the initial stages of many structural neurologic disorders. Out of 395 neurologic cases reviewed recently by Tissenbaum *et al.*,[4] about 14 per cent were diagnosed as functional disorders for varying lengths of time with "neurosis" as a prevailing label.

Early bizarre manifestations in the reported cases were suggestive of a functional disorder of conversion reaction type. The correct early diagnosis of chronic progressive chorea was missed mainly for the lack of the following diagnostic criteria: (1) organic mental deterioration, (2) direct dominant Mendelian heredity, and (3) information on familial incidence, established only later during the course of sickness. Bizarre involuntary movements in the distribution of cranial nerves are not uncommon in organic syndromes, and basal ganglia disease should be suspected in all such instances.

The severely abnormal electroencephalographic findings and the discovery of a brother afflicted with a similar disorder determined the diagnosis. Electroencephalographic changes in Huntington's chorea were recently observed and reported by several authors. In a series of 22 patients observed by Foster and Bagchi,[5] 82 per cent showed abnormal patterns ranging from borderline independent low-voltage or medium-voltage fast activity, without alpha, and mildly abnormal, slow activity, 6 to 8 per second, to markedly abnormal, irregular, slow activity, continuous, 3 to 4 per second. Yeager and Baldes[6] found slow frequencies with predominance of beta waves in cases of progressive hereditary chorea. Paroxysmal bursts of high amplitude, irregular slow waves, $2^1/_2$ to 6 per second, which were observed early in the course of the reported case and led to the correction of the diagnostic error, have been reported by Patterson and Bagchi[7] and Harvald[8] in the offspring of patients suffering from progressive hereditary chorea. This combination of cortical dysrhythmia by electroencephalogram and lack of evidence of organicity in the psychologic and psychometric picture is the most interesting feature of the reported case. It may be speculated that in the early stage of the chorea, with clinical symptomatology confined to the pathology of basal ganglia, electroencephalographic investigation may reveal cortical changes before they are manifested clinically.

Conclusions

Hereditary progressive chorea may present a diagnostic problem in the early stages of the disease. A case with bizarre symptomatology is presented which masqueraded for several years as a functional disorder. The early symptomatology was confined to involuntary movements of masticatory muscles and the lips, resulting in a grotesque noisy tic, resembling the explosive grimacing of a "Bronx cheer" sound. The clue to a correct diagnostic evaluation was the abnormal electroencephalogram in conjunction with the discovery of familial incidence. The usefulness of an electroencephalographic investigation in early stages of such cases is stressed in view of the possibility of a cortical dysrhythmia preceding clinical manifestations of this organic psychiatric syndrome.

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Appreciation is expressed to Bernard Locke, Ph.D., for technical assistance.

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Partial Urinary Obstruction in a Female Due to an Extrinsic Urethral Tumor

MARY FRISHWASSER, M.D., AND EDWARD J. FRISHWASSER, M.D., NEW YORK CITY

FIBROMA, fibromyoma, and myoma, which are extrinsic to the female urethra, are exceedingly rare, as are such benign neoplasms of the urethra itself. Both are mentioned briefly in textbooks, and case reports are few.[1-4] Fibroma, fibromyoma, leioma, and cavernous hemangioma of the female urethra have been reported, and of these very few cases, some were considered to have their origin in the urethrovaginal septum. When benign tumors originate in the tissues of the anterior vaginal wall, they easily are confused with actual urethral tumors. Only at operation or urethroscopy can they be distinguished from each other by establishing the presence or absence of any direct connection between the urethra and the tumor. In both situations partial obstruction of the lower urinary passageway with its concurrent symptomatology might result and, conceivably, if untreated, could lead to serious obstructive uropathy.

Case Report

A fifty-year-old white nulliparous female complained of having an elliptic mass in the anterior portion of the vulva. She had noticed this first as a hazel-nut-sized mass six months earlier, and from that time on, the mass had grown to the size of a large egg. The following symptoms appeared also and gradually became increasingly aggravated: narrowing of the urinary stream, nocturia, urgency, frequency, and burning on urination. Her past history was not contributory to her present illness. Examination revealed a well-nourished, well-developed female in whom the only significant physical finding was the mentioned mass. This was fixed in position in the anterior septum of the vagina. By contracting her abdominal and perineal muscles the patient could cause the mass and the anterior vaginal wall to descend slightly, giving the lesion an appearance similar to that of a cystocele.

Laboratory reports were all within normal range with the exception of 1 plus albuminuria and a moderate pyuria. An intravenous pyelogram revealed normal upper urinary tract outlines. The bladder was noted to be somewhat elevated but otherwise was negative in appearance radiologically. Cystopanendoscopy was performed with some difficulty due to the extrinsic encroachment of the tumor upon the posterior wall of the urethra. A residual urine of 60 cc. was collected. No direct communication between the urethra and the tumor mass was seen. The bladder neck was observed to be symmetric anteriorly. The posterior urethra and the bladder floor were elevated somewhat. A moderate amount of trabeculation and inflammation of the bladder mucosa was observed. Both ureteral orifices appeared normal.

A longitudinal incision was made in the anterior wall of the vagina overlying the tumor, and a well-formed capsule surrounding this mass was found immediately below the superficial tissue layers. It was a simple task to separate this capsule from its encompassing tissues and completely remove it intact.

The pathology report was as follows: Specimen consisted of a mass of tissue approximately 6 by 4 by 2 cm. The surface was smooth and well encapsulated. On section the tissue had a firm, fibrous appearance. Representative sections taken for microscopic study showed intersecting bundles of fibers. Between the fibers were seen fusiform cells. Diagnosis was periurethral fibromyoma.

The patient's postoperative course was uneventful. Two weeks after operation, her symptoms had disappeared completely, urinalysis was negative, and there was no residual urine.

Summary

Benign tumors involving the female urethra are rare. A case is presented in which an extrinsic urethral tumor caused partial urinary obstruction with resultant symptomatology.

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A sharp tongue is the only edged tool that grows keener with constant use.—Washington Irving

Department of

MEDICAL CARE INSURANCE

Conducted by GEORGE P. FARRELL, *Director*

BENEFITS paid for doctors' services during the nine-month period ending September 30, 1954, in the New York State Blue Shield Plans, amounted to $25,759,760, covering 662,311 claims, as compared to $21,863,451 for the same period in 1953 for 534,650 claims, an increase in benefits paid of $3,896,309 and 127,661 claims.

During the same period membership increased by 409,226, making a total membership at September 30, 1954, of 4,720,690. Statistical tables follow.

TABLE I.—TOTAL MEMBERSHIP AND COMPARATIVE INCREASES FOR QUARTERS ENDING SEPTEMBER 30, 1954 AND 1953

By Types of Contracts	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown	Totals
Surgical								
Total Membership								
September 30, 1954	1,411,230	316,572	332,391	4,985	53,698	...	16,457	2,135,333
June 30, 1954	1,412,843	323,513	320,501	5,274	55,950	...	15,728	2,133,809
Comparative Increase								
September 30, 1954	−1,613	− 6,941	11,890	−289	−2,252	...	729	1,524
September 30, 1953	−6,176	−15,672	10,258	−643	−1,575	...	1,677	−12,131
Surgical, In-Hospital Medical								
Total Membership								
September 30, 1954	1,834,154	154,068	...	88,178*	125,207	215,735	...	2,417,342
June 30, 1954	1,745,842	140,647	...	76,520*	121,288	206,191	...	2,290,488
Comparative Increase								
September 30, 1954	88,312	13,421	...	11,658	3,919	9,544	...	126,854
September 30, 1953	69,095	37,748	...	5,266	2,477	14,113	...	128,699
Surgical-Medical (Home, Office, Hospital)								
Total Membership								
September 30, 1954	131,269	...	...	36,746	...	...	...	168,015
June 30, 1954	127,604	...	...	38,759	...	...	...	166,363
Comparative Increase								
September 30, 1954	3,665	...	...	−2,013	...	...	...	1,652
September 30, 1953	4,286	...	...	− 572	...	...	...	3,714
Grand Totals								
Total Membership								
September 30, 1954	3,376,653	470,640	332,391	129,909	178,905	215,735	16,457	4,720,690
June 30, 1954	3,286,289	464,160	320,501	120,553	177,238	206,191	15,728	4,590,660
Comparative Increase								
September 30, 1954	90,364	6,480	11,890	9,356	1,667	9,544	729	130,030
September 30, 1953	67,205	22,076	10,258	4,051	902	14,113	1,677	120,282

* Indicates accumulated members with service type contracts; others in Syracuse Plan on an indemnity basis.

TABLE II.—COMPARISON OF MEMBERSHIP INCREASES FOR NINE MONTHS ENDING SEPTEMBER 30, 1954 AND 1953

By Types of Contracts	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown	Totals
Surgical								
September 30, 1954	−45,231	−27,380	23,227	−352	−3,816	...	2,612	−50,940
September 30, 1953	−787	−15,266	29,287	−5,051	−8,294	...	6,461	6,350
Surgical, In-Hospital Medical								
September 30, 1954	348,660	47,068	...	31,055	5,951	15,318	...	448,052
September 30, 1953	250,280	67,463	...	47,529	9,510	44,962	...	419,744
Surgical-Medical (Home, Office, Hospital)								
September 30, 1954	15,425	...	...	−3,311	...	...	...	12,114
September 30, 1953	15,983	...	...	−23,532	...	...	...	−7,549
Grand Totals								
September 30, 1954	318,854	19,688	23,227	27,392	2,135	15,318	2,612	409,226
September 30, 1953	265,476	52,197	29,287	18,946	1,216	44,962	6,461	418,545

TABLE III.—INCOME, GAIN, AND LOSS FOR NINE MONTHS ENDING SEPTEMBER 30, 1954

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown
Earned Premium Income	$25,732,781	$3,549,317	$3,037,980	$1,042,701	$1,102,248	$1,619,648	$129,092
Claims and Expenses Incurred	22,012,165	3,033,464	2,594,216	948,479	1,041,842	1,426,979	111,082
Gain from Underwriting	$ 3,720,616	$ 515,853	$ 443,764	$ 94,222	$ 60,406	$ 192,669	$ 18,010
Underwriting Adjustments							
Deferred Maternity Benefits	−$ 330,000	−$ 30,000	−$ 40,558	−$ 4,000	$ ...	−$ 1,000	−$ 5,548
Provision for Special Contingent Surplus	− 1,042,348	− 142,844	− 122,068	− 41,708	− 33,086	− 64,775	− 5,164
Increase in Reserve for Unreported Claims	...	...	...	− 4,000	...	...	...
Profit and Loss Items	− 26,285	− 12,859	779	...	− 867	− 8,422	...
Total	−$ 1,398,633	−$ 185,703	−$ 161,847	−$ 49,708	−$ 33,953	−$ 74,197	−$ 10,712
Adjusted Gain from Underwriting	$ 2,321,983	$ 330,150	$ 281,917	$ 44,514	$ 26,453	$ 118,472	$ 7,298
Gain from Investments	368,249*	30,862	25,045	7,099	16,449	14,975	602
Gain from Underwriting and Investments	$ 2,690,232	$ 361,012	$ 306,962	$ 51,613	$ 42,902	$ 133,447	$ 7,900
Surplus Adjustments							
Provision for Epidemics and Other Contingencies	−$ 509,990	...	...	...	...	...	...
Organization Deposit Repayments Cancelled	...	$ 970	...	...	...	...	...
Increase in Unassigned Surplus	$ 2,180,242	$ 361,982	$ 306,962	$ 51,613	$ 42,902	$ 133,447	$ 7,900

* $91,477, provision for addition to Special Security Valuation Reserve, not included in investment gain.

TABLE IV.—SURPLUS ACCOUNTS, SEPTEMBER 30, 1954

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown
Surplus, December 31, 1953							
Unassigned	$ 6,134,375	$ 523,691	$ 714,435	$182,848	$328,201	$259,079	$14,980
Special Contingent	4,742,623	663,472	393,274	140,366	353,594	249,257	5,305
Epidemics and Other Contingencies	1,170,369	...	...	...	...	...	...
Security Valuation Reserve	...	...	...	...	24,000	...	...
Total Surplus	$12,047,367	$1,187,163	$1,107,709	$323,214	$705,795	$508,336	$20,285
Credits							
Net Gain from Underwriting	$ 2,321,983	$ 330,150	$ 281,917	$ 44,514	$ 26,453	$118,472	$ 7,298
Net Gain from Investments	368,249	30,863	25,046	7,099	16,449	14,975	602
Provision for Special Contingent Surplus	1,042,348	142,844	122,068	41,708	33,086	64,775	5,164
Organization Deposit Repayments Cancelled	...	970	...	...	...	...	...
Total Credits	$ 3,732,580	$ 504,827	$ 429,031	$ 93,321	$ 75,988	$198,222	$13,064
Segregated from Unassigned Surplus for Epidemics and Other Contingencies	$ 509,990*	...	...	...	...	...	...
Total Surplus, September 30, 1954							
Unassigned	$ 8,314,617	$ 885,674	$1,021,398	$234,461	$371,103	$392,526	$22,880
Special Contingent	5,784,971	806,316	515,342	182,074	386,680	314,032	10,469
Epidemics and Other Contingencies	1,680,359	...	...	...	...	...	...
Security Valuation Reserve	...	...	...	...	24,000	...	...
Total Surplus	$15,779,947	$1,691;990	$1,536,740	$416,535	$781,783	$706,558	$33,349

* Included in Net Gain from Underwriting.

TABLE V.—DISTRIBUTION OF EARNED PREMIUM INCOME AND AMOUNTS AVAILABLE FOR UNASSIGNED SURPLUS FOR NINE MONTHS ENDING SEPTEMBER 30, 1954

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown
Earned Premium Income	$25,732,781 100.00%	$3,549,317 100.00%	$3,037,980 100.00%	$1,042,701 100.00%	$1,102,248 100.00%	$1,619,648 100.00%	$129,092 100.00%
Incurred Claim Expense	$17,925,707 69.66%	$2,626,565 74.00%	$2,300,187 75.71%	$ 809,703 77.65%	$ 846,273 76.78%	$1,245,222 76.88%	$ 92,401 71.58%
Administrative Expense	$ 4,086,458 15.88%	$ 406,899 11.47%	$ 294,029 9.68%	$ 138,776 13.31%	$ 195,569 17.74%	$ 181,757 11.22%	$ 18,681 14.47%
Provision for Future Maternity Benefits	$ 330,000 1.29%	$ 30,000 0.85%	$ 40,558 1.33%	$ 4,000 0.38%	... ...	$ 1,000 0.06%	$ 5,548 4.30%
Provision for Special Contingent Surplus	$ 1,042,348 4.05%	$ 142,844 4.02%	$ 122,068 4.02%	$ 41,708 4.00%	$ 33,086 3.00%	$ 64,775 4.00%	$ 5,164 4.00%
Increase in Reserve for Unreported Claims	... ...	... ...	... ...	$ 4,000 0.38%	... ...	... ...	... ...
Profit and Loss Items	$ 26,285 0.10%	$ 12,859 0.36%	−$ 779 −0.02%	... ...	$ 867 0.08%	$ 8,422 0.52%	... ...
Available for Unassigned Surplus	$ 2,321,983 9.02%	$ 330,150 9.30%	$ 281,917 9.28%	$ 44,514 4.28%	$ 26,453 2.40%	$ 118,472 7.32%	$ 7,298 5.65%

TABLE VI.—CLAIM DATA (PAID BASIS)—YEAR TO SEPTEMBER 30, 1954, AND COMPARISON OF CLAIM INCIDENCE, SEPTEMBER 30, 1954 AND 1953

Plan Location and Type of Contract	Earned Premium Income	Claim Cost	Per Cent of Claim Cost to Earned Premium	Number of Claims	Average Cost per Claim	Claim Incidence per 1,000 Members per Annum	
						1954	1953
New York							
Surgical	$ 9,477,840	$ 6,825,286	72.01	112,612	$60.61	105.0	101.4
Surgical, In-Hospital Medical	13,838,725	9,338,474	67.48	166,115	56.22	134.1	126.5
General Medical	2,416,216	1,758,799	72.79	134,923	13.03	1,459.6	1,344.3
Total	$25,732,781	$17,922,559	69.65	413,650	$43.33	...	...
Buffalo							
Surgical	$ 2,177,581	$ 1,701,052	78.12	68,372	$24.88	276.5	257.8
Surgical, In-Hospital Medical	1,371,736	895,512	65.28	31,591	28.35	317.0	261.4
Total	$ 3,549,317	$ 2,596,564	73.16	99,963	$25.98	...	...
Rochester							
Surgical	$ 3,037,980	$ 2,252,363	74.14	51,445	$43.78	214.4	187.1
Syracuse							
Surgical	$ 37,396	$ 39,849	106.56	1,229	$32.42	314.9	287.6
Surgical, In-Hospital Medical	612,595	475,632	77.64	15,115	31.47	262.7	228.4
Surgical-Medical	392,710	287,968	73.33	15,096	19.08	522.0	472.4
Total	$ 1,042,701	$ 803,449	77.05	31,440	$25.55	...	...
Utica							
Surgical	$ 273,440	$ 245,511	89.78	10,289	$23.86	247.4	236.8
Surgical, In-Hospital Medical	828,808	606,763	73.21	24,858	24.41	272.0	286.9
Total	$ 1,102,248	$ 852,274	77.32	35,147	$24.25	...	...
Albany							
Surgical, In-Hospital Medical	$ 1,619,648	$ 1,245,500	76.90	28,756	$43.31	184.0	146.2
Jamestown							
Surgical	$ 129,092	$ 87,052	67.43	1,910	$45.57	168.0	118.6
Grand Total	$36,213,767	$25,759,760	...	662,311	...	...	...

OPENINGS FOR PHYSICIANS IN NEW YORK STATE

GENERAL PRACTICE

Albany County

Altamont.—Population 3,000 in 3 miles. Hospitals 6, 9, and 10 miles distant. Opening available in industry. Contact Mr. Frank F. Warner, 134 Lincoln Avenue, Altamont (phone Altamont 2857).

Cayuga County

Cayuga.—Population 500; service area with population 2,000 plus. Two hospitals at Auburn 9 miles distant. Contact Dr. Frank A. Graceffo, Secretary, Medical Society of the County of Cayuga, 9 William Street, Auburn.

King Ferry.—Population 200. Area of 75 square miles, radius varying from 2 to 15 miles, including towns of Ledyard, Poplar Ridge, Sherwood, Goodyears Corners, Lake Ridge, Myers, Five Corners, and Little Hollow. Position as school physician available. Hospitals 20 miles distant at Auburn and Ithaca. Contact Mrs. Leona B. Stoner, R.N., King Ferry.

Meridian.—Population 400. Surrounding prosperous farming area within 17-mile radius includes Cato, Jordan, Baldwinsville, Weedsport, Fair Haven, and Wolcott; population about 2,000. Hospitals at Syracuse 22 miles and Auburn 8 miles. House available. Contact Dr. Frank R. Meyer, Fulton.

Chautauqua County

Cassadaga.—Population 700. Two villages within 4 miles; population 600. Additional 1,000 population in surrounding country. Radius to be covered about 5 miles. Industrial-farming community. General hospital at Dunkirk 12 miles; two at Jamestown 25 miles; tuberculosis hospital 3 miles. Position of town health officer available. Contact Mr. Raymond Haines, Mayor, Cassadaga, (phone Cassadaga 31-F2).

Chenango County

McDonough.—Population 200; population 1,000 within a radius of 10 miles. Hospital at Norwich 18 miles; Greene 13 miles; Binghamton 32 miles. Contact Mr. J. J. Duell, Town Supervisor, McDonough.

Clinton County

Altoona.—Population 2,000. Radius about 15 miles including villages of Ellenberg, Mooers Forks, Sciota, and West Chazy. Two hospitals in Plattsburg, about 20 miles. Excelsior mill and milk plant. Private residence, rent free for one year. Appointments as school health officer and medical officer for industries available. Contact Mr. Halsey J. Stark, County Clerk, Altoona.

Mooers.—Population 500; population 3,000 to 5,000 in 12-mile radius served. Hospitals in Plattsburg 25 miles. Position of school physician available, possibly district health officer. Contact Mr. M. B. Stewart, Mooers, and Dr. Aaron Davis, 9 Rugar Street, Plattsburg.

Rouses Point.—Population 1,990 within 2 miles, 3,000 within 5 miles. Dr. Harris Sklaire, only active physician in community, desires a colleague. School, industrial health, and railroad positions will become available. Contact Dr. Harris Sklaire, Rouses Point.

Delaware County

Andes.—Population 500 within 13-mile radius. School physician and health officer positions available. Hospitals 13 miles distant at Delhi and Margaretville. Contact Miss Eleanor W. Palmer, Box 105, Andes.

Essex County

Lake Placid.—Population about 3,000; summer population considerably larger. Contact Mr. John H. Servis, Administrator, Placid Memorial Hospital, Lake Placid.

Franklin County

St. Regis Falls.—Population about 1,000 within 12-mile radius. Hospital at Malone 20 miles distant. Positions as town health officer and school physician available. Contact Mrs. Frances Baxter, R.N., St. Regis Falls.

Lewis County

Port Leyden.—Population 900; population 5,000 in working area. Temporary replacement desired. Lowville Hospital 18 miles. Positions available as school physician, health officer, examiner for two insurance companies, and compensation doctor for three mills. Well-equipped office and good living quarters available. Contact Dr. John P. Meyers, Port Leyden.

Madison County

Madison.—Population 2,500; area 100 square miles; five villages. Doctor expecting to come by the day. Hospitals at Hamilton 7 miles, Oneida 20 miles, Utica 25 miles, Syracuse 40 miles. Positions as school physician and town health officer available. Contact Dr. B. L. Rockwell, Oriskany Falls.

Monroe County

Brockport State Teachers College, Brockport.—Physician will rank as full professor. Salary $6,279. If physician remains for summer session, he will get more. There are four annual mandatory increments of $250 each. Contact Mr. Donald M. Tower, president, or Ernest H. Tuttle, Director of Health (phone Brockport 420).

Scottsville.—Population about 3,000 in area. Fifteen miles from Rochester which has good hospitals and medical college. Contact Mr. Adrian Hanna, 3 Church Street, Scottsville (member of Town Board), and Dr. Clarence Pearson, Scottsville.

Niagara County

Rapids.—Population 150 families in 8-mile radius. Hospitals in Buffalo 25 miles and Lockport 7 miles. Opening as examining physician for school at $1.00 per pupil. Contact Mrs. George W. Dietz, Sr., Route 5, Lockport.

Oneida County

Clayville.—Population 719; 3,800 more population within 6-mile radius in prosperous farming territory. Three industries in Clayville with 525 employes. Hospitals and laboratory facilities in Utica 8 miles distant. District health officer position probably available. Home and office of former doctor for sale, possible equipment. Contact Mr. M. Donohue, Real Estate Broker, Sauquoit (phone Utica 7-7383).

Onondaga County

Liverpool.—Population 4,500 in 5-mile radius. Hospitals 3 miles. Positions of district health officer and school physician available, as well as positions in industry. Contact Mrs. Herman L. Harding, 201 2nd Street, Liverpool (phone Liverpool 69-5501).

Ontario County

Hall.—Population 300; population 2,000 within surrounding prosperous farming area. Midway between Penn Yan and Geneva, each about 8 miles distant. Fifty-bed hospital at Penn Yan; 80-bed hospital at Geneva. Rochester 45 miles; Syracuse 60 miles. Contact Dr. Ray E. Deuel, Jr., 508 Castle Avenue, Geneva, or Mr. Joseph Robson, Hall.

Honeoye.—Population 1,300; population 4,000 in area. Present doctor leaving to specialize. Hospital at Canandaigua. Positions of local health officer and school physician available. Contact Dr. William J. Meyer, Briggs Street, Honeoye.

Orange County

Cornwall-on-Hudson.—Population 7,000 in 5-mile radius. Hospital in Cornwall and at Newburgh 7 miles. Opportunity as private school physician and as industrial physician. Contact Dr. J. Brewster Gere, 314 Hudson Street, Cornwall (phone Cornwall 3-6285).

Unionville.—Population 500; additional 400 population within 8 or 10-mile radius. Hospital at Sussex, New Jersey, 8 miles; two at Middletown. New York, $13^{1}/_{2}$ miles. Contact Mr. A. R. Blanchard, Orchard Street, Unionville, or Mrs. Julia Roche, Postmistress, Unionville.

Oswego County

Altmar—Population 1,800. No doctor at present. Positions of school physician and town health officer may be obtained. Hospital facilities 45-minutes drive at Syracuse, Oswego, Utica, Watertown, Fulton, and Rome. Local ambulance service. Contact Mr. Norman B. Spear, Supervisor, Town of Albion, Altmar.

Otsego County

Cherry Valley.—Population 1,400 to 1,800 in 14-mile radius. Hospitals at Sharon Springs 7 miles and Cooperstown 15 miles. Positions of district health officer and school physician available. Contact Mr. Frank Peltzner, Main Street, Cherry Valley.

Morris.—Population about 600; population 3,500 in surrounding area, 10-mile radius. Possibility of obtaining appointments as school physician and as town health officer for Morris, New Lisbon, and Laurens. Garrattsville, Burlington, and Hartwick also in area. Hospitals at New Berlin 9 miles and Oneonta 14 miles. Contact Mr. Lynn Secor, Lewis Rutherford Morris Central School, Morris.

Otego.—Population 3,000 in 6-mile radius. Fox Memorial Hospital (95 beds) at Oneonta 8 miles; Mary Imogene Bassett Hospital at Cooperstown 39 miles; a 58-bed hospital in Sidney 16 miles. Positions as local health officer and school physician available. Contact Mr. Albert L. Donner, Committeeman, Otego Rotary Club, Otego.

Rensselaer County

Petersburg.—Population 1,000 plus in 5-mile radius including town of Grafton. Hospitals 20 miles distant. Positions of district health officer and school physician available. Contact Mr. Harry Brown, Town Supervisor, Petersburg (phone Petersburg 431), or Mr. Paul Green, President, Civic Council, Petersburg (phone Petersburg 423), or Mrs. Reuben Graves, Secretary, Civic Council, Petersburg (phone Petersburg 354).

Schenectady County

Pattersonville.—Population about 1,300. Two hospitals at Schenectady and two hospitals at Amsterdam, each about 7 miles distant. Contact Mr. W. Eriksen, R.D. #1, Pattersonville (phone Tulip 7-8776).

Schuyler County

Burdett.—Population 500; 3,000 within surrounding area. Three miles from Watkins Glen. Area includes village of Hector, Valoise, Bennesburg, and Mecklenburg. Positions of town health officer and school physician available. Hospital 4 miles distant at Montour Falls. Contact Dr. Paul F. Willwerth, Montour Falls.

St. Lawrence County

North Lawrence.—Township of Lawrence, population about 1,625 in three villages. Radius of approximately 7 miles east to west and 16 miles north to south. Hospitals at Massena 18 miles and at Malone and Potsdam 22 miles. Contact Mr. Robert E. Driscoll, Town Supervisor, Lawrence.

Steuben County

Jasper.—Population 500. Service area includes Hedgesville, Troupsburg, and South Canisteo. Two hospitals at Hornell 18 miles; others at Corning and Bath about 30 miles. Possibility of district health officer and school physician positions. Contact Mr. George L. Johnson, Principal, Jasper Central School, Jasper; advisable to see Dr. Fayette MacDonald, Woodhull, 6 miles away.

Sullivan County

Grahamsville.—Population 300; about 2,500 population in radius of 10 or 12 miles, including Neversink, Claryville, Sundown, and Grahamsville. Hospital at Ellenville 16 miles; two hospitals at Monticello 18 miles; two hospitals at Liberty 14 miles. Contact Mr. Robert Many, Grahamsville (phone Grahamsville 2941).

Washington County

Hartford.—Population 1,308. Surrounding territory includes towns of Argyle and Hebron. Posts as school physician and district health officer (New York State Department of Health) will be available. Possibility of bonus from town of Hartford. Contact Mr. Howard Hanna, Town Clerk, Hartford.

Wayne County

Clyde.—Population about 2,300. Surrounding prosperous farming area in radius of 6 to 8 miles. Contact Dr. James D. Tyner, President, Wayne County Medical Society, 208 Mason Street, Newark, New York.

Wolcott.—Population about 1,500. Surrounding prosperous farming area within radius of 12 to 15 miles. Contact Dr. James D. Tyner, President, Wayne County Medical Society, 208 Mason Street, Newark, New York, as well as Mr. Richard D. Camp, Mayor, Wolcott.

EYE, EAR, NOSE, AND THROAT

Steuben County

Hornell.—Population 16,000; population of 40,000 in area. Three men in above-mentioned specialty. Office space of recently deceased physician available. Centrally located, dual office building occupied by urologist. Living quarters available. Industry primary source of income. Protestant, Catholic, and Jewish churches. Service and social clubs of all types in community. Contact Dr. Kenneth T. Rowe, 33 Center Street, Hornell.

Recent Advances in the Treatment of Lung Abscess

The advent of modern antibiotic and chemical therapy has restored medical emphasis in the management of lung abscess. The author summarizes present concepts thus: (1) Acute, simple, solitary lung abscess should be treated as early as possible with selected antibiotics, postural drainage, bronchoscopy, and supportive measures. If striking results are not obtained in a matter of days (not weeks, he emphasizes) surgical therapy is indicated. (2) Surgical drainage is more often reserved for severely ill or elderly patients in poor general condition for resection. In chronic lung abscess, however, resection of the involved area is probably the only final cure for the majority of cases.

Treatment must aim to combat the infection and provide adequate drainage. The broad spectrum antibiotics (Terramycin and aureomycin) have been found efficacious. Terramycin is effective administered in doses of from 7 mg. to 30 mg. per Kg. of body weight daily. This must be continued for long periods which usually can be done with Terramycin. It has been given in this way for over a year without producing any serious side-effects. The general practitioner is often confronted with the preabscess stage. Often it is not possible to determine the exact etiologic agent due to need of immediate treatment or lack of laboratory facilities. However, the broad spectrum antibiotics control not only pneumococci, staphylococci, and streptococci infections, but also coliform, tularemic, and Friedlander's pneumonias.—*Hyman E. Bass, M.D., American Practitioner and Digest of Treatment, May, 1954*

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the October, 1954, meeting of the Council of the Medical Society of the State of New York

THE Council met October 14, 1954, from 9:15 A.M. to 2:20 P.M. at the Manhattan Club, Madison Square, New York. Dr. Dan Mellen, president, presided.

Secretary's Report

Executive Committee.—Dr. Anderton reported on communications as follows:

Physicians' Home.—Letter from the Physicians' Home asking approval of the nomination of Dr. Henry A. Riley, Dr. Ira Cohen, Dr. Harold Mixsell, and Dr. Bradley Coley for membership on the Board of Directors of Physicians' Home.

Approval *was voted.*

Education Department.—Communications from Mr. Killough, Assistant Commissioner for Professional Education of the New York State Education Department. The Regents through him have asked for nominations for certain of their Boards:

1. For two nominations for the vacancy which will occur at the termination of Dr. W. Guernsey Frey's membership on the Nurse Advisory Council. Dr. Frey is eligible for reappointment. However, the Department requests two nominations, and it is respectfully suggested that we also nominate Dr. Louis M. Rousselot. The Executive Committee has approved.

Approval *was voted.*

2. For the post on the New York State Medical Grievance Committee to succeed Dr. Leander H. Shearer, who will terminate his membership on December 31. The Executive Committee recommends the nomination of Dr. William C. White and Dr. Alexander T. Martin, of New York City.

Approval *was voted.*

3. The nomination of two individuals, one to be chosen as successor to Dr. Walter Hipp, who is the physician on the Advisory Board in Ophthalmic Dispensing. The law states this Board is advisory to the Commissioner. It consists of three opticians, one ophthalmologist, and one optometrist. They compose and mark examinations for licensure of opticians in New York State. The Executive Committee recommends that the Council nominate Dr. Thomas M. d'Angelo for this post and empower the Secretary to communicate with Drs. William E. Pickett, of Albany, and Earle E. Voorhees, of Poughkeepsie, in an effort to select either or both of them for the other nomination.

The recommendation *was approved.*

American Medical Association Dues Remission Policy.—"The Executive Committee also empowered me to report that the American Medical Association has changed a policy which affects all members. Previously, temporary officers in the United States Public Health Service were not eligible for remission of their A.M.A. dues. That has been changed so that temporary officers of the United States Public Health Service are eligible for remission of A.M.A. dues the same as members who are in the armed forces."

Dues Remissions.—The Council voted to remit annual State dues of one member for 1953 and 16 members for 1954 because of illness, of one member for 1953 and 41 members for 1954 because of service in the armed forces, and of one member for 1954 because of financial hardship. The Council also voted to request remission of American Medical Association dues of four members for 1953 and of 32 members for 1954. Having been notified of the discharge of a member from service in October, 1953, the Council voted to rescind remission of his 1954 dues and to withdraw its request to the American Medical Association for remission of his national dues for that year.

General.—Dr. Anderton reported: "At your meeting on October 14, 1954, it is hoped you will observe the hale and hearty appearance of your president, after his trip to Rome, Italy, where he represented our society at the meeting of the World Medical Association. During President Mellen's absence from the country, President-Elect Renato J. Azzari was acting president. He very ably addressed meetings of the Second, Third, Seventh, and Eighth District Branches and supervised generally the work of the Society.

"On October 14 Dr. Azzari is scheduled to speak at the dedication exercises of a splendid addition to the Roswell Park Memorial Institute of the New York State Health Department, in Buffalo. This hospital is a center for study and treatment of cancer.

"Your secretary has been notified that the Queens County Medical Society has passed a resolution 'in enthusiastic accord with the worth-while objectives of the (Blood Banks) Association,' with the establishment of its blood assurance program and sponsoring it.

"Rapids, in Niagara County, has recently been added to the list of New York State areas requesting a general practitioner. Thirty-six communities are now on our list.

"At their meeting on September 9 the Board of Trustees approved your recommended changes in the budget for the term ending June 30, 1954. The Board is continuing to study the 1954–1955 budget. The Trustees voted that they cannot accept the Council's recommendation that monies advanced to the Blood Banks Association of New York State, Inc., be from capital funds. The Trustees voted that such loans should continue in the budget."

The secretary also listed the meetings he attended during the month.

It *was voted* to approve the report.

The treasurer's report was accepted.

Reports of Committees

Blood Banks Commission

Blood Banks Association Report.—Dr. J. Stanley Kenney, president, stated: "Under the guidance of the Policy Committee of the Blood Banks Association we have drawn up an exhibit which Mr. Messinger will present."

Mr. A. Carl Messinger stated: "Gentlemen, this visual report is also being used for county medical societies and specialty groups to which the Blood Banks Association is sending speakers. Slides have been made. It has been used in Orange County and in certain county medical societies in New York City.

"This page shows that there are 225 blood banks scattered throughout the State.

"This indicates the membership of the Blood Banks Association today: 240 individual members, 98 member blood banks, and 67 associate members, lay persons such as technologists and hospital administrators.

"The growth of the clearinghouse: On April 19, the clearinghouse was at zero. It now averages about 200 units a month exchanged through its 28 member banks. What is the clearinghouse? It is simply a desk in the State Society office with a person who keeps track by telephone and postal card of the total blood inventory in the various blood banks. When a bank needs blood, it telephones another bank which has the proper surplus according to the inventory reports.

"This page indicates the participating banks.

"Now we come to the Genesee County Medical Society pilot project. This is a score card. We started, in order to test the public appeal of the plan, for 1,000 subscribers or donors. We got 1,228. On the actuarial rate it has been estimated by our hematologists that 20 per cent of the blood collected would be used for subscribers and their families. Actually, to the present time, 12.3 per cent is being used. Persons never before giving blood, 30 per cent. Some of our physicians feel that is the most significant feature of all.

"Dr. Jenks in Genesee County has written, 'Because of increased efficiency, both hospitals together on short notice can accomodate 100 donors an hour, a service no other hospital our size, and very few larger ones, can equal.' I might say that the Department of Health, under Commissioner Hilleboe, and Dr. Miller of the State Civil Defense Commission feel that this program is excellent as a safeguard against major catastrophe.

"This page particularly is hard to see, but it states, 'Genesee County Medical Society, like every other organization, has public relations whether it wants it or not. The Blood Assurance Program recently launched in Genesee County has impressed the people that its medical society is interested in public service and in the health of the citizens.'

"This is a photograph from a newspaper showing a family of 13, who are covered by the assurance program. There was used a typical newspaper caption, 'One pint of blood entitles this family to 52 pints.'

"In 1955 the Association has projected that the assurance program will be extended into nine counties. We have taken the questionnaires that various blood banks signed, which told how many units of blood they need per year. We have discounted that figure by 50 per cent, on the assumption that 50 per cent of their blood would be provided through the normal replacement system and through the Red Cross. So you will see that the Richmond-Bronx-Kings-Queens-New York area will need 141,290 certificates; Orange County will need 1,739; and Region 2, Erie, Genesee, and Niagara, would need 16,449 certificates. I might tell you the comitiae minorae of all county medical societies in New York City have approved this program. Orange County also approved this week.

"This is the projected income from certificates. You will remember that the charge per certificate is $2.00. On that basis, with full operation of the assurance program in these nine counties, you would have an income of $318,956 a year.

"I have come to the organizational chart for New York City. Dr. George Lawrence, Jr., of Queens, is chairman of the Speakers Committee. He is organizing one hundred physicians. It will include a general chairman, a layman of stature in the industrial world, an industrial council composed of representatives from industry, both management and unions. You will also include a women's division. This will probably be the backbone of the organized effort. There are approximately 1,000 volunteers needed for these committees.

"How will we introduce Blood Assurance into New York City?

"1. Endorsement by county medical societies—that has been effectuated.

"2. Organization of 800 to 1,000 volunteer workers—that is in the process of being accomplished.

"3. The speakers' committee is in the process of organization, and a number of the specialty groups are being addressed. This problem of professional indoctrination is a big one. In New York City, where you have 14,000 physicians, it is important because many individuals are going to say to their family doctor, 'Well, Doctor what do you know about this blood assurance program?'

"4. Coverage of 2,000 New York City industrial firms. Their cards are in the file, names of the president and/or the owner of the firm. Each has a minimum of 500 employes.

"This is a very ambitious program. So you might say, 'How do we know that this organization will fulfill its objectives?' To give some idea, we have taken the performance rating based upon the first six months of this year, the clearinghouse with 28 banks. It was felt that, at the maximum, we would be exchanging about 125 units of blood monthly. We are hitting 200.

"Membership: Our budget showed 1,500; we obtained 2,300. The assurance program in Genesee County on the pilot experiment was exceeded by roughly 20 per cent. If you will deduct from the budget the contributions that were received from outside, approximately $7,700, you will find that we stayed within the budget for those first six months, approximately at $19,795, and the expenditures were $19,497.

"Benefits to the medical profession: The physician's role in blood banking receives new and greater public recognition. The blood assurance program is a link between the average citizen and the medical profession. Reduction of the need for professional donors helps divorce the medical profession from charges of commercialism. I might mention in New York City alone 250,000 paid donors have been used annually. Finally, the Blood Banks Association of New York State is the best guarantee of constant availability of all types of blood.

"I realize that some of you are going to say, 'When is this organization going to be self-sustaining?' With the endorsement by the county medical societies, our next step is the creation of an executive committee in New York City, with two members from each of the five medical societies and two appointed by the Hospital Association of Greater New York. This takes some time. We are operating, or we are preparing to come into, the second biggest city in the world. Third, I am giving you some of our problems. Cooperation from representative hospitals must be secured. If this were a commercial venture, it could be streamlined and accomplished soon, and, if it were a purely public relations campaign, it could be executed faster. However, it is not either; it is a combination of both. So it is a program which is required to be self-sustaining, and we estimate that the self-sustaining point will be reached three months after the target date established by the committee and three months after the assured programs go into effect in New York City. That is when we expect to go into the black with the breaking point approximately 2,500 subscribers monthly." (*Applause*)

Blood Banks Commission Report.—Dr. Theodore J. Curphey reported for Dr. Renato J. Azzari, chairman: "Following is a summary of the proceedings yesterday at the Blood Banks Commission:

"A. It was agreed to exchange blood through the Blood Banks Association clearinghouse with the Red Cross under a four-point plan:

"1. That the present Red Cross policies relative to the distribution of blood be adhered to, in so far as Red Cross programs are concerned.

"2. That there will be no charge to patients for blood or blood fractions, which remain the property of the Red Cross. Exchanged blood becomes the property of the recipient bank.

"3. That any exchange of blood between the Red Cross and the Association clearinghouse be on a pint-for-pint basis with no monetary exchange.

"4. Adherance to the above general policies will enable these regional blood programs to work with the program of the Blood Banks Association of New York State.

"The above is subject to review by Red Cross regional blood banks and Red Cross national headquarters.

"B. It was decided to appoint a finance committee from the Commission. This would meet the budget committee of the Blood Banks Association to approve the budget of the latter. The joint meeting will be held in time to report at the next meeting of the Council and Trustees.

"C. The supplementary report of the Blood Banks Commission to the 1954 House of Delegates states that the Commission accepts a resolution introduced in 1953 which recommends 'that newspaper advertising be declared necessary and ethical and approved.' "The reference committee dealing with this report suggested replacing this statement by the words, 'It is felt that under current conditions, newspaper advertising for blood bank donors may be necessary, and there is no intent to declare unethical, licensed physicians who are connected with organizations so advertising for donors.'

"After canvassing the opinion of members, the Commission voted to accept the change suggested by the reference committee."

After discussion the Council *voted* to approve the above with one change, inserting the word "necessarily" before the word "unethical."

"D. The question of the Association's liability for bodily injury, sickness, disease, or death arising out of the servicing, handling, or use of blood or out of the existence of any condition in the blood falling within the scope of its agreement with member banks participating in the Blood Exchange and Blood Assurance Programs was discussed, with a view to securing the necessary insurance. It was voted to appoint one member of the Commission to meet legal counsel and a representative of an insurance carrier experienced in this type of insurance and bring to the next meeting of the Blood Banks Commission a specific recommendation of the Association's obligation under State laws. It was also decided to consult the Attorney General and State Superintendent of Insurance concerning this problem.

"E. It was voted that the Blood Banks Commission approve continuance of Mr. A. Carl Messinger in his present capacity with the the Blood Banks Association and approve the activity of Dr. Kenney in this regard."

After discussion it *was voted* that the report be accepted as amended.

Economics.—Dr. Renato J. Azzari, chairman, submitted the report of the Bureau of Medical Care Insurance, Mr. George P. Farrell, director.

Hospital and Professional Relations.—Dr. Harold F. Brown, chairman, stated: "I have a request from the Secretary of the Medical Advisory Board of the Genesee Memorial Hospital at Batavia, regarding a request by a podiatrist group to have this committee act on a questionnaire.

"I would like to be advised what our Committee could tell the hospital.

After discussion it *was voted* that this be referred back to the Hospital and Professional Relations Committee to ascertain all the facts and report.

Legislation.—Dr. James Greenough, chairman, submitted the following report: "Coverage of the State was completed September 9 by a meeting of the metropolitan legislation committees' chairmen. Many helpful suggestions have been received from county legislation chairmen throughout the State.

"Letters have been sent to all county chairmen to ascertain their opinions as to priority of some 12 legislative proposals with which we have to deal.

"Preparations have almost been completed for a preliminary meeting to study the laws relating to disposition of dead bodies.

"The next step in reviewing the Medical Practice Act should be determined at this time. Our executive officer has made a comprehensive study of the present laws, and he defines several problems which are presented.

"Dr. Harold B. Smith has been in communication with Dr. Carroll V. Newsom, Associate Commissioner for Higher Education, concerning legislation to license psychologists. Dr. Newsom suggested a committee of three from the Medical Society to discuss the matter with the psychologists, the Mental Hygiene Department, and the Education Department."

After discussion it *was voted* that the committee be appointed.

Dr. Greenough amplified: "In regard to letters sent to county chairmen, we had replies from 61 out of 61. We find that free choice of physician and medical expense insurance are the most prominent; opposition to cults is the second; free choice of plan and medical expense third; injunction, fourth.

"In order to come to a more intelligent interpretation of the answers, I weighted them by number of members in each county society. Naturally, the questions that interest the larger societies take predominance, and I find that free choice of plan and free choice of physician are much in the lead; injunction is third; opposition to cults is fourth.

"In paragraph 4 of my report in your agenda, I bring up the question of the revision of the Medical Practice Act. I communicated with Dr. Mellen, Dr. Brown, and Dr. Anderton, and I feel that having made a study of the Medical Practice Act, which Dr. Smith completed this summer, we have four definite problems.

"The first problem involves the enforcement of law against unlicensed persons; included are the definition of the practice of medicine, the enforcement against cultists, and the injunction amendment.

"The second problem has to do with the control of licensed physicians. There is a committee to meet with the Education Committee to discuss the definition of unprofessional conduct. It might be possible that committee would be able to help us decide whether any amendments in regard to enforcement of the law with licensed physicians are necessary.

"A third problem comprises licensing of physicians, particularly the licensure of foreign graduates. It would seem to me that the Committee on Medical Practice and Medical Licensure, of which Dr. Leo Gibson is chairman, could give us information about that. They have studied it and might point out solutions.

"Finally, we have the question of practice of medicine by corporations and lay bodies, medical expense plans, unions, etc. It would seem as if the Committee on Hospital and Professional Relations, possibly in conjunction with the Committee on Medical Expense Insurance, could help us.

"If those four problems were considered, and we received answers from the committees, it might be possible to report to the Council recommendations for changes in the Medical Practice Act. I offer this as a suggestion for discussion."

It *was voted* that these problems be divided among the four committees as outlined, for study and report.

Malpractice Insurance and Defense Board.—Dr. Thomas M. d'Angelo, a member of the Board, stated: "I think you realize that there have been a number of questions posed to the Board concerning the new qualifications of major surgical and minor surgical and nonsurgical. When we wrote those qualifications and definitions, the Board understood that, first of all, you could not write a definition to be completely comprehensive and to take in all future questions that might arise, and that your Board would be the determining factor in malpractice actions as to whether the individual filled out his questionnaire in the proper category, and that your insurance carrier would not be the determining factor. The First District Branch has asked the Malpractice Board to review its classification, as has also the New York County Society. Therefore, last night we reviewed the entire categories of surgical, minor surgical, and nonsurgical, and I assure you that now it will meet with the approval of all of the internists as far as the nonsurgical classification. It will meet with the approval of most as far as minor surgical procedures. This clarification is under advisement. I assure you that this question is being thoroughly handled and that your Board is the determining factor regarding legal defense in malpractice actions."

Medical Licensure and Medical Service.—Dr. Leo E. Gibson, chairman, reported: "The Committee received the names of six candidates for the general practitioner award, as follows: Dr. Elizabeth Van R. Gillette of Schenectady County, Dr. Austin J. Stillson of Broome County, Dr. C. W.

Chapin of Chenango County, Dr. Conrad O. Stumpf of Queens County, Dr. Leander A. Newman of Nassau County, and Dr. Antonio Pisani of New York County.

"Your committee offers as the candidate for the general practitioner award of the year, Dr. Antonio Pisani of New York City. Dr. Pisani was born of immigrant parents in 1872. His father was a shoemaker. He graduated from grammar school in 1885 and from the New York College of Pharmacy in 1890. He graduated from the College of Physicians and Surgeons of Columbia University in 1893, and he has practiced in New York City for sixty-one years. He was associated with Mother Cabrini at the hospital where he practiced. He was appointed a Commissioner of the Board of Education by Mayor George B. McClellan. He has been interested not only in professional matters but in many civic affairs. He organized and became a trustee of the bank for the Italian population and was made a Chevalier of the Crown of Italy by King Victor Emmanuel III in 1913. His general contributions to civic and professional welfare seem to exceed those presented by any other candidate, and the Committee offers the name of this gentleman as the candidate for our award."

> After discussion the Council *voted* approval of the recommendation, and the Secretary was instructed to forward Dr. Pisani's name to the American Medical Association as this Society's nominee for the similar honor nationally and to notify Dr. Pisani that he had been selected.
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> (Subsequently Dr. Pisani's demise, the morning of the meeting, was reported. The committee advises the award be conferred posthumously and that Dr. Mary J. Ross of Binghamton be again nominated to the American Medical Association. —Secretary.)

Office Administration and Policies.—Dr. John J. Masterson, chairman, reported on the October 13 meeting of the committee, at which minor improvements in the headquarters office and various personnel matters, including arrangements for the Christmas and New Year holidays, were approved.

Publication.—Dr. Masterson, chairman, reported: "A meeting of the Publication Committee was held yesterday.

"The Editor's report was accepted.

"It was noted that the minutes of the June 9, 1954, Council meeting, published in the October 15, 1954, issue of the JOURNAL, stated that the Council had decided to discontinue both alcoholic beverages and tobacco advertising in the JOURNAL. There was some question on the part of the Committee as to whether that was the intention. It was the sense of the meeting to request the Council to restate its action in order that the matter might be clarified. We understand that no more tobacco advertisements will be accepted, but we are not sure about advertisements for alcoholic beverages."

> After discussion it *was voted* that the matter of accepting alcoholic beverage advertisements in the JOURNAL be left to the discretion of the Publication Committee.

"It was noted that digests of some recent JOURNAL articles had been transmitted to the press. Mr. Roland Berg, Scientific and Medicine Editor of *Look* Magazine, read the newspaper article on geriatrics. Mr. Berg requested to be placed on the JOURNAL mailing list for a complimentary subscription. It was moved, seconded, and passed to send him a copy of the October 15 issue and to obtain the Council's approval before placing him on the complimentary subscription list.

"Since these releases have been distributed by the Public Relations Committee on articles of general public interest appearing in the JOURNAL, we are beginning to receive requests from magazines."

> After discussion it *was voted* that, as a matter of policy, the Council establishes the rightness of giving various magazines free subscriptions to the JOURNAL, the Publication Committee to decide which.

"A letter was also received from Mr. Milton Machlin, managing editor of *Quick* magazine. He had read a newspaper article on 'Surgical Planing' and wants to produce a digest of the JOURNAL article. He stated that credit would be given to the JOURNAL and that, if it was desired, copy would be submitted to the Society for approval before publication. It was the recommendation of the meeting to request Council approval.

> After discussion it *was voted* that the Publication Committee be authorized to grant permission for the reproduction of this article provided the proper safeguards are taken prior to its publication.

"It was decided to change the policy of the JOURNAL by using standard colors, as recommended to all publications by the American Association of Advertising Agencies. In making this change, it was decided to raise our color rates from $60 to $100 for standard colors and from $100 to $125 for matched colors. These rates are in line with those of other journals of comparable circulation and quality.

"A recommendation of the business manager to increase the general advertising rates by approximately 20 per cent was discussed. It was decided to approve this in accordance with a detailed schedule.

"Since 1947 our printing costs have increased 58 per cent, but our advertising rates have only increased 10 per cent. During the last four years, the advertising rates of the *Journal of the American Medical Association* have increased 38 per cent, and other journals have also had an increase. We have been assured by the advertising staff that, in their opinion, there would not be any loss of income from such increased rates.

"It was voted to increase advertising agencies' commissions from 13 per cent to 15 per cent in order that our rates might be in accordance with standard procedures throughout the publication field.

"Comparative bids for the printing of the 1955 *Medical Directory* were submitted to the Committee. It was decided to award the contract to the American Book Company.

"A request for an exchange from the Lenin Library in Moscow between the JOURNAL and the

Directory and various Russian publications was read. It was voted to deny the request because of present publication and distribution costs."

After discussion the Council *voted* to refer this back to the Committee for further investigation.

"There was a general discussion of publishing the *Directory* every three years rather than every two years.

"The amount of advertising for 1954, to date, amounts to $233,635. Last year at this time it was $204,723. This is an increase of $28,912."

It *was voted* to accept the report with the amendments.

Planning Committee.—Dr. Peter J. Di Natale, chairman, reported: "The request from the Joint Commission in New York State for the Improvement of the Care of the Patient was referred to the Planning Committee. Your Committee feels that our Society should not establish a policy of approving or disapproving constitutions of outside agencies. We feel, however, that we should cooperate with allied groups and perhaps aid in their aims and purposes. We, therefore, approve of the aims, purposes, and objectives of this Joint Commission.

"Dr. Anderton, Dr. Rousselot, and Dr. Geis, who was formerly a member of this Council, attended some of the meetings of this organization, and they have given it their approval.

"We also approved the naming of three members to be picked by the president to act as trustees on this Joint Commission for the Improvement of Care of the Patient. We are assured by Dr. Bourke, the executive secretary of this Commission, that this does not mean that the Commission will practice medicine or surgery.

"The Planning Committee, therefore, asks this Council to approve of the purposes and objectives of the organization and to grant the president the privilege of naming three men to this Joint Commission."

This portion of the report *was adopted.*

"The Subcommittee of the Planning Committee met on October 12 to discuss the possibility of integrating the Bureau of Medical Care Insurance, the Workmen's Compensation Bureau, and a Bureau of Industrial Health.

"After considerable discussion, it was felt by this subcommittee that we recommend to the Council that the Bureau of Workmen's Compensation and the Bureau of Industrial Health be combined into one department; also that the Council, with the Board of Trustees, implement this integration as soon as possible; and further that the head of this department be an M.D. That was the considered judgment of the members present, and also this was passed by the full Planning Committee at the meeting on October 13."

After discussion the report of the Planning Committee *was accepted.*

Public Health and Education.—Dr. Theodore J. Curphey, chairman, stated that he had attended four meetings and arranged 18 postgraduate lectures and teaching days in 12 counties. One of the lectures included material designed to interest lawyers and dentists as well as physicians.

He reported the arrangements made by the Subcommittee on Diabetes to promote full participation in Diabetes Detection Week, November 14 to 20, and also the subcommittee's plans relative to education of the public and the profession on the socioeconomic problems of diabetes as well as the medical aspects. These included the use of county fairs and the State Fair as educational media.

He stated that Dr. Edward Shea of Kingston had represented this Society at the American Medical Association conference of state medical association chairmen on mental health.

Dr. Curphey concluded: "The foregoing report has been sent to the Council. I have three additional points. The first is to ask whether Dr. Bratt, chairman of our Subcommittee on General Practice, might be permitted to approach the drug houses for assistance in distributing a health examination form (about 22,000 of them) to the physicians in the five metropolitan counties as well as Nassau, Suffolk, and Westchester. The point I am asking the Council to decide is whether a drug house that does this would be permitted to insert a card stating that they had made the mailing possible. There is some difference of opinion among us as to propriety of having a drug house insert an advertisement, if only the name of the concern, in sending around this health examination form, which is aimed at familiarizing the general practitioner with a method of physical examination on the basis of cancer detection center work. I submit that, because some of the funds that have been used in printing this form have come from the New York State Cancer Division. We also received support from the New York State Department of Health.

"Does the Council approve of our permitting Dr. Bratt to approach a drug house with the full knowledge that the drug house will ask that they be permitted to insert a card or at least to identify themselves as having supported this program financially?"

After discussion approval *was voted.*

"The second item is to recommend the appointment of Dr. Quinlivan as a member of the Subcommittee on Medical Film Review rather than as an advisor.

"The third is to recommend that Dr. Margaret Ross, the secretary-treasurer of the New York State Society for Mental Health, be reappointed to the Subcommittee on Mental Hygiene."

The recommendations *were approved,* and the whole report *was adopted.*

Public Relations.—Dr. Floyd S. Winslow, chairman, presented the following report:

"Among the projects which engaged the Public and Professional Relations Bureau during the month were district branch meetings and the annual Conference of County Medical Society Public Relations Chairmen.

"Well in advance of the district branch meetings, releases were mailed to newspapers throughout the State. The field representatives took charge of registration.

"Much time was spent in preparing for the annual Conference of County Medical Society Public Relations Chairmen, at the Hotel Biltmore in New York City, October 9. Approximately 50 persons indicated that they would attend. In addition, several representatives of other state medical societies accepted invitations. Your chairman presided at the preceding luncheon and the conference.

"As a stimulus for county medical society public relations chairmen to use its publications, the Bureau prepared an exhibit. This carried the banner 'Here's Your PR Tool Chest! Build Better PR in Your County.' The display consisted of brochures, pamphlets, etc.

"In addition to a presentation of the new Guide for Cooperation between medicine and the information media, the program included such subjects as 'Malpractice Suits—The Price of Bad Public Relations' and 'Training Medical Assistants in Public Relations Techniques.'

"On October 9 in the morning, your committee met to discuss plans for the fall and winter.

"The Guide for Cooperation between the medical profession and media of information will be sent as soon as possible to each member of the Society.

"At the invitation of Dr. J. Stanley Kenney, president of the New York State Blood Banks Association, Mr. Miebach went to Washington, D.C., on September 15 to attend the Public Relations Session of the American Association of Blood Banks. Next day he was present at the Founder's Day Dinner of the National Association of Science Writers, at the Hotel Statler, New York City. On September 22 Mr. Tracey discussed the activities of the Bureau at a meeting of the Public Relations Committee of the Bronx County Medical Society.

"The Bureau has assisted the Woman's Auxiliary.

"Through its speakers service, the Bureau cooperated with the American Medical Association in obtaining publicity for an article in *McCall's* magazine, 'What You Can Do If You Think Your Doctor Is Wrong.'"

It *was voted* to adopt the report.

Dr. Winslow continued: "The Council Committee on Public Relations met on October 9. Preliminary copies of the Guide for Cooperation were distributed to members.

"At this meeting it was voted that the Committee recommend to the Council that a letter be sent to the president of each county medical society in the State of New York, calling attention to the Guide and requesting that the county society have its public relations committee work out with the local press and radio and TV stations problems in connection with the Guide. The committee also recommends to the Council that a letter be sent to Dr. George F. Lull, secretary and general manager of the American Medical Association, together with a copy of the Guide. The committee recommends that these letters be sent over the signature of the president of the State Society."

It *was voted* to adopt the preliminary report.

"The third item has to do with the following situation. You well know that for many months past one employe of the Public Relations Bureau has been detailed to the Blood Banks Association. In the meantime, his salary came out of the budget of Public Relations. Recently the chairman of the Blood Banks Commission and the chairman of the Public Relations Committee agreed that that employe should be wholly transferred to Blood Banks and be removed from Public Relations. We would like to have approval of this Council.

"Second, we would like the approval of the Council to replace that employe by another man without change in the budget. That means that $8,000 that was in the budget for the man who has worked for Blood Banks would be left as is. There would be no change in the Public Relations budget, but that salary will go to the new man."

After discussion the report *was adopted.*

Veterans Administration, Liaison with.—Dr. Herbert H. Bauckus, chairman, stated: "Next month I hope to have the compilation and report of the work of the Veterans' Committee for the past seven years. Our board of directors asked last year that I take steps to compile statistics showing the comparative work in the various years. As you know, there has been a great decline, and the question has been brought up whether or not we are justified in continuing such work.

"I might also report that apparently there is going to be a new Veterans Administration fee schedule. We have had our own fee schedule as an agreement with the Veterans Administration."

Woman's Auxiliary, Advisory to.—Dr. Andrew A. Eggston, chairman, reported: "The Woman's Auxiliary had a conference in Albany on October 4, 5, and 6, which I was unable to attend, but Dr. Mellen and Dr. Anderton were there. I hope that the State Society will again renew their gift for the publication of the *Distaff* of $1,000; the gift to the New York State Fair Program, $500; and the Medical Society Poster Contest, $750. I recommend that for the ladies through the Council as a request to the Trustees."

The recommendation *was adopted.*

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, presented the following report: We have received the order of the chairman of the Workmen's Compensation Board governing a schedule of fees for hospital care, dated October 1, 1954. The chairman claims authority under the provisions of Sections 13(a) and 141 of the Workmen's Compensation Law to fix fees for hospital care.

The hospitals in general are of the opinion that the Workmen's Compensation Law does not contain any such authority. We wish to comment on the following quotation made by the chairman of the Workmen's Compensation Board concerning hospital care: "The following fees are established for hospital care in workmen's compensation cases, and for anesthesia, pathologic, physiotherapeutic, laboratory and x-ray services to the extent that the hospital is permitted or authorized under provisions of the Workmen's Compensation Law to render such services."

With respect to this item the position of the Medical Society is that with the exception of x-ray services, the hospital has no authority under the Workmen's Compensation Law to charge for anesthesia, pathologic, physiotherapeutic, or laboratory services rendered by physicians, as we consider these to be medical services. Under the provisions of Rule 19 of the "Rules and Procedure Relative to Medical and Surgical Care and Treatment," the chairman of the Workmen's Compensation Board has given the amended law of 1947 as authority for hospitals to charge for these services. We have frequently protested that the law of 1947 only authorized voluntary hospitals to charge for x-ray services rendered by qualified roentgenologists on their staffs where such hospitals had received a license under the provisions of Section 13-c(2) to conduct an x-ray laboratory bureau.

We continue to quote from the chairman's order: "The total charge for all services rendered in any case shall not exceed the total charge for like services which would be made to a self-paying patient in a noncompensation case at the minimum established fees for the particular hospital, in the event the hospital fees in such noncompensation cases are lower than the fees provided by this schedule. No charge shall be made to the patient for care or services furnished by the hospital to the patient in semiprivate accommodations, or in private accommodations where such private accommodations are provided because of the condition of the patient or because semiprivate accommodations are not available."

If the chairman of the Workmen's Compensation Board has the authority to fix hospital fees, the report now disposes of the issue of doubt raised in a recent memorandum of the hospitals in answer to the Moreland Commissioner's opinion concerning the right of the compensation patient to semiprivate accommodations. The hospital will not be permitted under the above rule to charge the patient an extra fee where the per diem fee agreed upon is not the equivalent of the semiprivate rate of the hospital. It has long been our contention, and we emphasize this again, that a compensation claimant is entitled to the status of a private patient, receiving semiprivate hospital care, and to all the privileges incidental thereto including the right of free choice of physician.

We have submitted a memorandum on this very subject only recently in which we maintained that the workmen's compensation claimant should be considered a private patient, and if semiprivate accommodations in a hospital are not available or if an emergency situation requires placement in a ward, the patient shall be considered a private patient and entitled to select his own physician within the limitations prescribed by the hospital with reference to members of the medical staff. In a closed voluntary hospital, for example, a compensation patient should at least have the right to select a member of the closed medical staff qualified to treat him and not be assigned in a routine fashion to a given service as is a ward case. It is our contention that in all hospitals not of the closed variety the patient should have the status of a semiprivate case with the right to select his own physician.

Incidentally, if the chairman is depending upon Section 13(a) of the Workmen's Compensation Law as authority in fixing hospital fees and the rules governing the hospitalization of compensation claimants, we wish to quote one sentence from this section: "Before preparing such schedule for the State or schedules for limited localities the chairman shall request the president of the Medical Society of the State of New York to submit to him a report on the amount of remuneration deemed by such Society to be fair and adequate for the types of medical care to be rendered under this chapter, but consideration shall be given to the view of other interested parties." So far as we are able to ascertain, the president of the Medical Society was not requested at any time to recommend fees for hospitalization in compensation cases.

The chairman also issued, effective October 1, 1954, Rules of Procedure for the arbitration of hospital bills pursuant to Section 13-g Subdivision (3), paragraphs 117 and 141 of the Workmen's Compensation Law as amended in 1954. Under this section a hospital arbitration committee shall consist of three members appointed by the chairman. One such member may be nominated to the chairman by the president of the Hospital Association of New York State and one member may be nominated to the chairman by the carrier. Presumably the third member will be appointed by the chairman also. Since hospitalization is primarily ordered and controlled by physicians, we pointed out to the chairman before the law was amended that it was advisable that one physician be appointed member of the arbitration committee. Apparently no attempt has been made to include a physician to decide certain medical issues that may arise with respect to hospitalization. In the rules now issued, there is no mention of the third member being a physician nor have we received any intimation from the chairman that a physician might be appointed.

Panels of prospective nominees may be periodically filed with the chairman by the president of the Hospital Association of the State of New York and by or on behalf of the carriers generally. Bills for medical care, no matter by whom rendered, even by the hospital, are subject to arbitration under the Medical Fee Schedule (Section 13-g) and the rules and procedure for arbitration of bills for medical care.

Again, we have an example of how infrequently our representative on the advisory committee to the chairman of the Workmen's Compensation Board or your director is called upon to participate in discussions leading to legislation affecting medicine or in the promulgation of rules affecting directly or indirectly medical care under the Workmen's Compensation Law. Furthermore, our numerous communications to the chairman on these various important matters affecting medical care to injured workers of this State fail thus far to receive adequate consideration on the part of the chairman of the Workmen's Compensation Board.

Accompanying the report of the Joint Insurance Committee of the Hospital Association of New York State and the Greater New York Hospital Association is a memorandum on certain legal aspects of the hospital and medical care of workmen's compensation patients. We quote paragraph III, *Hospital Accommodations and Rates* in full:

> The Workmen's Compensation Law does not specify the type of hospital accommodations which are to be accorded to a workmen's compensation patient. The only significant provision in the law is to be found in Section 13, sub.(a) of the Workmen's Compensation Law which states that: "All fees and other charges for such treatment and services shall be limited to such charges as prevail in the same community for similar treatment of injured persons of a like standard of living in the same community."
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> It is therefore apparent that the station in life of the injured person determines the type of accommodations to which he is entitled rather than the mere fact that he is a workmen's compensation case.
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> Section 13 of the law says "the employer shall be liable for the payment of the expenses of medical, surgical or other attendance or treatment, nurse and hospital service, etc." It is also provided that "No physician rendering treatment to a compensation claimant shall collect or receive a fee from such claimant within the State but shall have recourse for payment of services rendered only to the employer under the provisions of this chapter. Any compensation claimant who pays a fee to a physician for medical services under this chapter shall have a cause of action against such physician for the recovery of the money paid, which cause of action may be assigned to the chairman in trust for the assigning claimant." [Section 13-f(1)].
>
> There is no similar provision prohibiting a hospital collecting directly from the patient its established charges for the particular accommodations or services provided for a workmen's compensation case, or requiring payment in advance.
>
> Recognizing the fact that the law does not fix the type of accommodations to be provided to claimants or the rates to be paid for such services, the Hospital Association of New York State and the Association of Private Hospitals, Inc., by agreement with the Compensation Insurance Rating Board, effective June 1, 1952, have stipulated as follows: "If service in straight semiprivate or private rooms is deemed necessary or demanded by the patient or his doctor, such service would come under the classification of 'Authorization and Arrangement' and must be accompanied by authorization directly from the carrier; otherwise, any difference in the rates should be assumed by the patient."
>
> The agreement establishes a daily rate of $14 per day for hospitals with 50 beds or more and $11.25 per day for hospitals with 49 or less beds. The total charges for such a patient are not to exceed what would be paid by a self-paying semiprivate patient in the same hospital.
>
> Under "Interpretations" appears the following language: "1. The day rate for compensation cases in hospitals include bed, board, routine nursing, ordinary dressings and drugs. This is intended to cover all of the routine drugs and dressings that are supplied by the various units as used in standard floor care. It is intended that charge should be made only where the extras incur an expenditure on the part of the hospital for supplies *which are not routinely furnished the ward patients of the hospital, including compensation cases*" (italics ours).

In commenting on the above, it is stated, "It is apparent that the station in life of the injured person determines the type of accommodations to which he is entitled rather than the mere fact that he is workmen's compensation case." As a matter of fact, although the law provides for a variable fee schedule in accordance with the economic status of the claimants and the locality in which they are treated or hospitalized, since the very inception of the amended law in 1935 compensation fees have been based upon the prevailing rates paid by the average worker for medical care throughout the State. There is a uniform, State-wide schedule of fees.

Furthermore, the rate of wages has risen so rapidly since 1935 that the average worker is now in what is known as the "middle class group." Persons in this group, when hospitalized for nonoccupational injuries or other conditions, pay for semiprivate or private rooms and do not usually become charity ward cases. Furthermore, under the new employer-employe bargaining relationships, hospitalization is provided usually through Blue Cross or other insurance plans. It goes without saying that the bulk of our population today, except the indigent and those in the very low-income group, do not ask for or receive *free* ward services.

The "station in life" of the employed individual under the Workmen's Compensation Law does not determine the type of accommodations but rather the fact that he is a compensation patient. He is not a charge upon philanthropy and, as an employe in industry or business, should be entitled to at least semiprivate hospitalization.

It is quite true that there is no provision in the Workmen's Compensation Law prohibiting a hospital collecting directly from the patient for workmen's compensation accommodations or services or from asking for payment in advance. A physician is prohibited from making a charge or accepting a fee from a claimant. It seems that under existing conditions, it would be proper to make similar prohibition against hospitals charging compensation claimants, except in cases where an individual in the upper income brackets desires to pay for a single-bed private room and for nursing accommodations which the type of injury does not necessitate. In critical and severe injuries the employer or carrier may be required to provide special private room and nursing care.

Because the law does not fix the type of accommodations and does not prohibit the hospitals from charging, the following rule has been agreed to between the insurance carriers and the Compensation Insurance Rating Board: "If service in straight semiprivate or private rooms is deemed necessary or demanded by the patient or his doctor, such service would come under the classification of 'authorization and arrangement' and must be accompanied by authorization directly from the carrier; otherwise, any difference in the rates should be assumed by the patient."

It has been our contention that the patient should not have to assume any obligation over and above the daily rate of $14 paid to hospitals with 50 beds or more and $11.25 per day for hospitals with 49 or less beds. If this rate is not adequate to provide compensation patients with "straight" semiprivate accommodations, then we believe the Workmen's Compensation Law should be amended to provide semiprivate accommodations, and provision should also be included in the law for the chairman of the Workmen's Compensation Board to fix hospital fees in consultation with hospital authorities. We have pointed out above Commissioner Dawson's views on this matter.*

At the present time the chairman of the Workmen's Compensation Board has no jurisdiction over hospital fees, while she has jurisdiction over medical fees. This discrepancy should be remedied.

Charges for Ancillary Services.—Under Rule 19 promulgated by the chairman of the Workmen's Compensation Board, "Hospitals may render bills for board and room accommodations, medical and surgical supplies, and nursing facilities. Voluntary hospitals may bill for x-ray services when rendered by an x-ray laboratory or bureau of such hospital duly licensed by the chairman. Hospitals may bill for physiotherapeutic, anesthesia, and pathologic services when rendered by or under the supervision of salaried physicians on the staff. The names and qualifications of all physicians and persons rendering services for which charges are made by hospitals must be included in all bills, and all medical and x-ray reports shall be promptly filed with the Workmen's Compensation Board and with the employer or its insurance carrier."

The rates for ancillary services have been fixed by the chairman of the Workmen's Compensation Board in collaboration with the Medical Society of the State of New York and are not binding upon hospitals. These fees apply only to physicians. Hospitals, however, have voluntarily accepted the same schedule of fees for ancillary services performed by employed hospital personnel.

It is our contention that only voluntary hospitals may bill for services when rendered by an x-ray laboratory or bureau of such hospital duly licensed by the chairman. We deny the right of a hospital under the provisions of the Workmen's Compensation Law to charge for these ancillary services with the exception of x-ray service. Since municipal hospitals are not now included, they may introduce legislation in 1955 to permit them to obtain licenses for their x-ray department and charge for the services of their salaried roentgenologists as do the voluntary hospitals today.

Hospitals assume that under the provisions of Rule 19, quoted above, of the Rules and Procedure Relative to Medical and Surgical Care and Treatment under the Workmen's Compensation Law," they have the right to charge for physiotherapeutic, anesthesia, and pathologic services, when rendered by or under the supervision of salaried physicians on their staff." It is presumed that this right is provided by an amendment to the Workmen's Compensation Law, May 29, 1947. As we have repeatedly pointed out, this amendment of 1947 did not provide authority for voluntary hospitals to charge for any other services than x-ray services. Furthermore, Rule 14 states "Hospitals and dispensaries shall not operate a medical bureau or clinic for the purpose of rendering medical care and treatment in workmen's compensation cases, except that *voluntary* hospitals may be licensed by the chairman to operate an x-ray laboratory or bureau for x-ray examination, diagnosis, or treatment in workmen's compensation cases."

We have brought to the attention of the chairman of the Workmen's Compensation Board repeatedly our opinion that the hospitals are not authorized by law to charge for ancillary services, other than x-ray services. They are medical services and not hospital services; bills for same should be rendered only by physicians under the provisions of Section 13-f of the Workmen's Compensation Law.

Since writing the above, we have received the order of the chairman of the Workmen's Compensation Board covering the schedule of fees for hospital care dated October 1, 1954. The chairman claims authority under the provisions of Sections 13(a) and 141 of the Workmen's Compensation Law to fix fees for workmen's compensation care. In our report to the Council we alluded to this matter as well as to the order of the chairman defining semiprivate care and the payment for same by employers and insurance carriers.

The report *was accepted.*

New Business

Principles of Professional Conduct, Reconsideration of Resolution on Amendments.—At the September 9, 1954, meeting, the following action was taken:

> After discussion, it *was voted* "that this Council recommends that these changes made in the *Principles of Professional Conduct* at the last meeting of the House of Delegates, be again considered at the next annual meeting of the House of Delegates, and that in the meantime they shall not become operative."

Dr. Schussheim, president of the Medical Society of the County of Kings, appeared on behalf of that society to protest the action of the Council.

After discussion, Dr. d'Angelo moved, and Dr. Fineberg seconded the motion, that the above action be reconsidered.

> After discussion the motion *was carried.*

> After discussion it *was voted* that because the changes in the *Principles of Professional Conduct* have given rise to numerous questions by members of our own profession in this State and because many of our members consider them to be ambiguous, this Council recommends to the county societies that these changes be not ac-

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* Commissioner Dawson said, "If a patient is entitled to semiprivate accommodations, it seems to me that there should be some way that he gets semiprivate accommodations and is treated as a private patient and not as a ward patient. If the amount allowed for hospital care under the hospital fee schedule is not sufficient, there should be a revision of the fee schedule."

tivated until the next meeting of the House of Delegates.

(The changes referred to appear in Section 49 of the House of Delegates Minutes, published in Part II of the September 1, 1954, NEW YORK STATE JOURNAL OF MEDICINE.)

Directors of Clinical Laboratories in New York City.—Dr. Eggston stated: The New York City Health Department wants to change their Sanitary Code to allow directors of clinical laboratories to be, in addition to doctors of medicine, doctors of science, doctors of philosophy, doctors of public health, technicians of four or five years experience, and things of that kind. I think this might well be referred to the Executive Committee of the Coordinating Council of the First District Branch.

"I would like at least the Council to go on record as viewing this with great alarm because we have insisted time and time again that heads of pathologic laboratories should be qualified pathologists. That also means diplomates in pathology, which means five or six years of experience. I think it would be a great detriment to the laboratory services in the City of New York if they allowed that to go through.

After discussion it *was voted* that this Council inform the Commissioner of Health and the Board of Health of the City of New York that we are unalterably opposed to the changes in the code as contemplated.

Landess Case.—On motion of Dr. d'Angelo, seconded by Dr. Wolff, it was unanimously voted that the Council become a committee of the whole to discuss letters received from the Medical Society of the County of Queens and the Coordinating Council of the First District Branch of the Medical Society of the State of New York.

Following the discussion, Dr. Anderton reported: "As a result of the deliberations of the Committee of the Whole, the Council has voted that the president appoint a committee (not in conjunction with the Medical Society of the County of Queens, Inc.) to supervise and conduct the work of the Society in the Landess appeal before the American Medical Association Judicial Council."

Annual Meeting of Vermont and New Hampshire Medical Societies.—Dr. Renato J. Azzari and Dr. Denver M. Vickers, representatives to the meeting of the Vermont State Medical Society and the New Hampshire Medical Society, reported to the Council.

ANNOUNCEMENT

PRIZE ESSAYS

The Lucien Howe Prize and the Merrit H. Cash Prize will be open for competition at the next Annual Convention of the Medical Society of the State of New York, May 9 to 13, 1955, in Buffalo.

The *Lucien Howe Prize* of $100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The *Merrit H. Cash Prize* of $100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win a prize automatically becomes the property of the Medical Society of the State of New York, "to be published as it may direct."

All essays must be presented not later than *February 1, 1955*, and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

R. TOWNLEY PATON, M.D., *Chairman*
Committee on Prize Essays

NECROLOGY

Robert Rhodes Chace, M.D., of Bronxville, died on November 24, 1954, at his home at the age of forty-four. Dr. Chace received his medical degree from the Yale University School of Medicine in 1937 and interned at Rhode Island Hospital in Providence. He had been an instructor in ophthalmology at Columbia University College of Physicians Surgeons since 1943 and was also assistant attending ophthalmologist at Presbyterian Hospital, New York City, and associate attending ophthalmologist at Lawrence Hospital, Bronxville. A Diplomate of the American Board of Ophthalmology and a Fellow of the American College of Surgeons, Dr. Chace was a member of the New England Ophthalmological Society, the American Academy of Ophthalmology and Otolaryngology, the Association for Research in Ophthalmology, the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Walter M. Clark, M.D., of Schenectady, died on November 10, 1954, at his home at the age of eighty. Dr. Clark was graduated from the Albany Medical College in 1896. He began his medical practice in Vermont, coming to Schenectady in 1911, where he practiced for the past forty-three years. Dr. Clark had served as city health commissioner. He was a member of the Schenectady County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Irwin V. Decker, M.D., of St. Petersburg, Florida, formerly of Salem, died on November 13, 1954, in Florida at the age of sixty-four. Dr. Decker was graduated from the Albany Medical College in 1915 and served with the U.S. Army Medical Corps during World War I. He had practiced in Salem for thirty-six years, retiring in 1951 because of ill health. Dr. Decker had been a member of the Washington County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Cornelius Duggan, M.D., of Bethel, died on November 16, 1954, at his home at the age of eighty-five. Dr. Duggan received his medical degree from Long Island College Hospital Medical School in 1891 and practiced in Brooklyn until moving to Bethel about 1904. He had been town health officer for the past thirty-eight years. Dr. Duggan was a member of the Sullivan County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Harry Fredd, M.D., of Brooklyn, died on November 12, 1954, at Mount Sinai Hospital at the age of fifty-one. Dr. Fredd received his medical degree from George Washington University Medical School in 1927. He was an attending physician in medicine and in chest diseases at the Bushwick Hospital in Brooklyn. A diplomate of the American Board of Internal Medicine (Pulmonary Diseases), a Fellow of the American College of Cardiologists, and a Fellow of the American College of Chest Physicians, Dr. Fredd was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

John Raymond Hagaman, M.D., of Palmyra, died on November 7, 1954, at the Frederick Ferris Thompson Hospital, Canandaigua, at the age of seventy-four. Dr. Hagaman received his medical degree from the Cleveland Homeopathic Medical College in 1906 and interned at Grace Hospital in Detroit and Highland Hospital in Rochester. He was a past president of the Wayne County Medical Society and belonged also to the Medical Society of the State of New York and the American Medical Association.

Milton R. Joy, M.D., of Cazenovia, died on December 2, 1954, at the age of ninety-three. Dr. Joy received his medical degree from the Long Island College Hospital School of Medicine in 1884 and bad practiced in Cazenovia for fifty-two years until his retirement in 1936. He had served as mayor of Cazenovia for two terms, as health officer for more than thirty years, and as school trustee for twenty years. Dr. Joy was a member of the Madison County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Francis Anthony Kaicher, M.D., of White Plains, died on December 3, 1954, at his home at the age of seventy-two. Dr. Kaicher received his medical degree from the New York University and Bellevue Hospital Medical School in 1906 and interned at St. Catherine's Hospital, Brooklyn. He had practiced for forty years in Brooklyn before his retirement several years ago. Dr. Kaicher was a member of the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Joseph O'Connor Kiernan, M.D., of Albany, died on November 22 at his home at the age of fifty-seven. Dr. Kiernan was graduated from the

Albany Medical College in 1919 and interned at St. Peter's and Albany Hospitals. He was chief of obstetrics at St. Peter's Hospital and consultant in obstetrics at Brady Maternity and Memorial Hospitals, Albany, and Greene Memorial Hospital, Catskill. A diplomate of the American Board of Obstetrics and Gynecology and a Fellow of the American College of Surgeons, Dr. Kiernan was a member of the Albany County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Harry Charles Kroon, M.D., of Syracuse, died on November 15, 1954, at the age of forty-nine. Dr. Kroon was graduated from the Syracuse University College of Medicine in 1932 and served during World War II as a colonel in the U.S. Army Air Corps. He was assistant attending physician at University Hospital and Syracuse Dispensary and attending cardiologist at the Veterans Administration Hospital. A Diplomate of the American Board of Internal Medicine and a Fellow of the American College of Physicians, Dr. Kroon was a member of the Syracuse Academy of Medicine, the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Leonard Augustine McCambridge, M.D., of Kingston, died on November 18, 1954, at his home at the age of seventy-one. Dr. McCambridge received his medical degree from Queens University Medical School, Ontario, Canada, in 1907 and practiced in Burlington, Vermont, before coming to Kingston in 1930. He had been a member of the Ulster County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

R. Burton Opitz, M.D., of New York City and Palisade, New Jersey, died on November 18, 1954, at the Englewood Hospital at the age of seventy-nine. Dr. Opitz received his medical degree from the Rush Medical College, Chicago, in 1895. He was consulting cardiologist at Lenox Hill Hospital, New York City; North Hudson Hospital, Weehawken, and Hackensack and Englewood Hospitals, all in New Jersey. Dr. Opitz was a member of the New York Cardiological Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

John Marcus Rice, M.D., of Watertown, died on December 1, 1954, at the House of the Good Samaritan, at the age of forty-six. Dr. Rice was graduated from the Columbia University College of Physicians and Surgeons in 1933. He was chief physician at the House of the Good Samaritan and attending physician at Mercy Hospital, both in Watertown. A Diplomate of the American Board of Internal Medicine and a Fellow of the American College of Physicians, Dr. Rice was a member of the Jefferson County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Robert Root, M.D., of Yonkers, died on November 17, 1954, at St. Vincent's Hospital at the age of forty-seven. Dr. Root was born in Czechoslovakia and received his medical degree from the University of Vienna in 1932. During World War II he served as a major in the U.S. Army Medical Corps. Dr. Root was director of anesthesiology at St. Elizabeth's Hospital, New York City, and attending anesthetist at St. Joseph's Hospital, Yonkers. A Diplomate of the American Board of Anesthesiology and a Fellow of the American College of Anesthesiologists, he was a member of the American Society of Anesthesiologists, the New York State Society of Anesthesiologists, the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Francis Frederic Schwentker, M.D., of Baltimore, Maryland, formerly of New York City, died on November 8, 1954, in Baltimore at the age of fifty. Dr. Schwentker received his medical degree from Johns Hopkins University Medical School in 1929 and interned at Johns Hopkins Hospital. He served as a staff member of the Rockefeller Institute for Medical Research and during World War II was executive officer of Naval Research Medical Unit No. 2, which saw duty in many parts of the world.

Eli H. Vail, M.D., of Churchville, died on November 3, 1954, at his home at the age of seventy-five. Dr. Vail was graduated from the University of Buffalo School of Medicine in 1901 and began his practice in Churchville in 1904, where he had served also as health officer. Dr. Vail was a member of the Rochester Academy of Medicine, the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Joseph Weitzman, M.D., of Rochester, died on October 29, 1953, at his home at the age of sixty-one. A native of Austria, Dr. Weitzman received his medical degree from the University of Vienna in 1920. He practiced in Vienna for many years before coming to the United States in 1939. Dr. Weitzman was a member of the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Anna Wessels Williams, M.D., of Westwood, New Jersey, formerly of New York City, died on November 20, 1954, at her home at the age of ninety-one. Dr. Williams received her medical degree from the Women's Medical College of New York Infirmary in 1891. For fifty years she served as bacteriologist with the New York City Health Department, where she developed the Williams strain of diphtheria bacilli, perfected a new method of diagnosis for rabies, and discovered a positive diagnosis for trachoma.

She had served as president of the Women's Medical Association.

Herbert Carl Yeckel, M.D., of Syracuse, died on November 24 in University Hospital from injuries suffered in a two-car collision several days before. He was sixty years old. Dr. Yeckel was graduated from the Syracuse University School of Medicine in 1913 and was president of the Masonic Foundation for Medical Research and Human Welfare. He was a member of the Syracuse Academy of Medicine, the Onondaga County Medical Society, and the Medical Society of the State of New York.

NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Grant—A grant of $6,484 has been made by the U. S. Public Health Service to the College's Department of Medicine and the Saratoga Springs Commission Research Laboratory, Saratoga Springs, for cancer research to be carried out at the College under the direction of Dr. Kenneth B. Olson and at the Research Laboratory under Dr. Frank Reynolds.

Appointed—Dr. J. Garth Johnson has been appointed to succeed Dr. Herman E. Hilleboe as chairman of the Department of Public Health.

Alumni Day—Alumni Day was held on November 18. Lt. Col. Frank B. Rogers, director, Armed Forces Medical Library, Washington, D.C., the principal speaker, discussed "Books and Medicine." Clinical lectures and demonstrations were held in the morning, and the speakers and their subjects were as follows:

Dr. J. Lewi Donhauser, professor of surgery, and Dr. N. Bigelow, associate professor of pathology and bacteriology, "Retroperitoneal Tumors"; Dr. John C. Macaulay, junior assistant in pediatrics, "Myohemoglobinuria"; Dr. George J. Righter, assistant professor of otolaryngology, "Conservation of Hearing Clinic"; Dr. Mark K. H. Wang, instructor in surgery, "Congenital Lip Sinuses"; Dr. Franklin B. McKechnie, assistant professor of anesthesiology, "Transplacental Transmission of Pentothal"; Dr. Kenneth B. Olson, director, Subdepartment of Oncology, "The Performance of Albany Medical Students in the Examination on the Subject Matter of Cancer"; Dr. John F. Filippone, director, Subdepartment of Cardiology, "Selection of Cases for Mitral Valve Surgery"; Dr. J. G. McKeon, assistant physician, St. Peter's Hospital, "Rehabilitative Aspects of a Local Medical Care Plan"; Dr. Paul F. Formel, instructor in medicine, "Gargoylism: Sex-Linked Transmission in Nine Males"; Dr. Richard T. Beebe, chairman, Department of Medicine, "Lymphatic Dissection in Cancer of the Thyroid" with Dr. John C. McClintock, assistant professor of surgery, and Dr. Allan Stranahan and Dr. Ralph Alley, thoracic surgeons.

College of Physicians and Surgeons, Columbia University

Grant—From the Tobacco Industry Research Committee to Columbia University College of Physicians and Surgeons for "Biochemistry of White Blood Cells—1. Proteolytic activities of the white blood cells of man and the effect on white blood cell activities of carcinogens, nutrition, and other influences." Hans T. Clarke, professor of biochemistry, will be the investigator.

Cornell University Medical College

Appointed—Dr. Don W. Fawcett, assistant professor of anatomy, Harvard Medical School, has been appointed to succeed Dr. Joseph C. Hinsey as professor and head, Department of Anatomy.

Albert Einstein College of Medicine

Appointment—Dr. Ernst Albert Scharrer, Denver, has been appointed professor and chairman of the Department of Anatomy. The college, now under construction, will admit its first class in 1955.

New York University Post-Graduate Medical School

Lecture—The Sigmund Pollitzer Lecture was given by Dr. Peter Brian Medawar, Jodrell Professor of Zoology and Comparative Anatomy at the University of London, England, on November 15. Dr. Medawar spoke on "Skin Transplantation and the Homograft Problem."

State University College of Medicine at New York City

Adam M. Miller Memorial Lecture—Dr. William F. Hamilton, professor of physiology, Medical College of Georgia, and president-elect, American Physiological Society, delivered the 19th Adam M. Miller Memorial Lecture on November 5. His topic was "The Physiology of Congestive Failure." His visit to the school was part of a fall tour of medical schools in the New York area which he has undertaken as president-elect of the American Physiological Society. A dinner in Dr. Hamilton's honor was held following the lecture.

Annual Research Society Lecture—Dr. Rene J. Dubos, Department of Bacteriology, Rockefeller Institute for Medical Research, delivered the annual Research Society Lecture on December 8. His topic was "Nonmicrobial Determinants of Infectious Disease." A dinner in Dr. Dubos' honor was held at the Candlelight Restaurant in Brooklyn following the lecture.

Scholarships and Loans—The Committee on Scholarships and Loans has granted financial assistance amounting to $4,370 to 14 students thus far this year; $915 of this was awarded in scholarships and $3,455 in loans. The funds covering scholarship aid came from the Michael Tuch Foundation, the Jadwin Memorial Scholarship Fund, the Morgagni Society of Brooklyn, the Yudkowsky Memorial Scholarship Fund, and the Parents Association of the State University College of Medicine in Brooklyn. Funds covering the loans came from the College's Faculty Student Association Loan Fund and Parents and Alumni Associations.

Appointed—Dr. Brian MacMahon, who served as visiting lecturer in the Department of Environmental Medicine and Community Health from July, 1953, to July, 1954, will become associate professor of environmental medicine and community health on September 1, 1955. He is presently lecturer in social medicine at the University of Birmingham.

Dr. R. Janet Watson, associate professor of medicine at the College since 1951, will become associate professor of pediatrics on January 1.

State University of New York College of Medicine at Syracuse

Leave of Absence—Dr. R. Lee Walton, acting assistant dean for graduate and postgraduate medical education, was granted a military leave of absence to serve with the Far Eastern Air Force for two years. Dr. Paul Riemenschneider, associate professor of radiology and attending roentgenologist, and chief of service, Memorial Hospital, to serve in the Navy medical corps.

Appointed—Dr. William A. Harris, as assistant dean for postgraduate medical education; Dr. Charles A. Leach, Jr., Fayetteville, and Dr. Walter A. Charles as clinical instructors in pediatrics.

Lectures—Dr. Benjamin H. Balser, associate attending neuropsychiatrist at Montefiore Hospital, New York City, gave the sixth annual Richard M. Hutchings Memorial Lecture at the College on October 4. Dr. Balser discussed "Psychiatric Treatment of Adolescents." The lecture is sponsored by the Committee for the Hutchings Memorial Lectures, The Richard H. Hutchings Memorial Trust Fund, the Onondaga County Medical Society, the Syracuse Academy of Medicine, and the College of Medicine.

The first annual Hilda Freeman Silverman memorial lecture was given by Dr. Herman E. Hilleboe, State health commissioner, on October 27. These lectures, commemorating Mrs. Silverman, are concerned with the field of public health.

New Building—The Basic Sciences Building was begun during the summer. When completed, the College will be able to increase the size of the first year class to 100 as well as add three wings to the existing building and a fourth floor.

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Sadove et al.: J.A.M.A. 155:626 (June 12) 1954

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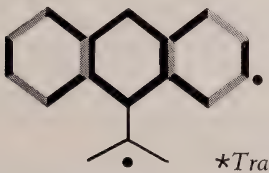

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MEDICAL NEWS

Westchester Academy of Medicine—The State Board of Regents granted the Westchester Academy of Medicine a five-year provisional charter as an educational corporation in November. Trustees for the Academy, which will be located in White Plains, are: Dr. George C. Adie, *New Rochelle;* Dr. Harold F. Bishop, *Grasslands Hospital, East View;* Dr. Charles M. Brane, *Yonkers;* Dr. Arthur H. Diedrick, *Port Chester;* Dr. John N. Dill, *Yonkers;* Dr. Harold J. Dunlap, *New Rochelle;* Dr. Jacob W. Ehrlich, *White Plains Medical Center;* Dr. David Fertig, *Hartsdale;* Dr. Reid R. Heffner, *New Rochelle*, and Dr. William A. Kelly, *Mount Vernon.*

Also: Dr. Roy E. Kinsey, *Peekskill;* Dr. Margaret M. Loder, *United Hospital, Port Chester;* Dr. Henry E. McGarvey, *Bronxville;* Dr. W. Alex Newlands, *Tarrytown;* Dr. Hilmert A. Ranges, *New Rochelle;* Dr. Laurance D. Redway, *Ossining;* Dr. Donald R. Reed, *Irvington;* Dr. William P. Reed, *Larchmont;* Dr. Grant Sanger, *Mount Kisco;* Health Commissioner Ralph F. Sikes, *Yonkers*, and Dr. Waring Willis, *Bronxville.*

Doctors' Orchestral Society of New York—The Doctors' Orchestral Society was established for the purpose of giving physicians and others engaged in the allied healing arts the opportunity to participate in a pleasurable group activity. The conductor, Robert Ward, is a recognized American composer and conductor. The affairs of the Society are managed by a democratically selected council. Annual concerts are given with eminent artists as guest soloists.

Additional players, especially those on brass and string instruments, are welcome and are asked to attend the next rehearsal in the auditorium of Stuyvesant High School, 15th Street and 1st Avenue. Rehearsals are held Thursday nights at 8:30.

Carlos Finlay Award—Dr. Louis H. Bauer, Rockville Centre, secretary general of the World Medical Association, past president of the American Medical Association, and a past president of the Medical Society of the State of New York, was given the Carlos Finlay Award on December 3, 1954. The award was presented at the Academy of Science, Havana, Cuba, in recognition of his effort and accomplishments in the advancement of medical science.

National Society for the Prevention of Blindness—Grants totaling $22,500 for research projects against the blinding eye diseases were announced by the National Society for the Prevention of Blindness, 40 per cent of which has been allocated to isolate the cause of retrolental fibroplasia. Dr. L. Emmett Holt, Jr., New York University-Bellevue Medical Center, is one of the many researchers now working on a grant for retrolental fibroplasia, and Dr. Hunter H. Romaine, New York Eye and Ear Infirmary, has received a grant to work on retinitis pigmentosa and other retinal diseases.

Jefferson County Medical Society—The following officers of the Jefferson County Medical Society were elected for the 1954–1955 term:

Dr. Webber W. Young, Watertown, *president;* Dr. Robert B. Burtch, Alexandria Bay, *vice-president;* Dr. Charles A. Prudhon, Watertown, *secretary;* Dr. Lawrence E. Henderson, Watertown, *treasurer.*

Doctors appointed to chairmanships are: Dr. Charles F. Goodnough, Watertown, *program;* Dr. Harold B. Thurston, Watertown, *legislature;* Dr. A. W. Henderson, Watertown, *public relations;* Dr. W. W. Hall, Watertown, *diabetic;* Dr. J. C. Harberson, Watertown, *cancer;* Dr. M. H. Gardner, Watertown, *blood bank;* Dr. M. M. Gardner, Watertown, *civil defense;* Dr. G. S. Nellis, Watertown, *heart;* Dr. T. N. Sickels, Watertown, *mediation;* Dr. J. A. Montgomery, Watertown, *malpractice;* Dr. J. E. McAskill, Watertown, *selective service;* Dr. C. C. Wray, Watertown, *emergency call;* Dr. T. P. Hamilton, Watertown, *welfare.*

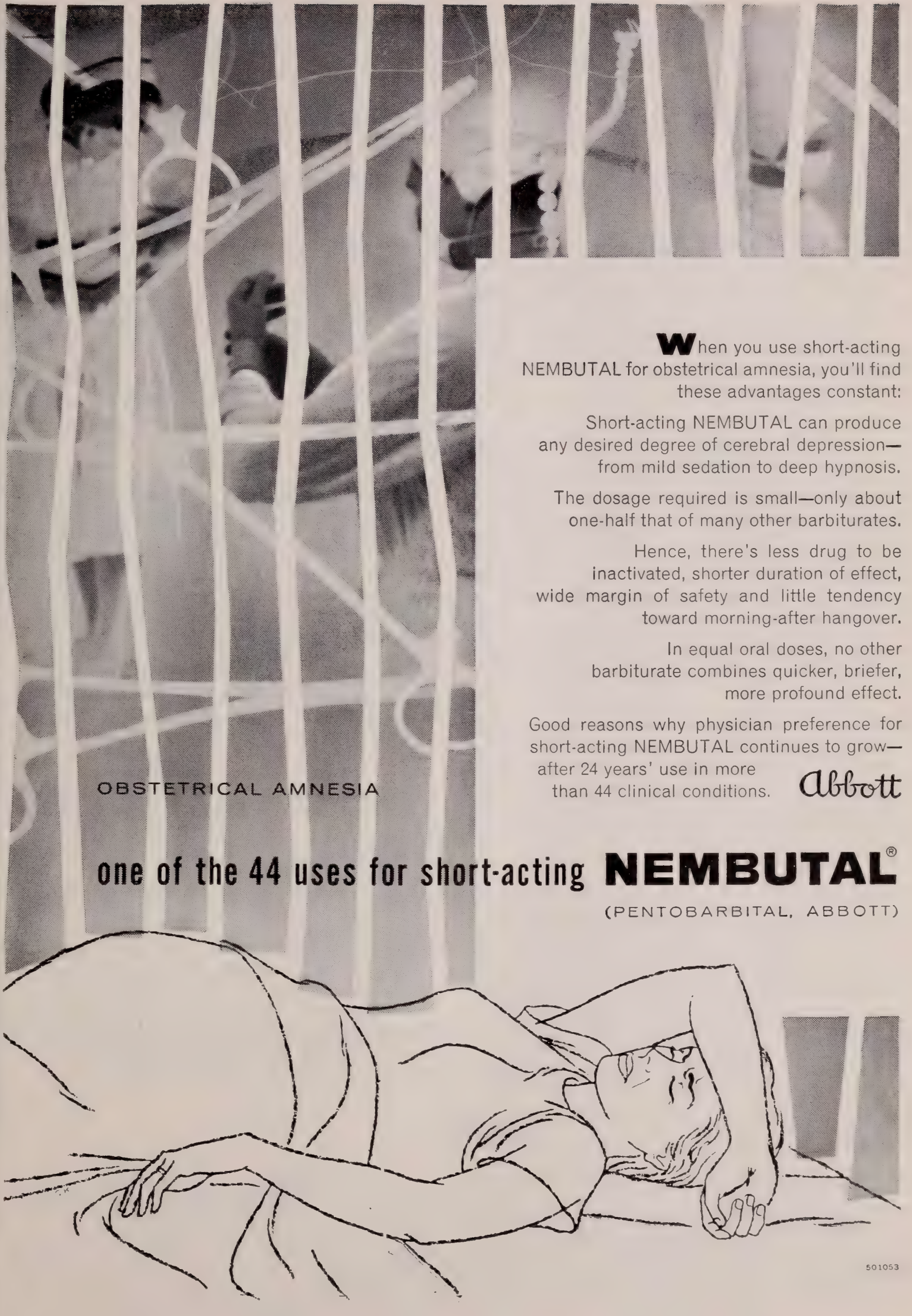
Mount Sinai Hospital—Postgraduate courses being offered at Mount Sinai Hospital, New York City, in clinical medicine, from January to June, 1955, will be: laboratory methods in blood banks, surgical pathology, heart disease and circulatory dynamics, laboratory methods in hematology, roentgen diagnosis of lesions of the gastrointestinal tract, radiology, and differential diagnosis in radiology of the chest, which are listed as part-time courses of varying length.

Intensive courses are minor surgery for general practitioners, elementary electrocardiography, advanced electrocardiography, cardiovascular diseases, spatial vectorcardiography, gastroenterology, clinical neurology, and ophthalmologic aspects of general medicine. Courses for specialists are: radium therapy and clinical use of radioactive isotopes. Courses being arranged are use of radioactive iodine and radiotherapy.

Application forms and further information may be obtained by writing: Registrar for Postgraduate Medical Instruction, Mount Sinai Hospital, 11 East 100th Street, New York 29, New York.

Therapeutic Notes—*Therapeutic Notes*, published by Parke, Davis & Company, is celebrating its

[Continued on page 138]



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[Continued from page 136]

sixtieth year of publication. Besides the regular edition, five other editions are published—British, Australian, Spanish, French, and Portuguese.

La Presse Medicale—The annual prize for medico-surgical cinema will be awarded in March, 1955, at the last session of the course "Actualites medico-chirurgicales" at the Faculte de Medecine de Paris. The award will be presented only for unpublished amateur films which are not subsidized and produced by any laboratory. Consideration will be given to the didactic value as well as the cinegraphic quality of the film. The film submitted must be a 16 mm.

Films should be in Paris before February 15, 1955, and no later than February 28, and should be sent to: La Presse Medicale, Redaction: 120, Boulevard Saint-Germain, Paris VIe.

New York University—Courses offered by New York University at the Institute of Industrial Medicine of the New York University Post-Graduate Medical School, in cooperation with the U.S. Atomic Energy Commission and the New York University College of Engineering, will be "Radiological Safety" for two weeks beginning on January 10 and ending January 21, and "Air Pollution" from February 10 through May 26, in cooperation with New York University College of Engineering.

Application should be made through the office of the Dean, New York University Post-Graduate Medical School, 550 First Avenue, New York 16.

Ciba—A new network television program sponsored by Ciba was started on December 12 over ABC-TV. The new program "Lifeline" is narrated by Dr. Louis H. Bauer, past president of the American Medical Association, secretary general of the World Medical Association, and chairman, United Medical Service.

Harvard University—The Harvard University School of Public Health scholarships have been announced for 1955–1956. Scholarships will be granted to individuals of high professional promise in awards ranging from part tuition to tuition plus a stipend, according to the qualifications and financial needs of the applicants, and are limited and primarily intended for citizens of the United States.

A catalogue of the School, admission, scholarship applications, and further information may be obtained by writing the Secretary, Harvard School of Public Health, 55 Shattuck Street, Boston 15, Massachusetts. Scholarship applicants must return completed admission and scholarship applications to the Harvard School of Public Health by March 1, 1955 and the awards will be announced May 1, 1955.

Scholarships in the following categories are available: physicians, dentist, and veterinarians; industrial physicians; public health nurses with a college degree and satisfactory field experience; social workers with a master's degree from an approved school of social work and acceptable experience in the field of medical or psychiatric social work; health educators with a background of a college degree, training either in health education or in the natural and social sciences, experience in general education or community health work; college graduates who have concentrated in one of the natural sciences in engineering (environmental aspects).

American Institute for Psychoanalysis—Extension courses for physicians presented by the American Institute for Psychoanalysis beginning January 31 are: "Psychiatry and Psychoanalysis," Mondays, 8:30 P.M.; "Readings in Psychoanalysis, Part III," Tuesdays, 8:30 P.M., beginning February 1; "The Practice of Group Psychoanalysis," Fridays, 8:30 P.M., beginning February 4.

Further information may be obtained from the Registrar, Miss Janet Frey, American Institute for Psychoanalysis, 220 West 98th Street, New York 25. Registration week will be January 24 to January 28, inclusive.

New York University-Bellevue Center—The role of corrective therapy in physical and mental rehabilitation was explored in a three-day Adapted Physical Education Institute, the first of its kind in the East, December 6 to 8.

A course in radiological safety is being offered by the Institute in cooperation with the U.S. Atomic Energy Commission and the New York University College of Engineering for two weeks beginning January 10 in the Medical Science Building, 550 First Avenue at 31st Street.

A course in air pollution will be offered in the Medical Science Building, 550 First Avenue, February 10 through May 26, 1955, and will meet once a week on Thursday, 4 to 6 P.M.

Meetings—Past

New York Academy of Medicine

The Thomas William Salmon Lectures were given by William Alvin Hunt, Ph.D., professor of psychology, Northwestern University, at Hosack Hall, New York Academy of Medicine, December 6, 8, and 9. The subject was "The Clinical Psychologist."

New York University Post-Graduate Medical School

The Institute of Industrial Medicine of the New York University-Bellevue Medical Center seminars for the academic year began November 5 with "The Handling of Emotional Problems in Industry" pre-

[Continued on page 140]

THE GUESTS OF THE PHYSICIANS' HOME WISH TO EXPRESS THEIR GRATITUDE AND HOLIDAY GREETINGS TO THEIR COLLEAGUES THROUGHOUT THE STATE, WHO HAVE MADE POSSIBLE THE COMFORT AND HAPPINESS THEY ARE NOW ENJOYING.

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average length of stay in VA hospital

	Average (days)	World War II (days)	World War I & Other (days)
TB	205.8	203.6	210.2
NP	178.3	89.2	430.6
GMS	30.8	23.5	42.5

The average length of stay in VA hospitals for World War I veterans is considerably greater than for World War II veterans, which now comprise 76% of the total veteran population. The greatest pressure is yet to be exerted on VA hospitals as World War II veterans grow older and require increased medical care for disabilities unrelated to military service.

[Continued from page 138]

sented by Drs. Lydia G. Giberson and Arnold Z. Pfeffer. On November 19, Dr. Bernard Altschuler presented "Pulmonary Retention of Aerosols," and on December 3 and 17, Dr. Roy A. Albert, "Occupational Hazards in the Operation of the Atomic Energy Industry," and "Radiation Hazards in Industry: Practical Experiences and Presentation of Clinical Material," by Mr. Merrill Eisenbud and Dr. Irving R. Tabershaw.

On January 7, Dr. Paul Reznikoff will talk on "Hematologic Effects of Toxic Agents in Industry."

Kessler Institute for Rehabilitation

The third annual Fred H. Albee Lecture on Rehabilitation was given by Dr. Howard A. Rusk, professor and chairman, Department of Physical Medicine and Rehabilitation, on December 8 at the dedication of the Fred H. Albee Memorial Medical Library at the Kessler Institute for Rehabilitation in West Orange, New Jersey.

Albany Medical College

A pediatric teaching day was held at Albany Medical College on December 9. Dr. Otto A. Faust, professor of pediatrics, spoke on "The Psychological Management of the Pediatric Surgical Patient"; Dr. Gerald B. Austin, instructor in pediatrics, "The Medical Management Before and After Surgery"; Dr. C. Stuart Welch, associate professor of surgery, "Time of Election for Surgery in Infancy and Childhood"; Dr. Paul R. Patterson conducted a pediatric clinicopathologic conference; Dr. Eldridge Campbell, director, Department of Surgery, "Intracranial Hematomas of Infancy and Childhood"; "Congenital and Plastic Repair Problems of Childhood" by Dr. W. Brandon Macomber, associate professor of surgery, and Dr. Mark K. H. Wang, instructor in surgery, and "Differential Diagnosis of Aseptic Necrosing Lesions of Bones in Childhood," by Dr. Crawford J. Campbell, assistant professor of orthopedic surgery.

Society of Medical Jurisprudence

The annual meeting of the Society of Medical Jurisprudence was held on December 13 at the New York Academy of Medicine. Dr. Alfred A. Angrist, professor of pathology, Albert Einstein College of Medicine, spoke on "The Differentiation of Traumatic and Spontaneous Brain Hemorrhage at Autopsy," and Dr. Theodore J. Curphey, chief medical examiner, Nassau County, and attending pathologist, Meadowbrook Hospital, led the discussion.

Election of officers was also held.

Ontario County Medical Society

Dr. A. Clement Silverman, Syracuse, spoke on "Infectious Diseases of Childhood" at the meeting of the Ontario County Medical Society on December 14.

New York Hospital-Cornell Medical Center

The one hundred and twenty-first Practitioners' Conference was held on December 15 at the New York Hospital-Cornell Medical Center. The subject was "Management of Chronic Nontuberculosis Diseases of Lung," and Drs. J. Burns Amberson, Charles F. Daniels, Cranston Holman, Daniel Lukas, and Carl Muschenheim were the discussants.

Bronx Society of Neurology and Psychiatry

The regular meeting of the Bronx Society of Neurology and Psychiatry was held December 16 at the U.S. Veterans Hospital. Dr. Abraham A. Fabian spoke on "Clinical Experiences with Some Psychosomatic Problems in Children."

Jefferson County Medical Society

Dr. Marshall Clinton, Jr., assistant professor in pharmacology and instructor in medicine, University of Buffalo School of Medicine, discussed "The Management of Disorders of the Adrenal Cortex" at a meeting of the Jefferson County Medical Society on December 21. This program was arranged by the Council Committee on Public Health and Education of the Medical Society of the State of New York in cooperation with the New York State Department of Health.

Meetings—Future

New York Cancer Society

A symposium on cancer of the rectum will be held at the fourth meeting of the New York Cancer Society on Tuesday, January 4 at 8:30 P.M. at the New York Academy of Medicine. "The Role of Mucosal Polyps in Lower Bowel Cancer and Indications and Contraindications for the Preservation of the Rectal Sphincter in Cancer Surgery" will be presented by Dr. Harry E. Bacon, Temple University School of Medicine, Philadelphia; Dr. R. K. Gilchrist, Presbyterian Hospital, Chicago, and Dr. Michael R. Deddish, Memorial Center for Cancer and Allied Diseases, with Dr. George T. Pack, also of Memorial, as moderator.

Jewish Chronic Disease Hospital

The "Etiology of Cerebral Palsy" by Dr. Nicholson J. Eastman, professor of obstetrics, Johns Hopkins Medical School, and obstetrician-in-chief, Johns Hopkins Hospital, will be presented by the Gynecologic and Pediatric Services on Wednesday, January 5, at 8:30 P.M. The lecture will be held in the auditorium, Freeman Pavilion, Jewish Chronic

[Continued on page 142]

VAGINAL TRICHOMONIASIS

HOW is vaginal trichomoniasis transmitted? Marshalling arguments in support of the sexual route, Trussel points out that "the parasitism is uncommon among children and virgins. Further, the parasite is reported to be most commonly found between the ages of 16 to 35 years, the period of greatest sexual activity."[1] Upton makes a similar observation: "I see very little trichomonas vaginitis in young girls of puberty age, and in older women after menopause."[2]

Travelogue of the trichomonads. If other routes than the sexual are theoretically possible, they are comparatively rare. Trichomonads have been found occasionally in children whose mothers harbored the parasites.[1] Contamination from the rectum is no longer held tenable, since the intestinal and the vaginal trichomonads are "distinct species"[1] and the intestinal species does not survive long in the vagina. Novak says, "Contamination from bath water, or from towels, hands, and instruments must all be considered, though in the individual case the explanation is rarely clear."[3] Trussel states: "Douche nozzles, enema tubes, toilet seats, towels, and physician's gloves and instruments have all been incriminated but never actually proven to spread the protozoa."[1]

Transmitted during coitus. "There is increasing evidence that the organisms are not infrequently transmitted through coitus," says Novak.[3] Trussell lists as additional evidence: the site of the infection in the vagina, the frequent association of trichomonads with gonococci, and the well-known flare-ups during pregnancy and postmenstrually, "when unprotected sexual intercourse is common. . . ." Moreover, Greenblatt and West report that in prostitutes the incidence of vaginal trichomoniasis may be as high as 66 per cent, as compared with 10 to 15 per cent in other women.[4]

"UNCOMMON AMONG CHILDREN AND VIRGINS"

Four to nine month regimen for husband. Once the married woman has acquired vaginal trichomoniasis, she may prove "resistant" to treatment, or be "cured," only to relapse. "The vaginal infestation recurs over and over," says Karnaky.[5] In persistent and recurring cases, most authorities stress that *the husband is the most likely source of reinfection.*[1,3,5-13] "The real focus has been the male generative organ," continues Karnaky in his recent communication to the J.A.M.A. "In resistant and recurring cases of T. vaginalis infestation the husband should wear a condom at coitus for four to nine months, during which time these trichomonads will usually die out on their own accord."[5] Similar protective measures are recommended by Bernstine and Rakoff[6] and by Trussell.[1]

Take specific measures to win the co-operation of the husband in your treatment of vaginal trichomoniasis. Otherwise he may easily reinfect the patient and nullify the good results of the regimen. In prescribing a condom, be selective and take advantage of Schmid product improvements.

When there is anxiety that the condom might dull sensation, the answer is to prescribe XXXX (FOUREX)® membrane skins, made from the cecum of the lamb. These are pre-moistened, tissue-thin and tissue-smooth, and do not retard sensory effect. If cost is a consideration, prescribe RAMSES,® a transparent condom of natural gum rubber, very thin and strong. SHEIK,® also natural gum rubber, is even more reasonable in price.

Your prescription of Schmid brands not only circumvents embarrassment, but assures fine quality. The protection they offer is the very foundation of the re-infection control. Prescribe this protection for as long as *four to nine months* after the wife ceases to show evidence of infestation.

References: 1. Trussell, R. E.: Trichomonas Vaginalis and Trichomoniasis, Springfield, Ill., Charles C. Thomas, 1947. 2. Upton, J. R.: West. J. Surg., Obst. & Gynec. *60*:222 (May) 1952. 3. Novak, Emil: Textbook of Gynecology, ed. 3, Baltimore, The Williams and Wilkins Company, 1948. 4. Greenblatt, R. B., and West, R. M.: Antibiotics in the Treatment of Vaginal Trichomoniasis, paper presented at the 2nd Annual Antibiotic Symposium, Washington, D. C., October, 1954. 5. Karnaky, K. J.: J.A.M.A. *155*:876 (June 26) 1954. 6. Bernstine, J. B., and Rakoff, A. E.: Vaginal Infections, Infestations, and Discharges, New York, The Blakiston Company, 1953. 7. Crossen, R. J.: Diseases of Women, ed. 10, St. Louis, The C. V. Mosby Co., 1953. 8. Kanter, A. E.: Postgrad. Med. *12*:457 (Nov.) 1952. 9. Karnaky, K. J.: Urol. & Cutan. Rev. *42*:812 (Nov.) 1938. 10. Lanceley, F., and McEntegart, M. G.: Lancet *1*:668 (Apr. 14) 1953. 11. Reich, W. J., et al.: J. Internat. Coll. Surg. *16*:86 (July) 1951. 12. Reich, W. J., and Nechtow, M. J.: Practical Gynecology, Philadelphia, J. B. Lippincott Co., 1950. 13. Rogers, G. C., and Fleming, J. M.: Am. J. Obst. & Gynec. *68*:563 (Aug.) 1954.

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Disease Hospital, 86 East 49th Street, Brooklyn 3, New York.

Alpha Epsilon Delta

A regional conference on premedical and predental education is being sponsored by Alpha Epsilon Delta, the national premedical honor society, Thursday and Friday, January 7 to 8, at the Biltmore Hotel, New York City. Among the speakers will be Dr. Donald G. Anderson, dean, University of Rochester School of Medicine and Dentistry; Dr. Lester W. Burket, dean, University of Pennsylvania School of Dentistry, and Dr. Vernon W. Lippard, dean, Yale University School of Medicine, and president, Association of American Medical Colleges.

First District Dental Society

The third public health workshop, sponsored by the First District Dental Society of the State of New York with the cooperation of the Postgraduate Medical School, Institute of Industrial Medicine, New York University, will be held January 21 at the Hotel Statler, New York City. The theme will be "Health Education and Preventive Dentistry." Admission is free and registration forms may be obtained by writing to Public Health Workshop, First District Dental Society, Hotel Statler, New York City.

AMEF Fourth Annual Meeting

The fourth annual meeting of the American Medical Education Foundation state chairmen will be held at the Sheraton Hotel, Chicago, Sunday, January 23.

Mount Sinai Hospital

A symposium on "The Tongue in Health and Disease" will be held by the Department of Dental and Oral Surgery at Mount Sinai Hospital on Wednesday, January 26 at 8:30 P.M. in the Blumenthal Auditorium. Dr. Lester Cahn, oral pathologist, Mount Sinai Hospital, will be the chairman and the following doctors and their subjects will be presented:

Dr. David Adlersberg, associate attending physician for metabolic diseases, "Manifestations of Nutritional Deficiency"; Dr. William Leifer, associate attending dermatologist, "Lesions Associated with Dermatologic Disease," and Dr. Leo Stern, attending dental and oral surgeon, "Morphology and Lesions of Local Origin."

International Symposium on Aesthetic Medicine

An International Symposium on Aesthetic Medicine will be held at the Academy of Medicine, Duesseldorf, January 28 to 30. The main purpose of the meeting is to create interest for a serious approach to cosmetic medicine as a branch of medical science eliminating laymen and quacks. Correspondence in connection with the meeting should be directed to Professor Dr. H. Th. Schreus, Academie of Medicine, Moorenstrasse 5, Duesseldorf, Germany.

New York Academy of Medicine

The thirtieth annual Hermann M. Biggs Memorial Lecture will be held at the New York Academy of Medicine on Thursday evening, February 3 at 8:30. The lecture will be in two parts with Dr. Giorgio Lolli, director, Silkworth Memorial Service, Knickerbocker Hospital, New York City, who will speak on "Alcoholism as a Medical Problem," and Dr. Harris Isbell, director, Addiction Research Center, U.S. Public Health Service Hospital, Lexington, Kentucky, who will lecture on "The Medical Aspects of Drug Addiction."

Medical Education and Licensure

The fifty-first annual Congress on Medical Education and Licensure will be held in Chicago at the Palmer House, February 5 through 8. The open meetings will be held on February 5, and consist of a special program in postgraduate medical education on "The Potential Use of Television in Postgraduate Medical Education"; February 6, a meeting of the advisory board for medical specialties; February 7, Council on Medical Education and Hospitals—Highlighting legal and forensic medicine in undergraduate medical education, the future status of the internship in the program of medical education; 7 P.M., the Federation banquet will be held; February 8, the Federation of State Medical Boards of the United States.

When writing for reservations, it is necessary that reference be made to the annual Congress on Medical Education and Licensure.

McIntyre-Saranac Conference

A conference on silicosis and occupational chest diseases jointly sponsored by the McIntyre Research Foundation of Toronto, Canada, and the Saranac Laboratory, Saranac Lake, will be held February 7, 8, and 9, in the Town Hall, Saranac Lake.

Dr. Anthony J. Lanza, former director of the Institute of Industrial Medicine, and emeritus professor of industrial medicine, New York University-Bellevue Medical Center, will be the chairman of the conference, as well as chairman of the scientific program committee. Other members of the scientific program committee will be: Dr. Dudley Irwin, medical director, Aluminum Company of America, Pittsburgh, Pennsylvania; Dr. Guy Hannon, medical director, McIntyre Research Foundation, Washington, Pennsylvania; Dr. Gordon M. Meade, executive director, Trudeau-Saranac Institute, and Dr Gerrit W. H. Schepers, director, Saranac Laboratory.

Reservations and business arrangements will be made through Norman R. Sturgis, Jr., and the treasurer will be Clarence L. Wagner, both of the staff of Trudeau-Saranac Institute. Communications concerning the conference should be addressed

[Continued on page 144]

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(A Unit of the New York University—
Bellevue Medical Center)

*Omitting Washington's birthday, February 22nd

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to Mr. Norman Sturgis, Saranac Laboratory, Saranac Lake, New York.

Long Island Industrial Nurses Association

An educational program, "Nurses in Industry," sponsored by the Long Island Industrial Nurses Association, will begin on Tuesday, February 15, 8 P.M. to 10 P.M., and continue for six consecutive Tuesdays, except February 22, at the Adelphi College, Garden City, in Room 317 Levermore Hall. Registration is limited to registered professional nurses.

Among the speakers will be Dr. Harry Tebrock, medical director, Sylvania Electric Company, who will speak on February 15 on "Organization and Physical Set-up of a Medical Department"; Dr. Irving R. Tabershaw, medical director, New York State Department of Labor, "Programs of a Medical Department"; Dr. Robert P. Jessup, medical director, Sperry Gyroscope, "Industrial Nurses Working Relationship"; Dr. Joseph C. Lane, medical examiner, Long Island Lighting Company, "Medical and Surgical Emergencies in Industry"; Dr. Jermyn McCann, Liberty Mutual Insurance Company, "Compensation and Legal Aspects of Industrial Nursing," and Dr. David Goldstein, associate professor of industrial medicine, New York University, "Current Trends in Medicine and Surgery."

American College of Surgeons

A four-day sectional meeting of the American College of Surgeons will be held in Cleveland, Ohio, February 21 through 24, at the Hotels Cleveland and Hollenden. Among the New York State doctors who will participate will be: Dr. Mark M. Ravitch, New York City; Dr. John D. Stewart, Buffalo; Dr. Frank Glenn, New York City; Dr. Norman Treves, New York City; Dr. Adolph Posner, New York City; Dr. M. Beckett Holworth, New York City.

American Orthopsychiatric Association, Inc.

The thirty-second annual meeting of the American Orthopsychiatric Association will be held at the Hotel Sherman, Chicago, February 28 and March 1 and 2. Inquiries about the program, reservations, exhibits, and other matters should be directed to Marion F. Langer, Ph.D., American Orthopsychiatric Association, 1790 Broadway, New York 19, New York.

Personalities

Honored

Dr. A. Stuart Ferguson, formerly of Marlborough, as guest of honor in November at the unveiling of the plaque at the St. Luke's Hospital cardiac clinic which has been named in his honor . . . Dr. Julius M. Rogoff, discoverer of the adrenocortical hormone, at a dinner given in November by the American Physicians Fellowship Committee of the Israel Medical Association marking his seventieth birthday, at the Hotel Plaza, New York City. . . Dr. Matthew J. Sullivan, at a dinner at Bear Mountain Inn on November 30, by friends in recognition of the completion of fifty years of practice in the Haverstraw-Stony Point area in Rockland County. Guest speaker was the governor-elect, Averell Harriman.

Awarded

Dr. Jacques W. Maliniac, New York City, chairman of the board of trustees of the Foundation of the American Society of Plastic and Reconstructive Surgery, Inc., a special honorary citation in recognition of his leadership on the organization and development of the specialty of plastic surgery and outstanding scientific contributions to the advancement of the Society's practice.

Appointed

Dr. Elio F. Alzamora, White Plains, as psychiatrist at the Westchester office of the Catholic Charities Guidance Institute. . .Dr. Ambrose Barry, formerly of Pawtucket, Rhode Island, to the medical staff of the Veterans Administration Hospital, Sunmount. . .Dr. Robert E. Birk, Hamburg, as assistant chief resident, Henry Ford Hospital, Detroit. . .Dr. Howard Eder, National Heart Institute, Bethesda, as associate professor of medicine, State University of New York College of Medicine at New York City. . .Dr. Henry D. Fearon, Brooklyn, as director, Methodist Hospital of Brooklyn. . .Dr. Gordon M. Hemmett, president-elect of Monroe County Medical Society, as director, Kodak Office and Camera Works Department, Eastman Kodak Company, succeeding Dr. Rufus B. Crain who is retiring January 1. . .Dr. Frederick Hughes, Kodak Park, to medical directorship of the Hawk-Eye Plant. . .Dr. Erwin Neter, Buffalo, as chairman, Laboratory Section Committee on Pathogenic Escherichia coli, American Public Health Association . . .Dr. Sam Parker, director, psychiatry, Department of Hospitals, as acting director, Mental Health Board of the City of New York. . .Dr. Thomas A. C. Rennie, professor of psychiatry, Cornell University Medical College, as chairman, Mental Health Board of the City of New York. . .Dr. Arthur M. Sullivan, Harlem Valley State Hospital, as assistant director. . .Dr. Simon L. Victor, permanent assistant director, Rockland State Hospital.

Elected

Dr. Louis D. Goldberg, chief of staff, Dr. Frank Gagan, vice-president, and Dr. Benjamin Perrino, secretary, of the St. Francis Hospital, Hillcrest,

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Poughkeepsie. . .Dr. Henry E. Marks, attending physician at New York City Hospital, president, Dr. James Finlay Hart, first vice-president, Dr. Alfred E. Fischer, second vice-president, and Dr. Harold Brandaleone, secretary, of the New York Diabetes Association.

Speakers

Dr. Leona Baumgartner, City Health Commissioner, on November 30 at the fall luncheon of the Brooklyn Juvenile Guidance Center and on November 18 with Dr. George Anderson, Kings County Medical Society, and Dr. Morris Ant, East New York Medical Society, at the opening ceremony of New York City's first diabetes control center in Brooklyn . . . Dr. James A. Brussel, assistant commissioner, New York State Department of Mental Hygiene, on Station WABD-TV on the panel of "Between the Lines," and on November 27 on CBS-TV . . . Dr. C. Ward Crampton, gerontologist of New York City, at the sixtieth annual convention of the New York State Federation of Woman's Clubs on November 9 . . . Dr. Irving S. Cooper, New York University-Bellevue Medical Center, and Drs. Arthur M. Master and Harry L. Jaffe, Mount Sinai Hospital, at the meeting of the American Geriatric Society in New York City in November . . . Dr. Leo M. Davidoff, neurosurgeon and medical educator, and Dr. Harry Cohen, surgeon and editor in chief, at a dinner of the American Jewish Literary Foundation in October.

Dr. Joseph H. Burchenal, New York City, Dr. T. Campbell Thompson, also of New York City, at the one-hundredth anniversary meeting of the Union Memorial Hospital in Baltimore, Maryland, in November . . . Dr. Lewis F. Doshay, New York City, at the sixth annual scientific assembly of the Maryland Academy of General Practice in Baltimore in October . . . Drs. Arthur Blakemore, Arthur Vorhees, A. B. Jeretzka, Columbia University College of Physicians and Surgeons; Dr. Adrian Kantrowitz, Montefiore Hospital, New York City, and Dr. Robert H. Kennedy, surgical director, Beekman-Downtown Hospital, New York City, at the meeting of the American College of Surgeons in November in Atlantic City, New Jersey . . . Drs. E. Hugh Luckey, dean, Joseph C. Hinsey, director, and Deane W. Malott, at the dedication ceremonies of the F. W. Olin Hall, student residence of Cornell University Medical College, in November.

Dr. Basil C. MacLean, commissioner of hospitals, at the opening ceremonies of the new Nathan B. Van Etten Hospital of the Bronx Municipal Hospital Center in October . . . Dr. Arthur B. Robins, director, New York City Bureau of Tuberculosis, at the annual conference of the New York Tuberculosis and Health Association in November . . . Dr. Edith Klemperer, New York City, on "Hypnoanalysis" over station WWRL on October 12, and with Dr. Walter S. Boernstein, at the fifth annual scientific meeting of the Society for Clinical and Experimental Hypnosis on October 30 . . . Dr. Walter Schachet, moderator at a discussion sponsored by the Hunter College Chapter of the International Council for Exceptional Children in November . . . Dr. Leo A. Spiegel, at the first fall meeting of the League for Emotionally Disturbed Children in New York City on November 10.

Dr. George Baehr, president and medical director of the Health Insurance Plan of Greater New York, at a meeting of the Welfare and Health Council on November 23 at the Waldorf-Astoria. . .Dr. M. Jack Frumin, assistant professor of anesthesia, Columbia University College of Physicians and Surgeons, at the sixth Mexican Congress of Anesthesiology, Mexico City, in November. . .Dr. David Kairys, New York City, at a meeting of the American Psychoanalytic Association, in December. . .Dr. Harold A. Lyons, State University of New York College of Medicine at New York City, at a meeting of the Kings County Medical Society's Section on Allergy on November 30. . .Dr. Walter Schmitz, director, on November 19, at the dedication of the new Middletown State Homeopathic Hospital.

New Offices

Dr. Charles John Barranco, Rochester, general practice in Ellicottville. . .Dr. Henry J. Dobies, Pittsburgh, Pennsylvania, general practice in Massena. . .Dr. Susan G. Gordon, Pomona, practice of pediatrics in Haverstraw. . .Dr. Fred F. Graziano, general practice in Nanuet. . .Dr. L. Miller Harris, formerly of Lowville, practice of anesthesiology in association with Dr. Allen W. Henderson and Dr. Harold B. Thurston, Watertown. . .Dr. Nathan Scharf, practice of internal medicine and cardiology in Pearl River. . .Dr. John Simmons, practice of internal medicine in Brewster. . .Dr. Irwin K. Stone, Baldwinsville, practice of internal medicine and cardiology in Watertown. . .Dr. E. James Swinyer, formerly of Poultney, general practice in Holt, Michigan, to be succeeded by Dr. Junius P. Smith . . .Dr. J. Robert Warner, Phoenix, Arizona, with Dr. Robert G. Stuck as part owner and operator of the Wolcott Hospital.

Reopens Office

Dr. G. W. Blueglass, general practice in Schenectady after having served in the Army. . .Dr. Naftalie Rapoport, in Hicksville after two years with the U.S. Medical Corps. . .Dr. William A. Sausmer, in Hicksville following completion of his tour of duty with the Armed Forces.

I think many patients would agree with my definition that a specialist is a doctor from another town.—James H. Spencer, M.D.

BOOKS REVIEWED

Antibiotics. By Robertson Pratt, Ph.D., and Jean Dufrenoy, D.Sci. (Paris). Second edition. Octavo of 398 pages, illustrated. Philadelphia, J. B. Lippincott Co., 1953. Cloth, $7.50.

This is the second edition of a successful book concerning the fundamental aspects of antibiotics. The bacteriologic background and industrial production are well summarized. Each antibiotic is thoroughly reviewed. The material is presented from the viewpoint of teachers in a school of pharmacy rather than from a clinical aspect. It is not intended to be a handbook for antibiotic therapy in diseases. The book is a well written compilation of information about the chemistry and action of antibiotics which the physician desiring such information can use as a reference work.—Milton B. Handelsman

Auditory Disorders in Children. A Manual for Differential Diagnosis. By Helmer R. Myklebust. Octavo of 367 pages. New York, Grune and Stratton, 1954. Cloth, $6.00.

The author has prepared this book for the study and use of those interested in the care of children and particularly for the physician, pediatrician, otologist, audiologist, and psychologist. This manual deals with the clinical procedures necessary for making an accurate diagnosis of hearing impairment and hearing disorders in children. The author subdivides the procedures and methods of examination and goes deeply into the behavior problems and the need for a careful and accurate history. This work concerns itself not only with the procedures of examination but also with methods for differential diagnosis.

Myklebust's methods concern themselves with children who do not speak. Early detection of the hearing impairment is paramount, and equally so is the differential diagnosis. This book will orient the reader in the procedures necessary for determining peripheral deafness, psychic deafness, and deafness due to aphasia and also the auditory disorders in the mentally deficient and in the brain-injured child. Each chapter includes a summary.

In many respects this volume is really a text and will act as a reference work, for, in addition to a rich bibliography, it includes an index of subjects as well as an index of authors. Particularly valuable are the recommendations for the children who have developed no language. Every phase of testing and

[Continued on page 148]

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[Continued from page 147]

handling of the acoustically handicapped child is adequately dealt with. It has been a privilege to review this book, which is indeed recommended to all physicians and social workers in the field.—Samuel Zwerling

Manual of Clinical Mycology. By Norman F. Conant, Ph.D., David Tillerson Smith, M.D., Roger Denio Baker, M.D., Jasper Lamar Callaway, M.D. and Donald Stover Martin, M.D. Second edition. Duodecimo of 456 pages, illustrated. Philadelphia, W. B. Saunders Co., 1954. Cloth, $6.50.

This *Manual* is a second edition of the book which first appeared in 1944. There have been many new illustrations and changes in the text. The wider recognition of mycotic infections, particularly those occurring as systemic diseases, has become a more important part of medicine. This *Manual* covers this subject thoroughly. A study of this book will aid both the general practitioner and the specialist in not overlooking these newer aspects of mycotic disease. The book is well written and complete. The only criticism of its usefulness could be the small space devoted to therapy. However, in many of these conditions, therapy in the present state of medical knowledge is not very effective.—John C. Graham

Frazer's Manual of Embryology. The Development of the Human Body. By J. S. Baxter, M.D. Third edition. Octavo of 488 pages, illustrated. London, Baillière, Tindall & Cox (Baltimore, Williams & Wilkins Co.), 1953. Cloth, $8.00.

This *Manual of Embryology* by J. S. Baxter, consisting of approximately 450 pages of text, is a presentation of a connected mental picture of the constantly changing states of the human embryo and fetus.

The planned continuity of description differs from that of most texts on the subject, which tend to create a picture of the developmental process almost suggestive of discontinuity or development in stages. The emphasis on continuity should aid the student in grasping the subject as a whole.

The results of the author's own investigative work go to form an essential part of the text.

Illustrations, chiefly of the line drawing type, are in black and white. While not profuse, they are adequate for the needs of the average student

The book should have an appeal which many teachers will appreciate.—Walter H. Schmitt

Clinical Electrocardiography in Children. By Gertrude H. B. Nicolson, M.D. Octavo of 118 pages, illustrated. New York, Macmillan Co., 1953. Cloth, $3.25.

Most books on electrocardiography deal principally with findings in the adult. In most instances this suffices. However, the advances in cardiac surgery in both congenital and acquired conditions have made it imperative to understand the electrocardiogram in children. It is increasingly important to appreciate the wide variation in the electrocardiogram for each age group and to understand its development through the formative years. This excellent volume presents this in a simple, lucid style. In addition, the characteristic findings in the different pathologic conditions are also presented. This book is recommended to all physicians who deal with cardiovascular problems in children.—Felix Taubman

Operative Surgery. By Guy W. Horsley, M.D., and Isaac A. Bigger, M.D. In two volumes. Illustrations by Helen Lorraine. Sixth edition. Quarto of 1,579 pages, illustrated. St. Louis, C. V. Mosby Co., 1953. Cloth, $30 set.

The first edition of this work appeared in 1921, thirty-two years ago, and was essentially a record of the wide personal experiences of Dr. J. Shelton Horsley. He stressed, even at that time, "the preservation of physiologic function and the interpretation of the biologic processes that followed surgical operations." The second and third editions were also documentations of the experience of this one great surgeon. However, because of the marked advance in surgical knowledge in this country, Horsley chose an associate editor for the fourth edition.

The present sixth edition, consists of two volumes having a total of 1,579 pages with 1,274 figures, and illustrations. There are 18 contributors, each representing his own surgical specialty. Because, in many sections of our country, the general surgeon performs the gynecologic operations, an excellent chapter describing the commonly employed gynecologic procedures has been properly included in the text.

It would be a task difficult indeed to review properly this edition in detail. It is only necessary to emphasize the fact that the entire field of general surgery with its allied surgical specialties is well and completely presented in a practical and useful manner; that the subject index is comprehensive and easily used; that the subject matter is such that it will be of value to the medical student, to the general practitioner, who, living in isolated sections of the country, may be called upon to do certain surgical procedures himself, and to the more experienced as well as to the lesser experienced general surgeon. It is a work that is highly recommended, especially so because of its completeness and conciseness and because of the omission of unnecessary theoretic detail.—Merrill N. Foote

Clinical Endocrinology. By Karl E. Paschkis, M.D., Abraham E. Rakoff, M.D., and Abraham Cantarow, M.D. Octavo of 830 pages, illustrated. New York, Paul B. Hoeber, 1954. Cloth, $16.

This book attempts to integrate the endocrine system and its disorders in relation to the rest of the body. It stresses pathologic physiology. Although it is well written and the section on sex endocrinology is excellent, other clinical considerations could be improved. The pictures and tables are of value.

[Continued on page 150]

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[Continued on page 151]

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The paper is slightly glary. In all, it is a good reference book for the clinician.—Bernard Seligman

Current Therapy, 1954. Latest Approved Methods of Treatment for the Practicing Physician. Edited by Howard F. Conn, M.D. Consulting Editors, M. Edward Davis, M.D., Vincent J. Derbes, M.D., Garfield G. Duncan, M.D., Hugh J. Jewett, M.D., *et al.* Quarto of 898 pages. Philadelphia, W. B. Saunders Co., 1954. Cloth, $11.

This is the sixth edition of the well-known annual series which brings adequate information about the current methods of treatment to the reader. Careful planning makes it an excellent volume for quick reference. The discussions are written by authors who are actively engaged in treating the disease of which they write, with proper evaluation of recent advances and long-tested methods. New does not necessarily mean good, and old is not necessarily bad. Presentations of different aspects of therapy give the reader the possibility of a balanced viewpoint. The large number of contributors makes the contents so much more interesting and attractive. An unbelievable amount of the finest knowledge and experience has been compiled into the 898 pages of the book, which deserves the highest recommendation to any practicing physician.—Max G. Berliner

Moments of Reflection. A Book of Poems. By Morris Weintrob, M.D. Octavo of 112 pages. New York, Exposition Pr., 1953. Cloth, $3.00. In seeking surcease from his daily chores, Weintrob turned to writing poetry. These poems range from doggerel to exquisite imagery. The real value of this little volume lies in what it discloses of the author's personality. Weintrob understood the perplexing problems of today. He shows this best in his poems about America and Israel and in his genuine love for humanity. This book is another example of the physician as a man of letters. —Felix Taubman

The Billroth I Gastric Resection. With Particular Reference to the Surgery of Peptic Ulcer. By Horace G. Moore, Jr., M.D., and Henry N. Harkins, M.D. Quarto of 175 pages, illustrated. Boston, Little, Brown and Co., 1954. Cloth, $7.50.

Unless one has been able to keep abreast of past and recent literature or one's experience with gastric surgery has been extensive, there is no finer source of complete information than this book. Especial reference is consistently made to the technic and advantages of the Billroth I resection wherever applicable. The altered physiology of duodenal and gastric ulcer, both pre- and postoperatively, is discussed in detail. The etiology and management of postoperative complications and sequelae are vividly described. The historical chapter is knowledge well earned when one reads it.

Most important is that the entire text reads as though one were reading an interesting novel.—Cesaro Castellaneta

The Integration of Behavior. Volume II. The Integrative Process in Dreams. By Thomas M. French, M.D. Octavo of 367 pages, illustrated. Chicago, University of Chicago Press, 1954. Cloth, $6.50.

Volume I of the author's series, *The Integration of Behavior*, elaborating basic postulates, appeared in 1952. Volume II continues the author's researches of the unconscious and conscious patterns as revealed in a more intensive study and analysis of dreams. French evolves a new method, throwing light on the logical structure of every dream, their different patterns and interrelations as parts of a single intercommunicating system. This technical approach is also applicable to other psychologic and biologic data. The contents bring to the front the system of interrelated cognitive structures, pattern of dream organization, historical background of water symbolism, physiologic and interpersonal field, and a survey of relations between dream patterns. A well-documented appendix with case report and interpretive comments, bibliography, and index, complete this specialized volume.

The author's plans for Volume III pertain to the tracing of the emergence of different parts of the system of interrelated cognitive structures in the course of treatment. Volumes IV and V purport to compare recurring sequences in dreams in keeping with fundamental interests of analyzing behavior into its component patterns, their combinations and coordination. This major work on dream interpretation, which respects the basic findings of Freud's original work in 1900, is of key importance to psychoanalysts, psychologists, and social scientists bent upon furthering a scientific understanding of dream processes.—Fredrick L. Patry

Theory and Problems of Adolescent Development. By David P. Ausubel, M.D. Octavo of 580 pages. New York, Grune & Stratton, 1954. Cloth, $10.

The author has written a textbook based on the general premise that adolescence is a separate and distinctive period in the personality development of the child. In Part 1, the introduction, there is an historical review of the subject since the collapse of Hall's theories of adolescent development. The author makes use of the terms, *psychobiologic*, which is indicative of developmental trends which are universal, and *psychosocial*, the latter being completely influenced by specific socioeconomic factors and modes of regulation characteristic of our own social order. Part 2 deals with psychobiologic problems and Part 3 with psychosocial problems. Part 4 contains a discussion of maladjustment and mental hygiene.

There is a good bibliography and reference section at the end of each chapter. The pages devoted to endocrinologic changes in adolescence show familiarity with recent advances. In all, the book is a good, comprehensive survey of the field and is highly recommended to the profession.—Stanley S. Lamm

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[Continued from page 149]

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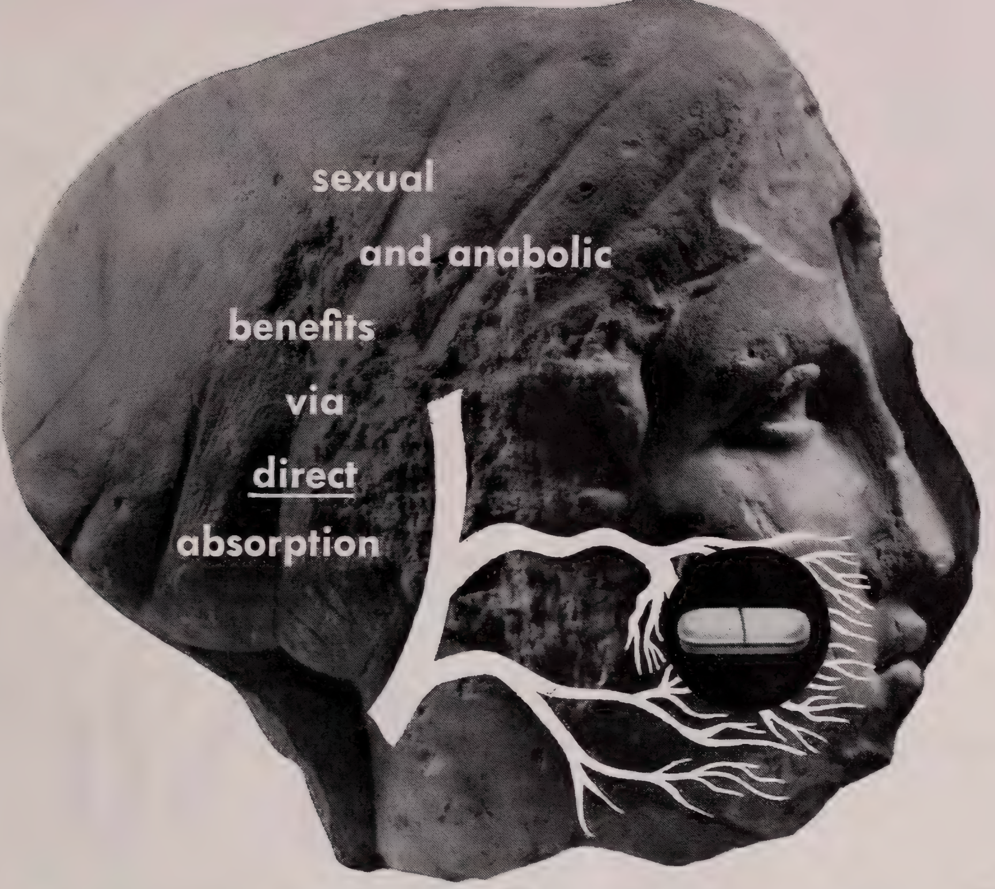

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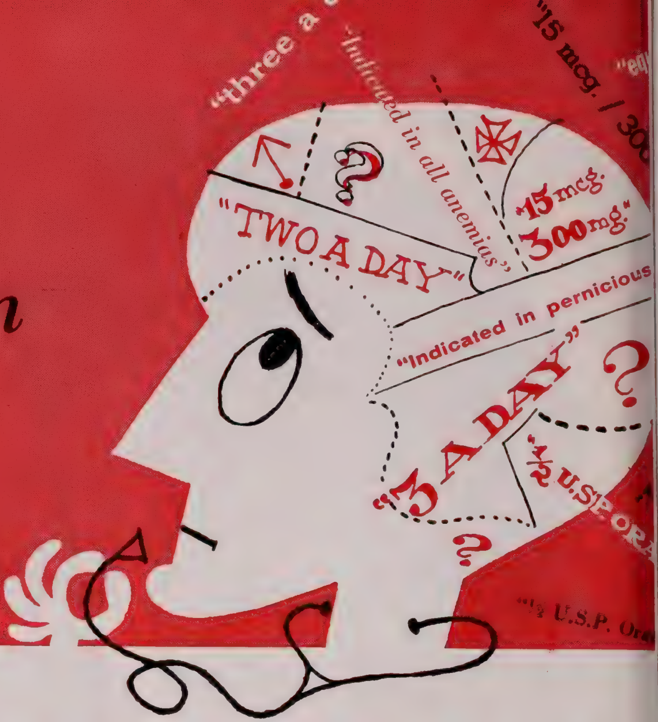
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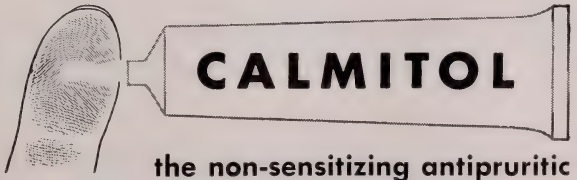

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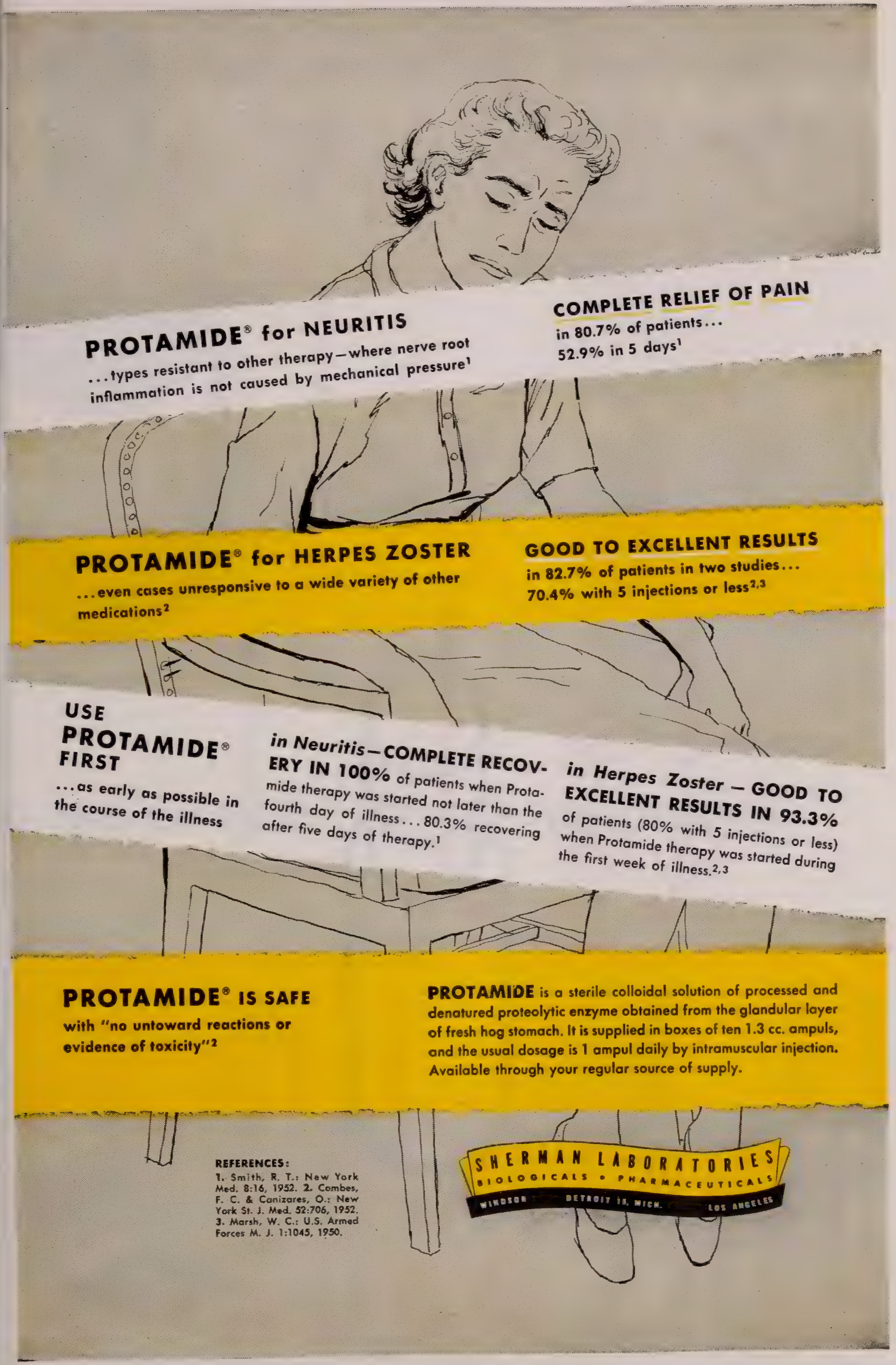

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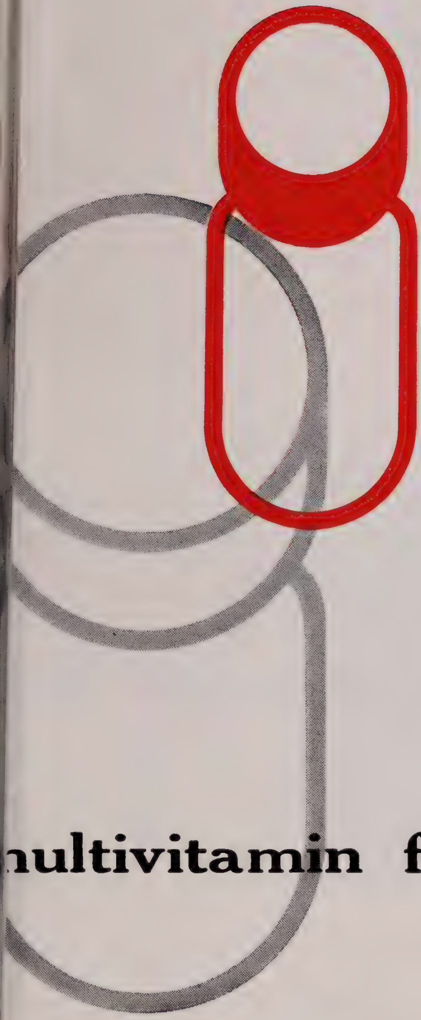

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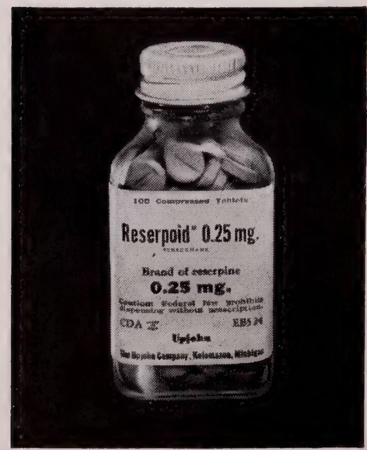
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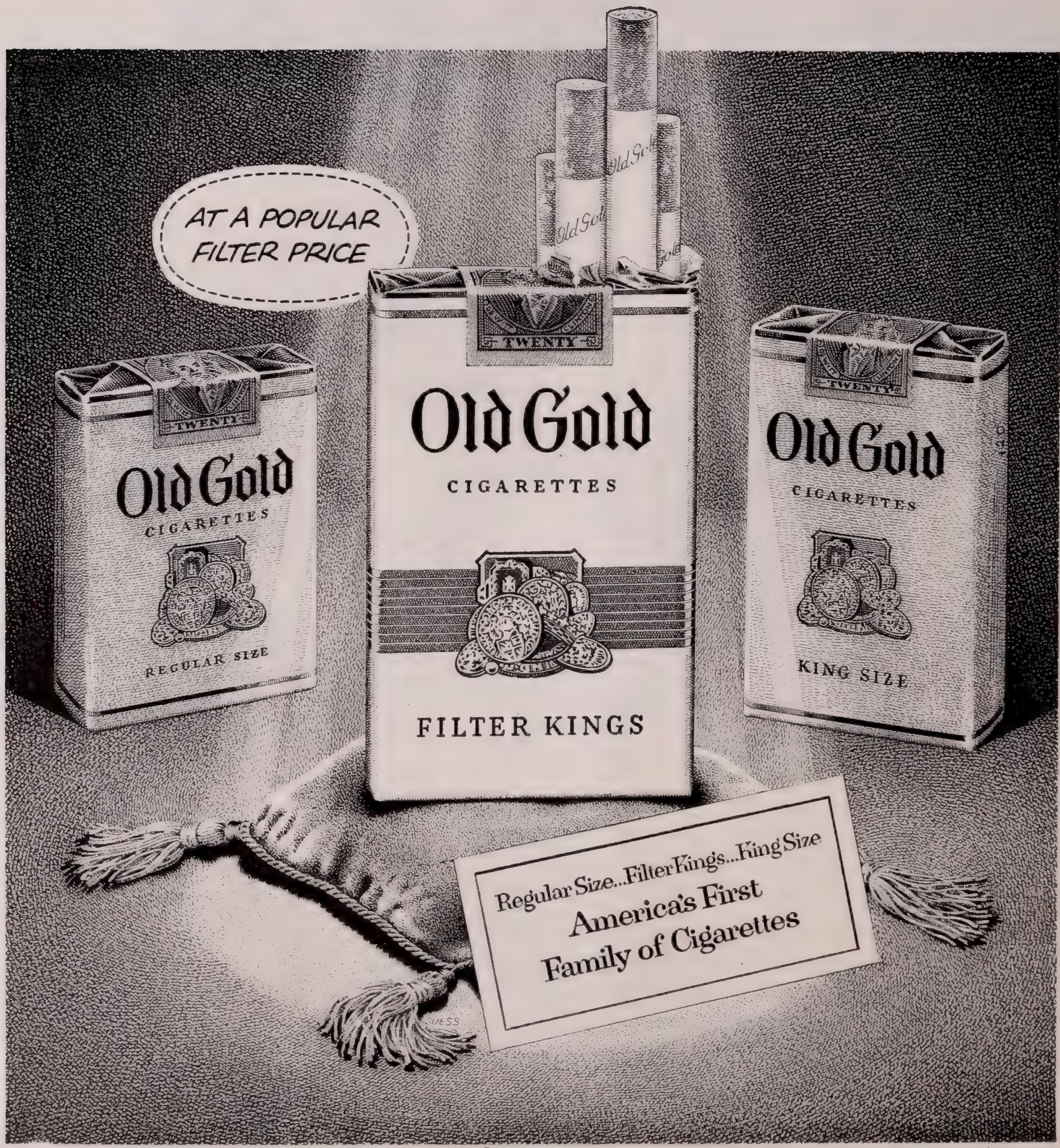
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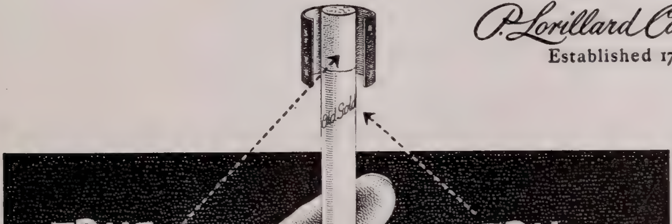

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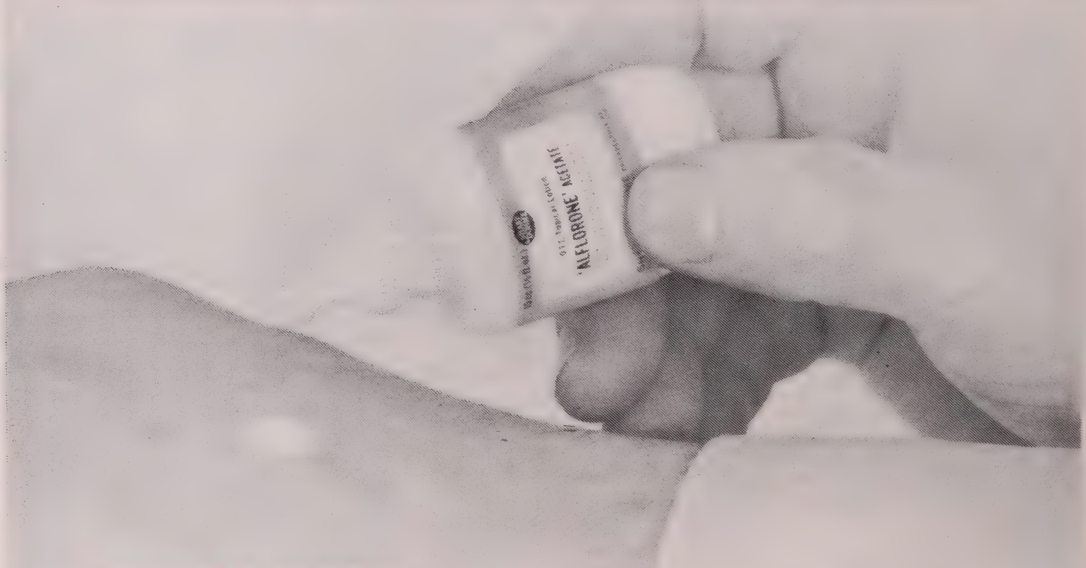

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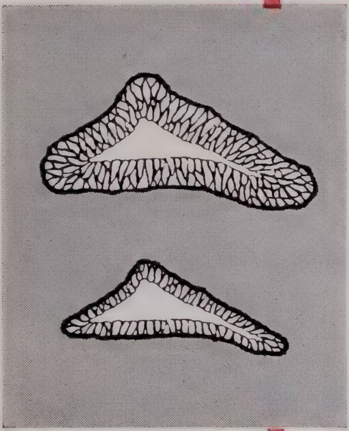

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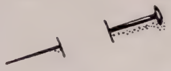

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5. Ohr, A., Therapie d. Gegenwart, *80*:29 (1939).

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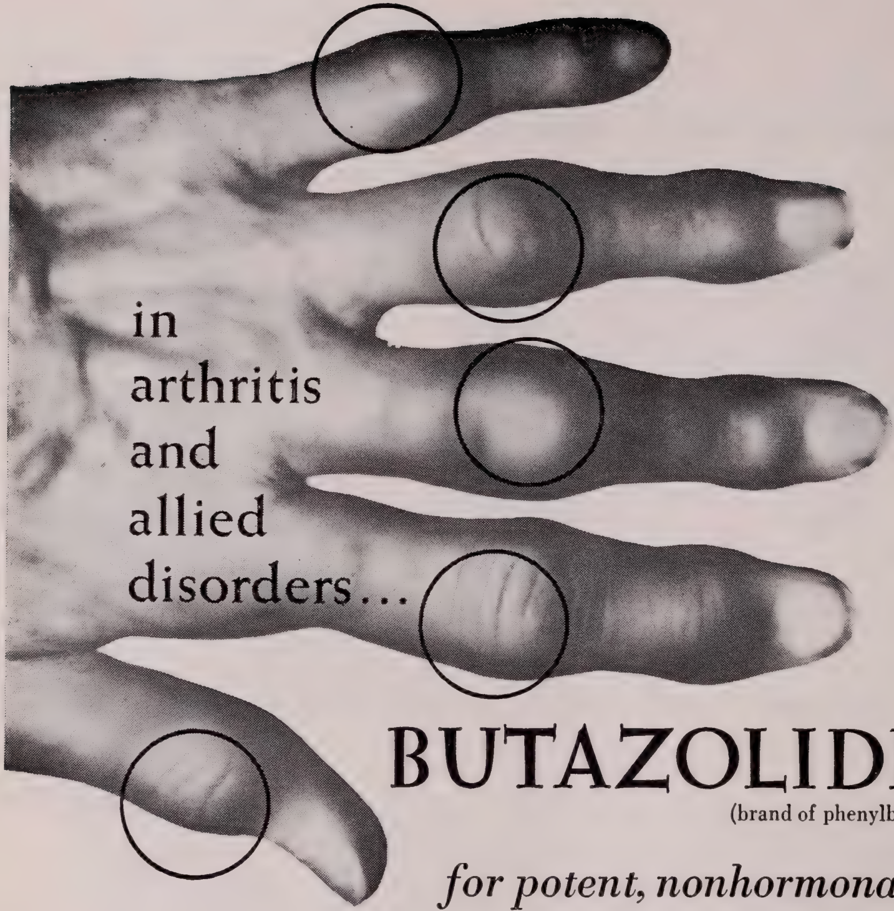

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1. Seal, J.R.: Oral penicillin prophylaxis of Epidemic Streptococcal Infections, Read before Epidemiology Section Meeting, American Public Health Association, Oct. 12, 1954.
2. Berry, C.A., and Fisher, J.: U.S. Armed Forces M.J. 5:1137 (Aug.) 1954.
3. Welch, H.: Principles and Practice of Antibiotic Therapy, New York, The Blakiston Co., 1954, p. 64.

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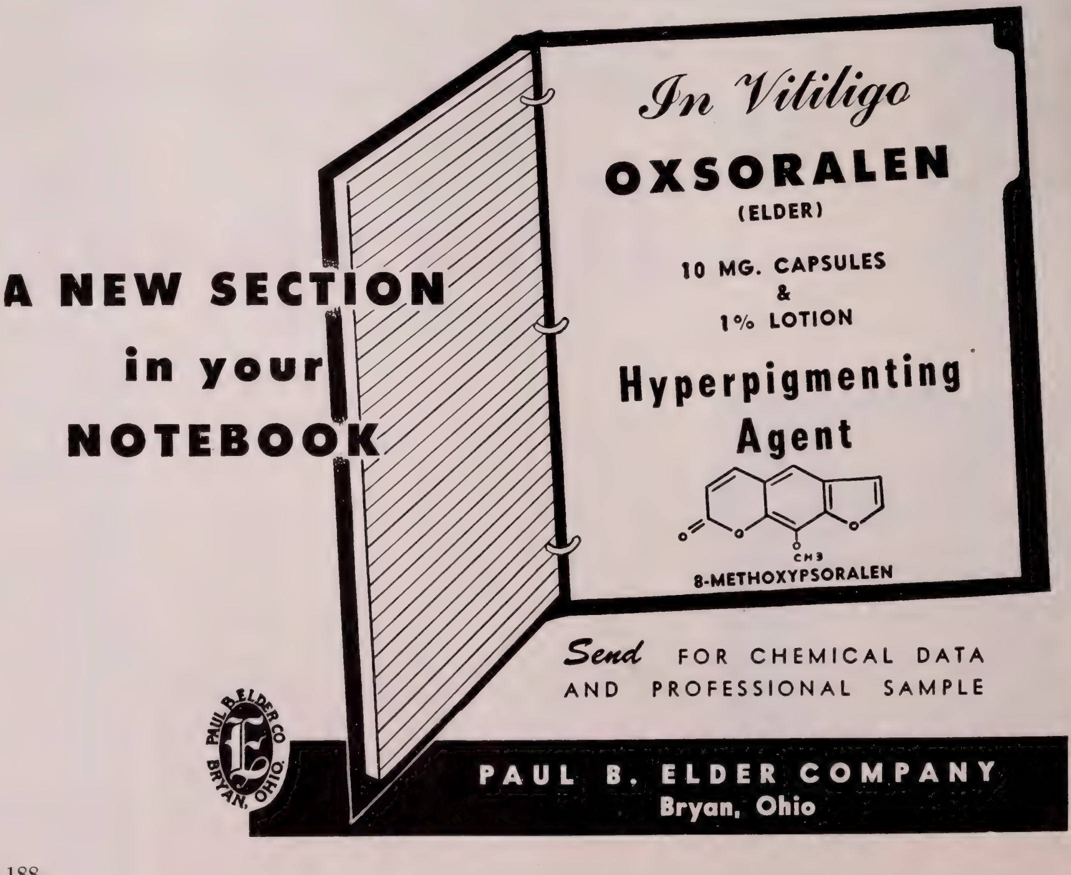

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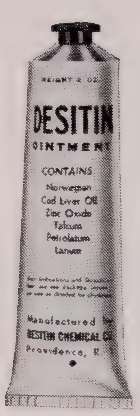
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1. Overall, J. C.: Southern M. J. 47:789, 1954. 2. Editorial: New England J. M. 246:111, 1952.
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6. Turell, R.: New York St. J. M. 50:2282, 1950.

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1. Allen, E. V.; Barker, N. W.; Hines, E. A., Jr.; Kvale, W. F.; Shick, R. M.; Gifford, R. W., Jr., and Estes, J. E., Jr.: Proc. Staff Meet., Mayo Clin. *29*:459 (Aug. 25) 1954.
2. Livesay, W. R.; Moyer, J. H., and Miller, S. I.: J.A.M.A. *155*:1027 (July 17) 1954.

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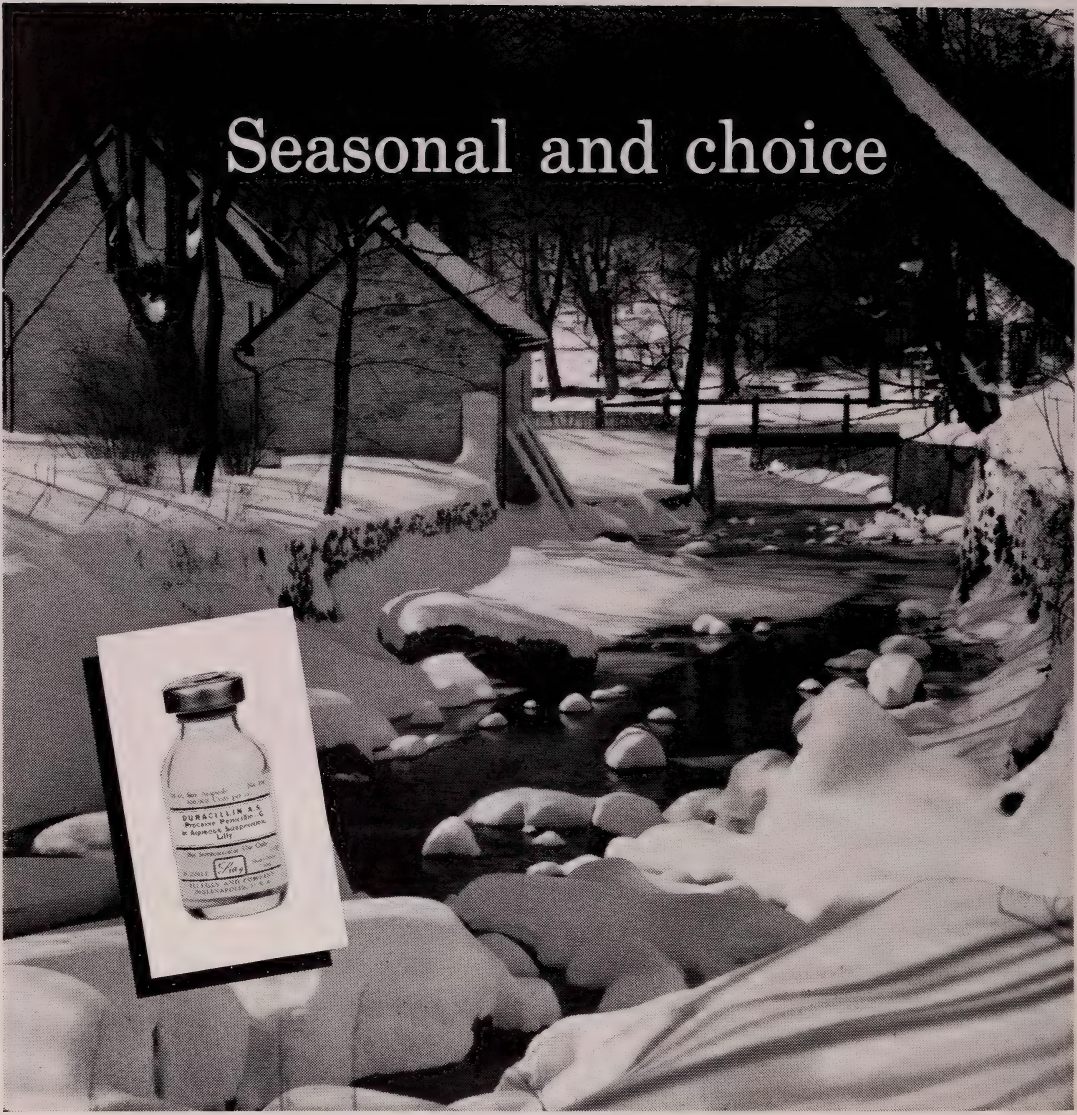

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EDITORIALS

Progress of Blue Shield Plans

We call the attention of the membership of the Medical Society of the State of New York to recent information concerning the growth of the Blue Shield Plans in the nation. It should be a source of great satisfaction to all those physicians who have participated in their own plans since their inception and a stimulus to recent graduates and other medical men in active practice to associate themselves with their local plans as soon as possible.

We note that Blue Shield Plans have passed the 30 million mark in enrollment, nationally, according to the Blue Shield Commission national office in Chicago, which compiles national statistics based on data received from the individual Plans.

Since Blue Shield is the medical profession's own program, and a very young one at that, physicians can well be proud of this evidence of its solid popularity with the American public. And growth still continues. More than three million new members were added in the past twelve months alone.

Significant, at the present writing, is certain Federal legislation, now in the planning stage and scheduled for presentation to Congress early in the forthcoming session, designed to throw the government's weight into *support* of voluntary medical care prepayment, rather than in support of compulsory, government-controlled insurance such as was the long-time goal of the New Deal and Fair Deal in Washington.

The legislation referred to is an extension and amplification of the Carlson Bill (S. 3803) which was introduced near the close of the 83rd Congress, too late for Congressional action. The proposal, in substance, is for the government to provide payroll deduction facilities for all Federal employes desiring to obtain medical and hospital care insurance through voluntary plans (Blue Cross and Blue Shield or commercial carriers), and to contribute a portion of the premium cost for each employe.

Even without payroll deduction or any contribution, more than 1,300,000 Federal government employes (with their dependents) are already enrolled in Blue Cross, and more than 800,000 in Blue Shield. Under the new, more favorable arrangement, it is expected that most of the entire Federal civilian payroll (2,200,000 employes, totaling, with their dependents, 5,300,000 people) will take advantage of this opportunity.

Chosen to be the 30 millionth Blue Shield member was a Federal employe, Elmer T. Linstrom, a postal carrier in Omaha, Nebraska. The occasion was celebrated by a ceremony on October 19, in Omaha, at which Dr. L. Howard Schriver of Cincinnati, president of the national Blue Shield Medical Care Plans, gave the principal address.

Dr. Schriver called upon physicians everywhere to continue to strengthen their support of Blue Shield in their local areas, in order to assure its continued dynamic growth and thus stop, once and for all, the pressures which still exist for a nationalized governmental health insurance scheme. Latest tabulations show a total of $273,723,925 paid to physicians by the Blue Shield Plans during the twelve months ended June 30, 1954. This represented more than 80 per cent of total income of the Plans.

Pointing up the present administration's real interest in and sympathy with the Blue Shield movement was a letter addressed to Mr. Linstrom by Nelson A. Rockefeller, Under Secretary of the Department of Health, Education and Welfare. Mr. Rockefeller said, in part: "It is a pleasure to send you greetings as you become the 30 millionth Blue Shield member . . . . You can feel gratification in having provided this protection for the health of your family. It has national significance as a milestone . . . . I note that you are a Federal government employe. As you probably know, the President has proposed a prepayment health care plan for government employes similar to those maintained by many industrial organizations. It is my sincere hope that the administration's plans for aiding all Federal employes in providing protection against health costs soon will become a reality."

Such recognition was not won by indifference, but by the active support of Blue Shield by the great majority of the nation's physicians. It can be maintained only by even more active and wholehearted cooperation on the part of the medical profession. And it *must* be maintained, if the free practice of medicine is to continue.

Annual Reports Due

The JOURNAL again reminds all chairmen of Council committees and the officers of the Society that their annual reports are due

February 15, 1955.

This is the latest that copy can be received for publication in the Convention Issue of the JOURNAL on April 1. Only if as many annual reports as possible are published in that issue can the membership, delegates from the county societies, and officers have time properly to digest their contents.

These reports will be some of the material for referral by the Speaker of the House to the several reference committees and will subsequently come up for debate on the floor of the house. Obviously they cannot be debated with that proper consideration necessary to the making of official policy of the Medical Society of the State of New York unless they appear in the Convention Issue.

The Doctor in CIVIL DEFENSE

Medical Defense Committee of the Medical Society of the State of New York and the Office of Medical Defense, New York State Department of Health

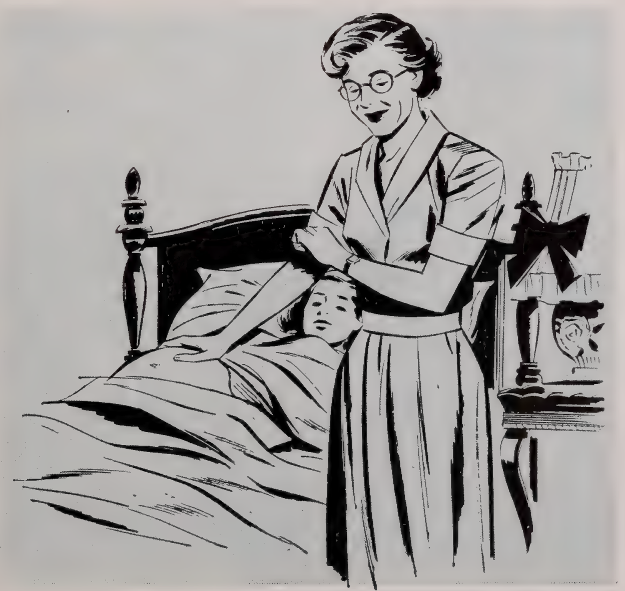
J. G. FRED HISS, M.D., SYRACUSE, NEW YORK, *Chairman*

Course: Assisting at the Birth of a Baby After Enemy Attack If No Doctor Is Available

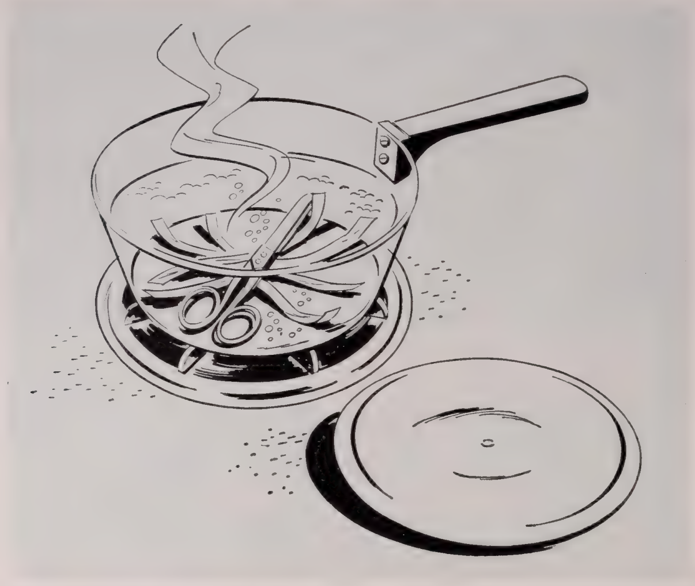
With the cooperation of the Medical Society of the State of New York's Subcommittee on Maternal and Child Welfare of the Council Committee on Public Health and Education and the Medical Defense Committee, a new course of instruction for lay persons on assisting at the birth of a baby has been developed by the New York State Department of Health for the New York State Civil Defense Commission. The course was prepared when it was recognized that, in the event of an enemy attack, physicians and nurses may be so occupied caring for the injured that they will be unable to care for women in uncomplicated labor. *Assisting at the Birth of a Baby After Enemy Attack If No Doctor Is Available* is the title of the text used for the training.

Why Course Is Needed

Early in civil defense planning it was recognized that every American must be prepared to help if this country is to survive an all-out attack by enemy bombers. This is particularly true in New York State in whose cities lives one out of



Timing Contractions

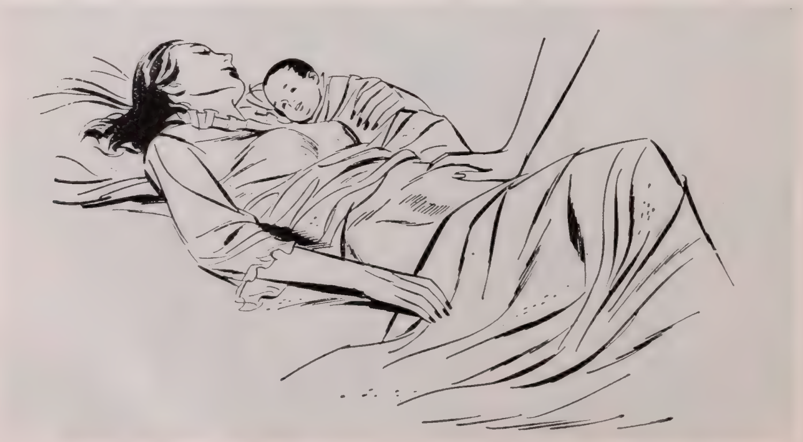


Boiling Scissors and Cord Ties

every four Americans most likely to be bombed. Even if we eventually succeed in training our full quota of civil defense workers, survival will still depend to a great extent on what people are able to do for each other until civil defense people reach them. A part of the plan for survival is, therefore, to train as many adults as possible in such tasks as fighting small fires, rescuing people when the situation is not too hazardous, giving emergency first aid, and carrying out emergency sanitation measures.

An atomic attack is known to cause many births ahead of the expected time because of fear and exertion of the expectant mother. During the first forty-eight hours after an attack, medical or nursing care may not be available for all women in labor since most medical personnel will be caring for critically injured survivors.

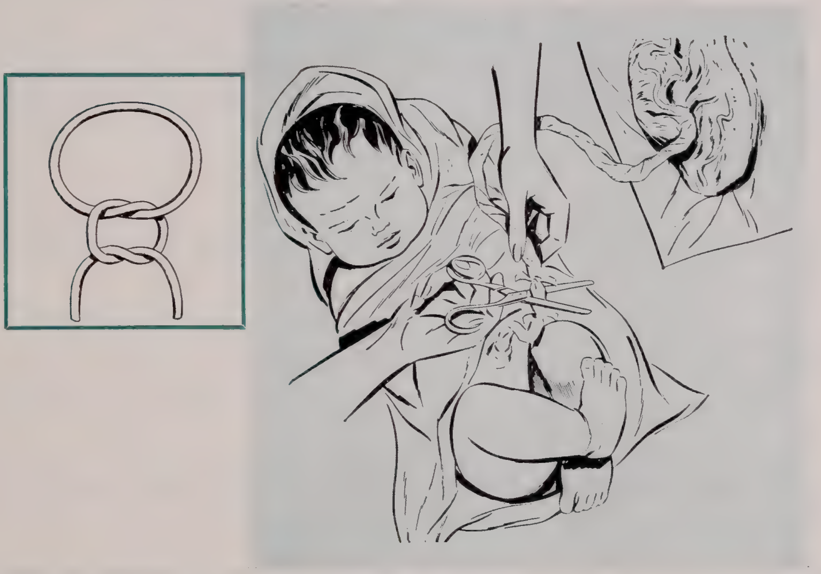
As an example of what would happen as a result of enemy atomic bombing, in the city of Buffalo alone it is estimated that there would be at least 44,500 stretcher cases and 40,000 ambulatory injured. In Buffalo and in surrounding counties, which would send all available help as soon as it is known that the city is bombed, there are only 1,750 physicians and about 6,200 nurses—far too few even to give adequate care to all of the injured. A training program is essential, therefore, to help those persons who



Massaging the Fundus Following Delivery of the Placenta

may have to give care to a mother in normal labor, in order to ensure the safety of the mother and baby.

Written by the Office of Medical Defense with the cooperation of the two Society committees and with the technical advice and assistance of the Bureau of Maternal and Child Health and the Office of Public Health Education of the New York State Department of Health, *Assisting at the Birth of a Baby After Enemy Attack If No Doctor Is Available* covers the things which a neighbor or member of the family can do to help care for a normal delivery. The student of the course is also taught to recognize those signs or symptoms which demand that the mother be seen by a doctor or hospitalized if necessary.



Cutting the Cord

The text stresses the fact that the student should use his knowledge only in an emergency resulting from enemy attack when a physician is not available.

Teaching the Course

It is expected that nurses and physicians will teach the course. A teaching outline has been prepared to help them present the material as written in the text, without the introduction of any additional technical material. Instructors for local civil defense jurisdictions were trained at the 1954 Emergency Medical Services Training Institutes conducted last fall in nine upstate localities by the Office of Medical Defense and the Regional Offices of the State Department of Health.

Contents of the Text

Written in simple terms, the body of the text is divided into three sections: "Normal Labor," "When You Can Help," and "When a Doctor Is Required." At the end there is a list of the technical terms used in the book and their definitions. The whole booklet is illustrated with line drawings to help the student understand the material.

The section on "Normal Labor" explains what labor is, how it can be recognized, what happens during the normal progress of labor, and how to time labor contractions. "When You Can Help" is the main part of the book and covers what the assistant can do during labor and during delivery, what care to give to the baby immediately after delivery, and later care of the mother and baby. Steps to take to lessen the danger of infection or bleeding are emphasized. "When a Doctor Is Required" (see text on page 198) covers those signs which indicate that medical attention is necessary and that the mother must be taken to the nearest aid station or hospital.

Promotion by Physician

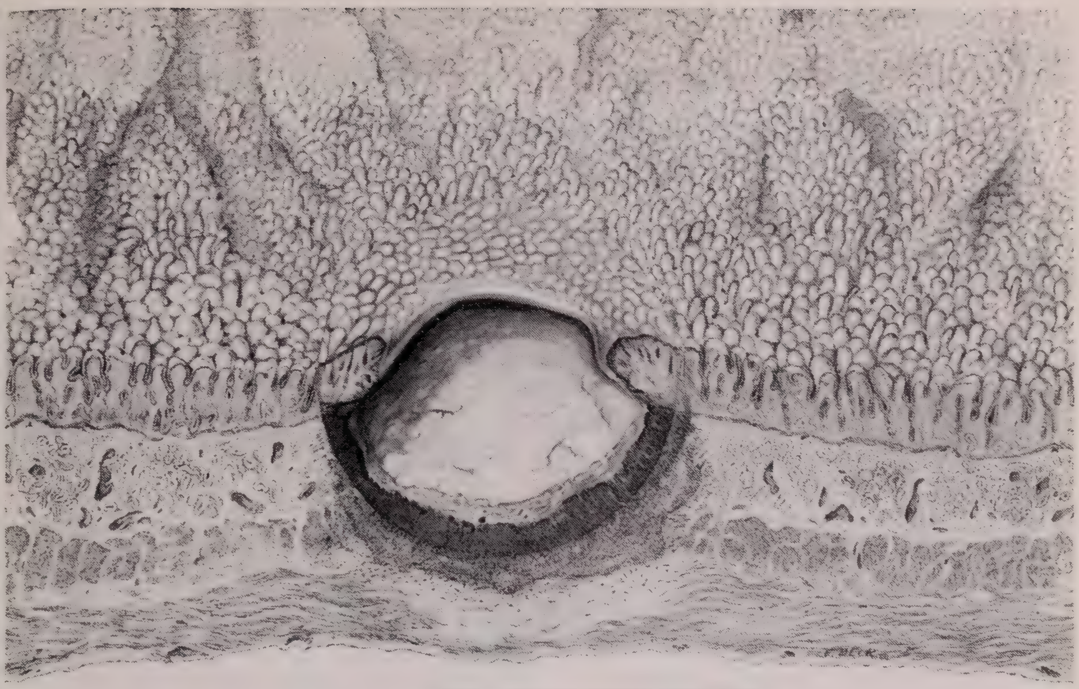
Obstetricians, general practitioners, and others attending pregnant women can help promote this program by urging that their patients, with their friends and members of their families, attend such a course.

To have the promotion of this program start in the doctor's office would ensure its acceptance by the public. In areas where the first aid and medical aide courses have been given widely, physicians have found that their patients who take the courses are more intelligently cooperative. It is anticipated that there would be a similar result from the *Assisting at Birth* training.

When a Doctor Is Required!

If one or more of the following signs are present, it is absolutely necessary that the mother be taken to the nearest aid station or hospital and the condition reported to the doctor or nurse in charge:

1. If the mother has been told by her doctor that she has a serious condition which will require medical care during labor and delivery such as: severe heart disease, diabetes, or too narrow a passage through which the baby is to be born.
2. Convulsions (violent muscular spasms, commonly called fits, spells, or seizures).
3. Excessive bleeding before delivery—sudden gush, flow, or continuous trickle of *fluid blood* or of *blood which has clotted* (thickened). Normally, during labor, there is a flow or trickle of *mucus* streaked with blood which does not clot.
4. Severe, continuous abdominal pain in addition to labor pains. Do not confuse with low back pain felt between contractions.
5. Labor pains which continue for more than eighteen hours.
6. Excessive continuing bleeding after delivery. Normally there may be a gush of about 2 measuring cups (1 pint) of blood after delivery of the placenta.
7. Symptoms of shock—weak pulse, pale, cold, clammy skin.
8. Unconsciousness.
9. "Shaking" chills and fever.
10. Afterbirth (placenta) has not been delivered after one hour following the delivery of the baby.
11. If any part of the baby, other than the head, appears first at the opening to the vagina.



Cross section of active duodenal ulcer.

Dramatic Remission of Ulcer Pain

Pain of ulcer is associated with hypermotility; the pain is relieved when abnormal motility is controlled by Pro-Banthīne.®

"In studying[1] the mechanism of ulcer pain, it is obvious that there are at least two factors which must be considered: namely, hydrochloric acid and motility.

". . . our studies indicate that ulcer pain in the uncomplicated case is invariably associated with abnormal motility. . . .

"Prompt relief of ulcer pain by ganglionic blocking agents . . . coincided exactly with cessation of abnormal motility and relaxation of the stomach."

Pro-Banthine (β-diisopropylaminoethyl xanthene-9-carboxylate methobromide, brand of propantheline bromide) is a new, improved, well tolerated anticholinergic agent which consistently reduces hypermotility of the stomach and intestinal tract. In peptic ulcer therapy[2] Pro-Banthine has brought about dramatic remissions, based on roentgenologic evidence. Concurrently there is a reduction of pain or, in many instances, the pain and discomfort disappear early in the program of therapy.

One of the typical cases cited by the authors[2] is that of a male patient who refused surgery despite the presence of a huge crater in the duodenal bulb.

"This ulcer crater was unusually large, yet on 30 mg. doses of Pro-Banthine [q.i.d.] his symptoms were relieved in 48 hours and a most dramatic diminution in the size of the crater was evident within 12 days."

Pro-Banthine is proving equally effective in the relief of hypermotility of the large and small bowel, certain forms of pylorospasm, pancreatitis and ureteral and bladder spasm. G. D. Searle & Co., Research in the Service of Medicine.

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1. Ruffin, J. M.; Baylin, G. J.; Legerton, C. W., Jr., and Texter, E. C., Jr.: Mechanism of Pain in Peptic Ulcer, Gastroenterology *23*:252 (Feb.) 1953.
2. Schwartz, I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: A Clinical Evaluation of a New Anticholinergic Drug, Pro-Banthine, Gastroenterology *25*:416 (Nov.) 1953.

"These tablets
keep the swelling down
all day long."
TABLET

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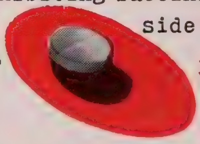
BRAND OF CHLORMERODRIN

NORMAL OUTPUT OF SODIUM AND WATER

Individualized daily dosage of NEOHYDRIN -- 1 to 6 tablets a day as needed -- prevents the recurrent daily sodium and water reaccumulation which may occur with single-dose diuretics. Arbitrary limitation of dosage or rest periods to forestall refractivity are unnecessary. Therapy with NEOHYDRIN need never be interrupted or delayed for therapeutic reasons. Because it curbs sodium retention by inhibiting succinic dehydrogenase in the kidney only, NEOHYDRIN does not cause side actions due to widespread enzyme inhibition in other organs.



Prescribe NEOHYDRIN in bottles of 50 tablets. There are 18.3 mg. of 3-chloromercuri-2-methoxy-propylurea in each tablet.

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SCIENTIFIC ARTICLES

The Surgical Treatment of Carcinoma of the Cervical Esophagus

GEORGE A. SISSON, M.D., SYRACUSE, NEW YORK

(From the Head and Neck Service, State University College of Medicine at Syracuse)

Otolaryngologists are frequently the first ones to examine a patient with carcinoma of the cervical esophagus. A disturbance in swallowing is often the first symptom. Because of the large diameter of the upper esophagus and the marked pulsion effect of the pharyngeal constrictors, other early symptoms often are not present. Paralysis of one true cord with slight huskiness or voice change is an objective finding which should sound a note of alarm until carcinoma of the esophagus is excluded. Later symptoms of dysphasia, odynphagia, and regurgitation with or without blood-tinged saliva naturally focus attention on the esophageal region. The presence of a firm node in either lateral neck should be followed by an extensive search for a primary lesion.

In the early stages diagnosis is impossible without endoscopy. X-ray studies with radiopaque materials or serial laminagraphy are helpful but in many early cases will be inconclusive or entirely negative.

For descriptive purposes and clinical application we can classify the carcinomas in the cervical esophagus into two groups: those that are primary lesions and those that are secondary lesions having originated in an anatomically adjacent area (Figs. 1 and 2). The second group usually is discussed with carcinoma of the extrinsic larynx, thyroid, and hypopharynx. It is included here for two reasons: first, because surgical principles applied to primary lesions can be applied to these secondary lesions and, second, because these lesions are more numerous and are often passed over as laryngeal or thyroid lesions. They then are considered inoperable, and only palliative measures are entertained.

Prognosis in the primary cases usually is better. However, this is not always true. Frequently, the primary cases are fulminating carcinomas, while the secondary group may be of many months standing with or without the primary controlled. Secondary involvement can present varied and difficult problems. Hairline decisions have to be made. Such things as age, surgical risk, previous response to therapy, type of therapy previously employed must all be considered before radical definitive surgery is offered to secondary cases. Therefore, a poor surgical risk (one unable to stand three to four hours of surgery or a markedly aged person) will be given x-ray palliation. This is done for both medical and philosophic reasons.

The surgical attack of cervical esophageal cancer is not new. Czerny[1] in 1877 reported one of the first cases where surgical extirpation alone was employed; reconstruction was not considered, and the patient died of recurrent disease fifteen months later. Mikulicz[2] in 1884, Von Hacker[3] in 1908, Lane[4] in 1911, Eggers[5] in 1925, Torek[6] in 1926, Evans[7] in 1934, Watson[8] in 1942, and Wookey,[9] Orton,[10] and Martin[11] recently have contributed to advancing the surgical attack. Cunning,[12] Conte,[13] and Watson and Converse[14] have emphasized the need for the most radical type of surgery and have been interested in the various methods of reconstructing a functional cervical esophagus.

It is not my intent to present a new surgical attack but rather to plead for early diagnosis and

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Presented at the 148th Annual Meeting of the Medical Society of the State of New York, New York City, Section on Ophthalmology and Otolaryngology, May 14, 1954.

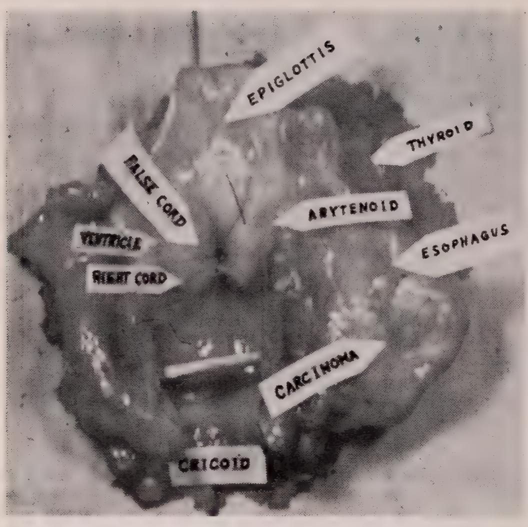

FIG. 1. Primary carcinoma of the cervical esophagus.

TABLE I.—SYMPTOMS IN CARCINOMA OF CERVICAL ESOPHAGUS (17 CASES)

	Primary Lesions	Secondary Lesions
Number of cases	5	12
Initial symptom		
Slight irritation on swallowing	2	0
Hoarseness	1	6
Dysphagia	1	3
Sore throat	1	1
Weight loss	0	2
Later symptoms		
Slight irritation on swallowing	1	2
Difficulty in swallowing	4	7
Painful swallowing	1	1
Hoarseness	1	12
Sore throat	1	1
Cough	0	1
Hemoptysis	0	2
Respiratory distress	0	2
Lump in neck	1	1
Cough on swallowing	0	1
Weight loss	1	5

to emphasize that a worth-while percentage of cases will be cured by modern radical surgery. Surgery also gives palliation for hopeless cases and, occasionally, will effect a "five-year cure."

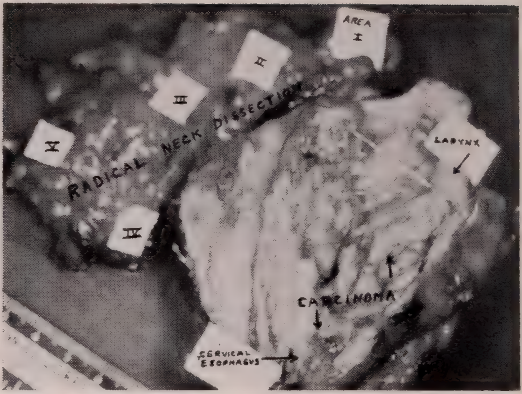

FIG. 2. Secondary carcinoma of the cervical esophagus.

TABLE II.—AGE AND SEX INCIDENCE

Ages	Males	Females
40 to 50 years	4	0
50 to 60 years	6	1
60 to 70 years	4	0
70 to 80 years	2	0
TOTAL	16	1

In addition, I should like to report my personal observations during the past several years* while in close contact with 17 patients suffering from this disease. All were treated by radical surgery. Sixteen of the 17 patients were men. Difficulty with swallowing and hoarseness were the most common initial symptoms occurring in over one half of these cases (Table I). Other initial symptoms were irritation on swallowing and sore throat. Progressive symptoms, usually following hospital admission, were painful swallowing, lump in the neck, cough when swallowing, hemoptysis, respiratory distress, and weight loss (Table I).

Five cases were primary in the cervical esophagus, and 12 were secondary. Most of the secondary lesions originated in the extrinsic larynx. Two of the primary cases showed secondary extension into the extrinsic larynx. Three cases demonstrated double lesions. The age spectrum in these cases was from forty-two to seventy-seven (Table II). Positive biopsies were obtained by esophagoscopy; most of these were reported as "epidermoid carcinoma, grade III" (ten cases). The other cases were classified as epidermoid carcinoma, grade II (five patients) and grade IV (two patients).

Four of these cases had radiation therapy before radical surgery. Five had radiation and incomplete surgery before radical surgery. Six had no previous treatment.

Surgical Considerations

The surgery offered these patients was varied and depended upon the duration, extent, and location of the disease. The radical surgery offered was possible because of improved methods of anesthesia, blood replacement, and infection control. Poor results from irradiation[15-17] greatly influenced decisions toward definitive surgery.

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* As resident and fellow at the Manhattan Eye, Ear and Throat Hospital, 1948–1951, 1952–1953; and on the Head and Neck Service, State University of New York College of Medicine at Syracuse, New York, 1951–1952, 1954.

TABLE III.—SUMMARY OF OPERATIONS PERFORMED

	Operations	Number of Cases
A.	Partial cervical esophagectomy conserving the larynx	0
B.	Partial cervical esophagectomy with total laryngectomy	1
C.	Partial cervical esophagectomy and total laryngectomy with thyroid lobectomy combined with radical neck dissection	2
D.	Partial cervical esophagectomy, total laryngectomy, and total thyroidectomy combined with bilateral neck dissection	1
E.	Total cervical esophagectomy, total laryngectomy, and total thyroidectomy	3
F.	Total cervical esophagectomy, total laryngectomy, and total thyroidectomy combined with radical neck dissection	4
G.	Total cervical esophagectomv, total laryngectomy, and total thyroidectomy combined with bilateral neck dissection	6*

* One in one-stage, five in two-stage operations.

The reconstructive technics discussed here are not my original work; each has been reported previously by clinical investigators interested in this condition.[8,14,16–20] I only wish to report my experiences with these technics and my conclusions as to the merits of the various methods.

Close attention must be given to preoperative care. Many of these patients on admission to the hospital show malnutrition, dehydration, sepsis, and anemia. These conditions must be recognized and treated before the patient is subjected to surgery. Frequently, if a feeding tube cannot be passed, a preliminary gastrostomy is performed. When Pentothal supplemented by endotracheal ether is used, anesthesia problems seldom arise. Blood replacement varies, but 1,000 to 3,000 cc. usually are needed.

A minimum amount of surgery sometimes can be offered if the diagnosis is early. Table III represents various procedures described in the literature[9,14,16,17,21] which are between the maximum (for advanced cases) and the minimum and are adequate if the cases are selected properly. With the exception of operation A, each was used when indicated.

The least amount of surgery offered was a *partial esophagectomy with a total laryngectomy.* This procedure has marked limitations in its clinical application and only can be justified in the most early lesions involving the cervical esophagus. Its application usually is reserved for the lesions secondarily involving the first 0.5 to 1.0 cm. of a cervical esophagus by direct extension from an extrinisic laryngeal lesion. The defect is repaired by primary anastomosis of the remaining portion of the esophagus. Even with this strict criterion, it is unsafe to use this procedure unless the neck is negative and the lesion in the hypopharynx is discrete and limited to one side Since the growing tendency is to do elective necks in all extrinsic laryngeal cases, in the future there will be fewer surgeons using this procedure.

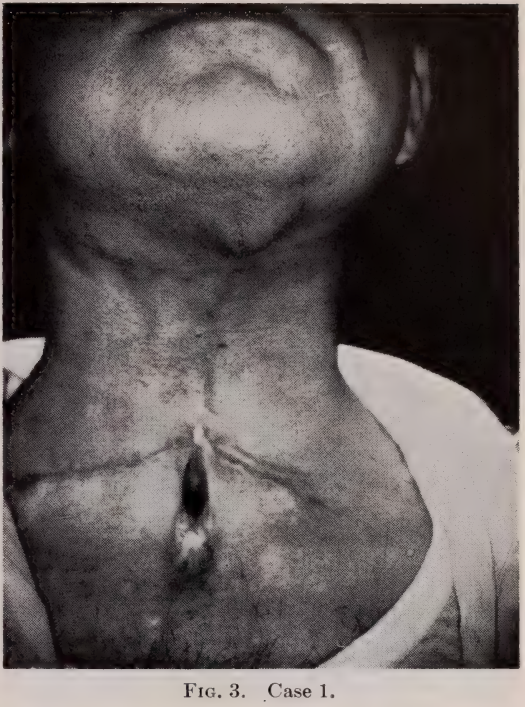

FIG. 3. Case 1.

CASE 1.—A forty-two-year-old male entered the Manhattan Eye, Ear and Throat Hospital in January, 1948, complaining of difficulty with swallowing, difficulty in breathing, hoarseness, and a 10-pound weight loss. He had received x-ray treatment ten months previously for a carcinoma of the right true vocal cord. Two weeks after admission a total laryngectomy and partial esophagectomy were performed. The pathology demonstrated "irradiated epidermoid carcinoma, grade II, involving the arytenoids, false cords, and posterior wall of the upper esophagus." The patient developed a fistula postoperatively. This was closed by a series of delayed pedicle skin flaps. The patient developed a good esophageal voice, and it is now over six years since his original surgery (Fig. 3).

Partial cervical esophagectomy, total laryngectomy, and thyroid lobectomy combined with a radical neck dissection on the side the lesion presented was the operation used in two cases. Again, few cases are suitable for this procedure. They usually are primary lesions in the hypopharynx or

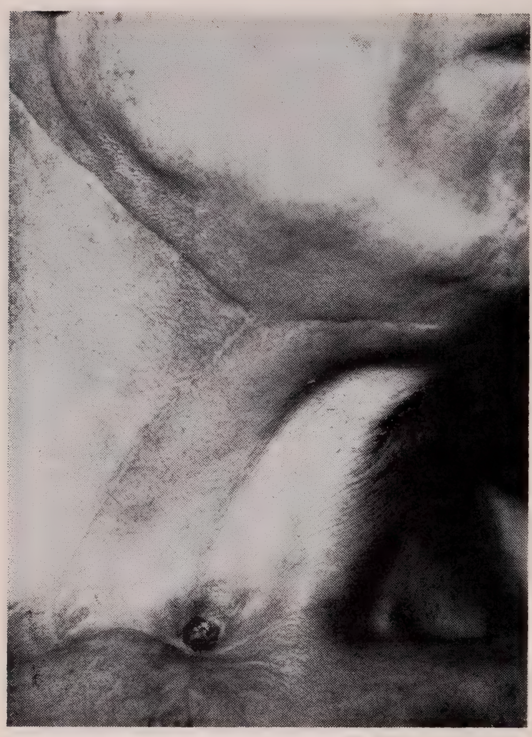

FIG. 4. Case 2.

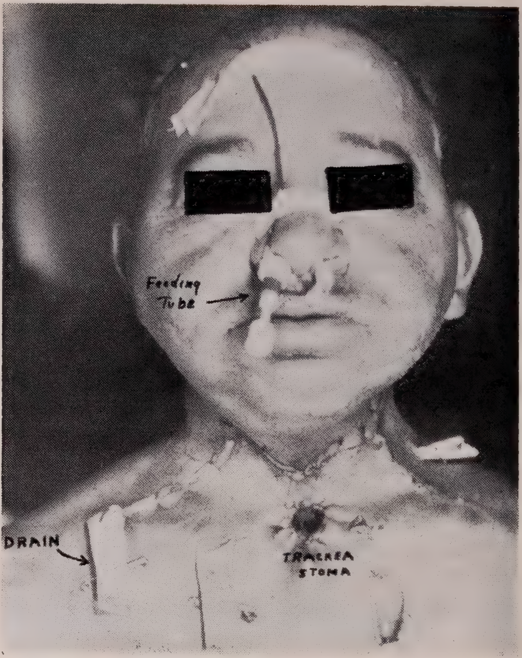

FIG. 5. First postoperative day. Partial cervical esophagectomy, total laryngectomy, and bilateral neck dissection in one stage.

extrinsic larynx which have spread by direct extension to the uppermost part of the cervical esophagus. The spread to the cervical esophagus in these instances is usually an early, well-defined, direct extension of the original lesion which at the time of surgery appears resectable by including a segment of the cervical esophagus. Repair is obtained by markedly flexing the neck and transversely anastomosing the distal and proximal ends of the esophagus. Mobilization of the distal segment facilitates this closure. About 50 per cent of these cases develop a fistula, usually seven to ten days postoperatively. However, by then the flaps are well sealed. The alternative method of closing would be to form a pharyngostoma and close the defect secondarily. The disadvantage here is that the salivary secretions are flowing over or into the fresh neck wound and primary healing of the skin flaps often is delayed. Salivary fistulas and tunnels can form as a result of the delayed healing.

CASE 2.—A fifty-eight-year-old male was admitted to the Syracuse Memorial Hospital in November, 1953, with a sore throat of three-months duration and difficulty with swallowing of two-weeks duration. Esophagoscopy revealed a large infiltrating carcinoma, epidermoid grade II, involving the left pyriform sinus, the posterior wall of the laryngopharynx, and the upper 2 cm. of the cervical esophagus. A 1-cm. node was palpated in the right submaxillary region. A partial cervical esophagectomy, total laryngectomy, right thyroid lobectomy, and right radical neck dissection were performed in continuity. The defect in the esophagus was closed by markedly flexing the neck and transversely anastomosing the distal and proximal ends of the esophagus. The wound closed without a fistula, and the patient was discharged from the hospital on his eighteenth postoperative day. He developed an esophageal voice, returned to work, and has had no difficulty swallowing solids. He showed no evidence of residual or recurrent disease when last examined. It is still an indeterminate case (Fig. 4).

Partial cervical esophagectomy, total laryngectomy, and thyroidectomy combined with a bilateral radical neck dissection has a very limited application and only can be offered where bilateral neck metastases are evident and the primary lesion appears to have been an extrinsic laryngeal lesion with early, well-defined, direct extension of the original lesion into the upper esophagus. One case satisfied these requirements (Fig. 5).

Total cervical esophagectomy and total laryngectomy combined with a total thyroidectomy has small clinical application in early midline esophageal lesions where the neck is easy to palpate. Oc-

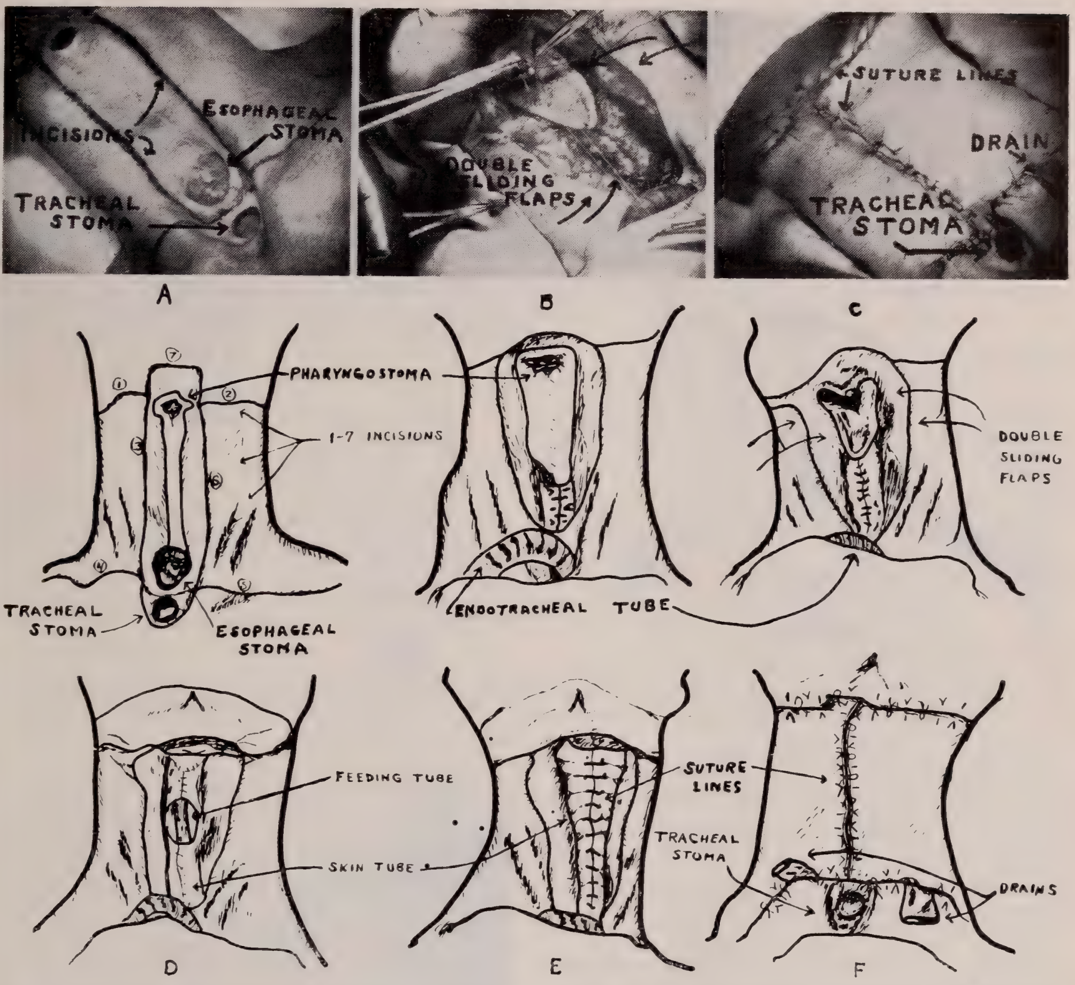
ESOPHAGEAL STOMA
INCISIONS
TRACHEAL STOMA
DOUBLE SLIDING FLAPS
SUTURE LINES
DRAIN
TRACHEAL STOMA
A
B
C
PHARYNGOSTOMA
1-7 INCISIONS
TRACHEAL STOMA
ESOPHAGEAL STOMA
ENDOTRACHEAL TUBE
DOUBLE SLIDING FLAPS
FEEDING TUBE
SKIN TUBE
SUTURE LINES
TRACHEAL STOMA
DRAINS
D
E
F

Fig. 6. Skin tube and double sliding flaps. (Drawings from photos such as shown in upper portion of illustration.)

casionally, this procedure is the operation selected, without the laryngectomy, for cases where a total laryngectomy already has been performed, and recurrence is in the cervical esophagus.

Three cases had this type of excisional surgery. In each the cervical esophagus was reconstructed by the bilateral rectangular flap method as described by Watson.[14] This method is most satisfactory. When reconstruction is complete, these patients develop an intelligible esophageal voice (Fig. 6).

Total cervical esophagectomy, total laryngectomy, and total thyroidectomy combined with a radical neck dissection was considered in four cases. In these the esophageal lesions were believed to be so bulky or so extensive that anything short of a complete esophagectomy was unsafe. These cases were suitable for reconstruction by using the wire mesh-skin graft technic or by the rolled skin tube and double rectangle flap technic as already described. When these methods failed, two tube pedicles were raised on the anterior chest wall and migrated by stages to the area to be reconstructed (Fig. 7).

Unfortunately, six of the patients had well-advanced lesions, and only maximum neck surgery could be considered. Maximum surgery consisted of *total esophagectomy, total laryngectomy, and total thyroidectomy combined with a bilateral neck dissection.* In five of these cases neck dissections were performed in two stages. In one case the surgery was performed in one stage. All patients were left with a pharyngostoma and an esophagostoma. Three of these have died. Reconstruction was deferred four or five months

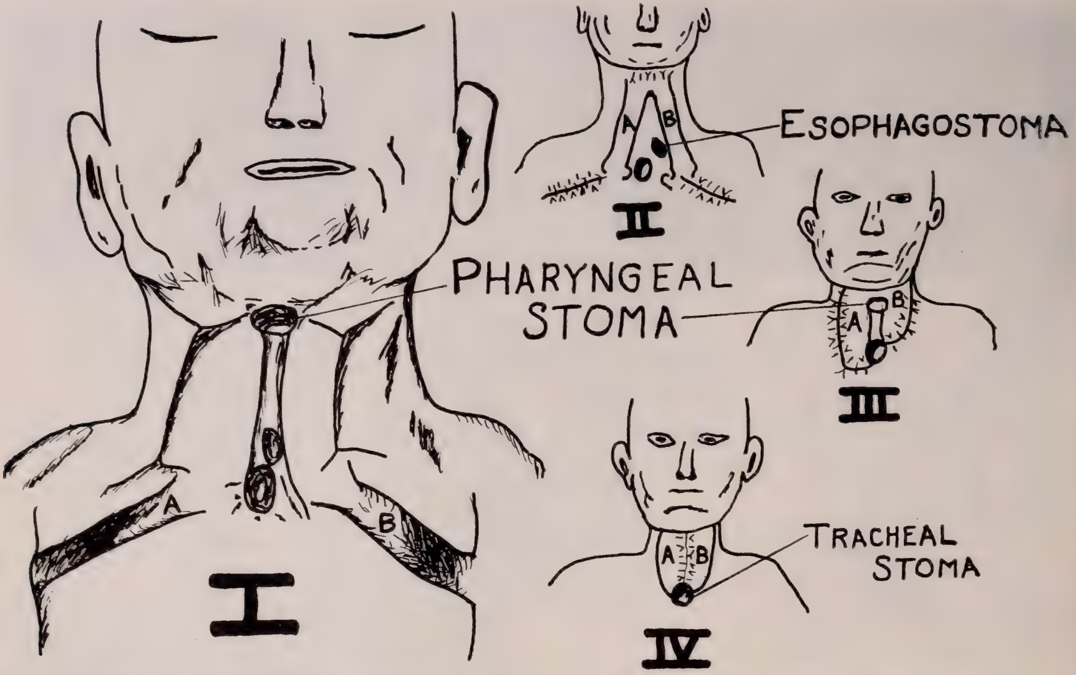

FIG. 7. Reconstruction with tube pedicles: I—Raising tube pedicles on chest wall; II—first migration four weeks later; III—lateral closure six weeks later; IV—final anastomosis or medial closure.

until early recurrences were excluded. The method most used for reconstruction of these defects was one where one or two tube pedicles were migrated to the area to form a new anterior esophageal wall.

CASE 3.—A sixty-two-year-old male was admitted to the Manhattan Eye, Ear and Throat Hospital in May, 1952. A total laryngectomy was performed because of an epidermoid carcinoma, grade IV, involving the base of the epiglottis, the right arytenoid, and both true and false cords. Extension of the lesion subglottically on the right side was suspected. Two months later the patient complained of difficulty with swallowing, and a total cervical esophagectomy, total thyroidectomy, and right radical neck dissection were performed in continuity. He was left with a pharyngostoma and an esophagostoma. For eight months he fed himself by inserting a feeding tube into the esophagostoma. On his return for reconstruction, a small, 1-cm. node was palpated at level 3 (mid-jugular), and a left radical neck dissection was performed. Pathology was reported "epidermoid carcinoma, grade IV." Several months later a tube pedicle graft was raised on the right anterior chest wall and migrated to the neck so that the tube extended from the pharyngostoma to the esophagostoma (Fig. 8). The final stages of this reconstruction now are being performed. It has been one year since surgery, and recurrent disease is not evident. Delay in reconstruction can be attributed to the patient's desire to continue his business while undergoing the various stages of re-

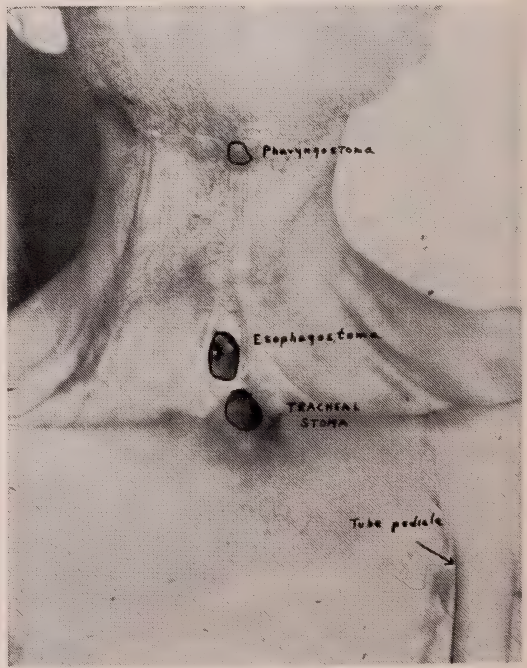

FIG. 8. Case 3.

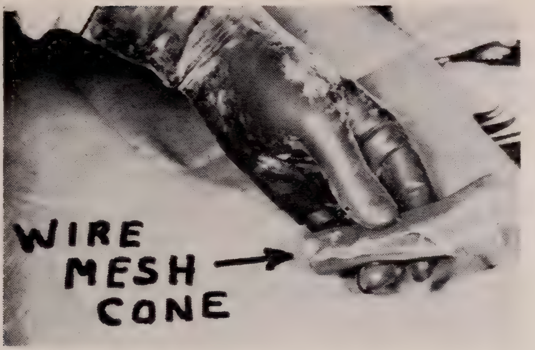

Fig. 9. Cone of wire mesh used for reconstruction with skin graft.

construction. The management of his work is facilitated by the use of an artificial larynx. (The courage, patience, and sincere appreciation demonstrated by this patient have increased immeasurably my conviction as to the value of any effort made to conquer this disease surgically, even in very advanced stages.)

Wire mesh-skin graft technic (Fig. 9) for reconstruction of the cervical esophagus was used in only two cases (Table IV). Originally, we were rather enthusiastic about the advantages of this method in that immediate reconstruction was accomplished at the time of surgery. This would in turn shorten the hospital course. However, in one case where rehabilitation was complete in six weeks, residual or already "seeded" carcinoma obviously was masked for at least another two months by this immediate reconstruction. The wound had been closed primarily, and the recurrence was deep and lateral to the wire mesh-skin graft. The formation of a pharyngostoma and esophagostoma, while it does seem incapacitating, is the safer procedure since the area is easily inspected.

Results

Results to date show that of the 17 cases followed, five have died with residual disease. One died from massive carotid artery hemorrhage fifteen days postoperatively. Disease still is present in one case. Ten are alive, and recurrent or residual disease is not evident. Of these ten, three cases are under one year, and five cases are well over the two-year mark. This paper must be considered as a preliminary report until a five-year follow-up period is complete in all cases.

TABLE IV.—Methods of Reconstruction

Methods	Number of Cases
A. Anastomosis with neck flexed	3
B. Skin tube and double sliding flaps	3
C. Migration of tube pedicle	4
D. Wire mesh-skin graft	2
E. Died before reconstruction	5
Total	17

Conclusions

1. Early diagnosis of cervical esophageal carcinoma usually is dependent upon the acuity of the otolaryngologist.
2. The treatment of primary and secondary cervical esophageal carcinoma is radical surgery.
3. Five surgical procedures have been used in treating carcinoma of the cervical esophagus. Each procedure has its criteria for application.
4. Each excisional technic must be followed by a practical reconstruction technic.
5. Seventeen cases have been used to illustrate these technics.

214 Medical Arts Building

I am indebted to Dr. Daniel S. Cunning for permission to include cases from the Manhattan Eye, Ear and Throat Hospital.

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Discussion

Ernst A. Kopp, M.D., *Albany.*—It is always a pleasure to hear a paper with which one is in complete agreement, but it makes it a rather difficult task for the discussant.

I will not take up your time by reiterating the material just presented. However, Dr. Sisson has stated certain basic principles which should be emphasized. One cannot stress too strongly the need for early diagnosis. The present-day methods of surgical attack, as outlined by Dr. Sisson, permit increased survival, especially if there is an early diagnosis. A thorough investigation of early symptoms, however vague, is always justified.

Five of the 17 cases presented by Dr. Sisson initially had radiation or incomplete surgery before radical surgery or, rather, adequate radical surgery was attempted. By adequate I mean that the radical surgery should result in complete removal of all affected tissue in continuity regardless of the possible functional disability, which can usually be restored later by reconstructive surgery. The first surgical treatment in the case of a patient in whom a diagnosis of carcinoma of an extrinsic laryngeal nature has been made should be performed with the intention that it will be the last feasible surgery. Merely to restate the basic concept of cancer surgery, the line of excision should begin at the most distant surgically accessible point of possible lymphatic extension, which in these cases is supraclavicular. And so in treatment, whether or not the surgeon feels there is metastasis (we know there is microscopic metastasis in 70 to 80 per cent of all extrinsic lesions), the excision should begin with an elective neck dissection and be extended to include a wide margin of the primary lesion. Then, if no lymphatic channels have been entered, this will insure the best results. If there should be a recurrence, further therapy is merely palliative. This has been clearly and precisely established by Dr. Sisson and has proved its worth in my own experience.

Until further research provides a better method of treatment for head and neck carcinoma, adequate radical surgery provides the most hopeful approach and the greatest percentage of survival.

ANNOUNCEMENT

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1955 ANNUAL CONVENTION MEDICAL SOCIETY OF THE STATE OF NEW YORK

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William L. Watson, M.D.
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W. P. Anderton, M.D., *Secretary*
Medical Society of the State of New York

The Physician's Role in (1) Compensation Claims Made Under the Second Injury Law and in (2) Reopening Closed Compensation Claims

WILLIS M. WEEDEN, M.D., NEW YORK CITY

(*Medical Director, New York State Workmen's Compensation Board*)

I do not know how many severely disabled individuals there are in the United States. The number estimated by authorities varies from two to five million. I *do* know that this number is constantly increasing. Recent wars and police actions have furnished their quota. A million and a half individuals are injured in automobile accidents every year; many of the injuries are serious. Industrial accidents, in spite of increased attention to safety measures, still continue to add over 90,000 a year to the list of those with permanent disability of some degree. The number of the aged is steadily growing, and the disabilities associated with the aging process are more numerous. Improvements in therapy now save a larger percentage of the lives of those severely injured and disabled; unfortunately, however, medical progress does not eradicate all disabilities.

Modern methods of rehabilitation have accomplished wonders in restoring lost functions and in teaching individuals to live with their disabilities. Vocational retraining has resulted in the gainful employment of many of those who are left with severe permanent defects, and there are opportunities of engaging in many types of work. In a study conducted by one of the country's largest employers, it was found that 19 per cent of the jobs in his company could be done by persons having only one leg; that 17 per cent could be done by workers with crutches; that 82 per cent could be accomplished by deaf persons, and that 83 per cent were suitable for workers who were blind in one eye.

In general, rehabilitation has as its final purpose the restoration of the individual as an able and productive member of the community. This implies his placement in industry so that he may earn his own living and not be a burden on society.

In the past one of the greatest handicaps to this placement has been the reluctance of employers to engage individuals with known disabilities. To overcome this reluctance, education of employers is necessary. They must be impressed with the value of the injured in industry. They must be shown the many published statistics, which prove that the severely handicapped, when properly placed, perform at least as well as individuals who are not handicapped. They must be told that the partially handicapped are generally less prone to accidents than are the able bodied. A study of the accident rate of 87 great American plants, each of which has from 50 to 12,000 handicapped employes, showed that the accident rate among the handicapped was lower than that among the able bodied in 56 per cent of these plants. In 42 per cent the accident rate was the same; in only 2 per cent was a higher rate found among those partially disabled.

In a recent exhaustive study the Bureau of Labor Statistics of the Department of Labor compared the work performance of 11,000 handicapped workers with 18,000 who had no impairment. In jobs similar as regards both incentives and hazards, the frequency rate of injuries sustained and the rate of absenteeism were identical. However, the impaired workers produced at a slightly better rate and had fewer disabling work injuries than did unimpaired workers on the same jobs.

Despite these findings many employers are still reluctant to employ handicapped individuals because of the fear that an industrial accident may add to the pre-existing handicap and thus increase their compensation costs. This danger is certainly present in industrial areas where no provisions have been made to overcome it. An article published by the National Industrial Conference Board Inc., entitled "Workmen's Compensation Problem in New York State," recognized this danger as early as 1927:

> The pre-existence of disease in compensation

Presented at the 148th Annual Meeting of the Medical Society of the State of New York, New York City, Session on Legal Medicine, May 14, 1954.

cases gives rise to problems for which it is exceedingly difficult to find a solution which will be equitable to all of the parties. In general, the accepted theory seems to be that an employer takes workers as he finds them and must therefore assume the burden of compensating an injured employe even though disease or disability, unrelated to the employment, increases the probability of serious consequence in case of accidental injury. Few persons are physically perfect, but while many disorders and ailments afflicting mankind cannot be detected by medical science in their incipient stages, more often the universal application of high physical standards for industrial employment would disqualify a large number of workers and would make them more or less dependent upon society for support. In view of these circumstances, it has been considered equitable to place upon industry the burden of compensating injured workers not only from effects of disease resulting, or ensuing from accident, but also for disease aggravated, accelerated, or developed by accident.

A decision handed down by Justice Cochrane of the Appellate Division in 1917 stated, "If an employee has a disease and having same, receives injury 'arising out of and in the course of employment' which accelerates the disease and causes his death, such death results from such injury and the right to compensation is secure, even though the disease itself may not have resulted from the injury."

New York State has recognized this problem and is extremely fortunate in having an excellent Second Injury Law, which provides for the protection of employers, who make it their policy to hire or retain in their service, individuals who have had previous permanent disabilities.

This law was passed in 1945. The policy and intent of the Legislature in passing this law was declared to be as follows:

> First: That every person in this state who works for a living is entitled to a reasonable opportunity to maintain his independence and self-respect through self-support, even after he has been physically handicapped by injury or disease;
>
> Second: That any plan which will reasonably, equitably, and practically operate to break down hindrances and remove obstacles to the employment of partially disabled persons honorably discharged from our armed forces, or any other physically handicapped persons, is of vital importance to the state and its people and is of concern to this legislature;
>
> Third: That it is the considered judgment of this legislature that the system embodied in this subdivision, which makes a logical and equitable adjustment of the liability under the workmen's compensation law which an employer must assume in hiring employees, constitutes a practical and reasonable approach to a solution of the problem for the employment of physically handicapped persons.

Under this law the employer of a permanently disabled person has only a limited direct financial responsibility if the handicapped worker becomes further disabled because of a compensable injury or disease. He is liable for benefits for only one hundred and four weeks, including, of course, medical care necessary during that period. Further payments to the injured individual are reimbursed to the employer or his insurance carrier out of a Special Fund, are not charged against the individual employer's workmen's compensation expense, and so do not increase his costs. In fact, the actual cost to the employer may be reduced.

The injured worker has no direct interest in this Second Injury Law, except as it increases his opportunity for gainful employment. Having obtained a job, he receives the same medical and surgical benefits and the same amount of compensation following a second injury and for as long a period as is necessary as he would have received if he had not been previously handicapped. The law merely relieves the employer of much of the resultant compensation cost.

Physicians interested in occupational medicine can be of great service to their disabled patients by educating employers to recognize the physical capabilities and work potentialities of disabled individuals. By pointing out the residual capabilities of handicapped individuals, they can help in proper placement so that these persons can be of the greatest value to industry. The physician can detail the restrictions of activity which should be enforced, while emphasizing the many possibilities for constructive effort which remain. A physician closely connected with an industry can point out specific work operations which can be well performed by certain handicapped individuals. Work can often be fitted to a disabled individual's capacity by minor changes in machines or operating methods.

Physicians also have an important part to play in the proper execution of the Second Injury Law. There are five conditions which must be met before the law can be applied:

1. The previous disability must be a permanent physical condition, serious enough to be or

likely to be limiting to the handicapped person's employment opportunities. It may or may not be a previous compensation injury. It may be a disability which arose as the result of noncompensable accident or disease or may be the result of a congenital condition. Here the physician has to recognize and be able to describe and delimit the handicap.

2. By acquainting the employer with the fact that the individual has a permanent partial disability, the physician thus meets the second provision of the law, which is that the employer must be aware of the fact that the prospective worker has a permanent physical handicap.

3. The third provision, of course, holds true in any compensable condition—that the added disability must be caused by an accident or disease that arises out of and in the course of the employment.

4. The fourth condition provides that the disability resulting from both the previous permanent impairment and the second injury permanent impairment must be materially and substantially greater than the degree of disability would have been due to the second injury alone. This can be decided only by medical evidence and depends upon the physician's judgment in any particular case. The second injury need not be to the same part of the body previously affected. This was clearly pointed out in a recent court decision. In this case the claimant had a preexisting permanent partial disability resulting from the loss of use of 45 per cent of the right hand. The second injury caused an 85 per cent permanent loss of use of the left arm. The court stated, "It is obvious on the face of it that a claimant with a partially crippled right hand and a partially crippled left arm now has a permanent disability caused by both conditions that is materially and substantially greater than that which would have resulted from the last injury alone. It fits perfectly within the framework and apparent meaning of the statute."

5. The fifth provision has little to do with medicine. It merely requires that the claim by the employer for reimbursement from the Special Fund must be filed not later than one hundred and four weeks after the disability due to the second injury begins and in any case before the finding that the second disability is permanent has been made by a referee or the Board. However, the physician's record regarding the original disability, his information to the employer concerning it, and his judgment that the disability is substantially greater following the second injury are all of great importance in the successful application of this law.

Today many large employers make a practice of hiring handicapped individuals. While the opportunities for employment of the partially disabled in the smaller industries are not as great, physicians can and should play a greater part in making such employment available to disabled workers. With their help the purpose of the Second Injury Law, which is to furnish work opportunities to handicapped individuals, can be attained.

The Compensation Law provides that a closed compensation case may be reopened at any time within eighteen years after the original injury if there has been a change in the condition which existed at the time that the case was closed. Such a reopening of a case practically always depends upon a physical examination by a physician and on his report on Form C-27 submitted to the Compensation Board, showing that a change in the claimant's condition had occurred.

It may involve only the physician's opinion that further medical treatment is necessary, or it may involve a definite change in the condition, which adds materially to the disability found at the closing of the case. From some of the reports submitted, I am certain that many physicians have no clear understanding of the provisions necessary for asking that a case be reopened. Some seem to think that the existence of any disability constitutes adequate grounds for asking for further compensation. This is not true. A great many cases are closed either on schedule loss awards or on lump sum settlements, which signify the existence of a permanent partial disability. Unless this disability has increased, the case cannot be reopened.

A physician should seek to discover just what the disability was when the case was closed. This can best be learned as a rule by reading a copy of the last medical examination made by the Workmen's Compensation Board. If an effort were made to obtain this knowledge, many of the requests for reopening cases which are now submitted by physicians would not be made.

When there has been a lapse of seven years from the date of injury and a lapse of three years from the date of the last payment of compensation, payment of further compensation or medical costs is made out of a special fund. The law provides that any and all such payments must be specifically authorized by the Chairman of the Board. Physicians should know of this provision before starting treatment in such cases. Under the law covering the treatment of original compensation injuries, authorization must be obtained only in those cases where the cost will exceed $25. Under the provision for reopened cases (Section 25A of the law), however, authorization for any treatment, except of course for emergency treatment, must be first obtained from the Workmen's Compensation Board; otherwise, the physician may find it difficult to obtain payment.

This part of the law is designed to provide the claimant with treatment and compensation for complications and changes in the compensable condition, which could not be foreseen at the time the case was closed. It is not meant to be invoked because the claimant loses his job for some reason unrelated to his physical condition or because he has been retired on account of age. The physician should not lend himself as a tool in the filing of unjustified claims. He should make every effort to ascertain that the reason for disability is definitely related to the original injury or disease and that there has been a definite change in this disability since the case was closed.

If care is exercised in this regard, the justifiable claim will receive prompt attention. Where no justification exists, much work by the Board and disappointment to the claimant will be avoided if the physician refuses to fill out the form.

Discussion

Herman Cowan, M.D., *New York City.*—Physicians in New York State, especially those who are called upon to treat cases under our workmen's compensation laws, have more and more been confronted with the problems outlined by Dr. Weeden.

From his vast experience in trauma and with the authority that goes with his position as surgeon in charge of the New York State Workmen's Compensation Board, he gave us in easily understood terms the etiology of the Second Injury Law. And then he dealt with the mechanics of the law.

He showed us the size of the disabled population and how and why it was growing. It is a misfortune to be permanently handicapped. How much worse it is to be kept from enjoying the social and financial benefits of constructive work. A larger and larger group of socially minded people were seeking means to help the disabled person find employment. Employers were and are being educated to the excellent working qualities of the partially disabled. The labor shortage of the war period, in my opinion, brought the problem to a head. We were at a propitious time for remedial measures to be instituted. Our New York State Legislature conceived the Second Injury Law. Dr. Weeden showed us how this law broke down the employers' reluctance to hire a crippled person by limiting the employers' liability in the event of an accident to a previously handicapped person.

The monies in the Special Fund were originally supplied and are constantly replenished by the employers or their insurance carriers in a special manner which we have not time to discuss. When a previously handicapped person has a compensable accident which causes disability and needs treatment, the employer or his carrier pays all the charges for as long as the case requires. All payments made by the carrier after the first one hundred and four weeks are reimbursed to him by the Special Fund, providing the case comes within the Second Injury Law.

Dr. Weeden has admonished us to be on the lookout, when we treat under the Workmen's Compensation Law, for the presence in the patient of a previously existing partial permanent disability, be it caused by previous disease or injury. There is a space in the C-4 form (line 12) requiring an answer to this question. Next the physician must determine if the latest or the presenting accident produced or will produce a physical defect that will be permanently disabling of and by itself. If so, then, by mere addition, the patient may have a permanent physical impairment that is greater than the permanent disability which was present previously when he was first employed. And if the employer had knowledge of the existence of a permanent partially disabling condition at the time of hiring or at any time before the second accident and continued him in his employment, the referee, when properly apprised of the situation by the employer's carrier, should rule the case as coming within the law.

Dr. Weeden touched on the requisites for the reopening of cases previously closed. He cautions us to become acquainted with the physical condition of the patient at the time of the closing. And only if we feel there has been a worsening of the patient's physical condition that can be attributed to the accident, should we file a C-27. The mere filing of a C-27 doesn't carry any authorization to treat. The case can only be reopened by the Board at a hearing or by the carrier without a hearing if the carrier is convinced of the justice of the claim.

A Logical Approach to the Problem of Urinary Calculi Prophylaxis

HARRISON C. HARLIN, M.D., F.A.C.S., BROOKLYN, NEW YORK

(*From the Department of Urology, Brooklyn Hospital*)

URINARY calculous disease offers the medical profession one of its greatest challenges. While prophylaxis would seem to be paramount, it is this very phase, complex and imperfectly understood as it may be, which is misjudged and treated casually. Because of the intricacy of etiology, the varying chemical constituents of urinary calculi, and the heterogeneity of associated conditions, there cannot be with our present knowledge a common denominator when the problem of prevention of recurrences presents itself. Since each case must be managed in the light of individual findings, the purpose of this discussion is to crystallize our thoughts about the various aspects of urinary calculous disease so that a logical approach may be made toward its prophylaxis.

Before attempting to prevent kidney stones, one must endeavor to answer the simple question, "Why do kidney stones form?" Unfortunately, the answer is complex since the initiating factors and mechanisms of formation are insufficiently understood. One must realize first of all that urine is a hypersaturated solution in which crystalloids and colloids are present. It is generally accepted that these crystalloids are normally held in solution by the protective actions of certain colloids. Errors in metabolism, infection, or any other disturbance that will upset the crystalloid-colloid equilibrium induces precipitation of urinary salts. This precipitate, while not constituting a calculus, may act as a nucleus upon which further precipitation may take place, the particles gradually becoming cemented together to form an actual stone. Deficiency of certain vitamins, urinary tract stasis, urinary pH variations, and endocrine disturbances play important etiologic roles. Recent observations[1] suggest the likelihood of an influential role being played by surface tension changes in the urine in the formation and prevention of calculi.

Now let us probe more deeply into these factors. Just what do we mean by urinary crystalloids? Simply, these are substances of crystalline nature which will diffuse readily through membranes. They are many and varied, but only a relatively few are concerned in urinary stone formation: calcium, ammonium, magnesium, phosphate, carbonate, oxalate, uric acid, cystine, xanthine, and possibly zinc. One cannot readily explain how excessive concentration of certain of these crystalloids is dissolved in the urine. It may be that the solubility of any single salt is often greatly increased by the presence of other salts in the urine. This is known as the neutral salt effect. In addition, it is very probable that the increased solubility is due to the presence of certain colloids which have a protective action.

This brings us to a consideration of the field of urinary colloids. These colloids are not a special kind of matter but rather a state of subdivision of matter. They lie between the microscopic and molecular systems, their dimensions being considered to range between 0.001 and 1 micron. A colloidal suspension unlike ordinary suspensions will not settle out on standing. Brownian movement of the particles overcomes the force of gravity. A colloidal solution is clear to the naked eye and on ordinary microscopic examination. Since the dimensions of colloidal particles are less than the wavelength of visible light, it is necessary to view them by reflected rather than by transmitted light. The urinary colloids are a large number of different substances, some of which are mucin, glycogen, and nucleic acid. There are two types of colloid, lyophilic and lyophobic. The former ("water-loving colloids") have a great affinity for water and form stable solutions or gels. The lyophobic colloids gain their stability by the electrical charge of the individually dispersed particle. Certain

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Presented at the 148th Annual Meeting of the Medical Society of the State of New York, New York City, General Sessions, May 14, 1954.

electrolytes which occur in abnormal urines neutralize these charges, causing the sol to become unstable and thereby precipitate. To induce precipitation of the lyophilic colloids both the electrical charge and hydration must be removed. When lyophilic colloids are mixed with lyophobic, they coat the surface of the latter and "protect" them from electrolytes.

The surface tension of the urine is an index of the quantity of tensioactive substances present (as a rule, characterized by a relatively great length of molecule as compared to width and by the presence of a terminal polar hydrophilic group attached to a long-chain nonpolar hydrophobic group). These substances of unknown chemical composition tend to concentrate at the air-liquid interface. Clinically, the highest surface tension value of urine encountered is 73 dynes per cm., and this coincides with the presence of a minimal amount of tensioactive substances. The lowest recorded value in personal experience has been 51 dynes per cm. The lower the surface tension value of the urine (recorded in dynes per cm.), the greater the number of surface-active agents present. The findings of Ravich,[2] Revici,[3] Butt,[4] and others indicate there is a correlation between the number of colloidal particles present in the urine (as demonstrated by ultramicroscope) and the surface tension value. Generally, the lower the surface tension value, the greater the colloidal activity. Harlin and Wiesel[5] in a study of over 1,000 serial urine specimens from apparently healthy subjects found that 73 per cent were in the 66 to 68 dynes per cm. grouping. Day-to-day variations of 5 to 8 dynes per cm. were noted.

Urinary Crystalloids

At this time it would be well to consider the crystalline components which have been identified by chemical analysis of urinary calculi. In a formed calculus these salts are held together most probably by colloidal matrix. There are four main types of stones: (1) calcium-containing stones, (2) uric acid stones, (3) xanthine stones, and (4) cystine stones. The first group (calcium-containing) includes calculi composed of calcium oxalate, calcium phosphate and magnesium ammonium phosphate, and calcium carbonate. It is well to note here that Prien,[6] examining calculi by x-ray diffraction and polarized light transmission, has shown that chemical analyses are not completely accurate and that calculi are in reality more complicated chemically and physically than one would be led to believe by relying on simple chemical analysis. He was able to demonstrate that a major portion of the calcium oxalate stones and practically all of the magnesium ammonium phosphate calculi have a calcium phosphate nucleus.

As will be seen later, the reaction of the urine plays a major role in the division of these calculi (calcium-containing) into primary and secondary stones. The latter are intimately associated with urinary tract infection (often augmented by stasis) and are generally composed of magnesium ammonium phosphate and calcium phosphate. The urinary pH is in the alkaline range.

The primary calcium-containing calculi are composed of calcium oxalate or mixed calcium oxalate and calcium phosphate. Occasionally, pure calcium phosphate is encountered. The urinary pH is in the acid range. Calcium oxalate calculi may also be found in neutral or slightly alkaline urine.

Uric acid, xanthine, and cystine stones form in an acid urine. Rarely secondary infection may supervene and change the urinary pH.

Since any increase in the already excessive concentration of urinary salts may be an initiating factor in a chain of events leading to stone formation, consideration of the conditions which may cause an increase in these urinary crystalloids is indicated.

Hypercalcinuria.—An increase in the calcium content of the urine—hypercalcinuria—is intimately associated with the formation of calcium phosphate, with or without calcium oxalate and magnesium stones. The most common causes of hypercalcinuria are (1) hyperparathyroidism, (2) acidosis, (3) hypervitaminosis D, (4) prolonged recumbency, (5) certain infections, (6) postmenopausal hypercalcinuria, (7) high calcium intake, and (8) Cushing's syndrome and idiopathic hypercalcinuria. Certain of these warrant further consideration.

Hyperparathyroidism is capable of being corrected by surgical intervention. However, the diagnosis may occasionally be difficult to make. The blood calcium and phosphorus levels along with the urinary excretion of calcium are the most important tests. It must be remembered that serum calcium is of two main types. Roughly, one half is bound to protein, and the other half is ionized. It is this latter fraction which is increased in overactivity of the parathyroids. If this is elevated but there exists a low protein, then the total serum calcium may be within normal range. The urinary calcium can be qualitatively measured by the Sulkowitch test. If this is increased, then the patient is placed on a neutral ash-low calcium diet for three to four days following which the twenty-four-hour calcium output in the urine is quantitatively measured. If this is over 150 to 200 mg., it is highly suggestive of parathyroid overactivity. Suby[7] states that hypophosphatemia is present only when bone disease exists.

The vitamins are also concerned in the formation of renal calculi. Absorption of calcium from the gut is augmented by excessive intake of vitamin D. This causes an increase of calcium in the blood and also in the urine. Phosphorus is also increased in the urine, and this double action tends to aid in the production of urinary stones. There is clinical and experimental evidence that vitamin A deficiency in the diet may result in keratinization of the urothelium, desquamation of which could act as a nucleus for precipitation of salts from a supersaturated solution (urine).

Hypercalcinuria develops in recumbent patients who are kept quiet in casts or who are paralyzed over a period of several days. At the end of six to eight weeks equilibrium is brought about, and as a rule calcium excretion returns to normal. It is during this period that the nucleus of stone formation occurs.

In Cushing's syndrome overproduction of adrenal-cortical hormone results in osteoporosis and hypercalcinuria. Bone catabolism proceeds normally, but cortisone prevents bone anabolism, calcium being blocked from being replaced into bone and therefore excreted in the urine. Further changes in the urinary surface tension and colloidal activity will be discussed later.

Infection in the urinary tract, excluding urea-splitting infections, is sometimes the only apparent cause for increased calcium in the urine. This formerly was thought to be related to certain organisms, but now the general feeling is that the calcium excess is a result of tubular damage and focal renal insufficiency.

Phosphaturia.—When urinary phosphorous excretion is excessive or when phosphates are precipitated in the genitourinary tract, phosphaturia occurs. Normally, 0.8 to 1.2 Gm. of phosphate is excreted in the urine in twenty-four hours as alkaline (sodium, potassium) or earthy (calcium, magnesium) salt. The sodium and potassium phosphates are soluble in both acid and alkaline urine, while the calcium and magnesium salts are insoluble in alkaline urine. Phosphaturia may be due to:

1. Excessive intake of alkaline ash food or medication.

2. Infection in the urinary tract by urea-splitting organisms. Certain organisms, most commonly proteus and micrococcus, have the power to break down urea to ammonia and carbon dioxide. The urine is rendered alkaline with the resultant precipitation of phosphates.

3. Persistent phosphaturia in absence of infection with a normal diet. The solubility product K of (Ca) × (PO_4) grows smaller as the pH rises.

Oxaluria.—This is attributed to a metabolic error whereby oxalic acid is formed excessively or may be due to an increase in oxalate ingestion. Normally, 1.5 to 30 mg. of oxalic acid are found in the urine in twenty-four hours. The solubility of the oxalate crystals is dependent upon the sodium acid phosphate as well as the calcium and magnesium chloride content of the urine.

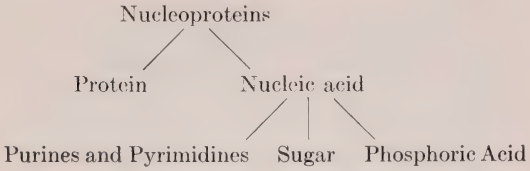
Increase of Uric Acid.—Uric acid is an end product of purine metabolism and is excreted in the urine as sodium, potassium, and ammonium salts to the amount of 300 to 1,200 mg. daily. These urates remain in solution in the urine unless there is sufficient concentration of acid phosphates present to fix the base and liberate the free uric acid. Increase in uric acid excretion may occur in gout, chronic myeloid leukemia, polycythemia, certain forms of hepatic disease, and after certain infections. Emotional stress and ACTH or cortisone administration usually increase the excretion of uric acid due to active breakdown of nucleoprotein.

In addition to uric acid in the urine, 30 to 50 mg. of purine base—adenine, guanine, hypoxanthine, and xanthine—are found in the urine in a twenty-four-hour period. Xanthine calculi are rare, form in an acid urine, and are associated with an error in metabolism of nucleic acid.

Cystinuria.—An excessive excretion of cystine in the urine, cystinuria, is considered to be a familial disease which follows a recessive Mendelian characteristic. Rarely, it may be due to derangement of kidney function due to tubular damage. In a normal individual, 100 to 200 mg.

of cystine may be found in the urine in a twenty-four-hour period. The sulfur-containing amino acid cystine is normally broken down into urea and inorganic sulfates. Cystinuria is considered to be a derangement of intermediate protein metabolism.

The following may serve to clarify the relationship of purines to nucleoproteins:



Preformed in all nucleic acids are the aminopurines, adenine and guanine. These can be deaminized and oxidized to form hypoxanthine, xanthine, and uric acid.

Urinary Colloids

As stated previously, the knowledge of the composition of urinary colloids is not complete. The total amount is thought to increase in individuals taking a high meat diet. Acute and chronic inflammatory diseases of the kidney increase the nonalbuminous colloids. It is known that electrolytes may be capable of precipitating some colloids. Dehydration and concentration of electrolytes become important since urinary concentration relatively increases the proportion of electrolytes and decreases the proportion of colloids. Since hydration is an important factor in the stabilization of colloidal solutions, it becomes apparent that an individual who is predisposed to calculous formation may become a victim because of a dry heat climate.

Adrenal steroids have a definite influence on urinary colloids. To understand their action better we must first focus our attention on the interrelationship of corticosteroids and hyaluronidase. It has been shown that hyaluronidase of testicular or bacterial origin is a mixture of at least two enzymes, one of which attacks long-chain polysaccharide molecules, the other hydrolyzing shorter fragments down to monosaccharides.[8] The substrate for these enzymes is the ground substance of connective tissue which is a complex of acid polysaccharides and protein. The mucosaccharides of human skin have been isolated and shown to contain on the average 24.5 mg. of hyaluronic acid and 26.2 mg. of chondroitin-sulfuric acid per 100 Gm.[9] Hyaluronic acid has been considered to have a molecular weight of about 500,000 and to have as its basic unit a disaccharide of acetylglucosamine and glucuronic acid.[10] The subcutaneous administration of hyaluronidase produces depolymerization of hyaluronic acid. Soon after the injection and during the period of repair of the weakened barrier, a highly depolymerized fraction or fractions of hyaluronic acid enter the circulation and reach the glomerular filtrate in appreciable concentration. This acts as an excellent protective colloid.

One of the end products of depolymerization of hyaluronic acid is glucuronic acid, and this is available in the pure state as a synthetic chemical substance marketed as Glucuronolactone.* Harlin and Wiesel[5] have been able to demonstrate an increase in the urinary colloidal activity by the oral ingestion of this substance in selected cases.

Cortisone blocks the effect of hyaluronidase on hyaluronic acid in the ground substance, thereby causing an inhibition or slowing of the release of the end products of depolymerization into the urine. ACTH administration, stress, and Cushing's syndrome have a similar effect.

In Addison's disease there is a tendency for a greater urinary colloidal activity to be present.

Urinary Surface Tension

Urinary surface tension changes roughly parallel colloidal activity. It is apparent that conditions modifying colloidal activity often modify the tensioactive substances in the urine. For example, in Cushing's syndrome where the colloidal activity is low, the urinary surface tension determinations are high (diminution of tensioactive agents). High surface tension values are frequent in patients with a history of recurrent stone formation. The lowest surface tension values have been encountered in pregnant women and in patients with jaundice. These low values cannot be explained simply by the colloidal activity of the urine since studies do not confirm the presence of an excessive amount of colloids.

Prevention of Stone Recurrence

We are concerned now with the prevention of recurrences of stone, not with the possible dissolution of a small kidney calculus or the prevention of increasing the size of one already present. We will not consider surgical correction of stasis or eradication of extraurinary lesions. The treatment of these are obvious.

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* Glucuronolactone for investigation has been supplied through the courtesy of the Corn Products Refining Company, New York.

Our aims come under three main groupings: (1) the prevention of excessive supersaturation of the urine by salts concerned in stone formation, (2) the maintenance of an adequate protective colloidal level, and (3) the maintenance of urinary surface tension at a normal or lower level.

Reduction of Urinary Supersaturation

Increasing Urinary Volume.—By this means we dilute the concentration of the salts concerned in stone formation. The forcing of fluids is of the greatest importance. There should be an intake of at least 4,000 cc. spread over the waking hours. The dissolved salts in a supersaturated solution may be maintained without precipitation if no nucleus is present. Infection, which may cause local mucosal irritation and lesions with the production of fibrin and mucin, and vitamin A deficiency, with its keratinizing effect on the urothelium, may set up a nucleus on which the urinary salts may be precipitated. The prevention of oliguria by a high fluid intake not only increases the urinary volume but also has the effect of washing any small nucleus from the urinary collecting system. A diet high in vitamin A must be assured, and in cases where there have been rapid recurrences the vitamin is administered in capsule form (50,000 units daily). Every attempt should be made to eradicate infection and stasis.

Decreasing Urinary Excretion of Offending Crystalloids.—Best results in this category are obtained with the calcium-containing stones. Of the various causes of hypercalcinuria only hyperparathyroidism and Cushing's syndrome may be surgically corrected. The increased excretion of calcium in the urine in the early weeks of recumbency may be combated to a certain extent by active or passive motions of upper and lower extremities. This puts stress on osteoid tissue of bone and tends to hold calcium in bone. A low-calcium diet (milk and its products or any foods containing large amounts of milk prohibited) can be quite effective in decreasing excessive amounts of calcium in the urine. Acidosis (from drug intake) must be avoided.

Excess phosphate may be prevented by decreasing the intake or by the oral intake of aluminum gel. The gel combines with the phosphate forming an insoluble aluminum phosphate in the bowel which is excreted in the stool. Urinary phosphorus is correspondingly lowered.

Ammonium and carbonates are usually associated with urinary tract infection, and a decrease in their concentration may be brought about by eradicating the infection when possible.

Oxaluria in part is due to excessive intake of food high in oxalic acid. To counteract this food high in oxalates should be restricted. These include chocolate, cocoa, spinach, asparagus, and rhubarb.

Hyperuricemia requires the use of a low-purine diet. Salicylates, ACTH, and cortisone in large and prolonged doses should be avoided since all of these increase the concentration of urinary uric acid. Stress does likewise. A low-purine diet may also be of some value when an excess of xanthine is present in the urine.

Since the main source of cystine is endogenous, a low-cystine or low-sulfur diet will only meagerly modify cystinuria. Choline therapy has been recommended in an attempt to cause conversion of methionine to cysteine rather than to the insoluble cystine by utilizing the labile methyl group from choline. The results have been disappointing. Since cortisone increases the urinary excretion of cystine, its prolonged use must be avoided.

Increasing Solubility of Stone-forming Salts.—This does much to prevent precipitation. It is here that we must consider the pH of the urine. With a constant amount of calcium phosphate (as contrasted to an increasing amount), there is a rapidly increasing insolubility as alkalinity is increased. In the commonest clinical range—pH between 5.5 and 7—each half unit fall in pH doubles the solubility of the average amount of calcium phosphate present in normal urine. In the stone-forming patient where there is an increase in the amount of calcium phosphate present, the solubility will not be doubled with each half unit fall in pH, but there will be a significant increase.

Magnesium ammonium phosphate has a solubility curve somewhat similar to calcium phosphate. It is roughly parallel but at a lower level. Insolubility increases as alkalinity is approached or increased. The curve for calcium oxalate is a straight line, the solubility being uninfluenced by pH changes. Uric acid, cystine, and xanthine are all more soluble in alkaline pH.

From the above it becomes apparent that if one is trying to prevent the recurrence of a calcium phosphate or calcium ammonium phosphate calculus, every effort should be made to render the pH of the urine acid. Sodium acid phosphate is the drug of choice to acidify the urine. Dosage varies but may be used up to 15 grains four times a day. This drug does not result in acidosis or bone demineralization and decreases the urinary calcium up to 50 per cent. An acid-ash diet may be of value in cases of calcium calculi. Although the increased acidity results in an increased calcium excretion, this is offset by the increased solubility of calcium phosphate at a lower pH. However, when a resistant urea-splitting infection exists in the urine, the pH cannot be lowered, and therefore, the acid-ash diet causes an increased calcium excretion, enhancing the precipitability of the calcium salts. In these cases one must resort to the use of a low phosphorus-low calcium diet and basic aluminum carbonate gel (Basaljel). In this regimen a known quantity of phosphorus is taken in the diet within a twenty-four-hour period. At the same time Basaljel is administered four times a day (usual dose 30 cc.). This combines with the ingested phosphorus to form an insoluble compound which is eliminated in the feces. The effectiveness of the regimen is determined by a quantitative study of the amount of phosphorus excreted in the urine in a twenty-four-hour period. The goal should be to keep this figure under 350 mg. per twenty-four hours. By decreasing the concentration of this crystalloid to such an extent, the chances of precipitation are minimized despite the alkalinity of the urine. Impaired renal function and urea-splitting infection do not impair the effectiveness of this routine. The only objections to its use are the occasional gastrointestinal symptoms induced by the medication and the fact that the diet is quite restrictive. Yet the regimen certainly has its place in selected cases.

Calcium oxalate stones present a different problem. Since the oxalate is not influenced by changes in urinary pH, it would seem that this could be ignored. However, if we recall that Prien has shown that the majority of these calculi have a nucleus of calcium phosphate, it would seem logical to attempt to prevent the formation of this nucleus. This is best attempted by acidification of the urine. In this way there is an increase in the solubility of both the calcium fraction and phosphate. Without the presence of a nucleus the chances of maintaining the calcium oxalate in a supersaturated solution are enhanced.

The urine of patients forming uric acid, xanthine, or cystine stones should be kept alkaline to render these substances more soluble. Probably the best alkalinizing agent is sodium citrate (usual dosage 3 to 4 Gm. four times a day). It may be used over a long period of time and does not have the side-effects so often encountered when soda bicarbonate is used. In dealing with a uric acid stone-former the pH of the urine should be maintained at 7.5. One must be a bit more vigorous with the cystine stone-forming patients. The urine should be rendered alkaline and maintained at a pH around 8 over a twenty-four-hour period. This may entail the patient taking his citrate in the early hours of the morning. Xanthine may be managed in a fashion similar to uric acid. The stones are rarely encountered, and when they are, the bladder is the usual location.

Maintenance of Colloidal Level and Urinary Surface Tension

The maintenance of an adequate colloidal level and a normal urinary surface tension seem to be so closely related at the present knowledge level that it would seem logical to consider them together.

Butt feels that hyaluronidase is indicated in all stone cases where, following its administration, there is a clearing of the turbidity and sediment of the urine and/or a reduction in the urinary surface tension. Hyaluronidase is relatively nontoxic and has no untoward systemic effects. Large dosages (600 to 5,400 turbidity-reducing units daily) have been given over periods of several months without ill effect on the patients. If too small a dosage is administered, one may encounter a "sensitization reaction" where the aggregation of crystals is enhanced and stone formation is thereby facilitated.

The author is in agreement with Butt in the main but feels that aside from the protective actions of the colloids, the actual surface tension level of the urine must be considered. It is true that the number and size of colloidal particles present will modify surface tension values, but, in addition, there are chemical and physical substances of unknown nature which also have a modifying effect. The markedly low values of urinary surface tension found in many pregnant women and in jaundiced patients cannot be explained by the presence of colloids alone.

At this point I should like to refer again to my work with Wiesel on urinary surface tension. Of 1,200 serial specimens of urine from 100 nonpregnant patients who gave no history of gallbladder disease, liver disease, or urinary calculi, 72.2 per cent had surface tension values ranging between 66 and 68 dynes per cm. and 15.3 per cent between 69 and 73 dynes per cm. Of 25 patients with past or present history of renal calculi, 22 per cent of urine specimens had surface tension values ranging between 66 and 68 dynes per cm., while 70 per cent of the urine specimens ranged between 69 and 73 dynes per cm. It is interesting to note that in this group (stone history) some had a perfectly normal surface tension level, while those who were actively forming calculi had sustained high levels.

By utilizing orally administered Glucuronolactone, we were able to bring to normal levels (urinary surface tension in dynes per cm.) the surface tension values of the majority of patients who had sustained elevations. We were unable to lower the level further in those individuals who had normal values. It is likely that hyaluronidase has a similar effect. We prefer to use Glucuronolactone since antibodies are not formed in the body against this orally administered substance. Hydaluronidase tends to lose its effectiveness over a period of time because of the formation of antihyaluronidase.

Last, our findings indicated that unless there exists a marked increase in the crystalloid component of the urine, active stone formation does not take place in the presence of urine having normal surface tension levels (sustained 66 to 69 dynes per cm.).

It is my personal feeling that we must find a substance, which can be safely administered to a stone-forming patient, which will lower the urinary surface tension to levels so frequently encountered in pregnant women and in the jaundiced (50 to 55 dynes per cm.). This, as a rule, cannot be done with hyaluronidase or Glücuronolactone. Until such a substance is found (one capable of maintaining urinary surface tension at such a persistently low level that almost any con. centration of crystalloids could be prevented from precipitating out of solution and conglomerating), it seems logical to endeavor to maintain normal levels when possible.

Prophylactic Management of Stone-Forming Patient

An individual who passes a calculus or is surgically relieved of same may, without any regimen, go for years without forming another stone. On the other hand, there may be a recurrence in a year, a month, or sooner. From this one may formulate the idea that the factors (aside from obstruction and infection) concerned with calculous formation are inconstant and vacillating. Along with crystalloid concentration in the urine, the pH and the surface tension values of the urine are readily accessible indices of these changes.

A knowledge of the chemical constituents of a stone is most important. Where a calculus is not available for such examination, one must study with care the urinary sediment and pH determinations. A knowledge of the predominant crystals found in the sediment on repeated occasions plus a cognizance of the reaction of various samples of urine indicates the most likely electrolytes involved. For example, where repeated urine specimens range between 5.5 and 6.6 (pH determinations) and calcium oxalate crystals are prominent on microscopic examination, it is most probable that the patient is a calcium oxalate stone-former.

If chemical analysis discloses a calcium-containing stone, one investigates the various causes of hypercalcinuria. The urinary Sulkowitch test, on a random specimen of urine, offers a simple and practical method for determining the presence or absence of excessive amounts of calcium in the urine. If repeated specimens show a heavy precipitate indicating excessive calcium, then a twenty-four-hour quantitative determination of urinary calcium may be done after the patient has been placed on a low calcium-neutral ash diet for three days. Blood determinations for calcium, phosphorus, and total proteins with albumin-globulin ratio are indicated in all cases of calcium-containing stones. Alkaline phosphatase determination may prove of value when hyperparathyroidism is suspected.

When the urine persistently has an alkaline reaction, one must look for such causes as urea-splitting infection. Specimens of urine are submitted to the laboratory for culture with instructions to test for sensitivity to antibiotics and chemotherapeutic agents as well as to determine urea-splitting capacity of any organism identified.

When the above information is at hand, then general and specific measures must be taken. General measures include (1) daily fluid intake approximating 4,000 cc. which should be distributed as nearly as possible over the entire working day, (2) daily intake of 50,000 units of vitamin A, (3) eradication of urinary tract infection where possible, (4) correction of urinary stasis, (5) elimination of foci of infection, (6) maintenance of urinary surface tension below 69 dynes per cm. The patient's services are utilized (much as in the case of the diabetic) as follows: (1) charting twice daily the urinary pH as determined by testing with nitrazine papers and color chart, and (2) charting on these same two daily specimens the surface tension values. One readily learns to use the Revici urotensiometer, a simple instrument, which facilitates immeasurably the determination of such values. So long as the surface tension levels fall in the normal range (65 to 69 dynes per cm.), no Glucuronolactone is indicated. When there is a persistent elevation, then medication must be started or reinstituted. If the patient cannot tolerate this substance, then hyaluronidase is substituted.

Specific measures are as follows:

In a patient forming calcium phosphate or calcium or magnesium ammonium phosphate and/or carbonate calculi:

1. Acidification of the urine (preferably to level pH 5.5 to 6). When a persistent urea-splitting infection prohibits this, then one must resort to the regimen of Shorr, namely, the use of basic aluminum carbonate gel with a low phosphorus diet.
2. The presence of hypercalcinuria necessitates the elimination from the diet of milk and milk products or any foods containing large amounts of milk.
3. Hyperparathyroidism and Cushing's disease require surgical intervention.

In a patient forming calcium oxalate calculi:

1. Elimination from the diet of food high in oxalate, e.g., rhubarb, asparagus, chocolate, and cocoa.
2. Elimination of high calcium foods in the presence of hypercalcinuria.
3. Maintenance of a urinary pH in the vicinity of 5.5 to 6.
4. Addition of magnesium trisalicylate to the diet has been recommended.

In a patient forming uric acid and xanthine calculi:

1. Alkalinization of the urine. One must be on guard lest there be precipitation of salts such as calcium phosphate in the presence of a markedly alkaline urine. In these instances, calcium-containing foods are restricted.

In a patient forming cystine calculi:

1. Urine should be rendered and maintained alkaline twenty-four hours daily. Interference with sleep for the purpose of taking medication must be tolerated by the patient.
2. Low cystine or low sulfur diet questionably effective.
3. Precautions must be taken against the formation of precipitations of salts which are soluble in markedly alkaline urine.

By putting into practice the principles outlined above, one is approaching with logic the problem of urinary calculi prophylaxis.

80 HANSON PLACE

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Eat, drink, and be merry;
Enjoy every bit
For tomorrow the doctor
May tell you to quit.—*The Bulletin, June, 1954*

Patient: "So I've got to have an anesthetic. How long will it be before I know anything?"

Doctor: "Now, don't expect too much of the anesthetic."—*The Bulletin, June, 1954*

Ascites in Gynecology with Special Reference to a Possible Hormonal Origin of Meigs's Syndrome

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ASCITES has been defined by Osler as a collection of serous fluid within the peritoneal cavity. Some authorities have been more definite and have stated that ascites is the presence of more than 200 cc. of fluid in the abdominal cavity. This paper is not devoted to the differential diagnosis of the various causes of ascites but rather will discuss the pathologic conditions occurring in the female pelvis which may give rise to an increased amount of ascitic fluid. The principal changes of the pelvic viscera causing ascites are tuberculosis of the pelvic organs, carcinoma of the ovary, and solid tumors of the ovary.

Hertzler[1] has stated that what the peritoneum cannot absorb, it walls off or dies in the attempt. When we consider this statement, we readily understand the fate of foreign material which finds itself in the cavity as the result of infection or neoplasm. Every surgeon is well acquainted with the so-called increased amount of peritoneal fluid as a result of acute infection, such as an acute appendix or inflammation of the oviducts. In other words, this extra fluid seems to be the first defense in fulfilling the dictum of Hertzler. In a similar manner the phenomenon can be observed when infection is not the cause.

Several years ago Sampson[2] in an excellent paper on peritoneal carcinomatosis showed the various steps in the implantation of malignant cells escaping from ovarian neoplasm. First, there was an increased amount of fluid poured out, which served as a vehicle of transportation for the free cancer cells. Wherever the cells came to rest, their irritation produced a fibrinous exudate which enmeshed them—the stage of fixation. This scaffolding of fibrin gradually became invaded by fibroblasts and usually by vascular endothelium—the stage of organization. This granulation tissue is Nature's way of encapsulating foreign bodies. The longer the foreign body stimulates the serosal lining, the more fluid is poured out. A few years ago, in attempting to reproduce the findings of Sampson, the author learned that inanimate material suffered the same fate as the animate cells and became encapsulated in steps similar to the encapsulation of the living cells, the only difference being that the latter had the ability to continue to live and multiply.

Tuberculosis of the Female Genitalia and Ascites

Tuberculosis of the female genitalia is a secondary infection and frequently a localized one. The primary focus is usually in some other organ, generally the lungs. Thus it differs from other pelvic infections, specific or nonspecific, which start primarily in the pelvic organs. Tuberculosis of the genitalia may be a part of the picture of general miliary tuberculosis or may be localized to the uterus or tubes. Direct external contamination is possible but not accepted by most authorities.

The tubercle bacilli may reach the pelvic organs by way of the bloodstream from the lungs, lymph glands, or the gastrointestinal tract. They may also reach the fallopian tube from the peritoneal cavity in certain instances of generalized tuberculous peritonitis. A good many authorities agree that the fallopian tubes are involved in almost 100 per cent of the cases, either alone or together with the endometrium, ovaries, cervix, or vagina. Therefore, the study of genital tuberculosis is usually the study of tuberculous salpingitis. And since peritonitis is one of the most frequent complications of genital tuberculosis, we associate the two in this paper. When the peritoneum is involved first, the pelvic infection is initially limited to the peritoneal surface of the fallopian tube. In the true form of tuberculous salpingitis, where the peritoneum is secondarily involved, the infection starts in the mucosa of the tube with spillage into the peritoneal cavity.

Presented at the 148th Annual Meeting of the Medical Society of the State of New York, New York City, Section on Obstetrics and Gynecology, May 13, 1954.

Tuberculous peritonitis in early stages is characterized by the presence of free fluid with miliary tubercles over the peritoneum (Fig. 1). As the peritoneum is further stimulated, we have outpouring of more serous fluid, and ascites results. This is probably a defensive mechanism on the part of the peritoneum in an attempt to absorb the foreign body which, in this instance, is the tubercle bacillus. Gradually, as the fluid is absorbed, the tubercles heal, disappear, and leave no trace of the infection. At other times the process may progress or require the peritoneum to wall off the pathologic lesions.

Ovarian Carcinomatosis and Ascites

In describing the process of peritoneal carcinomatosis, Ewing has stated, "The most frequent source of these peritoneal growths is the ovarian adenocarcinoma which at any period may rupture its covering and be disseminated through the cavity."

All pathologists do not agree with this method of spread, but they do not deny the series of changes which result, i.e., the development of ascites and the encapsulation of the growth. These changes were described by Sampson[2] in 1931 when he published a most instructive article entitled "Implantation Peritoneal Carcinomatosis of Ovarian Origin."

Carcinoma of the ovary may be solid or cystic. The solid carcinomas develop directly from ovarian tissue; the cystic carcinomas may develop in some other ovarian tumor, especially the papillary cystadenoma. At other times carcinoma may start in dermoid and teratomatous cysts and again may develop from embryologic rests into such tumors as granulosa cell tumors, dysgerminomas, arrhenoblastomas.

Whether the carcinoma develops directly from ovarian tissue or in some other ovarian tumor or cyst, peritoneal implantations appear very early with free fluid (Fig. 2).

Solid Tumors of the Ovary and Ascites

These tumors are usually of connective tissue origin and constitute not more than 5 per cent of the ovarian neoplasms. In this group we have the fibroma, a tumor which presents itself in women after the age of puberty. Sarcomas are found in younger persons.

Although these tumors, especially the fibromas, may be present for a long time, one of the first symptoms is abdominal enlargement (Fig. 3). This may be due to free fluid which is usually clear and serous.

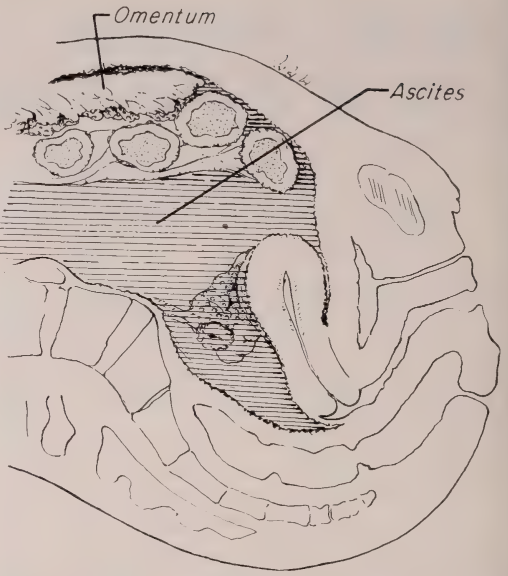

FIG. 1. Drawing of sagittal section of female abdomen showing tuberculosis of peritoneum and fallopian tubes.

Although Meigs was not the first to describe the presence of hydrothorax as well as ascites, he emphasized and brought to our attention the importance of investigating the cause of ascites rather than doom the patient to a poor prognosis.

Comment

Herein we have presented the three common pathologic lesions of the female generative tract which may be associated with ascites in some period of their development: tuberculosis, benign solid tumors of the ovary, and malignant neoplasms of the ovary. In each of these pathologic conditions there is often an outpouring of peritoneal fluid. If we consider these lesions as foreign bodies to the peritoneum, we might assume that the fluid is a defensive mechanism. Experimental evidence shows that the first reaction of the peritoneum to a foreign body, whether it be inanimate material such as granules of certain dyes, pieces of gauze, or some other substance, is an increased amount of serous fluid. This is in no way different from the fluid poured out when infections or neoplastic cells are present within the peritoneal cavity.

There has been a great deal of discussion as to the source of ascites, especially in those instances

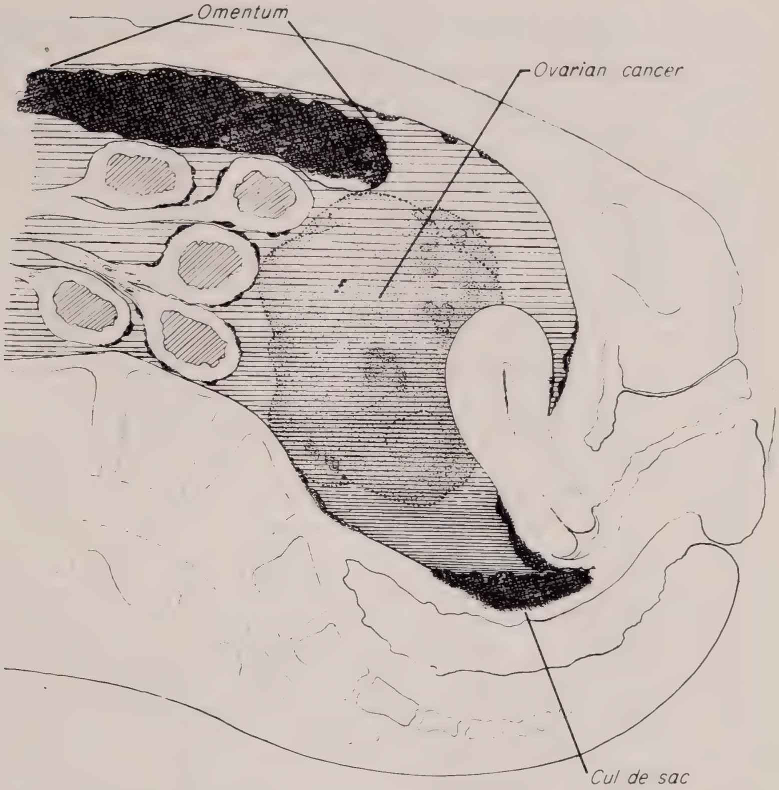

FIG. 2. Drawing of sagittal section of female abdomen showing carcinoma of ovaries with ascites, omental cake, and peritoneal implantations.

where hydrothorax is associated. Fluid in the presence of tuberculous peritonitis or in peritoneal carcinomatosis is regarded by most pathologists as inflammatory in origin and, when examined, is found to meet the physical requirement of an exudate. On the other hand, the fluid produced in most cases of solid benign tumors of the ovary is a transudate. A transudate usually occurs when there is interference with the circulation, such as is seen in chronic passive congestion or in portal obstruction.

Regarding the formation of ascites and hydrothorax due to fibromas and other nonmalignant tumors of the ovary, there has been a great deal of investigative work. Opinion has now generally crystallized that the pleural effusion of Meigs's syndrome is derived from the peritoneal cavity, that the pleural fluid and the ascitic fluid are, in fact, one and the same. Besides the experimental work of Meigs, Armstrong, and Hamilton[3] in which India ink was injected into the peritoneal cavity in two cases of Meigs's syndrome and the carbon particles were later recovered in the pleural fluid, the hemothorax cases of Vogt[4] and of Salmon[5] may be cited; in these cases the ascitic fluid also was bloody. It is believed the lymphatic drainage of the peritoneal cavity is transdiaphragmatic, the channels on the right being better developed than those on the left. For this reason a right-sided hydrothorax is more common than a left-sided one.

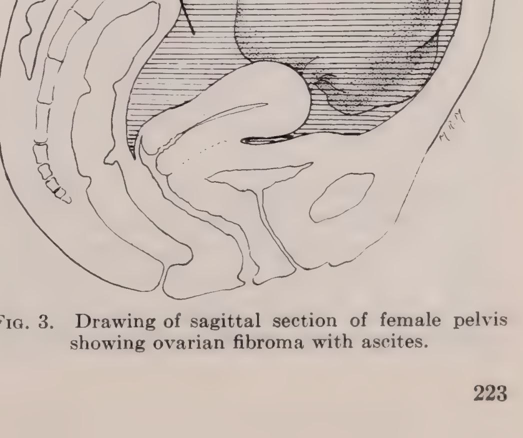

FIG. 3. Drawing of sagittal section of female pelvis showing ovarian fibroma with ascites.

It now remains to explain the mechanism of the formation of ascites in the presence of solid benign ovarian tumors. Research has shown that disturbances of serum protein and sodium imbalance are not the causes. Some investigators have mentioned the so-called Selye alarm reaction theory to explain this phenomenon. Although he once championed this theory, Meigs in 1943 stated, "In experimental work such an explanation in certain animals with shock and serous exudate is possible, but to explain this syndrome on the basis of such experimental findings cannot be done." Most authorities feel that the fluid is due to interference with the circulation, particularly at the ovarian pedicle. Often edema of the tumor tissue is present.

Spencer and Miller[6] thought that the ascites originated from the tumor itself. After placing tumors in dry receptacles, these vessels were filled with clear yellowish fluid and showed that the tumors lost about one-third of their weight in twenty-four hours. Spencer thought that the extravasation of the fluid from the lesions was due to pressure of the tumor mass on the efferent lymphatic and blood vessels in the pedicle or hilum of the ovary or to twisting of the pedicle. Calmenson, Dockerty, and Bianco[7] found that 96 per cent of their series of ovarian tumors associated with Meigs's syndrome showed intercellular edema, either of the tumor itself or of its pedicle, while only 10 per cent of the tumors not accompanied by ascites showed intercellular fluid. They further pointed out that ascites is an accompaniment of tumors of considerable size, it rarely being found in conjunction with tumors less than 6 cm. in diameter, the average being 16 cm. If it is correct that the source of the ascites is the tumor itself, possibly it is nesessary for some time to elapse for appreciable peritoneal fluid to accumulate. The explanation given for the fact that uterine myomas so rarely are accompanied by ascites and ovarian fibromas so frequently is that the former usually possess a fibrous capsule and mesothelial covering which prevent extravasation, whereas the latter possess only a covering of germinal epithelium.

Although the theory of Spencer and Miller is most attractive and is the one in general acceptance today in explanation of the presence of ascites in association with solid tumors of the ovary, an endocrine metabolic theory has been suggested by Pelner and Waldman[8] and by Morrione.[9] The benign ovarian tumors found in association with ascites and in Meigs's syndrome are most commonly the fibroma, the thecoma, and the granulosa cell tumor (Tables I to IV). A very high incidence of ascites is also encountered with struma ovarii. Also reported in conjunction with Meigs's syndrome have been cases of Brenner tumor, cystadenoma—both serous and pseudomucinous (rarely), dermoids, teratomas, and Krukenberg tumors. In addition to the Krukenberg tumor an occasional additional case of malignancy of the ovary has likewise been recorded in which it was claimed no metastases were present and in which the peritoneal and pleural fluids did not recur after removal of the primary lesion. Thus, we may, in a general way, say that the ascites-producing tumors are those of stromatous origin or containing an increased amount of fibrous stroma or that they belong to the teratomatous group, either with mixed components or as a one-sided development, such as the struma ovarii or the pseudomucinous cystadenoma.

TABLE I.—SOLID TUMORS OF THE OVARY AT ALBANY HOSPITAL, 1953

Tumors	Number of Cases
Fibroma	61
Primary or presenting symptom	23
With fluid	8
Without fluid	15
Incidental finding	38
With fluid	1*
Without fluid	37
Thecoma	16
Primary or presenting symptom	11
With fluid	5
Without fluid	6
Incidental finding	5
With fluid	0
Without fluid	5
Granulosa cell	16
Meigs's syndrome	1
With ascites	1†
Without fluid	14

* 15 cc., also had multiple small subserous myomas.
† Highly malignant.

The thecoma is a known estrogen-producing tumor, as is also the granulosa cell tumor. In the latter instance the estrogen is believed to be derived from an admixture of theca cells. According to the theory of Fischel,[10] the fibroma, thecoma, and granulosa cell tumor all have a common origin, i.e., from the ovarian mesenchyme from which the ovarian stroma and the follicular cells are also derived.

The fibroma is not a known endocrine-producing tumor, yet it is not beyond the realm of possibility

TABLE II.—ANALYSIS OF FIBROMAS AT ALBANY HOSPITAL

Size (Cm.)	Duration of Symptoms	Description	Amount of Fluid
		Fibromas with Fluid	
22	16 months	Myxomatous foci	2 quarts
18	1 year	Edematous	2,000 cc.
15	3 years	Cystic	250 cc.
15	3 months	Cystic	75 cc.
15	2 months	Cystic and twisted	Small amount
12	None	Cystic	Moderate amount
11	6 months	Cystic	Considerable
11	14 years	Twisted	Large amount
		*Fibromas Without Fluid**	
19 and 4 (bilateral)	5 years	Some cystic degeneration in larger	....
18	6 months	Hemorrhagic and twisted	....
16	6 months	Firm	....
14	1 month	Twisted but blood supply not interfered with	....
14	9 months	Cystic foci	....
14 and 12 (bilateral)	2 years	Giant follicle lymphoma in fibroma	....
13	2 months	Early focal degeneration	....
11	1 1/2 years	Calcified	....
9	Few weeks	Firm	....
9	1 month	?	....
6 with pedicle	?	?	....
6	?	Firm	....
6	?	Calcified	....
6	6 months	Cystic	....

* There were 23 fibromas varying from 1 to 5 cm. without fluid.

TABLE III.—ANALYSIS OF THECOMAS AT ALBANY HOSPITAL

Size (Cm.)	Duration of Symptoms	Description	Amount of Fluid
		Thecomas With Fluid	
16	3 months	Cystic	Increased amount
14	6 weeks	Edematous and cystic	Considerable
14	?	Firm with a hemorrhagic focus	Abnormal amount of bloody peritoneal fluid
11	6 months	Cystic	Small amount
6	6 months	Cystic and edematous	Considerable
		Thecomas Without Fluid	
10	4 months	Cystic	....
10	1 year	Cystic	....
9	1 year	Ruptured	....
8	2 weeks	Hard	....
7.8	4 months	Moderately firm	....
6	2 months	Firm	....
5.5	6 months	Edematous	....
4.5	2 years	Central degeneration	....
4	5 years	Solid	....
4	3 years	Firm	....
3	?	Firm	....

that it may at times be so producing. We have just cited the histogenetic concept that fibromas are derived from primitive cells which not only are capable of developing into ovarian stroma, a structure believed at times and under certain circumstances to produce estrogen, but which also may give rise to thecoma, a known estrogen-producing tumor. Sternberg and Gaksell[11] have emphasized the potentialities of the ovarian stromal cell for multiple differentiation. They believe ovarian stromal hyperplasia is the breeding place of theca cell tumors and of diffuse thecomatosis and probably also of fibromas and diffuse fibromatosis. The lines dividing these conditions from one another are not sharply drawn. Stromal hyperplasia is similar to fibromatosis, fibromatosis similar to fibromas, fibromas similiar to thecomas, etc. Undoubtedly many thecomas have been misdiagnosed as ovarian fibromas. Not only are these conditions similar, but notoriously they are composed of admixtures of cell types. Thus, thecomas may have fibromatous areas, and granulosa cell tumors may have theca cell or fibromatous elements. Stromal hyperplasia of the ovary, which reaches a peak in the sixth decade of life, may be so pronounced that it is hard to know whether to call it stromal hyperplasia or a diffuse fibromatosis.

TABLE IV.—Analysis of Granulosa Cell Tumors at Albany Hospital

Size (Cm.)	Duration of Symptoms	Description	Amount of Fluid
		Granulosa Cell Tumors with Fluid	
19	1 year	Cystic	6,500 cc. ascitic; 2,500 cc. pleural
6	None till metastasized	Central cystic degeneration	Large amount
		Granulosa Cell Tumors Without Fluid	
28	6 months	Cysts	....
17	1 year	Honeycombed (cystic)	....
14	Several months	Cystic	....
13	3½ years	Cystic	....
12.5	2 to 3 months	Cystic	....
12	?	A cyst	....
11	1 year	Multilocular cysts	....
11	1 year	Cystic	....
9	2 months	Soft with areas of hemorrage and necrosis	....
7	6 months	Partly soft	....
5	2 years	Moderately firm, softer center	....
4	6 months	Cystic	....
3	6 months	Solid, fleshy	....
Microscopic	......	....	....

Many times within this group of conditions sharp pathologic distinctions cannot be made.

Hyperplasia of the ovarian stroma in the postmenopausal period is believed to be the source of estrogenic effect sometimes observed in vaginal smears of this period. However, an adrenal origin cannot be excluded. Woll and associates[12] have observed hyperplastic changes of the ovarian stroma in cases of carcinoma of the endometrium. These authors believe the ovarian changes follow the uterine carcinoma, whereas it is the opinion of others that the stromal hyperplasia is of etiologic significance in the development of endometrial carcinoma, i.e., that the carcinoma develops on the basis of prolonged estrogenic stimulation. In support of this theory may be cited the high incidence of fundal carcinoma in association with the estrogen-producing tumors of the ovary. Ingram and Novak[13] found that endometrial carcinoma accompanied 56 per cent of thecomas and 54 per cent of granulosa cell tumors from a series of 50 cases of combined feminizing mesenchymomas collected from the literature—this in spite of the fact that the thecoma occurs less commonly than the granulosa cell tumor. An estrogen origin is also supported by the finding of cirrhosis of the liver with carcinoma of the uterus.

When the tumor is a thecoma or a granulosa cell tumor, we are fully justified in assuming that an increased amount of estrogen is present. In the case of fibromas and the other tumors encountered with ascites, such an assumption is indeed questionable. However, it might be argued that since ovarian stroma is believed to be a source of estrogen, it is not impossible that ovarian fibromas may at times also produce this same substance. In regard to the other ascites-producing tumors it may be stated that Brenner tumors and some serous cystadenoma also contain a large amount of fibrous tissue, whereas the original name bestowed by Krukenberg upon the secondary ovarian tumor discovered by him was the very descriptive one of fibrosarcoma mucocellulare. Another tumor which may be hormonally active is the struma ovarii. By virtue of their variable components dermoids and teratomas may likewise contain thyroid tissue or fibromatous or even theca-granulosa elements. The same may be said for pseudomucinous cystadenoma which may not actually be a pure type since it is considered to have a teratomatous origin.

It is of significance that clinically many cases of Meigs's syndrome are accompanied by uterine bleeding, indicative of ovarian disturbance.

If estrogen is produced by these pathologic conditions just mentioned, its normal fate is inactivation by the liver. There is some evidence to indicate that an excessive amount of estrogen may cause liver damage. We refer again to the belief of some that endometrial carcinoma is the result of prolonged estrogenic stimulation and to the finding in a certain number of cases of cirrhosis of the liver. In experimentally produced granulosa cell tumors in mice, liver damage is also found.

Conclusion

The three principal pathologic lesions of the female genital tract associated with ascites, namely, tuberculosis, carcinoma of the ovaries, and fibromatous-like tumors of the ovaries, have been presented. The possible causes of the ascites with special reference to the hormone metabolic disturbances have been discussed.

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Psychiatric Factors in Low Back Pain

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THE subject of back pain has been of interest for some time to psychiatrists. It is one of the more frequent complaints encountered in general medicine and especially in physiatric practice. During the war it was one of the very common psychosomatic disabilities, and under military conditions the subject imposed considerable demands upon the psychiatrist. In the Mediterranean theater of operations where the writer served two years, it was reported that low back pain was the most frequently encountered psychosomatic complaint.[1] It was estimated that 40 per cent of the arthritic difficulties in the Mediterranean theater were of functional or psychogenic origin. Reports from other military investigators varied considerably from this figure, the range being from 13 to 50 per cent.[2]

In civilian practice the psychiatrist sees fewer low back cases except in a setting where chronic disease is treated or where the matter is specially studied. One civilian low back clinic is reported to have given a psychiatric diagnosis to 10 per cent of its cases.[3]

There have been attemps to define psychogenic back pain. Thus one writer describes the common features in his group as pain on bending or attempting to bend, radiation of pain into the groin and legs in a largely nonanatomic distribution, and the description of bizarre, exaggerated, vivid, and excruciating aspects.[4] In addition to pain there are pulling, throbbing, tight, and pressure sensations. There are hypersuggestibility and areas of tenderness. Vasomotor instability and hyperhidrosis were common objective findings.

In my own private practice I have not found it generally worth while to attempt to establish criteria for distinguishing between psychogenic cases and organic cases. There are significant psychologic findings in all cases referred for psychiatric evaluation in private practice, and among chronic cases of back pain evaluated at the Institute, psychiatric factors are found operating in a very high percentage. At the present time the psychiatrist is called in on back cases usually after the symptoms have been long established, and he is generally faced with a chronic disability and psychologic invalidism. Psychotherapy under such circumstances is, on the whole, discouraging. Various studies on personality, psychodynamics, pain threshold, and group therapy are going forward among our psychologists at the Institute. It is still too early to say whether positive information will arise from these investigations.

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At the Institute we have found vocational training far more useful in the rehabilitation of chronic back cases than specific psychotherapy alone. Two cases will serve as illustrations.

Case 1.—W. M., born 1903, sustained a back injury in 1946, at which time he was lifting a beer keg. When first seen by us in December, 1951, it was noted that he had had a herniated disk at lumbar four and five removed in November, 1950, and in June, 1951, he had a rhizotomy at the fifth lumbar vertebra. He demonstrated instability of the low back with marked pain over the lumbosacral region. Straight leg raising was limited and painful. The patient was noted to be mild mannered, cheerful, and pleasant in appearance and behavior. He had undergone considerable anxiety during the period of his difficulty. His wife was hospitalized for the second time in April, 1951, five days after he himself went into the hospital. She succumbed while in the hospital. She had suffered several strokes. The patient felt that much of her difficulty had been related to his and that her worrying about his operations and anxiety about financial limitations contributed to her illness and subsequent demise. The patient was enrolled in the Guidance Test Class on January 2, 1952. On February 7 he began physiotherapy three times a week, having trunk strengthening exercises, and on February 11 he was begun in the Optical Mechanics Class. In January, 1953, he was placed as bench and surface grinder in the optical trade. He is still employed in that trade.

Case 2.—P. D., born in 1905, injured his back in January, 1949, while working as a butcher. He underwent laminectomy in October, 1949, with considerable improvement but with some continuation of pain. He had not worked since the onset of his disability except for a short-lived effort which involved some lifting of weight. The company doctor in the new place of employment decided against continuation of the work. There was considerable splinting of back, and the patient walked with a minimization of associated movements and with a short stride. He was married, had two children, the eldest twenty-one years, the youngest ten. He had a good work history. The patient was mildly depressed in mood. He talked in a whining and seemingly painful way. His subjective evaluation was that he was depressed. He complained about tension. He suffered from anticipatory insomnia. For example, prior to his evaluation there were sleeplessness and stomach disturbance. Vasomotor instability was present. There was excessive sweating of the palms. He was experiencing relatively hard times with regard to the compensation aspects of his case. This patient's course in the Institute was very similar to that of the first patient. He needed somewhat more help in the Social Adjustment Department than the first patient. He too was placed as an optical mechanic in December, 1952, and is still employed in that trade.

In these cases specific psychotherapy was negligible. In my opinion these patients were fortunate enough to find an interest and a latent ability in a new occupation. I am certain that they responded to the inspirational efforts of experienced and gifted instructors and vocational advisors. They discovered a new hope and confidence in a therapeutic work atmosphere. It is the experience of our vocational officers that work in which there is a fair mixture of standing and sitting is particularly useful for low back cases. Of the trades at the Institute optical mechanics has shown the most promise in this direction. I should hasten to add, however, that such vocational retraining does not have uniformly good results in achieving rehabilitation. Despite adequate advance in achieving new skills some patients have a return of disabling symptoms shortly after being placed on a job. This is more likely to be the case where there are workmen's compensation factors.

Our selection of candidates for the rehabilitation program is predominantly a practical one. We do not accept patients who present the more serious personality problems or psychiatric conditions. The patients must pass the evaluation of our physiatrist and other medical specialists. The vocational officers and the teachers must be hopeful after some experience with the student in a trial training program which we call the Guidance Test Class.

There has been a considerable amount of literature compiled on the psychodynamics and psychotherapy of low back pain. Some of this work is uncritical; much of it is at best controversial. This material has been reviewed in the psychiatric literature, and I think to discuss it in detail before a nonpsychiatric audience would be of limited value. There is however one monograph which I should like to bring to your attention.[5] It is on a broader subject than low back pain, but I think it is of interest in our discussion. This is the work of Ruesch and his coworkers in California, entitled *Chronic Disease and Psychological Invalidism.*

The onset of the back pain may be coincident with traumatic psychologic experiences. Such factors as illness or death of a child or change of job or residence may have occurred shortly after or before the disease or injury responsible for the back pain. It is speculated that a psychologic experience which initially occurred together with the back pain may act as a conditioned stimulus, even if, in the meantime, the causes for the physical disease subside. Thus it becomes apparent that psychologic experiences may perpetuate physical symptoms, even if the two events have no connection other than the fact that they occurred in the same period of time. Another factor here to be noted is that in our culture most people are trained to assume that if they feel "bad," a physical condition must be the cause of the illness. If a person has a back injury and receives news of the death of his son, he is likely to blame his back pain entirely on the former, and in the mind of the patient his bereavement is likely to be regarded as having no possible connection. It may not be difficult in these cases to help the patient to understand that part of the trouble arises from psychologic experiences and thus alleviate physical symptoms, leading to a speedier convalescence. In his own series of psychologic invalids Ruesch points out that the physical disability more frequently preceded the psychologic trauma and that the latter thus aggravated the physical disease.

The opposite of this does occur frequently enough, i.e., the psychologic trauma precedes the injury, and this leads into a discussion of flight into illness. This is used as an escape mechanism to terminate an unbearable situation. As Ruesch says, "Unfavorable circumstances become unbearable when anxiety, pain, and depression become intolerable. A conflict either between the individual and environment, or a chronic unsolvable character conflict of the patient is usually at the root of this condition. There exist other and less outspoken means of escape. Such patients tend to expose themselves to serious physical illness or injury." Back disability may arise in such a setting from recklessness in sports or work or from overexposure. Here unbearable anxiety is the driving force leading to the disease or injury and also to the delayed or indefinitely postponed recovery. Obviously hospitalization, operation, physiotherapy, and exercise have only a little value. Unless the source of these feelings of frustration is removed or unless somehow the patient is given a new hope, he will remain ill. Psychotherapy does not directly influence the physical findings, but it attempts to deal with the sources of frustration.

In my experience with back cases this is extraordinarily difficult, however. Where flight into illness is suspected, it seems to me that many back patients have a shell of pride and exaggerated toughness or pseudovirility which make them unusually contemptuous of the gentler methods of psychotherapy. However, I would agree with Ruesch that where the therapist is successful in penetrating resistance and reaching the patient, biologic healing forces ameliorate the physical disability.

Case 3.—In the case of P. L., a nineteen-year-old patient suffering from a painful back, the diagnostic differential included spondylolisthesis and rheumatoid arthritis. There were other mild arthritic disturbances in the arms and legs. The patient was the second of three children. The mother was an overly protective, anxious, worried woman. The father had himself suffered from chronic back pain and had been very irregularly employed, earning only minimal wages. This patient was placed in Optical Mechanics Class and has been doing well, but here considerable emotional support has been called for and has been useful. When the patient first came to the Institute, he was very withdrawn and shy and showed little interest except in sports. He tended to engage himself in games creating a constantly recurring problem with the back difficulty. In the therapeutic situation the patient has shown some development of insight. He begins to see that by the aggravation of his symptoms he was seeking the warm, familiar dependence and avoiding the adoption of individual responsibilities. He has begun to leave, what some would call, an incestuous orientation, for a more individual and free way of living.

Many diseases, injuries, and operations have psychologically traumatic implications, and these in turn may produce a psychologic situation which prolongs or delays the convalescence indefinitely. A defect in the "backbone" or spine may be associated with implications of a lack of character, perseverance, or courage. An injury to the spine might bring up concepts of a threat of impotence or paralysis. The thought of operation for a disk might reactivate fears of death, meningitis, or "what happened to a fellow my brother knew who had an operation on his back." While most people are not too much troubled by these things, or if they are, they deal with them pretty well, there are those who, for one reason or another, may have been especially proud of the "strength of my back." This attitude, as the fates would have it, is especially common among physically strong men, athletes and workmen, where unfortunately back injuries and hypertrophic osteoarthritic changes are so common. Several possibilities arise here to prolong convalescence. The longer the recovery takes, the greater may be the compensation to the pride of the injured man. Often the future is looked upon much more blackly than the reality warrants. Old neurotic difficulties or character conflicts may be lighted anew by back pain where it occurred before at a psychologically important time in life, as, for example, where a patient may have had severe backache associated with her periods as a young girl. In addition, there are special meanings to some patients in the whole situation of illness, operations, the doctors, and various treatments.

Not infrequently found as a psychologic factor in the delay of recovery is the fact that the patient finds it isn't at all bad to have a bad back. Quite unexpectedly he finds that he becomes the center of the family's attention, whereas previously he was merely the breadwinner or, in the case of the housewife, merely the kitchen drudge. In the hospital things are done for the patient; visitors and presents come. The patient is treated nicely by medical people and attendants. The patient rediscovers two basic needs which had been dormant probably from infancy. He finds again dependency and the domination which he can wield over others because of the latter's sympathy and responsibility and because of his own relative helplessness. Probably this occurs to some degree in all patients, but where it develops to an unusual degree, it may become next to impossible to deal with. This is unfortunately the case with many so-called compensation neuroses with which we are all so familiar. This often represents a serious regression to infantile behavior.

Another reaction to injury that is extremely common in back cases is that a pre-existing illness is discovered subsequent to the injury. This factual formulation is likely not to be accepted by the patient. Undoubtedly you are very much more familiar with this psychologic reaction than I am, as an everyday matter of your practice. We have all seen the laborer past middle age with longstanding osteoarthritis of the spine who has a back injury. His arthritis may have been asymptomatic or nearly so, but let him have a back injury, put him on compensation, give him physiotherapy, and neither you nor I nor anyone else is going to have an easy time convincing him that his pain should be better after a few months of treatment.

Next we come to the frankly psychoneurotic and psychotic individuals with back pain without real physical reason. It is with the psychoneurotic patient that the physician has his gravest chance of doing damage and, therefore, this patient is the best test of his personal integrity, medical acumen, and stability. There are those who compulsively check and recheck organic possibilities out of pseudoscientific completeness. There is perhaps no reason why routine back x-rays should not be done if back pain lasts a while, although we know how little the x-rays very often show. Myelography, however, is a much more serious affair, and I shudder when I think of the laminectomies and fusions done on obviously neurotic people without psychiatric consultation. The same goes for the gynecologic procedures done on young women with back pain with very questionable pelvic pathology. I think that this latter kind of overzealousness is fortunately less common now than it was some years ago.

Back pain is frequently enough encountered among psychotic patients. Many ambulatory schizophrenics recognize that they are not well. They often seek medical reassurance in indirect ways. If they consult a physician because of a back pain and he prescribes physiotherapy or exercise, they somehow become convinced that their psychiatric status is not apparent. This of course is rather harmless, but the unwary physician may suddenly find himself involved in a complicated situation which need not have developed. Sometimes the physician may very richly merit the paranoid hostility which the patient develops toward him when he has at first encouraged the patient to take treatment and later rejects him as a nuisance.

Back pain may occur as a symptom in seriously depressed patients also. Where the underlying psychopathology is not recognized, the physician may be taking unwarranted suicidal risks. Hypomanic patients may also present themselves with any triviality, back pain among them, as a presenting complaint. This is true as well of the mild organic psychoses. These conditions, if not suspected, may lead to amusing and sometimes tragic situations. Incidentally narcotic addicts sometimes use the complaint of back pain to gain entree to the physician.

There are many patients with back pain with demonstrable physical pathologic findings responsible for pain where, in addition, there are neurotic problems. Symptoms here may wax and wane, and in many cases it is apparent that emotional factors play a role in the condition. It is next to impossible to evaluate the effectiveness of psychotherapy in these conditions. While in many instances psychotherapy is felt to benefit the patient, we lack valid criteria for determining causal relationships between physical and psychologic factors.

To tell the truth I have offered opposition to overcrowding the Institute with chronic back cases and other cases of chronic psychologic invalidism. I am very much afraid of these cases, especially if workmen's compensation factors enter into the picture. Much of my staff in the Social Adjustment Service is young, enthusiastic, and confident of its ability In the last three years we have had considerable development with insurance carriers. Frankly, I was pessimistic with regard to our capacity to rehabilitate chronic back cases. In some instances this wariness has shown itself to be justified. In a surprising and really gratifying degree, however, I have found that this pessimism has not been warranted. I shall have to leave statistical reporting to those who are more adept and interested in it than I. Such reports will come from the Institute in due time. For the present I can give you a favorable clinical report. I do not claim this as a psychiatric victory at all. It would be difficult if not impossible to evaluate what any individual discipline has contributed to a patient's rehabilitation at the Institute. The medical, psychosocial, and the vocational services each has its part. I cannot begin to tell you the full story of the rehabilitation team.

In closing I should like to say that I still don't like chronic back cases or other forms of psychologic invalidism. I am still far from cheerful about what the psychiatrist can do for them. Nonetheless, I am convinced that a total rehabilitation program will be successful in a very fair number. I am very much more enthusiastic about what we can do for back cases if they are not so definitely chronic. I think if we got them earlier, we could do a lot more for them.

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Discussion

Morton Hoberman, M.D., *New York City.*—My discussion will be concerned primarily with the psychiatric factors in low back pain. I feel certain that someone else will challenge the quotation Dr. Sullivan gave in reference to features of psychogenic back pain. Dr. Travell will probably have some comment to make concerning radiation of pain in the low back syndrome to the groin and legs in so-called "nonanatomic distribution."

Dr. Sullivan has covered practically every psychiatric factor that may be encountered in the patient with low back pain. Within the time limit imposed upon him, he has given us an unusually clear picture of how varied may be the etiology of the psychogenic factors concerned. He has pointed out that the low back pain due to actual physical trauma may be the result of psychogenic determinants (as in the accident-prone patient) or may awaken or intensify pre-existing neurotic tendencies and symptoms. I am certain that everyone present will agree that there is no known organic disease, illness, or trauma without a psychogenic component. However, the part which this component plays in the total picture of any illness or disability varies considerably from patient to patient and depends on many factors.

In this discussion I would like to stress two items. One of these has not been mentioned by Dr. Sullivan. This is the psychogenic factor which is iatrogenically induced. All too often patients with chronic low back symptoms will give a history of repeated medical examinations (including x-ray and myelography in some instances). The patient is then told there is really nothing very much wrong with his back. The impression is also given, either forthright or implied, that perhaps the cause is psychologic rather than physical. In many of these patients a detailed history of the alleged injury and a carefully performed physical examination will reveal evidences of residuals of trauma, particularly of the soft tissues. These can be just as disabling and almost as painful as those of the classic case of herniated disk. Unfortunately most low back patients rarely have clinical laboratory findings indicative of physical pathology. Too many of us abide by these negative laboratory findings (where no positive findings should have been expected) rather than believe our positive clinical findings because fifty to sixty years ago someone wrote a textbook without describing an anatomic distribution to fit these findings. Since the laboratory evidence is certainly objective, the symptoms must be psychogenic! Thus do we start the patient on the road to suspicion of his own sensation, confusion as to the cause of disability, fear and insecurity as to his future, and hostility to society in general.

The second point I would like to discuss deals with several statements made by Dr. Sullivan. In effect he said that he does not like chronic back cases, especially if they are compensation cases, since he doubted whether they can be rehabilitated. Apparently he also does not wish to frustrate his young, energetic, enthusiastic Social Adjustment Service Staff. However, he admits that to a gratifying degree his pessimism has not been justified. He is also enthusiastic about the rehabilitation team.

This, to my mind, is not a tribute to the rehabilitation team, or the Social Adjustment Service, or any other service; it is a testimonial to the value of the rehabilitation concept of the treatment of illness and disability. The concept holds that we do not treat diseases or injuries but individuals who are suffering from the effects of such diseases and injuries; that these individuals very often have social, economic, psychologic, vocational, marital, and other problems which may cause or profoundly affect their physical status. It is necessarily encumbent upon the team or the individual responsible for the patient's rehabilitation to use any and every means to motivate the patient to put forth his maximum effort and concentration, as well as cooperation, to restore him to the state of well-being physically and emotionally.

Note that reference has been made to the team or individual responsible for the patient! I do not believe that it is necessary or even desirable in some instances for a team to rehabilitate a patient. Too often in a team, no one individual assumes the entire responsibility for the patient and all his problems. If I may be forgiven for invading Dr. Sullivan's province, I would say that quite often the chronically disabled individual has need for a "father image" to whom he can take all his problems for discussion and aid in their solution. Perhaps I am biased, but I feel that this role, so important to the total rehabilitation of the patient, is best suited to the interested physician rather than to one of our coworkers in the ancillary services, able though they may be.

What Is an Executive?

There are many definitions of what constitutes an executive, but here is one of the cleverest we've seen:

"As everybody knows, an executive has practically nothing to do except to:

1. Decide what is to be done;
2. Tell somebody to do it;
3. Listen to reasons why it should not be done, why it should be done by someone else, or why it should be done in a different way;
4. Follow up to see whether it has been done;
5. Discover that it has not been done;
6. Inquire as to why;
7. Listen to excuses from the person who should have done it;
8. Follow up again to see whether the thing has been done, only to discover that it has been done incorrectly;
9. Point out how it should have been done;
10. Conclude that as long as it has been done, it may well be left where it is;
11. Wonder whether it is not time to get rid of a person who cannot do a thing right; to reflect that he probably has a wife and a large family and that certainly his successor would be just as bad and maybe worse;
12. Consider how much simpler and better the thing would have been done if one had done it oneself in the first place;
13. Reflect sadly that one could have done it right in twenty minutes and, as things turned out, one has to spend two days to find out why it has taken three weeks for somebody else to do it wrong."

—*The Double Arch, Ossining Rotary Club, August, 1954*

Human and Experimental Appraisal of a New Antispasmodic, N-ethyl-3-piperidyl-diphenyl-acetate Hydrochloride (Dactil)

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A GREAT number of synthetic parasympathicolytic agents have been made available during recent years, all of which offer some advantage over the natural belladonna alkaloids.[1] To justify its acceptance a new spasmolytic agent would require additional activity not previously demonstrated by other agents and would have to be relatively free from undesirable side-effects. Inadequate methods of appraisal are emphasized by the wide gulf between the enthusiasm of investigators and the reliance of the clinical therapist upon the natural agents. Deficiencies of methods of investigation have been pointed out.[2] It is essential, nevertheless, to evaluate replacement agents because of the approximation of the therapeutic and toxic doses in the natural alkaloids.

The specific effect of vagus stimulation on the gastric musculature appears to be conditioned by the tonic state of the muscle.[3] The effect of an antispasmodic agent is similarly conditioned. The activity of the drug would depend on the state of the organ musculature. The useful drug would overcome spasm when present and conversely would repair the hypotonic state. Its activity would be anatomically selective. All of this is required without the production of unwanted side-effects.

Smooth muscle spasm, the result of autonomic nervous system imbalance, is frequently related to a wide variety of organic diseases. It is even more commonly associated with emotional disturbances. Dysfunction of gastrointestinal musculature, including sphincter spasm in a disorderly and symptom-producing manner must be overcome with minimal production of unwanted reactions. Although belladonna and its related compounds relieve symptoms, peripheral effects, including dryness of the mouth, tachycardia, dilatation of pupils, and interference with normal visual accommodation, may be expected with therapeutic doses.

The present study includes a clinical, roentgenologic, and pharmacologic evaluation of JB 305 (Dactil*). It indicates an excellent parasympathicolytic activity apparently closely confined to the upper gastrointestinal areas. Speed of activity following oral administration, restoration of normal gastric motility, and absence of undesirable symptoms recommend it for use in disturbances of the vegetative nervous system manifested by upper gastrointestinal symptoms.

Materials and Methods

Sixty-three subjects with various clinical conditions and complaints related to the upper gastrointestinal area were treated with 50-mg. capsules and tablets of JB 305. Placebos were employed alternately with the drug. As a more objective index of the clinical effect of the drug on gastrointestinal motility, patients with evidence of marked gastric retention, patients with gastric hypermotility, and normal subjects were followed roentgenologically and fluoroscopically. The effect of this agent on abnormal conditions requiring therapy is thus revealed. The effect of the same agent upon gastrointestinal motility not requiring therapy is also demonstrated.

Dryness of the mouth and diminution of the volume of salivary flow are usual during atropine therapy. The volume of saliva produced during the vigorous chewing of gum before and after administration of a 100-mg. dose of JB 305 was measured in nine subjects. Accuracy was assured by blocking the nose with a clip to require mouth-breathing and prevent the effect of extraneous odor stimuli. A modification of the method described by Cazort was used.[4]

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* Dactil was kindly supplied by H. L. Daiell, M.D., scientific director, Lakeside Laboratories.

Further experimental appraisal of JB 305 was undertaken in laboratory animals. Selected pharmacologic procedures were performed to obtain a laboratory interpretation and possible explanation for the clinical findings.

Arbitary indices of oral activity were obtained in the laboratory in several ways. The ratio of the oral LD_{50} to the intravenous LD_{50} in mice was calculated for JB 305 and a group of selected reference compounds. Oral effectiveness was also appraised in the mouse by means of the protection offered against a lethal dose of physostigmine sulfate administered intravenously.[5] Groups of ten mice per dose level were pretreated orally with the spasmolytic test agent. They were challenged with the lethal dose of physostigmine after a period of thirty minutes. The LD_{50} of each antispasmodic was calculated statistically according to the graphic method of De Beer.[6]

JB 305 was investigated for local anesthetic effect on the conjunctiva of the rabbit eye and also on the sciatic nerve-gastrocnemius muscle preparation of the anesthetized rat. The effect on the rabbit conjunctiva was tested at three dose levels, 0.1 per cent, 0.5 per cent, and 1.0 per cent. Topical anesthetic action was investigated by instilling the solution directly into the conjunctival sac and testing the wink reflex at regular intervals thereafter. Three rabbits were used for each concentration level. In the anesthetized rat the sciatic nerve was stimulated every ten seconds with a current sufficient to produce a near-maximal kick, which was recorded kymographically. Effects on strength of the kick were recorded following injection of 0.2 ml. of various dilutions of JB 305 into the popliteal space. Analgesic activity of JB 305 was investigated in rats by the thermal radiation technic of Ercoli and Lewis.[7]

Clinical Results

Table I indicates the degree of clinical response in a number of diseased states. The results indicate that JB 305 is of value in those conditions associated with gastric motor dysfunction and biliary dyskinesia. In those conditions which result from viscus and sphincter incoordination, JB 305 achieved restoration of normal motility and relief of symptoms. In the presence of organic changes associated with peptic ulcer, cholelithiasis, and cholecystitis, the agent was not as valuable. It appears that autonomic imbalance associated with sphincter spasm and hyper- or hypotonus of the musculature were quickly restored to normal. The activity of the drug became apparent within ten minutes of oral ingestion and in most cases was prolonged for three to four hours. It was this rapidity of action that focused attention upon its therapeutic value.

TABLE I.—CLINICAL RESPONSE TO ORAL JB 305*

		Response				
Disease State	Number of Cases	Excellent	Good	Fair	Minimal Effect	No Effect
Cholelithiasis and cholecystitis	6	0	0	1	2	3
Biliary dyskinesia	8	4	3	0	0	1
Pylorospasm and duodenal spasm	8	4	2	2	0	0
Cardiospasm	1	1	0	0	0	0
Gastric neurosis	18	8	8	1	0	1
Peptic ulcer	5	0	0	0	1	4
Gastric distress associated with hepatic dysfunction	3	1	2	0	0	0
Prolapse of gastric mucosa	2	0	0	2	0	0
Hiatus hernia	3	1	0	2	0	0
Viral infection of gastrointestinal tract	9	4	4	0	0	1

* Dosage of 50 mg. four times a day.

Nine cases of gastroenteritis of unknown etiology with nausea, epigastric distress, vomiting, and moderate diarrhea were treated with 50 mg. of JB 305 four times a day. In eight cases colicky pain was immediately relieved. Nausea was diminished, although looseness of the bowels continued.

Figure 1 indicates the rapid effect of JB 305 on pylorospasm and gastric retention without other x-ray abnormalities. Continuation of the drug in therapeutic doses alleviated the dyspepsia for which these patients had originally been investigated. Table II includes the fluoroscopic demonstration of the effect of JB 305 on normal gastric motility, pylorospasm, and hypermotility. Four patients with pylorospasm and delayed emptying of the stomach unassociated with evidence of organic disease were fluoroscoped within ten minutes of the oral administration of 50 mg. of JB 305 in a syrup

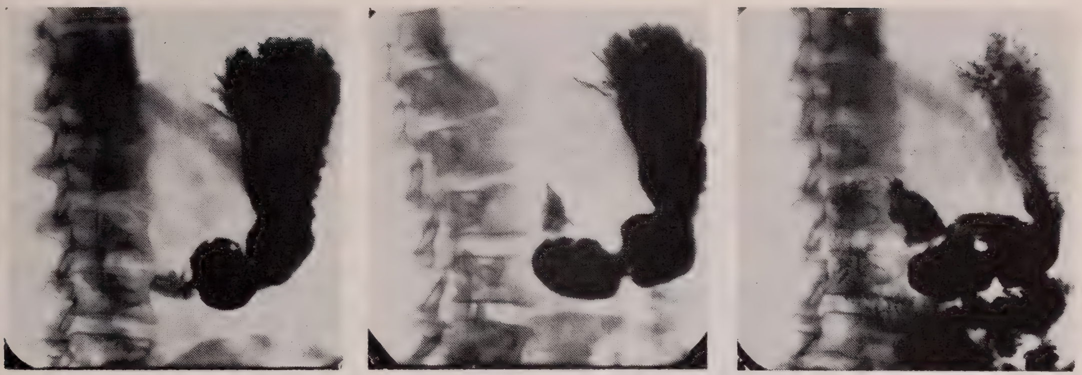
A B C

FIG. 1. (*A*) X-ray of stomach five minutes after barium meal. (*B*) X-ray of stomach forty-five minutes after barium meal. (*C*) X-ray of stomach ten minutes after barium meal and 50 mg. JB 305.

TABLE II.—FLUOROSCOPIC STUDY OF GASTROINTESTINAL MOTILITY FOLLOWING ORAL ADMINISTRATION OF JB 305

	Normal	Pylorospasm	Gastric Hypermotility
Number of cases	3	5	3
Effect on motility	None	1 no change 4 relief of spasm	Moderate decrease in gastric motility in all
Subjective changes	None	Relief of dyspeptic symptoms in all	None

TABLE III.—COMPARISON OF ORAL AND INTRAVENOUS TOXICITY OF JB 305 IN MICE

	LD_{50}		
Compound	(Mg. per Kg.) Oral	Intravenous	Index $\left(\frac{LD_{50}\ \text{Oral}}{LD_{50}\ \text{Intravenous}}\right)$
JB 305	635	42	15.2
Methantheline bromide	390	8.6	45.3
Trasentine hydrochloride	728	34	21.6
Atropine sulfate	800	78	10.3

TABLE IV.—ACTIVITY OF SYNTHETIC ANTISPASMODIC COMPOUNDS IN PREVENTING DEATH IN MICE RECEIVING INTRAVENOUS ESERINE*

Compound	Antiserine (50 Mg. per Kg. Orally)	Limits of Error (Per Cent)
JB 305	76	81 to 123
Trasentine hydrochloride	165	84 to 118
Methantheline bromide	150	75 to 134

* 0.7 mg. per Kg.

base. The stomach was seen to empty rapidly, indicating relief of spasm. Relief of dyspeptic symptoms was achieved in all subjects. In one similar subject no effect was noted, but symptoms did not persist. Three subjects indicating fluoroscopic evidence of overactivity and rapid emptying of the stomach were given 50 mg. of JB 305 orally, and the effect on gastric motility was visualized. A moderate decrease in gastric motility was noted. In three normal subjects observed fluoroscopically, no change in gastric peristalsis was seen.

EFFECTS ON SALIVATION.—JB 305 in 100-mg. doses given to nine subjects produced no significant change in salivation as determined by volume studies. None of the subjects complained of dryness of the mouth, tachycardia, or changes of visual acuity.

Experimental Results

Table III presents the data on acute toxicity of JB 305 and a group of selected reference compounds in mice. JB 305 reveals a favorable index of oral absorption. The effectiveness of oral absorption correlates well with the rapidity of action observed in the clinical studies.

The median protective dose for JB 305 and several reference compounds against a lethal intravenous challenging dose of physostigmine sulfate (0.7 mg. per Kg.) are presented in Table IV. Examination of the relative indices of protection obtained in this experiment reveals that on oral administration JB 305 afforded the test animals an effective degree of anticholinergic protection. This indicates a greater oral availability through more efficient absorption.

LOCAL ANESTHETIC ACTION.—In the rabbit eye JB 305 produced a local anesthetic action at a concentration of 0.1 per cent and higher. This anesthetic activity lasted from five to thirty minutes depending on the concentration. At the concentrations tested (0.1, 0.5, and 1.0 per cent) signs of mydriasis and irritation were not encountered. In contrast, the quaternary antispasmodics, Banthine and Antrenyl, produced no evidence of local anesthesia at these concentrations. Similarly, atropine and Trasentine were ineffective as local anesthetics at the same concentrations. On the sciatic nerve-gastrocnemius muscle preparation of the anesthetized rat, 0.2 ml. of 0.5 per cent JB 305 injected into the popliteal space caused an immediate disappearance of the electrically induced kick. This effect lasted for forty-five minutes. Increasing the threshold current was not effective in breaking the JB 305 effect. A curare-like effect was ruled out since intravenous administration in nontoxic doses did not produce a similar disappearance.

Analgesic Activity of JB 305.—In the rat JB 305 manifested mild analgesic activity at a dose level of 100 mg. per Kg. intraperitoneally. Analgesia developed in less than fifteen minutes and lasted sixty minutes. At this dose a moderate degree of toxicity was encountered which lasted for approximately forty-five minutes.

Comment

The present study indicates that JB 305 is a spasmolytic agent of considerable efficiency in upper gastrointestinal abnormalities related to muscular dysfunction. Especially notable is its rapid action. Experimental procedures suggest that this rapidity of action is related to the favorable absorption index as well as to its local anesthetic effect.

The symptoms of indigestion including pressure, fullness or real pain, heartburn, and gaseous eructation are the result of abnormal visceral motor activity.

Gastrointestinal invalidism is more frequently determined by functional abnormalities than by organic disease processes. Motor dysfunction may include hypoperistalsis with delayed movement, hyperperistalsis, or dysperistalsis and incoordination.

The activity of the autonomic nervous system varies with the state of motor tonus of the stomach or small intestine. A therapeutic agent should perform similarly. In relieving spasm it should also enlarge the peristaltic movements if diminished. It should decrease hypermotility when present and should preserve the normal scheme. Such appears to be the case with JB 305.

The experimental procedures appear to corroborate the clinical findings and offer an explanation for the rapid activity and the minimal side-effects.

Conclusion

JB 305 achieves therapeutic efficacy quickly and without undesirable effects. It represents an advance in the treatment of upper gastrointestinal dysfunction requiring therapy in the ambulatory working patient in whom immediate activity without side-effects is essential to prevent invalidism and loss of productivity.

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The well-loved Yale professor William Phelps found this message written on a pre-Christmas examination paper. "Only God knows the answer to this question. Merry Christmas." Dr. Phelps returned the paper to the student with this happy note. "God gets an A. You get an F. Happy New Year."—*Tonics and Sedatives, J.A.M.A. March 27, 1954*

Symptomatology and Treatment of Injuries of the Neck

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IN THIS article we propose to consider injuries of the neck, either direct or indirect, with the exception of those which have resulted in fracture or dislocation of the cervical spine. Interest in this type of injury has been greatly stimulated during the past few years because of the frequency of the incapacitating symptoms they may produce, which heretofore have not been too well understood.

In order to study and evaluate the symptomatology produced by these injuries of the neck, we have carefully selected 101 cases which fulfill the following requirements:

1. Definite pain in the region of the neck followed immediately after the injury.
2. There was no accompanying head injury or history of concussion to complicate the clinical picture.
3. Each case was carefully screened with regard to any previous personal or family history of psychiatric condition or tendency so as to eliminate this factor in the evaluation of symptoms resulting from the neck injury.
4. Patient gave a history of having no symptoms prior to the accident.
5. There was no litigation or compensatory gain, either financial or otherwise, pending at the time of evaluation and classification of symptoms.
6. Only those symptoms which occurred within thirty days of the accident have been recorded.

Types of Injury of the Neck

There are innumerable ways by which the neck may be injured, either by direct or indirect force. Direct injury to the neck may occur by a blow on the neck by any inanimate object such as a bat, stick, rubber hose, etc., or by a fall directly on the neck while doing gymnastics or during other athletic endeavors. Indirect trauma to the neck is much more common and may occur in many ways. Force may be transmitted to the cervical spine through the arms during a fall on the outstretched arms or through the lower spine by a fall on the buttocks or feet. The cervical spine may be injured when the neck is jerked by sudden forceful pull on the arm as occurs in calf-roping or parachute-jumping. Severe damage to the neck very often occurs in automobile accidents, especially to persons who are in a head-on collision or are sitting in a stopped or slowly moving automobile which is hit in the rear. This type of trauma is commonly called whiplash injury of the neck, because the head is thrown backwards or forwards forcibly with a recoil in the opposite direction.

Symptomatology

Immediately after the injury, especially when the force directed to the neck has been severe, the patient may be dazed and badly shaken up or even bewildered momentarily. However, many may not experience any of these symptoms.

Besides these initial complaints which may follow the immediate impact, a variety of other symptoms has been recorded, some of which may be so devastating and produce such pronounced disability as to appear to be out of all proportion to the injury described by the patient. The symptoms have been subdivided for descriptive purposes into the following groups:

NECK SYMPTOMS AND SIGNS.—Neck symptoms and signs are usually immediate and marked. However, in some cases they may be so mild as to be overlooked by the patient. Usually there is a slight ache in the back of the neck, which may gradually develop into severe pain associated with other alarming symptoms within twenty-four hours, or the condition may commence with such severe nuchal pain that the patient believes the neck to be broken. The pain is followed by spasm of the cervical spinal muscles with accompanied restriction of movements of the neck, which may vary from slight stiffness to marked rigidity producing complete inability to move the neck in any direction. Localized tenderness in the back of the neck is invariably present. The entire back of the neck may be tender on pressure with the thumb, but usually one side is more tender than the other. The area of maximum tenderness is most often found on the side of the back of the neck about 1 to 2 inches lateral to the spines of the fifth, sixth, and seventh cervical vertebrae.

Symptoms Referred to Upper Extremity and Shoulder Girdle.—Pain and paresthesia extending into one upper extremity, sometimes in both, were present in 75 per cent of the cases. Pain in the upper extremity may be accompanied by or may alternate with pain referred to the scapular region and/or precordial region, usually associated with definite points of tenderness most commonly found along the vertebral border of the scapula and over the subdeltoid area of the shoulder on the affected side.

Objectively, there may be tilting of the head, usually away from the painful side, positive foraminal test of Spurling and Scoville,[1] motor weakness, fibrillation, and occasional atrophy of the muscles supplied by the affected cervical nerves. Local or general hyperhidrosis of the hand or fingers may accompany the pain, and occasionally edema and cyanosis of the hand with or without pain have been noted. Sensory and/or reflex changes in the affected upper extremity are often present; occasionally reflex changes have been recorded in the nonpainful extremity. Loss or diminution of the biceps tendon reflex indicates irritation or compression of the sixth cervical nerve, whereas similar changes of the triceps tendon reflex represent the same pathology affecting the seventh cervical nerve.

Symptoms Referred to Head.—If the injury is severe, headache may develop within a few minutes or hours. It may be constant or periodic. The location and degree of pain will vary a great deal in each individual; the pain may be unilateral or bilateral, localized or generalized over the whole head. When localized, it may affect any part of the head or face but is usually frontal or occipital or a combination of both. Sometimes sensitivity of the scalp or neuralgia of teeth and jaws may be associated with or substituted for the headaches. It is not unusual for the headache to be vascular in nature as shown by increase in pain with vasodilators such as nitroglycerin and by alleviation of pain by vasoconstrictors such as ergotamine tartrate. The complaint of headaches has been found in 92 per cent of the cases and is the most common single symptom following trauma to the cervical spine, a finding in general agreement with that of Raney and Raney.[2]

Gastrointestinal Symptoms.—Gastrointestinal disturbances have been recorded in 52 per cent of neck injuries. Nausea and vomiting may commence a few hours after the trauma and may continue in some cases for several days. However, nausea may be present without vomiting and may be accompanied by anorexia, diarrhea or constipation, flatulence, abdominal distention, and abdominal pain. Occasionally the abdominal pain may be so severe as to overshadow the rest of the clinical picture and may be mistaken for an acute abdominal condition.

Symptoms Referred to the Eyes.—Eye symptoms have been noted frequently and include conjunctivitis, photophobia, lacrimation, scotomata, hemianopsia, diplopia, nystagmus, temporary amblyopia, partial or complete ptosis of the eyelids, twitching of the eyelids, and pain in or behind the eyes.

Symptoms Referred to Ears, Nose, and Throat.—Rhinorrhea, clogging of one or both nostrils, disturbances of smell and/or taste, epistaxis, tinnitus, vertigo, temporary deafness, neuralgia of the nose, neuralgia of the ear, irritation or pain in the throat, hoarseness, yawning, and dysphagia may be present.

Symptoms Referred to the Thorax.—These include dyspnea, paroxysmal hyperpnea (deep sighing), palpitation, tachycardia or bradycardia, neurogenic cough, wheezing similar to bronchial asthma, and precordial pain or discomfort usually associated with superficial local tenderness. The pain in the chest may in some cases be so pronounced that it simulates angina pectoris or coronary disease.[3,4]

Psychoneurotic Symptoms.—The combination of fatigue and general irritability is the most common of the so-called psychoneurotic symptoms observed, being present in 90 per cent of the cases. Fatigue may vary from a slight feeling of tiredness to extreme exhaustion which is not relieved by rest. In addition, the patient may complain of poor concentration and memory, mood changes, feelings of tension, depression, confusion, and general anxiety. Moreover, there may be evidence of irritation or instability of the vasomotor system manifested by such symptoms as profuse perspiration, pallor, flushes, labile hypertension or hypotension, faintness, momentary blackouts, tremor, and insomnia.

Symptoms Referred to the Spinal Cord.—One of our cases developed chronic compression of the spinal cord due to a posterior herniation of the cervical intervertebral disk.

The condition is extremely difficult to diagnose since it may simulate many of the spinal cord diseases such as multiple sclerosis, syringomyelia, amyotrophic lateral sclerosis, or combined nervous system disease.[5] This case was originally considered to be one of a multiple sclerosis, but its true nature was established by myelography and surgery.

Associated Low Back Conditions.—Low back conditions were found in 42 per cent of the cases and no doubt resulted from the same basic trauma, producing a weakness of the supporting ligaments of the lumbar spine with probable herniation of the intervertebral disk. Sciatic irritation developed in 15 patients.

In general, it can be stated that an injury to the neck may produce multiple symptoms referred to many parts of the body, and because of the multiplicity of symptoms, the condition may be called the "cervical syndrome." It must be emphasized that although one symptom or group of symptoms is the outstanding and predominating feature of the syndrome, it may often be associated with any of the other symptoms just enumerated, or it may be substituted entirely by one or more of these associated symptoms, or it may alternate with them. The symptoms are usually intermittent and recurrent, subject to periods of remission and acute exacerbation. Exacerbation of symptoms may be precipitated by additional strain or injury to the neck or by emotional disturbances. When symptoms are unilateral, it is not uncommon for them to shift to the opposite side from time to time or become general on both sides. If left alone, the condition may become chronic and last for years, producing untold suffering and morbidity.

Although the symptoms described above occurred immediately or a short period after the neck injury, we cannot emphasize too strongly that symptoms may be delayed for months or even years.[6] The longer the interval between the date of the accident and onset of symptoms, the more difficult it is to establish causal relationship. It is also important to remember that when symptoms are delayed for any length of time, it is not unusual to obtain no history of previous trauma inasmuch as the patient may have forgotten about the original injury, especially if it was not severe enough to confine him to bed or hospital. Spurling and Segerberg[7] in their report on 110 cases of intervertebral disk lesions in the lower cervical region producing foraminal root compression recorded a history of frank trauma in only about one third of the patients.

X-ray Findings

Roentgenographic examination of the cervical spine should be performed in every case suspected of a neck injury. Films are taken in the anteroposterior, oblique, and lateral views. The lateral films should be taken with the patient in the standing position, first with the head erect, then with the head hyperextended, and finally with the head fully flexed. After excluding any possible fracture or dislocation of the cervical spine, it is well to concentrate upon those common roentgenographic findings characteristic of lesions of the cervical disks. They consist of complete or segmental straightening (or reversal) of the normal lordotic curve, narrowing of the affected intervertebral space, localized osteophytic outgrowths around the affected disks, and narrowing of the intervertebral foramina.

Complete or segmental loss of the normal lordotic curve of the cervical spine as seen in the comparative lateral views indicates spasm of the cervical musculature, which may become chronic and permanent. In some cases the loss of the lordotic curve can be corrected by hyperextension of the head; in others marked exaggeration of the lordotic curve is produced by hyperextension. These changes indicate overstretching of the anterior longitudinal ligament of the cervical spine, which acts as a check strap to excessive hyperextension.[6]

It is not unusual to find no gross roentgenographic changes immediately after the injury, especially when the patient is under thirty years of age, except for the loss of the normal lordotic curve of the cervical spine, which is the most consistent characteristic feature and very often the only abnormality found. Narrowing of the intervertebral space and hypertrophic arthritic lipping of the contiguous vertebral bodies take years to develop as shown in Figs. 1 and 2. They represent previous damage to the affected disk with progressive degeneration. Persons with roentgenographic evidence of marked disk pathology may be asymptomatic for years, providing there is no irritation of the cervical nerve roots. However, when such an individual receives an injury to the neck later on in life, the symptoms may be more devastating

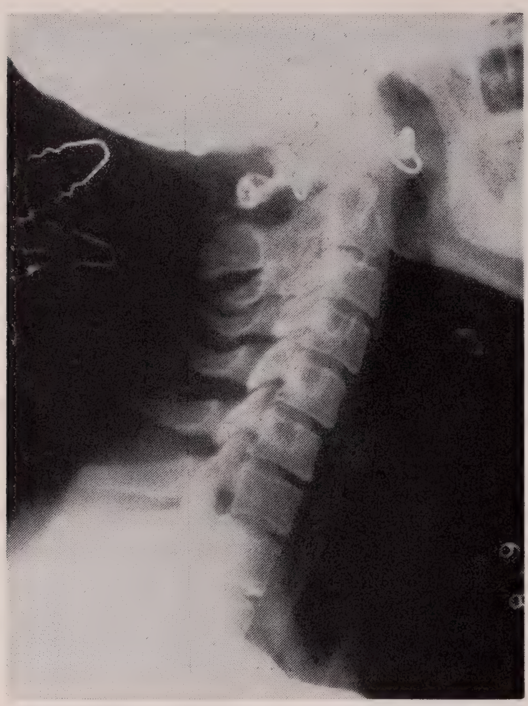

FIG. 1. Lateral roentgenogram of the cervical spine of a thirty-eight-year-old housewife in July, 1947, shortly after a neck injury, shows only the loss of the normal lordotic curve. At that time she complained mainly of neck symptoms.

and out of all proportion to the severity of the injury. That accounts for the fact that neck injuries are more serious and disabling in patients in the older age brackets.

Significant roentgenographic changes of the cervical spine have been found in 55 per cent of the cases if taken immediately after the injury and in 90 per cent after one year, providing these patients have not received head-traction therapy in the meantime. However, negative x-ray findings in a person who has received a neck injury do not prove that no damage has been done to the cervical spine. The important criteria in arriving at a diagnosis are still the over-all clinical picture and the physical findings on examination.

Treatment

Head traction or, as it is sometimes called, cervical traction is specific for neck injuries and is by far the most effective method, not only for giving the patient symptomatic and permanent relief, but also for preventing the occurrence of delayed symptoms. In order to obtain the maximum benefit from head traction, it must be carried out in the supine position.[8] In addition to traction, 200 mg. of thiamine chloride are given intramuscularly in the gluteal region in order to produce a sense of well-being in the patient, which aids in shortening the period of therapy. Routine therapy for a neck injury, therefore, consists of head traction and the intramuscular injection of thiamine chloride carried out as an office procedure. At the start treatments may have to be carried out daily for the first few weeks, especially in severe cases, and then may be reduced to three times weekly for at least two to three months, even though symptoms may have disappeared in the meantime. However, in some severe or chronic cases it may be necessary to carry out treatment for as long as twelve months or longer. Adequate improvement should be reported by the patient to justify continuation of therapy over six months.

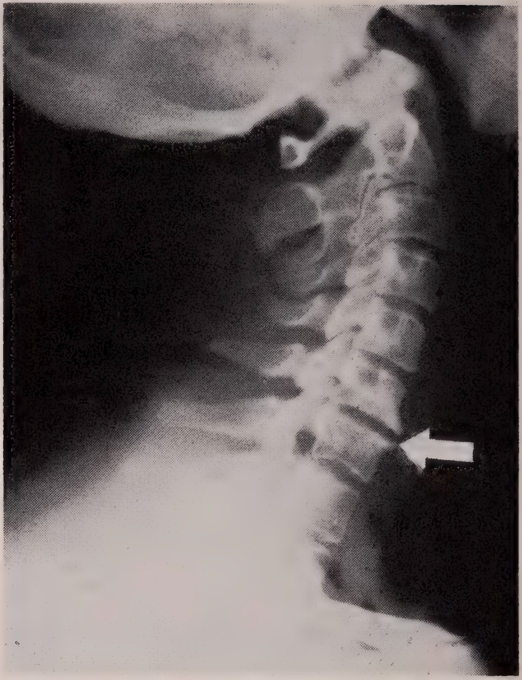

FIG. 2. Lateral roentgenogram of the cervical spine of the same patient as in Fig. 1, taken in January, 1953, about five and one-half years later. There is definite narrowing of the intervertebral space between the sixth and seventh vertebrae accompanied by localized hypertrophic lipping of the contiguous vertebral bodies. Note the straightening of the cervical curve, involving the fourth, fifth, sixth, and seventh vertebrae, in spite of the fact that the head is hyperextended. Since the accident most of her symptoms have been referred to the head, abdomen, and right upper extremity.

While the patient is undergoing traction therapy, drugs can play an important part in tiding the patient over his symptoms. The combination of an analgesic with a sedative such as Fiorinal (which contains aspirin, acetophenetidin, caffeine, and isobutylallyl-barbituric acid) has been found most useful for pain, apprehensiveness, headache, and other symptoms resulting from the neck injury. When depressive symptoms are marked, dextro-amphetamine sulfate can be added. The antihistaminic drugs are useful to combat symptoms referred to the eye, ear, nose, and throat, and their sedative action is often a welcome relief to the patient. Narcotics should be avoided as far as possible because of the strong tendency to addiction, especially in the chronic cases. Once the symptoms are under control, all medication should be stopped.

If the neck injury has been very severe, it may be advisable at the earliest opportunity to hospitalize the patient for seven to twenty-one days for head-traction therapy. At the hospital traction is carried out intermittently, using from 5 to 25 pounds of weights, with the patient lying on his back. The amount of weights employed will vary greatly with each patient, but never are more weights used than the patient can tolerate with comfort. The patient's routine consists of thirty minutes of traction followed by two hours of rest with no traction during the sleeping hours. During mealtime and during the interval between traction, the patient is permitted to sit in a chair with a simple well-fitting cervical collar made of sponge rubber. As soon as the acute symptoms subside, the patient may be discharged from the hospital but should continue traction therapy at the office for at least two to three months longer.

Inasmuch as the large majority of patients with neck injuries will eventually improve with conservative treatment, traction therapy should be continued for at least six months, providing there are no signs or symptoms of spinal cord compression, before considering surgical intervention. If at the end of that time the patient feels that he has not made adequate progress and that he cannot live with his symptoms, then surgery should be given serious thought. In preparation for surgery, cervical myelography with ethyl iodophenylundecylate (Pantopaque) is performed to confirm and localize the exact position of the disk lesion. Once a disk condition is demonstrated by myelography, surgery is recommended in the form of removal of the offending disk. However, myelography should not, as a rule, be carried out merely for diagnostic purposes alone. It should be reserved for those who have had adequate traction therapy without sufficient relief and who have already decided to have surgical intervention if a disk condition can be proved in the myelogram.

Results

A total of 101 patients who received a definite neck injury were observed from one to seven years after cessation of active treatment. One hundred were treated by conservative method of head traction, and the other one was referred for immediate surgery because of evidence of spinal cord compression. Eighty patients (80 per cent) treated by traction were relieved of all neck and other referred symptoms and were classified as cured, and 11 out of the remaining 20 per cent obtained sufficient relief of symptoms to enable them to carry on a normal existence. The nine cases in which no adequate relief was reported were recommended for cervical myelography. However, only five consented, and in each a definite filling defect of the cervical intervertebral disk was demonstrated. In two instances myelography was followed by surgery. After surgery one obtained an excellent result, being relieved of all symptoms, and the other was materially improved but continued to complain of residual pain and paresthesia. In the case with spinal cord compression symptoms had been present for over four years and were previously considered to be due to multiple sclerosis until the true nature of a disk lesion was recognized and surgical intervention undertaken. Following surgery the progress of the condition was evidently halted, although spastic paralysis remained. The amount of improvement in chronic cord compression depends on the permanent damage already done to the neural structures in the spinal cord.

Comment

Gay and Abbott[9] in discussing 50 cases of whiplash injuries of the neck state that the basic pathologic change in this type of injury is the mechanical trauma of the supporting ligaments of the cervical spine in the nature of a sprain. However, they point out that 26 per cent of their series developed clinical evidence of a herniated intervertebral disk of the cervical spine. In evaluating the pathology in all types

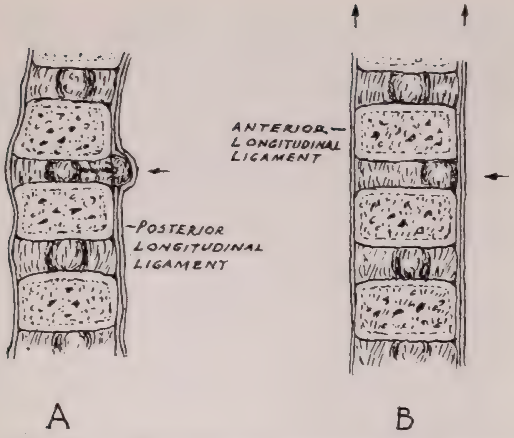
ANTERIOR LONGITUDINAL LIGAMENT
POSTERIOR LONGITUDINAL LIGAMENT
A
B

Fig. 3. (*A*) Diagrammatic representation of a herniation of the disk. (*B*) Effect of head traction upon the anterior and posterior longitudinal ligaments forcing the disk into position.

of neck injuries under present consideration including the whiplash variety, we believe that not only are the ligaments traumatized, but the disks may also be damaged at the same time. Trauma to the neck may cause damage to the intervertebral disks and produce a weakening or subluxation of the surrounding ligamentous structures of the cervical spine. The weakening of the ligamentous structures allows the nucleus pulposus of the intervertebral disk to herniate out of its normal position, and the herniated nucleus pulposus produces compression or irritation of the cervical nerves, which are located posterolateral to the intervertebral disks. Occasionally the herniation may proceed directly posteriorly as in one of our cases and produce compression of the spinal cord.

Head traction gives definite relief of symptoms in neck injuries by making the ligaments which support the intervertebral disks taut, thus increasing the intervertebral spaces and forcing the herniated nucleus pulposus into its normal position (Fig. 3). In addition, traction produces relaxation of the supporting muscles of the cervical spine. Thus the two factors which cause symptoms, irritation of the roots of the cervical nerves and reflex spasm of the muscles of the neck, are overcome. When adequate traction fails to give relief, it indicates greater damage to disks in the nature of fragmentation of the nucleus pulposus or rupture of the annulus fibrosus, which was found in the three instances of this series where surgery was performed.

The bizarre character of symptoms that follow a neck injury is, in our opinion, due to trauma to the disks and the surrounding ligaments, usually at the level of the fifth or sixth cervical interspace with irritation of the involved cervical nerve roots. Irritation of these cervical nerves sets up a reflex mechanism, probably through the sympathetic nervous system, whereby any of the cervical and/or cranial nerves, especially the trigeminal and vagus nerves, are stimulated, although the exact anatomic and physiologic pathway of the transmission of afferent impulses from the cervical spine to the cranial nerves is not understood.

Conclusions

1. Injury to the neck may cause a multiplicity of alarming symptoms which are enumerated above.

2. Symptoms may not only be localized to the neck but may be referred to many other parts of the body.

3. Headache is the most common referred symptom resulting from a neck injury.

4. Symptoms following a neck injury may be delayed for days, months, or years.

5. Remissions and acute exacerbations of symptoms are common.

6. Head-traction therapy in the supine position is specific for neck injuries and in the large majority of cases results not only in symptomatic and permanent relief, but also in preventing the occurrence of delayed symptoms.

7. In the small percentage of patients where adequate traction therapy has failed to give the desired relief, cervical myelography is indicated.

8. Cervical laminectomy with removal of the offending disk is recommended where myelography demonstrates a disk lesion.

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Grateful acknowledgment is expressed to Dr. William D. Weiss for his aid in the preparation of this article.

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Potentiation of Hypnotics and Analgesics

Clinical Experience with Chlorpromazine

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As a result of experimental work conducted by Courvoisier *et al.*,[1] a new compound was discovered which possesses diverse pharmacologic properties, generalized as marked ganglioplegic and sympathicolytic activity. Among these properties is its ability to intensify and prolong the action of drugs such as hypnotics, anesthetics, and narcotics. This new compound, known as chlorpromazine, is 10-(γ-dimethylaminopropyl) - 2 - chlorophenothiazine. Although structurally related to Phenergan and Diparcol, chlorpromazine exhibits relatively weak antihistaminic and anticholinergic activity. Developed in France by Rhone-Poulenc-Specia Laboratories, chlorpromazine,* in addition to its drug-potentiating action, blocks apomorphine-induced vomiting and alters conditioned reflex responses in animals. Friend and Cummins[2] recently reported on the clinical usefulness of this compound in controlling drug-induced and disease-induced nausea and vomiting. In psychiatric work Delay *et al.*[3] and Sigwald and Bouttier[4] have found chlorpromazine effective in managing psychomotor excitement seen in states of anxiety, confusion, mania, obsessions, and phobias. Moreover, Lehmann and Hanrahan,[5] using higher than usual dosage levels, observed improvement of various degrees in treating schizophrenics.

Use of chlorpromazine to potentiate other drugs in surgery and in anesthesia has been demonstrated by the French investigators, Laborit *et al.*[6] and Forster *et al.*[7] They observed that patients who received the drug with hypnotics preoperatively later required less hypnotic and anesthetic and that use of narcotics postoperatively also could be reduced. These results prompted me to investigate the usefulness of chlorpromazine in potentiating drugs used in the treatment of conditions commonly seen in everyday office practice.

This report, then, relates my experience with chlorpromazine to potentiate the action and prolong the duration of action of other drugs in three groups of 39 nonsurgical patients: patients unable to sleep in spite of their taking Seconal, Nembutal, or Tuinal before bedtime; patients with acute and chronic pains unrelieved to any appreciable extent by usual analgesic therapies, and anxious and tense patients with psychosomatic complaints.

Results

Seventeen patients whose complaints of insomnia were not amenable to sedatives in usual doses were benefited immeasurably when chlorpromazine, 25 to 50 mg. orally, was given with sedatives. A portion of the group in whom Seconal, Nembutal, and Tuinal ($1^1/_2$ grains) had previously proved ineffective obtained singularly good results when these drugs were supplemented with chlorpromazine. Patient response to phenobarbital, $^1/_2$ grain, or to chloral hydrate, 15 grains, given with chlorpromazine was equally satisfactory; in some cases as little as $^1/_4$ grain of phenobarbital was adequate. These combinations generally permitted the patients to sleep at least eight to ten hours. On awakening patients felt refreshed and experienced none of the hangover effects that so often follow taking soporifics. We have had practically no failures, regardless of whether the cause of insomnia stemmed from physical or emotional origin. Although chlorpromazine and Phenergan (12.5 to 25 mg.) proved effective for inducing sleep, patients given this combination reported being somewhat drowsy and uncoordinated the following morning.

In using chlorpromazine with sedatives to re-establish normal sleeping patterns, it appears undesirable for patients drinking alcohol or for inebriated patients to take the drug. We observed that not only is the depressing effect of alcohol increased, but that the postalcoholic state is aggravated as well. Chlorpromazine has, however, been sucessfully used for controlling nausea and vomiting resulting from Antabuse-alcohol reactions.[2]

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* Supplied for investigational use as Thorazine by Smith, Kline & French Laboratories, Philadelphia.

In a series of nine patients with pain of diverse origin, including cancer, severe neuralgias, sciatica, and neuritis of the brachial plexus, chlorpromazine was added to determine whether it would augment the action of various analgesics. Although providing only symptomatic relief, there is no doubt that the combined administration of chlorpromazine and l-dromoran, morphine, Demerol, codeine, or salicylates increases the efficiency of these analgesics.

As an example, a patient with cancer of the prostate and bone metastases had been maintained fairly free from pain on estrogen therapy following orchiectomy. Within two years, however, the liver became involved, and the patient now required Demerol or morphine to relieve his pain. When Demerol or morphine was given with chlorpromazine, he could be kept comfortable with doses of 100 mg. or $^1/_3$ grain, respectively. Another terminal cancer patient was completely free from pain when given l-dromoran (1 cc. every six hours) and Tuinal (3 grains) in combination with chlorpromazine, 25 mg. orally three times daily. Aside from the resultant potentiated and sustained drug action noted, it was observed that the concurrent use of these drugs seemed to induce a state of emotional indifference, which replaced the justified fear of death.

In the vast majority of patients requiring relief from pain, the analgesic-chlorpromazine combination proved very effective. It was unsuccessful, however, in providing adequate analgesia in migraine, premenstrual pelvic pain, and radicular sciatica complicated by sacroiliac dislocation.

In view of the fact that chlorpromazine slightly depresses blood pressure,[8] it might not be amiss to speculate on its usefulness in hypertension when given in combination with hypotensive agents. An eighty-one-year-old hypertensive woman (260/140 mm. Hg) whose trigeminal neuralgia could no longer be managed by alcohol nerve block, began taking codeine, $^1/_2$ grain, and chlorpromazine, 25 mg. orally, three times daily. Her pain was relieved, and she later learned that an imminent attack of neuralgia could be obtunded, if not obviated, by taking chlorpromazine, 25 mg. orally, with aspirin 10 grains—*without codeine.* After two months on this medication intermittently, her blood pressure became stabilized at 190/120, even though her diet and normal activities remained unchanged.

On the basis of 13 patients' subjective reports and my clinical impressions, chlorpromazine appears to be quite useful in the treatment of psychosomatic complaints resulting from anxiety and tension states. Twenty-five milligrams, given before each of three meals, together with specific therapy, such as phenobarbital, Trasentine, Belladenal, and Phenaphen, undoubtedly made these drugs effective when they had previously been ineffective. If the drugs had previously been effective, adding chlorpromazine augmented their activity, thus permitting their dosage to be reduced. When given singly in the treatment of psychosomatic conditions, chlorpromazine appeared to produce only slight to moderate effects in contrast to its remarkable effects when given in combination. In only two cases, anxiety reactions previously treated for many years by psychoanalysis, could a real improvement be attributed to chlorpromazine without adjuvant therapeutic measures.

Chlorpromazine was, in general, well tolerated. Since it depresses blood pressure slightly, patients with postural hypotension or low blood pressure were given the drug only at bedtime to prevent dizziness or fainting. Except for patients treated to re-establish sleep patterns, chlorpromazine had to be given continually, for symptoms returned when it was withdrawn. However, the minimum dose which is active for a certain person remains active at the same level when given over a period of months.

Comment

Clinicians have long sought a drug that by depressing hypothalamic centers of the sympathetic nervous system would inhibit cenesthesia. That chlorpromazine is such a drug seems obvious from its diverse pharmacodynamic effects. If not, how can it simultaneously alter the *reaction* to pain, relax skeletal muscle, reduce body temperature, slow metabolism, inhibit psychomotor agitation, and facilitate sleep? These physiologic effects focus its action in those subthalamic vegetative nuclei of the diencephalon which Harvey Cushing, with great foresight, said were the essential spring of instinctive, vegetative emotional life that mankind has tried to cover with a cortex of inhibitions. Previously, only by lobotomy or limited topectomy were we able to modify the neural circuit between the cortex and—what J. F. Fulton and J. Delay have called—the "affective brain." Now, with chlorpromazine, it appears possible to interrupt pharmacologically synaptic transfer between the cortex and diencephalon by less drastic means. Moreover, it is this sympathicolytic action of chlorpromazine on hypothalamic centers that alters reaction to pain and thus enhances the effectiveness of analgesics given with chlorpromazine.

Observations of the reactions following the injection of chlorpromazine erroneously into the cerebrospinal fluid of a human have contributed further evidence that the potentiating effect of this drug is predominantly centrally acting. Briefly, these observations, reported by Dr. J. Schneider, of Rhone-Poulenc-Specia Laboratories, at the Therapie Kongress in Karlsruhe, August 30, 1953, are as follows:

> A few minutes after 1 cc. of chlorpromazine solution (25 mg.) was injected by error into the cerebrospinal fluid, the muscles in the patient's legs became flaccid. Thirty minutes later the patient became very sleepy, and a paraplegic state involving the pelvis and the lumbar region ensued. Paralysis and sphincteric relaxation persisted approximately three hours; however, the patient was able to stand without assistance five hours later. He slept well that night, and on the following day paralysis subsided and sphincteric control returned. The patient completely recovered within forty-eight hours. Examination of the cerebrospinal fluid at this time revealed data essentially within normal limits. The fact that at no time did the patient experience pain indicated that the drug is relatively nonirritating, producing only a diffuse neuroplegia ascending toward the diencephalic centers and resulting in sleep.

All this enables us to have a clearer insight into the deeper mechanism of shock (in the initial alarm sympathetic phase) and to understand better the transition between hibernation and sleep, between physiologic sleep and anesthetic sleep, between subcortical pain and cortical homologation.

Summary

Clinical experience with a new phenothiazine derivative, chlorpromazine, indicates that this drug potentiates or augments the action of hypnotics, narcotics, and analgesics. Patients whose difficulty in sleeping had been inadequately solved by barbiturates and other soporifics were benefited when chlorpromazine was added to their medication. Similarly, the compound proved effective in augmenting the action of narcotics, thus permitting lower doses of narcotics to be used in relieving pain of terminal cancer. Patients with psychosomatic complaints reported a better response when specific therapy was supplemented with chlorpromazine.

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Industrial Solvent May Cause Bone Marrow Damage

Habitual exposure to carbon tetrachloride—a widely-used industrial solvent—may cause "irreversible" damage to the red blood cell-producing bone marrow, a New York City physician said.

Dr. Bernard Straus, of the Bronx Veterans Administration Hospital, reported in the June 19 *Journal of the American Medical Association* on three fatal cases of aplastic anemia following chronic exposure to the chemical.

Most reported cases of carbon tetrachloride poisoning have resulted from acute exposure, he said. In the three cases he reported, exposure had been over long periods.

One of the men had been working for six and a half months with sponges soaked in carbon tetrachloride in a small room ventilated only by a door. Another spent most of three years in military service cleaning gun parts with kerosene and carbon tetrachloride in a small shack. The third had used the substance for cleaning tools and upholstery in the garage where he worked.

Dr. Straus said an important fact is that carbon tetrachloride has a "cumulative effect" and that failure of the bone marrow to function may become obvious only after a long series of "minor insults" by the chemical.

MEDICAL CONFERENCE

St. Mary's Hospital

Rochester, New York

SEPTEMBER 15, 1954

Clinical Pyelonephritis

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PYELONEPHRITIS is one of the most underrated diseases in medicine. It did not excite me very much until I realized that it is by all odds the most serious renal problem in clinical practice and more frequently encountered than all other types of kidney disease put together. Perhaps pyelonephritis has been neglected because of the enormous amount of work which has been done on glomerulonephritis. From a descriptive viewpoint this disease has been pretty well understood since the classic work of Richard Bright in 1827.[1] His brilliant observations were so far ahead of the times that they captured the imagination of the medical profession and usurped the thought in the field of renal disease. Consequently, the majority of investigators have worked on nephritis and nephrosis; pyelonephritis has become a clinical stepchild. It was barely mentioned in the literature until Wagner, a German pathologist, described the anatomic features of the disease in 1882.[2] This knowledge was promptly lost again (probably because of the lack of wide translation of Wagner's work) until Lohlein published his monograph on the contracted kidney in 1917.[3] At this time recognition of the disease was confined to the autopsy table. The direct causal relationship between pyelonephritis and hypertension received scant reference until Longcope published his excellent work in 1933.[4,5] Even then the disease seemed to be left hanging until the very beautiful monograph of Weiss and Parker appeared in 1939,[6] followed in the forties by the work of Mallory and the Boston group[7] demonstrating the experimental development of pyelonephritis in animals. So you see it was as recent as World War II before pyelonephritis became a widely recognized clinical entity.

When a disease is so long in gaining medical recognition, there is usually some peculiarity of the disease itself to explain it. In this regard I would like to quote directly from the article by Weiss and Parker.[6]

> As long as pyelitis of early childhood was considered by pediatricians as a benign and transient period of infection of the pelvis, it was not suspected that this condition in its chronic stage is related to certain types of toxemia in pregnancy with apparent recovery observed by the obstetrician, to subsequent attacks of pyuria, treated by the urologic surgeon, and to arterial hypertension of progressive severity developing years later, associated with impaired concentrating capacity of the kidney with but a trace of albumin and few or no white cells in the urine cared for by the internist. Only when it became sufficiently recognized that pyelitis is uniformly associated with focal or diffuse inflammatory lesions of the parenchyma of the kidney as well as the pelvis was it suspected that an acute "pyelitis" or pyelonephritis bears a relation to the functionally insufficient contracted and irregularly scarred kidneys of chronic pyelonephritis.

In classifying pyelonephritis I think we could

Conference notes edited by Dr. John J. Butler, Director of Medical Education, St. Mary's Hospital.

profit by following the cardiologists and including the clinical, etiologic, anatomic, pathogenic, and functional characteristics in one diagnosis. I would suggest the following simple clinical classifications: (1) acute pyelonephritis, (2) healed pyelonephritis, and (3) chronic pylonephritis, of atrophic or nonatrophic variety. The etiologic diagnosis depends upon the bacteriologic classification of the organism cultured from the urine, although some gross identification can be made from the gram stain on the smear of the urinary sediment. Anatomically, pyelonephritis can be bilateral or unilateral, equal or unequal or secondary to a congenital defect. There may or may not be scarring to the point of atrophy, and the disease may or may not be accompanied by hydronephrosis or hydroureter. The pathogenesis of pyelonephritis might be hematogenous, urogenous (ascending), or lymphogenous. Functionally we could have no renal insufficiency, moderate renal insufficiency, or advanced renal insufficiency with the uremic syndrome. Thus, a complete diagnosis on a theoretic case might be "chronic pyelonephritis due to a mixed infection with Escherichia coli and coagulase positive Staphylococcus aureus, bilateral, equal with slight hydroureter and hydronephrosis, probably hematogenous in origin, with moderate renal insufficiency." With such a diagnosis we would thereby obtain a concise and clear concept of the disease process.

Etiology

Now how do you get pyelonephritis? We believe that a major share of the pyelonephritides are spread by the hematogenous route from foci in pharynx, tonsils, and sinuses, in the colon, and in a chronically inflamed appendix. The lymphogenous route is particularly involved in lesions of the prostate, seminal vesicle, and the female genitalia. Obstruction seems to play a definite role in the pathogenesis of this disease. Mallory and his group in Boston[7] demonstrated this in a series of brilliant experiments as follows: A culture of E. coli was injected into the marginal ear vein of a rabbit in whom one of the ureters was tied off. The kidneys were exposed in operation, and the kidney on the ligated side was found to be acutely inflamed and swollen with many small, white nodules studding the surface. This is not unlike the appearance of the kidneys of human beings dying with acute pyelonephritis. The unligated kidney appeared normal even though it had received as many bacteria as the ligated one. At the end of two and a half months the kidney on the ligated side was definitely smaller than the other, and after eleven and a half months an atrophic scarred kidney was found. This is very much the same as the contracted kidney of the human being which results from chronic pyelonephritis.

This raises the question of the importance of nephrolithiasis in the evaluation and management of chronic pyelonephritis. It is still controversial as to whether kidney stones are primary and cause pyelonephritis by irritation and obstruction or whether they are formed secondarily with bacteria and exudate acting as a nidus for the deposition of calcium. However, the importance of nephrolithiasis in the management of renal infection is beyond debate. It is virtually impossible to clear infection in a kidney which is partially obstructed by stones, and every attempt should be made to prevent stones in patients with pyelonephritis and to remove them if it is at all possible when they have already been formed.

There is some debate as to the importance of the lymphogenous origin of pyelonephritis. The superficial lymphatic system of the kidney does have perforating connections through the fatty capsule with the periglomerular space. The entire fatty capsule of the kidney is covered with superficial lymphatics. These are directly continuous with the lymph channels draining into the ascending colon. The nodes draining the parenchymal system of the kidney are part of the aortic lymph chain and, as such, are in continuity indirectly with the posterior surface of the bladder, uterus, and vagina. Therefore, there is at least an anatomic basis for lymphogenous spread. There are many people, particularly in Europe, who feel very strongly that this is a common basis for the development of clinical pyelonephritis. Viable E. coli have been found in the lymphatics draining the colon in cases of diverticulitis, and this may very well represent one of the sources of contamination.

The hematogenous origin of pyelonephritis is a very real thing. I can recall one patient who had a recurrent pyelonephritis for several years with numerous acute attacks which subsided on small doses of antibiotics designed only to provide a high concentration in the urine. On complete examination of the patient we were able to culture the same type of Lansfield strain of streptococcus from her throat, nose, vagina, and urine. After testing for sensitivity and treatment with an adequate dose of proper antibiotic, we have been able successfully to control her infection and prevent recurrences.

Pathology

The pathology of pyelonephritis is quite interesting, and I think once one has seen it, he may have a little better mental image of what is going on. Acute pyelonephritis shows an enlarged kidney with small abscesses on the surface, much like that in the experimental kidney which we discussed above. On section one sees yellow streaks going from the pelvis to the cortex. The pelves are apt to be reddened, dilated, and they may be coated with a fine plastic exudate. Microscopic examination shows polymorphonuclear leukocytes invading the intratubular tissue and infiltration into the periglomerular lymphatics around the glomerulus. Multiple abscesses may be seen. Some sections show streaked areas of fibrosis, and in the intertubular area one may see a massive polymorphonuclear response. Sometimes in a matter of days, infection beginning at the pyramid can spread in sheets of inflammatory tissue up toward the cortex, and I think if one keeps that situation in mind, it is a sufficient mental image to warrant using systemic doses of antibiotics designed to reach an adequate blood level and an adequate tissue level instead of treating the infected urine.

Symptoms

The systemic features that one sees clinically are chills, fever, sweating, a feeling of malaise, occasional bacteremia with a positive culture, and a leukocytosis. The reflex phenomena seen are loss of appetite, occasional abdominal pain, occasional lumbar pain radiating into the legs, and occasional feeling of distention. One may have pain in the costovertebral area, referred to the lumbar area, over the iliac crest, or radiating to the groin. This can take on many variations and mask other common conditions in the abdomen or lumbar region. There may be tenderness on palpation over the kidneys if one holds them firmly in the two hands. If the bladder is involved, we may mistakenly think that the pyelonephritis is the result of an ascending infection from the bladder. This is not necessarily true, however, because cystitis can be secondary to the kidney infection and is found in about 40 per cent of the cases of pyelonephritis. This is even true of those that are obviously of hematogenous origin and those experimentally produced by a hematogenous basis. The bladder involvement accounts for the usual complaints which are sought in the physician's history of frequency, burning on urination, urgency, urinary tenesmus, a suprapubic sense of pressure, etc. One may also see spread of the infection to other internal organs to form, for example, a localized peritonitis or subdiaphragmatic abscesses. Infectious thrombophlebitis of the renal veins can develop. Metastatic abscesses sometimes form in other organs, and the lungs, liver, skin, and brain seem to be the sites of predilection.

Laboratory Examinations

The proteinuria is usually small in pyelonephritis, ranging from 0.01 to 5 Gm. per twenty-four hours, and it may be extremely slight in this disease. This is again probably due to the fact that the tubular disease is more prominent than the glomerular disease. Pyuria is common, and we think that clumps of white cells are more significant because we think they represent more debris and mucous threads for the conglutination of white cells and probably are more often associated with active infection. Bacteriuria is common, and one should do gram stains or some simple stains on the urinary sediment, even while he is sending it down for culture. We have a routine in our laboratory of doing gram stains on sediments of all urines which are cultured and reporting these results immediately. Casts are not too common in this disease, as one might expect from the lack of profound proteinuria, but they may be seen and one should especially look for white cell casts which are really hyaline casts that have white cells enclosed within them. If one catches the urinary sediment in the active stage of tubular necrosis, then cellular casts may be seen in all their phases of degeneration, that is, coarsely granular, finely granular, and waxy. The hematuria may be microscopic or may be gross, and it is interesting that some patients will have as the onset of their disease in later life the gross hematuria, a difficult differential diagnosis from hypernephroma which may occur in the same age group. We have seen one patient who had no symptoms in her life until she suddenly developed massive bleeding; since the bleeding cleared up in a day or two, we obtained positive urine cultures and white cells in the urine. I think this represented a pyelonephritis which just happened to erode into a large blood vessel and produced gross bleeding.

The pH is usually alkaline with proteus and staphylococci and other urea-splitting organisms. Different strains of these organisms vary with respect to their ability to split urea. Urea-splitters liberate ammonia, and the ammonia alkalinizes the urine. Alkaline urine alters the cells and dissolves casts so that identification of formed elements may become difficult. An alkaline urine also provides the finest medium for the precipitation of calcium in the form of calcium oxalate stones.

Specific gravity on random specimens is usually reduced in cases of pyelonephritis which are of an advanced degree.

Anemia in patients with chronic pyelonephritis is usually not severe unless the azotemia is prolonged. Periodic leukocytosis is common. The azotemia usually begins when filtration rate and renal blood flow are reduced to below one quarter of the normal value. As renal insufficiency occurs, patients of course develop metabolic acidosis, and they may also frequently go into a salt loss syndrome with hypochloremia and hyponatremia. They usually have elevated erythrocyte sedimentation rates, and the blood proteins are interesting because they may look disproportionately good, in contrast to the patient with chronic glomerulonephritis. The chief things that may help you distinguish this from a glomerulonephritis is the fact that in pyelonephritis the anemia is not so great as you would expect and the blood proteins look better than you would expect at any given stage of azotemia.

Treatment

The treatment of pyelonephritis depends on vigorous use of the proper antibiotics selected after sensitivity studies have been performed on the isolated organism. The therapy should be vigorous with respect to both time and dosage. We believe firmly in using the same doses as would be used for any severe tissue infection such as lobar pneumonia. Courses of antibiotics may have to be repeated a number of times if any of the symptoms or laboratory aids indicate recurrence or continuation of the infection. Continuation of signs of infection also warrants the use of intermittent cultures during the course of therapy. This is necessary because so often an antibiotic removes the initial cultured organism which is then replaced by another strain or type of organism. This may require a completely different antibiotic regime. One must not forget the general health measures of improving the patient's total hygiene, paying attention to nutritional defects, avoiding foci of infection, avoiding periods of deep dehydration. It is advisable to train the patient to overhydrate habitually in order to increase urine flow, to avoid strenuous bowel disturbances such as are produced by the use of harsh cathartics following a period of constipation, and to adopt other measures which may be directed toward general health of the patient. It may also be necessary to pay attention to urine pH in an effort to potentiate the use of certain antibiotics such as aureomycin in their action on the associated ureteritis or cystitis.

Strict attention must be given to the removal of any existing obstruction such as a stone in the renal pelvis or ureter, strictures or aberrant vessels obstructing the ureter, or any other congenital defects which may impair the flow of urine and reproduce clinically the experiments of Mallory.

Many clinicians have taken a despairing or hopeless view of chronic pyelonephritis when it becomes symptomatic and produces either complications or renal insufficiency. We firmly believe that a better understanding of the pathogenesis and management of pyelonephritis can prevent many of its more serious complications, prolong the life of an individual even with moderately advanced disease, and can without a doubt make his remaining years more comfortable.

Discussion

Intern: Is x-ray of any value in the diagnosis of pyelonephritis?

Dr. Schreiner: The intravenous pyelograms may reveal delay in excretion time of the dye, reduced excretion of the dye, or a diminution in the size of kidneys if contraction is present. In the x-ray we look for slight dilatation, irregular, or tortuous, twisted, or deformed pelves, infundibulum, or minor calyces; obstruction to the calyces; blunting of the calyceal tips; and the presence of calculi. In the ureter itself we look for dilatation of the upper two thirds, strictures or contortions, calculi, or obstructive ureteritis. Sometimes in chronic pyelonephritis one can get the development of a markedly cystic pelvis which gives a very striking x-ray picture. It is not unusual for an episode of acute pyelonephritis to produce x-ray changes which are very striking but clear up as the infection clears or is treated. We have seen markedly abnormal intravenous pyelograms change in eight or ten days.

RESIDENT: Of what value are the supravital stains for glitter cells?

DR. SCHREINER: Recent developments with supravital stains such as that proposed by Sternheimer and Malbin[8] may offer a valuable screening procedure for early diagnosis of the disease. The Sternheimer-Malbin stain produces a characteristic poor-staining nucleus and an azure blue cytoplasm and reveals the presence of small granules which appear as highlights under reduced lighting in the microscope and which, by Brownian movement, dance and have led to the term "motility" and "glitter" cells. These are commonly seen in the urine of patients with chronic pyelonephritis, but the exact specificity has not yet been clinically determined.

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ANNOUNCEMENT

PRIZE ESSAYS

The Lucien Howe Prize and the Merrit H. Cash Prize will be open for competition at the next Annual Convention of the Medical Society of the State of New York, May 9 to 13, 1955, in Buffalo.

The *Lucien Howe Prize* of $100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The *Merrit H. Cash Prize* of $100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win a prize automatically becomes the property of the Medical Society of the State of New York, "to be published as it may direct."

All essays must be presented not later than *February 1, 1955*, and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

R. TOWNLEY PATON, M.D., *Chairman*
Committee on Prize Essays

HISTORY OF MEDICINE in New York State

Editor
FREDERIC D. ZEMAN, M.D.

Licensing of Physicians in New York State

An Eyewitness Account

MAURICE J. LEWI, M.D., NEW YORK CITY

(*President, Long Island University College of Podiatry*)

FROM 1882 until 1913, the writer was officially engaged in legislative and educational work with headquarters in the New York State Education Department. The earliest assignment was as secretary of the Legislation Committee of the Albany County Medical Society.

Drs. Dewey and Parsons, the then executives of the New York State Education Department, on learning of the above assignment, proffered the writer a desk in their offices and arranged that copies of all bills introduced in the State Legislature bearing upon professional education, public health, etc., were to be placed on the writer's desk for his information and study. From that time on, all of his spare day hours found him busily studying the ramifications of these various legislative trends.

Two years later, the writer was appointed chairman of this Legislation Committee and promptly was made the intermediary between the Albany County Committee and the New York State Medical Society Legislation Committee. In 1886 he was made secretary of the latter committee, and all the miscellaneous data he had acquired during his apprenticeship proved an asset of real proportions. During his fledgling legislative years he had not only acquired knowledge of the background of legislative methods and existing laws in regard to the profession, but also had learned of the machinations of those who wished to alter or destroy such laws, while they were serving private interests. Additionally, he sought to know and succeeded in becoming personally acquainted with all who were a part of the machinery of legislation, whether elected or appointed. Thus, when the time came for him to act as secretary of the Committee on Legislation of the New York State Medical Society, he had acquired all of the needs for proficiency as a "leg man" to his associates on the committee, Dr. D. B. St. John Roosa, founder and president of the Post-Graduate Medical College and Hospital, and Dr. Daniel B. Lewis, Commissioner of Health, both men of action and ability and fine examples of the best in our profession.

Practicing medicine in Albany at the time, the writer was frequently called upon to treat persons in all branches of the State government, from page boys to those resident in the gubernatorial mansion, remitting or mitigating charges for services, as diplomacy suggested. Through these personal channels, access to people, to data, and to happenings that otherwise might have remained obscure, were advantageously brought into the vista of the committee's calculations.

In the early eighties of the last century, by comparison with what the writer had seen of medical education in Europe, he reached the conclusion that our methods of teaching students in medical colleges were greatly lacking in features that demanded attention. In the role of secretary of the Committee on Legislation of the Albany County Medical Society, an opportunity was gained to delve into the picture of medical education as it was being carried on in the State of New York, supposedly under the aegis of the New York State Education Department and its Board of Regents.

For many years preceding the days of his association with medicolegislative matters, it had been clear to the officials of the New York State Medical Society that the public was being seriously imposed upon by virtue of the fact that the State itself had no oversight of those who became legally entitled to practice medicine within its confines. In those years a medical diploma, issued by any alleged medical unit, if endorsed by a New York State located medical school or college or by its dean, if registered in the office of a county clerk in New York State at that time, gave the individual named in the diploma the full right to practice medicine in the State of New York. Year in and year out, the medical profession battled to end this situation. It was well known that there was at least one medical college in the State that readily accorded the signature of its dean to such foreign diplomas for a fee, regardless of the status of the college that had granted the degree. It was also well known that one or two of the other New York State medical colleges had been careless (?) in exercising this right to vise such out-of-State diplomas.

During that period there were over 170 degree-granting medical colleges in the United States. Here the writer must digress to report one of the great services to medicine achieved by a man who is not an M.D.! Abraham Flexner, a scholarly gentleman on the teaching staff of Princeton University, financially supported by the officials of the Carnegie Foundation, began a methodic investigation of all of the medical colleges in the United States and Canada. At the time the writer was secretary of the New York State Board of Medical Examiners. Learning of this undertaking and being in full sympathy with its purposes, he offered to Mr. Flexner such help as could be supplied from our files and our deductions from the same. Ours was but a mite in comparison with what Mr. Flexner garnered. Suffice it to say that after years of untiring search, the doors of more than half of these medical colleges were closed because of their commercial affiliations or their inefficiency. Today, there is a total of but 79 medical colleges in the United States, all of them "approved." The details of this great accomplishment are contained in a massive volume known as Bulletin Number 4 (1910), "Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching" by Abraham Flexner. The report should find place in every medical library in the country. Mr. Abraham Flexner (a brother of Dr. Simon Flexner, the former head of the Rockefeller Institute) is still alive at age eighty-six. He has not only the earnest gratitude of all doctors of medicine in the United States for helping them to clean house but is entitled to the thanks of the American public for having rid them of the incubus of commercially made doctors of medicine.

From 1870 on, at every session of the Medical Society of the State of New York, committee reports were read advocating some prescribed method to reform the situation relative to medical practice. True, in 1870 a law was passed which gave the Regents of the University of the State of New York the right to confer the degree of Doctor of Medicine. It was thought that the terms of this bill would mitigate the situation as above depicted. However, it was found to be lacking in features of a different nature which involved issues that had not been contemplated by those sponsoring the bill that became a law. It confused rather than aided the pending situation and now constitutes a dead letter on the statute books.

Among other incongruities in the medical law in the State of New York, it is to be noted that the chief of an Indian reservation had the right to nominate any member of the tribe to serve as physician to those on the reservation, although he might be entirely without medical education or medical experience.

At each annual meeting of the State Medical Society, speeches were made in eloquent terms, denunciatory of the prevailing system. And each year, year after year, the results were alike—nil! The situation, when the writer put on his legislative swaddling clothes, was about as follows: These contestants were foremost in the fray: (1) the New York State Medical Society, its membership far outnumbering the combined membership of the other groups, (2) the New York State Homeopathic Society, (3) the State Eclectic Medical Society, and (4) the Osteopathic State Society. (The three first mentioned had their own school or schools in the State.) The first recognized osteopathic school was located in Philadelphia. In addition to the above, each of which had its own bill before the Legislature, there were the Vegetarians, the Electricians (Physical Therapists), the Hydropaths, plus the specialists such as midwives, optometrists, chiropracters, chiropodists, *et al.* The first four mentioned were seeking for safety and expansion; the others were striving for existence. Each of the four medical sects introduced legislation that would provide for a State Board of Medical Examiners, whose province it would be to pass judgment on all graduates of colleges of their particular medical faith, thus creating four different kinds of doctors. Each of these principal groups had its legislative followers. The advocates of the lesser groups likewise had their champions among the legislators, and more particularly with the lobby, and their protestations and asseverations became the greatest affliction to the legislators and to the various organizations, each sponsoring its own bill.

Each succeeding year, as legislation was being sought to level the situation so that assurance could be had that the existing evil in medical licensure would be eradicated, the legislative committees of the main contenders would send out their "foray" men to feel out the situation. As the legislative session advanced, each of the four principal "contenders" would have had its particular legislative bills introduced in each house, and at the hearings a recounting of the virtues of each of them was paraded. Some eloquent paid attorney would descant upon the merits of his own particular medical sect bill under consideration.

Our Legislation Committee would rarely obtrude itself at the hearings devoted to these minor groups, knowing that their claims would prove futile, even though they had the support of some important groups who were animated by business and social motives. Now and again, during these years of attempts at legislative tinkering, in order to swerve a growing tendency on the part of some sect that seemed to have acquired ascendency in the mind of an outstanding legislator, the scythe of common sense would be applied by Drs. Roosa, Bendell, Van Der Veer, Bailey, Potter, Ward, Fowler, and others, each and all of whom commanded the respect of legislators generally. The writer, as usual, acting for the committee, arranged the programs, and, when occasion seemed ripe for his participation, added his voice to these hearings.

The lesser groups were the noisiest. Full of fight, enthused in the belief that they had uncovered the "vade mecum" of disease eradication, supported by cases of "miraculous cures" related by such patients, the impression made was not always futile, even though it may not have been lasting. Of a far different variety was the strife that arose between the homeopaths and, as they termed us, the allopaths, which appellation was disdained. Their cause was largely engineered by the Drs. Paine who practiced their profession in Albany. They believed in and practiced the Hahnemannian theory of "Similia Similibus Curantur." Like several other Albany homeopaths, they were highly reputable citizens, enjoyed lucrative practices, and had a clientele which included some of the best and monied people in the State. There was nothing covert about their efforts to win out in the legislative combat.

A few outstanding incidents connected with the struggles for health measures, professional education, etc., occurring during these years may not be amiss. As elsewhere stated, from my earliest days in connection with medical education, I made it a rule to become as intimate as possible with those who constituted the legislative arm of the State government. Among those whose friendship and favor was particularly needed were Senator Pat McCarran, who represented the Brooklyn contingent of the Democratic Party, and Tim Sullivan, the leader of Tammany Hall. These two men were mighty in all that pertained to legislative matters in those days. Their intimacy was sought, was gained, and ripened into friendship. As time went on, I had impressed both of these men, as well as I tried to impress others, that the State Medical Society had no funds with which to carry on in seeking or in thwarting proposed health and medical legislation. Success was also obtained in convincing these legislators that all that official medicine was attempting to do was for the public weal. Both of these men promised that they would "go along" with anything that bore the seal of approval of the New York State Medical Society, and in every instance their vote so attested.

There was a temporary rift in this association which came about as follows: One day one of our medical licensing bills was pending final action in the Senate. Pat McCarran came to me and said, "Doctor, I have pledged myself in favor of this proposed legislation. Now, I have a favor to ask: A lot of our boys in Brooklyn, good fellows and contributors to our funds, have asked me to vote against this bill. Now, if you need my vote, I will be there to give it. If, however, my vote is not needed, I would like to be recorded as 'not voting.'" We did not need his vote, and thus neither he nor we were embarrassed.

A still further incident is worthy of place in this recital: The State Medical Society had favored legislation which was properly introduced in the Senate and was referred to a committee of which a Brooklyn senator was chairman. The bill, a health measure, had passed the Assembly without any difficulty, but all efforts to unloose it from its moorings in this committee seemed futile. The chairman of this committee was a man in the liquor business. By appointment I met him at the Stanwix Hall Hotel on Broadway in Albany. I asked him why this bill had not been reported to the Senate, and he answered that they were not ready to report it but failed to give the reason. In the course of the conversation it became evident that he or his committee wanted a contribution to his or their campaign fund. Regardless of the moral features involved and in the light of our financial affairs, this seemed like a joke. I reported the incident to Senator McCarran. Evidently, he was not much surprised. He suggested to me that I reach the pastor of this man's church and tell him the facts in the case, and perhaps something favorable to our wishes might be accomplished. I did that very thing and was presently received by the pastor who readily agreed on the score of public welfare to urge the release of the measure in question. The plan succeeded, and the legislation was passed.

Mention is made of these two political forces of their day because at the time of their service in the Senate there is no question but that private interests were being served through the medium of giant corporations seeking and securing personal legislation at the expense of public benefit through monied means. The writer knows of no step in the course of the duties of these two men that in any way interfered with the high respect in which he held them during their lifetime. He now respects their memory and feels that a record to that effect should properly appear in connection with his experiences with them. In those days it was bruited about that although leaders in both parties were immune to monied rewards for their votes, there were hintings that some of them benefited from tips on stocks that would increase in value through legislation depending upon just how their votes were cast.

Late in the contest for the three chief bills that finally became law in 1892, a Senate committee hearing on the Homeopathic Bill was scheduled on a given afternoon. As secretary of our State Legislation Committee, the writer was advised and in turn notified Drs. Roosa and Lewis, both of whom reported their inability to be present, relying upon the writer to act for the committee. Years of experience in these legislative tilts served to make him confident of his ability to cope properly and adequately with any situation that might arise where merit was to play a part in arguments pro and con. In the Senate Chamber at the stated hour the hearing was begun. Those present were the members of the Senate Legislative Committee, Dr. H. M. Paine, and several Albany homeopathic physicians, plus a handsome, black-haired, well-dressed individual, Dr. Seldon Talcott, who had been designated to open the hearing in advocacy of the Homeopathic Bill. This bill provided for the establishment of a State Board of Medical Examiners to be appointed by the Regents of the University of the State of New York on recommendation of the New York State Homeopathic Medical Society and whose province it would be to pass upon the applications of all homeopathic doctors who wished to practice medicine in the State of New York. During the period in which these various bills for State licensing of M.D.'s were being buffeted about, the committee hearings were frequent, at all of which the writer was present in his official capacity, and, when possible, either Dr. Roosa or Dr. Lewis, sometimes both, were in evidence.

At 4 P.M. the hearing began. Senator Statler called the meeting to order, stated the object, and asked for the first speaker in favor of the bill. Dr. Paine introduced the medical superintendent of the Middletown Insane Asylum, Dr. Seldon Talcott. The doctor approached the rostrum with a briefcase, from which he abstracted his manuscript. He read his speech. As this doctor, in eloquent manner and with all the grace that marks the polished orator, delivered his speech, there was no visual evidence that he was reading from manuscript. His arguments for a board that would be solely responsible for its good faith in passing muster on their own contained parallels in other fields, and that accorded him opportunity to laud our country and its democratic nature. With all the nicety of reasoning befitting a Cordoza or a Hand, he evaluated the Hahnemannian theory by quoting the employment of its principle by the Old School. I recall how vividly he painted the established virtues of vaccination against smallpox and thanked our group for this quasi yielding to their views. That part of his brief in which he brought to the fore the nauseous asafetida, ipecac, calomel, *et al.*, partook of a graciousness impelled by unseen pinpricks. For at least three quarters of an hour he spoke on, largely in mellifluous tones, finishing with a statement to the effect that he and those he represented felt assured that were they to adjudicate the issue involved, they would prove themselves able to reach a decision that would not only be just to the advocacy of the bill but to the good of the people of their respective districts and to those throughout the State. The Senate Chamber rang with applause, by hand and voice, as he finished. I turned about and noted that the intervening space to the walls of the chamber was filled with people who, in passing through the other parts of the building, were attracted by this man's eloquence and had remained to hear him through. As he concluded, I edged to Senator Statler's seat and said, "I am ready to go on." Disdaining my words, he turned to his committeemen who were busy congratulating the doctor and announced that the meeting was adjourned. As he and I walked out together, he whispered to me, "You wouldn't have had a Chinaman's chance; he carried them off their feet." Mentally, I agreed with him, but was I doing my job? He proved a "foeman worthy of his steel."

In the Assembly, probably in the spirit of "a curse on all of your houses," all three of the outstanding bills to place the licensing power to practice medicine in the hands of the State were passed. When they reached the Senate, there was still the great divergence of opinion, each of the three warring medical groups insisting that their bills should be passed. We of the State Medical Society had fought this contention on the theory that they were legalizing three kinds of doctors, and that seemed to us far from the best outcome.

When these bills came up for final action in the Senate, Senator Statler, who had charge of our legislative interests, sent word to the writer that he must see him at once. As this message reached me, I hurried to the Senate Chamber during a night session of that body. On arrival Senator Statler took me aside and said, "All three of these will be passed, or each of them will be defeated. The champions of the other two bills want their legislative measures to be passed. If the New York State Medical Society acquiesces in the decision, all three bills will be voted favorably and sent to the governor." No time was left for the secretary of the Legislation Committee of the New York State Medical Society to consult with his fellows on the committee. Preferring legislation that corrected the existing evil, even though it involved the introduction of other evils, although less portentous, the secretary of the Legislation Committee of the Medical Society of the State of New York agreed to the passage of the three bills, and promptly thereafter, they were almost unanimously carried, went to the governor, and subsequently became law, effective January 1, 1892.

Between 1892 and 1896 the three boards flourished, each board examining only those graduating from schools of their own sect. The task was a burdensome one to all concerned, and the Board of Regents, as well as the various examiners, were irked by its terms as they were endeavoring to fulfill them.

Once the three groups had overcome the original thought that they would be discriminated against by the creation of a single board, proposals were again made that all join in an effort to wipe out the three-board system and enact legislation that would create a single board of examiners with proportionate representation of all three sects in medicine. Inasmuch as this was our original goal, we not only agreed but urged the passage of such a law. It was enacted without serious trouble and has been functioning ever since, thus creating a system whereby the State should constitute the licensing power of those who wish to practice medicine within its borders.

During all of these twenty-two years of activity in the halls of legislation, many of the most important changes for the better in public health and in professional advancement became laws, and in the discussions which arose at committee hearings, the Legislation Committee of the State Society played its part with the same acumen that marked their efforts in gaining for the State the licensing power to practice medicine within its confines. The committee was assisted most bravely by members of the State Society, both in their loyalty and in their participation before committee hearings. To enumerate those who thus gave of their time and of their ability would include the names of scores and scores of doctors of medicine, practically all of whom have gone to their last abode. They included not only those noted for their special medical abilities who resided in the larger cities, but the countryside furnished a great proportion of these valuable aids. Among these latter the writer cannot refrain from mentioning Drs. Suiter, Beach, and Wey.

When the three-board bill became law, the members, whom the Regents had appointed to represent each of the sects designated to serve as such, were summoned to Albany, met conjointly, and were asked to select someone to act as secretary of the three boards. Probably due to the fact that the headquarters of this official would have to be in Albany, it was voted that the writer was to serve in that capacity. To arrange for the examinations, to edit the questions, to supervise and safeguard their printing —all this became a vexatious task.

When the single-board bill became law, the writer was again selected to serve as secretary. Harmony prevailed, and ever since through succeeding administrations of the office of secretary, criticism has yielded to faith, and the present secretary, Dr. Ezell, is being respected for his fidelity and his ability to carry into effect the licensing of doctors of medicine in the Empire State.

Worthy of historic note is the fact that the State eclectic medical organization ceased to be recognized when it was brought to the fore that its representative college in New York City was being conducted in a manner that was detrimental to the best interests of medical advancement and public integrity. An investigation made by the New York State Education Department, through the secretary of the State Board of Medical Examiners, uncovered practices that made it incumbent upon the Regents to revoke the charter of the Eclectic Medical College. Thereafter, the eclectic member of the board was replaced by Dr. Williams of Rochester, as representative of the interests of the Osteopathic Society of the State of New York.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

149th Annual Meeting

May 9 to 13, 1955

Hotel Statler ***Buffalo***

Blood Banks Association of New York State

J. STANLEY KENNEY, M.D., *President*

NEW York State physicians are pioneering a Blood Assurance Program which for the first time in America applies the principle of Blue Shield and Blue Cross prepaid insurance to blood supply.

Under this program, an individual can subscribe a pint of blood and receive in return a guarantee of 4 pints of blood each when needed for himself, his spouse, and all children under twenty-one. Individuals with no dependents are guaranteed unlimited blood. Even the individual who cannot give has not been forgotten. His friend or neighbor may give the blood premium and have the certificate benefits assigned to the individual unable to contribute. In this case the sponsor is not an assured subscriber.

Since a person in good health can give blood four times annually, it is obvious that through "sponsored certificates" even persons in poor physical health, or who are over age, may receive the benefits of the Assurance Program.

Blood assurance owes its origin to the Blood Banks Association of New York State, a nonprofit corporation organized under the auspices of the Medical Society of the State of New York. The Association president, Dr. J. Stanley Kenney, of New York City, is a past-president of the State Medical Society.

Scene of the first project for the new donor procurement method was Genesee County, as a result of a petition from its county medical society to the House of Delegates. What actually happened? First of all, it was recognized that this was essentially a test of the public appeal exerted by the new plan. If people in general had no enthusiasm for it, there was no reason to continue. Second, the Blood Assurance Program was thought of as a genuine opportunity for the county medical society to give the community a new public service. As such, it was deemed a medical public relations project which deserved support from doctors in every field of medical practice.

With these two concepts in mind, members of the Medical Society of the County of Genesee constituted themselves a "speakers committee." Letters sent to 264 county organizations brought more than 130 engagements. Physicians spoke briefly and informally with a question-and-answer period following each talk. Organizations then endorsed the Blood Assurance Program with accompanying newspaper publicity.

In March, 1954, physicians capitalized on the medical public relations aspects of Blood Assurance by being themselves the first to join. A lay citizen selected as general chairman appointed industrial committees from management and unions. Community representatives worked in their own areas.

Volunteer workers then asked employes, friends and neighbors, and members of organizations, on record as endorsing the program, to make donor appointments at the Blood Assurance Program headquarters. In this work women of the Auxiliary to the county medical society, as well as the hospital auxiliaries, played an outstanding role. By funneling contacts with the public to a community center, hospital staffs were relieved of the task of answering questions and listening to personal histories. Headquarters made the appointments and then informed hospitals of the number of donors arriving at a scheduled time. Total volunteers working on the project approximated 300 citizens including 49 members of the county medical society or 97 per cent of its membership.

In three months 4,527 persons became members of the Blood Assurance Program, including 1,228 donors. ("Members" include persons giving the blood and dependents listed on their application cards: spouse and children under twenty-one years of age.) Because 1,228 units of blood drawn over a three-month period were too much for immediate use by the two Batavia hospitals, depository blood banks were selected throughout the State. These depository banks, with the local region having a priority, agreed to accept a stated amount of blood weekly. They repaid it as needed by clearinghouse members of the Association. Genesee County, by this method, created a substantial reserve to meet its annual need for blood.

Physicians in both hospitals were pleased with the technical experience gained by the blood bank. Dr. Joseph F. Krawczyk, president of St. Jerome

Hospital staff and chairman of the Procurement Committee for the Medical Society of the County of Genesee, remarked, "I feel we are now prepared to bleed up to 100 people a night in less than two hours because of increased efficiency." This preparedness adds greatly to safeguards against major catastrophe. Dr. Robert S. Jenks, chairman of the county medical society Blood Program Committee observes, "Hospitals in Genesee County are prepared to undertake a tremendous job in the event national disaster strikes and with it a need for whole fresh blood. Both hospitals together, on short notice, can accommodate 100 donors *an hour*, a service no other hospital our size—and very few larger ones—could equal."

The Blood Banks Association has, in addition, a Blood Resources Fund. In the event of major catastrophe which would strain the resources of a member bank to the point where it might go bankrupt in blood, sufficient units could be sent to help meet the situation. The Blood Resources Fund may also be used in hardship cases, as for instance, hemophilia, leukemia, anemia.

Among interesting developments during the project: committee workers objected to the word "donor," pointing out that "subscriber" was more appropriate because the person giving his blood actually received tangible benefits in the form of a year's protection. Dr. George S. Young, president of the county medical society, also discovered by checking applications that approximately *30 per cent of the donors had never before given a pint of blood.*

Statistical tables, prepared under the expert supervision of Dr. Lester J. Unger, director of the Blood Bank, New York University-Bellevue Medical Center, and corroborated by studies made by Dr. John J. Clemmer, director of Bender Hygienic Laboratory, Albany, show that a conservative margin of blood collected will be used for subscribers and their dependents.

Some criticism has been expressed that the potential actuarial surplus is too large. To this, the Blood Banks Association replies that statistical tables may be upset for various reasons: as, for example, the plan's greatest appeal may be to families in the child-bearing age or to large families. In either instance actuarial figures could be disturbed. For this reason it is felt wise to work with the program for some time before increasing benefits to subscribers. If experience shows that greater benefits can be given, they will be promptly passed on to subscribers. In addition, if an actuarial surplus develops, the Association's board of directors plans to take care of both the hematologically and the financially indigent.

It is recognized also that hospitals need a "financial cushion" to absorb the loss from blood collected but not acceptable, processing charges, breakage, outdating, research, and blood given to indigents. An example of this need for a "cushion" may be realized from a statement approved by both the Hospital Association of New York State and the Greater New York Hospital Association in answer to the question: "Are patients ever refused blood?" Both hospital associations state that it should be emphasized that no person is ever denied transfusion therapy because of inability to arrange for donor replacement or payment of service fees. Blood is usually furnished in advance, and the financial transaction is an after-consideration.

No one anticipates that the Assurance Program will cover the needs of every patient. It is felt that each hospital should continue its present system of blood replacement. This may include payment by patients of the hospital's usual monetary penalty charge for nonreplacement, which is a customary procedure under the "two-for-one" system used by many hospitals. Funds derived under this system are needed to meet blood bank operational costs. It must be emphasized that the Blood Assurance Program does not aim to replace the present system of blood banking; its function is to supplement the present programs in existence.

Obviously blood programs, no matter what agency operates them, are dependent for success on a sufficient amount of two items: blood and money. Neither can be eliminated. As Dr. Jacob Geiger, chairman of the Association's Policy and Planning Committee, says, "Replacement should be stressed as one of the most important phases in blood procurement. It is the responsibility—and usually well accepted—of patients who have had the benefit of blood transfusion. Like an insurance program the Blood Assurance Program will secure a contribution of blood before the need arises. It will run concurrently with replacement efforts. Both are vitally important."

In Genesee County public opinion was overwhelmingly in favor of the Blood Assurance Program. As the *Batavia Daily News* said, "It amounts to providing protection in advance, ready immediately, whenever and if needed, always the best policy." The *Buffalo Courier Express* followed up by editorializing: "Families and individuals who are willing to make minimum donations of blood each year in future need have no worries about obtaining transfusions in the event of accident or illness. Even the frantic search for rare types of blood may soon become a thing of the past."

The *Buffalo Courier Express* editorial referred to another vital service that the Blood Banks Association is offering to patients and physicians—a State-wide clearinghouse for the location of rare blood types and for the exchange of surplus blood. Activated in late April, 1954, the clearinghouse is now exchanging over 200 units per month and utilizes all available media of transportation. The staff recognizes that each call for blood that comes in is important to the requesting bank; every effort is made to meet it. In addition, the clearinghouse maintains a daily inventory of blood on hand in all its participating hospital and community blood banks throughout the State. Dr. Herman E. Hilleboe, New York State Commissioner of Health, stated recently, "The nonprofit Blood Banks Association clearinghouse is a practical demonstration that effective preparation can be made against major catastrophe, including atomic attack. The blood clearinghouse is now meeting almost daily emergencies that arise in its member hospitals. It is an efficient organization that should be of great assistance in locating and expediting blood in the event of major catastrophe anywhere in the State."

Dr. John K. Miller, Blood Services Officer of the Civil Defense Commission, who also represents the Health Commissioner on the Association's board of directors, has emphasized the Commission's desire to decentralize the supply of blood. Dr. Miller points out that "If the Association can bring a majority of the 225 blood banks within the State to the point where they *bleed donors* as well as transfuse, it will be a great step forward in the interests of civil defense."

For the medical profession, the Blood Assurance and clearinghouse programs of the Blood Banks Association offer the following advantages:

1. Fresh blood drawn and largely processed in the community's own blood banks.

2. The public appeal inherent in a prepaid insurance plan is coupled with an organized method of securing blood donors. Trained public relations personnel and material to stimulate the recruitment are supplied by the Blood Banks Association.

3. The establishment of a new link between the medical profession and average citizens of this State who subscribe to the Blood Assurance Program and receive benefits from it.

4. A "cushion" in actuarial tables to allow the hospital sufficient surplus to maintain the blood bank on a self-sustaining basis, including coverage of a limited number of nonmembers of the plan.

5. Existing systems of blood procurement are not disturbed.

6. A State and nation-wide system of protection for Blood Assurance Program members by registration of their names in the central Blood Banks Association office, with a blood clearinghouse providing the mechanism for hospitals to exchange blood, paper credits, or monetary indemnities.

7. Prestige and public relations support of the Blood Assurance Program by the nonprofit Blood Banks Association which has been organized under State Medical Society auspices.

8. Year-round bleeding of Blood Assurance donors in the hospital will help maintain technical facilities at a point where they are able to cope with local catastrophe.

9. The Blood Banks Association will eventually attain a self-sustaining basis through income derived from service charges made for both the Assurance Program and clearinghouse.

10. Use of professional blood donors will be minimized.

As a result of the favorable reception given to the new plan, steps are already being taken to extend it to other areas of the State. Richmond, Queens, Kings, Bronx, and New York County Medical Societies have endorsed its introduction in their respective areas. In Orange County a recent meeting of the county medical society resulted in a decision to activate the Blood Assurance Program as a replacement for the Red Cross Blood Program, which has been completely withdrawn from this county. Committees are working on its introduction to Niagara and Erie Counties and the establishment of a regional center which will include these two areas as well as Genesee County.

Inquiries from members of the Medical Society of the State of New York are invited by the Blood Banks Association and should be addressed to the president, Dr. J. Stanley Kenney, at the offices located at 386 Fourth Avenue, New York 16, New York, the same address as the State Medical Society.

It cannot be too strongly emphasized that this is a doctor's program, for the public benefit. It should put physicians into a working partnership with the hospitals whose facilities will be used and should aid in securing a closer relationship between these two groups. Other projects such as certification of blood banks and research are contemplated for the future.

The scope of the program is extensive, especially when one considers that the Association's board of directors has set the collection of 100,000 units of blood annually as the amount necessary to justify the Assurance Program. The program's success can only be attained, however, with the interest, participation, and vigorous support of doctors throughout New York State.

In a recent letter to Dr. Dan Mellen, president of the Medical Society of the State of New York, Dr. George S. Young, president, and Dr. Jenks, Blood Program chairman, of Genesee County Medical Society, said:

> You are aware that the pilot program in this county was an outstanding success, and certainly many of us feel that at the conclusion of the pilot project, we of the medical profession, as an organized group, enjoyed public approval to a degree never before realized. We believe that this is the result of several factors, one of these being that the county society was never before kept in the public eye so continuously over such a long period of time as it was during the intensive

publicity campaign carried out with the very necessary and able assistance of the Blood Banks personnel. Another important factor was that a new and positive program of public service was being offered to the public by the organized medical groups. A third important fact, I am sure, is that 97 per cent of the members of our county society took active part in helping to put this program across. This meant that the great majority of the men appeared personally before more than one group to explain in a short period of time the Blood Assurance Program and to obtain from that organization its endorsement of the program. I can think of no more positive example of public service in action.

The inception of the Emergency Medical Service and the Mediation Committee, previously announced to the public some year or two ago, evoked some favorable comment in the newspapers, but the knowledge of these services could not be made as widely known and did not capture the imagination of the public in the same proportion that the Blood Assurance Program has. We have never before received such warm spontaneous editorial approval of any medical society program.

We commend to you the Blood Banks Association of New York State and the Blood Assurance Program in the hope that it will find an ever-increasing potential for service to the people of New York State and serve as an outstanding example to the American Medical Association and to our entire country. Properly developed on an unselfish and equitable basis, it can be exactly that.

In closing I think it is worth mentioning that we were able to obtain large numbers of volunteer workers who felt that they were offering a real public service when they assisted on this program. Likewise, we were able to obtain a large number of donors, when other volunteer agencies reported real difficulty in fulfilling quotas. We believe that this program has a very real appeal to the individual and will serve as a very important additional means for obtaining blood to meet our needs in this State.

Our county society has outlined programs for continuing this project and recommends it to any of the other county societies giving it consideration.

Physicians of New York State, this is your program. Get behind it, and give it your active support!

Role of Stomach Explored

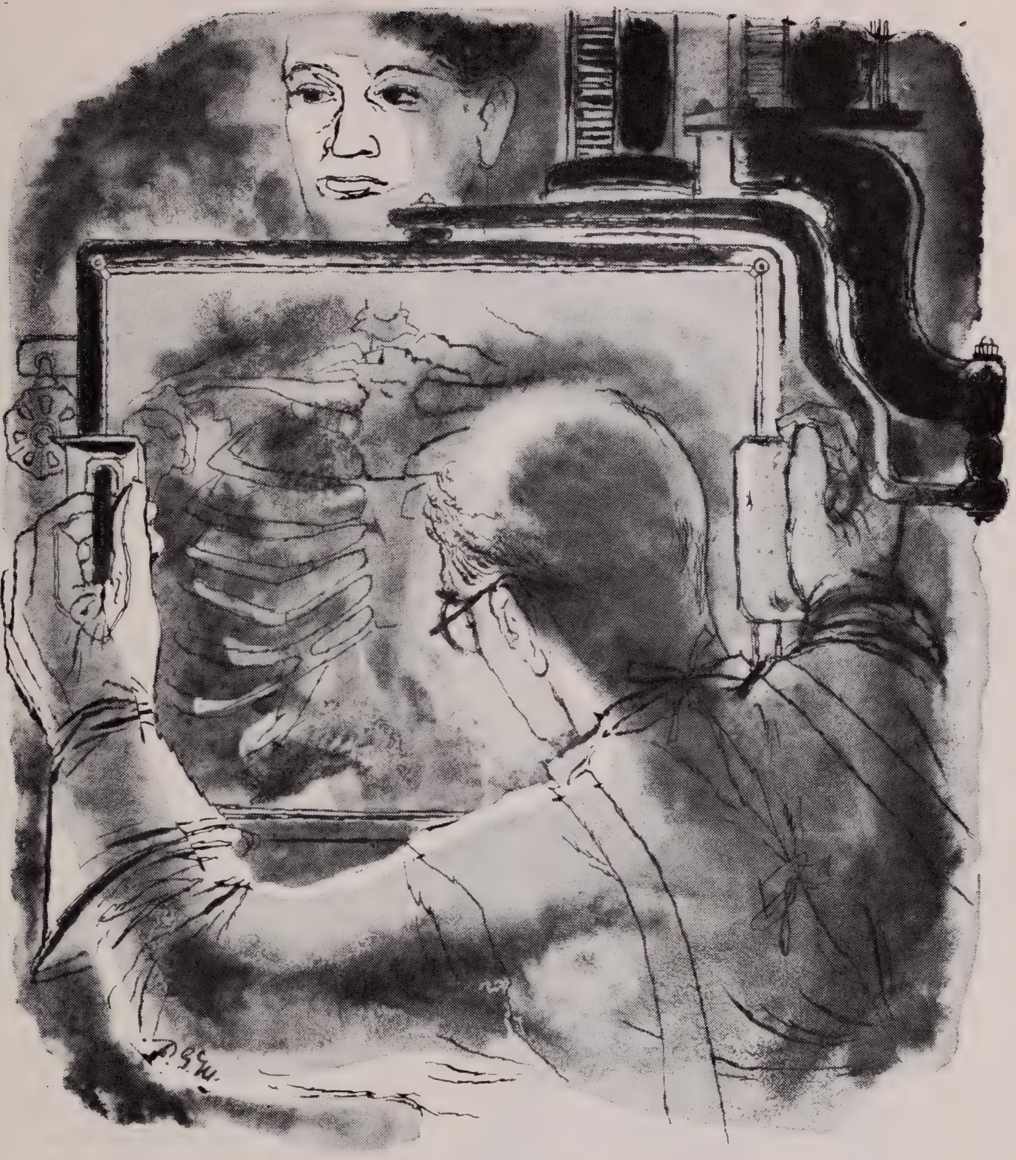
The stomach plays a more important role in the absorption and secretion of drugs than has heretofore been known, according to a study reported on by scientists of the National Heart Institute of the Public Health Service, Department of Health, Education, and Welfare.

In these studies, the stomach membrane is pictured as an oily barrier between gastric juice and blood plasma. Drugs may pass both ways through this membrane barrier. Alkaline drugs pass the barrier in the direction of the stomach and acid drugs in the direction of the blood stream.

Even when administered directly into the bloodstream, alkaline drugs such as quinine and other alkaloids are found quickly and in surprisingly high concentrations in gastric juices of the stomach but are not absorbed well from the stomach. Acid drugs such as the barbiturates and aspirin are absorbed rapidly from the stomach but are not secreted to any great extent.

In between these acids and alkaloids are the neutral drugs, compounds which are intermediate. They are absorbed moderately from the stomach into the bloodstream and secrete themselves moderately into the stomach.

In this study, different drugs which are representative of their class are being investigated, from strong alkaloids to neutral compounds and the acids. The rat stomach is separated from the rest of the gastrointestinal tract, a tube is inserted, and the drug in solution is introduced and allowed to stand a prescribed time. From 0 to 80 per cent of the drug is absorbed in one hour, depending on the physical characteristics of the drug.



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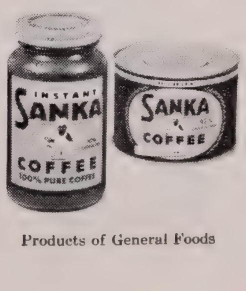
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to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

Legislation

OUR goal is passage of legislation that advances good medical care for all the people of this State and the prevention of legislation that might affect it adversely. As a means of achieving this goal, our Auxiliary legislation chairmen have always endeavored to establish active State-wide committees. We are ready at all times to assist the State Medical Society in focusing public attention on all pertinent legislation.

At present our State Committee consists of one State chairman, nine district chairmen, one for each regular judicial district in the State, and a county chairman for each of the 46 counties where there is an auxiliary. Each county chairman is responsible for setting up the most effective committee she can within her own county. She is advised to include on this committee one person for each 10 to 15 auxiliary members in the county.

Originally, these county committees functioned as telephone committees during the months when the State and national Legislatures were in session. Whenever the Medical Society asked for our cooperation, these committees immediately advised our members and friends of pertinent pending legislation.

Experience with this procedure revealed several weak spots. Time was lost in repeat calls to members who were not home at the time of the initial call. Failure to reach any committee member meant that her entire area did not receive the message.

Since local committees were set up several months in advance of the time when the Medical Society request was received, members occasionally lost or misplaced the list of persons they were to contact. Messages relayed by telephone were not always completely recorded by the recipient who subsequently, finding her information incomplete, failed to act.

Some members had no information about the problem under consideration except the brief details the legislation committee person gave her by telephone. Consequently, she could not discuss it intelligently with her friends or neighbors.

Information about problems of particular concern to parents or to members of community groups often did not reach our members in time for presentation to these groups for them to pass on it.

In an effort to solve some of these problems, the Auxiliary is trying, at present, to set up our county legislation committees as units that function throughout the entire year. They will try to keep our general membership informed at regular intervals regarding all current medical legislation.

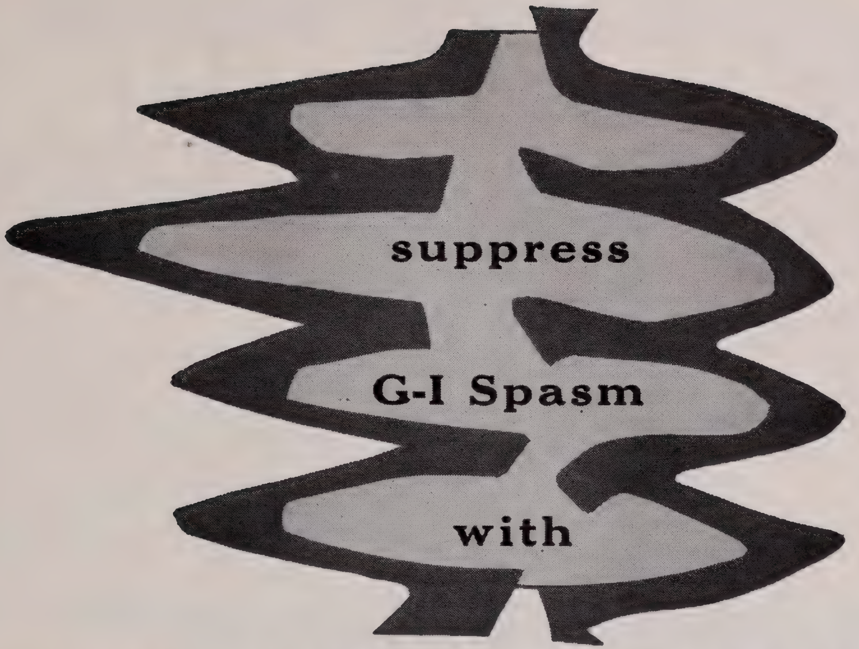
To eliminate the difficulties observed in the functioning of telephone committees, a central clerical committee will be set up. This group will keep on hand one complete set of stamped envelopes addressed to each member of its auxiliary and will have one person available each day to cut a stencil and mimeograph or otherwise prepare the required number of copies of any legislation message the Medical Society wishes relayed to our members. This will insure getting the *complete* message to each auxiliary home by mail within twenty-four hours with minimum effort.

As a means of providing more complete information for our own members, "Legislation Study Clubs" are to be set up in each auxiliary. When they are well enough established to provide a regular flow of information among our own members, probably a period of several years, we will be ready to seek regularly scheduled time on P.T.A. and other community organization programs during January, February, and March for presentation of current medical problems, legislative or educational.

During the interim an attempt will be made to persuade each auxiliary member to devote a small amount of her time to this program for legislation. She will be given an opportunity to do literature research, write a report of findings, do clerical work, serve on the telephone committee, use her artistic skill for preparation of graphs, maps, or illustrations, act as liaison between the auxiliary and others in the community, or serve in any other capacity for which her individual talents best fit her.

This is the present state of evolution of our Committee on Legislation. Probably future progress will be determined largely by the measure of interest shown in it by the local medical societies, as well as the actual use they are able to make of it.

MRS. CHARLES M. BRANE, *Chairman*
Legislation Committee



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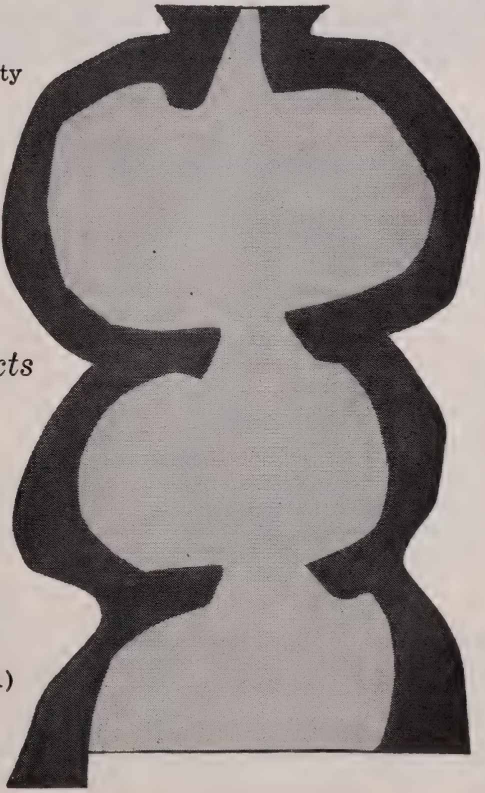

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NECROLOGY

Anthony A. Colletti, M.D., of Brooklyn, died on November 24, 1954, at the age of fifty-seven. Dr. Colletti received his medical degree from the Medical College of Virginia at Richmond in 1925 and interned at St. Vincent de Paul Hospital in Norfolk, Virginia. He had practiced in Brooklyn for almost thirty years. Dr. Colletti was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

James Edward Corrigan, M.D., of Patchogue, died on December 9, 1954, at his home at the age of forty-four. Dr. Corrigan received his medical degree from the Hahnemann Medical School, Philadelphia, in 1937. He was associate attending physician at Long Island Hospital and attending physician at Mather Memorial Hospital in Port Jefferson. Dr. Corrigan was a member of the American Academy of General Practice, the Suffolk County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Charles F. Daniels, M.D., of New York City, died on December 8, 1954, at his home at the age of thirty-nine. Dr. Daniels was graduated from the Long Island College of Medicine in 1942 and interned at Bellevue Hospital. He was assistant attending surgeon at Bellevue Hospital, assistant attending thoracic surgeon at Triboro and Queens General Hospitals, attending thoracic surgeon at Brooklyn Thoracic Hospital, and consultant in thoracic surgery at Northern Westchester Hospital, Mount Kisco. A Diplomate of the American Board of Surgery, a Diplomate of the American Board of Thoracic Surgery, and a Fellow of the American College of Surgeons, Dr. Daniels was a member of the American Trudeau Society, the New York Society for Thoracic Surgery, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Ernest George Gerst, M.D., of Jackson Heights, died on September 13, 1954, at the age of seventy-five. Dr. Gerst received his medical degree from the University of Munich in 1903. He was a member of the Rudolf Virchow Medical Society, the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Isaac Harris Levy, M.D., of New York City, died on December 16, 1954, at Lenox Hill Hospital at the age of seventy-six. Dr. Levy was graduated from the Columbia University College of Physicians and Surgeons in 1901.

William Henry Mansperger, M.D., of Buffalo, died on December 12, 1954, at Deaconess Hospital at the age of eighty-eight. Dr. Mansperger was graduated from the University of Buffalo School of Medicine in 1887 and was consulting surgeon-in-chief at the Deaconess Hospital. He was a member of the Buffalo Academy of Medicine, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Albert Michelson, M.D., of Patchogue, died on December 12, 1954, at Mather Memorial Hospital, Port Jefferson, at the age of sixty-two. Dr. Michelson received his medical degree from the University of Munich in 1915. He was attending ophthalmologist at Mather Memorial and Southside Hospitals. Dr. Michelson was a member of the Suffolk County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Bernard Milch, M.D., of New York City, died on December 16, 1954, at his home at the age of forty-nine. Dr. Milch was graduated from the New York University and Bellevue Hospital Medical School in 1930 and was adjunct surgeon at Jewish Memorial Hospital and on the staff of the tumor clinic there. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

James Hyman Movitz, M.D., of New York City, died on September 30, 1954, at the age of fifty-eight. Dr. Movitz received his medical degree from Tufts Medical School in 1924.

William Monroe Rapp, M.D., of Catskill, died on November 22, 1954, at his home at the age of eighty-three. Dr. Rapp was graduated from the Albany Medical College in 1895 and practiced in Glens Falls and Argyle until coming to Catskill in 1908. For more than forty years he had served as village health officer and school physician and for six years as county coroner. From 1933 to 1944 he had served as roentgenologist at the Greene County Memorial Hospital and held various offices in the Greene County Medical Society and the third District Branch of the Medical Society of the State

[Continued on page 266]

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[Continued from page 264]

of New York. Dr. Rapp was also a member of the American Medical Association.

Leo L. Roth, M.D., of Schroon Lake, died on August 29, 1954, at the age of seventy. Dr. Roth was graduated from the Columbia University College of Physicians and Surgeons in 1913 and interned at Mount Sinai Hospital. He had practiced in New York City until illness necessitated his retirement several years ago. A diplomate of the American Board of Orthopedic Surgery, Dr. Roth had been a member of the American Academy of Orthopedic Surgery, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Frances I. Seymour, M.D., of New York City and Nesconset, died on December 17, 1954, at University Hospital at the age of fifty-four. Dr. Seymour received her medical degree from the Medical College of Virginia at Richmond in 1928 and interned at the Metropolitan Hospital. In 1940 she organized the National Research Foundation for Fertility, where she was medical director until her death. She was abstract editor of the *Women's Medical Journal.* Dr. Seymour was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Nettie P. Shapiro, M.D., of New York City, died on August 24, 1954, at the age of seventy-seven. Dr. Shapiro received her medical degree from the College of Physicians and Surgeons of Chicago in 1909.

Albert Conrad Snell, M.D., of Rochester, died on December 11, 1954, at the Strong Memorial Hospital at the age of eighty-three. Dr. Snell received his medical degree from the University of Pennsylvania in 1898. He was consulting ophthalmologist at Rochester General, Park Avenue, and Strong Memorial Hospitals. During World War I Dr. Snell served as chairman of the Selective Service Medical Advisory Board. A Diplomate of the American Board of Ophthalmology and a Fellow of the American College of Surgeons, Dr. Snell was a member of the American Academy of Ophthalmology and Otolaryngology, the American Ophthalmological Society, the Rochester Academy of Medicine, the Rochester Pathological Society, the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

MEDICAL NEWS

1955 New York March of Dimes—The National Foundation for Infantile Paralysis, 120 Broadway, New York 5, New York, has announced that the polio attack rate in New York in the year just ended was about 38 per cent lower than the national average, according to provisional reports. Nationwide, the number of cases reported in 1954 was the third highest on record.

Evaluation of the Salk vaccine, administered to 440,000 U.S. children in the largest medical experiment of its kind ever conducted, is now in progress. Announcement of the vaccine's effectiveness will be made this spring. During the field trials last spring about 238,000 children in the State of New York were inoculated, half with the Salk vaccine, half with a placebo.

This year the March of Dimes must raise $64, 000,0000—$9,000,000 for vaccine, $2,700,000 for scientific research, $2,900,000 for professional education, and at least $29,900,000 for patient aid, including hospitalization.

Workman's Compensation Head Injury Study—Inauguration of a study of head injuries in workmen's compensation under the medical direction of Dr. Leo M. Davidoff, chairman of the Department of Surgery, Albert Einstein College of Medicine, and Dr. Benno Schlesinger, associate attending neurosurgeon, Mount Sinai Hospital, in connection with the continuing long-range investigation into workmen's compensation costs by the Commerce and Industry Association of New York, Inc., has been announced by Thomas Jefferson Miley, executive vice-president of the Association.

Dr. Davidoff and Dr. Schlesinger plan to examine data on 150 head injury cases from insurance carrier and self-insurer files in which awards were granted by the Workmen's Compensation Board. Basic elements of the study will have to do with the diagnoses and prognoses of the injuries; how the cases were handled by the Workmen's Compensation Board with respect to hearings, payments, and medical treatment; the length of time taken to resolve head injuries compared with noncompensation cases, to the extent that comparable data exist and are available; economic factors relating to lost time, past employment records, and amounts of settlement, and the degree of success attained in use of rehabilitative technics to achieve early return to employment.

[Continued on page 268]

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[Continued from page 266]

American Medical Education Foundation—Contributors from New York State to the American Medical Education Foundation for the month of October were: *Albany*— Drs. John G. McKeon and J. J. Russo; *Amsterdam*—Dr. Norbert Fethke; *Batavia*—Dr. Max A. Almy; *Bay Shore*—Dr. F. R. Bussey; *Belfast*—Dr. Dorothy Grey; *Binghamton*—Drs. Robert Bogdasarian, Milton A. Carvalho, Alfred Loewenstein, Mary Ross, and Irving Werner; *Brashton*—Dr. Philip E. Stamatiades; *Bronx*—Drs. H. E. Diamond and Maxwell Spring; *Brooklyn*—Drs. Charles H. Birnberg, Donald J. Dickler, Joseph J. Feminella, Francis P. Ferrer, Eugene S. Pavlov, and A. S. Wiener; *Buffalo*—Drs. L. J. Doll, Jr., William S. Edgecomb, T. F. Houston, and C. L. Stinson; *Canajoharie*—Dr. Frank S. Gray; *Canandaigua*—Dr. Francis W. Kelly; *Churchville*—Dr. V. P. Laglia; *Cooperstown*—Drs. Leroy C. Harris and Charles B. Kieler; *Corning*—Dr. Parker M. Hoffman; *Dansville*—Dr. Victor M. Breen; *Elmhurst*—Dr. Joseph R. Brodie; *Elmira*—Dr. C. E. Erway; *Flushing*—Drs. Louis Lahartino, Bertram W. Miller, and James F. Tobin, Sr.; *Garden City*—Drs. Earle G. Brown and T. J. Curphey; *Glen Cove*—Dr. Stanley J. Makowski.

Also: *Great Neck*—Drs. Gerald M. Branower and Abraham S. Lenzer; *Hempstead*—Dr. B. M. Stein; *Highland*—Dr. Anthony E. Brancardo; *Hudson*—Dr. Joseph Bellamy; *Irvington*—Dr. Donald R. Reed; *Ithaca*—Dr. Temple Burling; *Jamaica*—Dr. F. A. Gagliardi; *Kingston*—Dr. Leon S. Gray; *Lakemont*—Dr. G. M. Shults; *Little Falls*—Dr. Fred C. Sabin; *Monticello*—Dr. Nathan Nemerson; *Newburgh*—Dr. Irving Weiner; *New Rochelle*—Drs. Irvin Miller and Holland N. Stevenson.

Also: *New York City*—Drs. S. H. Averbuck, Alice R. Bernheim, Norbert Bornstein, K. D. Brownell, S. B. Burk, Michael S. Burman, X. C. Callas, J. M. Chamberlain, Mather Cleveland, Harry Cohen, Bradley L. Coley, Lewis J. Doshay, G. S. Dudley, John H. Dunnington, Andrew A. Eggston, Louis Friedfeld, Murray Fuhrman, John H. Garlock, Mitchel G. Garren, D. R. Jensen, George M. Lewis, Jerrold S. Lieberman, Jere W. Lord, Jr., W. M. Manger, Hans L. Manheim, P. Maybarduk, Vincent J. Morrissey, Thomas M. Mulcahy, Helen J. Neave, John Neilson, Jr., Robert C. Schleussner, G. Schnerb, Ellen L. Simon, Carl H. Smith, H. Southworth, Aaron D. Spielman, John Sumers, H. L. Temple, Wilfred Yoslow, David P. Waldman, Bernard A. Weisl, Marcus Widmann, F. A. Wurzbach, Jr., and F. D. Zeman.

Also: *Oneonta*—Dr. Fisk Brooks; *Patterson*—Dr. Frank C. Genovese; *Port Chester*—Drs. John H. Dale, Jr., Peter A. Duncan, John E. Gundy, and R. A. Higgons; *Port Jervis*—Dr. G. E. Kenny; *Port Washington*—Dr. Anthony A. Ressa; *Poughkeepsie*—Drs. R. T. Lapidus and Henry Stibbs; *Richmond Hill*—Dr. William P. Riley; *Rochester*—Drs. Thomas D. Benson, J. E. Guldin, T. P. Merrick, Martin A. Sander, Leo F. Simpson, Bernard P. Soehner, Robert E. Wells, and Floyd S. Winslow; *Rockville Centre*—Dr. William L. Donnelly; *Rome*—Dr. B. F. Golly; *Salem*—Dr. Ward S. Jenkins; *Saratoga Springs*—Dr. Thomas J. Goodfellow; *Schenectady*—Dr. David W. Hayslip; *Scarsdale*—Dr. Herman Tarnower; *Syracuse*—Dr. Charles A. Gwynn; *Tarrytown*—Dr. Henry Fleischman.

Also: *Troy*—Drs. Charles E. Bessey and H. A. Boswell; *Utica*—Dr. H. J. Ehresman; *Van Etten*—Dr. James R. Cargill; *Voorheesville*—Dr. Gilbert Dalldorf; *Watertown*—Dr. Alfred Kant; *Webster*—Dr. William M. Daly; *White Plains*—Dr. Alfred B. Amler, and *Yonkers*—Dr. B. J. Ciliberti.

American Medical Association—Division of Hospital Facilities, FSA, reports that as of November, 1954, two new projects had been approved for Hill-Burton grants in the State of New York. Already completed and in operation are 71 projects at a total cost of $71,841,913, including Federal contribution of $20,861,125 and supplying 3,993 additional beds. Under construction are ten projects at a total cost of $40,855,475, including Federal contribution of $4,404,191 and designed to supply 886 additional beds. Approved, but not yet under construction are eight projects at a total cost of $12,836,851, including $3,273,685 Federal contribution and designed to supply 837 additional beds.

Scholarship Contest—Two new annual cash prizes totaling $1,750 for winners of the scholarship contest sponsored by the Foundation of the American Society of Plastic and Reconstructive Surgery, Inc., have been announced by Dr. Jacques W. Maliniac, of New York City, chairman of the board of trustees.

The prizes—$1,000 to the first award winner and $750 to the second (for American citizens only)—are in addition to the three-months' scholarships with full maintenance provided in renowned plastic surgery centers listed in the Foundation's pool. Foreign award holders receive $200 for local travel expenses in addition to full maintenance in the services.

Scholars are chosen from essayists in the Foundation's annual contest. A distinctive feature of this program is that the arrangements between the plastic surgical services, here and abroad, are made on a reciprocal basis.

Sixth Annual Congress on Obstetrics and Gynecology—The Sixth Annual American Congress on Obstetrics and Gynecology, sponsored by the American Committee on Maternal Welfare, Inc., and the American Academy of Obstetrics and Gynecology, was held in Chicago December 13–17. Among the speakers were Dr. Ralph Gause of New York City who presented a paper on geriatric gynecology, and Dr. Thomas C. Peightal, of New York City, who presented a paper on the treatment of cancer.

Heparin Symposium—Dr. Irving S. Wright, professor of clinical medicine at Cornell University Medical College and past president of the American Heart Association, was moderator for the Heparin Symposium held on December 16 by the Academy of Medicine of New Jersey at Newark. Among the

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guest speakers were Dr. Jere W. Lord, Jr., professor of clinical surgery at New York University, and Dr. William T. Foley, chief of the vascular clinic at New York Hospital.

Officers Elected—At the thirty-fourth annual meeting of the Association for Research in Nervous and Mental Disease, held in New York City December and 10 and 11, 1954, the following officers were elected for 1955: Dr. J. E. Moore, president; Dr. John Romano, first vice-president; Dr. David Seegal, second vice-president; Dr. Clarence C. Hare, secretary-treasurer, and Dr. Rollo J. Masselink, assistant secretary. The 1955 meeting will be held December 9 and 10 in New York City and the subject will be "The Neurologic and Psychiatric Aspects of the Disorders of Aging."

Medal Awarded—Dr. Alfred Blalock, professor and director of the Department of Surgery. Johns Hopkins University, will be awarded the Buffalo Surgical Society's Gold Medal at the Society's meeting on February 10, 1955. The medal will be given for the eighth time in honor of Dr. Roswell Park, professor of surgery at the University of Buffalo, 1883 through 1914. Dr. Blalock will also deliver the Roswell Park Lecture, sponsored by the Society. Previous lecturers and award recipients are: Dr. Allen C. Whipple (1948); Dr. Evarts A. Graham (1949); Dr. Dallas B. Phemister (1950); Dr. Frederick A. Coller (1951); Dr. Edward D. Churchill (1952); Dr. Warren H. Cole (1953), and Dr. I. S. Ravdin (1954).

Meetings—Past

Nassau Pediatric Society

A scientific meeting of the Nassau Pediatric Society was held on December 13, 1954, in Westbury, Long Island. Dr. Carl H. Smith, associate clinical professor, New York Hospital, Cornell Medical Center, was guest speaker. His topic was "The Problems of the White Cells Series."

Leopold Stieglitz Lecture

Dr. Stanley Cobb, neuropsychiatrist and Bullard Professor of Neuropathology, Emeritus, at Harvard Medical School, gave the fifth annual Leopold Stieglitz lecture at New York University College of Medicine on December 15. Dr. Cobb, who spoke on "Multiple Etiology in Psychiatry and Medicine," is president-elect of the American Psychosomatic Society for 1955.

Utica Academy of Medicine

A meeting of the Utica Academy of Medicine was held December 16, 1954 at the Hotel Utica in Utica. Dr. Edward Stainbrook, professor of psychiatry at the State University of New York College of Medicine at Syracuse, spoke on "Psychophysiology in the Theory and Practice of Medicine." Dr. Richard Phillips, assistant professor of psychiatry at Syracuse, spoke on "Psychiatry and the General Practice of Medicine."

St. Lawrence County Medical Society

Dr. Leon Berman, of the Department of Surgery of the State University of New York College of Medicine at Syracuse, and Dr. Fred Weber, professor of medicine at Syracuse, spoke at the St. Lawrence County Medical Society meeting at the Hepburn Hospital in Ogdensburg on December 16 in a postgraduate education session. The topic was "Small Bowel Disease, Including Tumors, Ileitis and Sprue-like Conditions."

Association for the Advancement of Psychotherapy

The 129th scientific meeting of the Association for the Advancement of Psychotherapy was held at the New York Academy of Medicine in New York City on December 17. Dr. Archie A. Silver spoke on the "Management of Schizophrenia in Childhood."

Medical Society of Jefferson County

The regular monthly meeting of the Jefferson County Medical Society was held December 21, 1954, at the Black River Valley Club. Dr. Marshall Clinton, Jr., assistant professor of pharmacy and instructor in medicine at the University of Buffalo, spoke at the meeting which featured "The Management of Disorders of the Adrenal Cortex."

Meetings—Future

Utica Academy of Medicine

A meeting of the Utica Academy of Medicine will be held January 20, 1955, at 7 P.M. at the Hotel Utica in Utica. Dr. John P. Bunker, associate in anesthesiology at the Harvard Medical School, will speak on "The Place of Anesthesia in the Care of the Patient."

Kings County Pediatric Section

The Pediatric Section of the Medical Society of the County of Kings and Academy of Medicine of Brooklyn will hold a meeting on January 24, 1955, at 8:45 P.M. at 1313 Bedford Avenue, Brooklyn. Dr. Sidney Farber, professor of pathology, Howard Med-

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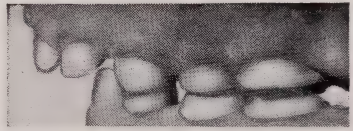

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ical School at the Children's Hospital, Boston, and director of research, Children's Cancer Research Foundation, Boston, will speak on "Experimental and Clinical Advances in Leukemia."

American Academy of Allergy

A postgraduate teaching program will be held by the American Academy of Allergy on Friday, Saturday, and Sunday, February 4, 5, and 6, 1955, in New York City.

The practical, clinical point of view of contact dermatitis will be presented on Friday at the Roosevelt Hospital, 428 West 58th Street in the School of Nursing Auditorium, 9:30 A.M. to 12 NOON and 2 P.M. to 5 P.M.

Practical clinical case presentations, adult and pediatric, from various of the New York and Brooklyn allergy clinics on asthma will be held on Saturday at the New York Hospital, 1300 York Avenue, Main Auditorium B–011, 9:30 A.M. to 12 NOON, and 2 P.M. to 5 P.M. On Sunday, a panel discussion on contact dermatitis and asthma will be held at the Mount Sinai Hospital, 103rd Street and Fifth Avenue, Blumenthal Auditorium, 9:30 A.M. to 12:30 P.M.

The annual meeting and scientific session of the Academy will be held February 7, 8, and 9, 1955, at the Hotel Statler, New York City.

Further information may be had by contacting the American Academy of Allergy, 208 East Wisconsin Avenue, Milwaukee 2, Wisconsin.

Joachim Lecture

The seventeenth in the series of Dr. Henry Joachim lectures on the "Application of Fundamental Sciences in Medicine" will be delivered by Dr. Perrin H. Long, professor of medicine, and chairman of the Department of Medicine, State University of New York, College of Medicine at New York, on "The Use and Abuse of Antibiotics," on Thursday, February 10, 1955, at 8:30 P.M. at the Jewish Chronic Disease Hospital, 86 East 49th Street, Brooklyn.

Fracture Day

The 20th annual "Fracture Day" of the New York and Brooklyn Regional Committee on Trauma of the American College of Surgeons will be held on February 26, 1955, at 9 A.M. in the Einhorn Auditorium of the Lenox Hill Hospital, 111 East 76th Street, New York City.

Dr. Joel Hartley will speak on "Traumatic Reflex Osteodystrophy"; Dr. Edward M. Winant on "Fractures of the Cervical Spine"; and Dr. Walter O. Ludlum, Jr., on "Self-Maintaining Devices for Internal Fixation of Fractures of the Femur." Dr. Willis M. Weeden will conduct a symposium on disability evaluation. Participants will be: Dr. Neil E. Eichelberry on "Perspective of Self-Assured to Disability Evaluation," Dr. Donald A. Covalt on "Examinations and Rehabilitation of the Disabled," and Dr. Carreth Wagner on "Evaluation of Disabilities Including Schedule Losses."

The Donald Gordon Memorial Lecture will be given by Dr. Robert Hayward Kennedy; Dr. Lee Ramsay Straub will speak on "Spontaneous Ruptures of Tendons About the Hand"; Dr. Frederick L. Liebolt on "Management of Old Unreduced Dislocation of the Shoulder Joint," and Dr. Barnard Kleiger on "Simple Oblique Fractures of the Fibula."

A symposium on "The Management of Chest Trauma" will be conducted by Dr. Robert H. Wylie, and Dr. Aaron Himmelstein will participate on the topic "Pathologic Physiology of Thoracic Trauma"; Dr. William Ward Heroy on "Treatment of Thoracic Trauma," and Dr. William I. Wolff on "Thoraco-Abdominal Injury."

Dr. Edgar M. Bick is chairman of the program, and Dr. Frederick M. Smith, chairman, and Dr. Jesse W. Mahoney, secretary of the committee.

American College of Surgeons

New York State doctors participating in sectional meetings of the American College of Surgeons during 1955 will be: Drs. Jose M. Ferrer, Henry Doubilet, John H. Garlock, all of New York City, who will speak at the meeting in Providence, Rhode Island, March 3, 4, and 5 at the Sheraton-Biltmore; Drs. Robert H. Kennedy, Howard C. Taylor, Jr., Hayes E. Martin, Norman L. Higinbotham, New York City, and Dr. Winfield W. Scott, Rochester, who will be guest speakers at the meeting in Nashville, Tennessee, April 4, 5, and 6 at the Dinkler-Andrew Jackson and War Memorial Auditorium.

American College of Chest Physicians

The eighth annual postgraduate course on "Diseases of the Chest," on March 7 to 11, 1955, will be sponsored by the Council on Postgraduate Medical Education of the American College of Chest Physicians in cooperation with the respective state chapter of the College as well as the staffs and faculties of the local hospitals and medical schools of Philadelphia. The course will be held at the Bellevue-Stratford Hotel, Philadelphia.

Further information may be secured by writing to the executive director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

Industrial Medicine for Nurses

The Institute of Industrial Medicine of the Post-Graduate Medical School, a unit of New York University-Bellevue Medical Center, in cooperation with the New York Industrial Nurses Club, is offering a course in "Industrial Medicine for Nurses." The course is a continuation of the 1954 course and will be held from March 1 through March 31, each Tuesday and Thursday night starting at 7 P.M.

Among the subjects covered will be recent advances in surgery and medicine, emergency treatment, pharmacology of new drugs, problems of the aging, emotional problems of workers, workmen's

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International Academy of Proctology

The seventh annual convention of the International Academy of Proctology will be held March 23 to 26, 1955, at the Plaza Hotel, New York City. There will be special emphasis on anorectal presentations and on panel discussions as requested by those who attended the Chicago meeting in 1954.

The Women's Auxiliary has planned a program for the wives of the members and their guests. All physicians and their wives, whether or not they are affiliated with the Academy, are invited to attend the annual convention. There is no fee for attendance at the teaching sessions of the Academy.

American Academy of General Practice

An invitational scientific congress will be sponsored by the American Academy of General Practice in Honolulu, Territory of Hawaii, April 5, 1955. Dr. Robert D. Millard, president of the Hawaii Chapter, has issued an invitation to all members of the Academy.

It is requested that reservations be made as soon as possible by writing to: Lee Kirkland Travel, 1231 Baltimore Avenue, Kansas City 5, Missouri.

1955 Eastern States Health Education Conference

The 1955 Eastern States Health Education Conference of the New York Academy of Medicine will be held Thursday and Friday, April 21 and 22, 1955, at the New York Academy of Medicine.

American Psychosomatic Society

The American Psychosomatic Society will hold its twelfth annual meeting at the Claridge Hotel in Atlantic City on May 4 and 5, 1955. This meeting will be immediately preceded by those of the American Society for Clinical Investigation and the Association of American Physicians. It will be followed by the meeting of the American Psychoanalytic Association.

American Medical Association

The annual meeting of the American Medical Association will be held in Atlantic City June 6 to 10. A post-session tour including England, Belgium, Germany, Switzerland, Italy, France, and tulip time in Holland with attendance at the twelfth Congress of the International Association of Psychotechnology in London, the twentieth anniversary meeting of the International Surgical Congress in Geneva, the Ciba Foundation Symposium on Bone Structure and Metabolism, and the World Medical Meeting tentatively planned for September 20 to 26, can be arranged according to the tour chosen.

Further information and reservations can be made by writing to Lee Kirkland Travel, 1231 Baltimore Avenue, Kansas City 5, Missouri.

BOOKS RECEIVED

(*The following books were received during the month of November, 1954*)

Diet Manual of the Jewish Hospital of Brooklyn, 1954. Edited by Charles Solomon, M.D., Nanette D. Robertson, M.A., and Miriam C. Tekulsky, B.S. Octavo of 87 pages. Brooklyn, The Jewish Hospital of Brooklyn, 1954.

Review of Medical Microbiology. By Ernest Jawetz, M.D., Joseph L. Melnick, Ph.D., and Edward A. Adelberg, Ph.D. Quarto of 360 pages, illustrated. Los Altos, Calif., Lange Medical Publications, 1954. Paper, $4.50.

Renal Function. Transactions of the Fifth Conference, October 14, 15 and 16, 1953, Princeton, N.J. Edited by Stanley E. Bradley, M.D. Octavo of 218 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1954. Cloth, $3.75.

Emergencies in Medical Practice. Edited by C. Allan Birch, M.D. Fourth edition. Octavo of 610 pages. 143 illustrations. Edinburgh, E. & S. Livingstone (Baltimore, Williams & Wilkins), 1954. Cloth, $7.00.

Freedom from Fear. By Lester L. Coleman, M.D. Octavo of 285 pages. New York, Hawthorn Books, 1954. Cloth, $3.95.

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1. C. S. Davidson: Protein Metabolism With Particular Reference to Problems of Aging. Symposium on Problems of Gerontology, August 1954.
2. Brozek, J.: Changes of Body Composition in Man During Maturity and Their Nutritional Implications. Fed. Proc. 11:784 (1952).
3. Monroe, R. T.: Diseases in Old Age. Harvard University Press, Cambridge (1951).

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The Role of the Pituitary in Cancer. The Clinical Value of Pituitary Lipid Treatment. By Henry K. Wachtel, M.D. Octavo of 31 pages. New York, William-Frederick Press, 1954. Paper, $2.00.

Survey of Ninety-Five Custodial Patients in a Municipal Hospital. Michael M. Dasco, M.D., Director, Joseph Novey, M.S.W., Project Supervisor, Edith L. Kristeller, M.D., Assistant Medical Director, Howard A. Rusk, M.D., Professor and Chairman, Department of Physical Medicine and Rehabilitation, New York University College of Medicine, Chief Investigator. Quarto of 52 pages, illustrated. New York, Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, 1954. Paper $1.00. (Rehabilitation Monograph VII)

Protozoology. By R. P. Hall, Ph.D. Octavo of 682 pages, illustrated. New York, Prentice-Hall, 1953. Cloth, $13.35.

Atlas of Men. A Guide for Somatotyping the Adult Male at all Ages. By William H. Sheldon, M.D. With the collaboration of C. Wesley Dupertuis, Ph.D., and Eugene McDermott, M.A. Folio of 357 pages, illustrated. New York, Harper & Bros., 1954. Cloth, $10.

The Varieties of Human Physique. An Introduction to Constitutional Psychology. By W. H. Sheldon, M.D. With the collaboration of S. S. Stevens, Ph.D., and W. B. Tucker, M.D. Octavo of 347 pages, illustrated. New York, Harper & Bros., 1940. Cloth, $4.50.

The Varieties of Temperament. A Psychology of Constitutional Differences. By W. H. Sheldon, M.D. With the collaboration of S. S. Stevens, Ph.D. Octavo of 520 pages, illustrated. New York, Harper & Bros., 1952. Cloth, $5.00.

The Clinical Significance of Disturbances in the Delivery of Sweat. By Marion B. Sulzberger, M.D., and Franz Herrmann, M.D. Octavo of 212 pages, illustrated. Springfield, Ill., Charles C Thomas, 1954. Cloth, $6.75. (American Lecture Series Publication #178)

The Foundations of Surgery. By George Perkins, M.Ch. Duodecimo of 236 pages. Edinburgh, E. & S. Livingstone (Baltimore, Williams & Wilkins), 1954. Cloth, $3.00.

A Synopsis of Obstetrics and Gynecology. By Aleck W. Bourne, M. B. (Eng.) Eleventh edition. Duodecimo of 536 pages, illustrated. Bristol, John Wright & Sons (Baltimore, Williams & Wilkins), 1954. Cloth, $5.00.

The Medical Clinics of North America. Philadelphia Number. November, 1954. Index, 1952–1954. Octavo, illustrated. Philadelphia, W. B. Saunders Company, 1954. Published bimonthly (six numbers a year). Cloth, $18 net; paper, $15 net.

The Old Farmer's Almanac, 1955. By Robert B. Thomas. Duodecimo of 112 pages, illustrated. Dublin, N. H., Yankee, Inc. (American News Co.), 1954. Paper, 25 cents.

Hugh Roy Cullen. A Story of American Opportunity. By Ed Kilman and Theon Wright. Illustrated by Nick Eggenhoffer. Octavo of 376 pages, illustrated. New York, Prentice-Hall, 1954. Cloth, $4.00.

Progress in Clinical Surgery. By Various Authors. Edited by Rodney Smith, M.S. (Eng.). Octavo of 414 pages, illustrated. Boston, Little, Brown & Co., 1954. Cloth, $7.50.

Smoking and Cancer. A Doctor's Report. By Alton Ochsner, M.D. Octavo of 86 pages, illustrated. New York, Julian Messner, 1954. Cloth, $2.00.

The Bane of Drug Addiction. By Orin Ross Yost, M.D. Octavo of 155 pages. New York, Macmillan Company, 1954. Cloth, $4.00.

Current Concepts in Digitalis Therapy. By Bernard Lown, M.D., and Samuel A. Levine, M.D. Duodecimo of 164 pages, illustrated. Boston, Little, Brown & Co., 1954. Cloth, $3.50.

Modern Diagnosis and Treatment of the Minor Venereal Diseases. The Management of Chancroid, Granuloma Inguinale and Lymphogranuloma Venereum in General Practice. By Orlando Canizares, M.D. Octavo of 131 pages, illustrated. Springfield, Ill., Charles C Thomas, 1954. Fabricoid, $3.75.

The Management of Mental Deficiency in Children. By I. Newton Kugelmass, M.D. Octavo of 312 pages, illustrated. New York, Grune & Stratton, 1954. Cloth, $6.75.

Psychotherapy and Personality Change. Coordinated Research Studies in the Client-Centered Approach. Edited by Carl R. Rogers, Ph.D., and Rosalind F. Dymond, Ph.D. Octavo of 447 pages. Chicago, University of Chicago Press, 1954. Cloth, $6.00.

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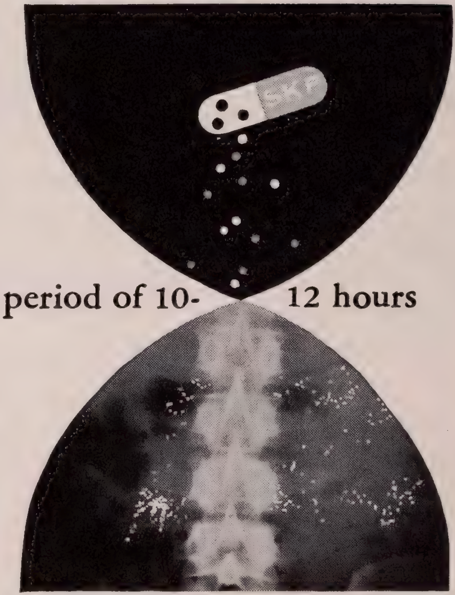

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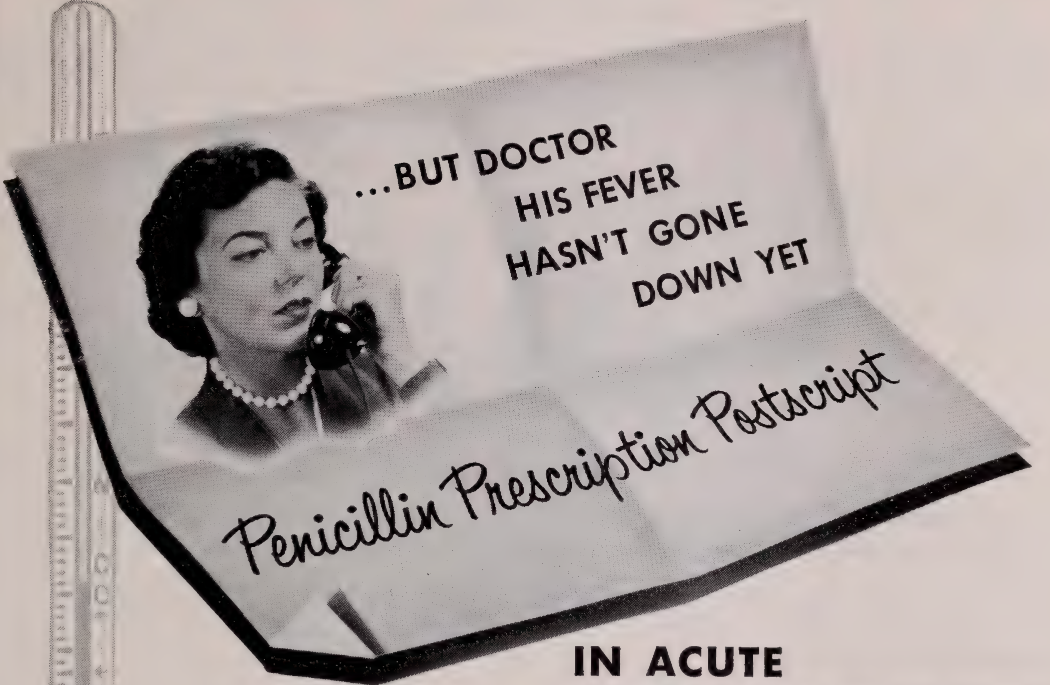

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2. BECKER, B.: Decrease in Intraocular Pressure in Man by a Carbonic Anhydrase Inhibitor, Diamox. Am. J. Ophth. 37:1, 13-15 January 1954.

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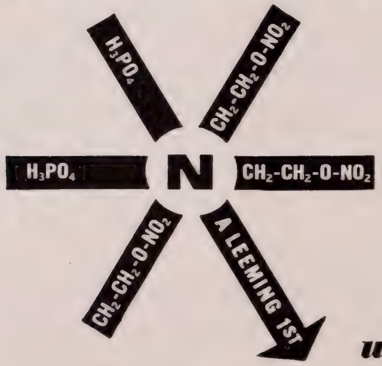
To prevent attacks and restore calm in Angina Pectoris



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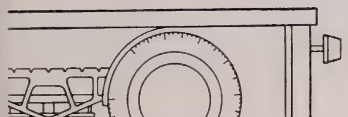

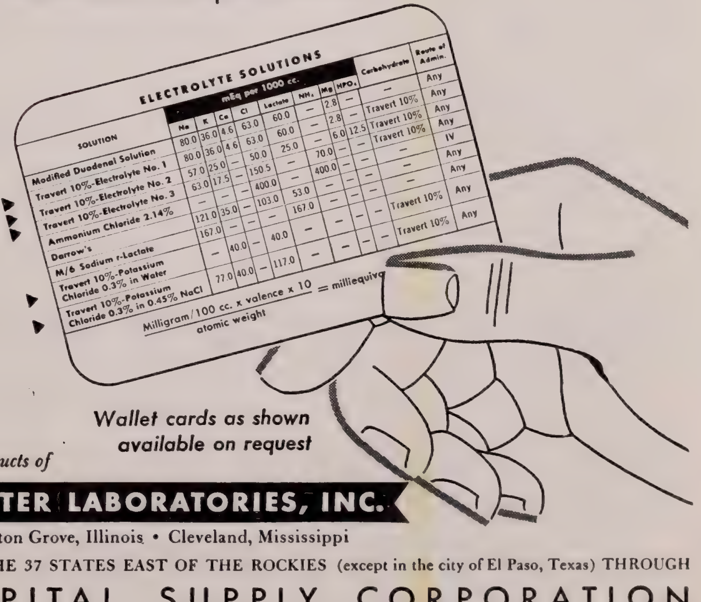

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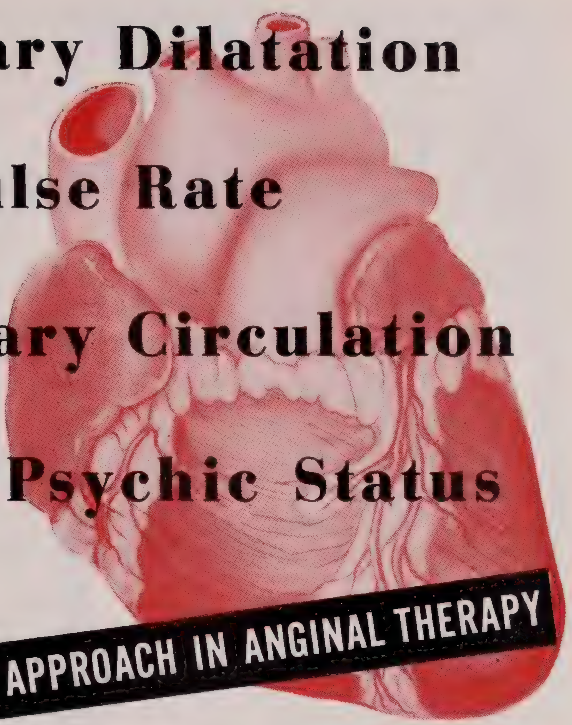

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(1) Lawrence, E. D., W. J. Surg., Ob. & Gyn., 58, 236-7, 1950.

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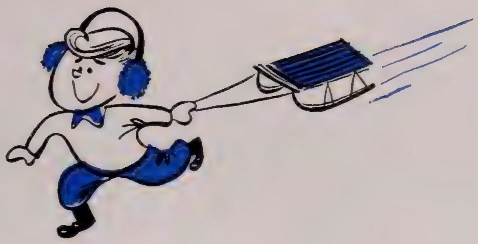

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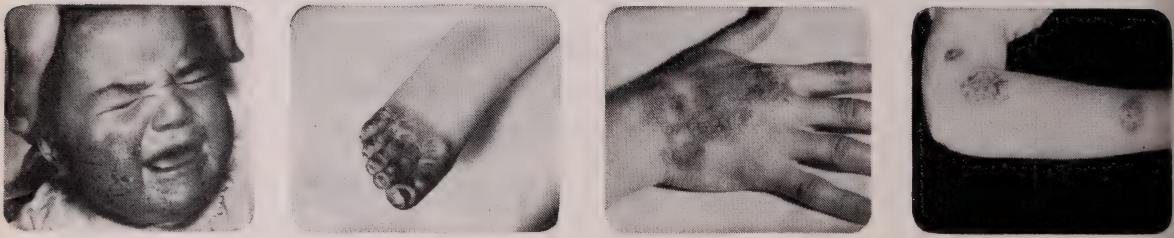

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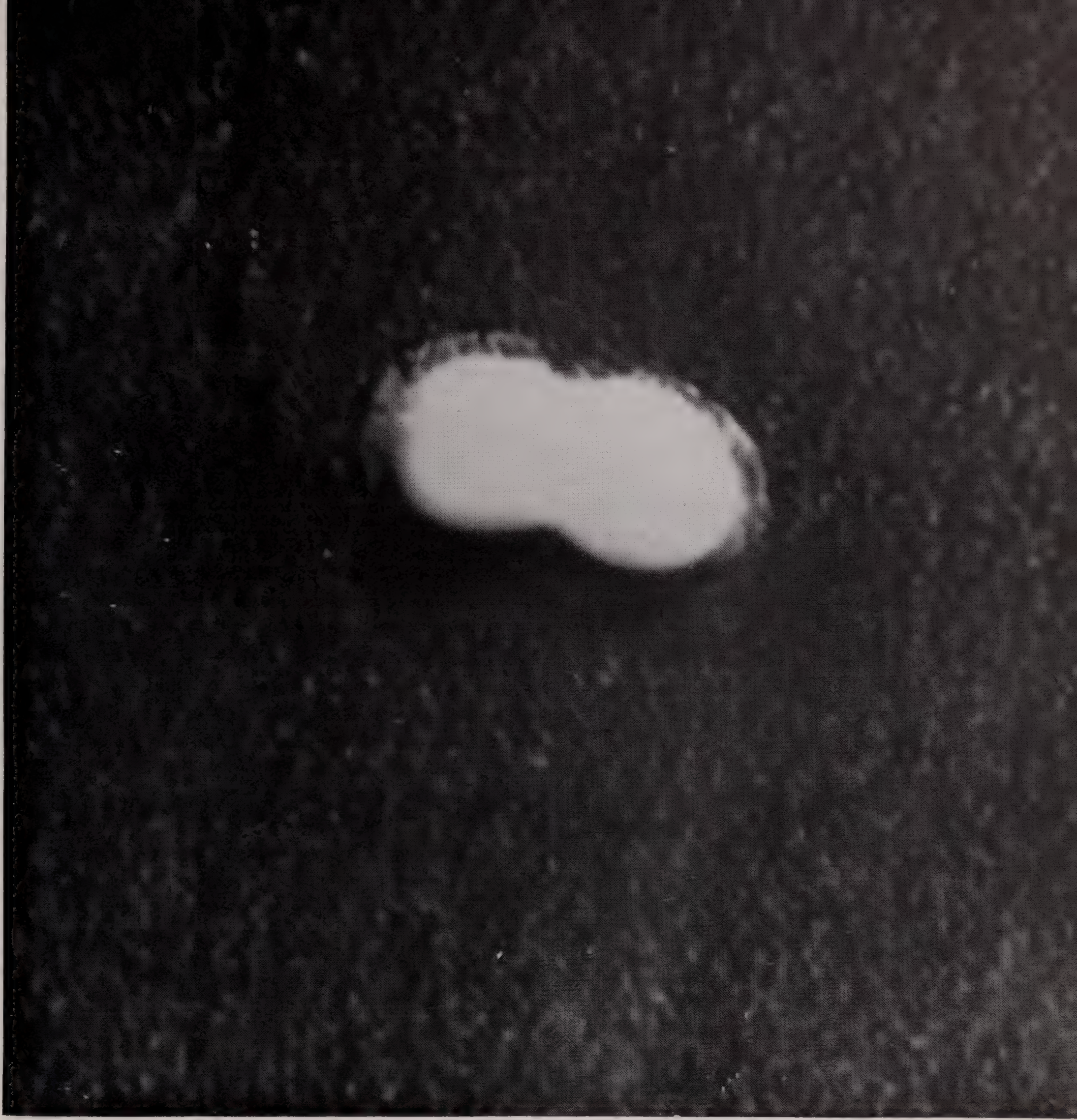

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It is another of the more than 30 organisms susceptible to

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Medical Director

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Niacin	45.0 mg.
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Riboflavin	0.8 mg.
Ascorbic Acid	30.0 mg.
Ferrous Sulfate	11.0 mg.
Dicalcium Phosphate	910.0 mg.

ELECTRON PHOTOMICROGRAPH

Diplococcus pneumoniae 35,000 X

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REFERENCES: 1. Kroop, I. G., *N. Y. State J. Med.* **54**:2699, Oct. 1, 1954. 2. Heffer, E. T. *et al.*, *J. Pediatrics* **44**:630, June 1954. 3. Massell, B. F., *New England J. Med.* **251**:263, Aug. 12, 1954.

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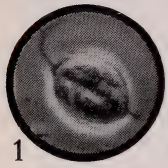
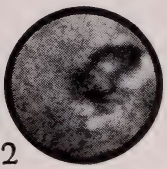


1

Microphotograph (phase contrast microscope) of a Trichomonas vaginalis



2

Trichomonad "exploded" within 15 seconds of contact with **VAGISEC** *liquid as used in douche*

Debris and mucus hide trichomonads. Trichomonads do not exist in vaginal secretion alone. They are vigorously motile and burrow deeply into the surface of the vaginal mucosa, covered by cellular debris and mucus. Vagisec penetrates this protection by lowering surface tension. It penetrates into the folds of the vaginal mucosa.

Vagisec attacks three ways. The chelating agent in Vagisec attaches itself to the calcium of the calcium proteinate, weakening the surface of the trichomonad. The wetting agent in Vagisec removes waxes and lipid materials from its surface, allowing the detergent in Vagisec to move into the cell, breaking up its structure by denaturing the protein. Then water moves in and blows up the trichomonad.

No other agent or combination of agents kills the trichomonad in this specific fashion, or with the speed of Vagisec.

Result of intensive research. Davis and Grand made studies[1] of commonly used trichomonacides. They showed that most antiseptics coagulated albuminous material, which protects trichomonads.

They realized that a satisfactory trichomonacide had to penetrate and dissolve mucinous material. It had to be non-irritating to the already inflamed mucosa and lethal to the trichomonad on brief contact.

Based on these concepts, an exhaustive study[2] of all available new trichomonacidal agents resulted in the development and patenting of "Carlendacide." Clinically tested, "Carlendacide" proved to be a remarkably fast-acting, effective treatment for vaginal trichomoniasis. Dr. Davis recommends a combination of office treatment and home treatment, the Davis technic.

Office treatment. The vagina is exposed with a speculum. The walls of the vagina are wiped dry with cotton sponges and then thoroughly washed with a 1:250 dilution of Vagisec. (Thorough washing takes about three minutes.) The vagina is then dried with cotton sponges. The patient can leave the office without a tampon, or messy discharge or staining.

A minimum of six office treatments are recommended: three the first week, two the second, and one the third week.

Home treatment. Both VAGISEC liquid and VAGISEC jelly should be prescribed for home treatment. Have the patient insert VAGISEC jelly each night and douche with VAGISEC liquid (1 teaspoon to a quart of warm water) each morning except on days she receives treatment at the office. This treatment should continue through two menstrual periods. Four weeks after treatment, the douche should be omitted at least three days and the patient re-examined.

Afterwards, the patient should continue douching with Vagisec at least two or three times each week as a precaution against re-infection.

Summary. Vagisec kills trichomonads in 15 seconds. Failure due to lack of penetration is eliminated. Vagisec is non-toxic and leaves no discoloration or messy discharge. The Davis technic is a triple attack of Vagisec office treatment, home treatment, and Vagisec jelly. Vagisec has been clinically tested and proved as a remarkably fast-acting, effective treatment for vaginal trichomoniasis.

References: 1. Davis, C. H.: J.A.M.A. 92:306, 1929. 2. Davis, C. H.: Am. J. Obst. & Gynec. *68*:559 (Aug.) 1954.

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VAGISEC IS THE TRADE-MARK OF JULIUS SCHMID, INC., FOR PRODUCTS TO BE USED IN THE CONTROL OF VAGINAL TRICHOMONIASIS

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3. No crude fibers which can cause the diarrheas usually associated with cow's milk substitutes.

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ACHROMY

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Lederle

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CAPSULES: 50, 100 and 250 mg. **TABLETS:** 50, 100 and 250 mg. **PEDIATRIC DROPS** (Cherry Flavor): 100 mg. per cc. (approx. 5 mg. per drop) 10 cc. bottles. **ORAL SUSPENSION** (Cherry Flavor): 250 mg. per teaspoonful (5 cc.) 1 oz. bottles. **SPERSOIDS*** Dispersible Powder (Chocolate Flavor): 50 mg. per rounded teaspoonful (3 Gm.) 12 and 25 dose bottles. **SOLUBLE TABLETS:** 50 mg. **INTRAVENOUS:** vials of 100, 250 and 500 mg. **INTRAMUSCULAR:** vials of 100 mg. (for dilution with 2 cc. of sterile water or saline). **OINTMENT** (3%): ½ and 1 oz. tubes. **OPHTHALMIC OINTMENT** (1%): ⅛ oz. tubes. **EAR SOLUTION** (0.5%): 10 cc. dropper bottles. **OPHTHALMIC SOLUTION:** vial of 25 mg. with sterilized dropper vial.

*REG. U. S. PAT. OFF.

"She was often depressed,

dissatisfied and unhappy . . .

DEXAMYL' has been of remarkable value for this patient .

patient: "She was often depressed, dissatisfied and unhappy . . .
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medical treatment: 'Dexamyl', 1 tablet, t.i.d.

response: " 'Dexamyl' has been of remarkable value for this patient . . . it reduces the tension . . . relieves her insidious uneasiness."

(This unposed photograph was taken during the patient's interview with her physician, a general practitioner. The case report is in his words.)

To help restore tranquility, optimism and a feeling of well-being to the patient who is ANXIOUS and DEPRESSED:

DEXAMYL*

tablets—elixir—Spansule† capsules

Each 'Dexamyl' Tablet or teaspoonful (5 cc.) of the Elixir contains:

Dexedrine* Sulfate (dextro-amphetamine sulfate, S.K.F.)	5 mg.
Amobarbital	½ gr.

also available: 'Dexamyl' *Spansule* (No. 1), containing the equivalent of *two* Tablets; 'Dexamyl' *Spansule* (No. 2), containing the equivalent of *three* Tablets.

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*T.M. Reg. U.S. Pat. Off.　　Patent Applied For

†T.M. Reg. U.S. Pat. Off. for S.K.F.'s brand of sustained release capsules

IN CONCEPTION CONTROL

"...WHEN THEIR LIVES DEPEND UPON IT"

Recently, discussing the contraceptive efficacy of the "jelly-alone" method, Jackson predicted that in time it "will find its own level of usefulness, but it should not be handed out to highly fertile parous women, particularly when their lives depend upon it, in the mistaken belief that it will protect them as fully as one of the combined methods (cap or sheath plus spermicide)."[1]

"The added protection of a diaphragm..."

"Where avoidance of pregnancy is important... the added protection of a diaphragm should be prescribed,"[2] stresses Gamble. And Greenhill,[3] Novak,[4] Reich and Nechtow,[5] and the Council on Pharmacy and Chemistry of the A.M.A.[6] agree that the diaphragm-jelly method offers the most dependable conception control, with reliability of 95% to 98%.[2,4]

Indications for the jelly-alone method

Although "diaphragms can be fitted to almost all women,"[3] some women do not use them for anatomical, physiological, economic or psychological reasons: ■ Relaxed pelvic floor[5,7] ■ Extensive cystocele[3,5,7] ■ Extensive rectocele[3,5,7] ■ Intact hymen[3] ■ Short anterior vaginal wall[7] ■ Third degree retroversion of uterus[7] ■ Acute anteflexion of the uterus[7] ■ Complete prolapse[3] ■ Personal preference ■ Crowded living conditions ■ Inability to learn technic ■ No urgent need to avoid pregnancy[8,9] ■ Unwillingness to use the diaphragm ■ Fear of impairing future fertility ■ Low parity[1,8,9]

Selective safety

For such patients the physician may prescribe RAMSES VAGINAL JELLY* alone with confidence, as demonstrated in a study by Guttmacher and associates.[8] In 325 women observed who had used the jelly-alone (RAMSES VAGINAL JELLY) method from 3 months to 3 years, the total unplanned pregnancy rate was only 16.7 per 100 patient-years of exposure. Of these pregnancies, *over 35% were due admittedly to patient's negligence or failure to use method properly. Thus the actual pregnancy rate was 10.82 per 100 patient-years of exposure.*[8]

All women in this study had one child or more. Significantly, those with more than one child had almost twice as many unplanned pregnancies as those with one child only. Guttmacher and associates conclude that the jelly-alone method *will be more effective in nonparous women and in women of low parity.* They believe that the patients' "intelligence, motivation, parity, and ready access to new supplies all affect success or failure."[8]

Prescribing for the individual

The physician may choose the method best for the patient. When high parity, normal anatomy, or need for maximum protection indicate the use of the diaphragm-and-jelly method, the RAMSES® "TUK-A-WAY"® kit is recommended. The RAMSES diaphragm is flexible and cushioned. It provides an optimum mechanical barrier with utmost comfort. In combination with RAMSES jelly, it offers an unsurpassed contraceptive technic. Where anatomical, psychological, or economic factors indicate the use of jelly-alone, RAMSES VAGINAL JELLY can be confidently prescribed. *Both products are accepted by the appropriate Councils of the American Medical Association.*

References: 1. Jackson, M. G.: Lancet 2:346 (Aug. 15) 1953. 2. Gamble, C. J.: Ann. New York Acad. Sc. 54:840 (May 2) 1952. 3. Greenhill, J. P.: Office Gynecology, ed. 5, Chicago, The Year Book Publishers, Inc., 1948. 4. Novak, E.: Textbook of Gynecology, ed. 3, Baltimore, The Williams and Wilkins Co., 1948. 5. Reich, W. J., and Nechtow, M. J.: Practical Gynecology, Philadelphia, J. B. Lippincott Co., 1950. 6. Council on Pharmacy and Chemistry of the A.M.A.: New and Nonofficial Remedies for 1954, Philadelphia, J. B. Lippincott Co., 1954. 7. Tietze, C.; Lehfeldt, H., and Liebmann, H. G.: Am. J. Obst. & Gynec. 66:904, (Oct.) 1953. 8. Finkelstein, R.; Guttmacher, A., and Goldberg, R.: Am. J. Obst. & Gynec. 63:664 (March) 1952. 9. Barnes, J.: Lancet 2:401 (Aug. 22) 1953.

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Salmonella paratyphi B (Salmonella schottmuelleri) is
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food poisoning • chronic enteritis • septicemia.

It is another of the more than 30 organisms susceptible to

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100 mg. and 250 mg. capsules
*250 mg./tsp. oral suspension (***PANMYCIN** *Readimixed)*

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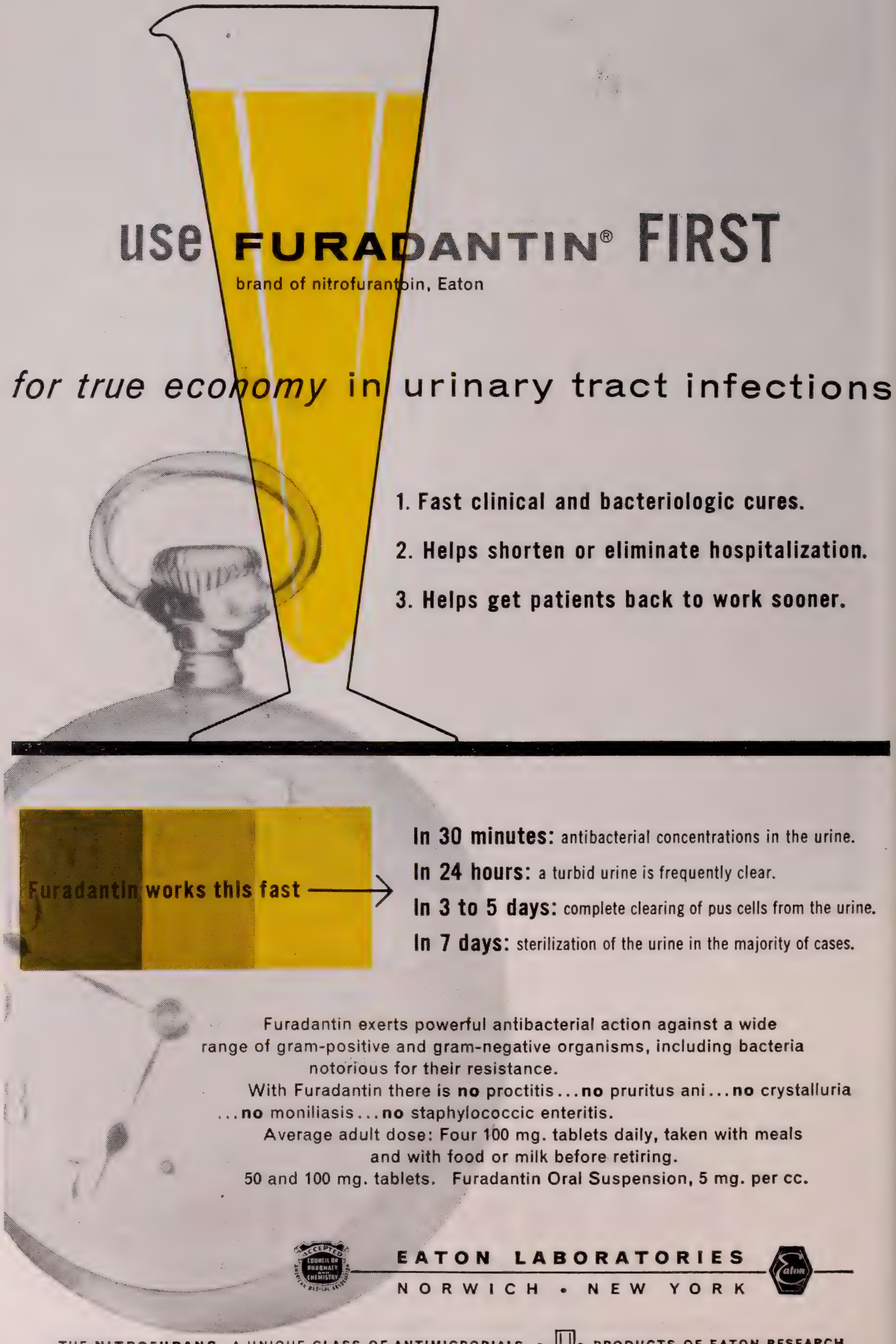

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for true economy in urinary tract infections

1. **Fast clinical and bacteriologic cures.**
2. **Helps shorten or eliminate hospitalization.**
3. **Helps get patients back to work sooner.**

Furadantin works this fast →

In 30 minutes: antibacterial concentrations in the urine.

In 24 hours: a turbid urine is frequently clear.

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In 7 days: sterilization of the urine in the majority of cases.

Furadantin exerts powerful antibacterial action against a wide range of gram-positive and gram-negative organisms, including bacteria notorious for their resistance.

With Furadantin there is **no** proctitis . . . **no** pruritus ani . . . **no** crystalluria . . . **no** moniliasis . . . **no** staphylococcic enteritis.

Average adult dose: Four 100 mg. tablets daily, taken with meals and with food or milk before retiring.

50 and 100 mg. tablets. Furadantin Oral Suspension, 5 mg. per cc.

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THE NITROFURANS—A UNIQUE CLASS OF ANTIMICROBIALS PRODUCTS OF EATON RESEARCH

ELECTRON PHOTOMICROGRAPH

Streptococcus faecalis 35,000 X

Streptococcus faecalis is a Gram-positive organism commonly involved in a variety of pathologic conditions, including

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It is another of the more than 30 organisms susceptible to

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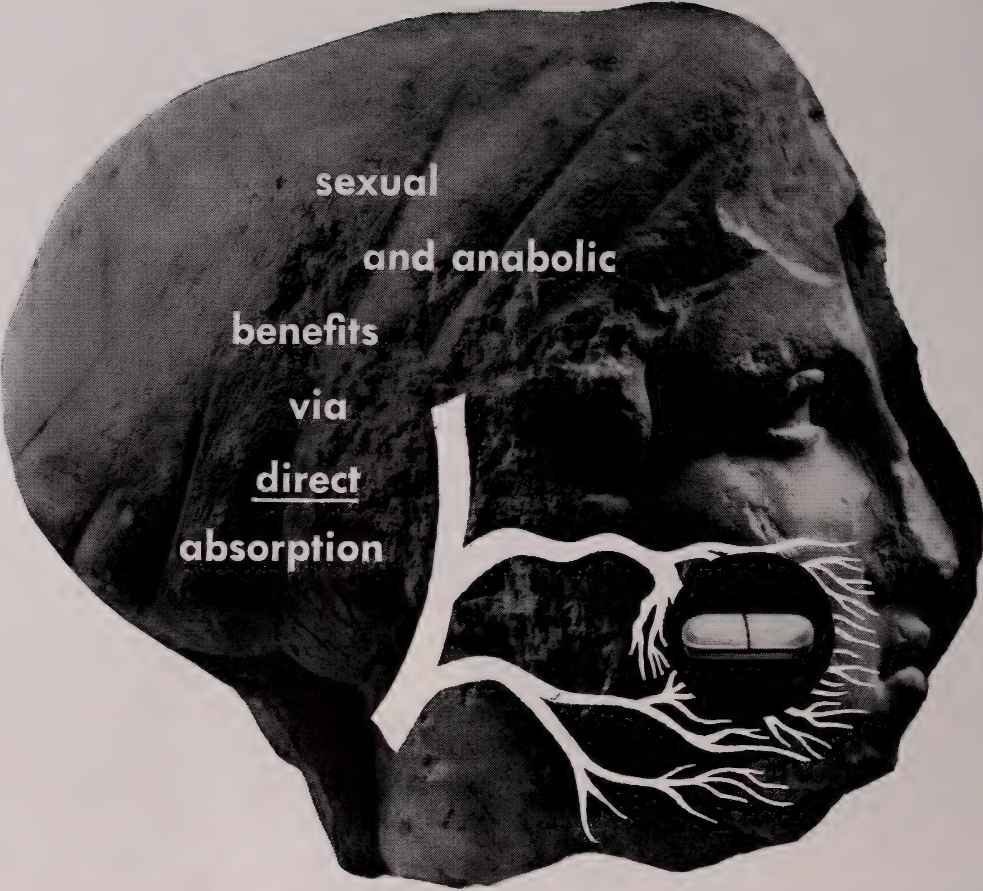

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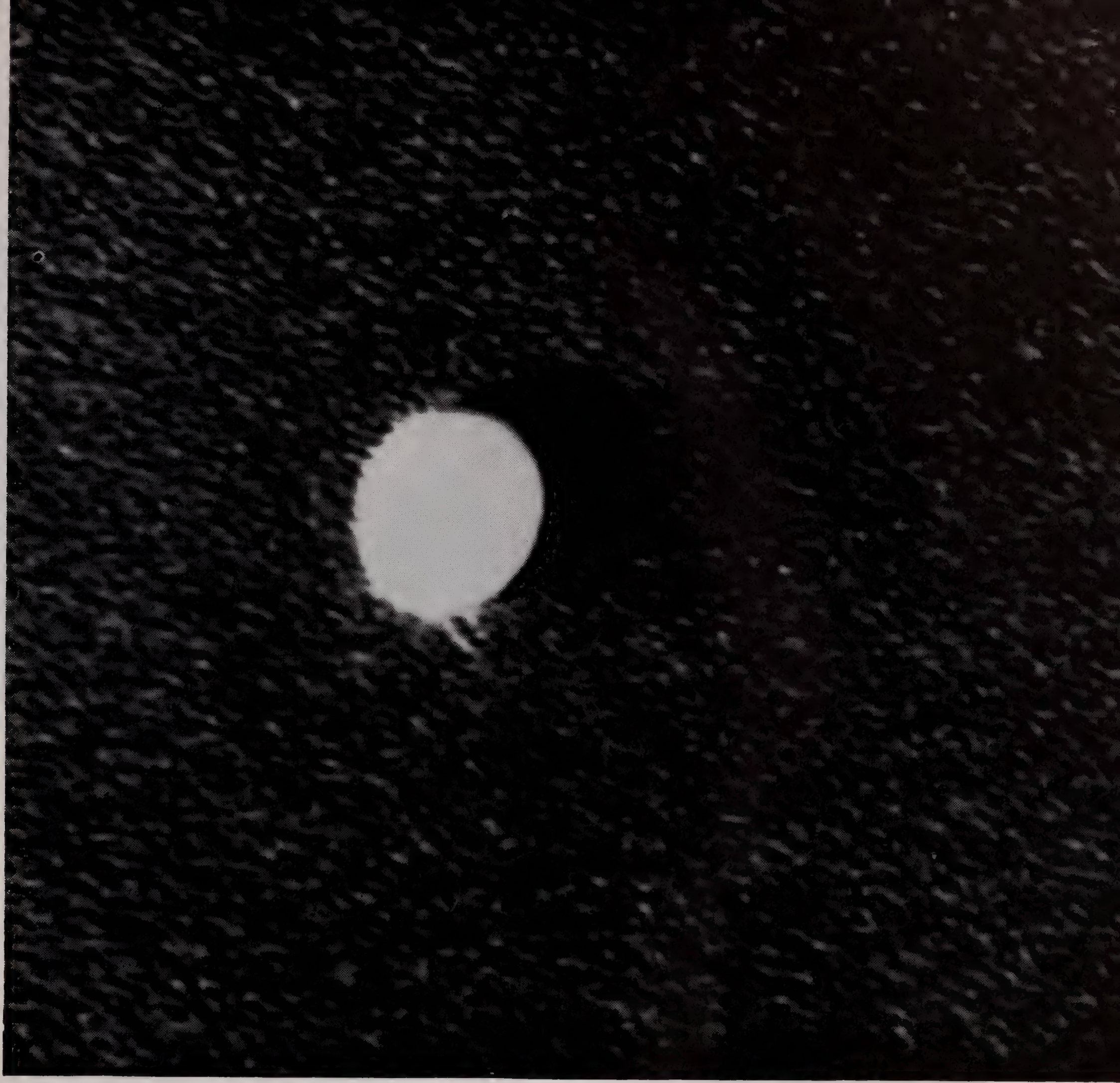

ELECTRON PHOTOMICROGRAPH

Staphylococcus aureus 35,000 X

Staphylococcus aureus (Micrococcus pyogenes var. aureus) is a Gram-positive organism commonly involved in a great variety of pathologic conditions, including

pyoderma • abscesses • empyema • otitis • sinusitis • septicemia
bronchopneumonia • bronchiectasis • tracheobronchitis • and food poisoning.

It is another of the more than 30 organisms susceptible to

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promptly reaches high levels in the urine

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250 mg. capsules, bottles of 16 and 100.
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*L. J. Cass *et al.*, *New England J. Med.*, *249*:132, 1953; *Am. J. M. Sc.*, *227*:291, 1954.

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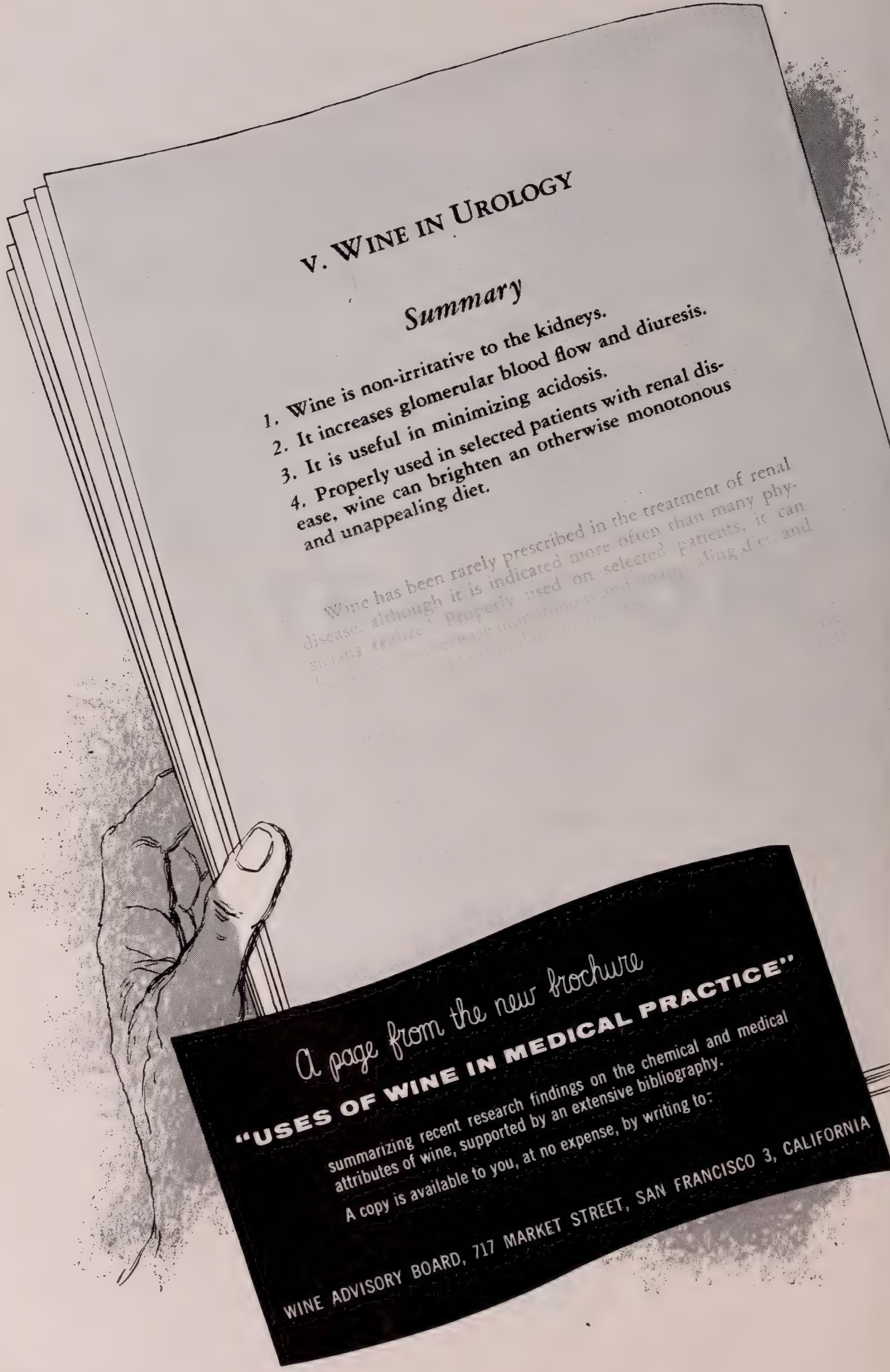

V. WINE IN UROLOGY

Summary

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2. It increases glomerular blood flow and diuresis.
3. It is useful in minimizing acidosis.
4. Properly used in selected patients with renal disease, wine can brighten an otherwise monotonous and unappealing diet.

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ELECTRON PHOTOMICROGRAPH

Klebsiella pneumoniae 35,000 X

Klebsiella pneumoniae (Friedländer's bacillus) is a Gram-negative capsulated organism commonly involved in various pathologic conditions of the nose and accessory sinuses, in addition to bronchopneumonia and bronchiectasis.

It is another of the more than 30 organisms susceptible to

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scaling,

burning

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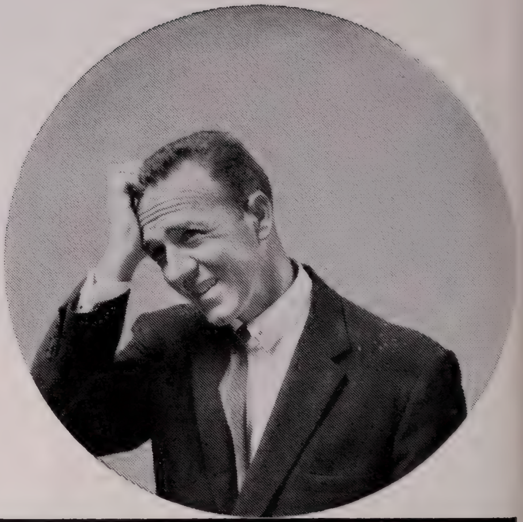

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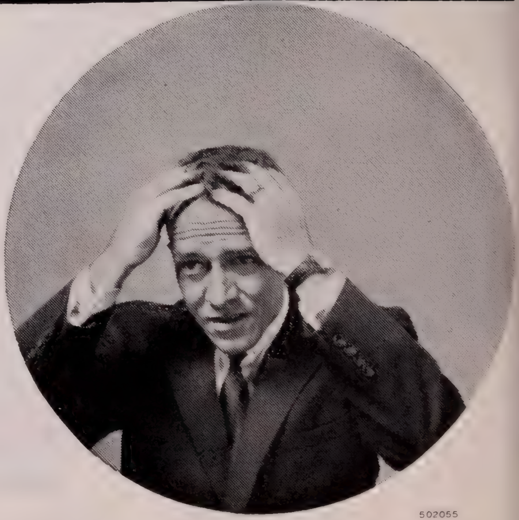

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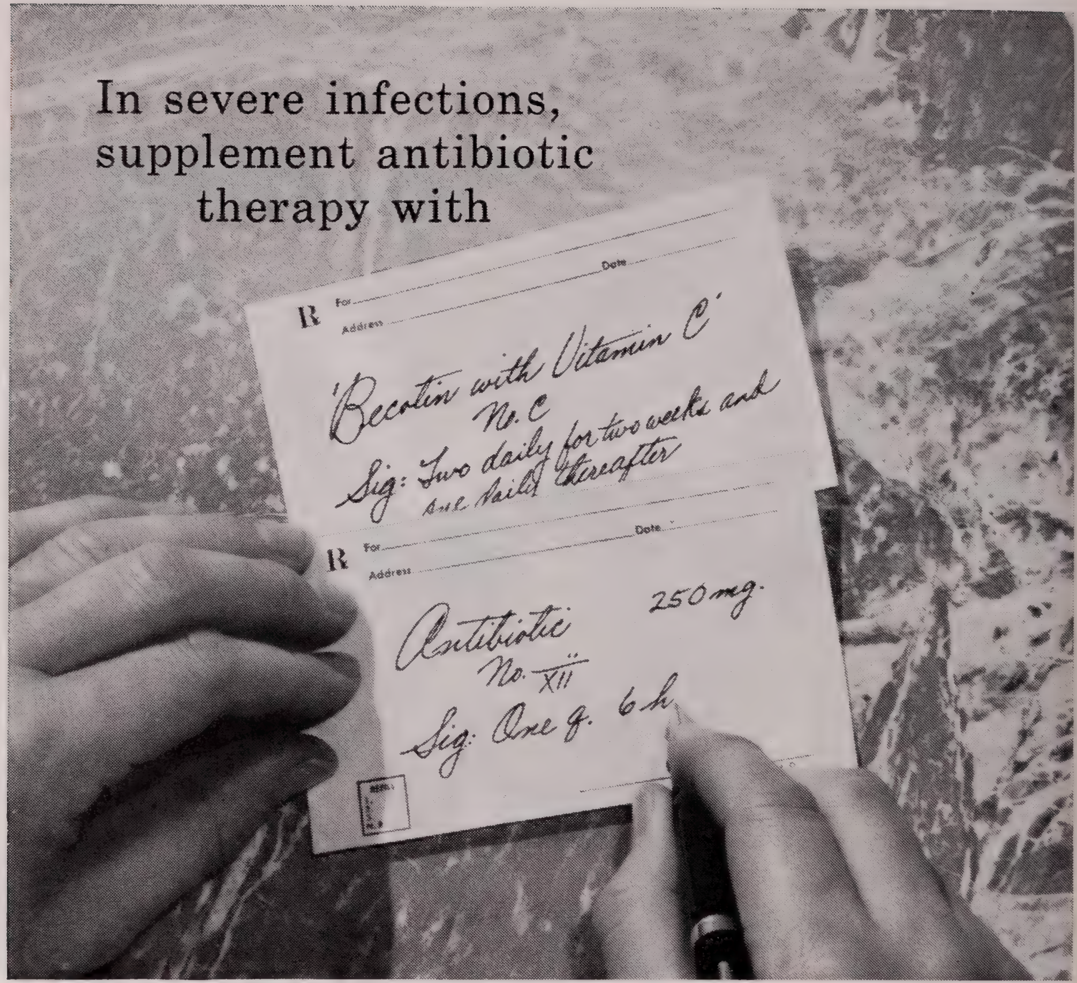
Thiamine Hydrochloride (B_1)	5.0 mg. (500% MDR)
Riboflavin (B_2)	5.0 mg. (250% MDR)
Niacinamide	15.0 mg.
Folic Acid	1.0 mg.
Pyridoxine Hydrochloride (B_6)	0.5 mg.
Ca Pantothenate**	5.0 mg.
Choline Dihydrogen Citrate**	100.0 mg.
Inositol**	50.0 mg.
Ascorbic Acid (C)	50.0 mg. (166% MDR)
Vitamin E (tocopheryl acetates)**	10.0 Units
Rutin**	25.0 mg.
Iron ($FeSO_4$)	10.0 mg. (100% MDR)
Iodine (KI)	0.5 mg. (500% MDR)
Calcium ($CaHPO_4$)	145.0 mg. (19% MDR)
Phosphorus ($CaHPO_4$)	110.0 mg. (14.6% MDR)
Boron ($Na_2B_4O_7 \cdot 10H_2O$)**	0.1 mg.
Copper (CuO)**	1.0 mg.
Fluorine (CaF_2)**	0.1 mg.
Manganese (MnO_2)**	1.0 mg.
Magnesium (MgO)	1.0 mg.
Potassium (K_2SO_4)	5.0 mg.
Zinc (ZnO)**	0.5 mg.

**The need for these substances in human nutrition has not been established.

MDR—Minimum daily requirement for adults.

In severe infections, supplement antibiotic therapy with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EDITORIALS

Coming Journal Features

Commencing in February, 1955, the Journal will publish once a month a cartoon by a talented artist. The Publication Committee hopes that this new feature will now add to reader interest in our columns. There seems to be no reason why a publication devoted principally to the dissemination of scientific information should not devote some portion of its space to the humanities.

"All work and no play makes Jack a dull boy" has for a long time been as applicable to doctors as to anyone else. Also, a good laugh is sometimes excellent therapy. So scan the Journal once a month for the cartoon. And at the Annual Meeting in Buffalo (see cover for dates) visit the Journal exhibit and tell the attendant there whether or not you like the added feature. It's your Journal.

The Publication Committee also announces that there will be found from now on in the Journal a distinguished series of articles on infant mortality, being the Proceedings of the Special Committee on Infant Mortality of the Medical Society of the County of New York. These articles will appear from time to time as material becomes available for publication. Watch for them this year.

The Editors are pleased to report that in response to requests in these columns, together with the extremely diplomatic and persuasive follow-up work of the associates, a greater number of clinicopathologic conferences will be published in the year 1955. Gradually, the bashfulness of department heads of the nine medical schools and the hospitals of the State seems to be lessening with respect to submitting for publication in our columns the undoubtedly excellent material they have not recorded in the past. Perhaps some of them did not realize how much the membership as a whole and the students especially appreciated this feature.

The Publication Committee is also pleased to announce that shortly there will commence publication of a new series of articles on allergies. These will cover a wide range of interest for the practitioner and will deal exhaustively with diagnosis and treatment.

Also in preparation for publication later in the year is a series of papers on the modern treatment of cancer, similar to the series published in 1953 on diagnosis of the same disease under the auspices of the Council Committee on Public Health and Education of the Society, the Department of Health of the State of New York, and the American Cancer Society.

The Editors and the Publication Committee announce that the year 1955 will also welcome back to the JOURNAL the School of Nutrition of Cornell University which has in preparation a series of articles based on recent research in this subject. These articles will appear later in the year. Watch for them.

The New Upstate Cancer Center

On October 14, 1954, the new Roswell Park Memorial Institute at Buffalo was dedicated. Fifty-seven years ago one of New York State's finest clinicians, Dr. Roswell Park of Buffalo, urged the State of New York to appropriate $10,000 for the discovery of the cause of cancer. He was sure that such a sum and two years of work would solve the problem. The Legislature voted the money in 1897, but the idea was vetoed by Governor Frank Black. The next year both the Legislature and the Governor approved. At that time, an editorial in the *Journal of the American Medical Association* said, "So far, this country has been the only one in which there has been established a state laboratory for the exclusive investigation of carcinoma and tumors in general. The great State of New York supports such a laboratory at Buffalo. We need many such institutions scattered over the United States, as well as in foreign countries so that the great and unsolved problems of malignant tumors may be properly attacked."[1]

Dr. Park was of the opinion that protozoa were the cause of cancer; consequently, parasites were exhaustively studied in the early days of the laboratory. Also, much attention was given to filtrable viruses as etiologic possibilities. Parallel therapeutic investigations were started as early as 1907 when extensive observations of the effect of chemotherapeutic inhibitors on cell growth were made. During the years basic research has led to better biophysical and biochemical technics such as tissue culture studies, electron, infrared, and ultraviolet microscopy. Recently infrared spectrophotometry and radioactive isotopes have been added as new investigative tools and technics. By these means the role of tobacco as a carcinogenic agent is currently being intensively investigated. That much remains to be done is starkly revealed by the fact that on any day at least 50,000 people in upstate New York alone have cancer.[2]

The Institute represents the life work of many people. Led by Dr. Park, later by Dr. Harvey B. Gaylord, Dr. Burton Sampson, and Dr. Louis C. Kress, two generations of workers in the field of cancer have

[Continued on page 328]

PRESIDENT'S PAGE

Common Sources of Misunderstanding

Dan Mellen, M.D

Recently some accusations have been leveled against the medical profession related to alleged overcharging. These have been given wide circulation in some newspapers and magazine articles. In view of the fact that "loaded" evaluation of medical bills has been given national circulation, has the private physician done his utmost to counteract the publicity? He has the opportunity to do so where it counts most, namely, with the patient directly.

It seems quite evident to me that many, if not all, misunderstandings arise from the failure of doctors to discuss their fees frankly with patients *before* a course of treatment is commenced. Many patients are not aware of all the steps and procedures involved in effecting a cure. Particularly is this true in my opinion after the initial pain and anxiety of the onset of illness have been eliminated. In the convalescent stage of the patient's illness, a conservative fee in the mind of the physician can readily appear to be an exorbitant charge in the mind of the patient, particularly if he or she is unable to work and has time to talk to friends or relatives. He may discuss his grievances with them, and when this occurs, who is present to support the doctor? This is the point at which a strained patient-physician relationship may commence. A little thought by the physician about this problem will convince many that such a situation may well be avoided by a more thorough discussion of financial details at the beginning of treatment.

I do not think that patients are opposed to a frank discussion of finances. There are, of course, emergencies in which this is not possible, at least not until the emergency has been dealt with, but we live in a modern world and most people are aware of it. Few still expect to meet their medical and hospital or other costs by offerings of farm produce or other commodities. But many must somehow arrange to finance their illnesses. In order to do that they must have at least an approximate idea of the costs involved. Here the doctor who is aware of the facts should, if necessary, take the initiative. His patient may be somewhat hesitant to bring up the subject for one or another reason, false pride perhaps or whatever.

But many things today are acquired on limited budgets by some arrangement for installment payments. The idea is not new where medical or surgical treatment is concerned; especially if this will be extensive, some such solution may secure to the doctor a regular income and to the patient a means of meeting an obligation in a well-established manner. By taking the initiative in such a situation the doctor can convey to his patient that he can afford appropriate medical or surgical care and that the doctor is taking into consideration his patient's other financial responsibilities as well as his own fee.

Perhaps there is Blue Cross and/or Blue Shield coverage. Ask your patient about this, but only *after* you have informed him of your own charge. By so doing you convince your patient that you are not taking advantage of his insurance coverage by adding an extra charge. By approaching the matter in this manner you also establish the fact that in many instances such insurance *helps* pay the total cost, that it does not pay in full. If your patient is eligible for Service Benefits, in which case the doctor's fee is the Blue Shield allowance for lower income members, explain what your participation in this program means.

If you are not certain of his earnings, why not ask him if his income is *less than* the Service Benefit income limit. After all, the Blue Shield plan is the doctor's own device for helping people to meet extraordinary medical costs. Your patient knows that medical service involves dollars and cents; he should, for they are his dollars and cents. It would seem to me to be the obligation of the doctor to let his patient know what he may expect for his money.

If these precautions are taken, there will be few opportunities for the detractors of the medical profession to make capital for themselves by exploiting in the public press or elsewhere the misunderstandings that now occasionally occur between you and your patient.

Dan Mellen

Editorials

[Continued from page 326]

devoted their professional talents to patients and to medical investigative work of the Institute. Now under the leadership of Dr. George E. Moore, the new center is rededicated to the ideal of finding the cause and cure of cancer.

Governor Dewey in his dedicatory address pertinently remarked, "Today the role of government in research including medical research is well recognized. It also presents some well-recognized problems. Government too often tends to have a heavy hand, whereas research requires freedom and the lightest administrative controls. Medical research is also the proper concern of the medical profession, of our universities, and of voluntary associations, such as the American Cancer Society and the Damon Runyon Fund, organized and supported by the public.

"I can think of no enterprise of our State government in which the full cooperation of these nongovernmental agencies is so well exemplified as in the Roswell Park Memorial Institute. Its growth through the years has been at the behest of the medical profession of this State. Indeed, through the years the number of patients referred to the Institute by their private physicians has constantly taxed the physical facilities of the Institute—some of the research projects now underway at the Institute are aided by grants from the National Cancer Institute, from the American Cancer Society, from the New York State Division and the Erie County Chapter of the American Cancer Society, from the Atomic Energy Commission, and from many private benefactors. Of course, direct use of these grants is made possible by the considerable investment of public funds, almost $10,000,000 for capital construction and equipment and an annual budget this year of almost $4,000,000."

Yes, we agree with the *Journal of the American Medical Association* of October 21, 1899, that more institutions of the caliber of Roswell Park Memorial Institute are needed. We, as physicians, salute this attitude of coalition of our State government, national and private agencies with the great science of medicine toward accomplishment of a common goal—cancer eradication from mankind.–N.S.M.

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[1] J.A.M.A. 33: 1047 (1899).
[2] Health News 31: 4 (1954).

(Transcripts of the dedication addresses will be found on page 384 of this issue.)

MICTINE*—THE NEW ORAL DIURETIC

Searle MICTINE Provides Effective Oral, Non-Mercurial Diuresis

The result of many years of research, Mictine, brand of aminometramide, supplies a long-felt need for an improved oral diuretic. Mictine, 1-allyl-3-ethyl-6-aminotetrahydropyrimidinedione, is not a mercurial, xanthine or sulfonamide.

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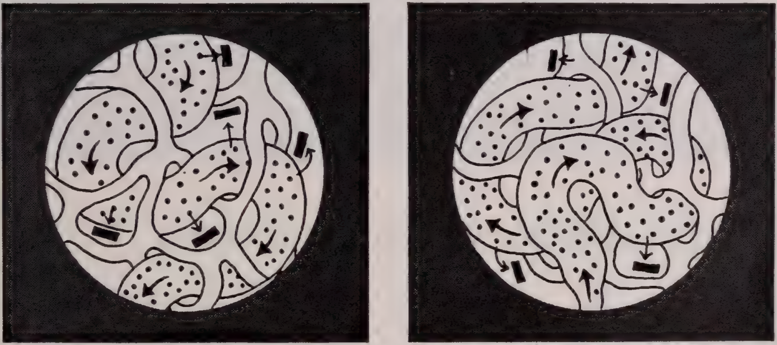

Mictine is believed to act by the selective inhibition of the reabsorption of sodium ions. Thus, the resulting diuresis is characterized by increased quantities of sodium ions and water.

Well-Tolerated: There are no known contraindications to Mictine, even in the presence of hepatic or renal damage, and there is no risk of acidosis. On high dosage, Mictine causes some side effects in some patients but on three tablets daily these side effects (anorexia and nausea, rarely vomiting, diarrhea or headache) are minimal or absent.

Indications: Mictine is useful primarily in the *maintenance* of an edema-free state and in the *initial and continuing* control of patients in mild congestive failure. Mictine may be used also for *initial and continuing* diuresis in *more severe* congestive states, particularly when mercurial diuretics are contraindicated.

Administration: The usual dosage for the average patient is one to four tablets daily with meals, in divided doses on an interrupted schedule. An interrupted dosage schedule may be accomplished by giving the drug on alternate days or for three consecutive days and then omitting it for four days.

For severe congestive states the dosage is four to six tablets daily with meals, in divided doses on interrupted schedules similar to those already mentioned.

Supplied: Uncoated tablets of 200 mg.

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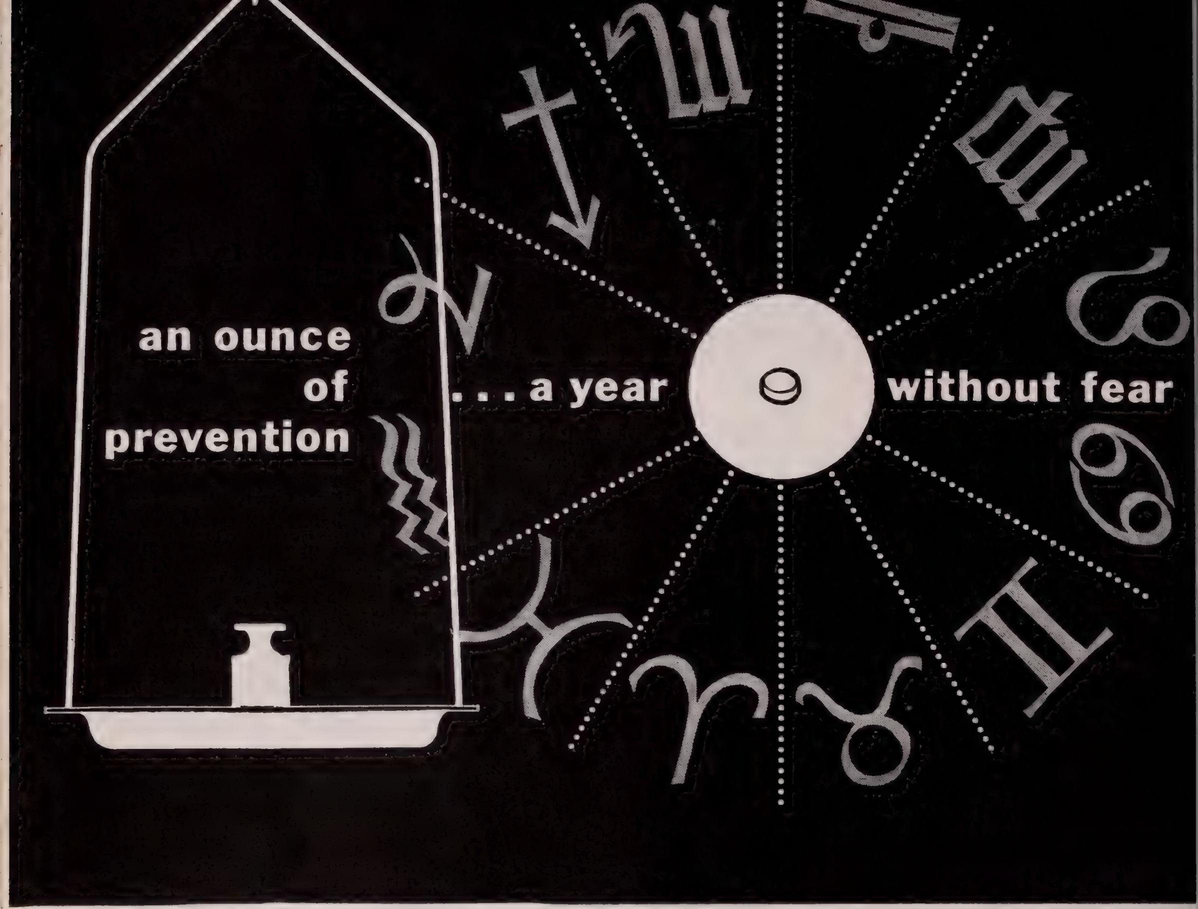

for the patient with angina pectoris

With Peritrate, the long-acting coronary vasodilator, an ounce of prevention (28,350 mg. of Peritrate) lasts a full year or longer, since only 10 or 20 mg. are needed to protect most patients for 4 to 5 hours. Yet, no arithmetic formula can adequately define the effectiveness of Peritrate in providing dramatic relief from pain and from the fear of anginal attacks.

According to tests made by Russek and coworkers, Peritrate is unexcelled in exerting a prolonged prophylactic effect in angina pectoris. The results achieved ". . . were comparable to those obtained with glyceryl trinitrate (nitroglycerin), but the duration of action was considerably more prolonged."[1] Patients on Peritrate generally exhibit significant EKG improvement,[1,2] and their need for nitroglycerin is often reduced.[3] A continuing year-round schedule of 10 or 20 mg. 4 times a day will usually:

1. reduce the number of attacks (in 8 out of 10 patients[2,3]);
2. reduce the severity of attacks not prevented.

Available in both 10 mg. and 20 mg. tablets and, for extended night-long protection, in Enteric Coated tablets (10 mg.).

1. Russek, H. I.; Urbach, K. F.; Doerner, A. A., and Zohman, B. L.: J.A.M.A. *153*:207 (Sept. 19) 1953. 2. Winsor, T., and Humphreys, P.: Angiology *3*:1 (Feb.) 1952. 3. Plotz, M.: New York State J. Med. *52*:2012 (Aug. 15) 1952.

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SCIENTIFIC ARTICLES

Referred Pain from Skeletal Muscle

The Pectoralis Major Syndrome of Breast Pain and Soreness and the Sternomastoid Syndrome of Headache and Dizziness

JANET TRAVELL, M.D., NEW YORK CITY

(*From the Department of Pharmacology, Cornell University Medical College, and the Cardiovascular Research Unit, Beth Israel Hospital*)

Observations on skeletal muscle pain have been made in large numbers of patients with a variety of somatic and visceral pain syndromes.[1] Patients had, for example, tension headache, acute painful torticollis,[2] calcific bursitis and other painful shoulder syndromes,[3] myocardial infarction and effort angina,[4,5] musculoskeletal types of chest pain[6] and breast pain, low back pain and sciatica,[7] osteoarthritis of the hip,[8] intermittent claudication,[9] and traumatic and postoperative pain syndromes,[10] including those of the abdominal musculature.[11] A common denominator was the presence of trigger areas in the skeletal muscles.

The Trigger Mechanism

Speculation as to the nature of the pathophysiologic process which constitutes a trigger area has overshadowed certain facts about this entity.

Characteristics of a Trigger Area.—A trigger area is not a diagnosis, not a disease. It is not a symptom, not something that the patient complains of; in fact, its existence is usually unknown to the patient.

A trigger area is actually a *physical sign* discovered on physical examination. It is a localized spot of deep tenderness, with a lowered deep pain threshold as measured by the Hardy algesiometer. When the portion of the muscle which contains a trigger area is rolled under the fingers, a localized twitch is usually observed; the muscle contraction may be so vigorous as to cause a perceptible jerk of the part. In addition, fasciculation is often set off and may persist for several seconds afterward. When the examiner sustains the pressure on the tender spot, pain is usually induced in a remote area. The patient points to the region where pain is felt and so delineates the reference zone. When referred pain is not clearly elicited by pressure, contact of a needle will induce it; in this case the stimulus is probably more precisely applied.

Thus, a clinically active trigger area is revealed by three things: circumscribed deep hyperalgesia, localized fasciculation, and the capacity to set off referred pain.

Attributes of Referred Muscle Pain.—It is not generally appreciated that most skeletal muscle pain which constitutes a clinical problem is referred. Neither is it widely recognized that a trigger area at a particular site in a muscle gives rise to essentially the same distribution of referred pain in one individual as in another. This constancy of pain reference patterns implies fixed anatomic pathways which link the trigger area with its reference zone or its representation in the central nervous system.

One difficulty is that the patterns are, in general, unfamiliar to those who have not made a special study of referred muscle pain. Patterns often do not follow a simple segmental distribution,[12,13] nor do they match the locus of a peripheral nerve. In our experience referred pain may be either continuous (Fig. 1B) or discon-

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Presented at the 148th Annual Meeting of the Medical Society of the State of New York, New York City, Session on Physical Medicine, May 13, 1954.

This investigation was supported by the Josiah Macy, Jr. Foundation and the National Heart Institute of the National Institutes of Health, Public Health Service H-493 (C5).

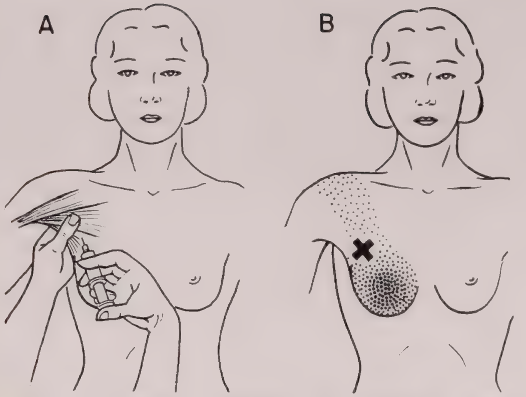

FIG. 1. Breast syndrome of pectoralis major muscle: (*A*) manner of holding muscle for local procaine infiltration; (*B*) distribution of pain (stippled) from trigger area (X), induced either by compressing it between the fingers or by inserting needle as shown in (*A*).

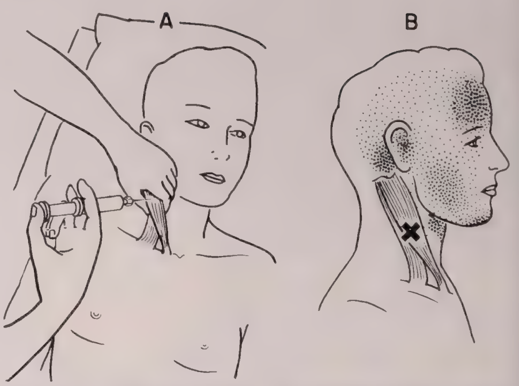

FIG. 2. Head syndrome of sternomastoid muscle: (*A*) manner of holding muscle for local procaine infiltration; (*B*) distribution of pain (stippled) from trigger area (X), induced either by compressing it between the fingers or by inserting needle as shown in (*A*).

tinuous (Fig. 2B) with its source in a muscle. Different regions of a muscle may have very different pain reference patterns.

These observations call attention to the precision with which patients can usually localize referred muscle pain. Contrary to general impression, a patient can distinguish between two reference zones located not more than an inch, or even half an inch, apart.[14] One fails to be impressed, therefore, by the so-called faulty localization of deep pain. The term "faulty" derives only from the fact that the place where pain is felt gives the patient no information as to its source. The localization of referred muscle pain can, however, inform the physician who is familiar with its patterns exactly where the parent trigger area is located. Thus, the known pain patterns of the muscles may be used diagnostically, like visceral referred pain patterns.

Another difficulty is that referred muscle pain is accompanied by referred deep tenderness. Infrequently there is superficial hyperesthesia of the skin in the reference zone, but abnormal neurologic signs are usually absent. Increased muscle tension and even spontaneous fasciculation may appear in the reference zone when referred pain is of high intensity. These referred phenomena may confuse the examiner in distinguishing trigger areas from reference zones.

High intensity referred muscle pain may be accompanied by certain other concomitants which we have attributed to autonomic reflexes.[13,15] These concomitants include lowered skin resistance,[16] lowered skin temperature,[17] and sweating or a wave of pilomotor stimulation ("gooseflesh") localized to the reference zone.[13] Vasodilatation in the reference zone is seen under special conditions.[13,15] Another is the dizziness which accompanies certain trigger areas in the sternomastoid muscles[13,15]; such concomitants of trigger mechanisms in the neck muscles have been described by others.[18,19] Sometimes a nonpainful concomitant of referred muscle pain is the conspicuous symptom, while pain itself is negligible. Mechanisms of referred pain and associated phenomena have been reviewed.[13,20]

THE PAIN CYCLE.—Procedures which relieve pain serve as tools for investigating mechanisms of pain. Application of ethyl chloride spray over trigger areas and their local infiltration with procaine, physiologic saline, or even dry needling are procedures which we assume possess only transitory actions, and yet they may permanently block referred muscle pain of long duration. The lasting nature of their blocking effect is taken as evidence for the existence of some pathophysiologic disorder, such as a feedback neuron circuit or hypersynchronization of neuron firing which maintains a continuing pain cycle.[13,21]

CAUSES OF TRIGGER MECHANISMS.—Trigger areas in the skeletal muscles are clinically activated by some precipitating cause.[1] The history often discloses, however, that a particular trigger mechanism was present in a smoldering state for some time before its related symptoms became of clinical consequence.

Events which commonly precipitate painful muscle spasm with referred pain and its concomitants are as follows: (1) sudden trauma to musculoskeletal structures, (2) unusual or excessive exercise, (3) chilling of the body, (4) immobilization, (5) an acute visceral lesion, such as myocardial infarction or appendicitis, with localized reflex spasm of the skeletal musculature, (6) acute arterial closure in the extremities, as in popliteal thrombosis, (7) rupture of an intervertebral disk with nerve root pressure, and (8) acute emotional stress.

Among the conditions which seem to predispose to trigger mechanisms in the skeletal muscles are (1) chronic muscular strain, produced by repetitive movement frequently performed over a long period of time, (2) general fatigue, (3) acute infectious illness, e.g., infectious mononucleosis, acute hepatitis, or an acute upper respiratory infection (postinfectious myalgias), (4) a chronic focus of infection, (5) nutritional deficiencies, (6) a progressive lesion of the nervous system, (7) nervous tension, (8) syndromes of the menopause and male climacteric, and (9) hypometabolism with creatinuria.[14,22]

Another factor is a high-frequency barrage of noxious impulses from a very actively discharging trigger mechanism. Thus, one trigger area may be secondary to another trigger area.[13] There is evidence that such an active trigger area establishes outposts within its reference zone of pain. These outposts may remain clinically latent for a long time, or they may establish further outposts rapidly in a chain reaction which explains the momentum of some fulminating pain syndromes.[2]

Clinical Examples.—Two pain syndromes of the skeletal muscles are presented which illustrate the above points and which have not been adequately described in the literature. These syndromes were selected because of the frequency with which they occur, the severe anxiety and prolonged disability which they often produce, and the ease with which the responsible trigger mechanisms may be blocked locally. In the first syndrome the clinical picture is dominated by referred tenderness and in the second, by nonpainful concomitants of referred skeletal muscle pain.

Pectoralis Major Syndrome of Breast Pain and Soreness

Fourteen patients were treated in whom the leading complaint was unilateral breast pain and soreness mediated by trigger mechanisms in the lower part of the pectoralis major muscle. Pain as a rule was minimal, and abnormal sensitivity of the breast to pressure was the outstanding feature.

The patients were in their forties or fifties. All but one were women. Duration of the breast syndrome before treatment ranged from three days to six months. In most instances a history of precipitating strain of the pectoralis major muscle was not obtained; in two a sudden onset of symptoms was related to movement of the chest and arm. None had a local lesion or mass in the breast, and none had had breast surgery. Every patient was subject to recurrent acute myalgias in various regions of the body and exhibited at least two of the common predisposing factors for painful muscle spasm.

Treatment was carried out by procaine infiltration of the related trigger areas in combination with ethyl chloride spray. In five patients the symptom-complex derived from a single trigger area located in the free margin of the pectoralis major muscle (Fig. 1A), as judged by the fact that blocking the trigger area was followed at once by relief of breast pain and tenderness. In most instances, on inserting the needle into the trigger area, the patient described a spread of pain directly into the breast and occasionally to the front of the shoulder (Fig. 1B). The clavicular portion of this muscle refers pain to the upper pectoral region and ulnar distribution of the arm.[14] In the remaining nine cases multiple trigger areas had to be infiltrated in this muscle both in its free portion and near its costal attachments. In some it was necessary to infiltrate additional trigger areas in the serratus magnus muscle anterior to the midaxillary line to abolish completely abnormal mammary sensitivity. Spraying ethyl chloride over the pectoral region by a special technic[23,24] was used as an adjunct to local infiltration in some instances. Since none of the patients objected to injections and since infiltration of trigger areas at this site is technically simple, the efficacy of the spray alone was not evaluated in this group.

Results of therapy were uniformly satisfactory with complete or marked relief of the symptom-complex. Treatments were spaced at intervals of four to thirty-four days. The greatest number of treatments needed in any one case was four. Follow-up ranged from six weeks to eight years; most patients were observed for one year or longer.

A painful breast was an incidental complaint in a larger group of women who were treated primarily for myofascial pain syndromes of the shoulders and upper back with associated spasm of the pectoral muscles. Breast discomfort often was not mentioned until the chief complaint had been relieved. Elimination of hypersensitivity of the breast was accomplished as a rule by procaine infiltration of appropriate trigger areas in the pectoralis major muscle on two or three occasions, together with application of ethyl chloride spray.

Case 1.—S. B., fifty-nine-year-old white scholar, in August, 1945, complained of a dull ache in the left breast and exquisite hypersensitivity of the left nipple of one week duration. Onset was gradual during a day. A month earlier, he had acute left shoulder pain which followed hauling a rowboat up on a lake shore and which had been relieved by local procaine infiltration of trigger areas in the left posterior scapular muscles. He had chronic emphysema and bronchiectasis with violent paroxysms of coughing. He had been gassed during World War I. He had had a bleeding duodenal ulcer and still maintained a restricted ulcer diet.

On examination the patient appeared frail. Chest was barrel-shaped. Breasts showed the usual atrophic development of the male. There was no swelling, redness, or discharge of the left nipple or breast. There was exquisite hyperesthesia to light touch over the left nipple and deep hyperalgesia of the breast tissue. There were no other disturbances of sensation, abnormal neurologic signs, or lymphadenopathy. A spot of exquisite deep tenderness was found in the inferior margin of the left pectoralis major, and when this tender spot was compressed (Fig. 1A), this section of the muscle twitched and pain radiated to the breast and nipple.

This trigger area was infiltrated with 2 cc. of 0.5 per cent procaine hydrochloride in physiologic saline. Local tenderness at the site of injection was completely obliterated, and within five minutes hyperesthesia of the nipple and deep hyperalgesia of the breast tissue had also disappeared. No other treatment was given.

This syndrome has not recurred in the past eight years, although the patient has had attacks of acute painful muscle spasm elsewhere in the body.

The syndrome of breast pain and soreness in this man probably was a residue of injury to muscles of the left shoulder girdle incurred a month earlier. During this interval a subclinical trigger mechanism in the pectoralis major muscle may have been activated by coughing. Latency of trigger mechanisms following trauma has been discussed.[13] Dietary restriction and chronic pulmonary infection were perhaps predisposing factors. This case is unusual in that pain and deep tenderness referred from the skeletal musculature were accompanied by cutaneous hyperesthesia in the reference zone.

Case 2.—E. C., fifty-six-year-old white housewife, was seen on March 15, 1954, because of pain and soreness in the left breast of three days duration. Onset was sudden. While making a quick reach to a high shelf with the left arm, she felt a sharp stab of pain in the left breast, followed immediately by a sense of fullness in it. At the same time the breast became exquisitely tender to pressure. Constant discomfort was present in the breast, and she could tolerate only the loosest clothing over it.

Past history disclosed that a year and nine months earlier she had tripped and fallen flat on her face with arms outstretched; her right shoulder struck a doorway. The ensuing severe interscapular, sternal, anterior chest, and right shoulder pain was relieved by ethyl chloride spray and procaine infiltration of numerous trigger areas in muscles of these regions. The *left pectoral* muscles seemed not to be involved and were *not* infiltrated. In 1944 degenerative osteoarthritis of the hip joints was discovered. Since 1950 pain in the lower extremities had been fairly well controlled by means of local procaine infiltration of intramuscular trigger areas, the patient's use of ethyl chloride spray, and deep x-ray therapy to the hip joints. Daily medication was ascorbic acid 1,000 mg., aspirin 2 Gm., and for hot flashes Premarin 2.5 mg. with rest periods.

Examination on March 15, 1954, revealed no restriction of motion of left shoulder, scapula, or torso. Breasts were small and slightly nodular without any abnormality other than extreme tenderness of the left breast. There were two exquisitely sensitive spots of deep hyperalgesia, located above and below the nipple; there was no cutaneous hyperesthesia. The same signs of a trigger mechanism were elicited from the free border of the pectoralis major muscle as described under Case 1.

Multiple trigger areas in this region of the muscle (Fig. 1A) were infiltrated with 0.5 per cent procaine hydrochloride in physiologic saline. Contact of the needle with each trigger area set off pain within the breast. When tested a few minutes later, hyperalgesia at the superior spot had disappeared; the inferior spot was still somewhat hypersensitive. Multiple trigger areas were then infiltrated in the serratus magnus muscle in the lower anterior axillary region. Following this, "soreness" in the breast was gone. A total of 20 cc. of the solution was used for infiltration. Before, during, and after each injection the region was briefly sprayed with ethyl chloride in interrupted sweeps.[2,23,24] After the treatment a hot moist pack (using a wetproof heating pad as source of heat) was applied to the left chest anteriorly for about ten minutes to minimize the tissue soreness which is apt to follow such extensive needling.

Six weeks later the patient came in for a checkup. She had remained free of breast soreness or discomfort in spite of severe physical and emotional stress due to a fire in her home on the night of April 17 when she incurred smoke poisoning with violent coughing and barely escaped with her life.

The immediate response of breast symptoms to local block therapy is typical. In this case the trigger mechanism in the left pectoral muscle may have remained latent for over one and one-half years following trauma to muscles of the thorax and then have been activated clinically by simple mechanical stress. Predisposing factors were the menopause and nervous tension due to the painful limiting osteoarthritis of the hip joints.

Differential Diagnosis.—The pectoralis major syndrome as a cause of breast pain and soreness has, so far as we know, been mentioned only in our writings.[14] It is to be differentiated from breast discomfort which accompanies menstruation, hormonal imbalance, chronic mastitis, contusions, cysts and tumors of the breast, and remote neurologic disease. The diagnosis is usually established by (1) unilateral character of the symptom-complex referred from the pectoralis major muscle, (2) its association with an active trigger mechanism in this muscle, and (3) absence of signs of inflammatory, cystic, or neoplastic mammary disease or any related neurologic lesion.

Sternomastoid Syndrome of Headache and Dizziness

A group of 32 patients were treated for attacks of dizziness, imbalance, and usually headache, which were mediated by trigger mechanisms in the sternomastoid muscle. Twenty-one were female and 11 male. The youngest was eleven and the oldest eighty-one years. The chief etiologic factor in each case is shown in Table I. The interval from the first paroxysm of dizziness to treatment ranged from six hours to about three years.

The Symptom-Complex.—Many of the patients complained of vertigo (rotation of the patient or objects around him[25]) when attacks were severe and of false vertigo or dizziness (movement within the head) when attacks were milder. Rapid whirling was rarely described. Attacks were induced by change of position and lasted seconds or minutes. Usually movement of the head which involved either work by the sternomastoid muscle or a full stretch on this mucles set off dizziness.

TABLE I.—Results of Local Block Therapy of the Sternomastoid Syndrome of Headache and Dizziness in 32 Patients

Chief Etiologic Factor		Number of Cases	Satisfactory Result Number	Satisfactory Result Per Cent
Strain of sternomastoid muscle				
Sudden trauma	6	8	8	100
Overhead work	2			
Infectious illness				
Acute hepatitis*	5	11	10	90
Acute respiratory infection	4			
Acute cholecystitis	2			
Hypometabolism with creatinuria		8	6	75
Total		27	24	89
Psychogenic stress				
Conversion hysteria	4	5	1	20
Psychoneurosis	1			

* A complication of infectious mononucleosis in 2 cases.

A protracted state of mild dizziness often persisted between attacks and was usually relieved by the patient's lying still with eyes closed and head supported on two pillows. Extension of the neck by removal of a pillow might precipitate dizziness. Vertiginous sensations were accompanied by disequilibration of two kinds: (1) sudden falls without warning, especially when the patient stooped down (impairment of the righting reflex), and (2) veering to one side while walking with head erect (ataxia). Disequilibration sometimes was pronounced while dizziness was negligible.

Nausea accompanied severe attacks; vomiting was rare. When troublesome, nausea and vomiting were controlled by adequate doses of dimenhydrinate (Dramamine), but this drug had no effect on dizziness or imbalance.

Frontal headache was severe in 18 patients, dull but constant in nine, and negligible in five. Five formerly had migraine. The composite pattern of pain referred from the sternomastoid muscle is shown in Fig. 2B. Mapping is based on observations in these 32 patients with dizziness and also in a much larger group of patients who had head pain referred from trigger areas in the sternomastoid muscle without dizziness.[13,15] Trigger areas in the posterior (clavicular) part of the muscle refer pain to the frontal region bilaterally (crossed reference of pain), to the mastoid process, and deep in the ear. It seems to be this part that gives rise to the concomitants of dizziness and imbalance. The anterior (sternal) portion refers pain to the forehead, orbit, face, and throat; its inferior end refers pain downward over the sternum.[13] Concomitants of high intensity trigger mechanisms in this portion of the muscle include lacrimation, reddening of the conjunctiva and ptosis on the side of the affected sternomastoid muscle, and subjective disturbances of vision such as intermittent blurring.[15] Most of the 32 patients in this series had multiple trigger areas in both parts of the muscle and exhibited clinical features of both. In about half the cases the right and left sternomastoids had to be infiltrated to relieve head symptoms completely.

Trigger areas in the sternomastoid muscle do not ordinarily give rise to neck pain except in the throat.[2] Painful motion of the neck, when present, was due to trigger areas in other muscles, especially the trapezius and levator scapulae. X-ray examination showed a low incidence of osteoarthritis of the cervical spine.

Five patients complained of intermittent tinnitus which seemed unrelated to the sternomastoid syndrome and may have depended on trigger mechanisms in other neck muscles. No specific cause of tinnitus was found in the otolaryngoscopic examination. Deafness was not present; one man complained of loss of hearing, but audiometer tests were normal.

Abnormal neurologic signs were absent as a rule. There was no tremor or past-pointing, and the Romberg test was negative. Nystagmus was not observed except in one patient with conversion hysteria; in this case lateral nystagmus and ataxia were temporarily abolished by local infiltration of trigger areas in the sternomastoid muscle.

THERAPY.—Treatment was by local blocking of the sternomastoid trigger areas. Procaine infiltration was usually supplemented by spraying the neck with ethyl chloride. In four patients the immediate effect of the spray was so striking that repeated applications were made at intervals of a day or two until symptoms were completely relieved and signs of the trigger mechanism in the sternomastoid had disappeared on physical examination.

For infiltration the muscle was placed on the slack and encompassed by the fingers to lift it off the deeper structures (Fig. 2A). Right and left sternomastoids were not infiltrated at the same visit. In order to minimize soreness on use of the injected muscle, the patient was taught how to place the antigravity load on the uninjected sternomastoid by turning the chin toward the shoulder of the treated side. A hot moist pack was often applied to the neck for ten or fifteen minutes immediately after infiltration. Patients were given aspirin and codeine if necessary for after-pain.

Results of therapy were considered satisfactory if complete or marked relief of frontal headache, dizziness, and imbalance was obtained by local blocking of the trigger areas while the therapeutic regimen was otherwise unchanged. As can be seen from Table I, the best results were in the eight patients with syndromes clearly of traumatic origin; in three of these the injury was recent, and in five the clinical picture was that of chronic post-traumatic headache. Results were nearly as satisfactory in the 11 patients with a postinfectious acute myalgia; the one patient who represented a failure also had a psychoneurosis. In the eight patients with hypometabolism (basal metabolic rate −15 to −30 per cent) and spontaneous creatinuria with impaired retention of ingested creatine, the precipitating cause was usually not obvious but was thought to be chilling or minor strain of the muscle. Reasons for an unsatisfactory result in two of these cases were not evident. Poor results were obtained in five patients in whom the psychogenic component was the major etiologic factor. In this group a satisfactory response was obtained in only 20 per cent as compared with 89 per cent for all other categories.

Follow-ups on all but four patients are now longer than one year.

Case 3.—V. P., fourteen-year-old white schoolgirl, on October 20, 1949, was riding in a ring when thrown off her horse. Her head struck the side wall, and she landed on her low back, which became painful at once. She remounted her horse and then found herself lying in the dirt again without knowing how she got there or how long she was unconscious. Spectators said she was "out" only two or three minutes. She was very dizzy, had severe right frontal headache and nausea, but no vomiting. When she looked to the right, "everything was black." She was assisted to the locker room where she lay down for an hour. Impairment of vision lasted about forty minutes. She was driven home in a car and went to bed. A doctor did not see her until her mother came home. The patient had been extremely healthy all her life.

When the patient was seen about six hours after the accident, she could not lift her head from the pillow without spinning sensations and nausea. She still complained of right frontal headache. There was a large lump over the left occiput laterally. Neck motion was limited and painful. The right sternomastoid muscle was exquisitely tender and twitched when rolled between the fingers. Compressing the tender portion of the muscle accentuated the pain in the right forehead. The left sternomastoid was not tender and did not twitch or set off referred pain when stimulated mechanically in the same way. Another trigger area in the right trapezius muscle set off referred pain homolaterally to the back of the neck and mastoid process. Pupils were normal. There was no nystagmus. Cranial nerve function was intact. Deep reflexes were normal. A Romberg test was not done. There was diffuse tenderness of the lumbar and gluteal muscles.

The trigger area in the right sternomastoid muscle was infiltrated with 0.5 per cent procaine hydrochloride in physiologic saline; about 1 cc. was used with thorough needling of the muscle. Contact of the needle with the trigger area set off pain reference to the forehead. The neck was not sprayed with ethyl chloride since dizziness precluded the patient's sitting up, and since inhalation of the vapor could not have been avoided while she was supine. Within a few minutes after infiltration, headache disappeared, and the patient could sit up without dizziness. The trigger area in the right trapezius muscle was similarly infiltrated. Then with the patient sitting, ethyl chloride spray was applied to the neck, the contusion on the occiput, and to the low back.

Because of the transient homonymous hemianopsia, which suggested petechial hemorrhages in the optic tract, complete bed rest for two weeks was advised. This precaution was observed for three days only since the girl had no complaints. During the balance of the two weeks she was permitted to sit up in bed and go to the bathroom. Application of ethyl chloride spray to the neck and low back was repeated several times during this period.

In the ensuing four and one-half years there have been no sequelae. The patient has had other spills while horseback riding without recurrence of headache or dizziness. In October, 1953, she had infectious mononucleosis and was hospitalized for two weeks. During the acute stage of this disease attacks of dizziness occurred with tenderness in both sternomastoid muscles; attacks ceased when ethyl chloride spray was applied to the neck.

In this case acute postconcussion symptoms of headache, vertigo, and nausea were immediately and permanently relieved by procaine infiltration of a trigger area in the sternomastoid muscle. Neck pain and stiffness were similarly relieved by blocking trigger areas in the trapezius muscle. Ethyl chloride spray was a supplementary procedure.

Relief of head symptoms occurred in spite of a localized disturbance in the brain (homonymous hemianopsia). This emphasizes the fact that disappearance of referred head pain and its concomitants by blocking the mediating trigger mechanism in the skeletal muscles does not rule out a coexistent intracranial lesion. Gorrell[26] states: "Relief of pain by local anesthetic injections does not free one from the responsibility of determining a possible serious cause for the pain."

Case 4.—F. N., sixty-eight-year-old white farmer, was seen in North Carolina on October 11, 1952, because of attacks of dizziness and falling of six days duration. Onset was abrupt. He leaned over to fix the stove and without warning fell against the stovepipe, knocking it down. Immediately he experienced nausea, sweating, and extreme weakness. Since then he had had frequent attacks of intense dizziness, usually related to stooping down or turning over in bed; he felt as if the bed were being tilted sideways. He caught himself falling several times. He veered to the right in walking; he felt unsteady all the time and hung on to furniture. He had no tinnitus, deafness, vomiting, or fever. Headache consisted of a dull discomfort across the forehead but was not severe enough for him to mention until questioned about it.

The day after the onset, he consulted an ear, nose, and throat specialist who found an infected left maxillary sinus; pus from the antrum on culture showed Streptococcus hemolyticus. Every day of the ensuing week the sinuses were washed out, penicillin instilled, and procaine penicillin given parenterally. Dizziness was unchanged.

Past history revealed arthritis for which gold therapy was given for five months with marked relief of pain, stiffness, and joint swelling. Gold injections were stopped one month before onset of dizziness, and the remission had continued. The patient had four nonvital teeth with root abscesses. He slept in a house without central heating and during the winters was constantly exposed to draughts and chilling.

On examination he was grossly ataxic. Romberg test was judged normal. Gentle hyperextension of the neck without jerking or jarring induced dizziness. There was no nystagmus (not tested for positional nystagmus). The outstanding physical finding was extreme sensitivity of the right sternomastoid with twitching of this muscle as it was rolled between the fingers. No referred pain was induced by squeezing the muscle. The left sternomastoid and other neck muscles were not tender.

Ethyl chloride was sprayed in upward sweeps over the right sternomastoid. During the sweeps the patient's head was passively rotated backward and to the right to produce a stretch on this muscle. He was then asked to walk. Spraying was repeated, and the patient was again encouraged to move about and actively rotate the head. After four such applications of the spray with rest intervals, he reported that the "queer feeling" had left his head, and he had lost his imbalance. His gait had become normal. Deep tenderness of the right sternomastoid had disappeared, and the muscle no longer twitched on compression. The entire treatment occupied about twenty minutes.

The patient was to give his daughter in marriage that evening and proceeded with preparations for the wedding. He remained symptom-free throughout the ceremony and long reception. During the night, however, he had several mild episodes of dizziness on turning in bed. The next day slight tenderness was present in the right sternomastoid. His head felt clear, and he walked normally. At this time 1 cc. of 0.5 per cent procaine hydrochloride solution was infiltrated into the trigger area in this muscle. This set off a brief reference of pain into the head and completely eliminated local evidences of the trigger mechanism.

Two months later, he came to New York for a systematic checkup. Pertinent laboratory findings were an elevated blood sedimentation rate of 25 mm. per hour (Wintrobe); a moderate degree of senile osteoporosis and osteoarthritis of the fourth to seventh cervical segments; infection in the sinuses with pus in the *left* antrum positive for hemolytic streptococcus. The right sternomastoid was normal on examination. The left sternomastoid, however, was tender and twitched, and as a preventive measure it was infiltrated with procaine solution to abolish the latent trigger mechanism.

The four infected teeth were extracted during the winter, but surgery on the sinuses was refused. A year later the patient had a severe recurrence of infectious arthritis. In spite of this there has been no return of dizziness or imbalance during the past year and a half.

In this patient the syndrome of dizziness and imbalance was mediated by a trigger mechanism in the right sternomastoid. Falling and veering was to the side of the affected muscle. The nonpainful concomitants rather than referred pain (headache) dominated the clinical picture. Dramatic relief was secured by ethyl chloride spray; twenty-four hours later permanent blocking of the trigger mechanism was accomplished by procaine infiltration of the responsible trigger area. For prophylactic reasons a dormant trigger area in the other sternomastoid muscle was later eliminated when the patient was free of associated symptoms. Causative factors were sinusitis, exposure to cold, and the tension and fatigue attendant on a wedding.

Differential Diagnosis.—Noxious impulses from musculoskeletal structures of the head and neck have been mentioned in the causation of dizziness.[18,19,27–31] So far as we know, a specific role of the sternomastoid muscle in paroxysmal dizziness, imbalance, and headache has not been previously described; our preliminary report[13,15] of this syndrome has been quoted by Bonica.[32] It fits the description of pseudo-Ménière's disease[33,34] or paroxysmal functional dizziness.[35] However, it does not necessarily have a psychogenic etiology. It probably represents a disturbance of proprioception from the muscle mainly concerned in rotational movements of the head; possible mechanisms will be discussed in another report.[36]

The sternomastoid syndrome is to be differentiated from other causes of dizziness which include (1) disorders of the eye such as glaucoma; (2) temporomandibular joint syndromes[31]; (3) lesions of the cerebellum, brain stem, or vestibular tracts; (4) Ménière's or other labyrinthine disease; (5) other otolaryngologic disorders, such as impacted wax and blocking of the Eustachian tubes; (6) petit mal; (7) postural hypotension; (8) hypertensive cardiovascular disease, and (9) toxic effects of drugs, especially streptomycin. Diagnosis of the sternomastoid syndrome is established by (1) finding of an active trigger mechanism in the sternomastoid muscle on physical examination, (2) permanent disappearance of the symptom-complex after blocking the responsible trigger areas in this muscle, together with (3) failure to demonstrate other causes of dizziness.

Summary

Two skeletal muscle syndromes of referred pain and its concomitants are described: (1) pectoralis major syndrome of breast pain and soreness (14 cases) and (2) sternomastoid syndrome of headache and dizziness (32 cases). Results of therapy by procaine infiltration of appropriate trigger areas and/or application of ethyl chloride spray are summarized.

This report highlights many points concerning skeletal muscle pain:

1. Importance of myofascial trigger mechanisms in clinical pain syndromes.
2. Multiplicity of causes of such trigger mechanisms.
3. Recognition of the myofascial trigger area as a physical sign.
4. Projection of skeletal muscle pain to a distance from its source.
5. Constancy of referred pain patterns of the skeletal muscles.
6. Nature of nonpainful concomitants of referred skeletal muscle pain.
7. Persistence of referred pain and its concomitants long after the precipitating cause ceased to exist.
8. Responsiveness of symptoms to local measures directed at blocking the responsible trigger mechanisms.
9. Need for directing local treatment to trigger areas and not to reference zones where pain is felt.

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Discussion

Hans Kraus, M.D., *New York City.*—Dr. Travell has presented us with two little-known syndromes, the sternomastoid and the breast syndromes, both examples of trigger points and trigger areas. These are only two of the many different syndromes caused by trigger mechanisms which can successfully be treated by injection at trigger point or by surface anesthetics in trigger areas.

Our efforts are directed mainly toward increasing of function and to the relief of pain. Treatment of trigger areas and trigger points not only can result in relief of pain but can also aid in restoring pain-limited function. Dr. Travell at some time spoke about ethyl chloride spray as "cold in a bottle" and thus rightly placed the use of this surface anesthetic in the group of physical agents which we use in physical medicine.

I would like to stress once more what Dr. Travell brought out, namely, that we have to differentiate between trigger areas which will respond to surface anesthetics, such as ethyl chloride and novocaine iontophoresis, and trigger points—local, tender, circumscribed spots, frequently palpable in the muscles—which will require injection with procaine. As we have recently seen, injection of saline or dry needling will be equally effective.

Trigger areas are present in many conditions producing a clinical picture of painful muscle spasm; they can be found in such diverse instances as acute or chronic low back pain, bursitis, muscle strains, sprains, and after fractures. I would not want to treat any of these conditions without the aid of ethyl chloride spray. While ethyl chloride spray can only help to relieve pain, this may be essential to make motion and therapeutic exercises possible and thereby open the way to increased function.

It should be stressed that ethyl chloride spray alone and without the proper use of limbering, relaxing, stretching, and strengthening exercises is ineffective in all musculoskeletal conditions. This does not apply for the treatment of trigger *points* As mentioned before, these have to be well differentiated from trigger *areas*.

Joseph A. E. Syracuse, M.D., *Buffalo.*—Dr. Travell is to be congratulated for several reasons. In the first place, she has selected for investigation a subject which has been taken for granted all too long by us physicians. Yes, a subject which we almost always mention in our routine reports and treat casually in our routine examinations. When a patient comes to us with a vague complaint of pain and usually one which is elusive, how many times do we actually sit down to fathom the pathophysiologic mechanism involved? Not very often, I am sure. In the second place, she is to be congratulated because she presents as a preliminary to this investigation a clear, interesting, and efficient description of this so-called "trigger mechanism" which is basic to most common skeletal muscle pain syndromes. In the third place, Dr. Travell again should be congratulated for the manner in which she so carefully has treated two specific syndromes, each accompanied by a series of cases which clearly describe in detail definite observations, studies, and therapeutic results with her subsequent unbiased comments.

Now let us make brief observations in the way of recapitulation of each of these three points.

The first point is that she has elected to explore a subject which we physicians have taken for granted too long and which should be given more attention and more thought in our examinations, in our reports, and in our choice of treatment modalities. We know too well that cases which come to us with intractable symptoms and pains we are often prone to pass on to someone else for further studies. If we only remember the pointers which Dr. Travell has so well presented to us today, we might be greatly aided in coming to a more plausible and earlier diagnosis and obviate the necessity for referrals elsewhere.

The second point is advanced when Dr. Travell interestingly brings up the tedious questions of what a trigger area is and what a reference zone is. The latter usually accompanies the former with the added observation that these in turn usually follow the same pattern in different individuals. It behooves us then to familiarize ourselves with these patterns. It was also interesting to note that Dr. Travell differentiates between "causes of trigger mechanism" and "conditions which predispose to trigger mechanism." At first they sound alike, but on careful thought a decided difference is noted.

The third point is that she treats two specific syndromes, i.e., "pectoralis major syndrome of breast pain and soreness" and "sternomastoid syndrome of headache and dizziness." In the series of 14 cases she apparently had very good results, especially in the two illustrative cases in which she presented detailed reports. One of these, the first, demonstrated a latent trigger mechanism which followed a previous accident. The second had a much longer latent period with additional predisposing causes. Dr. Travell also cautions us at this point about differential diagnosis. This is very important in breast cases, especially in women, as you know.

The second series of 32 cases which dealt with the "sternomastoid syndrome" demonstrated very good results also, especially the two illustrative cases so well detailed. Apparently infiltration and/or spraying with ethyl chloride give the desired effect and in many cases permanent relief.

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A Physician's Blueprint for the Management and Prevention of Narcotic Addiction

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To understand the problem of drug addiction, it is necessary to recognize the distinct characteristics of three classes of addicts. There are, first, persons who have become addicted as a byproduct of treatment for serious medical diseases; second, doctors and nurses who have taken to the use of narcotics to relieve the strain of their exhausting duties, and, third, addicts who have become involved through the agents of organized crime.

It is this third group with which this paper is primarily concerned, and that is what we mean when the term "addict" is used unless the context otherwise indicates. The latter group presents by far the most complex problem and has been the object of a rising tide of public anxiety. As report has followed report, there has been a growing realization of the personal debauchery suffered by the addicted individual and the danger to the entire community from the crimes which invariably follow in addiction's train. It is generally recognized that an addict is under extreme compulsion to obtain his drug, but fewer people perhaps understand the economic strain under which he is put by the necessity of his having to patronize the available channels of illicit trade. Evidence from thousands of case studies underlines the now undisputed fact that in order to pay for his narcotic drug, the addict must regularly engage in crime. In fact, the physical, emotional, and economic demands of his habit are so great that he has no real opportunity for honest labor, and so addiction becomes not merely a habit, but an all-controlling way of life. Addiction is his habit, but his education is for the practice of crime.

History of Addiction

In the World.—Narcotics have a long history. In the Assyrian medical tablets of the seventh century B.C., the juice of the poppy is enthusiastically praised. The Sumerian idegrams, which date from about 4000 B.C., describe the poppy as the "Plant of Joy." Homer states that Helen of Troy "cast into the wine. . .a drug to quiet pain and strife and bring forgetfulness of every ill." In the Ebers Papyrus of Thebes of 1552 B.C., opium mixed with another substance was recommended for quieting children whose crying distracted their mothers. This was doubtless the first appearance of "Mrs. Winslow's Soothing Syrup!"

The Arabs recognized the mercantile value of opium, and during the tenth and eleventh centuries the Mohammedans distributed opium to all known portions of the world. For the past two hundred years China has been the greatest opium consumer, Western countries being largely responsible since they organized and promoted the far eastern opium trade.

History of the Use of Narcotics in the United States.—In the early portion of the nineteenth century opium was freely prescribed by physicians. There was practically no other satisfactory remedy for pain or relief from the myriad of symptoms grouped under the appellation of "nervousness." The hypodermic method of administering morphine was discovered by Alexander Wood in 1843 and was introduced in this country by Fordyce Barker in 1856. In 1880 Dr. H. H. Kane, of New York, stated: "There is no proceeding in medicine that has become so rapidly popular; no method of allaying pain so prompt in its action; no plan of medication that has been so carelessly used and thoroughly abused; and no therapeutic discovery that has been so great a blessing to mankind, as the hypodermic injection of morphia."[1] In this period physicians used morphine more and more generously in the belief that the relief of pain or discomfort was their first duty and undertook other medication designed to effect a more permanent relief as soon as the most distressing symptoms had passed away. The patient, experiencing the miraculous relief of the hypodermic treatment, frequently demanded continued administration or obtained the relief himself at

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the nearest pharmacy, thus drifting into a state of addiction. During this period narcotic drugs were as freely accessible as aspirin is today. There was little public knowledge concerning their sinister properties, and their use became a common practice.

In 1882 there were an estimated 400,000 addicted individuals in this country.[2] Since this number was nearly 1 per cent of the population, the public became alarmed. Books and articles explaining the horrors of addiction were written, and many institutions for its treatment came into existence. Through the education of the public and greater care exercised by physicians, the number of persons addicted decreased, so that by 1914, with almost double the population of 1882, there were an estimated 150,000 to 200,000 addicts.[3] As a result of popular agitation, the Harrison Narcotic Law was enacted by the Federal government in December, 1914. This law effectively stopped the unrestricted sale of opiates by drug stores and made it illegal for physicians to furnish narcotic drugs to addicts.

Unfortunately, however, it provided the necessary setting for a flourishing illicit traffic in narcotic drugs. From this point on, the character of the narcotic problem profoundly changed. We exchanged one type of evil for another!

In 1918 a commission appointed by the Secretary of the Treasury estimated that there were one million drug addicted persons in this country. Thus, it will be seen, within four years time there were five times as many affected individuals as before the passage of the Harrison Law. There was, however, a radical change in the method of obtaining opiates by addicts. The closure of the legitimate channels brought into existence an illicit traffic of tremendous proportions. Thus, virulent criminality was added to what was formerly simple immorality.

At the present time no one knows for certain how many addicted individuals there are in the United States. United States Commissioner of Narcotics Anslinger in his recent book[3] estimates that there is about one addict for each 3,000 of the population. This amounts to an estimate of somewhat over 50,000 addicts in the country as a whole. In my opinion this is a very conservative estimate. A spokesman for the United Nations has estimated that the amount of illicit drugs falling into the hands of authorities is probably less than 10 per cent of the total amount of the illicit trade. If the seizure of over 4,000 ounces in 1952 amounted, as estimated, to 10 per cent of the traffic, enough was smuggled in that year to supply over 180,000 addicts. Whatever the number may be, it is well established that it is increasing. During the last eight years the number of narcotic offenders committed to city correctional institutions in the city of New York has increased each year. There has been no sign of decrease or leveling off at any time. From 1946 through 1953 the number increased over 1,200 per cent.

Some authorities believe there has been a carefully organized underworld campaign for the distribution of narcotics since "Lucky" Luciano was exiled to his native Italy. Others have noted efforts of the enemy to infiltrate and addict United States troops operating in foreign theaters of war or occupation, while still other observers have noted a marked increase in supplies crossing the Mexican border, allegedly from Communist sources.

It is also well established that the type of individual becoming addicted has greatly changed. During the pre-Harrison Law period addiction was usually contracted as a result of what would now be considered improper use of narcotic drugs in illness and because of their unrestricted availability in pharmacies. In that period addicts were mostly older persons. Prices of narcotics were low, and most addicts were able to support themselves by legitimate means. Their associates were mainly law-abiding citizens. They and their families suffered a severe inconvenience by their addiction, but, in general, they were not forced to criminal acts either by criminal associates or by the expense of the habit. At present, however, the new addict generally starts as an immature youth. Adolescent children, with their natural curiosity and desire to experience new sensations, are the logical prey of the narcotic merchant who offers them free merchandise. Their sales resistance is lowered by an utter lack of knowledge of the devastating slavery the drugs induce. Among girls addiction has been a strong inducement to prostitution, and, conversely, madams have induced addiction among their girls to insure their continued adherence to their profession and also to confiscate their earnings in exchange for the drug.

The situation of the individual addicted as an adolescent under present conditions is far different from the pre-World War I type. The cost of his narcotic need is high, seldom less than $5,-

000 per year. He becomes addicted before he has acquired any skills by which he can earn any such amount of money by honest means. Addiction of the adolescent is particularly unfortunate also because the use of the drug deprives him of his normal emotional development. It impairs the normal maturation of his sex life. Moral values are warped before they have been normally formed, and he is rendered relatively incapable of benefiting from any educational training he may receive because of the time and effort necessary to satisfy his habit and also as a result of the sedative and emotional effects of the drug. If the adolescent addict seeks legitimate employment, he finds either no opportunities at all or very unattractive and unremunerative ones. Employers do not want him. He tends to drift away from his unaddicted friends and at last is ostracized by them and finds himself mainly in the company of criminals. He can earn the money required by his habit only by becoming a pusher himself or by resorting to theft or other criminal pursuits. He knows no life but crime and feels a bond with no one but criminals. In addition to all these complex forces he lives in an atmosphere of compound fears.

These fears are of three basic types. Fear of not being able to obtain his narcotic drug, fear of being apprehended for his criminal activities, and, finally, fear of the persons who supply his drug. This latter fear stems from the fact that by delivering an overdose to an addict the supplier can cause the addict to kill himself. The user has no way of determining the amount of the dose until after it is too late. This simple fact imposes a stern discipline over the slavery the drug induces.

Here, then, we find economic and social compulsions leading to crime and the sternest of all human disciplines—the power of the pusher to inflict torture by withholding the supply or death by delivering too much. Furthermore, this is a day-to-day, hour-by-hour compulsion which is never absent. One can hardly conceive a stronger, more constant incentive to crime!

A pound of heroin purchased abroad for from $500 to $1,000 will cost the addicts in this country about $384,000 after dilution with milk sugar. The Federal Bureau of Narcotics has estimated that the underworld revenue from the sale of narcotic drugs to addicts in this country amounts to a sum of $275,000,000 each year.[2]

The New York Herald Tribune of January 3, 1954, reported the case of an addict named Charles Townsend:

> A nineteen-year-old narcotics addict admitted today that he had killed four men and staged 150 robberies in the last few months to get money for drugs. . .
>
> Townsend was seized last night with another man for questioning about narcotics purchases and told of the murders when questioned.

The Federal Bureau of Investigation Uniform Crime Reports for 1952 disclosed the fact that persons under twenty-one were responsible for 37.2 per cent of arrests for robbery, 46.9 per cent of arrests for larceny, 61.7 per cent of arrests for burglary, and 68.6 per cent of arrests for auto thefts. What percentage of these crimes against property were committed by individuals addicted to narcotics is unknown, but it may be safely estimated that they comprise a large proportion.

It must be clearly recognized, however, that addicts are of many types. Although the present pattern seems to indicate that most addicts commence the use of narcotics in youth, it would be a serious error to believe that they are all youths at present. Some are newly addicted, while others have been addicted for many years. Their mental makeup varies as much as in any other class of diseased humanity. Some are educated; many are ignorant. Some have valuable skills; others have none. Some are deeply addicted; others are not. Nothing could be clearer than that the same pattern of treatment will not succeed for all. Like other diseased persons, a high quality of individual judgment must be applied in the solution of their physical, emotional, social, and economic needs.

Governmental Efforts to Deal with Addiction

Governmental reaction to the problem of addiction has been to enact laws to curtail the supply. The most famous of these was the Harrison Act, passed in 1914, which closed all legitimate sources of supply for addicts, and the Jones-Miller Act of 1922, closing loopholes in the Harrison Act. The Boggs Act of 1951 mainly increased the penalties for infraction of narcotic laws. Numerous state laws have also been enacted, and in practically all cases their purpose has been to make more effective the objectives of the Harrison Act. In recent years also a number of international agreements have been made in an effort to curtail the illegal supply of these drugs. These international agreements, however, have not been so effective as they might otherwise have been. This is due to the fact that in some countries the revenue from the opium trade is still a very important factor in the national economy. Some of the illicit sources of opium supply include China, Burma, Malaya, Thailand, Iran, India, Turkey, Japan, Lebanon, Italy, and Mexico.

In spite of the efficient organization of the Federal Bureau of Narcotics it must be recognized that their assignment to enforce the antinarcotics acts is extremely difficult, and this difficulty falls into two classifications. First is that of apprehending the persons involved, and the second is to obtain convictions.

The principal produce of the illicit trade is heroin. This drug is of small bulk and light in weight and so is easily concealed. It may be brought in by ship, airplane, or automobile, or it may be delivered by foot across our long and relatively unguarded frontiers. The Seafarers International Union, for instance, while conducting some education among its members on the dangers of drugs, will not permit its members voluntarily to submit to search of person and effects by the enforcement authorities patrolling for drugs. It is impossible for the Bureau of Narcotics and the Bureau of Customs to perform more than spot checks of the many docking ships and their crews. A ship may remain in port for many days, and the members of the crew may come and go many times during that period. Methods of concealment of drugs exist in great variety, and the number of persons who are willing to take a chance for large gain is so great that the odds do not favor enforcement in this type of smuggling.

The difficulty of obtaining conviction is also important. The Constitution of the United States guarantees to the people the right to be secure in their persons, houses, and effects against unreasonable searches and seizures and specifies that no warrants may be issued except upon probable cause and upon describing the things to be seized. The constitutions of the various states reaffirm this right. In effect this has meant that searches for narcotics cannot be conducted without a warrant, which, by the time it is issued might be too late to acquire evidence or to save evidence from destruction, or to place anyone under arrest. Drugs seized in an arrest without a warrant are not admissible as evidence in court because they are illegally acquired. As a result of this and other legal technicalities guaranteed by the Constitution, the evidence is frequently insufficient, and the case dismissed.

In the face of such difficulties the experience has been that the supply of narcotic drugs simply has not been shut off during the forty years in which the Harrison Act has been on the statute books. There have, however, been a number of very important effects of these statutes. First, of course, all legal channels of supply for addicts have been cut off. Second, as a practical matter, the Harrison Act eliminated physicians as an agency for attempting narcotic cure because of the fact that such efforts, in the opinion of the physicians, left them in danger of being regarded as infringing the provisions of the law. The third effect of the statute was to create a profitable opportunity of great magnitude for law breakers who serve the illegal market.

While the principal effort of the government in the field of narcotics has been in the area of prohibition, there are two other types of experiments which should be mentioned here. The first of these was clinics. A few years after the passage of the Harrison Law, the public became alarmed by the great increase in the number of addicted individuals and sought to find remedies for this serious condition. It seemed obvious that if a reduction in the enormous profits realized by those engaged in smuggling and the promotion of addiction for commercial purposes could be stopped, this whole nefarious business might disappear. With this purpose in mind 44 or more clinics were opened by municipal or state health officials in the larger cities where drug addiction was a definite public health problem. In these clinics drugs were sold to supposedly addicted individuals at prices as low as two cents a grain. Dr. S. Dana Hubbard of the Department of Health of New York City, in describing the operation of the New York Clinic, stated, "The practice of the clinic not to prescribe for any new applicant an amount over 15 grains . . . 10 grains being the usual amount. Reduction was by a daily lessening of the amount prescribed. It was found that some could be reduced to as low as 2 or 3 grains a day. Others, . . . when deprived by the clinic, refused to accept our regulations and would buy additional amounts outside. Many addicts endeavored to get from the clinic actually more than they themselves required." The clinics were closed in 1920 by order of the Commissioner of Internal Revenue, and although they encountered many difficulties, in retrospect it seems that their most important error was the requirement in the law which made it necessary for them to supply to each patient reduced amounts of drugs in accordance with an arbitrary predetermined schedule. This arbitrary legal formula for medical treatment, in my opinion, foreordained the failure of the clinics.

The second notable government effort to treat drug addiction occurred when the Public Health Service opened the Lexington Hospital in 1935 and another hospital at Fort Worth, Texas, in 1938. The former medical officer in charge, Dr. Vogel, has stated that in 1951 there had been admitted 38,000 patients for treatment in the two institutions since their opening. Of those discharged from Lexington Hospital approximately 40 per cent apply for readmission, but no one holds that the entire 60 per cent who do not return are cured. Rather liberal estimates for arrested addiction with no recurrence of drug use range from 3 per cent to about 15 per cent of those who have suffered from true addiction. However, a number of addicted persons who have been treated at Lexington have made estimates saying that as few as 2 per cent are cured.

Crime and Punishment

The Uniform Crime Reports for 1952, as published by the Federal Bureau of Investigation, disclosed the fact that all major crimes increased in all urban areas, and for the first time there were over two million crimes committed in the United States. Reports from 383 cities have indicated that the value of property stolen was $225,492,490. A study made in Detroit in 1937 estimated that at that time Detroit merchants lost $2,000,000 a year in merchandise shoplifted by addicted persons. The Chicago Crime Prevention Bureau recently estimated that the cost of the crime depredations by addicted persons in that city amounted to $200,000 a day. In New York City six to eight out of every ten persons arrested for mail theft are addicts. An addict needing $15 a day to purchase his drugs, which is about the lowest figure, must steal merchandise valued at about four times this figure in order to realize that sum of money. Therefore, he must steal articles worth over $20,000 a year. Commissioner Anslinger stated that addicts comprise a large proportion of the shoplifters, pickpockets, card sharpers, and other criminals of this general class and that the police recognize the fact that a wave of burglary, pocket picking, and thievery may be broken up by rounding up the addicts in the neighborhood.

The United States has the highest crime rate of any civilized country in the world and the largest black market in narcotic drugs. Mr. J. Edgar Hoover states that crime costs each family in the United States an average of $495 per year.

The compulsion in addiction is so severe that increased penalties do not seem to provide a sufficient deterrent to stop the quest of the addict for his drug. Addicts are arrested again and again without any noticeable effect on their conduct. The Federal Bureau of Narcotics states that of those apprehended 65 per cent have had previous violations of Federal laws. The idea of increasing the severity of punishment meted to addicts is not new. By an edict published in 1729, Emperor Yung Ching prohibited the domestic sale and smoking of opium and provided that the sellers of opium were to wear a wooden collar for a month and be banished to the frontier. The keepers of opium shops were to be strangled. Their assistants were to be beaten with a hundred blows and banished to a distance of a thousand miles. The confiscation of any vessel which carried opium was also provided for, as well as the death penalty for anyone offering to buy any of its cargo.

There is no definite evidence as to the immediate results of the Emperor's severity, but in the long run nothing could stop the tremendous flow of opium into China. From the beginning of the opium trade to the present time, those engaged in its distribution have understood how to evade the law. The production of opium has been prohibited in China for the past twenty years. However, within the past three or four years the Chinese have offered 500 tons of opium for sale or barter. This is an amount sufficient to supply 340,000 addicts for one year. The fact appears to be clear that no punishment has yet been devised which will stop the use of narcotic drugs by addicts as long as these drugs are available. Everyone agrees, however, that the punishment for the nonaddicted merchants should be extremely severe.

Addiction Without Crime

Among those who deal with the problem of addiction, there is a growing realization of the fact that there is little justification for the hope of a complete and permanent cure of many addicted individuals. The one point of view that has never been officially accepted in the United States is that some addicts can be, and remain, useful and law-abiding citizens if they can be provided with their minimum requirements. There is much evidence, as a matter of fact, that many chronically addicted persons are able to carry on their occupations and meet their responsibilities if continuously allowed a small amount of narcotic drug at a price they can afford. The poet, Samuel Taylor Coleridge, was unable to free himself from the slavery which filled the first portion of his life with wretchedness and horror, but under the care and in the home of Dr. Gilman, who rationed the amount of opium Coleridge was allowed, he lived a fairly normal life for eighteen years before his death. The renowned statesman, William Wilberforce, who, as a member of Parliament was chiefly instrumental in the abolition of the English slave trade, was never able to give up the use of opium, but with small dosage he remained an eloquent leader in the political society of London of his day.

Conditions in Great Britain

Perhaps nothing better illustrates the British attitude as contrasted with our own than do the definitions of addiction. One of our distinguished authorities defines addiction as a condition where an individual uses a drug "to such an extent that the individual or society is harmed."[4] Dr. J. Yerbury Dent, editor of the *British Journal of Addiction*, states that "an addict is one who cannot be normal without a drug."[5]

The British have a different conception of the proper method of caring for the addict than is our practice in this country. Dr. W. Norwood East, in the "British Government Report to the United Nations on the Traffic in Opium and Other Dangerous Drugs, 1949,"[6] states: "There is, of course, no compulsory treatment of addicts in the United Kingdom, and there are no State institutions specializing in the problem of addiction. Treatment is left to the discretion of the doctor in charge of the case."

The Honorable John H. Walker, Assistant Secretary of the British Home Office, speaking before a meeting of the Association for Psychiatric Treatment of Offenders, on June 3, 1953, stated: "There are only 314 known addicts in the United Kingdom. Allowing for possible unknown cases, there are no more than 400 addicts in all. These include people addicted to manufactured drugs and marihuana. Among the known addicts, 100 or more are physicians and an occasional nurse, pharmacist, or veterinarian. Of the remainder, one half are medical addiction cases. The balance represents a mixed lot. There is no regular illicit drug market, no peddlers, nor places to buy drugs illegally."

The Problem and Theoretically Possible Solutions

Reduced to its simplest terms, the problem is fourfold: (1) to reduce the number of individuals becoming newly addicted, (2) to care for those presently addicted, (3) to cure all addicted persons possible, and (4) to reduce the crime resulting from addiction.

Theoretically the problems of drug addiction, and the crime which flows from it, could be wiped out quickly by any of four different measures. First, of course, the complete and permanent elimination of the supply of illegal narcotic drugs. This is the solution we have been trying for over forty years. Second, all addicted individuals might be incarcerated for life in hospitals or jails. This is a somewhat repulsive idea in a free country, and of course it would be immensely difficult of achievement and tremendously expensive in maintenance. Third, a completely satisfactory medical treatment for addicted individuals, in addition to the usual features of successful medical treatment, should make the cured patient completely unwilling to become readdicted and provide a new group of law-abiding friends for him. It must also furnish sufficient skill to permit his earning a satisfactory living and leave him emotionally adjusted to the unfamiliar environment of the law-abiding world. This is quite an assignment for some future superwonder drug. The fourth solution would be to educate all individuals so they would never use narcotics improperly. All would agree that this is a direction in which we should move. It may be confidently hoped that it would have some efficacy in cutting down the number of persons newly addicted, but few would urge that individuals now addicted could be saved by teaching alone. On the other hand, it seems amply clear that education must be an important part of the drug program both for protection against the growth of new addicts and to adjust present or former addicts to a fruitful and law-abiding way of life.

The difficulty of applying theoretic solutions to complex human problems is frequently great. No magic formula has appeared for relief from the problems of addiction, but progress should be possible from the coordinated application of all available channels of approach. No single process will make an automobile or prepare a person for life. All we can do is to apply and properly coordinate every appropriate technic, whether medical, sociologic, economic, or penal. This coordination seems to be the factor that has been lacking in the past. Even coordination is not enough. Every appropriate tool must be used in each individual case only to the extent that it is necessary or appropriate, and the application will vary markedly in the cases of different individuals. Thus, the plan must have great flexibility in order to deal with the usual exceptions as well as the typical situations.

With these criteria in view, I have endeavored to formulate an approach to the problem which would seem to be appropriate, with minimum modifications of present statutory requirements, and at minimum expense. No attempt has been made to spell out mechanics in detail. Only a broad general outline is suggested for your consideration.

It seems to me that progress should be possible if an appropriate number of narcotic hospital facilities were to be organized under Federal, state, or municipal auspices in cities which are centers of addiction. These hospitals would be equipped to examine, classify, hospitalize, and treat addicted persons on their premises for necessary periods, after which they would refer appropriate cases to specially commissioned physicians who would be appointed by the hospital staff. These physicians would operate under strict supervision of the hospital but would treat addicted patients in their offices.

Although it would be hoped that many addicts could be cured during the first visit to the narcotic hospital facility, it must be recognized that in the past such cures have usually been temporary. By permitting the uncured patients to be cared for by commissioned physicians after initial treatment, an opportunity would be provided for the patient to make progress toward social and economic adjustment, while assured of his needed supply of drug at a reasonable price. After achievement of an adequate social and economic adjustment, the patient would be returned to the narcotic hospital for final cure. When this had been completed, he would again be placed under the care of a commissioned physician, who would endeavor to prevent a relapse during the critical period when he is becoming adjusted to his resurgent sexual and other emotions, which were dulled or warped by the drug and now emerge with a vigor for which the addict is usually unprepared.

By supplying deeply addicted persons with their requirements at low cost during the period of their need, the black market would be destroyed; pushing would become unprofitable; the illegal supply would dry up, and all addicts would be forced to apply at the narcotic facility. Thus we might stem the horrible tide of heroin.

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Discussion

Robert B. McGraw, M.D., *New York City.*—I have had the opportunity to read Dr. Howe's paper in a somewhat more extended version and to hear it here today. He has been courageous and forthright in his presentation.

My personal experience in the problem of drug addiction of the narcotic variety is limited. With clinic and private practice I see a rather large number of individuals, but I see very few with narcotic problems—one in my private practice last year and four or five of the 350 to 400 new patients seen in the Psychiatric Department of Vanderbilt Clinic in a year. This Department would be expected to see all problems of addiction in the Vanderbilt Clinic patient population, which is a large number. Perhaps the foregoing is evidence that I am not really qualified to discuss this paper. It is also evidence that drug addicts do not appear in large numbers in some settings in which they might be expected to appear.

I am pleased to discuss the paper because it is interesting and provocative and because it has been prepared by a wise and experienced neuropsychiatrist who has given this problem very careful consideration for a number of years. Also I have received help from Dr. Lawrence Kolb of Washington, D.C., who for a number of years was director of the Federal Hospital for the Treatment of Narcotic Addiction at Lexington, Kentucky.

The present-day addicts are, it is believed, recruited from the ranks of individuals with psychopathic personality, those who are unstable, and those who are deviates or easily deviated, and not from the run of the mill.

When drug addiction was more prevalent in this country, cures were common because stable people then who became addicted could be taken off the drug and would stay off more readily than the unstable people who now comprise the bulk of the addicts. Before we had narcotic restrictions laws, prior to 1915, the number of women addicts was about three times the number of males. The restrictive laws cured them by the hundreds, and being more socially conscious, they remained cured.

As to crime, Dr. Howe plays this down, and I believe that he is correct. It is difficult to get it out of the people's minds that the opium drug itself causes crime. Unthinking people consider that arrests for narcotic law violations are synonymous with direct crime-impelling effects of opiates when, as a matter of fact, it is doubtful whether anyone ever committed a crime because of the exciting or disturbing effect on personality of any opiate, including heroin. Addicts steal to get the drug or the wherewithal to buy it, but this is because of the built-up need for the drug which comes out so strongly when one is deprived of it.

Dr. Howe's section concerning the problem of addiction in the United Kingdom is very good. The probable reason why Great Britain has so few addicts is that they do not have a super detective force looking for them as we do here. In other words, they are not hysterical about addiction. A British writer of the last century made this succinct comparison, "Opium soothes, alcohol maddens." There the government and the medical profession are composed of physicians who have put their feet down immediately on all hysterical outbreaks about drug addiction.

Dr. Howe advocates hospital facilities where addicts would be given needed drugs at low cost. Clinics were started after the Harrison Narcotic Act went into effect in 1915 and were later forced to close by action of the Federal government. It was claimed that they spread addiction. It is not to be expected that the government would approve such a procedure again unless strong evidence and pressure is forthcoming. The narcotic laws have been responsible for an enormous reduction in drug addiction since 1915, but they have been unnecessarily harsh and cruel in their operation in individual cases.

Lawson G. Lowrey, M.D., *New York City.*—Dr. Howe has presented briefly but adequately the larger social and medical implications of the issues involved in narcotic addiction as it exists these days. Addiction is no longer a medical problem in the sense that it formerly was; it has become chiefly a police matter. In my high school days, when I worked in a very minor capacity in drug stores, the pharmacists knew the local addicts and their daily requirements. Most of them were highly respected and effective in their jobs, and most had become addicted for medical reasons. Alcoholic people were likely to be much more troublesome in social and police terms. Addiction, at least in our part of the country, was a very minor problem. A more serious one, at least so it seems in retrospect, was the widespread use of patent medicines and what that could and did do to people who innocently thought they were curing their "dyspepsia" or whatever it might be.

The major issues which Dr. Howe raises are matters of serious concern to all of us. Let me say frankly that it is my best judgment that adults in 1954 are no different from adults in 6000 B.C. We still tend to blame the adolescent, the teen-ager, for all the ills of the world. Actually, it is we, the supposed adults, who build the world in which they grow up to be adolescents. It's just possible that "once upon a happy time" we knew what we wanted and were willing to work and fight for it. To be sure, it was a somewhat different world, but not completely. Esau and Jacob and Isaac and Rebekah weren't so different after all.

Dr. Howe's program, with which one must agree in general, raises some questions for me. My interest is in the addict as an individual, not necessarily sick or perverted, but definitely a person and not just a "statistick." I have some reservations about the extent of juvenile—or in the phrase of today—teen-age delinquency. Every two or three years for the last thirty or forty years there has been great clamor in the newspapers, in the popular magazines, and even in scientific journals about the juvenile delinquent. Two weeks ago I attended a conference on "Vandalism," a discussion of the destructive tendencies of the teen-age group. Dr. Howe has brought up here a number of questions about the adolescent and addiction problems. In 1950, according to the U.S. Census, there were nearly 22 million persons aged ten to nineteen (inclusive) in this country, slightly more than half being in the fifteen to nineteen-year group. *Reader's Digest* recently reported an increase of 80 per cent in cases of rape by contrast with the 1939 figures. The actual number of arrests reported by the FBI for 1952 was 2,051. That would be an increase of 80 per cent from 1,200 arrests. These seemingly irrelevant comments are made for this reason. It seems to me, and to many others who work rather extensively with adolescents, that there is too great a tendency to forget the very real problems with which they are faced, and increasingly so. Just what proportion of adolescents are involved in delinquency, vandalism, and any type of narcotic addiction? Is the proportion actually greater or less than it was thirty or forty years ago?

Shouldn't the addict, adult or adolescent, have psychotherapy? How will this be carried out in this program? Who will do the necessary family and personal social work? What about vocational training or rehabilitation, which is definitely shown by Dr. Howe to be necessary? What about job finding? This in itself is a most difficult and important issue.

All of my experience indicates that in such complicated medical, psychologic, and social problems as the addict presents, there is need for an organized, coordinated treatment program, bringing to bear upon the issues every resource that medicine, psychotherapy, and social work can offer.

Expert Testimony in Workmen's Compensation Cases

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THE principle of compensation for occupational injury is an important aspect of modern legislation in which the medical profession plays a dominant role. I shall not go into details of the economics of workmen's compensation except to point out that this phase of our social legislation has imposed a steadily increasing financial burden on our industry. This is illustrated to a degree by the compensation premiums earned by the insurance carriers in recent years in the State of New York. In 1943 this figure was approximately $116,000,000, while in 1952 the figure had risen to approximately $251,000,000. These figures of course do not represent the full cost of workmen's compensation to industry since they cover only premiums paid by employers insuring with carriers. The workmen's compensation cost to self-insured employers totals many millions of dollars additionally. The cost problem has been recognized by the State of New York by the Governor having instituted investigation of this problem under the Moreland Act.

During the period of social evolution at all levels of our population it has perhaps been an inescapable development that the administration and function of laws pertaining to workmen's compensation appear not to have been characterized by the objectivity of other legal procedures. No one today with any social conscience will deny that a workman has to be protected, financially as well as otherwise, against injuries and losses incurred in consequence of his occupation. In order to insure the rights of the workman, it seems only fair that decisions should be rendered in his favor where a reasonable doubt exists. At the same time this principle imposes upon the physician the burden to proceed with all thoroughness and objectivity possible. It might be worth while for a moment to emphasize the differences in principle between establishing diagnoses in the general field of medical practice and in the field of legal medicine. It is not hard to think of examples where the patient's welfare is perfectly well served by establishing the correct pathology and treatment, although the ultimate etiologic factor may not have been demonstrated. Legal medicine differs in that it must strive to explain fully a complete series of events in order to build up as far as possible an unbroken chain to settle not only the cause but the responsibility.

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In many instances of questionable claims under the compensation laws, a family physician is in a very difficult position. I do not believe that it can be denied that compensation claims are made now and again because the family physician makes a diagnosis dictated more by kindness than competence. Sometimes a physician may find himself in difficulties when testifying because he has given a patient the benefit of the doubt in a questionable case without further investigating all details. A physician under such circumstances on the witness stand may present the picture of a man who feels that he must defend at all costs what he has stated previously, and he may wind up in an embarrassing position. The general practitioner may very well be thoroughly competent to function as an expert witness, but he would often be in a much better position if he attempts this role only after extensive and complete investigation of his case. He would also be in a much better position if he would make it a rule to call in competent help wherever he feels that there are limitations on his time and knowledge. I shall cite a few cases in support of these remarks.

Case Reports

Case 1.—A woman, thirty-eight years old, was diagnosed by a family physician as suffering from lead poisoning. Her outstanding complaint was that of a persistent headache circumscribed to a very definite area on the left side. Her history revealed a period of anemia about two years previously, the red count at that time being approximately 3,000,000. At the time this woman's illness was reported as a compensation case, no special laboratory studies had been made, and the diagnosis was made on the simple basis that she had been engaged in a soldering operation for a number of years.

The obvious first step was to ascertain this patient's exposure to lead by doing determinations on the urinary excretion of lead and the level of lead in the blood. The first determination of lead in a twenty-four-hour specimen of urine showed an almost unbelievably high content of lead. The figure was 1.13 mg. Another determination approximately a month and a half later showed a content of 0.21 mg. of lead in twenty-four-hour excretion of urine. A blood determination was made at that time showing a content of 0.17 mg. per 100 cc. These figures all indicate a heavy exposure to lead, and the first figure might indicate an exceedingly heavy exposure shortly before the sample was taken.

Upon further questioning the patient stated that she had had the type of headache in question for about three years. She described her headache as being continuous in character, although she had been symptom-free for a period of approximately three months during a layoff, the headache returning about ten days after she returned to work.

The patient was hospitalized to facilitate investigation. During this time she was questioned extensively, and it became obvious that a more detailed description of her headache could be well correlated with certain emotional disturbances connected with her family life. Details surrounding the period of anemia, previously referred to, revealed that the cause had probably been excessive uterine bleeding which was eventually cured by surgery. After surgery the anemia had apparently corrected itself without any additional treatment.

At the time of the examinations in the hospital the patient did not reveal any essential physical abnormalities. Her red count at that time was 4,200,000 with 11.7 Gm. of hemoglobin. The white count was within normal limits. Careful examination of the blood smear failed to reveal stippling. Tests for porphyrins in the urine were negative.

An industrial case of this nature of course raises important questions as to the conditions at the actual site of work both in relation to the patient's occupation and the possibility of danger to other employes. In this particular case the work required the soldering of wires to connections in electrical instruments. A reputable industrial consulting laboratory determined that the lead content in the air was well within safe limits. As an additional test my associates set up a protective glass plate over the actual site of operation, and a selected employe performed the work in the usual manner with the glass plate in place. All the rosin fumes from the operation passed over the glass plate. The glass plate was subsequently tested, and the fume deposits were shown not to contain lead.

I believe that this case illustrates the problem under discussion. The two symptoms, namely, the main complaint and the period of anemia in the past, upon closer examination found reasonable explanations not associated with lead poisoning. It is perfectly true that this particular patient is a potential case of lead poisoning, but she was not disabled in any way except from the standpoint of her emotional difficulties. Nevertheless, this case came to a Workmen's Compensation Board with an original unconditional diagnosis of lead poisoning. It is superfluous to point out the amount of time and expense involved in providing very extensive data which will eventually enable the Board to render final decision.

Case 2.—A workman had been engaged in cleaning and painting a large drumlike steel object. This man died after an acute illness lasting one week. The onset of the illness was sudden, and he had appeared to his fellow workers to be in good health until the acute attack. Autopsy revealed that his death was due to an overwhelming toxic hepatitis and extensive toxic damage to the kidneys. This workman had stated to the attending physician that he had been using carbon tetrachloride to remove splashes of paint. It was agreed by the pathologists that the gross and microscopic pictures of the liver and the kidneys were consistent with heavy poisoning by carbon tetrachloride. The pathologists emphasized that the entire picture was that of an acute overwhelming poisoning corresponding to the clinical impressions from the onset and the course of his illness. The use of carbon tetrachloride for the purpose described was conceded by the employer.

A detailed study of the work of the deceased revealed interesting features. Because of certain instances, including a strike period, it was demonstrated that the last exposure to carbon tetrachloride for the purposes indicated was three months prior to the acute onset of the illness. During the strike period the cleaning process had been changed, and the materials subsequently employed did not contain any halogenated hydrocarbons. To prove this point my laboratory obtained from the suppliers the composition of all materials used and, in addition, tested samples of all such materials to be able to certify that they were free of halogenated hydrocarbons. During the strike period the cleaning process had been revamped to make it automatic and continuous, thus eliminating the possibility of personal exposure.

It is inconceivable that a man can show suddenly an acute, overwhelming toxic process in the liver and kidneys resulting in death after a latent period of three months from the last exposure to carbon tetrachloride. Further investigation revealed that this man had been a chronic alcoholic and that he had been consuming alcohol of questionable nature from illicit sources. Possibly the true etiology of his illness might be associated with this fact, or he might have had other exposure to poisons with actions similar to that of carbon tetrachloride. Whatever the facts might be, it certainly seems that this case should not have been brought to the Workmen's Compensation Board with a positive diagnosis of carbon tetrachloride poisoning without due investigation of all the circumstances described.

It is obvious that a death claim has a much better chance of being settled justly if an autopsy has been performed. However, frequently an autopsy is not obtained, the physician being forced to rely upon all available data before death to render a final diagnosis. The following two cases are interesting from the standpoint of comparison.

Case 3.—The attending physician had made a diagnosis of silicosis. The patient had been a miner early in his life, and later, until his death, he was engaged in an operation in an electrochemical plant where the dust contained free silica. Investigation revealed that plant hygiene was excellent and that all precautions were being taken to protect the workmen. However, it could not be denied that the possibility of exposure to silica was present. Chest x-rays during life belonged in the category where fibrotic changes could be demonstrated easily on the film, and the x-ray men considered the picture as compatible with that of exposure to silica. In this case an autopsy was performed, and the lung tissue was subjected to toxicologic study. It was found that his lung tissue contained less free silica than the usual lower limit in people who had never been exposed to silica except from the normal and incidental exposure to dust. The range was such that the chemical analysis positively ruled out free silica as a causative agent.

In this case a decision unjust to the company would almost certainly have been rendered if an autopsy and subsequent chemical determinations on the lung had not been performed.

Case 4.—This was also a case of pulmonary fibrosis, but it was not subjected to autopsy. The patient was a dental technician who had worked at his occupation over a period of more than thirty years. The diagnosis of silicosis was made on the basis of physical findings of the attending physician, x-ray pictures of fibrosis, and the fact that the man had used grinding operations in his profession. The x-ray picture was not by any means characteristic of silicosis, but the x-ray man would not rule out the possibility of silicosis. Study of the site of work and the operations involved revealed that this man had used a carborundum wheel on plastic dentures and that it was impossible for the relatively soft plastic material to remove any of the grinding material from the wheel. Furthermore, the wheel did not contain free silica. For polishing purposes he had used a wet mass of pumice. This polishing material remained wet at all times, and it was absolutely impossible for the material to give off any dust. The pumice was tested, and it was determined not to contain free silica.

After my investigation of working conditions in this technician's laboratory, it was completely inconceivable to me that this man could have been exposed to free silica at any time as a result of his occupation. In this case a final decision had to made on the basis of the cited data. An autopsy might have settled the issue without any question.

Summary

I hope that the few cases I have cited will help to emphasize that evidence obtained in the form of history and subjective and objective symptoms in the everyday work of the physician may well be perfectly adequate for diagnosis and treatment but that the physician should be strongly aware that further exhaustive studies may be imperative in order to establish, as far as possible, a causative relationship to occupation.

315 LINWOOD AVENUE

Discussion

Irvin Balensweig, M.D., *New York City.*—I am sure that a great deal of time, money, embarrassment, prolonged disability, and the creation of psychiatric problem patients would be saved if all specialists would attempt an honest evaluation of a compensation problem. As one reviews numerous Workmen's Compensation Board files, one is impressed with the fact that even doctors in good standing will perjure themselves. I have heard more fanciful medicine during the last sixteen years that I have acted as one of the Impartial Specialists in Orthopedic Surgery for the State of New York, than I learned in all of my previous seventeen years of practice.

Medical colleges would do well to present either an elective or prescribed course in legal medicine. I would be tempted to institute in such a course a series of mock trials, using if possible the Department folders. I might even go so far as to request that this particular body have one at its next year's session.

There seems to be no limit to the imagination of a testifying physician in a legal case. This is true regardless of which side he is testifying for. The expert who tries to remain impartial, regardless of who is hurt, finds himself in a precarious position. He becomes the center of a storm. If he perchance agrees with the injured and is testifying for the carrier, then the carrier feels that he is no longer serving their purpose. If he agrees with the carrier, then the injured, his physicians, and his legal representative believe that the expert is entirely too partial to the carrier and thus become antagonistic. The expert is soon classified either as a defendant or a plaintiff doctor. The fact that he wishes to be impartial seems to be immaterial.

I sincerely hope that, someday, panels will be established, consisting of three outstanding specialists in their field for each of the individual specialties, that these panels will act as a unit so as to help establish proper procedures and evaluations, and that their decisions will be published in the medical journals.

New Evidence Reported on Blood Weakness

Military doctors have found evidence that air travel may be safer than previously believed for persons with an inherited weak blood factor. Earlier reports indicated that persons with the "sickle cell" trait, which includes about 7 per cent of all Negroes, are susceptible to damage to the spleen at high altitudes. Previous studies showed that the blood tends to develop more sickle cells as oxygen pressure thins at high altitudes. This results in plugging of the blood vessels, which leaves some areas of the spleen without enough blood. It causes abdominal pain, breathing difficulties, and other symtoms.

Three Army doctors and an American Cancer Society Clinical Fellow have reported that it appears another factor must be present before spleen damage will result from flying. They reported two cases of soldiers who suffered spleen disorder while flying at lower altitudes than were previously thought to cause difficulty. They said in these cases the damage apparently resulted because of a combination of the inherited sickle-cell trait and a certain type of hemoglobin (the oxygen-carrying cells of the blood). This hemoglobin type C also depends on parental factors. They said the theory that both hemoglobin C and the sickle-cell trait must be present to cause spleen damage would clear up some confusion in earlier research; for instance, lack of any damage in known sickle-cell persons even under very high altitude conditions. If both the sickle-cell trait and hemoglobin C are prerequisites to splenic disorder at high altitudes, the number of persons susceptible to damage would be "substantially reduced."

The report was made in the November 6 *Journal of the American Medical Association* by Capt. John P. Doenges, Major S. P. Wise, III, and Capt. R. B. Breitenbucher, all Medical Corps officers of the United States Army Hospital, Fort Jackson, and Dr. Ernest W. Smith, Johns Hopkins Hospital, Baltimore.

Session on

PUBLIC RELATIONS

Medical Society of the State of New York

148th Annual Meeting

New York City

JOHN D. NAPLES, M.D., *Chairman* May 13, 1954

DR. JOHN D. NAPLES, *Chairman of Session:* As chairman of this committee, I would like, at the outset, to thank you for coming here. I particularly want to thank all those who are taking part in the discussion for giving so generously of their time and talents. I also would like to thank Mr. Miebach, and his staff, for the marvelous assistance they have given me and for the fine work they have done in arranging this program.

Our first speaker this morning, ladies and gentlemen, is one who is certainly well known to all of you. Alton Blakeslee actually grew up in the shadow of one of the first science writers to translate the findings of modern science into the language of the man in the street. The writer was his father, Howard Blakeslee, first science editor of the Associated Press. Alton Blakeslee first became a reporter in Wilmington, Delaware, in 1935, after attending Columbia College and Duke University. In 1939 he joined the AP staff in Baltimore where he began specializing in science reporting. Shortly after becoming news editor in Baltimore, Mr. Blakeslee was transferred to the New York cable desk in December of 1942 and remained there during the war years, handling military and political stories. In September of 1946 he was assigned to the AP's feature department, specializing in science. Soon he was turning out a weekly March of Science column for Sunday newspapers.

Since then Mr. Blakeslee has been concentrating wholly on science stories, working out of the New York office. After the death of his father last year, he was named to head the science field for the AP. He was awarded the $1,000 prize as winner of the George Westinghouse competition for the best science writing of 1952.

Ladies and gentlemen, it is a pleasure to present to you, at this time, Mr. Alton Blakeslee.

The Press Looks at the Medical Profession's Public Relations Program

MR. ALTON L. BLAKESLEE, New York City: Public relations is often regarded as some magic words which you can use to solve some of your problems. It is not. If the concept of public relations is approached with this attitude, it is almost surely doomed to failure. Public relations is not some magic formula, nor something scary or a little bit dirty, especially something dirty for doctors ever to say something good about.

For the fact is that public relations means all your contacts with people, all the impressions you create, how you are regarded by all other people whoever you may be, whether doctor or lawyer or housewife or bus driver or atomic scientist. And how stand the public relations of the medical profession? To someone like me, a science reporter on the medical sidelines, I think they are fairly bad. They are far better in some ways than they used to be, but they are still bad from the consideration of how they could be or should be. I should like to discuss two aspects of the medical man's public relations. One is what the doctor does as an individual to affect his own or his profession's public relations. The second is relationships of the medical profession with the newspaper profession.

As to the first, what does the doctor do or not do? He does a great deal of good for his patients usually and wins their admiration and friendship. He brings high skill, ideals, long training, and the latest scientific knowledge to his task if he is a good doctor. And usually he is very busy.

Now if he is a good, capable, dedicated doctor, our physician is often puzzled as to why any of his patients or the public have any animosity or ill feeling toward him. Why, he wonders, does the public insist upon making errors in its regard for or estimation of doctors? There are many reasons, some the fault of the public, some the fault of the physician and the medical profession.

A story illustrates my main point fairly aptly. It is the story of the racetrack fan who, before placing his bet, saw a priest sprinkling holy water on a horse due to run in the first race. Reasoning that this gave the horse extra advantage, he bet on that horse. It won. And he saw the priest performing the same ceremony on a horse to run in the second race. He bet all his money on it and won again. And so with the third, fourth, and fifth races, each time betting all his profits. But in the fifth race, his horse failed to come out of the starting gate until the rest of the field was far away. His horse staggered feebly along for about 50 yards and fell dead. The outraged bettor hunted up the priest and demanded an explanation. "That," said the priest, "is the trouble with you Protestants—you can't tell the difference between a blessing and last rites."

And so a major source of friction between doctor and patient lies in the fact that they fail to see eye to eye in this world, do not understand why the other does or feels as he does. What a person believes is "truth" to him, regardless of whether he has good reasons or facts for that belief. If he is wrong, he will continue in his belief until and unless he obtains more facts and information on which to base a more accurate opinion or belief. That goes for doctor or layman. Doctors err when they see the world only through the eyes of a doctor. The public errs when it fails to try to understand the life of a doctor.

What are the nubbins of disagreement between doctor and patient? I shall single out only a few. A major problem is bad actors within your profession. With one such example an unthinking public can say, "Well, that's doctors for you—they're all alike." They're confirmed in this belief if they find any reason to suspect that the medical profession is excusing or covering up or protecting its bad actors. All ethical professions have this problem. I wonder if the answer is not to approach it with complete frankness and earnestness. Tell the public exactly what the problems are in trying to police the profession. Explain how difficult it is to prove malpractice or error in judgment, the difference between honest error and incompetence. And explain that the public is not so high and mighty either, that there are many persons eagerly awaiting the opportunity to bring some lawsuit, to make money out of even honest errors by expert physicians. The doctor does not live who cannot or will not at some time make a mistake. The good doctor is the one who keeps his errors to a minimum, like a good shortstop.

And you might announce more clearly just what has been done to weed out miscreants, tell how many, give names if necessary. Convince the public that you are conscientious and zealous in getting rid of the bad apples if you really are. It shouldn't be done too secretly, in fear that if one doctor's atrocious behavior is made public, the people will blame all doctors. Some persons will do exactly that, of course. But in the long run you will gain the confidence of the general public that you really mean your ideals and ethics and protect those ideals because they are protection for the public.

Second, I agree with physicians that confidence in a doctor is a vital element in giving good medical care. But I believe that some of the medical profession's troubles stem from a belief, which it has helped foster, in the doctor as a godlike creature, a superhuman or magician who is above any error and above base motivations, such as a liking for money, which affect the common people. The doctor has been pictured as a self-sacrificing hero of humanity. And heroes fall the hardest whenever they are found out to have or are suspected of having ordinary human foibles.

Is the public now looking down its nose at doctors because the physician has long been pictured as necessarily being several cuts above anyone else in the community, and people find that some doctors really aren't terribly bright and all-powerful and unselfish? If that is so, then it would behoove doctors to show that they are human beings like everyone else, to show it in all their actions and words. The public understands people who talk to them as human beings. Approached that way, they can understand your point of view, your responsibility for life and death, for pain or happiness, and the how and why of your profession.

I rather think that much of the poor medical public relations, on the part of the public, comes because the public has been led to put blind faith in the physician, to believe that what the doctor says about diagnosis or treatment is positively correct. If a person believes that and finds that you were a bit off base—or he thinks you were off base which is just as bad—then he is angry and disillusioned. Would it not be better to be completely frank, not to give the impression that a diagnosis is a fact of which there is no doubt, if you entertain any doubts yourself?

A person consults a doctor because the doctor has superior knowledge about health matters. But no one likes a superior-acting person. I think the doctor's public relations would be improved if a patient trusts you because he wants to trust you and because you lead him to trust you. The trust cannot be imposed upon the patient who is made to feel that his only alternative is to feel like a nincompoop, who is made to feel that he shouldn't ask questions, that he's not intelligent enough to understand anything but simply must obey orders.

The doctor is just as much an ignoramus oftentimes about the patient's own occupation, whether the patient is a musician or jitterbug or auto mechanic. People are more inclined to trust and like the doctor who will even admit his doubts at giving a complete diagnosis on some first vague symptoms, but who will create confidence that he will follow all possibilities and will give the best and safest treatment. If this is done, the patient cannot later put unfair blame upon the doctor.

I am aware of objections that many neurotic patients only need reassurance, or that some patients demand a very positive diagnosis, or that they will trot off to another doctor if their physician shows anything less than complete sureness of knowledge of everything. But I wonder whether this type of person is really worth all the attention he gets from doctors? Is he worth running the risk of disillusioning or earning distrust of all other persons who would prefer being treated as one warm human being talking with another, whether he's an expert or no? Maybe that is idealistic to wish for. Certainly it might take more education, by doctors of the public, to tell people what they should expect and what they should not expect of doctors. Realism is better than perpetuating some belief in witch-doctor authoritarianism.

Third there is the question of fees. Much of the criticism boils up from the stew of fees. Doctors deserve fees and good rewards for a hard life burdened with heavy responsibilities and demands upon their time. But has the public gathered some impression that many doctors feel the mere fact of being a physician entitles them to some annual income far and above the general average in the community? Or worse, that this higher economic position is too often the motive for becoming a doctor? This kind of opinion—right or wrong—exists.

A key to the fee and income question is, as medical spokesmen point out, a frank discussion with patients. And it calls for an appreciation of the fee question as seen from the patient's viewpoint. There are many specific points of friction or difficulty. The great step for doctors to take in overcoming them is for doctors to see the world and the medical profession partly through the eyes of other people. You cannot defend yourself against unfair charges unless you understand how people came to have such attitudes. You cannot clean house if you do not know where the public thinks the dirt lies.

Now to the matter of cooperation between medicine and newspapers. Do you become annoyed with patients who tell you what is wrong with them and what medicine to give? How do you deal with these self-appointed experts who really know so little? The news profession is troubled by this same type of person, including doctors, who prescribe for newspapers, telling them what is news and what is not, and how to write it. If they make sense, we listen. But if they know too little to be a sensible critic and just want to yammer without making an effort to understand, then our reply to them is given in three simple words. So here is a point of similarity between the medical and news profession—the kind of critics we have.

There are a lot of similarities, and there is one which is most fundamental—responsibility to the people. The medical responsibility is people's health. The newspaper responsibility is their minds, their right to information of all kinds in a democracy. In our fundamental goals we are in the same boat. That is the reason for smoothing out the obstacles for complete give-and-take cooperation between medicine and the press.

It is high time to call an end to childish recriminations and accusations from either side, an end to injured dignities, and time to get to the heart of the mutual problems. We are both grownup professions. The news profession is just as honorable, just as demanding, just as interesting and exciting a life, just as full of ethics, as the medical profession. We have members, as you do, who do not live up to their responsibilities. We make mistakes. We print ours for everyone to read. Doctors often can quietly bury their mistakes. But the good reporter is as hurt and ashamed of his mistakes as the good doctor, because he has failed his duty and himself.

Today the public is more and more interested in health news. It is good that they are, good for their health, good for the quicker adoption of sound public health measures, good for doctors. The newspaper's job is to give them news of health, accurately, in news and feature stories in the form which newspapers can carry such news, not in the style and length of medical journals. We can supply those stories most accurately with the full cooperation and understanding of the medical profession.

We have our difficulties in cooperating with each other. The solution is to understand each other, to yield in an attitude or method which is palpably wrong—meaning not in the public interest—but to stick to our guns if we find the other side is only talking selfishly.

For example, names are extremely important in news stories. But doctors sometimes ask why this is so important, complain when some doctor's name is mentioned in a report of some new development. The doctor who asks such a question is displaying ignorance about the world he lives in. It hasn't occurred to him that he would object if news, other than medicine, were handled this way, with no authority cited in the news report, no way of permitting the reader to judge the credibility of the report. Is it a responsible congressman who is predicting that taxes will be cut, or is this anonymous story just some reporter's wishful thinking? Would the doctor like his sports story to omit the name of the player who hit the home run that won the World Series?

Newspapers often ask for names of patients and their condition and prognosis. These demands can be unreasonable and often have been, especially in the past. But editors become reasonable if doctors point out the physician's responsibility to the patient, the patient's right to privacy, and other considerations in treating a human being. The newspaper's right to news can be dovetailed into the doctor's obligation to his patients, but not by mutual shouting at each other.

Newspapers sometimes offend by writing stories which seem to credit one individual with making all the discoveries of any merit since the day of Hippocrates. Doctors are correct in objecting to this—it is bad reporting. If they point it out to the newspaper, the reporter and editor catch the point with no little embarrassment and resolve to do better next time.

But you will not have a sympathetic audience if your objection is that a man's name was mentioned at all, in quite a legitimate way, if the editor suspects that your reason is economic jealousy, that you fear losing patients to him because that doctor spoke or wrote before some group of your peers. Newsmen have a keen nose for skullduggery and sham. And they don't like interpretations of the medical code of ethics which appear to be aimed at making money for doctors or putting some physician in dutch because his name did appear, legitimately, in a newspaper story.

There are medical objections about the accuracy of news, the type of medical news which is reported, how stories stir up patients. Well, if a story is palpably phoney or is inaccurate, make yourself heard. But remember this—news is not what is commonplace, it is what is happening now, what the new developments are. The story cannot be a textbook on some medical subject, but it can be and must be accurate in all details and significance.

Let us suppose a new drug is announced in a report in the *A.M.A. Journal*, based on some clinical tests. The A.M.A. does not have a crystal ball which predicts whether it will fulfill early expectations. Neither do newspapermen. Neither do you. When a patient comes in, clipping in hand, to your office, how do you handle him? Do you give him the impression he is fairly stupid to think the drug could apply to him? Do you airily dismiss it with, "Oh, that's just another newspaper story." Are you saddled with the god-complex and embarrassed that the patient knows something you haven't learned about yet?

Or do you listen, and read, positively? Is it something which might be useful to that patient? If you don't know, do you tell him you will investigate if that seems reasonable? Do you give him the impression that you're pleased with his interest in medicine? What is your tone and attitude when you explain such aspects as that the drug is still in the experimental stage, having been tested so far on only a small number of patients; that it may be too early to tell yet about undesirable reactions which may show up, or that this can only be done with careful hospital safety checks—in short, what is your tone and attitude when you explain any risks or any reasons for sticking with present treatment for the time being? Do you do whatever is necessary in such a way that the patient isn't offended by your attitude? In such a way that he becomes angry with the newspaper? In such a way that he is disillusioned with scientific research and sees no reason for him to continue favoring any support of scientific research?

Sometimes doctors object to the speed of reporting. But news happens to be perishable, whether you like it or not. Death is inevitable, whether you like it or not. Your objections about speed will not change the necessities of the newspaper business, but you can help the newspaper get all the facts and portents straight despite the speed.

It has been suggested by one wise doctor that newsmen accompany a physician on his grand rounds in a hospital, or visit laboratories, to gain a better insight into what it's like to be a doctor, what the problems all are. It is a good suggestion. It is something which men assigned to medical reporting have been doing for years, and they have benefited immensely therefrom. Reporters can write more accurately, fairly, and in good taste about medicine or courts or legislatures because they have lived closely with doctors or lawyers or legislators and know them and what their tasks are.

But this card has another side. It would be most instructive for doctors to visit newspapers, spend a day, follow stories from birth to printed page. Doctors, or at least those in charge of medical press relations, would gain invaluable insight into the profession they want to cooperate with.

The state codes aimed at establishing better cooperation between doctors and newsmen are good, so far as they go. But no high-level announcement is worth anything unless the human beings affected by it understand and support it. A foreign policy understood and approved by only 10 per cent of the public won't go far. The codes will be ignored or abused if doctors or newsmen don't understand the reasons for it. don't know what the conflicting points of view were originally, how they were comprised, what the code can accomplish. Medical journals and newspaper professional journals probably ought to report and elucidate the full background story of the codes to their members.

And further what is needed, I believe, is more local meetings between doctors and newsmen for friendly but serious discussions. There lies the opportunity for workaday agreements, based on mutual understanding. It could end the sniping and useless crossfire. Each side must yield in some stiff-backed attitudes. There will be tiffs between opposing attitudes and reasons for present behavior. The winner in each case must be the one who already has the soundest appreciation of what is good not just for himself but for the American public.

Dr. Naples: Thank you, Mr. Blakeslee, for your fine talk. The paper is now open for discussion. Would someone like to discuss it or ask Mr. Blakeslee a question. Dr. Allen, New York County.

Dr. Philip D. Allen, New York City: I won't attempt to discuss the paper, but I would like to say here that I've been chairman of the Public Relations Committee in New York County for five years, and I've given a great deal of thought to public relations and relations of doctors with the press and so on. I would like to say that Mr. Blakeslee's speech, in my estimation, is one of the finest talks I've ever heard on public relations and relations with the press. I think we all were very fortunate in having heard it. I hope that these remarks will be made available so that they can be brought to the attention of the doctors at large in our various societies. Thank you very much.

Dr. Naples: Mr. Blakeslee, I want to reiterate my thanks again on behalf of the Society. I personally appreciated the remarks you made. I perhaps understood them in a different phase from some of the others because I can appreciate the workings of the newspaper business. I can realize what a newspaperman goes through because quite a few years ago I was a reporter on one of the local papers up home, and for the good of the newspaper profession I decided to study medicine. However, we have had much opportunity, as you know, to discuss these problems with the newspapermen. We have come to understand their problem. So much so that I can realize that we have certain limitations, and we have to make certain concessions. I realize, too, that had I not felt that way many years ago, when I was a reporter, my city editor would have seen that I entered the medical profession earlier than I did enter it.

The next paper is entitled "Codes of Cooperation—Their Role in Improving Public Relations." Your speaker is a man with whom I've had quite a bit of association in the last year. I've come to respect him and admire him for his work, for his untiring efforts which he has given to this Society, and for the great amount of good he has accomplished, personally and individually, in cementing good public relations between the medical profession and the members of the press, radio, and television. Many of you know him by reputation. He is an outstanding surgeon. He comes from Albany, and he is vice-president and president-elect of the Medical Society of the County of Albany. He is also a member of the Council Committee on Public Relations of the Medical Society of the State of New York and chairman of its Subcommittee on Codes of Cooperation. I know of no one in New York State who is more capable of presenting this problem to you today than my good friend, Dr. John McClintock, of Albany.

Codes of Cooperation—Their Role in Public Relations

Dr. John C. McClintock, Albany: Thank you very much, Dr. Naples. It's indeed a pleasure to be here and to report some of the experiences that we have had in attempting to carry out some of the suggestions that Mr. Blakeslee has given us.

The practice of medicine has changed. Public relations in the days of our forefathers consisted of good will generated by the personal knowledge the doctor had of his patient, knowledge that included economic and social factors as well as items purely medical. The science of medicine in those days allowed time to pursue this more leisurely type of medical care. Today, new skills, technics, and therapeutic measures are being developed so rapidly they require constant study and frequent postgraduate periods of training to comprehend. There is no time left over to develop the esteem upon which public relations was founded in years gone by. Modern transportation and increased demands by the public for medical care have compelled a shift to the office type of practice, where increasing numbers of patients receive their advice and treatment. The change has provided better medicine for more people, but it has also brought the charge that doctors are impersonal and cold. Because physicians have been so busy learning the advances in medicine and applying them in their practices, the profession suffers from very bad public relations.

To create good public relations in this changed order of medical practice requires an expenditure of time, effort, and money. Too many of our older generation of physicians refuse to recognize that this change has occurred; too many of our younger generation have been allowed to enter practice with the idea that the doctor need work only forty hours each week, and both groups frequently refuse to support financially a public relations program which would improve their own standing in their community. Such indifferent practitioners are quite willing to bask in the sunshine that results from the labors of the few conscientious members of our profession, but these uninterested doctors will "scream to high heaven" when a critical article appears in the daily paper or weekly magazine. These same doctors will not attend their county society meetings, nor will they contribute in any other way to the battle against adverse publicity. Those few whose devotion to the profession and whose willingness to work have brought about some improvement are still overshadowed by the apathetic doctor, who believes he can survive as an individual.

A colleague of mine recently remarked that he didn't need the newspapers to practice medicine. He felt his patients were satisfied because of his conscientious care. When I asked if he would write a series of articles or even one article telling how much good he and other doctors accomplish in this manner, he replied, "Oh, I couldn't do that. I am too busy taking care of patients." Too busy to recognize that as a citizen he has an obligation to the community besides contributing medical care. Too busy to be bothered by a reporter asking questions on a medical subject. Too busy to realize that by his refusal to perform this extra measure of service to the public he has contributed to the black eye hung on the medical profession by the press for just such shortsighted actions. Certainly, he can survive as a good and conscientious physician without the press, but he could help to do so much more if he would but give a few minutes of time, a little of his energy on relatively rare occasions to help the profession of medicine regain the public esteem it formerly enjoyed.

If we are to maintain a high standard of professional care and at the same time improve our relations with the public we serve, a cooperative effort is essential. If the doctor no longer has the time to do this job, he should join with his colleagues in his county society to employ an expert in the field of public relations to accomplish this purpose. Many county medical societies have already done this, and others are doing likewise. These agents of the doctors, working under the supervision and control of physicians, are doing a tremendous job of presenting the public with the truth about our profession. The demands of modern medical practice have cost us the old-fashioned esteem that must now be replaced by public relations created by an expert under our direction.

Does a code fit into this picture? In so far as the medical profession is concerned, a code for the guidance of its members is necessary. There is no code of cooperation that will improve the profession's external relations with the public. Bear in mind that the word "code" signifies a collection of existing laws pertaining to a subject or country, or it can mean a group of rules and regulations. Rules and regulations to assist the physician to interpret for himself the modernized *Principles of Professional Conduct* are needed. But, there is no rule or regulation that will produce cooperation with the channels of public information we must use today to create better relations with the public. The word "code" should never appear in any program that attempts to bring about this improvement.

One year ago, the House of Delegates of the Medical Society of the State of New York unanimously adopted a resolution creating a committee to look into this problem and to draft a document that would help to improve the standing of the medical profession in the eyes of those who gather and disseminate medical news. It has been this writer's privilege to serve as chairman of a subcommittee charged with this responsibility. Dr. Henry I. Fineberg of Jamaica and Dr. John D. Naples of Buffalo have served on this subcommittee, shared the problems, helped to find their solutions, and contributed their time and energies most generously. With the advice of a great many representatives from the Hospital Associations of New York State and Greater New York, the Newspaper Editors Society, Newspaper Reporters Association, Photographers Association, Science Writers, Society of Magazine Writers, and radio and television groups, this committee prepared a document that was endorsed by the House of Delegates on May 11, 1954.

Some startling revelations contributed to the development of this Guide for doctors when dealing with newsmen. It was impressed upon the subcommittee that newspaper personnel already have a code called the Canons of Journalism to which all responsible newsmen adhere. A study of these principles of conduct for the press revealed their ideals to be expressed with as much sincerity as is found in the code of ethics for the profession of medicine. Similarly, the representatives of radio and television pointed with pride to their code, which in many instances is strengthened by restrictions imposed by local stations that are greater than those of their code itself. Those who are devoted to scientific writing for public reading will insure the accuracy of their statements to maintain the high standard that is essential to their existence as science or magazine writers.

Doctors of medicine, generally speaking, have refused to recognize that these media of public information function with standards that are as high as those of the medical profession. Doctors have refused to talk with responsible representatives of these media for fear of reprisal and "needling" by their medical colleagues. For these petty jealousies and other internal frictions the medical profession is held in great contempt by many newsmen and writers. The result is evident, as judged by the many uncomplimentary articles that have appeared in newspapers and magazines. The cure for this condition should be obvious.

Doctors as individuals and as organized groups must recognize the high ethical standards of the media. They must have greater willingness to discuss mutual problems with representatives of all branches of the news-gathering and disseminating services. To assist the physician to fulfill this part of his obligation as a citizen, a Guide for his cooperation with newsmen was prepared by the subcommittee indicated above. This Guide does not presume to cover every contingency, but it should help the physician to recognize how much more he can do and still preserve his own high ethical standards. It is not anticipated that this Guide will change conditions overnight. Confidence, knowledge of each others' problems, and mutual respect develop only from repeated, honest discussions between the medical profession and the press. Each county society through its public relations committee has an opportunity to perform an important service to the public by arranging such discussions.

The Guide in its present form was developed from such conferences. A few well-aimed brickbats were directed at the committee in the course of its work, but the good they accomplished overshadowed the pain they inflicted. Expect similar experience from the efforts you put forth in your own community, and be willing to modify your attitude in keeping with suggestions.

You must keep in mind that editors and reporters are very wary and quite sensitive about any approach that might be interpreted as a restriction or censorship. You will have to emphasize repeatedly that you want and are willing to cooperate. Once embarked upon your program, there is no turning back; you must support your good intentions by good deeds. This, of course, means the backing and cooperation of your county society. Whether we like it or not, the medical profession is not now in good favor with the press. You must approach your local problem with this in mind and be willing to subjugate your pride to advance the interests of the profession of medicine.

You will profit more if you keep your meetings small. The problems of television and radio are different from those of the reporter and editor. Meet each group separately. In everyday routines hospitals are a bigger source of information on news of a medical nature than are doctors. Do not fail to include hospital directors or their public relations officials in your discussions because the hospital and the physician have inseparable interests when providing better medical news. The Hospital Associations created and have approved that section of the guide devoted to these institutions. Your local hospitals, whether a member of the Association or not, should cooperate with you and the press within the concepts expressed by their portion of the Guide.

Medical societies possess the ability to improve relations with the media or to aggravate such agencies and intensify the existing ill will. The board of censors of each county society will have to be more alert and exercise keen discrimination to determine where service to the public ends and self-publicity begins. Each society must establish its own standards, but every doctor in his society must be more willing to cooperate with responsible representatives from any of the media of public information. Doctors must learn not to criticize nor even to "kid" their colleagues for proper publicity within the framework of the Guide under their own society's standards. Doctors have much to learn about public relations, which is not the anathema some physicians believe. The committee responsible for the Guide can wholeheartedly recommend that you seek the advice of representatives from the press, radio, television, or other responsible media in your community. They may not always provide bouquets, but they will be helpful, if you, the doctor, demonstrate your good faith by good deeds.

The practice of medicine has indeed changed! To restore the esteem and recapture the good public relations enjoyed by our forefathers, a completely new approach is essential. Our success is dependent upon how willing we are to cooperate with all segments of the media of public information. To the extent that it helps the doctor to perform a duty to his profession and to the public, a Guide for Cooperation plays an important role.

Dr. Naples: Thank you, Dr. McClintock. Dr. McClintock's paper is now open for discussion. Would someone like to ask him a question?

Dr. Thomas M. d'Angelo, Jackson Heights: Mr. Chairman, it seems to me that in the papers which we have heard, especially the last one, one would imagine that the doctor is all at fault, and I don't believe that to be the case. Certainly the physicians must realize that we are living in a new era, that public relations plays a large part and that we are completely babes in the woods in that respect. But, it's been my fortune, or misfortune, to have sat down with reporters within the last two years who were going to write a series of articles and who asked for background information. Gentlemen, we gave background information, and when the articles appeared, one would imagine that we had never seen the individuals. It seems to me that large organizations, large foundations, commercial enterprises, whether for profit or nonprofit, today, are the ones which receive the favorable publicity and that doctors, although they act in unison through their medical organizations, do not command the attention of the reporters who give the news to the public. Very seldom do we see both sides explained impartially to the public. It is my opinion that the newspapers and other media of information should be impartial to the facts that they present—I don't mind their slamming us once in a while, that is perfectly all right—but they should give both sides before they interpret the news.

Mr. Carl Weber, Executive Secretary, Monroe County Medical Society: I'd like to preface my remarks with just two questions. Number one, I'd like to ask how many officers of the New York State Medical Society are in the room? Number two, how many county society presidents are in the room? (A slight show of hands) That's better. But, how are we going to talk about public relations when we are somewhat like the minister in the church who preaches to the people who come to church. I say that if we are going to sell public relations to county societies and to state medical societies, we'd better have the people who make the policy.

Dr. Naples: Is there anyone else who wants to add to this discussion? Mr. Blakeslee.

Mr. Blakeslee: Dr. d'Angelo, I'd like to give an answer to the question that you raised, which is whether newspaper editors or writers approach it right. I think one of the basic problems there is real communication and understanding, that is, how you talk with them or somebody who may not be well versed in the field of medicine. This would be the same type of problem you would have communicating with a patient. I think you can only appeal to their honesty and their own codes and idealism and make it very clear what you are saying, while giving them a complete background of information on something in an interesting way. So far as slanting news goes, I think that is a serious charge. It's something no good newspaperman would condone in the same way that no doctor would condone his dismissal of a patient with a diagnosis which was not based on a very complete examination.

Dr. Naples: Thank you, Mr. Blakeslee. Is there any more discussion? I think it is generally understood that in most communities we've been fortunate in having a favorable press. I know we have, and as Dr. McClintock has pointed out, I think that's a program which the doctors themselves can foster and bring before the public. I think the newspapermen do a lot of good.

Dr. d'Angelo: Mr. Chairman, may I ask one question right now to point the finger at one of the remarks that I made? I want to ask Mr. Blakeslee if he would care to comment on the article that appeared on the front page of the *Times* concerning the actions of the House of Delegates yesterday?

Mr. Blakeslee: No comment on that. I didn't have a chance to read that report, and I did not cover those sessions myself so I do not know whether the report was fair or unfair or just what was involved in the coverage of that story.

Dr. Naples: Any further discussion on this paper? Then we'll proceed to the next paper, "Focusing the Community Spotlight on the County Medical Society." This will be presented by Dr. Joseph Diasio, a busy practitioner in a busy community in the other end of the State. Dr. Diasio had five and a half years of active duty during World War II as a lieutenant colonel. He has been secretary, vice-president, and president of his medical staff at Genesee Memorial Hospital. He was vice-president in 1951 and president in 1952 and 1953 of his county society. At present he is chairman of the Public Relations and Publicity Committee of the Genesee County Medical Society. He is a Fellow of the American College of Cardiology, and I feel that he is well qualified to present the problems of "Focusing the Community Spotlight on the County Medical Society."

Focusing the Community Spotlight on the County Medical Society

Dr. Joseph S. Diasio, Batavia: Members of the Medical Society of the State of New York and guests, Dr. John D. Naples, your able chairman of this Public Relations Session, has assigned me the topic, "Focusing the Community Spotlight on the County Medical Society." On behalf of Genesee County Medical Society allow me to say that we are deeply appreciative of the honor accorded us.

Our society numbers 52 members. The activities I shall outline will, therefore, not be representative of all county medical societies. We can only tell you what we have done and what we have found to be good public relations.

Right now let me say that the basis of our program has been an expansion in service to the membership of the county medical society and in turn its usefulness to the community. In assuming the presidency on January 1, 1952, and again January 1, 1953, and then stepping into the role of public relations chairman, I have felt that the offices were not merely an honor handed to me by the county medical society for personal enjoyment, but an opportunity to add, with the support of the membership, some measure of accomplishment to the one hundred and forty-seven-year record of the society.

At this point I would like to make it clear that all of the achievements of the past two and a half years have been accomplished through the cooperation and loyalty of the society's members. You need cooperation in order to achieve results. One of the first steps to secure cooperation is to let your colleagues know what you want to do and why you want to do it. For this reason we have regularly scheduled meetings of the county medical society, interim meetings of the comitia minora, and a newsletter which goes to each member of the society. This newsletter is simply a mimeographed bulletin. It isn't beautiful to look at, but it gives a comprehensive report of county medical society activities and communications from the A.M.A., State Medical Society, Blue Shield, and other agencies as they affect our particular group of physicians. The newsletter also is a medium for recording the decisions of the county medical society and appointments to committees. Again, it acts as a reminder to the members who have been assigned a special job and forget it after they leave the meeting. Their names in the newsletter, together with the name of the committee and the job it has been assigned, all help to keep your members working.

Having told your membership what you propose to do, you might next consider your objectives on a policy basis. The bylaws of our society briefly define the objectives as follows: (1) service to the people of Genesee County, (2) service to medicine in all its aspects, and (3) service to members of our society. The membership, of course, is interested in service to medicine and to the profession. It is service to the people of your county, however, which will focus the community spotlight on the society. Here are some of the things we did:

1. An emergency medical service was provided on a twenty-four-hour basis every day of the year. Previous to this time it was occasionally difficult to secure a doctor. The new service was installed in a local hospital. It had its own telephone number, however, and was publicized in the newspapers, classified telephone directory, and at police stations. Although we have had some difficulties, our chairman of the committee on emergency service, a diplomat and a persevering individual, has kept working on the project, and his patience has paid off. The subject is frequently discussed in our county medical society meetings. Let me point out that participation by members of the medical society is about equal. Most of the doctors have had occasion to answer at least a few calls. No attempt has been made to classify the doctor according to his specialty. It is considered the duty of the physician who makes the call to see that the patient gets the proper care. Sometimes surgeons have responded in cases involving a child's illness, and in such cases immediate attention is given until a physician versed in the case can take over.

Now, what did this win for us in the way of better public relations? First came a front-page story, then an editorial in the newspaper congratulating the Genesee County Medical Society on the establishment of this service, as well as a mediation committee. After about nine months we gave the newspaper a report on the physician's emergency service, and this article again brought us front-page notice. We consider this report of such benefit to community relations that we have made it an annual release to the local newspapers.

2. In the field of health education members of our society have made substantial contributions. Physicians have delivered radio talks on cancer and diabetes. They have actively participated in health discussions before nonmedical groups, and at the time of the State Society's convention in Buffalo, we were invited to participate in the TV and radio broadcasts from that city.

3. In the forefront of our public service program during the past two years is a resolution adopted by our society approving the voluntary establishment and maintenance of a county health department. Since this concerned public funds, it was necessary to go to the local government authorities, to discuss it with them, and to see that it was properly presented via the newspapers. I am happy to say that the county health department is now functioning and doing a good job, with the medical society represented on its directorate.

4. Like many communities, Batavia eventu-

ally got around to having a sesquicentennial. In this connection I should like to quote the American Medical Association's *PR Doctor* of March 10, 1953.

> There's an old World War I song about a parade in which "they were all out of step but Jim." In the past too many physicians and medical societies have failed to keep pace with community activities. But doctors of Batavia, New York, recently participated in a parade and demonstrated that they were definitely "in step" with their community.
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> The occasion was the celebration of Genesee County's 150th anniversary. One of the sesquicentennial highlights was the big parade in which a colorful float executed by the Genesee County Medical Society participated. The float was divided in two, showing a surgical operation in "1809—the dawn of abdominal surgery" and a surgical operation in 1952. Across the entire float was bunting with these words: "Genesee County Medical Society, founded 1806" and the seal of the Medical Society of the State of New York.

A number of our physicians also participated in the cast of 500 persons who appeared in the sesquicentennial pageant which was written and directed by another Genesee County physician.

Is a float in such a community parade undignified? We felt that our float definitely had dignity and that our participation in this community project humanized the medical society and brought it to the attention of many, many persons who read only newspaper headlines and listen only to radio programs featuring bebop.

5. In the Citizens' Health Education Campaign, we distributed 4,350 pamphlets through doctors' offices and to industrial concerns, members of the firemen's association, and the employes of Batavia's two hospitals. By employes, I mean exactly that, including nurses, engineers, janitors, kitchen workers, etc. Thanks to our good relationship with the newspapers, additional articles frequently were accepted for publication. In the beginning the chiropractors replied to them. After a time they either ran out of material or just became tired. At least they gave up the battle.

You may have gathered from these remarks that we maintain close liaison with the Public and Professional Relations Bureau of the State Medical Society. That is correct. I have found that the Council Committee on Public Relations and its staff are willing and able to be of assistance to any county medical society that is concerned about publicizing its services to the community.

6. In March and April, we began one of the most intensive public relations programs, I believe, that a county medical society of our size has ever undertaken, namely, the initial pilot project of the Blood Assurance Program offered by the Blood Banks Association of New York State. By the use of newspaper publicity, radio, and five-minute talks by physicians to civic and other organizations throughout the county, we informed citizens concerning the need for blood and how enrollment in the Blood Assurance Program protects their own families. The results have been considered more than satisfactory by the Blood Banks Association and our two local hospitals. The main point I would like to leave with you this morning, however, is that as we participated in this endeavor, we made sure it was publicized to the community as a public service program sponsored by Genesee County Medical Society for the benefit of our local citizens.

Focusing the community spotlight on the county medical society is primarily a matter of devising a program that fulfills the aims and ideals inscribed in the principles of medical ethics and the Oath of Hippocrates. There is nothing new in emergency medical service, mediation committees, health education, or in securing blood donors. These services, however, strike a warm note in the hearts of your fellow citizens. When you provide them, you will find that people are appreciative, and when people are appreciative, it isn't hard to secure recognition for the good deeds of the county medical society.

From what I have just outlined you will probably gather that good public relations for the county medical society means three things:

1. Let your membership know what you propose to do and why you propose to do it.
2. Develop activity along public service lines.
3. Present what you have done to the community via newspapers, radio, and television.

Some of you may question whether it is possible to secure newspaper columns and broadcasting time on a gratis basis. We have found that there is no trouble, provided what you offer is legitimate news.

Activity is news. Names make news. When you couple the two together and underline the public service nature of your project, our experience is that the publishers and broadcasting people will be glad to give you their most valuable possessions—newspaper space and broadcasting time—without charge to the county medical society.

Dr. Naples: Thank you, Dr. Diasio, for your fine talk. As a neighbor of yours in the other end of the State, I personally subscribe to what you said, and I want to say that we, as your neighbors, are very proud of your achievements in the neighboring county.

Would anyone like to discuss this paper? Dr. Dean. Dr. Dean is another Buffalo neighbor who is with the State Health Department.

Dr. Archibald S. Dean, Buffalo: I had occasion in 1952 and 1953 to attend meetings with the Genesee County Public Health Committee, of which Dr. Diasio was a member, and I want to call attention to the ways in which he carried out this program. It has received the full support of the county medical society and the public and has done a great deal to raise the prestige of the medical profession in that area. When Dr. Diasio was on this committee, he drew up a sanitary code for the county because he felt that there was a great need for improvements in the sanitation program carried on by the various towns independently of each other. Then when he found that under the laws of the State of New York, this code could not be adopted by the county board of supervisors as a whole, unless there was a board of health and an executive officer called a commissioner, he got the medical society committee working on that. Previously, the medical society had been opposed to a county health department and had so gone on record, but he said, "Let's investigate this," and they did. They had several meetings. They even made a trip to the Tompkins County Health Department in Ithaca and made a thorough study of how modern county health departments operate. They came back to report to the society and to the board of supervisors on the basis of what they actually had studied and observed and adopted this new form of health service. I think we are all proud of it. The people are very much to be congratulated for having such fine medical leadership in that county.

Dr. Naples: Thank you, Dr. Dean. Any more discussion? If not, we'll proceed to our panel discussion. I'll now turn the meeting over to Dr. Henry Fineberg, who is secretary of our Session on Public Relations. He is past-president of the Medical Society of the County of Queens, member of the Council Committee on Public Relations of the State Medical Society, and chairman of the Public Relations Committee of the Coordinating Council for the five medical societies of New York City. Dr. Fineberg, will you take over and present your panel?

Panel Discussion

Making the Best Use of Radio and TV to Improve Public Relations

Henry I. Fineberg, M.D., *Moderator*, Queens, Council Committee on Public Relations
Lester L. Coleman, M.D., New York City, Producer, TV Programs for the Medical Society of the County of New York
Stephen K. Leech, Syracuse, Executive Secretary, Onondaga County Medical Society

Dr. Henry I. Fineberg, *Moderator:* Thank you very much, Dr. Naples. Ladies and gentlemen, the subject of this morning's panel discussion is "Making the Best Use of Radio and TV to Improve Public Relations."

The success of any panel discussion depends upon the active participation of the folks in the audience. We hope that you have come prepared to discuss the topic of radio and TV with our two experts or that their short, but interesting, talks will spur you on to ask questions or make pertinent comments.

All of you are undoubtedly aware of the tremendous impact that television has had upon American life. TV is fast coming of age, and well-established, well-run stations and networks are being set up in many parts of the country. A recent report of the American Public Health Association has shown that 27 million TV sets were in use during September of last year. There are now 239 stations in 164 cities. Contrary to popular belief, the greatest increase of television usage has taken place in cities with populations of under 50,000 and in farm areas. It is important to note that TV viewing does not drop during the summer months, nor does the novelty of set ownership wear off to decrease viewing.

On the other hand, radio listening and sales have also grown. Here, however, set saturation is near. The trend appears to be more than one radio in a home and multiple listening. Farm listening is high.

It has been estimated that there will be 50 educational TV stations by 1955. The growth of organizations for these types of programs is marked. The Public Relations Department of the American Medical Association informs us that alert medical societies are focusing increased attention upon the use of television to present a positive picture of American medicine and further health education. A great many of our organizations are pioneering in the preparation and presentation of locally produced medical shows.

It has been said that building good radio and TV relations is as important to medicine as establishing and maintaining good press relations. In order to show you what can be done, we have with us this morning two gentlemen—one representing a large county medical society, the other a small county medical society. Dr. Lester L. Coleman is a member of the Medical Society of the County of New York, the largest association of its kind in the United States. He is a diplomate of the American Board of Otolaryngology; executive director of the "Here's To Your Health" television series; author of "Freedom From Fear," which will be published next month; and director of Audio-Visual Education of the National Foundation of County Medical Societies.

Ladies and gentlemen, I give you Dr. Coleman, who will discuss the use of radio and TV by a large county medical society.

Dr. Lester L. Coleman, New York City: My talk is going to be a very informal presentation of the concepts which motivated our drive to disseminate medical information to the American people. In order to do so, let me tell you something about how the Medical Society of the County of New York first accepted the entire concept of departing from the pre-established notion, the orthodox classic behavior in the relationship between doctor and patient, when they first accepted the idea that we physicians should break away from those patterns and actually show our faces and let our voices be heard without anybody directly or indirectly accusing us of the bugaboo of self-aggrandizement. I remember when first we produced one of our early shows on cancer at one of the major hospitals in New York City. This show, incidentally, went out across the country and for the first time taught the American people not the basic fears implicit in the statistics with which we are bombarded, but showed to them the concept of hope that lies implicit in the accomplishments of the doctor and the scientist in American medicine.

I remember the day we first did this show. At a meeting of the Society's Board of Trustees, which terrified me I must confess, one of the doctors said, "Do you realize, Dr. Coleman, that we're actually going to show our faces to the American people?" He said, "Do you know that when I did a film recently, in order to keep within the established confines of 'ethics,' I never even mentioned my name on the film?"

My next question was, "Well, why did you show your face? If it was a problem of personal aggrandizement, then why didn't you hide completely in this false concept of anonymity?"

At that time I told him what I will tell you now, and this I say in camera. Ours has been a departure from this kind of nonsense of the pre-established concepts of so-called medical ethics which were fine for our forefathers whose limitations in disseminating medical information lay in person-to-person relationship.

Now let me epitomize how I feel personally about ethics. This may not be your concept, but it is mine. There's a wonderful story of a little fellow who said to his father, "Papa, what is the meaning of ethics?" And the father said, "I really can't tell you what the exact meaning is, but let me tell you a story to illustrate it. You know that I sell hats. Let's suppose a man came into my store and bought a hat, a three-dollar hat, and gave me a ten dollar bill. So, I wrapped the hat. Well, I took the seven dollars and before I could give him the seven dollars, he picked up his hat and walked out. Now, I stood at the door with the seven dollars in my hand. I really could have gotten him. Now, son, let me tell you. Ethics is—should I or should I not tell my partner?" This is the kind of distortion that goes on in the whole matter of ethics in the interpersonal relationship between doctors and patients.

We were motivated in going out over the air, initially, by the desire to replace fear and anxiety with the feeling of encouragement and hope. We felt that the American people were bombarded with a tremendous amount of mathematics, which, unquestionably, was a product of propaganda by fund-raising organizations who have learned the technic that says, "You can scare another dollar out of this or that person by fear." The result is that these people use all kinds of ingenious devices in order to use fear as the means of exploiting the American people. If we actually believe all the mathematics that are thrown at us, the American people in 1960 might well be living under this kind of a statistical shadow. One out of every five people will be dying of cancer, while one of 20 will be in a mental institution, where some of us will be visited by our kids with cerebral palsy and rheumatic fever, while the one with analytic neurosis will be at home with his analyst. If we superstratify this kind of nonsensical statistical bombardment with the fear of economic upheaval, the fear of atomic destruction, the number of people killed in week-end accidents, then if we're alive by the tenth of any given month, we will be pretty lucky. This is the penalty we've begun to pay for this outrageous exploitation of fear as a technic. As a matter of fact, you'll find that these propaganda organizations devote themselves with all kinds of ingenuity to see that they maintain their diseases as the number one killer because, if they don't, they have found that the grab shows a decrease in the amount of money received.

When we assessed our limitations and evaluated our objectives, the second purpose was to see if we could solidify a relationship, a good healthy relationship, between the doctor and the patient. Let us not be naive about the fact that our relations are bad. They're perfectly wonderful. There are isolated cases in which the relationship between patient and doctor is bad, but there are isolated cases in which the relationship between all people who sell and all people who buy is bad. I think ours is very good, which is substantiated by the fact that all my patients love me and all your patients love you. In spite of the fact that there are occasional upheavals in the relationship, I've never known a good relationship between doctor and patient that has been destroyed by some peculiar kind of medical exploitation in the lay press.

I'm going to tell you a rather interesting thing that we've learned from television and radio. We've made a radical departure in all our men who have been on the program. Their faces have been on, their names have been on, their addresses have been on, and it is the common consensus of opinion that not one single individual on our television shows, which have been seen by millions of people all over America, has ever been able to trace one single solitary patient who came to him by virtue of this technic. If we learn this, we learn one of the greatest factors in disseminating good relationships among all of us because every time you see another man mentioned in the newspaper comes the old feeling of self-aggrandizement.

Now let me tell you, gentlemen, that I have been in newspapers by virtue of the work we have been doing. I've written lay articles, and I do a tremendous amount of writing. As a nose and throat surgeon, I have yet to see the first case that I can directly, or indirectly, attribute to constantly being in the so-called press and radio limelight with my name standing out in bas relief.

We did a rather interesting study. We received hundreds and hundreds of letters from all over the country, and we answered every one of these letters. We said to the people, who wrote us following our television series: "Thank you for your communication. We are delighted that you saw our show, and we're particularly interested in your question, but let us tell you that medical information is not the private problem nor the private property of any one single individual, or groups of individuals. Your local physician in your local community knows all the answers that the so-called professors on our program have told you. Go to see your local physician in your local community. He not only knows the answers, but if he doesn't know the answers, allow him to have the right to look it up and find how to direct your activities."

An interesting phenomenon occurred. We received another series of letters from doctors to whom these patients had gone with the original material and with the letter. The letters from the doctors contained a common denominator which said: "Thank you for having helped us to solidify the relationship between us and our patients." Actually, therefore, what stands out initially as significant of self-aggrandizement can be converted to excellent public relations.

We've learned a great many other things about television, its uses, and its technics. What we began now is used in about 90 cities all over the country with remarkable success. Nowhere, but nowhere, is there a feeling that one man, by being on a television show or by writing an article in any local newspaper, has in any way altered the relationship between other patients and other doctors in the community. And this is the one, single, healthy landmark in the advance that has come to us by virtue of new technics and teachings.

Dr. Fineberg: Thank you, Dr. Coleman. I am delighted that Dr. Coleman, Mr. Blakeslee, and Dr. McClintock have seen fit to talk about the so-called mysticism of medicine and the concept of an open, sincere, and understanding relationship between the laity and the doctors.

I believe it was Louis B. Seltzer, editor of the *Cleveland Press* who, a few years ago, recommended that the physician should come down out of his ivory tower and into the sunshine where he belongs.

Virgil M. Hancher, president of the State University of Iowa, in discussing the social responsibilities of medicine, once had this to say about doctors:

> They have never been garrulous in their dealings with their patients or the public. Hence, there is much mystery and misunderstanding about the possibilities and the limitations of the art and science of medicine. Medicine has a wonderful story to tell. At the risk of being garrulous, doctors should tell the story, and should tell it again and again.
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> There is a rising tide of criticism against the medical profession. Far too high a proportion of that criticism is ill founded and is based on ignorance and misunderstanding. Some of it has been based on the unwise attitudes and practices of certain general practitioners and certain specialists in the profession. It will be difficult, if not impossible, for the laymen to understand these problems and to bring them to solution without the leadership of the medical profession.
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> The tremendous advances which medicine has made in the last century and the magnificient story which medicine has to tell of its expanded services to the American people are so great that we should not risk damage to the medical profession by unwise legislation in these latter days.
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> The most important thing which doctors can do for American society, and a responsibility above all others which I believe they must bear, is to continue the rapid development which the profession has experienced in the past century; to bring its services understandably to the attention of the American people, and to see that doctor and patient, and patient and doctor, work together in sympathy and understanding for the solution of our common problems.

Radio and TV can help us to bring this about.

Mr. Stephen K. Leech is executive secretary of the Onondaga County Medical Society, with a membership of 535. He has been sales manager for the Blue Cross Plan of Delaware and a public relations representative for the Medical Society of the State of New York. He will discuss a small county medical society's activities in radio and TV.

It gives me great pleasure to present to you—Mr. Leech.

Mr. Stephen K. Leech, Syracuse: The Onondaga County Medical Society has been utilizing the medium of television for the past three years. Programs are presented weekly from January through May of each year. At the end of this month we shall have concluded a total of 63 programs during the three-year period.

Our show is presented and produced as a public service by NBC's affiliate station in Syracuse, WSYR-TV. This station, incidentally, is the most powerful low-channel station outside New York City, and program reception reaches as far north as Canada, as far south as Binghamton, as far east as Herkimer and Little Falls, and as far west as Rochester.

Our television program is a segment of a one-hour show known as "Ladies Day," which is beamed at a feminine audience and is presented daily over WSYR-TV from 2 to 3 p.m. TV ratings indicate that the program has a minimum listening audience of 50,000 persons. The show is "emceed" by Miss Kay Russell. Our show is known as the "Meet Your Doctor" series and is appropriately introduced as a presentation of the Onondaga County Medical Society by the use of three slides. These are accompanied by a live announcement which goes as follows: " 'Meet Your Doctor,' presented every Thursday by the Onondaga County Medical Society in cooperation with WSYR-TV. When in need of a doctor or medical aid and advice, phone the Medical Society exchange, 74-3961." Program time averages fifteen minutes, although it varies with the type of program. Our longest show ran for twenty-five minutes.

We attempt to cover as many health subjects of general interest as possible. In fact, our shows run the gauntlet from pediatrics to geriatrics including such topics as prenatal care, cancer detection, heart, accidents to children, orthodontia, and polio. We use local doctors on the show, with the exception of certain programs where we feature public health nurses, dentists, and other personnel affiliated with the health field.

It has been the policy of our Public Relations Committee, which is charged with the responsibility of selecting the physicians who appear on the program, to use, whenever possible, the younger physicians in the county. By employing this method, the Public Relations Committee feels that it is giving a well-deserved hand to physicians just starting out in the practice of medicine. To show how well this theory sometimes works, a young ear, nose, and throat specialist acquired two patients requiring tonsillectomies within a week following his appearance.

Most of our programs are of the question-and-answer type. However, for those of you who are contemplating television, I might tell you that all television stations are looking for visual aids to implement question-and-answer programs. Straight question-and-answer programs, as a rule, do not pack quite enough punch for the listening audience.

We have resorted to several devices to enhance the viewing and listening appeal of our programs. One of the most successful of these gimmicks has been the use of live babies for certain types of shows. We have had remarkably good luck with the babies as actors and actresses. However, we almost abandoned the babies as a feature of our show the first time we used one, because the baby wailed like a banshee for one-half hour prior to going on the air. On that particular day we had a pediatric show, and everything revolved about the infant. As the baby cried louder, the consternation at the studio became greater, because television studies take a dim view of having crying babies on the air. Fortunately, the youngster snapped out of it at just the right time and proved to be a perfect ham, with the result that we received more fan mail on that show than on any other during the course of the year.

On another program we demonstrated how to take care of a sick patient in the home. We rigged up a bed in the studio, complete with live patient. Apart from the usual patient care routine demonstrated on this show, we also told the audience how to save money by making such devices as bed trays from cardboard and bedroom slippers from ordinary newspaper.

One show that gave rise to fear of public repercussion was the one we had on alcoholism. One of our leading psychiatrists in the course of discussing this topic made the bald statement that alcohol was a distinct asset to gracious social living. I happened to be sitting in the control room of the studio at the time this remark was made, and the control man threw up his hands and said, "My God, here come the letters from the W.C.T.U.!" However, his suspicions were groundless since we did not receive any protests.

Our TV presentations have also featured sound films. We shoot a five to eight-minute movie of the particular subject to be presented, and then the physician on that program describes the action taking place on film. Thus far we have used films dealing with cerebral palsy, heart, tuberculosis, and speech and hearing. We have also used models and x-rays for other shows.

One of the questions which has bothered some medical societies has been the problem of the type of commercial surrounding the program. As you know, we would not wish to have any fly-by-night drug companies or similar commercial firms latching on to our coattails in an effort to benefit from our show. While we have no direct rights in the matter of sponsors, we are fortunate in that the program only carries such topnotch advertisers as DuPont, Johnson's wax, Swift and Company, Coca Cola, etc.

To publicize our program, we have used feature stories in the local press. The station advertises our program in the local press three to four times per month in addition to plugging the show with spot announcements throughout the week. Here are some sample ads (*Visual aids*). Of course, we also put schedules of our television program in our county medical society *Bulletin* from time to time. Next year we plan to experiment in this regard by placing placards in doctors' offices urging patients to watch our show. We have also had some recognition from the A.M.A.'s Public Relations Department, which has used our scripts as part of its public relations kit, and we have been featured in *T-V Guide*.

One of the "must" ingredients for the success of any television production is the cooperation and talent extended by the station. We have been very fortunate in this regard. Miss Kay Russell, who "emcee's" our program, has the knack of restraining doctors from using technical phrases and for keeping the program on a plane which the audience understands. She also has an invaluable talent for putting physicians at ease during the performance. All personnel of the television station have been equally helpful.

All of this costs us relatively little. We pay only for the cost of such films as we shoot (last year this cost was $100). At the conclusion of our yearly series we give a cocktail party for the station personnel concerned with the show. Thus, for a total cost of less than $200, we not only perform a valuable public service but also make an important contribution to our public relations program.

Dr. Fineberg: Thank you, Mr. Leech. Here we have some very fine examples of what can be accomplished by a very active, community-minded, small county medical society. Now, ladies and gentlemen, the meeting is yours. We welcome questions or comments from the floor. The panelists are ready.

Dr. Irving Sarnoff, Brooklyn: I certainly enjoyed both speeches, and I want to congratulate Dr. Coleman for the wonderful work that he is doing on television. I think that of all of us here I was probably one of the first men who was interested in making visual education part of the medical profession. I might tell you one of the stories about it. I started in 1917, and when I first began to show some pictures of anatomy and some medical and surgical subjects to the medical societies, my chief told me, "Dr. Sarnoff, you'd better quit showing movies because it is very improper. If you don't stop, I think you might lose your membership in the society." I replied that I would go right ahead. That was in 1917 or '18, but now I think everyone agrees that visual education is a wonderful thing both for the medical profession, the allied professions, such as nurses, and especially for the public.

Now I just want to make one comment to Dr. Coleman. I think I have to side with you. I'm a little bit older than you, and I'm a little more known in the field of visual education, yet I don't think that I've had a lot of patients coming to me because of my motion pictures. Of course, maybe I've missed one or two. Now, with regard to radio and television, I think that, as Mr. Leech has said, motion pictures are very important in making the television program interesting because it is impossible to get everything you want in live programs. You can get a lot of wonderful material from all over the country from the various organizations, medical and otherwise, with which you can implement your television program. It is a wonderful thing to have a meeting of this sort where misery loves company or vice versa, and it is wonderful to be here.

Dr. Fineberg: Thank you, Dr. Sarnoff. Those of us who live in the metropolitan area are well acquainted with Dr. Sarnoff's pioneering in the medical film program. Is there anybody else who would like to say something. Dr. Coleman, do you want to make some remarks about movies?

Dr. Coleman: Yes. If I may just refer to Mr. Blakeslee and his attitude, I think these people have been a remarkable group who honestly and sincerely have taken over the reins of disseminating good, healthy information to the American public, where you and I have failed because you and I have been afraid that we would be chastised by the powers that be. Very often these powers that be later on reveal themselves as being monuments with the proverbial clay feet. I remember the fear that my name would be on television, and I revert back to this constantly. My name would be on television—this was like being caught dead in the wrong spot.

I remember that in one of our shows going out to some 20 million American people and costing us about fifteen hundred dollars a minute, we were twenty seconds short. The result was that we had twenty dead seconds with nothing happening. Now, this creates a minor panic, which is slowly converted into a great catastrophe. To think that twenty seconds are being wasted and that it doesn't finish NBC on the button. There I could see twenty seconds, a thousand dollars, going to waste, and I remember the producer holding his breath and hoping that the seconds would go by faster and looking at me and saying, "Lester, what were you thinking of?" And I said, "The only thing I could think of was how wonderful it would be if 'Lester L. Coleman, 162 East 80th Street, Office Hours 9 to 10, 10 to 11, 11 to 12. Open all Saturdays, Sundays, and Holidays' could be said."

Now this epitomizes my attitude. I think we have matured. I think that people all over the State are doing a fabulous job in public relations. And I think that when we become adults and mature in our attitudes, mature in our behavior, and mature in the belief that every man who writes for the laity and tries to teach the American people is not putting his hand in your pocket but trying really and honestly, as an educator, to do a job on a mass basis that we are individually doing in our office. I think this is healthy and good. I believe that in this departure from these preconceived notions, we've gone a long way to solidifying our relationship. I wish we could get Bob Potter to say a word.

Dr. Fineberg: Yes, I'm going to call on him, Lester. But, evidently, some of our societies are beginning to see the light. Mr. Leech has just handed me some advertisements from their local paper, and I've never seen these before. "Meet your Doctor on 'Ladies Day,' with Kay Russell and Paul Abbott. Tomorrow's guest provided by the Onondaga County Medical Society will be the ear, nose, and throat specialist, Dr. X, tomorrow 2 P.M." And it gives the station. I've never seen these. This is something new. I don't know whether our society would go along with this. Here's another one: " 'Meet Your Doctor'—Dr. Y, specialist in prenatal care." Here's another one: " 'Meet Your Doctor! Tomorrow's guest doctor provided by Onondaga County Medical Association will be a lung cancer specialist." How do they feel about that in Erie, John?

Dr. Naples: We haven't gotten to that phase of it yet. We haven't had any experience with it at all.

Dr. Fineberg: Well, it's something new. I think it's a pretty good idea, myself. Bob Potter, we'd like to hear from you.

Mr. Robert D. Potter, Executive Secretary, Medical Society of the County of New York: Our experience with our television show has been a happy one, and I think it's conceded that our efforts and the efforts of Dr. Coleman really led to the national network television program of the American Medical Association, "The March of Medicine." They succeeded us on the spot on the NBC network for the good reason that NBC could obtain a commercial sponsor for that program, the pharmaceutical house of Smith, Kline and French. At that stage, instead of spending, I believe, something around six or seven thousand dollars a show, NBC could have the cost returned to them in the way of charges to the sponsor. So while we are a little bit regretful, we understand the situation and have no hard feelings.

In our program we had a couple of off-the-cuff sponsors, shall we say. I remember one excellent TV program on deafness. When it came on the air, or thirty seconds before it came on the air, the spot commercial for one of the leading hearing aids in the nation was announced, and at the conclusion, when we were off the air, there was another thirty-second spot announcement. In other words, we were wrapped up by a commercial sponsor. At this time we were debating within our committee what type of sponsor we could take if we could get one. This proved to us that you can talk all you want, but you may wind up with one, as in this instance, over whom you have no control.

We are hopeful that we can obtain commercial sponsorship for our program. Dr. Pisani, who is seated behind me, is on that committee, and I think that he can bear me out that the thinking within the committee has changed markedly in the last two years. We first thought of a foundation as a commercial sponsor. That would have been preferable. If we could have had a Rockefeller Foundation sponsor us, we might have approved of such sponsorship. Then we thought of large pharmaceutical companies, and we didn't want to pick out any one because we didn't think that penicillin made by Lilly was any better than penicillin made by Squibb and so on, so that we sort of barred any such approach. We thought maybe we could deal with a pharmaceutical association of all the drug companies, but we quickly learned that like some of the activities in the medical societies, it becomes very complex when you go to a trade association.

I think, though, that when Smith, Kline and French came on as a sponsor for the A.M.A. program, that opened our eyes. We realized that we were sitting up on cloud five. The A.M.A. didn't think that was quite necessary. Also as part of the change in our thinking was the acceptance by Bishop Sheen, of the Catholic Church, of sponsorship by Admiral Radio, and we began to realize if you could sell radios and TV sets of a commercial firm on a Bishop Sheen program that maybe we again were off in left field.

I'm very hopeful that this change in thinking in our committee will be permanent. I'm quite convinced it is. I think that any society that wants to shoot for commercial sponsorship should approach it not with tremendous ideals, but with the thought that they should have the veto power over the commercial sponsorship. I don't think that you'd want to have them plugging cigarets on a medical show, not in this day and age. But, you might very well have a product advertised, providing you had discovered that the commercial is written in good taste and with dignity.

Dr. Fineberg: Thank you very much. As you know, the subcommittee that Dr. McClintock was talking about met with representatives from the press, radio, and television, the Association of Science Writers, Association of Magazine Writers, and other organized means of public information. It was interesting to find that the folks in the television and radio business want us to set up panels of experts whom they can call upon in case they have to put on a show. We in New York are now going ahead with that type of program. We're studying it. We've been asked to set up a panel of experts in the various specialties, and we will submit that list to the television and radio people, and I hope that it will be approved by the five county medical societies in this area. I think that's the beginning, and it's a good beginning. Are there any other comments? Dr. Coleman, would you like to sum this thing up?

Dr. Coleman: I think that as long as we are adult in our behavior and not afraid that our practice will be threatened by our neighbor who writes, teaches, or goes on the air, we will lead to a real approach to teaching medicine on an adult level to the American people who deserve it. I might also make the point that more and more good health and good science are no longer the private problems of the doctor. Medical jargon is now the possession of the patient to whom it belongs. The magical, religious halo over the doctor and his mysticism of words is being stripped slowly, and in this, too, lies a wonderful relationship. We are no longer in the era when a patient comes in and forces us, without modesty, without humility, to give him an answer. I think that when the patient realizes that we, too, have rights as human beings, that we have the fallacies of being human, that we have the right to say I don't know but I will find out, this, too, is adult. We have gone by the era when the patient asked a question to which we didn't know the answer, and we created fiction to which we added an enigma with polysyllabic words, and the patient walked out, saying "Brilliant!"

Dr. Fineberg: I agree with you. The public is interested in medicine. Those of you who attended the banquet last night heard Mr. Motley, the publisher of Parade Publications, talk about medicine in the press. He is hiring more and more scientific writers because he finds that people want to know about medicine. They read medical news, and I think that television and radio are in the same line. Dr. Cane, of Nassau County.

Dr. Walter B. Cane, Nassau County: Mr. Chairman, I feel this is about the time to say a few words about what Dr. Coleman, Mr. Leech, and Dr. McClintock brought out about publicity for the doctor, when he goes on the air or when he is in the public limelight or in the papers. I believe that I can enlarge upon this, shall we call it, controversy. Dr. Coleman said that he has never heard of anyone who has had one more patient than he usually does because of this publicity. I can personally testify that doctors lose patients by doing that sort of thing. I have been a public relations chairman of my county society for six years. This is the seventh year, and, as far as I know, I haven't seen one patient due to the fact that I am public relations chairman, but I have lost some. At one of our dinner dances I met a doctor whom at frequent intervals I have telephoned to go out on a speaking assignment, which he did. When he finally met me (I am a specialist and dependent, of course, on the cooperation of other doctors) and heard of the kind of work I do, which is gastroenterology, he was astonished. He said, "Why didn't you tell me before? I thought you were employed by the society on a salary basis." That made me feel that the doctor who believes he has a message for the public should present his message, and his name should be mentioned and his picture should be shown. We have to get away from this old-fashioned code of ethics that the doctor's name shouldn't appear. There is no fear of publicity, and there shouldn't be hope for publicity for anyone who goes before the public. There is no publicity for anyone as far as personal practice is concerned.

Dr. Fineberg: Thank you, Dr. Cane. Yes, Dr. George?

Dr. Alfred L. George, Batavia: I think that in the past we made a great to-do about the possibility of getting patients because a doctor writes an article for lay consumption, talks on the radio, or appears on television. The scope is far greater than that. We are trying to put forth for our public some understanding of some of the problems in a true scientific sense, rather than having them get distorted information from many lay writers who are interested primarily in writing an article that is going to have some impact on their readers.

Actually there is much more publicity given certain physicians by lay writers who put these physicians up into a higher light and ascribe to them cures far greater than what they are trying to accomplish. No, nobody objects to a doctor joining a country club and perhaps picking up a patient or two. That's all right. Or going to a cocktail party and picking up a patient or two. I think it is a question of approach. We would object to a doctor going to a cocktail party or a country club and telling everybody that he is the best man in a particular field and that "you ought to come around and see me," or trying to solicit patients. I don't believe that the men who are appearing on radio programs or on television programs are trying to solicit patients.

It is a question of taste. From the experience I've had and the programs I've appeared on (I've been fortunate enough to appear on Dr. Coleman's program), the whole thing is done in such wonderful taste that I don't think anybody, any member of our profession, could accuse the men appearing on such programs of advertising.

Dr. Fineberg: Yes, Dr. Naples.

Dr. Naples: Along with what was just said, I'm reminded of a certain incident. Some years ago, I think that we were one of the first societies that had a radio program. Incidentally, it didn't cost us a nickel. One of the stations donated to us the twelve o'clock program every Saturday. All the mothers and kids were at home, and it came at an opportune time. The station even supplied the personnel, paying them out of their own pockets. We went on with that program for several years.

The only people we ever had any trouble with was an occasional doctor who didn't want to do anything for the county society, and he'd be the fellow who would squawk. He would say, "Well, Naples has some more of his friends on the panel." I think there is only one way you can get around this type of criticism. This one fellow was ranting away down in the staff room one day, and I finally said to him, "How would you like to trade jobs? How would you like my job?" I never heard any more from him. We used to take a sort of cross section of the town and get doctors from each hospital to put on the panel, and anytime anybody would squawk, I'd go right up to him and put him on the panel. He either got on the panel, or he shut up. I think this is probably what we ought to do with some of them.

Dr. Bernard J. Pisani, New York City: In the absence of Dr. Allen, who is chairman of our Public Relations Committee, I'd like to say a word, having been a member of this committee for the past five years. When first we were presented with the program that Dr. Coleman has discussed today, the committee, which numbers about 20, was a little at bay. Because of Dr. Coleman's excellent presentation, we didn't know whether we were going to have, or had in front of us, one of the experts on television itself. As you can tell from Dr. Coleman's work, this has been truly a hobby and a very expensive one. The point was that here we had, it seemed, a master of ceremonies who would be excellent if we wanted such. We had everything. We had a Jack Benny if Lester wanted to be that. We had an expert.

Through all of this, Dr. Coleman has maintained a balance for the society which I think you gathered today. My point is that we were not certain at first because he came as an expert in his particular field, in medicine first and television as his hobby. I feel that he is an outstanding man in the field. I wonder if he would mind explaining to us some of the little cross current of the "Here's to Your Health" program telecast nationwide.

Dr. Fineberg: Dr. Coleman?

Dr. Coleman: As a concession to Dr. Pisani, please permit me to speak again because Dr. Pisani has been a real bulwark of dependability for me in all of our meetings. I might say that I came up to the county society clean and fresh. I knew no one. I am not interested in the machinations or intrigues of organizations. The result was that with no precedent in television, these people looked at me and said, "Well, what can this man, who apparently is glib, say? What can he do, and how can he violate our contractual relationship when once it is established?"

And I might tell you that there were dozens and dozens of meetings during which time I presented what I wanted, what our hopes were, and they looked at me. They investigated me, I subsequently learned, and the only thing that they could determine was that I was practicing medicine and that I was making a living out of it. I might say, incidentally, that by virtue of the fact that I had established myself in my own field, I could do these tangential things without anyone feeling, "Well, he's not doing so well practicing medicine, therefore, he will go into greener areas." That was not so.

We learned some very interesting things. We decided first that we were interested in presenting medical education without distortion and without confusion to the American people. There were only one or two requisites that we made, and one was that at no time could there ever be any pressure put on us by any single group to choose a specific man to appear on our program. What I would do was to take a group of 20 men from all over the country and submit this group to our broadcasting committee and tell them that they had the right to remove the name of any man whom they felt did not fall into the category of an expert in the particular field we were talking about. This was one of the prime requisites.

The second requisite was that at no time could our program be used to alter, change, vary, or affect any legislation. This was going to be a medical program for lay distribution without any political objectives in mind. And this has kept our program remarkably healthy. This is not a place for us to determine the political aspects of medicine or the social destinies of medicine. We would select these men from all over the country, and we'd bring them here. Dr. George was kind enough to come down to appear on our obesity show. We found that at no time in the thousands of letters which we received were there any objections to any one of the people by patients or by doctors. Is that the point, Dr. Pisani, that you wanted? We brought doctors from all over the country. We would try to pick specific people but were hampered by those special things.

You must know that fundamentally audiovisual education is a very tricky thing. Having a dull, brilliant man serves no function. The fundamental approach in audiovisual education is that if you want to teach, you must first make it palatable. You've got to have a man who is good to look at, or a woman, which is easier, who is glib and who at the same time can project himself or herself in a warm and personal way because with a little click your destiny on television is over. So you must make this palatable.

I'd like to make another point, if I may, and it is this. We started initially in our objectives, and we said, "Well now, we are going to take this on a fine, cultural level. We are going to hit all those people who have had a college education, and we did just this on one or two shows. We found that nobody knew what we were talking about. We then decided that we were going to do a blood show, and we had a girl who was assigned by the National Broadcasting Company write the material. I sent her over to see one or two men, and she developed, during the period of ten days, a tremendous interest in the RH factor so that from her point of view she wanted to write only about the RH factor. I than took this script and was forced to rewrite it twenty-four hours before we went on the air. I said to her, "You must forgive me, but I must rewrite this because we now know that the American people must be taught on the level of high school students, one year of high school, if you're to make your point. And to substantiate this theory, one week from today I am going to ask you three questions about the RH factor, and if you answer any of them right, I'll be dumbfounded."

We had a brilliant man come from the University of Pennsylvania who told all the wonders of RH and all the wonders of blood compatability. All the letters from our audience mentioned the fact that the doctor emphasized the whole business of blood clotting. He had said, "Now this should teach you that if you cut your finger and you do this with a handkerchief and hold this for three minutes, it will stop bleeding." This was the only thing they remembered.

Dr. Fineberg: Thank you very much. I know that the men have monopolized the meeting this morning. How about the ladies? Would they like to say something? I can't understand it. They're not usually that quiet. Are there any other comments? If not, I would like to thank Dr. Coleman and Mr. Leech and all you fine people in the audience for coming here to make this panel discussion possible. I'd also like to thank Mr. Miebach, the director of our State Bureau of Professional and Public Relations, and his staff for doing all the jobs and chores in actually setting this program up. And now, I'd like to turn the meeting back to our chairman, Dr. John Naples, of Erie County.

Dr. Naples: Thank you, Henry, for a job well done. Ladies and gentlemen, you've been very patient, you've been very kind, and you've been most cooperative. I want to thank you all for coming to this meeting. I feel that we've all gained something from it. I think I can say without fear of contradiction that it has been successful. I want to thank each one of the speakers, without whom this would not have been possible. They have rendered the State a big service, and they have done much for me personally.

Dr. McClintock: And I think we ought to thank Dr. Naples for being the Session Chairman.

Liquid Nitrogen in Dermatology—A Successful Method of Treating Plantar Warts

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THE first record of a freezing agent being used in dermatology was in Campbell White's report in 1899.[1] In this and subsequent papers[2,3] he reported on the use of liquid air in diverse skin conditions. Whitehouse[4] in 1907 reported further on its use, stating that with good technic it was a very valuable agent. The great disadvantage at that time was that liquid air was not available commercially. In 1910 Gold[5] stated, "as to the comparison of liquid air and carbon dioxide snow, in every respect, when the opportunity of using both has been given, then there is no hesitancy in saying that liquid air is far preferable." By 1928, liquid gases having become readily available, Irvine and Turnacliff[6] reported on the use of liquid oxygen in the treatment of warts with excellent results. They emphasized that it provided a sure, quick, and relatively painless method of removing warts; that it was equally efficient, more easily handled, and less painful to apply than carbon dioxide snow. Kile and Welsh[7] in 1948 stated that since liquid oxygen is 170 F. colder than carbon dioxide snow, it is more effective in cryotherapy, as reported in the treatment of over 1,000 cases of warts, keratoses, hemangiomas, and inflammations of the skin.

The first report on the use of liquid nitrogen in dermatology was by Allington[8] in 1950. He pointed out that liquid nitrogen is quite readily obtainable in urban areas, is not inflammable, and is colder (−321 F.) as compared with liquid oxygen (−250 F.) and carbon dioxide snow (−89 F.). He found it to be a satisfactory freezing agent for treating warts, superficial scarring, superficial hemangiomas, leukoplakia, keloids, and dermatitis venenata. In his series of ordinary warts 82 per cent of lesions were cured with one treatment and 96 per cent with two treatments. In the case of 14 plantar warts he found that 65 per cent of individual lesions responded favorably.

This paper will describe the author's experience in treating plantar warts over the past eight years. The increasing incidence of plantar warts and the lack of a satisfactory treatment for this annoying condition prompts this report on 63 patients having 79 warts treated with liquid nitrogen. All of these cases have been followed for at least a year since treatment. More than a hundred other cases of plantar warts have been treated with liquid nitrogen, but on these the follow-up is as yet incomplete. However, the favorable impression gained in the smaller series seems to be borne out so far in the larger. Another point to emphasize in this report is that all plantar warts, whether small, large, superficial, deep, single, multiple, mosaic, daughter, or the so-called neurovascular corns, were included in this series of 63 cases.

Pathologically plantar warts may vary from a shallow moth-eaten depression in the epidermis of the sole to an actual tumor extending through the plantar fascia to the metatarsal bone. The virus lesion may vary from a few millimeters to 2 cm. or more in diameter. The lesion arises in the epidermis and grows laterally and inward due to the pressure of weight-bearing. As it enlarges inward, it attaches itself to the tissues contacted along the way, i.e., the dermis, the subcutaneous tissue, the plantar fascia, or even the synovial sheath about the metatarsal joints. Thus it obtains new sources of blood and nerve supply and becomes more resistant to efforts at eradication. Examined after removal, some of the deeper penetrating plantar warts resemble a large thumb tack, with the point directed into the foot. Warts of long standing are frequently imbedded in callous growth or covered by a greatly thickened horny layer.

This layer of epidermal armor must be removed by repeated applications of 40 per cent salicylic acid plaster before attempting to treat the wart itself. Any secondary infection must be eliminated before treatment is begun. An extremely painful wart should be examined critically before this method is used. Deformities or congenital abnormalities which result in abnormal pressure on and ischemia of the tissues involved may make cure impossible without first correcting the underlying cause. Diabetes or tabes or Raynaud's disease might impair healing. In other words, this method of treating plantar warts is recommended for the average case uncomplicated by the conditions mentioned above.

Liquid nitrogen is a byproduct of the manufacture of liquid oxygen. It is a colorless, odorless, nonstaining liquid with a temperature of −319 F. It is kept in the office in an insulated 1 or 2-L. pyrex flask, being obtained from the Air Reduction Corporation each Monday and Thursday, thus insuring a constant supply. Patients, previously examined, are treated in the office. The wart is outlined with ink, and freezing is accomplished by applying liquid nitrogen to the wart with a cotton-tipped applicator. By using two applicators the freezing is continuous; one applicator held in contact with the wart, the other resting in the flask. The wart is frozen for fifteen minutes. Depth of freezing is regulated by the amount of pressure exerted. No thawing is permitted once the treatment is begun. This is the average time required to insure the formation of a good blister or bulla beneath the wart, which is the secret of the success of this method. As the fluid pressure within the bulla increases, the wart is lifted out of its bed, leaving no other attachments remaining except the epidermis. Frequently the bulla becomes filled with serosanguineous fluid, due to rupture of the various capillary attachments, as separation takes place.

As a rule this bulla is left intact for one week when it is opened at the edge, drained, and the entire wart-bearing epidermis is cut away. The point of its former root attachment is readily seen. Occasionally, with very deep warts the central stalk is still attached. This usually shells out with slight traction and blunt dissection, thus removing the wart in its entirety. A raw crater remains after the wart has been cut away. This is covered with a sterile pad which the patient is instructed to change daily. Postoperative infection has never been encountered, and healing is rapid and painless. The site is frequently entirely healed in one week. There is no postoperative scar. Pain is minimal after the wart is excised.

Most patients with single warts continue at work following treatment. Those with three or more warts treated simultaneously usually do better if weight-bearing is kept at a minimum until healing is complete, usually from one to two weeks. Most patients are treated in the office and remain ambulatory. A sponge rubber pad is worn over the dressing for an indefinite time to protect the area from further trauma. Metatarsal pads and sensible shoes are recommended to correct faulty weight-bearing.

A few cases have required a general anesthetic in order to attain the required depth of freezing. Among these are the following: (1) patients with multiple warts, (2) patients with very large warts or neurovascular corns, (3) children too young to cooperate, (4) high-strung, nervous individuals, in whom sedation would be advantageous.

When hospitalization is required, the stay is brief, usually one day at the most.

Summary

This report briefly describes the experience in treating 63 patients having 79 plantar warts. Liquid nitrogen was used. Sixty-two patients were cured for one year or more. One patient with a painful neurovascular corn of twenty-three years duration failed to remain symptom-free. The wart recurred about five months after being removed with liquid nitrogen. Although warts of all sizes, whether single or multiple, were treated, there were no postoperative infections. Healing was rapid, and except in cases requiring an anesthetic, there was little or no time lost from work, the patients remaining ambulatory. The method described is an office procedure and requires no special equipment.

117 East Seneca Street

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There is a time to wink as well as to see.—Thomas Fuller

CLINICOPATHOLOGIC CONFERENCE

NEW YORK MEDICAL COLLEGE AND FLOWER-FIFTH AVENUE HOSPITALS

DEPARTMENTS OF MEDICINE AND PATHOLOGY

Conducted by LINN J. BOYD, M.D. MAY 7, 1954

Case History

Two weeks before admission to Flower-Fifth Avenue Hospitals this forty-eight-year-old, single, white female was awakened by "boring pain" in the right hypochondrium. The pain was not intense but was slightly aggravated by deep breathing. It did not radiate, nor was it accompanied by fever, cough, or gastrointestinal complaints. Her physician was able to alleviate the pain which persisted, however, until admission on March 31, 1954.

PAST HISTORY.—Her past history is extensive. At twenty she received her master's degree from a midwestern university and was studying for a doctorate when she had a nervous breakdown, attributed to environmental conflicts, psychoneurosis, and "organic deterioration." Since this time she had been hospitalized for pyelitis which was characterized by high fever and slow recovery, mumps, and measles which were followed by slow recovery. While teaching school between 1940 and 1948, she had three or four undiagnosed febrile episodes associated with nausea, vomiting, somnolence, and undue fatigue. Apart from colitis and the nervous breakdown she was also hospitalized for an acute abdomen, but the ultimate diagnosis was right renal ptosis.

In 1948 she was hospitalized for three months for recurrent colitis, inability to work, and ravenous appetite. During her stay in the hospital she had slurred speech, tremor of the hands, loss of facial animation and impairment of judgment, daydreaming, diminished sociability, and drowsiness. Her gait was irregular, but no other abnormal physical findings were noted. An extensive workup failed to disclose other abnormalities apart from a diffusely abnormal electroencephalogram and a pneumoencephalogram showing diffuse surface atrophy of the entire brain and enlarged subarachnoid spaces with exaggerated sulci. She was discharged from that hospital with a diagnosis of "encephalopathy, diffuse, unknown etiology."

When she first appeared at Flower-Fifth Avenue Hospitals in 1952, emaciation was severe, and weakness, somnolence, and dysarthria were prominent. Additional findings included an abdominal mass extending five to six fingerbreadths below the right costal margin at the midclavicular line. The mass was regarded as liver; its edge was smooth, rounded, and nontender. There was severe muscular atrophy but no additional abnormalities. A blood count, urinalysis, sedimentation rate, multiple liver function tests, bone marrow, cerebrospinal fluid, basal metabolic rate as well as liver aspiration biopsy revealed no abnormalities.

In view of the fact that her mother and mother's father had died of "Parkinson's disease," the diagnosis of Wilson's "hepatolenticular degeneration" was entertained. Her father had been long institutionalized as a manic depressive. She was discharged with a diagnosis of "encephalitis, etiology undetermined." An additional diagnosis of cirrhosis of the liver was considered, although she denied alcoholism.

PHYSICAL EXAMINATION ON ADMISSION.—When admitted, she was emaciated, weak, drowsy, and emotionally unstable. Apart from a coarse intention tremor and a hyperactive right knee jerk, there were no neurologic abnormalities. No Kayser-Fleischer ring was present. The lungs and heart were entirely normal; blood pressure was 130/80 mm. Hg. There was an enormous abdominal mass occupying the entire right upper quadrant. It extended six fingerbreadths below the right subcostal margin and four fingerbreadths below the left. This mass was smooth, nontender, and moved slightly with respiration. No fluid was detected in the abdomen, nor were engorged veins visible on the anterior abdominal wall. No varicosities were noted, and angiomata were not seen. The thenar and hypothenar surfaces were hyperemic.

Laboratory Findings on Admission.—The hemoglobin was 11.5 Gm. and the red blood cell count 4,600,000; leukocytes numbered 13,400 with 76 neutrophils. The Wassermann was negative. Neither the urine nor stools contained anything of interest. The sedimentation rate, however, was 120 mm. in sixty minutes (Westergren). Serum proteins were 4.6 Gm. albumin and 1.4 Gm. globulin.

Additional Laboratory Findings.—The blood cholesterol was 255 and the cholesterol esters 194. The alkaline phosphatase was 20.8 King-Armstrong units. The icteric index was 7 units, the thymol turbidity 1 unit, and the cephalin flocculation 1 plus. The prothrombin time was 12.4 seconds and the blood glucose 95.2. The urine showed negative tests for bilirubin and urobilinogen in 1:2 dilution (Wallace-Diamond); Bence Jones protein was absent.

Discussion and Elaboration of the Case

Dr. Linn J. Boyd: Since Dr. McGavack observed this patient two years ago, perhaps he would be willing to open the discussion by a brief reference to his impressions at that time.

Dr. Thomas H. McGavack: At the time we initially saw this patient just prior to her first admission to this hospital in 1952, she was undergoing a rehabilitation program and taking lessons in shorthand and stenography. She was not happy in this vocation. Indeed, she seemed best fitted for linguistic work, which she had previously done both as a teacher and a translator for the government. Shorthand was monotonous, and she rightfully felt that her muscular weakness and poor coordination would probably prevent her from ever acquiring the necessary speed to do it well. This lack of aptitude for the work she was doing accentuated the emotional, mental, and nervous disturbances present. Her extreme thinness, her stoop-shouldered carriage, and the bilateral ptosis of the eyelids made her lackadaisical, sleepy appearance more apparent than real.

In addition to the rather poor adjustment to her occupation, two major and apparently unrelated problems seemed to be present, the nervous condition and the very large liver. From the history and physical findings, the former seemed likely to be either a disseminated myeloencephalitis of undetermined etiology or multiple sclerosis. The very large, nontender, firm, smooth liver was tentatively considered as due to an early cirrhosis with fatty infiltration or to a metastatic malignancy, with little positive evidence of a primary site. The stomach was most strongly suspected, merely on the basis of the frequency with which carcinoma in this viscus is associated with a readily palpable liver. She was referred to the hospital for further study of these problems.

The patient was again seen immediately before the present admission to this hospital. There had been little if any progression in the condition of the nervous system. This led us to favor the first of the two neurologic diagnoses already mentioned. The large liver was still present, but there seemed to have been little change in its size during the two years that had elapsed since the first examination. This apparent lack of progression, her relatively unchanged general health, and the absence of any signs pointing to a primary site for a malignant condition made us feel that our original diagnosis of secondary hepatic malignancy was probably wrong. Further causes for hepatomegaly had to be sought, such as cirrhosis, hydatid cyst, other parasitic infestation, primary malignancy, and amyloidosis. Since the spleen was not palpable, "splenic" anemia, all of the lymphomatous lesions, Gaucher's disease, amyloidosis, etc., could be summarily dismissed.

Primary malignancy of the liver seemed the least likely of the diagnoses offered in view of her two-year survival with no material change in general health. The enlargement of the liver was more diffuse than is usually seen with hydatid cyst. Generalized enlargement is the rule in cases of schistosomiasis, but no history of exposure could be elicited. Reports about her use of alcohol were conflicting, but it was our impression that she used little or none at all. Despite this, cirrhosis of the liver seemed to be the most logical working diagnosis at the time of her admission.

Dr. Boyd: Dr. Nightingale had charge of the patient during the present admission. Would he care to add anything?

Dr. Edward J. Nightingale: I examined this patient when she was admitted to the medical ward. We were faced with a very difficult problem because of her long history of illness and her changing moods of cooperation and uncooperation. In view of her long neuropathic history and the presentation of a large mass in the abdomen, which was thought to be a very large liver, the first thought was of Wilson's disease. It is interesting that the patient gave a long familial history of disease of nervous system. She could trace her ancestry back to the seventeenth century, and almost all of her predecessors had evidence of neurologic disorders. However, in view of her age, the absence of confirmatory findings of a cirrhosis, and the presence of the neurologic phenomenon which did not resemble the classic findings of lenticular degeneration, our opinion was that we were dealing with two separate processes. The neuropsychiatric aspects of this case were believed to be due to either a postencephalitic state or an abiotrophic lesion of her nervous system. Multiple sclerosis was considered as a good possibility.

In regard to her hepatic problem we were of the opinion that we were dealing with a neoplasm. A complete investigation for evidence of the site of the primary neoplasm was advised. We strongly considered the diagnosis of a lymphoblastic disease process and suggested liver biopsies and exploratory laparotomy if necessary.

Dr. Boyd: About this time some of the x-ray reports became available, and I wonder if Dr. Borelli would be willing to comment on them.

Dr. Frank Borelli: The films that I am about to show are the films taken this year. I shall present only those representing definite evidence of roentgenographic changes. The previous films taken in 1952 of the sella turcica, chest, and abdomen were essentially normal. This film of the chest, taken in 1954, shows a small fibrotic area of infiltration in the left infraclavicular region, unrelated to any symptomatology at the present time. The bronchovascular markings and hilar shadows are definitely thickened. The right dome of the diaphragm is elevated and may represent evidence of subphrenic pressure.

This film of the abdomen taken in the supine position shows evidence of liver enlargement with some haziness throughout the abdomen. The intestinal gas is displaced, probably due to a large mass in the region of the liver.

The films of the gallbladder are essentially normal; however, concentration of the dye is somewhat decreased. This does not seem to be due primarily to gallbladder disease.

These representative films of the urinary tract show no abnormality other than displacement of the right kidney and are essentially normal.

These films of the large intestine filled with barium are also essentially normal except for marked displacement of the hepatic flexure probably due to enlarged liver or mass.

The films of the stomach, which I am showing last because they show definite pathologic changes as you see, show numerous defects, especially in the region of the fundus, the stomach being displaced downward and to the left, again by the large left lobe of the liver. The filling defects in the stomach, although having the appearance of malignancy, could be caused by extramucosal or extragastric pressure.

Therefore, these findings roentgenographically might be due to a large liver mass or numerous masses and with hepatomegaly causing displacement of the right kidney, hepatic flexure, and the stomach. The multiple defects in the region of the stomach may be due to malignancy with secondary metastases to the liver. However, I have the impression that they are extramucosal in location.

Dr. Boyd: Dr. Speer, was there anything of diagnostic interest in the laboratory studies?

Dr. Francis Speer: There are two findings of interest in the laboratory workup of this case, although they have questionable diagnostic value. I am referring to the very high sedimentation rate of 120 mm. in one hour and the slight but definite elevation of the alkaline phosphatase. In a patient of this type with extensive neurologic history and findings and without significant temperature at this time, the high sedimentation rate would point to progressive organic disease, possibly characterized by tissue necrosis. Since elevation of the alkaline phosphatase (if disease of bones can be excluded) may occur as the only finding in primary or secondary tumors of the liver long before jaundice or metabolic deterioration occur, we suggest that these two laboratory findings are related to an abdominal or hepatic neoplasm.

Dr. Boyd: I had occasion to see this patient during a Wednesday morning conference. She was presented to me as a possible example of Wilson's disease. I could not accept this diagnosis for several reasons. In the first place if the "Parkinson's disease" in the mother is regarded as the same disease existing in the daughter, then one might be confronted with a hereditary disease. Wilson's hepatolenticular degeneration is, however, familial but not hereditary. The absence of siblings precludes any statement on the familial nature of the presenting syndrome. In the second place the age factor is incompatible. Wilson's disease may start as early as the age of four years and as late as the twenty-fifth or, rarely, at the age of thirty. While there are acute forms which evolve in a matter of a few months, the chronic forms rarely last for more than a few years, the maximum being seven or eight. Consequently, the illness in this patient started too late and lasted too long for progressive hepatolenticular degeneration. On the other hand, her early episodes of fever, vomiting, diarrhea, and so-called colitis are compatible with this diagnosis. The same holds for the slurred speech, dysarthria, loss of strength. It is at this period that hepato- and splenomegaly tend to be encountered. Later, in the latent or interim period, when the patient feels fairly well, the liver and spleen shrink in size. In the final or neurologic stage tremor and progressive mental deterioration appear, but in classic cases, at least, one sees contracture attitudes, extrapyramidal tract involvement, involuntary smiling, drooling of saliva, and the like. Practically none of this picture is present in our case. Had a Kayser-Fleischer ring been observed, these statements would have required revision since the pattern of onset and evolution in Wilson's disease varies considerably, and either the hepatic or neurologic syndromes may initiate or dominate the clinical picture, or either may be absent for a long time. Moreover, I have never seen so large a liver in Wilson's disease. Years ago when the diagnosis of Banti's disease was popular, some patients with Wilson's disease, splenomegaly, and a hemolytic anemia were subjected to splenectomy, but even in them the liver was not so huge. While splenectomy may be harmless in these cases, it may also seem to accelerate a latent Wilson's. The latter circumstance is responsible for the clinical rule of thumb: "Be loath to perform splenectomy when neurologic signs are present." The fact that liver function tests are normal despite obvious hepatic disease does not help us much. Practically always in uncomplicated Wilson's disease such tests are with normal limits, although here and there one encounters a patient in which one or another test shows some abnormality.

Finally we come to the x-ray findings which are entirely inexplicable on the basis of progressive hepatolenticular degeneration. The fingerprint lesion in the fundus of the stomach, its extent, the age of the patient, and other considerations led me to suspect that the patient had a lymphosarcoma of the stomach or a gastric Hodgkin's with metastasis to the liver. I presume this development had occurred in a patient with an encephalitis of unknown origin but unconnected with the hepatic disease. I thought we might reach a definite diagnosis on the basis of gastroscopy which I think was the next step. I wonder if Dr. Barowsky will describe the gastroscopic findings?

Dr. Harry Barowsky: The rigid gastroscope was used in this case. It passed readily through the esophagus into the cardia of the stomach. The gastric mucosa appeared hypertrophic and nodular but did not have the gross appearance of a carcinoma. Punch and sponge biopsies were taken and both reported as negative for malignancy. It was my conclusion that a primary gastric neoplasm was absent in this case.

Dr. Boyd: I think the next step was an aspiration biopsy of the liver, but this may have preceded the gastroscopy. At all events will you relate anything of particular interest in connection with the procural of the biopsy, Dr. Mersheimer?

Dr. Walter Mersheimer: Do you want the whole story at this point or just the initial biopsy?

Dr. Boyd: I think it will be better to merely mention the performance of the biopsy at this moment and hold the operative findings for the present.

Dr. Mersheimer: Yes, Dr. Boyd, I did a liver biopsy on this patient at the request of the Medical Department. It might also interest the conference to know that a liver biopsy had been taken previously in December of 1952. I am sure Dr. Speer will correct me if I am wrong, but I believe that normal liver tissue was seen on microscopic examination of the specimen. When I examined this patient on April 5, 1954, there was a large mass palpable across the upper abdomen extending three or four fingerbreadths

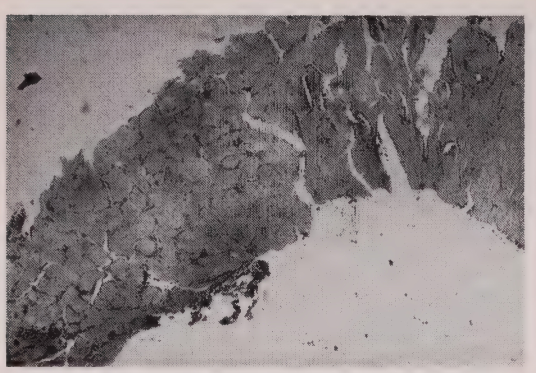

FIG. 1. Liver biopsy (low power). Note the good core of tissue, the absence of liver tissue, and the laminated connective tissue.

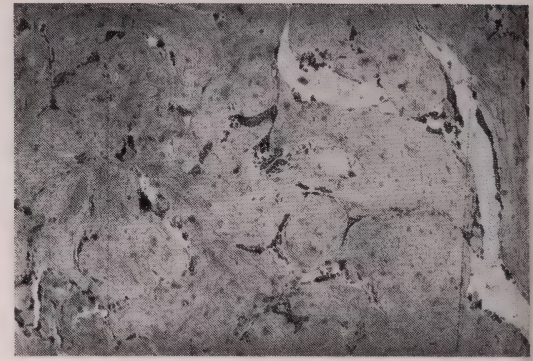

FIG. 2. Liver biopsy (high power). The connective tissue laminations and whorls are clearly seen, separated by delicate blood vessels.

below the costal margin; however, it was smooth, and no nodules could be palpated within it. I could not feel any other mass within the abdomen. I selected as the site of biopsy an intercostal space in the right anterior axillary line after first percussing out the area of liver dullness. After aseptic precautions and draping the field, I infiltrated the area with procaine. I am sure you are all aware that we have found the Silverman needle most satisfactory for this purpose since we can obtain a specimen approximately 2 cm. in length and 15 mm. in thickness rather than some "tissue juice" which is all we usually get by aspiration biopsy. This enables the pathologist to study the histologic features rather than depending on identification of a few isolated cells. When I inserted the trocar into the liver, it was extremely hard and felt almost cartilaginous to me. I obtained a satisfactory specimen.

DR. BOYD: Is there any danger in doing a liver biopsy, Dr. Mersheimer?

DR. MERSHEIMER: In answer to your question, Dr. Boyd, whether or not there are any dangers in performing a liver biopsy, there certainly are. The more important of these complications, which careful technic will avoid in most instances, are perforation of a hollow viscus and bleeding from the site of biopsy. It is also possible of course to enter the pleural cavity or injure the diaphragm. In most instances I prefer the intercostal route because I believe there is less danger of entering a hollow viscus, and when the needle is withdrawn, I believe that there is a reduction in the possibility of bleeding from the biopsy site because of the intimate association of the liver with the parietal peritoneum. This route, I think, also reduces the possibility of perforation of the intestine. Of course, I should add that we do use the abdominal or subcostal approach in some cases, particularly when a nodule can be palpated and we want to secure tissue directly from it.

DR. BOYD: What conclusion did you draw from the material, Dr. Speer?

DR. SPEER: The needle biopsy showed no liver tissue. It consisted entirely of thick bundles of collagenous connective tissue between which there were compressed capillaries. No diagnosis seemed possible with this material, and we suggested that a second biopsy be taken.

DR. BOYD: I believe you biopsied the liver again, Dr. Mersheimer. Do you have any additional comments to make?

DR. MERSHEIMER: When Dr. Speer reported that no liver tissue was present in the specimen that I had sent him, it was a little hard to believe. I went up to the ward again and performed liver biopsies in *two* additional sites. Again I obtained tissue that was grossly identical in appearance to my first specimen. The tissue cut extremely hard again.

DR. BOYD: Now, Dr. Speer, did this second liver biopsy show us anything?

DR. SPEER: I will project a slide of the core of tissue obtained by this second procedure. As you see, it is a good core of tissue almost 2 cm. in length, but there is no liver tissue (Fig. 1). Throughout we see these thick bundles of fibrillar and hyalinized connective tissue (Fig. 2), and between each bundle there is a fine lymph or blood capillary lined by swollen but intact endothelium. These findings are very similar to those of the first biopsy. In view of the fact that Dr. Mersheimer had assured us that he was in the tumor of the right upper

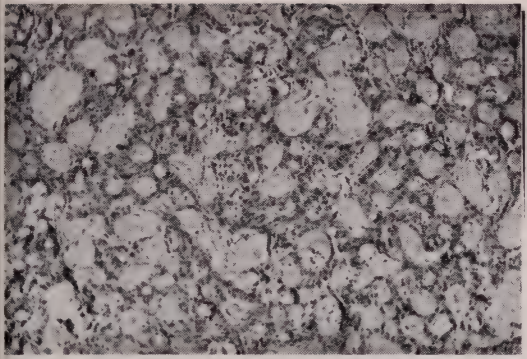

FIG. 3. Intrahepatic tumor mass (high power). The cords of polyhedral liver-cell-like cells are separated by columns of dense connective tissue.

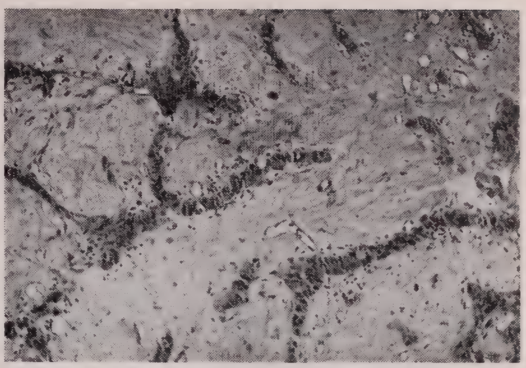

FIG. 4. Extrahepatic tumor mass (high power). Long cords of columnar acidophilic cells separated by thick columns of connective tissue are seen.

abdomen, we now suggested a diagnosis of fibromesothelioma. We have seen such tumors in the thorax but never in the abdomen. In view of the questionable nature of the biopsy material and also of the diagnosis we suggested that a laparotomy be performed.

DR. BOYD: Any further comment, Dr. Mersheimer?

DR. MERSHEIMER: Yes, I know that Dr. Speer did not identify the tissue obtained as liver on this second biopsy. There is only one possible explanation as far as I can see. If I wasn't in the liver this time, I must have entered a large retroperitoneal mass or even possibly a tumor arising in the mesentery.

DR. BOYD: At this point I agree that a solution to the local problem could only be established by exploration of the abdomen. Accordingly, the patient was transferred to surgery. Will you carry on from there, Dr. Mersheimer?

DR. MERSHEIMER: The patient was operated upon by me on April 22, 1954. We made a good-sized upper abdominal transverse incision, and as soon as we entered the peritoneal cavity, we noted a small amount of serous fluid present. There was extensive studding of visceral and parietal peritoneum by small whitish nodules which had all of the appearance of a metastatic carcinoma. Further exploration showed a tremendous mass involving the right lobe of the liver that was at least the size of a grapefruit. In addition, there was a large mass projecting down from the edge of the right lobe of the liver that was about the size of an egg. Several small masses were noted in the left lobe of the liver, and, in addition, there was a matted mass of tumor nodules high along the lesser curvature of the stomach close to the gastroesophageal junction. This mass was possibly causing the distortion of the stomach seen on the x-rays. I secured multiple biopsy specimens from the liver, resected the mass extending down from the lower edge of the right lobe, and, in addition, secured several biopsy specimens using the Silverman needle deep within both right and left lobes. At the time of operation I thought that this lesion represented either a live tumor with extrahepatic metastases or possibly a lymphoma involving the liver.

DR. BOYD: What decisions did you reach on this material, Dr. Speer?

DR. SPEER: I will project sections of the intrahepatic and the extrahepatic tumor masses secured at operation. First the intrahepatic tumor. You see here undulating columns, cords, and rarely tubules of polyhedral or flattened cells with large vesicular nuclei and finely granular and vacuolated acidophilic cytoplasm (Fig. 3). Many of these epithelial columns are surrounded by very thick bands of connective tissue, near which there is a small lymph or blood capillary. The similarity of this connective tissue architecture and that in the needle biopsy specimens is striking. Note that the adjacent liver tissue shows slight lymphocytic pericholangitis and slight fibrosis, but there is no evidence of portal or biliary cirrhosis. The diagnosis is now established as a liver cell carcinoma with this unusual desmoplasia of the fibrovascular stroma.

Sections of one of the extrahepatic masses from the gastrohepatic omentum are now in view (Fig. 4). As you see, the detailed microscopic architecture is similar to that of the intrahepatic tumor with these liver-cell-like epithelial cells arranged in cords or columns around which are the thick cords of fibrillar or collagenized connective tissues containing blood vessels. This indicates that as the hepatic cell carcinoma metastasizes, it shows this desmoplasia as seen in the primary tumor.

Our diagnosis, therefore, was hepatic cell carcinoma of liver with marked desmoplasia aud metastases to adjacent organs and tissues in the upper abdomen.

It is obvious that the gastric changes observed in the x-rays were produced by this metastatic mass in the gastrohepatic omentum.

Comment

Dr. Boyd: We have the local answer, and I think we had better limit discussion to the abdomen or to Wilson's disease since time is running out. What happened next?

Medical Resident: The postoperative course was uneventful, and the patient was out of bed in forty-eight hours. Since then her condition has remained unchanged.

Dr. Boyd: Are there any questions?

Physician: What is this Kayser-Fleischer ring you are talking about?

Dr. Boyd: I can only answer the question in generalities because specific facts are lacking. The corneal ring is a greenish-yellow annular deposit of pigment in Descemet's membrane. The pigment is probably derived from hemoglobin but does not contain iron. It is presumed to be formed in the liver, but the reason for its deposit in this particular place has been the subject of many fruitless discussions. The ring is, however, rather diagnostic since it occurs only rarely in other diseases. It is observed in pseudosclerosis, but pseudosclerosis of Westphal may be only a variant of Wilson's disease.

Physician: I thought that Wilson's disease was associated with rhythmic tremor like that seen in paralysis agitans or with choreiform or athetoid movements. They were not present in this case.

Dr. Boyd: That is true. Moreover, the rigidity usually observed late in Wilson's disease may be sufficiently severe to prevent the patient from moving or turning over in bed. This was also absent in this case. I think, perhaps, the discussion should revert to the liver since it represents the crucial problem in this case or at least the lethal factor. Dr. Speer, do you wish to comment upon desmoplasia in the hepatoma or the relation of cirrhosis to liver cell tumor?

Dr. Speer: It is well known that hepatic cell carcinomas occur in cirrhotic livers. Such tumors are much more common in the Orient and in Africa than they are here. In this case there was no cirrhosis, as the uninvolved portion of the liver showed at operation and as the microscopic sections projected here demonstrated.

The original tumor seems to have begun in the right lobe of the liver and to have grown to considerable size before intra- and extrahepatic dissemination occurred. In the growth of the primary tumor there seems to have been a long period of tumor cell proliferation and then cytolysis and desmoplasia so that needle punctures of the area showed no tumor cells but only the usual laminated fibrous tissue, thereby making definitive diagnosis by needle puncture impossible. What relationship the long, relatively slow growth of the tumor, the cytolysis, and the desmoplasia might have to the postencephalitic or other neurologic state in this patient is purely a matter of conjecture.

Dr. Boyd: If this tumor had been confined to the right or the left lobe of the liver, could it have been removed, Dr. Mersheimer?

Dr. Mersheimer: I believe we were right in exploring this patient because if the tumor had been confined to one lobe, either a right or a left hepatolobectomy might have been successfully performed. We have resected the left lobe of the liver for metastatic carcinoma with survival as long as fourteen months. Not too long ago we resected the entire right quadrate and caudate lobes of the liver in a fifty-four-year-old white male for a tumor that Dr. Speer reported as a telangiectatic hepatic cell carcinoma. This resected specimen weighed 3,600 Gm., and that did not include the 1,000 cc. of serous fluid previously aspirated from a large neoplastic cyst within the right lobe. This patient is alive and has returned to work. The second case we did was most unusual in that we resected the right lobe of the liver in a three-year-old girl. This resected specimen weighed 700 Gm. and was reported by Dr. Speer as an embryonal hepatoma (liver cell adenoma malignum). This child is now carrying on full activity eight months postoperatively.

Medical Student: In Wilson's disease is the lesion in the basal ganglia responsible for the cirrhosis, the cirrhosis for the brain lesion, or are both due to the same cause?

Dr. Boyd: We cannot answer any of those

questions. In regard to the first part, it has been suggested that disease of the basal ganglia has hepatic repercussions, and at one time it was thought that bilirubin tolerance tests revealed hepatic dysfunction in paralysis agitans and related syndromes. I do not recall seeing anything in the literature to support this contention in recent years, and I presume that this notion failed to obtain confirmation. The other possibility is more attractive, namely, that the liver disease might provoke changes in the basal ganglia. About twenty-five years ago it was reported that the production of an Eck fistula in dogs resulted in changes in the basal ganglia, but I do not know whether this idea was followed up. More suggestive is the fact that chronic manganese poisoning may be associated with degeneration of the basal ganglia as well as with a peculiar type of biliary cirrhosis. Perhaps some other unknown agent might act in the same way. Finally, Wilson's disease may start or evolve as a hepatitis or recurrent episodes of what might be termed hepatitis. On the other hand, the cirrhosis of Wilson's disease presents no remarkable histologic features. For many years I have had residents look particularly for evidence of central nervous system involvement in cirrhosis but have failed to find it. Naturally it has been suggested that both nerve and hepatic lesions may be due to the same factor; for example, some metabolic abnormality might be responsible for both. If this is true, we do not know what it could be except that it must be congenital since the disease is familial. We do know, however, that the liver seems to be connected in some way with the basal ganglia since there is selective bile staining of the lenticular nucleus in "kernicterus." If liver function is regulated in some way by the central nervous system, it is equally possible that the liver may assist in the regulation of the nervous system.

MEDICAL STUDENT: I thought that liver cell tumors were associated with disturbances of carbohydrate metabolism, for example, that spontaneous disappearance of diabetes mellitus or marked hypoglycemia were outstanding occurrences in hepatoma.

DR. BOYD: What you say is often true, but no disturbances of carbohydrate metabolism were demonstrated in this case. I would like to have Dr. Speer present a pathologic summary at this time and, if he wishes, to note any clinical implications. As far as I am concerned, the interesting feature is that this tumor developed right under our eyes. It may have been present two years ago when the hepatomegaly was discovered, although two years is a long time for these tumors, which usually run their course in a matter of months. Her hepatomegaly was erroneously assigned to concomitant disease of the nervous system when the association was actually improbable. When attention was finally focused on the abdomen, we were misled by hypertrophic gastric rugae into believing the stomach was the site of a primary tumor. None of these conjectures proved to be correct. Dr. Speer?

DR. SPEER: In conclusion, many points come to mind. The neurologic disease seems to be that of a postencephalitic syndrome in a patient already predisposed to central nervous system disease by hereditary and familial factors. Any relationship between the neurologic disorders and the hepatic cell tumor is purely conjectural. Surely the hepatolenticular syndrome does not exist in this patient. That the liver tumor has been present for two years producing hepatomegaly seems reasonable considering the well-differentiated cell type and the marked cytolysis and desmoplasia in the tumor. It may actually have started as a solitary adenoma in the right lobe and eventually acquired malignant properties at a later date. In retrospect the high red cell sedimentation rate and the elevated serum alkaline phosphatase were in all probability related to this neoplastic process. Needle biopsy of the liver which is usually very helpful in the diagnosis of both primary and metastatic tumors and in cirrhosis was not definitive in this case because of the architectural changes in the tumor which we have demonstrated by microprojection. From now on, as you are fully aware, the projected happenings in this patient involve the very unhappy developments of extensive liver and abdominal carcinomatosis.

In Thomas Edison's private desk, opened fifteen years after his death, a card was found bearing the following admonition.

"When down in the mouth, remember Jonah. He came out all right."—*Tonics and Sedatives, J.A.M.A., June 12, 1954*

Roswell Park Memorial Institute

BUFFALO, NEW YORK OCTOBER 14, 1954

George E. Moore, M.D., Director, *Roswell Park Memorial Institute*

In behalf of the clinical and research and administration staffs of the Roswell Park Memorial Institute, I wish to express our delight that you could join us in celebrating this memorable occasion. Perusal of the few available documents from the earlier years of the Institute reveals moments of scientific greatness and also other discouraging periods during which it seemed likely that its identity would be lost. Upon several such occasions the Institute would not have survived except for the generous financial and moral support of the Buffalo community. I thought you might be interested in several of the early letters reflecting these events.

There also have been several dedicatory occasions at which time distinguished representatives of the State and the scientific world have indicated the unique position of the Institute and paid tribute to its scientific accomplishments. Our visitors book, which is outside of the Auditorium for your signature if you wish, was begun in 1910 by President Taft. One other president has visited the Institute, as well as many famous scientists. The distinctive signature of Madame Curie is of interest because of the pioneering investigations of the effects of x-ray and radium carried out in this Institute.

In 1907 Dr. Gaylord, the first scientific director of the Institute, received letters from the foremost physicians and scientists in this country and Europe in support of his requests to the State Legislature for continuing appropriations. The Institute was just nine years old. One such letter addressed to Senator Hill was written by the famous physician, Sir William Osler, Regius Professor of Medicine at Oxford. He wrote, "The problems connected with this terrible disease are of such importance to humanity, and at the same time so complicated and difficult to solve, that I consider the United States to be most fortunate to have had one State, at least, display the liberality which enabled the Buffalo laboratory to do such good work. The work done at Buffalo is everywhere recognized in Europe as most helpful and, personally, I feel that it would be a great reproach to the whole country to interfere in any way with the progress of a research of so promising a character."

In a separate letter, dated February 15, 1907, Dr. Osler again expresses his concern that the appropriations to the "cancer laboratory" might not be continued. The handwritten postscript is most interesting: "P.S. There is no knowing what a day may bring forth. Should the Buffalo laboratory find the cause of cancer, it would be the biggest thing ever done in New York State. The New York Central Railroad would be nothing in comparison!" (Obviously he couldn't foresee the Thruway.)

Many of us in medical research need to be reminded from time to time of the debt we owe our predecessors. On this occasion I should like to point out that this Institute was the first to study comprehensively the immunologic factors of cancer. The initial papers were written by Dr. Gaylord and by Dr. Clowes, the first biochemist at the Institute, in 1904. To quote from a letter from Dr. William H. Welch, Professor of Surgery at Johns Hopkins Medical School: "The discovery there (Buffalo) of immunity from cancers in lower animals and of rendering animals experimentally immune is perhaps the most important (one) which has been made in this field of research."

Second, I should like to indicate recognition of the first organized screening program to test chemicals and drugs upon experimental and clinical tumors. This project was also initiated by Drs. Clowes and Gaylord and subsequently carried on for many years by Dr. Marsh.

Thus, it is evident from these several historical episodes that this occasion is a rededication of the Institute and, more importantly, of all of us who have chosen to probe the enigma of cancer as our contribution to mankind.

The present staff has been carefully chosen, not only for their past accomplishments but more importantly for their individual talents, the imagination shown by their investigations, and their youthful, forward-looking, enthusiastic approaches to the cancer problem. No attempt has been made to cover all known cancer research technics. Instead, our research program is fashioned about our senior investigators working in parallel research groups. In my opinion it is impossible for any single person to direct intelligently the daily activities of mature scientists in diverse fields.

Similarly, our clinical staff is being chosen for their investigative talents as well as their clinical interests. With such a combined staff of clinical and basic science investigators, the Institute will have a stimulating, productive atmosphere. It will serve this generation by the investigation and application of the known diagnostic and therapeutic technics and through education and the prevention of deleterious environmental factors.

To subsequent generations we offer hope through research of preventing some kinds of cancer, reducing the incidence of others, and improving the palliation and curability of all kinds of malignancy.

I should like to indicate that our daily efforts are not impersonal and detached since we, too, have had dear ones afflicted with cancer.

To paraphrase a recent statement of Dr. Hilleboe —with adequate physical facilities, an imaginative staff, the sympathetic understanding and continued financial support of the State, all that remains for successful cancer research is the blending of the essential ingredients in the crucible of time.

We invite your confidence and continuing support; without it our daily occupation with this dread disease and care of its victims becomes an almost intolerable burden.

Finally, as the fifth director of the Institute, in behalf of the staff, I bid you welcome.

***Honorable Thomas E. Dewey**, Governor of the State of New York*

It is with a great feeling of personal pride that I join you in dedicating this center of research in cancer. This is the disease which strikes terror to the hearts of more people than any other. The Health Department of our State estimates that out of our 16 million present population some three million will ultimately die of cancer unless new methods of prevention and cure are found.

This is a tremendous and dreadful challenge to society and to medical research.

As we see it today, the Institute represents the life work of a great many people. It began fifty-six years ago in the imagination of a distinguished Buffalo surgeon, Dr. Roswell Park. I am exceedingly happy that his son, Dr. Julian Park, is with us this afternoon and has presented to the Institute a portrait of his illustrious father.

In the beginning the Institute was three rooms with the magnificent appropriation of $10,000. Today that would scarcely pay the salary of one research man.

As the hospital grew, Dr. Park was succeeded by fine and devoted men. It is fitting that we pay special tribute to the late Dr. Louis C. Kress, director of the Institute, who contributed so much to the enormous development we are dedicating today. It is a tragedy that his death in 1952 prevented him from seeing the fruition of his dream, but I am grateful, as I know you are, that when he died, he knew that his dream for this great research center would be fulfilled.

In seeking his successor, our Health Department searched the whole United States to find Dr. George E. Moore. They finally settled on this young man who has had unique training and experience in surgery, in laboratory investigation, and in administration. Outstanding among all available men, I believe his combination of skills will lead the Institute at an ever-quickening pace to ultimate solutions in this difficult field.

When Dr. Park got his first appropriation of $10,000 away back in 1898, he had real hope that with a few years of laboratory investigation the causes of cancer could be found. We know, of course, that he was too optimistic, but he had another idea which was remarkably prophetic. He believed it was a proper function of government to help with basic medical research. His leadership brought the State into this pioneering effort fifty-six years ago, and this Institute became the first of its kind in the world founded specifically for the study of cancer.

The following year on October 21, 1899, an editorial in the *Journal of the American Medical Association* said, "So far, this country has been the only one in which there has been established a State laboratory for the exclusive investigation of carcinoma and tumors in general. The great State of New York supports such a laboratory in Buffalo."

With this dedication today, New York maintains its lead, with the finest cancer research Institute supported by any government anywhere.

When I became Governor twelve years ago, this hospital had 108 beds. Beginning today 516 beds are available in this glorious nine and one-half million-dollar building, and I am deeply proud to have helped bring it about during my time as Governor of New York.

Today with the work of Roswell Park and other similar agencies, the role of government in medical research is well recognized. It is also pretty clear that research which is solely in government hands presents problems. Too often, government has a heavy hand; legal requirements necessary to all government operations encumber the work. Truly, research thrives best with freedom and the lightest of administrative controls.

The success of medical research lies basically in the hands of a free medical profession, of our universities, and of voluntary agencies such as the American Cancer Society and the Damon Runyon Fund.

The beautiful thing about Roswell Park is that under the brilliant direction of Dr. Herman Hilleboe, the State Commissioner of Health, it is a partnership. This project is no monopoly. The work is done under grants from half a dozen organizations and from many private benefactors. All this is in addition to an annual budget of almost 4 million dollars provided by the State.

Roswell Park has a close association with the University of Buffalo which I hope will develop and broaden in the future. I trust that similar relations will grow up with other universities and medical schools. Even more than ever, the Institute should serve as a center of private training for physicians, public health officers, and private nurses in this specialized field.

I am grateful to the people of the State who have stood by my administration so strongly in supporting our effort to produce the funds for wonderful, unprecedented advances such as this and have supported our determination to do it without increasing taxes.

All we can do in government is to provide the tools, then pick the ablest men in America to lead the work, and then give them an absolutely free hand. This, I am happy to say, we have done.

In the face of their devotion to this humanitarian purpose, I am sure we are all deeply grateful to the men and women who work here to make this hospital great. We are humble in the face of the progress they are making and the tender care they give to those whose special problems receive treatment here.

I consider it a great privilege and honor to dedicate this hospital today to the hope, that building on the past, the research performed here will speed the day when the science of medicine can say of cancer, "This enemy, too, has been conquered."

Herman E. Hilleboe, M.D., *Commissioner of Health of the State of New York*

New York State can take justifiable pride in its great cancer research Institute which had its inception in 1898 through the efforts of the late Dr. Roswell Park. The appropriate atmosphere of freedom for scientific research is now provided. Brilliant men with a desire for discovery are on hand. All that remains for successful research in cancer control is the blending of the essential ingredients in the crucible of time.

The financial support of the Institute comes largely from the State of New York with the stability and continuity of funds that is a tradition in this State's history. Our research scientists do not spend their time scurrying around for funds to keep their projects going; their hours are not consumed with making out applications for annual grants or frequent reports. Their full time can be devoted to their research interests and activities. The State does not attempt to dictate areas of research investigation; its primary concern is the discovery of new truths that will help us to learn more about cancer and its control. The sympathetic understanding and financial support of the State government is a source of great satisfaction and incentive to all of us in our State and local health departments, and especially to the research workers in the institutions, hospitals, laboratories, and field stations.

Under such conditions scientists can give wide scope to their initiative and imagination and bring forth discoveries that offer hope of sufficient knowledge to enable the medical profession to improve its control of cancer.

Morton L. Levin, M.D., *Assistant Commissioner, Division of Medical Services, New York State Department of Health*

Today, when research accounts for a sizable slice of our national budget, some two billion dollars, and is a major element in the prospects for survival of our way of life, how best to foster and administer research greatly concerns the public and those responsible for public policy. It particularly concerns public health and public health administrators, because public health is now in the final stage of one era, that of control of the communicable diseases, and is entering into a new one, the control of the noninfectious chronic diseases, among which cancer and heart disease loom largest as causes of death. In practically all the important chronic diseases, research is needed on which to base realistic programs ofcontrol.

Administrators of public funds for public health, therefore, have a duty to formulate, as clearly as possible and as precisely as may be desirable—for too much precision may be highly undesirable—some philosophy on which to base their administration of research programs.

Public health, like politics, may be defined as the art of the possible. It is constantly preoccupied with two questions about cancer: how much control is possible and how can it be achieved. For public health, cancer research is not an end but a means. The individual investigator may be motivated by intellectual curiosity, and we may be motivated to give that curiosity full rein, but primarily we are interested in the control of cancer and in fostering research which gives the greatest promise of furthering that goal. At the same time we must avoid even a semblance of that rigidity which would discourage free inquiry and which might eliminate that one-in-a-thousand chance which may be the one that pays off.

In cancer research we may discern two major approaches to this problem, neither of which exists in the "pure" state. One school believes in investigating any problem related to the biology, chemistry, physics, and genetics of normal and abnormal cell growth. The other concentrates chiefly on a direct search for new chemical, physical, or biologic curative agents and for improvement in existing methods of treatment. The philosophy of this Institute is a mixture of these two approaches.

In addition, because of its relationship to the State Department of Health, to the city and county departments of health, to the University of Buffalo, and to the body of practitioners of medicine in this State, this Institute provides a unique opportunity for another approach to the cancer problem, for it is the responsibility of public health not only to foster the acquisition of new knowledge regarding cancer, but also to advance the maximum application of that knowledge as rapidly as possible. That what we already know about cancer is *not* being fully used is well recognized. In spite of magnificent efforts in public and professional education—by the American Cancer Society, the National Cancer Institute, by local and State health departments, and by the medical profession—it is generally agreed that today one out of four cancer patients does not receive the best possible treatment at the most favorable time. *Why* that is so and *how* it can be remedied are themselves research problems and by no means simple ones.

The Institute, therefore, will conduct research not only in the major problems of cancer prevention and treatment but also in the problem of control—how to achieve widespread application of knowledge regarding prevention and treatment. At the same time the Institute's relationship to public health and private practitioners presents the opportunity for translating that knowledge into action. This is the philosophy of cancer research to which the staff of the Institute and the State Department of Health and the government of this State are dedicated.

Finally, I should like to say that fitting and proper as it is that we today dedicate this considerable expansion of cancer research made by the State of New York, the most significant and essential dedication has already been made, that is, the dedication of the men and women who have come here and who have dedicated their lives and their careers to the difficult and unpredictable task of finding new and useful knowledge leading to better control over cancer. We may provide the philosophy, the support, and the money; theirs will be the labor, the achievement, and the enduring satisfaction of knowing that they have contributed to the well-being of mankind.

***Charles S. Cameron, M.D.**, Medical and Scientific Director, American Cancer Society*

The word *serendipity* was coined many years ago by that remarkable Englishman, Horace Walpole, after he had read a tale of Indian folklore called "The Three Princes of Serendip." These gentlemen of Ceylon observed that if they set out for an agreed-upon destination with a predetermined objective, they were invariably beguiled by strange places and new faces where, if they remained, they always had a more pleasurable and profitable time than their original plans had led them to expect. Their frequent experience of this phenomenon was the pattern whereby much of human knowledge and usefulness has been acquired, and in particular it is a mechanism familiar to all scientists who, having undertaken to solve a problem which seems important, make adventitious discoveries of vastly greater significance than the one they had in mind. Incidentally, Walpole tested his new work on a literary friend, asking "What do you think it means?" The reply was, "I imagine it denotes that state of mind consisting of equal parts of serenity and stupidity"—an interpretation of much wider applicability than the one intended.

To the many examples of serendipity which are recorded in mankind's quest for knowledge and betterment may now be added the history of the Roswell Park Institute. Begun as a modest search for the bacterial cause of cancer, an enterprise which the years have proved to be illusory, its by-product today stands around us—the largest cancer hospital in the world, endowed by an intelligently benevolent government with the men and the resources to become a foremost cancer research center. Never has any government exercised its custody of the commonweal more mercifully and more generously—mercifully in giving added life and comfort to those stricken in our time and generously in providing a scientific community which will hasten the day when the burden of cancer will be lifted from all mankind and forever.

There is an impressive timeliness about the dedication of this Institute today. Some hundred and fifty years ago the same Horace Walpole, who seems to be providing me with so much here, wrote whimsically, "About the time I die or a little later, the secret will be found how men may live forever." Recently an eminently readable poetess, Helen Bevington, undertook to send him a progress report, perhaps in the hope of assuaging any regret he might be feeling for having left too soon. She wrote:

> Horace, be comforted to die, one century has meandered by
> And half the next, since it was true, the temporal state eluded you.
> Now as I read your pensive letter I wish myself that times were better
> And I might boast how men contrive, as you foretold, to stay alive.
> By now we should possess the key to fleshly immortality
> And if we wanted to endeavor, to live forever and forever
> This to my infinite regret is not a custom with us yet.
> I write you Horace for good cheer—life is about as usual here.

But Miss Bevington was using poetic license, for life is not about as usual here. The life expectancy for men is now sixty-eight years and that for women has already passed the scriptural three score and ten, as compared with the thirty-five years which Walpole as a boy could expect. The combined forces of modern therapeutics and preventive medicine, a large part of which is public health practice, have wrought an unprecedented change in the pattern of illness in the space of a generation. In our country typhoid fever is today a disgrace to any community; indeed, it is a medical curiosity. Tuberculosis, "the Great White Plague" of our grandparents, is now eighth among the causes of death. Who does not remember the faint terror with which you viewed the red or yellow placard reading *Diphtheria*, fixed to the doors of so many playmates. As recently as my medical school days, pneumonia was termed "the Captain of the Men of Death," taking as it did the life of one in every three whom it struck; today its mortality is less than 8 per cent. Yet these achievements are not without a price. In consequence of our longer life-span cancer has become the most dreaded of all diseases. Our concern is not unreasoning for its death rate has risen from 64 at the turn of the century to 143 per 100,000 today. This, together with the population's total increase, charges to cancer each year in the United States 340,000 new cases, 700,000 under treatment, and 230,000 deaths.

The proportions of these figures alone call for the integrated efforts of all three of the agencies charged with safeguarding the health of the people—professional, governmental, and voluntary. But its magnitude is not the core of the challenge which cancer presents. It offers the most egregious paradox to be found in the milieu of modern medicine. In the face of the rising cancer death rates, cancer is more curable than it has ever been before, and such equipment and such skill as are provided here will make it more so. Expressed another way, under optimal conditions of early diagnosis and expert treatment, it should be possible to save twice as many lives from death by cancer as are in fact being saved. Here is the foundation stone of this house of mercy.

Again, the timeliness of this occasion is heightened by the remarkably favorable climate of investigative effort into which this revitalized Institute is being delivered. Quantitatively, the annual budget of cancer research in our country alone is now in excess of 17 million dollars, over ten times what it was ten years ago, and the inquiry presently oriented to cancer now reaches out to embrace virtually every known scientific discipline. The emergence here of a competent, coordinated research community will mark a signal salient on the lengthening frontier of embattled science, seeking, in the words of Job to "search out the Shadow of Death and set an end to Darkness."

The American Cancer Society joyfully salutes its longtime and newly fortified ally; we hail with gratitude the leadership in the highest traditions of science and politics which has so munificently widened this Institute's horizons of service and discovery, and we congratulate the citizens of this State of New York for the privilege and the assurance which this structure and this staff now offer them. We share with you the conviction that the magnitude and complexity of cancer can best be undone by concentrated endeavor, both clinical and investigative. Here you have provided that concentration of which Roger Bacon wrote, "For were it not better for a man in a fair room to set up one great light or a branching candlestick of lights whereby all may be seen at once, than to go up and down, with a small watch candle, into every corner?"

This Institute is Dr. Roswell Park's branching candlestick of lights.

Michael J. Kopac, Ph.D., *Scientific Advisory Committee Member, Damon Runyon Memorial Fund for Cancer Research*

The Damon Runyon Memorial Fund sends cordial greetings to the Roswell Park Memorial Institute with its splendid facilities, staff of experienced and competent investigators, and traditions which go back to the early days of Park, Gaylord, Clowes, Simpson, and others. The aims and policies of this new Institute have been clearly outlined in a recent editorial in *Health News* by Commissioner Hilleboe. This important document may very well serve as a pattern for others to follow. Citizens of the Empire State have many reasons for being proud of their new Institute. Those responsible for its development deserve our congratulations.

Modern laboratories equipped with microscopes, mass spectrographs, ultracentrifuges, and the countless other tools required for research are essential, but above all, the men and women doing the research are the ones that make the Institute a living, productive force. The personnel engaged in cancer research should be frequently augmented with new brain power, especially with younger men and women properly trained in basic sciences who have already demonstrated unusual ability to conduct original and independent research. We need investigators gifted with brilliant imagination for creating new ideas as well as the skills, courage, and stamina to carry their projects through to reasonable conclusions.

The fight against cancer must be fortified with the products of basic research in order to improve diagnostic procedures and therapy. There is the primary responsibility of helping those who have cancer now. There is also an equal responsibility to future generations. Basic research may eventually make it possible to prevent cancer.

As a specialist in cell biology and a nonmedical participant in basic research in cancer, I have been privileged to experience both the disappointments and a fair share of success. My greatest privilege during the past five years has been to serve as a member of the Scientific Advisory Committee and as a panelist on the Committee on Growth. The detailed study of almost a thousand projects together with the review of several hundred fellowship applications, conferences with investigators and their staffs, and projects like this have given me the priceless opportunity of seeing the forests as well as the trees.

Certain questions seem to stand out. We still do not know the mechanisms which may transform a normal group of cells into cancer. Is such a change gradual or sudden? Exactly how do cancer cells differ from their normal ancestors? No one is so wise that he can, at this time, say these are the all-important problems, nor can anyone predict where or when answers to these questions may be found. Certainly, there are no well-defined rules that will guarantee success.

I believe that the key problems will eventually be clarified by sound, long-range, highly imaginative research. All leads must be explored. In addition to the extensive experimental cancer research done with mice, we must also recognize the various studies now being made on tumors in fish, frogs, and even fruit flies. Perhaps the best leads may yet come from studies on the ameba, this lowly piece of protoplasm which every beginning student in biology has seen and studied.

On recommendation of the Scientific Advisory Committee and approval by the Board of Directors, the Damon Runyon Memorial Fund has recently awarded a grant to Health Research, Inc., for aiding one of the Institute's projects. The Damon Runyon Memorial Fund welcomes this opportunity to be of service to the Roswell Park Memorial Institute and extends its warm wishes for success.

Renato J. Azzari, M.D., *President-Elect, Medical Society of the State of New York*

Shortly before the dawn of the twentieth century, the first laboratory in the world devoted solely to the problem of cancer was established here in Buffalo. As you know, the humble three-room laboratory at the University of Buffalo was the result of the persistent efforts of Dr. Roswell Park and his associates. Today, a little more than a half century later, we are gathered here to witness another historical event—the dedication of a new medical monument, which, when completed, bids fair to be the greatest of its kind in the world. During the more than fifty years which have passed since the original establishment of this Institute by Dr. Park, the members of the medical profession have played important parts in its continuous growth. On the basis of this past history I feel safe in predicting that they will play even more vital roles in the future. It is, therefore, a privilege and an honor for me as President-Elect of the Medical Society of the State of New York to bring you the greetings and best wishes of our 24,000 physician-members.

While we are proud of the part doctors have played in the past history of this center, medicine has still a greater interest in its future development. Down through the ages the principal target of the medical profession has been the obliteration of disease and the lengthening of man's lifeline through research and treatment. As a result of medicine's continuous and relentless pursuit of this objective, many of the death-dealing diseases of yesteryear have been relegated to the limbo of today's curable ailments. Witness the progress made in the fight against pneumonia, tuberculosis, typhoid fever, and other top-ranking killer diseases. Today we are privileged to participate in an event which, we hope will one day be considered by historians as a milestone in medicine's march of progress toward the ultimate elimination of one of the most dreaded diseases of the generation—cancer.

Because of its high rank of second in the killer disease group, medicine has been most interested in cancer research for many years. The American Medical Association and the State Medical Society, for example, have cooperated in the fight against cancer by utilizing every means at their disposal to bring the latest information to their members. Through the pages of the *Journal of the American Medical Association* and the NEW YORK STATE JOURNAL OF MEDICINE, the physicians in this State are kept up to the minute concerning new discoveries. In addition, special groups, such as the Subcommittee on Cancer of the State Medical Society, have been organized to meet the challenge of this number two killer of mankind.

Although research, such as is going on here, is most important in the fight against cancer, we must not overlook the vital part that treatment by the individual physician plays in the over-all picture. We must not forget that much of the progress that has been made against cancer has been due to improvement in case-finding. As a Congressional committee investigating health recently pointed out, and I quote, "perhaps the most important step to be taken for more effective control of cancer is to remedy what has been called the gap between what we know and what we do. This is really a failure to apply knowledge to the control of cancer in the population. In order to increase the number of cured cases, the cancers must be found. Without doubt a substantial number of cancer deaths are avoidable. They could have been prevented had the cancers been found in time."

It is in this field of cancer detection that the individual practitioner of medicine can be of the greatest assistance. Experience in the management of cancer has demonstrated that success depends upon the combination of three factors: early suspicion, accurate diagnosis, and effective treatment.

Since half of all cancer involves parts of the body which are accessible to direct examination, the individual physician who treats many patients a day has a unique opportunity to detect the disease. Multiply the average number of patients seen per day by an individual doctor by the approximately 24,000 members of the State Medical Society, and you can clearly see that the doctors in this State have an exceptional opportunity to combat this disease. In the past our physicans have cooperated in this wonderful work of cancer detection, and I am certain that they will continue to do so in the future.

Only a few short years ago pessimism prevailed in regard to the conquest of cancer. Yet with the tremendous growth in cancer research since 1945, the tide has turned, and today optimism is the keynote. Projects such as this Institute are responsible in part for this change of heart from black despair to justifiable hope. In this year of 1954, there is much solid ground upon which to base a prediction that sometime in the future cancer will be conquered. The fight cannot be won, however, unless all concerned—the Institute, the individual members of the medical profession, and allied groups—continue to emulate the persistent, self-sacrificing efforts of Dr. Roswell Park, the founder, and his successors. If all of us involved in this fight work hand in hand, I am certain that we will ultimately reach our common goal.

Leonard A. Scheele, M.D., *Surgeon General, U.S. Public Health Service, Department of Health, Education and Welfare*

I am most happy to be here and share with you and the people of New York State the joy and pride that is yours in this magnificent new cancer research hospital. I want to express my warmest personal good wishes to Dr. Hilleboe, Dr. Moore, and their staffs. It is also my privilege to bring to them the congratulations of their colleagues in the United States Public Health Service, especially of our staff in the National Cancer Institute.

Back in 1937 I first came to know the Roswell Park Memorial Institute personally. At that time I was a member of the staff of the National Cancer Institute, taking training in the diagnosis and treatment of cancer at Memorial Hospital for Treatment of Cancer and Allied Diseases, in New York City, under the late Dr. James Ewing. A part of that training was to come up to Buffalo and get acquainted. The friendships I made then with Dr. Burton T. Simpson and Dr. Louis Kress, both former directors of Roswell Park, and many members of the staff were pleasant and fruitful.

Dr. Ewing had emphasized to me how little was known about the life history and experiences of individuals who developed cancer. On his advice it was decided to see if an epidemiologic study of cancer could be developed, adapting some of the technics that had long proved effective in the study of communicable diseases.

Roswell Park was one of the first institutions that opened its doors to aid us in the study. The National Cancer Institute sent a small full-time staff up here to interview patients and collect data. You will be interested to know that the data collected here at Roswell Park, combined with comparable materials from several other institutions, are under continuing study at the National Cancer Institute.

Roswell Park Memorial Institute has a long and distinguished history in cancer research. Its early beginnings as a small laboratory in the University of Buffalo School of Medicine actually give New York the distinction of being the first State to appropriate public funds for that purpose. After many years of paltry financial support, cancer research throughout the nation is now enjoying substantial governmental, voluntary, and philanthropic support. Considering the long period of neglect, it is amazing to realize that Dr. Park and New York State together made a beginning fifty-six years ago.

The far-sighted vision that saw the need and the promise of Dr. Park's and Dr. Gaylord's little laboratory in 1898 still inspires your great State. You have so many public health "firsts" to your credit that it is hard to single out one for special mention. Certainly, one that impresses us today is the establishment of this fine cancer research institution under the aegis of the State Health Department. Thus the various parts of the total war against cancer—basic and clinical research, outpatient and inpatient services, and public health control—are integrated.

Today we are assembled to mark the completion of one part in that grand design, envisioned by your Governor, your State Legislature, and your State Commissioner of Health. The decision to expand New York's cancer research program and research facilities on the grand scale—as represented by Roswell Park Memorial Institute—will have far-reaching influences. Physical resources do not make research, but New York has added the funds necessary to operate a magnificent institution and to support the scientific efforts of a highly qualified and growing staff.

Millions of lives depend upon the speed with which the nation's medical scientists learn the secrets of cancer and show us better ways to cope with this most dread group of diseases. The facilities and staff dedicated to that task at the Roswell Park Memorial Institute are part of the free community of medical research. What is accomplished here will significantly advance and influence the total scientific effort against cancer.

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the November, 1954, meeting of the Council of the Medical Society of the State of New York.

The Council met November 11, 1954, from 9:15 A.M. to 12:05 P.M. at the Manhattan Club, New York City. Dr. Dan Mellen, president, presided.

Secretary's Report

Dues Remissions.—The Council voted to remit 1954 annual State dues of 13 members because of illness, of seven members because of service with the armed forces, and of nine members because of financial hardship and to rescind two remissions previously granted because of military service. The Council also voted to request remission of American Medical Association dues of 18 members for 1954 and three members for 1955. A request was authorized for exemption from further payment of American Medical Association dues of four members who have passed the age of seventy years, candidates for election to retired membership in May, 1955.

Executive Committee.—Dr. Anderton reported that the Executive Committee had considered a request from the Medical Society of the County of Chemung that the 1954 dues payment of Dr. Erika L. Baskin, Dr. Harold Game, Jr., and Dr. Charles L. Palmer, elected to membership as of October 1, 1954, and of Dr. William K. Nowill, reinstated as of the same date, be credited to their 1955 accounts.

"The bylaws say that a person elected after October 1 shall have dues of the next year applied to the last quarter of the current year.

"However, these doctors were elected just a few days before. The Medical Society of the County of Chemung hopes that the State Society will not interpret the bylaws too literally and will not require these doctors to pay a whole year's dues when they were elected only about a week before the end of September.

"The Executive Committee recommends that the Council so vote."

Approval *was voted.*

General.—Dr. Anderton reported: "With approval of the Council, President Mellen has appointed the following committees:

"1. Committee regarding Dr. Landess' appeal to the American Medical Association: Dr. Herbert H. Bauckus, chairman; Drs. John J. Masterson, Walter W. Mott, Gerald D. Dorman, and Ezra A. Wolff.

"2. Special committee regarding combining Workmen's Compensation and Industrial Health Bureaus: Dr. Peter J. Di Natale, chairman; Drs. Maurice J. Dattelbaum, Gerald D. Dorman, David J. Kaliski, and Mr. Thomas E. Alexander, adviser.

"3. Special subcommittee of Legislation Committee regarding proposal to license psychologists: Drs. Curtis T. Prout, Irving J. Sands, and Harold R. Merwarth.

"At the request of Colonel Boughton, Director of Selective Service for New York State, the following medical advisers have been nominated for Selective Service Board No. 44, Herkimer County: Harold F. Buckbee, Dolgeville; Robert W. Dennis, Herkimer; Arthur Leistyna, Ilion; Bernard J. Burke, Little Falls; William J. McDonald, Mohawk; and Timothy J. Howard, Newport.

"It gives me pleasure to notify the Council that our Society was ably represented by Dr. Andrew A. Eggston at the cornerstone-laying ceremony of the New York Coliseum, and at a luncheon of the West Side Chamber of Commerce, on October 21.

"At the direction of the Medical Licensure and Medical Service Committee, Dr. Mary J. Ross, of Binghamton, has been nominated to the American Medical Association as the outstanding general practitioner of the year. Your approval is requested."

Approval *was voted.*

Dr. Anderton also detailed his activities during the preceding month.

"The New York City Commissioner of Health and the Secretary of the New York City Board of Health were notified of your disapproval of allowing clinical laboratories to be conducted by other than medical graduates.

"Secretaries of component county medical societies received word of your action regarding 1954 'Clarification of Principles of Professional Conduct.'"

The Secretary's report *was accepted.*

The Treasurer's report was accepted.

Reports of Committees

Blood Banks Commission.—Dr. Renato J. Azzari, chairman, reported: "Mr. Chairman, at the October 13 meeting of the Blood Banks Commission, it was decided to appoint a Finance Committee from the Commission to meet the Committee on Budget of the Blood Banks Association to consider and approve the 1954 second six-months budget of the latter. Members of the Committee were appointed by your chairman: Dr. John J. Clemmer, of Albany, chairman; Dr. Lester J. Unger, of New York City; and Dr. John K. Miller, of Albany.

"The Finance Committee met on Saturday, November 6, in Albany, with Association's Budget Committee. Your Finance Committee approved the

Association's 1954 second six-months budget with certain recommendations from the Budget Committee.

"The accounting department informs us that additional funds will be needed this month as a loan to carry on the work of the Association. For this reason we have drawn up the attached resolution for consideration by members of the Blood Banks Commission. A card was sent to all members of the Blood Banks Commission in reference to this resolution, and we have received telephone calls from all of the members who voted in favor of the resolution."

Dr. Azzari read the resolution, which was twice amended and adopted as follows:

> On the basis of the Finance Committee's deliberations, the Blood Banks Commission recommends that the Council of the Medical Society of the State of New York request the Board of Trustees to lend the Blood Banks Association of New York State funds in the amount of $10,000, to be drawn as needed by the Association.

Association Report.—Dr. J. Stanley Kenney, president of the Blood Banks Association, introduced the following report by title: "Since the last meeting of the Council, membership of all five county medical societies in New York City have added their endorsement to the Blood Assurance Program. The respective societies have appointed two members each to an executive committee, which will be responsible for the liaison and close support by the county medical societies of the Blood Assurance Program in New York City.

"In the next sixty days, the 'blueprint' will be implemented by recruitment of 1,000 persons to ring doorbells, literally and figuratively, throughout the metropolis.

"Promotion of the Women's Division, under the general chairmanship of Mrs. Ezra A. Wolff, is progressing well. Chairmen have been appointed in Queens, Richmond, and Kings Counties, upon the advice of the respective Woman's Auxiliaries to the county medical societies. Organization of the Women's Division in the Bronx and New York Counties will be furthered by a gathering on December 11 at the home of Dr. and Mrs. Ezra A. Wolff, to meet Dr. Renato J. Azzari, president-elect of the Medical Society of the State of New York, and to discuss plans for the Blood Assurance Program. Invitations for this event will be issued jointly by Dr. and Mrs. Ezra A. Wolff, Dr. J. Stanley Kenney, Dr. Peter M. Murray, and Dr. Charles Sandler.

"Suggestions concerning appointment of a lay chairman for the New York Assurance Program, preferably a man of stature in the industrial world, will be welcomed by the Association.

"Planning envisages the official opening of the Blood Assurance Program in February with county medical societies' members being first subscribers.

"Next week, copies of an agreement are being mailed to 41 blood banks in New York City and Orange County that belong to the Association. These agreements define the responsibility of both the blood bank and the Association in reference to the Assurance Program. Signatures of both the blood bank director and the administrator are necessary to effectuate the agreement.

"November 12, Dr. Kenney, Dr. Geiger, and Mr. Messinger will present the Blood Assurance Program to the board of governors of the Greater New York Hospital Association.

"With actual recruitment of subscribers beginning in February, the Association's financial picture should improve. Within ninety days after activation of the New York program, it should be possible to bring the Blood Banks Association to the point where it is self-sustaining.

"In the meantime, funds advanced as a loan from the Medical Society of the State of New York are needed to carry on the careful, painstaking public relations and technical preparations that are the best guarantee of success.

"The Board of Directors of your Association feels toward the 1955 program of the Blood Banks Association a sense of realistic optimism, enthusiasm, and confidence in the Association, and especially response as it is being met among the rank and file of the medical profession, in the staff of the Association, and in the future of its enterprises."

Constitution and Bylaws.—Dr. Anderton stated: "Dr. Williams has asked me to report. He recommends that the Council approve changes for the bylaws of the Genesee County Medical Society. These are only two which, in effect, would terminate the office of vice-president and would create the office of president-elect in that society. These changes have been studied and approved by legal counsel and each member of the Constitution and Bylaws Committee."

Approval *was voted.*

Convention.—Dr. Thomas M. d'Angelo, chairman, stated: "The Convention Committee met in Buffalo on October 30, when it planned for the annual convention in Buffalo next spring."

Economics.—Dr. Renato J. Azzari, chairman, presented the report of the Bureau of Medical Care Insurance, Mr. George P. Farrell, director.

It stated that Mr. Farrell had attended four district branch meetings in October and continued:

"At all of these, appropriate literature and graphic material on the New York State Blue Shield plans were displayed. Your director in each instance spoke about the matter of some county medical societies having been approached regarding participation in and providing of medical/surgical services to certain insured groups, whereby the doctor would be required to provide full service benefits, regardless of the insured's income, under a schedule of allowances promulgated by the agency and/or the insurance company.

"The Committee on Public Relations referred to the Bureau a poster developed by United Medical Service to be used in organizations where groups of subscribers have been enrolled. It invites the subscriber to discuss frankly with the doctor any question regarding his services or fees.

"United Medical Service has asked permission to use the name of 'The Medical Society of the State of New York' in conjunction with 'New York's Blue Shield Plan' on this poster.

"The Bureau has sent copies of it to members of the Subcommittee on Medical Expense Insurance and officers of the State Society for their consideration. Your director has discussed this with Dr. Carlton E. Wertz, chairman of the Subcommittee, who approves of the use of the name on the poster. Favorable comments have also been received from three other members of the Subcommittee. It was also the opinion of members of the Subcommittee that similar posters could be used by all Blue Shield plans throughout the State.

Approval *was voted* to use on this poster the statement: "Public Service Announcement by New York's Blue Shield Plan for Prepaid Medical Care and the Medical Society of the State of New York."

Approval of the use on this poster of the seal of the Medical Society of the State of New York also *was voted.*

"October 28 and 29, 1954, your director consulted with Dr. Wertz concerning the offering of Blue Shield coverage nationally to Federal employes through the Civil Service Commission, representing about 2,600,000 employes; the offering of Blue Shield coverage to the Brotherhood of Railroad Employees with a membership of approximately 75,000 in New York State, who are requesting complete medical care including home and office calls, polio and catastrophic medical coverage, and compensation coverage, all of which is to be written through a syndicate arrangement originating in Philadelphia through the local Blue Cross and Blue Shield plans on a retention basis; and the offering of Blue Shield benefits to Bethlehem Steel employes on a uniform coverage plan throughout its operating area."

Ethics.—Dr. Thurman B. Givan, chairman, stated: "Early last summer a letter came to Dr. Anderton, the secretary, from Dr. Leonard J. Goldwater, secretary of the American Academy of Occupational Medicine, reading as follows:

> I am very grateful to you for having sent me the full text of the resolutions on clarification of *Principles of Professional Conduct.* It is obvious that the reports in the daily press conveyed an entirely misleading impression, particularly in regard to the practice of medicine by physicians on a salary. I know that the members of the American Academy of Occupational Medicine will be relieved when they read the full text, which I am now mailing to them.
>
> There is one point, however, which I believe may still cause some concern and will certainly raise some questions. In the section dealing with Contract Practice it is stated that "contract practice is unethical if it permits of features or conditions that are declared unethical in these *Principles of Professional Conduct* or if the contract or any of its provisions causes deterioration of the quality of the medical services rendered." It may be argued that contract practice as carried out in industry may in some way restrict the freedom of a patient to choose his own physician and consequently would be considered unethical. There are, for example, a number of industrial health programs in which the employes share the costs with the employers and in which the care is given either by individual doctors or groups of doctors who are paid by salary.
>
> A second point which is likely to be raised relates to "deterioration of the quality of medical services." I should like very much to be in a position to inform the Fellows and Members of the American Academy of Occupational Medicine, first, of the nature of the standards or criteria which are to be used in determining whether or not there has been a deterioration of quality; second, of the methods which are to be used in determining whether or not there has been deterioration of quality; and, third, who is to be the judge of whether or not there has been deterioration of quality.
>
> I shall be most grateful for any information you can provide in relation to the points I have mentioned.

"The Committee has studied the implications of the questions in the correspondence from the secretary of the American Academy of Occupational Medicine. We do not believe that it is either the intent or the meaning of the clarifications of the code of ethics, concerning which inquiry is made, that types of industrial practice now considered acceptable shall be rendered unethical.

"With respect to the query regarding provisions of the code relating to contract practice, it is not possible to give an all-inclusive interpretation of the statement that, 'Contract practice is unethical if it permits of features or conditions that are declared unethical in these *Principles of Professional Conduct,* or if the contract or any of its provisions causes deterioration of the quality of the medical services rendered.' The basic meaning is quite obvious, however. Unethical features of, or substandard care resulting from, a given contract to provide medical care, would render that contract unethical.

"As with other questions of ethics, the board of censors of the local county medical society would logically be the body to make a specific determination in each case as it arises, as to whether unethical features or conditions exist, or whether the quality of medical care provided is up to the standards prevailing in that county.

"It should be pointed out, too, that the above-quoted portion of the code of ethics is not new and was in existence before the clarifications of this year were adopted.

"I hereby present this for your action."

The report *was approved.*

Finance.—Dr. Maurice J. Dattelbaum, chairman, stated: "We met this morning. Dr. Holcomb was not present. We approved a budget that will be submitted by the Planning Committee for the integration of the Bureaus of Workmen's Compensation and Industrial Health."

Hospital and Professional Relations.—Dr. Harold F. Brown, chairman, stated: "Our Committee met yesterday, and we took up matters that were referred by this Council. It was the opinion of the Committee that the Genesee Memorial Hospital in Batavia properly could fill out the questionnaire from the podiatrists in so far as this was giving factual information and was not a question involving policy of the State Society, that neither carried with it approval or disapproval by the State Society as to podiatrists being on hospital staffs.

"The other thing we took up was the matter that was referred to us as a result of the report of the Legislation Committee. It was in relation to possible modifications of the Education Law and was broken into four parts, each referred to a different committee. You referred to our committee the question pertaining to doctors and hospital relationships.

"We feel that inasmuch as the Special Committee to Study Professional and Hospital Relations exists to consider this problem, it would be duplication for our committee to take up the matter at present. We felt that we should wait until we get the go-ahead sign from Dr. Louis Bauer's committee. When he reports, our action can be decided upon.

"The last matter was the question of tenure in hospital staff positions, and it was recommended by our group that when Dr. Bauer's committee meets with the Hospital Association groups, the matter of tenure be taken up along the lines that were recommended by a resolution introduced in the House of Delegates at our last meeting. So I submit this report with the recommendation that the last item in the report about tenure be actively pursued by Dr. Bauer's committee."

It *was so voted.*

Industrial Health.—Dr. Peter J. Di Natale, chairman, stated: "The integration of the Workmen's Compensation Bureau and the Industrial Health Bureau was originally referred to the Planning Committee. Instead Dr. Mellen appointed a special committee to study this matter, consisting of Dr. Di Natale, chairman; Dr. Anderton, Dr. Dorman, Dr. Mellen, and Mr. Alexander as adviser.

"We met yesterday. It was felt that there should be one bureau combining the Industrial Health with the Workmen's Compensation Bureaus, while maintaining the two Council committees, one on Industrial Health and the other on Workmen's Compensation."

A tentative budget was submitted.

"The establishment of this Bureau in cooperation with the Workmen's Compensation Bureau is long overdue. The House has repeatedly voted for this Bureau, and the Industrial Health Committee, along with the Planning Committee, has studied this problem for two and a half years. One of the items that the House of 1953 asked was that a pilot study be patterned after the so-called Pennsylvania Plan or any other plan suitable to our needs and our resources.

"The Finance Committee has approved the program, and, Mr. President, I move that it be approved."

After discussion approval *was voted.*

Legislation.—Dr. James Greenough, chairman, had no report.

Report of the Executive Officer.—Dr. Harold B. Smith stated: "I would like to mention that Dr. Frank Wilson, director of the American Medical Association Washington Office, was in Syracuse on November 5. He expressed the desire for closer contact with the State Society, which now will be much easier to maintain."

Malpractice Insurance and Defense Board.—Dr. Thomas M. d'Angelo reported: "The Malpractice Insurance and Defense Board has just completed a detailed explanation of the various categories of surgical, nonsurgical, and minor surgery. Each individual in the plan will receive a copy of these detailed explanations when his contract is renewable. For those of you who are always being questioned at the county society level, we can say that the categories and the explanations may not be perfect, but we will give them a trial for several years.

"One thing I would like you to understand is that when we say major surgical, or minor surgical, or nonsurgical, we try to mean that in the accepted terminology of medicine. On the other hand, you may find some particular items put in major surgery that might be considered minor surgery. However, they carry major risks, and we have tried to correlate the surgical terminology and the risk terminology. When you receive these lists of explanations, you will see that we have gone a long way to clarifying the classifications that we set up on September 1."

Board of Trustees.—Dr. Herbert H. Bauckus, chairman, reported: "The Board of Trustees requested me to appoint a special committee of the trustees to study the question of the cost to the State Medical Society of furnishing legal care to the uninsured members of the Society. That committee has met but has not yet reported. I thought you ought to know we are considering that question."

Office Administration and Policies.—Dr. John J. Masterson, chairman, reported: "The Office Administration and Policies Committee met on November 10, 1954.

"Various personnel matters were approved.

"A letter from Dr. Kaliski was read, in which he suggested that Miss Elizabeth Wheeler, who is employed as a secretary in the Workmen's Compensation Bureau, be pensioned as of January 1, 1955. It was the sense of the meeting that Dr. Anderton confer with Dr. Kaliski in order that a recommendation might be made to the Council."

The report *was approved.*

Publication.—Dr. Masterson, chairman, reported: "The Publication Committee met on November 10, 1954.

"The monthly report of the Editor was accepted.

"Dr. Redway stated that the severe editing of articles has reduced the length of material to the extent that there is a possibility of running short early next year. Promises of several single and series of articles have not yet materialized. It was noted that it might be necessary to reduce the size of several issues in order to meet this contingency.

"The business manager's report was accepted.

"There was a satisfactory report regarding advertising income.

"It was moved, seconded, and passed that the Committee accept liquor advertising for the year 1955.

"A letter from Dr. Joseph Isenstead was submitted. Dr. Isenstead criticized a JOURNAL article in connection with certain uses of cortisone. The Committee voted to reaffirm the policy that the Editor may use his own discretion as to publishing correspondence from readers.

"A letter from the Schering Corporation stated that the company is planning to publish a pamphlet in Spanish and wishes to include a small reproduction of the cover of the JOURNAL alongside an article taken from the JOURNAL. Permission to use the reproduction was approved.

"It was decided that the present information, as published in the 1953 Medical Directory, be continued in the 1955 edition, and that there also be included articles on the Blood Banks Association of New York State and the Veteran's Medical Service Plan of New York, each limited to one-half page, if such articles are desired.

It *was voted* to accept the report.

Planning Committee for Medical Policies.—Dr. Di Natale, chairman, reported progress.

Permanent Headquarters Subcommittee.—Dr. Andrew A. Eggston, chairman, stated that the committee was still interested in finding a suitable location.

Public Health and Education.—Dr. Theodore J. Curphey, chairman, reported that he had attended four meetings and arranged 11 postgraduate lectures in nine counties since his last report.

He gave the following report:

1. (*a*) At the meeting with the State Health Department it was voted "to recommend that the Council endorse the principle that the State Health Department should concern themselves with the problem of ionizing radiation." It was explained that three specific aspects of this problem were causing concern: (1) disposal of ionized material from manufacturing plants in sewage and sometimes into the soil; (2) radiation in bodies from hospitals with isotope laboratories (the undertakers are not protected); (3) lack of standards for use of x-ray equipment. The Health Department is drawing up an amendment to the Sanitary Code defining radiology and setting up a checking system. When drawn up, the proposed law will go to the Public Health Council.

(*b*) For many years the Health Department has been making and distributing biologicals. Now that some commercial firms can handle the problem adequately, the Department feels the continued use of the State laboratory for this purpose is not efficient. Protein chemistry will be concentrated on. The Department will continue to distribute biologicals for a time, purchasing them on open bid from companies which they consider reliable. Because of the wide use of typhoid vaccine in mental hospitals, they will continue its manufacture and distribution and will thus keep on hand a small group of men who know how to prepare antigens for emergency, but eventually they will maintain only enough of a laboratory to do their own tests.

(*c*) A report was made on the latest policy of distribution of gamma globulin, its release by the National Foundation for Infantile Paralysis for retail sale on prescription. Dr. Hilleboe also reported on the vaccine inoculation field trials. Final results will not be known until April at the earliest. Of the 240,000 vaccinated in this State there have been 125 cases, but it is still not known whether they received vaccine or placebo.

(*d*) Although conditions in the migrant labor camps of the State are not so deplorable as public opinion would indicate, the Legislature gave a mandate to set up standards for these 26,000 seasonal laborers, and the Sanitary Code will be amended.

(*e*) Continued dissatisfaction on the part of the general practitioners was reported by your chairman relative to the jurisdiction exercised by the State Department of Education over school health services in most parts of the State. The Academy of General Practice is particularly interested in the matter. It was agreed to schedule a meeting with the Public Health and Education Committee of representatives from the Health Department, the Education Department, the Association of School Physicians, and the New York State Health Officers Association in the hope of resolving the problem on the thesis that child health is a part of community health rather than the concern primarily of the school authorities.

(*f*) Commissioner Hilleboe reported a new statement of principles of practice by full-time staff physicians of the Health Department. It will prohibit professional services to private patients which will interfere with or intrude upon the working hours of the physician in his Health Department position.

2. At the meeting of the Subcommittee on Cancer it was voted "to recommend to the Council that a series of articles on the treatment of cancer, not unlike the previous articles on diagnosis, be published in the NEW YORK STATE JOURNAL OF MEDICINE under the auspices of the Subcommittee on Cancer and the State Department's Bureau of Cancer Control."

It was also agreed to request that an editorial be written in the JOURNAL summarizing the latest findings of the Department of Health on cancer incidence and mortality rates for various sites of the body.

It *was voted* to approve the recommendations.

Dr. Theodore Rosenthal, Assistant Commissioner of Health for the City of New York, and Dr. Oppenheimer, Director of Cancer Control, told of the program for the newly organized full-time activity of the Department. It was requested of Dr. Rosenthal that the publicity directed to the medical and lay public relative to the activity of the newly organized bureau in the matter of detection clinics emphasize that the primary objective was to establish demonstration and training areas for physicians in cancer detection. Both Drs. Rosenthal and Oppenheimer felt that cancer detection done by physicians can best be handled in the physician's office.

3. A report has just been received of the meeting in Buffalo on October 12 of the Subcommittee on School Health. A resolution regarding coordination of health activities of the various official agencies concerned in school health, submitted by the New York State Health Officers Association to the Medical Society in August, was endorsed in principle, pending a study by the committee of the draft

of a new booklet, "Working Together for Healthier Children."

A resolution passed by the New York State School Physicians Association on June 7, 1954, was referred to the subcommittee, as follows:

> WHEREAS, we deem that the health of all school children is of paramount importance to the general health, welfare, defense, and economic interest of the nation; and
>
> WHEREAS, we consider that the supervision and the implementation of all health services of school children is best provided by competent practitioners of medicine; and
>
> WHEREAS, the Department of Education has seen fit to designate Health, Physical Education, and Recreation as a distinct division of the Department of Education; and
>
> WHEREAS, the health services of all other phases of our society such as industry, government service, and similar establishments have been entrusted to the care and supervision of competent doctors of medicine; therefore, be it
>
> *Resolved*, that the New York State Department of Education establish and maintain a separate and distinct division of School Health; and be it further
>
> *Resolved*, that such division be manned by competent medical, dental, nursing, and other allied personnel, and that the director of the division be a duly qualified and licensed practitioner of medicine in the State of New York; and be it further
>
> *Resolved*, that this resolution be sent at once to the Council of the New York State Medical Society, the New York State Association of General Practitioners, the district chairmen of the American Academy of Pediatrics, the New York State Dental Society, the New York State Association of School Nurse-Teachers, the New York State Association of Dental Hygienists, the Commissioner of Education, the Commissioner of Health, the individual members of the Board of Regents, and to the Honorable Thomas E. Dewey, Governor of the State of New York.

It was voted to recommend to the Council that this be approved and that the Board of Regents, Commissioner of Education, and Commissioner of Health be so notified.

It *was voted* to approve the recommendations. The secretary was instructed to send a copy to the incoming governor.

Another meeting of the subcommittee will be held in January during the Convention of the Physical Education and School Nurse-Teachers, when the Executive Committee of the School Physicians Association will convene. At that time the committee will report its opinions on the draft of the State Education Department's newly revised manual on "Administration and Supervision of School Health Services."

Dr. Curphey continued: "I have here, Mr. President, the recommendations of the Subcommittee on Mental Hygiene:

> Recommendation 1—That the facts of the new community health service law be brought forcibly to the attention of each county medical society with the recommendation that:
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> (*a*) On the mental health board two physician members actually represent the views of the county medical society;
>
> (*b*) That the mental health board be an autonomous body, responsible to the county executive office rather than to any other health association;
>
> (*c*) That the medical profession as represented by the county medical society take the lead in medical policy-making of such community health projects; and
>
> (*d*) That the community health board can serve as a center from which education of the general physician in the recognition and management of incipient mental disease may be conducted.
>
> Recommendation 2—That, in view of the regulations contained in the new community health service law, which would seem to resolve the problem, the Council, recognizing psychiatric therapy as a medical function, approve the use of clinically trained psychiatric social workers for purposes of individual therapy provided adequate supervision by a psychiatrist is maintained, and that the Council be requested to send a letter to this effect to Dr. Schappell of the Beekman-Downtown Hospital.

"We have laid on the table, I think twice, this request from Dr. Schappell in regard to the functioning of this mental health clinic in the Beekman-Downtown Hospital."

After discussion approval *was voted.*

Dr. Curphey continued: "The last item is that Dr. Siris would like the addition of Dr. Theodore Rosenthal, Assistant Commissioner of the New York City Department of Health, as a member of the Subcommittee on Cancer."

Approval *was voted.*

The report as a whole *was adopted.*

Dr. Robert C. Hunt.—Dr. Robert C. Hunt, Assistant Commissioner of Mental Hygiene, was introduced by Dr. Mellen.

Dr. Hunt gave a very interesting and informative talk and answered questions regarding the new program for community mental health services.

Public Relations.—Dr. Floyd S. Winslow, chairman, presented the following report: "During the past month, the Public and Professional Relations Bureau undertook distribution of the Guide for Cooperation between the medical profession and the various media of information, to members of the State Medical Society and other groups. Copies intended for the Erie County Medical Society members were sent to the office of that society at its request, as approved by the Council. Copies of the Guide also were sent to editors of daily and weekly newspapers in the State and to radio and television stations. A number of copies were furnished to the Hospital Association of New York State and the Society of Magazine Writers and state medical societies' executive secretaries. A letter was sent to the president of each county medical society concerning the Guide for Cooperation. This letter had the signature of Dr. Dan Mellen. He stated that he hoped the Guide would be a means for improving relations with representatives of the press, radio, and television. Carrying out another instruction from the House of Delegates, a copy of the Guide, with a special letter, was sent to Dr. George Lull, secretary and general manager of the American Medical Association.

"In order that the Guide might be given wide circulation, 200 copies were sent to the American

Medical Association's Public Relations Department for insertion in its publication *PR Doctor*. This is sent to key medical public relations people throughout the country.

"Requests for copies of the Guide have been received from many other sources. The Bureau has received letters commenting favorably upon the Guide.

"Registration at the Fourth District Branch was handled by Mr. Tracey, while Mr. Walsh took care of this at the Sixth District. Mr. Miebach attended all district meetings to handle the press and was in charge of registration at the Fifth District.

"Publicity was given to postgraduate lectures by newspaper releases in the following counties: Chemung, Fulton, Ontario, Orange, and Rensselaer.

"The Bureau continued its work of cooperating with committees of the State Society and outside groups. A representative of the Bureau attended a meeting of the Mental Hygiene Subcommittee to advise on public relations aspects of the new Community Mental Health Services Act and other mental hygiene matters.

"The Bureau also worked with the Woman's Auxiliary. Among the activities were cooperation with the chairmen of Civil Defense and the Health Poster Contest.

"In the field of radio and television, the Bureau published a special brochure entitled 'An Outline of Materials Available to Local Station Managers.' This presents in a handy form the radio, television, and film materials which can be obtained from the American Medical Association and other sources. The purpose is to assist county medical society public relations chairmen in promoting local radio and television programs."

Dr. Winslow asked permission for Mr. Miebach to present the following report: "Within the last few days the Bureau has had communications from Mr. Richard Frey, a writer for *Cosmopolitan* magazine. He is doing an article to be based on a discussion of whether or not a doctor has the moral duty to follow through on a case where he has asked the patient to return for treatment and the patient fails to do so, assuming this is done in the patient's interest. He has done an outline of the article, which he calls, 'One of My Patients Is Dead.' He submitted it to us, and Dr. Anderton has been good enough to go over it and has made some suggestions, which have been transmitted to Mr. Frey.

"He submitted this statement: 'When a patient has been asked to return for further treatment, there is no ethical reason why a doctor should not routinely follow up, and there is every practical and moral reason why he should. What is more, a reminder should come to the attention of the doctor, too, so that if the case is potentially serious, he may make more than a routine effort to have the patient get the needful attention.'

"I took this up with Dr. Anderton, who thinks some changes should be made in it. He made the suggestion that Dr. Winslow suggest to the Council that it be referred to the Committee on Ethics."

After discussion it *was voted* to refer this to the Committee on Ethics with power.

Woman's Auxiliary, Advisory to.—Dr. Andrew A. Eggston, chairman, stated: "I have received the *Ladder*, with the report of the activities of the various committees of the Woman's Auxiliary. It is very instructive and shows how active and what good work the Woman's Auxiliary is doing."

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, reported: "In the past month there has been a lull in our activities. Because of the recent election, with the change of administration, there will probably be a change in the chairman of the Workmen's Compensation Board with a change in many personalities in the Board.

"There have been during the past month a good many complaints in regard to the treatment of doctors by referees. Several instances were very detailed, and the complaints were forwarded to the chief referee. He investigated and, in at least one case, has reprimanded the referee for actions which he does not feel were according to the standards of the Board. I think this speaks well for the cooperation of the chief referee with our Bureau of Workmen's Compensation."

The report *was adopted.*

Unfinished Business

Landess Appeal.—Dr. Herbert H. Bauckus, chairman, read the following: "The Special Committee on Dr. Landess' Appeal to the Judicial Council of the American Medical Association met in the State Society office, October 14, 1954. Chairman Herbert H. Bauckus presided. The entire committee was present, including Drs. Walter W. Mott, John J. Masterson, Gerald D. Dorman, and Ezra A. Wolff; also William F. Martin, Esq., counsel, by invitation, and Dr. W. P. Anderton, secretary, ex officio.

"Dr. Bauckus read the resolution of the Council which established this committee.

"After discussion it was resolved that this committee recommends to the Council that at the argument of the Landess appeal before the Judicial Council of the American Medical Association, in Miami, Florida, on December 2, 1954, Charles Margett, Esq., counsel for the Medical Society of the County of Queens, will present the oral argument in favor of the ruling of the Medical Society of the County of Queens, which ruling was sustained by the Board of Censors and by the House of Delegates of the Medical Society of the State of New York."

After discussion it *was voted* that the report be accepted with the recommendation.

After discussion it *was voted* that the Council recommend to the Board of Trustees that Dr. Edward T. Wentworth's expenses, as Chairman of our Judicial Council, going to Miami and back from Rochester to attend the Landess appeal, be defrayed by the State Society.

New Business

State Commissioner of Health.—Dr. Anderton stated: "Mr. President, I move that this Council resolve that the President and Secretary are requested to write to Mr. W. Averell Harriman, if and when he is officially declared elected governor, urging that he continue Dr. Herman E. Hilleboe as Commissioner of Health in the State of New York."

It *was so voted.*

NECROLOGY

David Sterndale Bennett, M.D., of Palmyra, died on December 11, 1954, at Rochester General Hospital at the age of fifty-two. Dr. Bennett received his medical degree from the University of Toronto Medical School in 1926 and interned at Highland Hospital in Rochester. He was associate attending physician at the Rochester General Hospital. Dr. Bennett was a member of the Rochester Academy of Medicine, the Rochester Pathological Society, the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Ludwig A. Boehmer, M.D., of Bellerose and Douglaston, died on December 23, 1954, at his home in Douglaston at the age of fifty-six. A native of Germany, Dr. Boehmer received his medical degree from the University of Bonn in 1922 and served as ship's physician for the North German Lloyd line before coming to the United States in 1927. He was assistant attending surgeon at the Mary Immaculate Hospital in Jamaica. Dr. Boehmer was a member of the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Theodore George Branfman, M.D., of New York City, died on December 26, 1954, at the age of thirty-two. Dr. Branfman was graduated from New York University Medical College in 1946. He was a member of the American Psychiatric Association, the New York Psychoanalytic Society, the New York County Medical Society, and the Medical Society of the State of New York.

Gary Hudson Carl, M.D., of Olean, died on December 13, 1954, at his home at the age of thirty-four. Dr. Carl was graduated from the University of Buffalo School of Medicine in 1943 and served during World War II with the U.S. Army Medical Corps in Tokyo and Yokohama. He was on the associate attending staff at Buffalo General Hospital, chief of obstetrics at Olean General Hospital, and on the attending staff at St. Francis Hospital. Dr. Carl was a member of the Buffalo Obstetrical and Gynecological Society, the Cattaraugus County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Paris Vance Corey, M.D., of Fort Lauderdale, Florida, formerly of Brooklyn, died on December 5, 1954, at Fort Lauderdale at the age of sixty-nine. Dr. Corey received his medical degree from the Hahnemann Medical College of Chicago in 1904. During World War I he served with the U.S. Army Medical Corps. At one time Dr. Corey was chief surgeon on the *S. S. Leviathan.*

H. Ernest Gak, M.D., of South Onondaga, died on December 2 at the Crouse-Irving Hospital, Syracuse, at the age of seventy-one. Dr. Gak was graduated from the Albany Medical College in 1906. For many years he was attending physician for the Indians of the Onondaga Reservation; for twenty-five years he was town health officer, and for six years he served as Onondaga County coroner. During World War I he served with the U.S. Army Medical Corps in an evacuation hospital in Europe. Honorary attending physician at Crouse-Irving Hospital, Dr. Gak had been a member of the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

George Clifford Goewey, M.D., of Syracuse, died on December 20, 1954, at his home at the age of fifty-six. Dr. Goewey was graduated from the Syracuse University College of Medicine in 1923. He was a member of the Syracuse Academy of Medicine, the Allergy Society of Syracuse, the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Alfred Harf, M.D., of Kew Gardens, died on November 6, 1954, at the age of sixty-nine. A native of Germany, Dr. Harf received his medical degree from the University of Munich in 1909. He was a member of the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Sonia Kraff, M.D., of New York City, died on December 31, 1954, at her home at the age of fifty-three. Dr. Kraff received her medical degree from the New York University and Bellevue Hospital Medical College in 1933 and interned at Harlem Hospital. She was attending physician at the New York Infirmary and at the New York Infirmary Cardiac Clinic. Dr. Kraff was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Lewis Henry Marks, M.D., of Utica, formerly of Poughkeepsie, died on December 8, 1954, at the Masonic Home, Utica, at the age of eighty-two. Dr. Marks received his medical degree from Trinity University, Toronto, in 1896 and had practiced in Poughkeepsie for more than fifty years until his retirement in 1949. He had been chief of obstetrics at Vassar Brothers Hospital for many years and was an honorary member of the staff at the time of his death. Dr. Marks was a member of the Dutchess County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Jere John McEvilly, M.D., of Little Falls, died on December 20, 1954, at Albany Hospital at the age of fifty-six. Dr. McEvilly was graduated from Albany Medical College in 1922 and interned at Metropolitan Hospital in New York City. For the past thirty years he had practiced in Little Falls, serving as school physician since 1928 and health officer since 1946. Dr. McEvilly was attending surgeon at the Little Falls Hospital and consulting surgeon at Pine Crest Sanatorium. A Fellow of the American College of Surgeons, he was a member of the Utica Academy of Medicine, the Herkimer County Medical Society, of which he was past president, the Medical Society of the State of New York, and the American Medical Association.

Andrew J. McGowan, M.D., of New Brighton, Staten Island, died on January 3, at St. Vincent's Hospital, West Brighton, at the age of seventy-six. Dr. McGowan received his medical degree from the New York University and Bellevue Hospital Medical School in 1911. He was consulting physician at St. Vincent's Hospital, Richmond Memorial Hospital, and Richmond Borough Hospital for Communicable Diseases, where he had served as president of the board for nine years. A past president of the Richmond County Medical Society, Dr. McGowan was a member also of the Medical Society of the State of New York and the American Medical Association.

Alexander Robert Penn, M.D., of Dexter, died on December 7, 1954, in an automobile accident on Black River Bay, at the age of forty-seven. Dr. Penn received his medical degree from the London Hospital College of Medicine, London, England, in 1933 and interned at the Boston City Hospital. During the World War II he joined the British armed forces as an officer in the medical corps of the Royal Air Force. Following the war he practiced in London, returning here in 1948. Dr. Penn was on the associate attending staff of the House of the Good Samaritan and Mercy Hospital, both in Watertown. He was a member of the Royal College of Physicians and of the Royal College of Surgeons, both in London, England, and of the Association of Military Surgeons of the United States, the Jefferson County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

H. Lester Raymond, M.D., of St. Petersburg, Florida, formerly of Olean, died on December 7 in St. Petersburg at the age of seventy-seven. Dr. Raymond received his medical degree from the New York Homeopathic Medical School in 1892. He had practiced in Fort Ann and Olean until his retirement about twelve years ago. He had been consulting physician at the Olean General Hospital and a member of the Buffalo Academy of Medicine, the Cattaraugus County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Samuel Martin Seidlin, M.D., of New York City, died on January 2 at Mount Sinai Hospital at the age of fifty-nine. Dr. Seidlin was graduated from the Columbia University College of Physicians and Surgeons in 1923. He was associate attending physician at Montefiore Hospital and in 1943 established the Medical Physics Research Laboratory there, as well as its Endocrine Clinic. A pioneer in the use of radioisotopes in thyroid diseases, Dr. Seidlin had been consulting endocrinologist at Hillside Hospital, Queens, and since 1950 was consultant to the medical division of the Oak Ridge Institute of Nuclear Studies. He was a member of the Endocrine Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

George Birch Stanwix, M.D., of Yonkers, died on December 25, 1954, at his home at the age of seventy-eight. Dr. Stanwix was graduated from Albany Medical College in 1898 and had practiced in Yonkers for forty-five years. He was consulting otolaryngologist at the Yonkers General Hospital and at its Outpatient Department. A former president of the Ninth District Branch of the State Medical Society, Dr. Stanwix was a member of the Yonkers Academy of Medicine, the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Robert Howard Stein, M.D., of Kenmore, died on December 7, 1954, at Roswell Park Memorial Institute, at the age of forty. Dr. Stein was graduated from the University of Buffalo School of Medicine in 1940 and interned at Buffalo General Hospital. During World War II he served in the U.S. Army Medical Corps with the 23rd General Hospital in North Africa, Sicily, and France. Dr. Stein was clinical assistant attending surgeon at Children's Hospital, junior clinical assistant attending surgeon at Buffalo General Hospital, and chief cancer research breast surgeon at Roswell Park Memorial Institute. He was a member of the Buffalo Academy of Medicine, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Henry Draper White, M.D., of Rome, died on December 13, 1954, at his home at the age of eighty-nine. Dr. White was graduated from the Columbia University College of Physicians and Surgeons in 1896 and had practiced in Rome for over fifty years. He was honorary physician at the Rome and Murphy Memorial Hospitals. Dr. White was a member of the Oneida County Medical Society, the Medical

Society of the State of New York, and the American Medical Association.

Frank Thomas Woodbury, M.D., of New Rochelle, died on December 20, 1954, at the Veterans Administration Hospital, Bronx, at the age of seventy-nine. Dr. Woodbury received his medical degree from the Medico-Chirurgical College of Philadelphia in 1899. He entered the U. S. Army Medical Corps in 1900, serving as a medical officer in the Boxer Rebellion and the Philippine Insurrection campaigns. During World War I he was stationed at Camp Gordon, Georgia, where he introduced preventive military medicine and later was coauthor of a manual for Army medical officers on preventive medicine. In 1922 he retired from Army service and practiced in New York City. For many years Dr. Woodbury had been a lecturer on tropical hygiene and sanitation.

MEDICAL NEWS

Seneca County Resolution Passed—Seneca County practicing physicians unanimously passed a resolution to the effect that the communities in that area can best be served by new hospital facilities so constructed and so located as to be a single hospital facility serving the area as a single institution.

Hospital Ground Broken—The Schoharie County Community Hospital Board has announced that ground breaking ceremonies took place recently on the hospital site, Grand View Drive, Cobleskill.

Rev. John J. Dignan of Cobleskill, Rev. Gordon Alexander of Middleburgh, and Rabbi Wolk of Albany blessed the ground. The remainder of the ceremonies were held at the American Legion Home.

Protest Hospital Closing—The Herkimer County Medical Society has asked the Herkimer County Board of Supervisors to postpone any action toward closing of Pine Crest Sanatorium for at least five years. The statement made by the governing board of the Herkimer County Medical Society was signed by Dr. Arthur Leistyna, Ilion, as president of the Society and was delivered to Mr. Philip Burdick, chairman of the Board of Supervisors.

Doctors Added to Staff—Seven new doctors, four of whom are graduates of Albany Medical College, have been admitted to the staff of Putnam Memorial Hospital, Bennington, Vermont.

Drs. Arthur S. and Elizabeth C. Faris, a husband and wife team, have been appointed associates in the division of general medicine at the hospital. Dr. Samuel W. Bacon, Jr., has been appointed associate in general surgery, and Dr. Earle O. Brown, Jr., was named associate in general medicine.

Genesee County Medical Society—Officers of the Genesee County Medical Society for 1955 are: Dr. Ralph B. Smallman, Batavia, president; Dr. Joseph Krawczyk, Batavia, president-elect; Dr. Paul C. Jenks, LeRoy, secretary-treasurer, and Dr. Alfred L. George, Batavia, delegate.

Chairmen of the standing committees include: Dr. Peter F. Baker, public health; Dr. Richard Davis, compensation; Dr. Carl C. Koester, mediation; Dr. Joseph S. Diasio, public relations and publicity; Dr. Paul P. Welsh, program; Dr. Alfred L. George, legislation; Dr. Charles M. Graney, emergency medical care; Dr. T. Murray Steele, membership, and Dr. Raymond L. Warn, economics.

Chairman of special committees are: Dr. George S. Young, blood program; Dr. David Johnson, hospital and professional relations; Dr. C. Dexter Pierce, military affairs, and Dr. Joseph Tannenberg, diabetic committee.

New York University College of Medicine—A grant of $60,000 to establish scholarships was awarded New York University College of Medicine by the Samuel Rubin Foundation, Inc., it has been announced by Dr. Henry T. Heald, chancellor of NYU.

The scholarship fund, established on an endowment basis, will provide multiple scholarships in amounts up to $500 each over an extended period of years. Scholarships will be awarded to needy and worthy students on the recommendation of the NYU College of Medicine committee on student aid. They will be known as the Samuel Rubin Foundation Scholarships.

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1. *Page, E. W. and Page, E. P., Obs. and Gyn., Jan. 1953*
2. *Newman, R. L., Am. J. Obs. and Gyn., April 1953*
3. *Hawker, W. D., Mo. Med., Sept. 1954*
4. *Gross, Wager et al, Bull. Marg. Hague Matern. Hosp., Dec. 1953*

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[Continued from page 400]

Medical Library Scholarships—The Medical Library Association is offering four scholarships of $150 each for summer school courses in medical library work in 1955, two at Columbia University and two at Emory University.

Applications for these scholarships should be made to the school at the time of application for enrollment. Transcript of academic records should be submitted to the school even if the applicant is not a candidate for a degree. April 1, 1955, is the Association's closing date for scholarship applications; candidates must already have been accepted by the school.

Potsdam Hospital Given High Rating—Potsdam Hospital has been approved for full accreditation by the board of commissioners of the Joint Commission on Accreditation of Hospitals, it has been announced by Frank M. Hill, hospital superintendent.

New York University-Bellevue Medical Center—New York University-Bellevue Medical Center is the recipient of a gift of $100,000 from the Rockefeller Foundation, it was announced recently by Dr. Henry T. Heald, chancellor of New York University.

The award is for support of research in the field of cellular enzyme chemistry under the direction of Dr. Severo Ochoa, professor and chairman of the Department of Biochemistry at NYU College of Medicine, a unit of New York University-Bellevue Medical Center. Approximately half of the grant will be used for the purchase of necessary equipment; the remainder will help finance the research project over a seven-year period.

Cerebral Palsy Survey—The Coordinating Council for Cerebral Palsy in New York City is conducting a survey to establish where services for the cerebral palsied are actually available in New York City and the number of persons receiving care. The nature of the available services is also being studied.

The Council hopes to plan for persons with cerebral palsy who are not receiving care, and plans a further study to determine the actual known prevalence of persons with cerebral palsy in New York City.

Atomic Energy in Medicine—The role of atomic energy in the development of medicine and biology was explored in Geneva at a meeting with four scientists invited by Dr. M. G. Candau, director general of the World Health Organization.

Discussion of the positive aspects of atomic energy centered on the use of radioactive isotopes in the diagnosis of various diseases and in medical research. The WHO consultants indicated fields in which the use of radioactive isotopes can lead to important discoveries, among them human biology, also diagnosis, treatment, epidemiology and the control of diseases.

Among other subjects discussed were nutritional problems, the solution of which depends greatly on advances to be made through the use of atomic energy in agriculture and fisheries.

Respiratory Center at Hospital—The first patients were recently admitted to New York City's new center for care of persons with chronic diseases that make breathing difficult. It is at the Goldwater Memorial Hospital on Welfare Island. At first there will be space for 21 iron-lung patients and for 35 to 40 patients who need less complete breathing aids. The center will be headed by Dr. Joseph G. Benton of the College of Medicine, under the general direction of Dr. Howard A. Rusk, head of the Institute and associate editor of the *New York Times*.

Meetings—Past

Gerontology Symposium

A one-day symposium on "Constructive Medicine in Aging: Predictable Stresses in Middle Life" attracted more than 300 physicians to Cincinnati's Netherland Plaza Hotel December 14, to hear papers presented by some of the nation's leading authorities on gerontology.

The symposium fulfilled a four-point objective: (1) seminar exploration of fundamental clinico-research problem of gerontology; (2) integrate basic research with practical application to clinical medicine; (3) focus public and professional attention on the growing problem of aging; (4) encourage young professional men to select gerontology as a "career."

Westchester County Medical Society

A panel discussion on "Community Mental Health Services as Provided by the Community Mental Health Services Act" was held at the meeting of the Westchester County Medical Society January 18, at the New York Hospital, Westchester Division, in White Plains.

Moderator was Dr. James H. Wall, White Plains, medical director of the Hospital, and discussants included the following: Dr. Robert C. Hunt, assistant commissioner, New York State Department of Mental Hygiene, Community Mental Health Division; Dr. John E. Gundy, Rye, representing pediatrics; Dr. Waring Willis, Bronxville, obstetrics, and Dr. Raymond Sobel, White Plains, psychiatry.

Kings County Radiological Society

The Kings County Radiological Society met on January 27, at the Kings County Medical Society Building, 1313 Bedford Avenue, Brooklyn. Dr. Coleman B. Rabin, associate radiologist, Mount Sinai Hospital, and assistant clinical professor of medicine, Columbia University, spoke on the early diagnosis of carcinoma of the lung. The discussion

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[Continued from page 402]

was opened by Dr. Lew A. Hochberg, thoracic surgeon, Jewish Hospital and Coney Island Hospital.

State University of New York

The Research Society of the State University of New York College of Medicine at New York City met January 12, at Hoagland Hall, 335 Henry Street, Brooklyn. Dr. Irena Koprowska, Department of Pathology, spoke on exfoliative cytology as applied to quantitative evaluation of induced oncolysis; Dr. John J. Kelly, spoke on some physiologic observations concerning the genesis of the first heart sound, and Dr. C. Y. Kao, Department of Physiology, spoke on bioelectric effects of some intracellularly applied drugs.

Cardiovascular Disease

A postgraduate course in cardiovascular disease was given at the University of Buffalo School of Medicine on January 26 and 27. The course was designed to provide practical answers to the clinical problems presented by cardiovascular disease, and to review important recent advances in therapy.

Society of Medical Jurisprudence

The Society of Medical Jurisprudence held its 686th regular meeting on January 10, at the New York Academy of Medicine building. An address was given by the retiring president, Colonel Howard J. Hutter, Medical Corps U.S. Army (Ret.), and by incoming president Edward J. Bohne, Esquire, member of the New York Bar.

Meetings—Future

Kings County Radiological Society

The Kings County Radiological Society will meet on Thursday, February 24, at 9 P.M. at the Kings County Medical Society Building, 1313 Bedford Avenue, Brooklyn. Dr. I. Snapper, director of medical education at Beth-El Hospital, will speak on medical bone diseases. Members of the profession are cordially invited.

New York Academy of Sciences

The New York Academy of Sciences is scheduling, on February 3 and 4, a second conference in the field of reserpine research under the title "Reserpine in the Treatment of Neuropsychiatric, Neurological, and Related Clinical Problems." All sessions will be held at the Barbizon-Plaza Hotel, 101 West 58th Street at 6th Avenue, New York City.

National Vitamin Foundation

The National Vitamin Foundation, Inc., of New York City, will sponsor a symposium on March 1 at the Biltmore Hotel, New York City, on "The Antimetabolites—Their Modes of Action and Therapeutic Implications."

Participants from New York State will include: Dr. L. R. Cerecedo, Fordham University, speaking on thiamine antagonists; Dr. J. H. Burchenal, Memorial Center for Cancer and Allied Diseases, New York, speaking on folic acid antagonists; Dr. G. H. Hitchings, Wellcome Research Laboratories, Tuckahoe, speaking on purine and pyrimidine antagonists; Dr. D. Woolley, Rockefeller Institute for Medical Research, New York, on a naturally occurring antimetabolite of methionine in the causation of a disease, and Dr. J. P. Lambooy, University of Rochester, on riboflavin antagonists.

Aero Medical Association

The twenty-sixth annual meeting of the Aero Medical Association will be held March 21 to 23 at the Hotel Statler, Washington, D.C. Among the speakers will be Dr. John J. Welsh, American Airlines, Flushing, on the medical problems of airline flight personnel; Walter R. Dornberger, Ph.D., Bell Aircraft Corporation, Buffalo, on flight at the upper border of the atmosphere; A. Howard Hasbrook, director, Aviation Crash Injury Research, Cornell-Guggenheim Aviation Safety Center, New York City, on aviation crash injury research, and Dr. Lucio E. Gatto, Col., USAF (MC), Sampson AFB, on further evaluation of fear of flying syndrome.

American Congress of Physical Medicine and Rehabilitation

The 33rd annual scientific and clinical session of the American Congress of Physical Medicine and Rehabilitation will be held August 28 to September 2, 1955, inclusive, at the Hotel Statler, Detroit. Full information may be obtained by writing to the executive secretary, Dorothea C. Augustin, American Congress of Physical Medicine and Rehabilitation, 30 North Michigan Avenue, Chicago 2, Illinois.

An annual essay award is being sponsored by the Congress and may be on any subject of interest or pertaining to the field of physical medicine and rehabilitation. Further information may be obtained by writing to the above address.

Personalities

Awarded

Dr. F. Peyton Rous, pathologist and member emeritus of the Rockefeller Institute for Medical Research, and Dr. Harold G. Wolff, neuropsychiatrist and professor of medicine at Cornell University, both of New York City, the 1955 Modern Medicine award for distinguished achievement. . .Dr. Howard A. Rusk, director of the Institute of Physical Medicine and Rehabilitation at New York University-Bellevue Medical Center and an associate editor of the *New York Times*, the Phi Delta Epsilon medical

[Continued on page 406]

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Honored

Dr. David Lehr, Larchmont, associate professor of medicine and associate attending physician at New York University Medical College and Flower-Fifth Avenue Hospitals and associate visiting physician at Metropolitan and Bird S. Coler Hospitals, cited in "The Chironian," New York University Medical College magazine, for his experimental work and clinical studies with sulfonamides. . .Dedication of the George B. Wallace Laboratories of Pharmacology on January 12 in the Medical Science Building of New York University-Bellevue Medical Center, in memory of the late Dr. George B. Wallace, first president of the NYU Medical Alumni Association.

Appointed

Dr. Berwyn Mattison, health commissioner for Erie County, as state secretary of health for Pennsylvania. . .Dr. Victor L. Pellicano, president of the Niagara County Medical Society, as chief-of-staff at Mt. St. Mary's Hospital in Niagara Falls, succeeding Dr. Edwin W. Gates. . .Dr. Avery A. Sandberg, as supervisor of the hematological laboratories and the institute's blood bank, and Dr. James F. Holland in charge of the inpatient medicine department at the Roswell Park Memorial Institute. . .Dr. John L. Simon, attending neurologist at Good Samaritan Hospital, Suffern, as head of the institution's new electroencephalography service. . .Dr. Robert C. Warner, promoted from assistant to associate professor of the Department of Biochemistry of New York University College of Medicine.

Dr. Kurt Berliner, as associate clinical professor of medicine at New York Medical College and associate attending physician at Flower and Fifth Avenue Hospitals.

Elected

Dr. Herbert Berger, Pleasant Plains, president, Dr. Nello Nepola, vice-president, and Dr. Henry W. Litvak, secretary-treasurer, of the Richmond Memorial Hospital. . .Dr. James M. Dobbins, Astoria, reelected president of the medical board of St. John's Hospital. . .Dr. Luther B. Gardner, president, Dr. Francis Tisdale, vice-president, and Dr. Albert Rowe, secretary, of the Bethesda Hospital medical staff. . .Dr. Charles F. Goodnough, president, Dr. James C. Harberson, vice-president, and Dr. Murray H. Gardner, secretary-treasurer, of the House of the Good Samaritan medical staff. . .Dr. Gerald B. Manley, Geneseo, as president of the Wyoming County Community Hospital medical staff. . .Dr. George J. Marvin, Dr. Elton R. Dickson, Dr. Howard W. Davis, Dr. Frank G. Moore, Dr. Waldemar H. Boldt, Dr. Leonard L. Steed, and Dr. Hugh S. Gregory, chairmen of standing committees for the Broome County Medical Society. . .Dr. George C. Hamilton, Binghamton, chairman of the board of censors, and Dr. Alvin R. Carpenter, Binghamton, chairman of the workmen's compensation committee, of the Broome County Medical Society. . .Dr. Harold Ross, president, and Dr. Patrick Mullins, secretary, of the St. John's and St. Joseph's Home medical staff in Utica. . . Dr. Lawrence F. Withington, president, Dr. W. Webber Young, vice-president, and Dr. Harold B. Thurston, secretary-treasurer, of the Mercy Hospital medical staff in Watertown.

Dr. M. L. Tainter, director of the Sterling-Winthrop Research Institute, Rensselaer, as president of the New York Academy of Sciences. . .Dr. Louis Dlugasch, as president of the medical board of Beth David Hospital for 1955.

Speakers

Dr. John H. Bland, member of the staff of the University of Vermont Medical College, on January 20 before the Fulton County Medical Society in Johnstown, on "Electrolytes and Management of the Problem in a Smaller Hospital". . .Dr. Stanley Cobb, neuropsychiatrist and Bullard Professor of Neuropathology, emeritus, at Harvard Medical School, the fifth annual Leopold Stieglitz lecture at New York University College of Medicine on December 15 on "Multiple Etiology in Psychiatry and Medicine". . .Dr. John C. Donovan, instructor in obstetrics and gynecology at the University of Rochester School of Medicine, before the Mohawk Valley Gynecological and Obstetrical Society in Utica, January 25, on "Psychiatric Problems Associated with the Menopause". . .Dr. J. W. Littler, New York City, on "The Severed Flexor Tendon," Dr. John L. Madden, New York City, associate clinical professor of surgery, New York Medical College, on "Common Duct Exploration," and Dr. Laurence Miscall, New York City, on "Surgical Treatment of Mitral Stenosis," at the International College of Surgeons, Mid-Atlantic Division regional meeting in Washington, D.C., on February 11 and 12. . .Dr. George T. Pack, New York City, on January 14 and 15 at the cancer seminar given by the Arizona Division of the American Cancer Society, in Phoenix. . .Dr. Melitta Schmideberg, analyst and chairman, executive committee, Association for Psychiatric Treatment of Offenders, on December 28, before the members of the hospital staff of the Veterans Administration Hospital at Northport, L.I., on "Principles of Therapy."

Dr. Franklin M. Foote, executive director of the National Society for the Prevention of Blindness, at the society's annual membership meeting. . .Dr. Arthur Alexander Knapp, a talk in November before a meeting of the Bucks County Medical Society in New Hope, Pennsylvania, on "Criteria for Eye Surgery: The Physiologic Bases." Dr. Knapp also showed a Kodachrome film of the surgery of tattooing with iridectomy.

New Offices

Dr. William J. Braell, succeeding Dr. Peter G. Brandetsas, in Palmyra. . .Dr. Hobart M. Brockway, general practice in Beacon. . .Dr. Harold F. Game, general practice in Elmira. . .Dr. Kenneth W.

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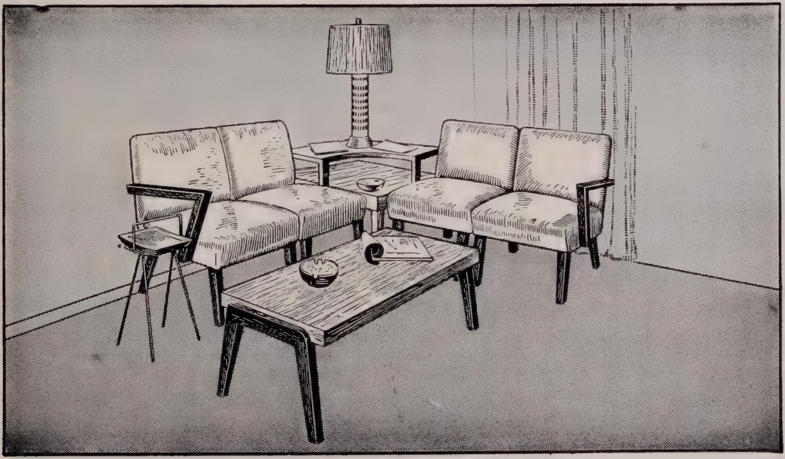

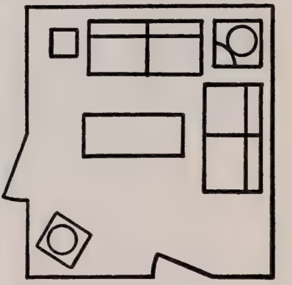

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[Continued from page 406]

Horne, as radiologist at the Southampton Hospital and roentgenologist at the Southampton and East Hampton Medical Groups. . .Dr. Robert B. Lerrick, New York City, practice of pediatrics in Tuckahoe . . .Dr. John O'Donnell, practice of pediatrics in Smithtown. . .Dr. Edward D. Riner, Putnam Valley, practice of general surgery in the former office of Dr. Nathaniel M. H. Blumenkranz. . .Dr. Albert M. Storrs, Cincinnati, practice of general surgery with Dr. H. Bruner Sutton, Dr. John Hirshfeld, and Dr. Reginald C. Farrow in Ithaca. . .Dr. John N. Strachan, Jr., general practice in Niagara Falls. . . Dr. R. J. VanCoevering, Penn Yan, associated with the Foster-Hatch Medical group in the practice of obstetrics and gynecology.

Dr. Charles John Barranco, of Rochester, to take over the office of Dr. Richard A. Loomis in Ellicottville. . .Dr. Henry J. Dobies, formerly general resident physician in Kingston, Pennsylvania, general practice in Massena. . .Dr. L. Miller Harris, formerly instructor of anesthesiology at Albany Medical College, in association with Dr. Allen W. Henderson and Dr. Harold B. Thurston, practice of anesthesiology in the Watertown hospitals. . .Dr. John O'-Donnell, practice of pediatrics in Smithtown.

Reopen Offices

Dr. Harold C. Livingston, full time practice in Dexter, after doing graduate work at Clifton Springs, sanatorium and clinic since July 1. . .Dr. W. W. Manson, associated with the Gelder Clinic in Sidney, practice of obstetrics and gynecology, after his recent discharge from the Navy.

Dr. Francis LoGalbo, obstetrics and gynecology in Kingston after active duty with the Army Medical Corps in Europe. . .Dr. Florence Normandeau, general practice in Schenectady after a summer in Plattsburgh. . .Dr. William A. Sausmer, general practice in Hicksville, after completing a tour of duty with the armed forces.

Moved

Dr. Orren D. Chapman, professor and chairman of the Department of Microbiology at State University College of Medicine and director of City Laboratory in Syracuse, to Amman, Jordan, for two years work with the United States Public Health Service. . .Dr. John E. Coe, from an office in his home in Ogdensburg, to an office at 424 Caroline Street, Ogdensburg. . .Dr. Clarence E. Dungan, former Wellsville physician, to private practice in Hancock.

Resigns

Dr. Edwin W. Gates, as chief of staff of Mt. St. Mary's Hospital, Niagara Falls. . .Dr. Ernest M. Gruenberg, as executive director of the New York State Mental Health Commission, to accept a position with the Milbank Memorial Fund.

Dr. Rollin P. Fiero, as town physician in Speculator.

Retired

Dr. Richard Parmenter, as chief aide to Vice-President Theodore P. Wright, administrator of the Cornell research effort.

ANNOUNCEMENT

A.M.A. "VIDECLINIC"

Wednesday, February 9, 1955 9 P.M.

Albany—DeWitt Clinton Hotel
Brooklyn—Minora Temple
Buffalo—University of Buffalo
New York—Century Theatre
Rochester—Sheraton Hotel

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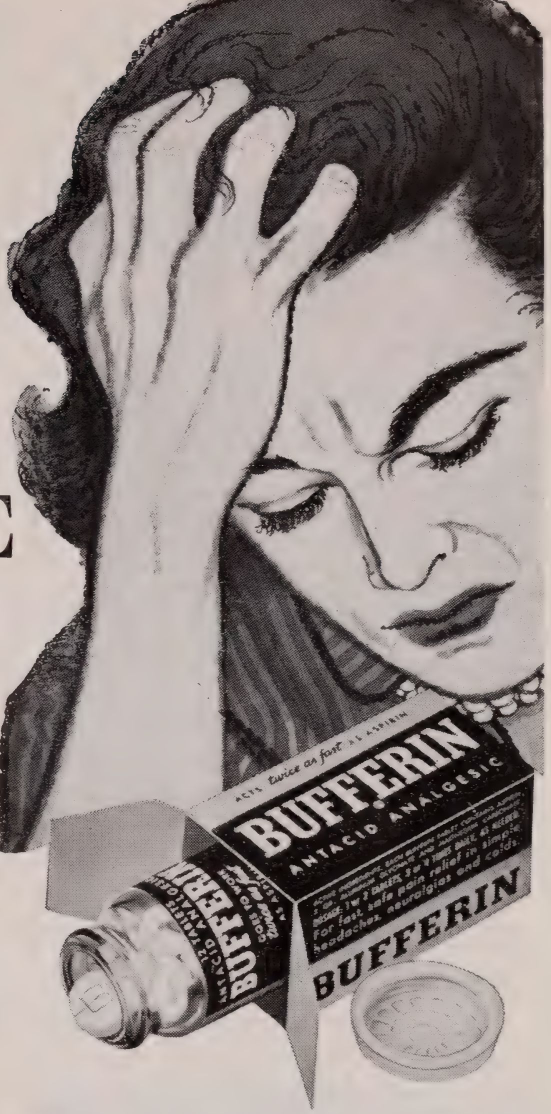

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References: 1. J. Am. Pharm. Assoc., Sc. Ed. 39:21 (Jan.) 1950. 2. Ind. Med. 20:480 (Oct.) 1951. 3. In Press. 4. J.A.M.A. 141:124 (Sept. 10) 1949.

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NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Teaching Day—A "Pediatric Teaching Day" was presented by the College faculty on December 9 at which Dr. Paul R. Patterson, chairman, Department of Pediatrics, presided as moderator. Dr. Otto A. Faust, professor of pediatrics, discussed "The Psychological Management of the Pediatric Surgical Patient" and a clinical experiment known as the "Albany Plan." "Medical Management Before and After Surgery" was presented by Dr. Gerald B. Austin, instructor in pediatrics, and Dr. Eldridge Campbell, professor of surgery and chairman, Department of Surgery, spoke on "Intracranial Hematomas of Infancy and Childhood," at the morning session.

During the afternoon, Dr. C. Stuart Welch, associate professor of surgery, discussed "Time of Election for Surgery in Infancy and Childhood"; Dr. W. Brandon Macomber, associate professor of surgery, and Dr. Mark K. H. Wang, instructor in surgery, with Dr. Crawford J. Campbell, associate professor of orthopedic surgery, "Congenital and Plastic Repair Problems of Childhood" and "Differential Diagnosis of Aseptic Necrosing Lesions of Bones in Childhood."

Aviation Medicine Conference—Dr. Gerald S. Kanter, instructor in physiology, spoke on the results of the "Effects of Environmental Heat on Fluid and Electrolyte Balance" at the conference on "Thermal Factors in Aviation Medicine" held on December 13, 1954, at the School of Aviation Medicine of the United States Air Force Air University, Randolph Field, Texas.

Grant—For the continuation of a study of tumors arising spontaneously in the mammary glands of rats, from the United States Public Health Service, under the direction of Dr. J. M. Wolfe, director, Department of Pathology and Bacteriology.

University of Rochester

Research Grant—Dr. Thomas R. C. Sisson, a research associate and instructor in pediatrics, is conducting a project to determine the role of meat in strengthening the blood of babies. This research work is being done under a grant from Swift and Company.

State University College of Medicine at New York City

Appointments—Dr. Alfred Hurwitz, now chief of surgery at Veterans Hospital, West Haven, Connecticut, and associate clinical professor of surgery at Yale University School of Medicine, has been appointed to concurrent posts as full professor of surgery at the College and full-time director of surgical services at Maimonides Hospital. This appointment was made in accordance with a special affiliation agreement between the College and Maimonides Hospital under which nominations to full-time posts on the Hospital staff are initiated within the College faculty. Two similar appointments made last spring were those of Dr. Max Michael, Jr., as professor of medicine and chief of medical services at Maimonides, and Dr. Edward Solomons as professor of obstetrics and gynecology and chief of obstetric and gynecologic services at the Hospital.

Dr. William B. Ayers, who is associate professor of surgery at the College, will serve as acting director of the Maimonides surgical services until Dr. Hurwitz arrives next spring.

Dr. Louis J. Soffer, attending physician and head, Endocrinology, Mount Sinai Hospital, New York City, has been appointed clinical professor of medicine, effective April 1.

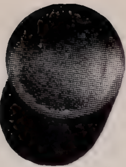
Dr. Harold Eder, who is presently an investigator in the Metabolism Laboratory of the National Heart Institute, Bethesda, Maryland, has been appointed associate professor of medicine, effective early in 1955.

Sir Lionel E. H. Whitby, Regius Professor of Physics in the Department of Medicine at the University of Cambridge, England, served as Visiting Professor of Medicine from January 1, 1955 to February 1, 1955.

Dr. Donald Robert Goodenough, of the Department of Psychology, University of Rochester, has been appointed assistant professor of psychiatry.

Extension Course—The College has recently completed a Symposium on Internal Medicine in cooperation with the Orange County Community College Extension Services Division. A postgraduate medical lecture series for physicians in Orange County, the program was set up by Dr. Jean A.

[Continued on page 412]



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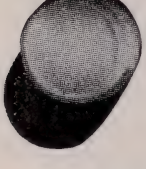

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AL-AMPHYLLINE TABLETS (4)	0.90	1.16	0.91
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Intravenous Aminophylline (0.5 Gm.)[1]	1.60	1.30	0.70
Aminophylline Suppository (0.5 Gm.)	0.11	0.22	0.38
Aminophylline Suppository (0.5 Gm.)	0.26	0.51	1.09

1. J. Pharmacol. Exper Therap., 100:309, 1950.

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[Continued from page 410]

Curran, associate executive dean for medical education of the University, and Dr. Perrin H. Long, professor of medicine, in cooperation with President Edwin H. Miner of the Orange County College.

The course dealt with ten major phases of internal medicine which face the diagnostician, each of which was discussed by a faculty member of the College. Topics discussed were treatment of arthritis, management of heart failure, treatment of hypertension, the unimportance of laboratory tests, clinical use of cortisone and ACTH, modern concepts of psychosomatic medicine, treatment of diabetes, tumors of the lung and mediastinum, the use and dangers of antibiotics, and the problems of gastroenterology.

BOOKS REVIEWED

The Uncommon Heart Diseases. By Nathaniel E. Reich, M.D. Octavo of 516 pages, illustrated. Springfield, Charles C Thomas, 1954. Cloth, $10.50.

This will be a useful addition to the library of the cardiologist. The author is quite correct in his feeling that the rarer diseases of the heart, structural and otherwise, are not adequately discussed in the standard texts. His book, carefully written and annotated, goes far to repair this loss and will provide a highly satisfactory volume for those interested in heart disease.—MILTON PLOTZ

Atlas of Exfoliative Cytology. By George N. Papanicolaou, M.D. Quarto. v.p. Illustrated. Cambridge, Massachusetts, Published for the Commonwealth Fund by Harvard University Press, 1954. Limp cloth, $18.

The *Atlas* is an exceptionally fine contribution to the subject of cytology. Papanicolaou, the Commonwealth Fund, and the Harvard University Press are to be congratulated for making possible such a valuable book for workers in this field.

Outstanding, there are 36 magnificently reproduced colored plates, illustrating a wide variety of individual cells that are the most likely encountered in smears prepared from various kinds of body fluids. A full description and explanation of each cell accompanies every plate, while the text elaborates on the description of normal and neoplastic cells. Of special value also is the brief survey of the technical procedures employed in the study of exfoliative cytology. In addition, the adoption of the looseleaf system of presentation with the intention of periodical expansion of the volume under the direct supervision of the author and his coworkers increases its lasting value.

This volume should be in the library of every laboratory and hospital that is engaged in cytologic slides and diagnosis.—CASPAR G. BURN

Thoracic Surgery. By Richard H. Sweet, M.D. Illustrations by Jorge Rodriguez Arroyo, M.D. Second edition. Octavo of 381 pages, Illustrated. Philadelphia, W. B. Saunders Co., 1954. Cloth, $10.

This is the second edition of an invaluable book on thoracic surgery. Many of the shortcomings of the previous edition are corrected and other parts are added, bringing this work up to recent times.

In spite of the fact that this work is based upon the practices of one man, it is a distinct contribution to thoracic surgical technic.—LEW A. HOCHBERG

The Allergic Child. By Harry Swartz, M.D. Octavo of 297 pages. New York, Coward-McCann, 1954. Cloth, $3.95.

Swartz has written a very satisfactory book of 300 pages intended primarily for the lay reader. The glossary and appendices, listing substitute foods and the composition of different food products, will be helpful to the allergic patient.

The relationship of allergy to behavior problems in children, stressed in this volume, may not be completely acceptable to all allergists.—MAX HARTEN

Hypertension and Nephritis. By Arthur M. Fishberg, M.D. Fifth edition. Octavo of 986 pages. 49 illustrations. Philadelphia, Lea & Febiger, 1954. Cloth, $12.50.

This is the fifth edition of Fishberg's monumental monograph on hypertension and nephritis which was recognized as nothing short of a major achievement when the first edition appeared. It took its place at once as the best and standard work on the subject in the English language. Fifteen years have passed since the last edition, and so much new material has been added and so many changes made that this edition may be considered

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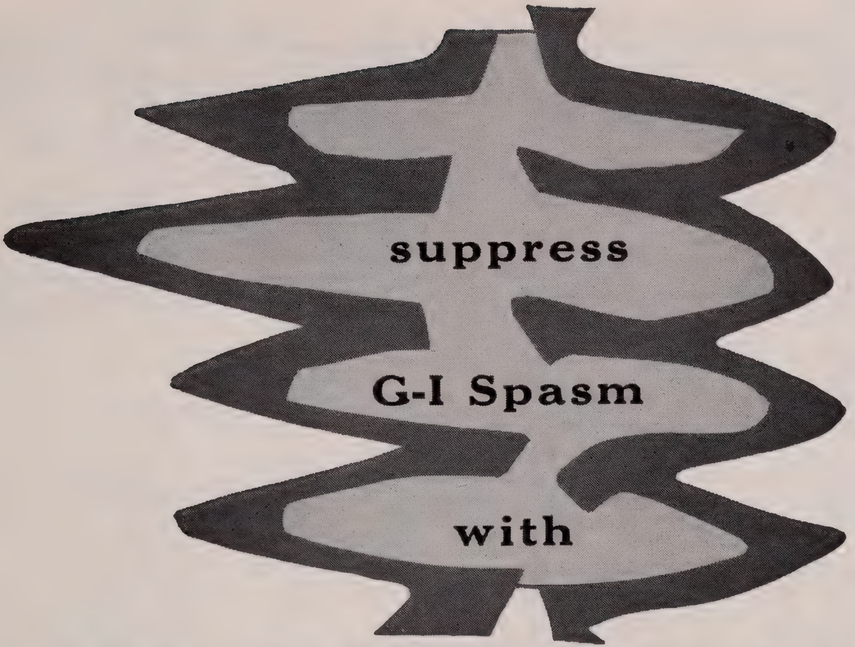

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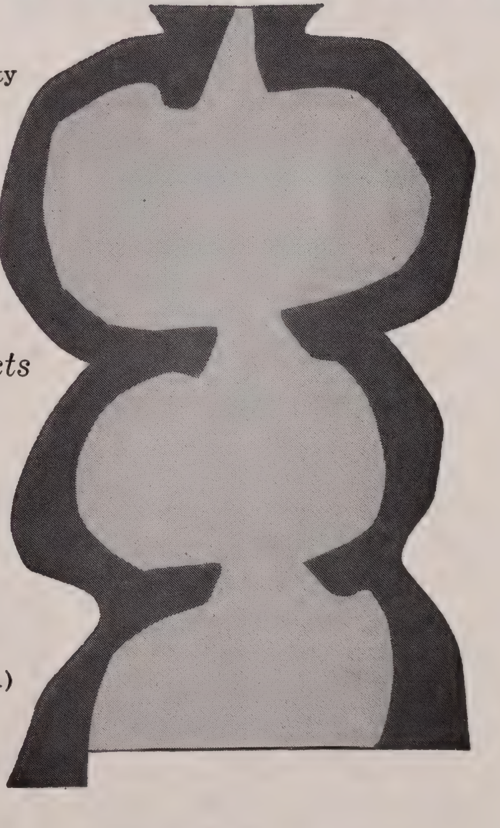

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C I B A *Summit, N. J.*

[Continued from page 412]

as essentially a new work, although the chapter arrangement is essentially the same as before. Recognition is made of acute renal insufficiency, diabetic kidney syndrome, changes in our attitude toward hypertension, etc., etc. The high standards of previous editions are completely maintained and the work should be in the library of every practicing physician.—MILTON PLOTZ

Pediatric Problems in Clinical Practice. Special Medical and Psychological Aspects. H. Michal-Smith, Ph.D., Editor. With fourteen contributors. Octavo of 310 pages. New York, Grune & Stratton, 1954. Cloth, $5.50.

There are times in medicine when physicians "cannot see the woods for the trees," a way of saying that we may get so engrossed in details, and especially in the most recent details, that we forget the importance of the over-all picture of a disease. This excellent book is prepared to overcome just such a situation.

The 13 subject headings reveal this. The child, not merely the disease, is considered, and the principal problems of chronic diseased states of children are covered by various outstanding specialists, for example, *The Diabetic Child,* by Priscilla White. White is, of course, at her classical best, as always, a star performer. In *The Spastic Child,* Winthrop M. Phelps gives the principal keys to the solution of this knotty problem. Every subject is covered extremely well and in a relatively short thesis. The above two authors are named because they are so eminently outstanding and always so lucid in their writings. However, the other treatises are of equal clarity and succinctness.

This is the type of compilation which is needed for practicing pediatricians and general practitioners to gather up and join together the multitude of detailed information gleaned from rapid perusal of journals.—KENNETH G. JENNINGS

A Synopsis of Children's Diseases. By John Rendle-Short, M.B. (Cantab.). Duodecimo of 608 pages. Bristol, John Wright & Sons (Baltimore, Williams & Wilkins Co.), 1954. Cloth, $7.00.

In discussing the usefulness of this excellent volume this reviewer can best quote from the author's preface "It is hoped that this book will be of value to those preparing for examinations. . .; also for pediatric house physicians and general practitioners. It should not take the place of standard textbooks."

Much of the material in this book is drawn from standard English and American textbooks. The format and outline method of presentation is to be highly commended. The volume has a number of interesting tables and diagrams and its contents are authentic, as are the highly standard textbooks which it abstracts. Some of the subjects are rather briefly condensed. However, this book contains over 600 pages with more than 40 pages of index, which bespeaks quite a degree of thoroughness.—SAMUEL K. LEVY

Hormones in Health and Disease. A Symposium Presented at the Twenty-Fifth Graduate Fortnight of the New York Academy of Medicine, October Sixth to Seventeenth, 1952. Edited by Robert L. Craig, M. D. Octavo of 346 pages, illustrated. New York, Macmillan Company, 1954. Cloth, $6.00.

These are the lectures from the 1952 Graduate Fortnight of the New York Academy of Medicine. The outstanding participants discuss the latest advances in endocrinology. Academic research and clinical reports resolve into a clear, concise portrait of modern endocrinology. The comment of Dr. Howard C. Taylor, Jr., discussing gynecologic endocrinology is striking—"endocrine therapy is still a happy hunting ground for the imaginative and uncritical."—BERNARD SELIGMAN

Diseases of the Heart and Arteries. Anatomical and Functional Disturbances of the Circulation. Treatment. By George R. Herrmann, M.D. Fourth edition. Quarto of 652 pages, illustrated. St. Louis, C. V. Mosby Co., 1952. Cloth, $12.50.

This is the fourth edition of a very splendid book, well posted and with wide clinical manifestations. Anatomically, physiologically, and pathologically the presentations are in every way adequate.

After 240 pages covering various methods of cardiac disease study, and 49 pages devoted to congenital heart lesions, the book moves into outstanding bedside medicine for 337 pages. This is most excellent, well written and well balanced.

In the appendix there are fine summations of diagnosis from the bedside point of view, errors in the diagnosis of heart disease, and a discussion of the value of surgical procedures in cardiology.—FRANK BETHEL CROSS

The Meaning of Social Medicine. By Iago Galdston, M.D. Octavo of 137 pages. Cambridge, Massachusetts, Published for The Commonwealth Fund by Harvard University Press, 1954. Cloth, $2.75.

"Must" is a repugnant term, especially to physicians. But anything less provocative might fail to impress the profession with the special urgency of Galdston's message. Factually, this medical philosopher is presenting little which is new; it is the perspective which startles, strikes, and stimulates. While Galdston does not succeed—for this reviewer at least—in satisfactorily distinguishing between social medicine as a point of view, an academic discipline, and an instrument of medical care, he effectively focuses attention upon the need (and soon!) of the holistic approach to medicine, integrating all of the elements derived from constitution and environment.

His claims on behalf of fellow psychiatrists to a more or less uniquely advanced attitude must be regarded with the recollection of the psychosomaticists' intensive exploration of the biophysical perimeters which are regularly reducing the still happy hunting grounds of psychologic empiricism. But

[Continued on page 416]

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[Continued from page 414]

such equivocal inclusions serve only to underscore the basic dilemma of modern medicine: the greater the scientific progress, the greater the problem of medical care, in its broadest sense.

Intensification rather than amelioration is the best which the limited perspective of therapeutic medicine can offer, however implemented—a vicious and potentially disastrous cycle from the viewpoint of the medical ecologist. Galdston's is an importunate plea with which no one concerned with the future health of this nation—immediate no less than distant—can afford not to be acquainted.—ROBERT W. HILLMAN

The Collected Papers of Otto Fenichel. First Series. Octavo of 408 pages. New York, W. W. Norton & Co., 1953. Cloth, $6.50.

Dr. Otto Fenichel is best known to the medical profession for his book, *The Psychoanalytic Theory of Neurosis*, which is truly a masterpiece of medical writing because of its thoroughness, clarity, and rich bibliography. Fenichel has been one of the most eminent leaders in the field of psychoanalysis, and his untimely death has removed from the medical scene a great scholar, an eminent analyst, and a most inspiring teacher. He has contributed extensively to the literature, but most of his papers were published in foreign journals, many of which are now inaccessible even to the most persevering scholar. Therefore, the authors decided to publish a translation of his collected papers.

The present volume deals with the contributions made between the years 1922 and 1936, and the authors promise to produce shortly a second series which will contain the papers written from 1936 to 1946. The present volume indicates the profound thinking of the author and his encyclopedic knowledge of the subject. The different papers which are published in the book are truly masterpieces of medical writing. This book will be used by all psychiatrists and by every scholar in the field of human relationships. It is recommended to all intelligent people.—IRVING J. SANDS

The Thyroid. A Physiological, Pathological, Clinical and Surgical Study. By T. Levitt, F.R.C.S. (Eng.). Octavo of 606 pages, illustrated. Edinburgh, E. & S. Livingstone (Baltimore, Williams & Wilkins Co.), 1954. Cloth, $20.

It is well to try to bring order out of chaos. The author states, "I shall seek to substantiate. . .the hypothesis that abnormalities of the thyroid gland are not isolated diseases, but are phases in an evolving continuum." He feels that he has proved this theory in his study of 2,114 consecutive thyroidectomies.

This is a massive book and evidences an enormous amount of work which cannot fail to give the reader much insight into the complex activity of the thyroid. The reviewer would recommend its study to physicians and surgeons, but he must admit he is not convinced that the six stages described are the natural consecutive steps seen in either the clinical or pathologic study of patients.

According to this idea Hashimoto's "lymphomatous" changes should occur in young subjects and Riedel's "fibrous struma," if a later stage of the progression, should occur in older patients. However, in the original articles by Hashimoto and Riedel, which the author has thoughtfully reproduced in the appendix, the ages of the small groups quoted are the reverse. Since these original publications, many others have noted this tendency of the Riedel struma to appear in younger patients than the lymphomatous struma. Besides the text, the general format and numerous and beautiful illustrations make this a highly commendable volume.—WILLIAM H. FIELD

Pharmacology in Clinical Practice. By Harry Beckman, M.D. Octavo of 839 pages, illustrated. Philadelphia, W. B. Saunders Co., 1952. Cloth, $12.50.

The plan of this presentation of pharmacology applied in practice is very different from most books in this field of medicine. Pharmacologic aspects of treatment problems are emphasized and treatment problems are taken up in groups of medical specialties and discussed in detail. To the doctor, these discussions are thorough and valuable.

Grouping of applied discussions in treatment are helpful and follow a plan of antibiotics, cardiology, dentistry, dermatology, endocrinology, hematology, internal medicine (220 pages), neuropsychiatry, obstetrics and gynecology, ophthalmology, etc.

The book is of definite value to the medical practitioner who wants emphasis from the author.—FRANK BETHEL CROSS

Medical Treatment of Disease. Edited by Henry A. Christian, M.D., Col. Dale G. Friend, M.C., A.U.S., and Lt. Col. Maurice A. Schnitker, M.C., A.U.S. Co-Editors, Burgess Gordon, M.D., William J. Kerr, M.D., and Cyrus C. Sturgis, M.D. Octavo of 965 pages. New York, Oxford University Press, 1953. Cloth, $25. (Vol. 8 of the Oxford Medicine [Loose-Leaf].)

This book is well written and is compiled in a way which makes easily available information concerning therapy. The authors have stated in a brief and yet specific way the accepted form of therapy. It should be placed in the ready reference file of every practitioner of medicine as well as in the personal library of every internist.—IRVING GREENFIELD

Lectures on the Thyroid. By J. H. Means, M.D. Octavo of 113 pages, illustrated. Cambridge, Harvard University Press, 1954. Cloth, $3.00.

Means, in his usual manner, very adequately reviews the thyroid gland, its relation to the other endocrines, its hormone, and its actions. The content is up to date, including a complete discussion of therapy, and attempts to explain the etiology of

[Continued on page 418]

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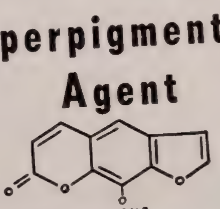

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[Continued from page 416]

thyroid disease, more particularly Graves' disease and its associated ophthalmoplegia.

The volume is short and the style delightfully conversational. It is recommended reading for all physicians and should be a welcome addition to any library.—CHARLES S. BYRON

The Year Book of Neurology, Psychiatry and Neurosurgery (1953–1954 Year Book Series). Neurology edited by Roland P. Mackay, M.D. Psychiatry edited by Noland D. C. Lewis, M.D. Neurosurgery edited by Percival Bailey, M.D., and Oscar Sugar, M.D. Duodecimo of 604 pages, illustrated. Chicago, Year Book Publishers, 1954. Cloth, $6.00.

As usual, the editors have done a fine job of selecting important contributions to the fields of neurology, psychiatry, and neurosurgery. There continues to be in the literature strong emphasis on neurophysiologic mechanisms. The changing manifestations of neurotropic viruses continue to be highlighted. There seems to be a tendency to look for the explanation for human behavior in cerebral centers.

The neurosurgical contributions stress many types of surgical treatment for Parkinsonism, psychomotor epilepsy, and mental disease. The dangers of indiscriminate angiography and spinal anesthesia are pointed out. This book is a must for all specialists in these fields.—ALEXANDER LEVINE

Modern Concepts in Medicine. By Julius Jensen, Ph.D. (In Med.) Quarto of 636 pages, illustrated. St. Louis, C. V. Mosby Co., 1953. Cloth, $11.50.

This most interesting text represents an effort on the part of the author to integrate internal medicine with the concept expressed in Selye's *Stress*. Jensen believes that we are passing from the conventional "statistical" approach to the study of disease and are now basing knowledge on the underlying principles of normal and deranged physiology.

The author makes a very convincing case for his beliefs, and one feels after reading the book that the physician may do well to reappraise his conventional approach to disease. The importance allotted to the enzyme systems is timely. Adequate space is given to consideration of the effect of derangement of these systems. The significance of stress or adaptation is carefully expounded.

Much of the actual description of diseases is conventional, but the reader will be rewarded by perusal of the chapters on adaptation. He will also find interesting the section on "Cybernetics." In the reviewer's opinion this book is a must for the internist and of interest to all physicians.—A. SIDNEY BARRITT, JR.

Problems of Consciousness. Transactions of the Fourth Conference March 29, 30 and 31, 1953, Princeton, N. J. Edited by Harold A. Abramson, M.D. Octavo of 177 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1953. Cloth, $3.25.

The Josiah Macy, Jr. Foundation merits signal recognition and thanks for making possible these multiple professional conferences. They are aimed at stimulating research, facilitating effective communication through and across departmental barriers and, thus, more or less bringing to the front the respective contributions of various specialties expressed in a common language understandable (at least a furtherance) to all.

The present volume is concerned with problems of consciousness. Outstanding members and guests of the conference have rendered a unique service in tackling such difficult problems as the subject poses. Nevertheless, one quickly observes a salutary spontaneity of frank expression, "let the chips fall where they may." In the best spirit of seeking scientific proof and theory there emerges from group interchange many new aspects of consciousness and related factors.

This volume is strongly recommended as basic reading to all those bent upon a present-day appreciation of the problems of consciousness as viewed by top-flight research workers in various scientific disciplines. Each section is well documented with references which the student will avidly pursue.—FREDERICK L. PATRY

Doctors, People, and Government. By James Howard Means, M.D. Duodecimo of 206 pages. Boston, Little, Brown & Co., 1953. Cloth, $3.50.

There is bound to be controversy over this book—almost inevitable on such a touchy subject—and the more certain for the author's provocative discussions. Means makes no pretense to pure objectivity, and his editorialized presentation invites criticism and denunciation by much of the organized medical opinion with which he often differs. He, nevertheless, evidently feels he has a mission, and his highly readable volume, including considerable orientation material for the lay reader, provides a historical, as well as philosophic and economic perspective for considering the problem of medical care in this country.

Well-documented through the author's extensive personal experience, complementing long-standing perceptive observations, it advocates an open-minded exploration of evolutionary methods for better meeting the health needs of the American people. As the sincerely motivated product of a famous contemporary clinician, it may well be that the future will identify his greatness even more with this courageous and farseeing effort to synthesize reality and idealism into a practical, more effective, socioscientific implement for the maintenance and progressive enrichment of life within these United States.—ROBERT W. HILLMAN

Endemic Goiter. The Adaptation of Man to Iodine Deficiency. By John B. Stanbury, M.D., Gordon L. Brownell, Ph.D., Douglas S. Riggs, M.D., Hector Perinetti, M.D., *et al.* Octavo of 209 pages,

[Continued on page 420]

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[Continued from page 418]

illustrated. Cambridge, Mass., Harvard University Press, 1954. Cloth, $4.00.

This book is a complete scientific account of the fundamental nature of endemic goiter as disclosed by modern methods of thyroid study. The competent authors give a complete description of the complex metabolic processes found in iodine-poor Mendoza, Argentina.

It is of great interest to endocrinologists and physiologists with a metabolic interest.—Bernard Seligman

The Eczemas. A Symposium by Ten Authors. Edited by L. J. A. Loewenthal, M.D. Quarto of 267 pages, illustrated. Edinburgh, E. & S. Livingstone (Baltimore, Williams & Wilkins Co.), 1954. Cloth, $7.50.

This short but comprehensive text on eczema comes to us from England. The eczemas, atopy, contact, and seborrheic dermatitis are all described in successive chapters. The author has attempted to clarify the always present confusion regarding nomenclature when applied to the eczemas, but with little or no success.

The text is complete, possibly too repetitious, and should be useful to the student and practitioner.—Arthur M. Persky

Global Epidemiology. A Geography of Disease and Sanitation. By Brig. Gen. James Stevens Simmons, U.S.A. (Ret.), Col. Tom F. Whayne, M.C., U.S.A., Gaylord W. Anderson, M.D., and Harold Maclachlan Horack, M.D. Associate Author, Ruth Alida Thomas, M.P.H., and Collaborators. Volume Three. The Near and Middle East. Quarto of 357 pages, illustrated. Philadelphia, J. B. Lippincott Co., 1954. Cloth, $12.

This third volume in the series—initiated as a major wartime effort and fortunately continued through times when an understanding of worldwide medical problems is scarcely less appropriate—is a fitting successor to its scholarly predecessors. It relates, moreover, to an area where the health of the population, rather than that of any potential expeditionary force, would seem to be a major strategic as well as political consideration.

As in the first two volumes, each country is discussed from the standpoint of geography and climate, population and socioeconomic conditions, environment and sanitation, health services and medical facilities, and diseases, with appropriate subheadings under these respective sections. For ready use, essential data are summarized at the end of each chapter, but the extensive, selected bibliography and the voluminous background, as well as clinical and epidemiologic material, make this another veritable compendium of general and medical knowledge of value to all, both lay and professional, with an interest in this important if not critical area of the world.—Robert W. Hillman

Endocrine Treatment in General Practice. Edited by Max A. Goldzieher, M.D., and Joseph W. Goldzieher, M.D. Octavo of 474 pages, illustrated. New York, Springer Publishing Co., 1953. Cloth, $8.00.

Endocrine Treatment in General Practice by 21 authors and edited by Max A. and Joseph W. Goldzieher is definitely outstanding.

The wealth of the basic factors in the treatment of vitamin deficiencies today is noteworthy. Originally replacement of the deficiency factor dominated our concepts, but today hormones are used for basic action, and glandular extracts and synthetic hormones are applied for specific effects additionally on mineral balance, the metabolism of protein, fat, and carbohydrate, and multiple glandular activity.

The first chapters are devoted to consideration of growth, of glandular function, the outstanding decline of the thyroid and the gonads, and senescence. Thyroid medication in the process of aging is particularly emphasized.

Basal metabolic rate is thoroughly considered and relation to hypothyroidism discussed. The problems of hypothyroidism, hypopituitarism, and hypogonadism are especially considered.

Obesity is a particular challenge. A basic reduction diet of 1,100 calories (40 per cent protein) is considered. In pathologic overweight and underweight, special study must be given to the blood count, sedimentation rate, gastroanalysis, urinalysis, basal metabolic rate estimation, and the levels of blood sugar and cholesterol. Thyroid and testosterone studies are indicated.

Diabetes receives special presentation by G. E. Anderson, and the basic principles of modern treatment are considered. A basic diet of carbohydrates 250, protein 123, and fats 55 = 1,987 calories is presented in detail. Discussion is very complete.

The book is devoted to many disease treatments, and the discussions reflect modern consideration of nutrition, polyglandular factors, and the influence of visceral response.—Frank Bethel Cross

Physiology and Biochemistry of the Skin. By Stephen Rothman, M.D. Contributors: Zachary Felsher, M.D., Peter Flesch, M.D., Aaron Bunsen Lerner, M.D., Allan L. Lorincz, M.D., *et al.* Octavo of 741 pages, illustrated. Chicago, University of Chicago Press, 1954. Cloth, $19.50.

Rothman, an experienced research worker in investigative dermatology, has finecombed all the pertinent literature and added his own personal observations and editing to give the reader a valuable reference text on the physiology and biochemistry of the skin. Primarily it is a reference book with scattered suggestions for investigative dermatologic research.

Most detailed emphasis has been given to those unique functions of the skin such as sweat secretion, keratinization, sebum formation, and melanin production. The chapter on hair growth, profuse in its clinical application, is most interesting.

Although the recent investigations have added much to our knowledge of epidermal physiology and biochemistry, much remains to be positively established.

The text reads fluidly and has excellent illustrations and a most comprehensive bibliography. This book can be highly recommended for the research dermatologist.—Arthur M. Persky

The Emotional Problems of Children. A Guide for Parents. By Harry Joseph, M.D., and Gordon Zern. Octavo of 310 pages. New York, Crown Publishers, 1954. Cloth, $3.75.

This is an excellent guide for parents, teachers, and all others who are concerned with children in a most important and difficult subject. It also contains much of value to the pediatrician and general practitioner.

It discusses emotional and mental problems very interestingly, and it contains valuable information on children's toys, books, movies, and other activities. The subject of hobbies and that of play receive considerable emphasis, as they most assuredly deserve. The summaries and conclusions which follow many of the chapters are instructive.

This volume deals nicely with the very important interrelationship between physical, mental, and social development. Needless to say, all of the subjects enumerated are not discussed in detail, but they are related in a comprehensive and clear manner. Its easy readability is another distinct advantage.—Samuel K. Levy

Atlas of Operative Technic, Anus, Rectum, and Colon. By Harry E. Bacon, M.D., and Stuart T. Ross, M.D. Quarto of 301 pages, illustrated. St. Louis, C. V. Mosby Co., 1954. Cloth, $13.50.

Rarely does a reviewer have the pleasure of studying a book which he hoped someone would produce. Bacon and Ross have presented such a volume, representing seven years of labor. The publication of this book fulfills a need of long standing for a text and a means of rapid visualization of proctologic operations for proctologists and other surgeons who may be called upon to perform surgical procedures with which they may not be well acquainted. In so far as this reviewer is aware, this is the first atlas on proctologic surgery.

This authoritative work is based on the authors' many years experience with surgery of the anus, rectum, and colon exclusively. Safe, tried, and accepted methods employed by them are described, and the operative procedures are effectively illustrated by 403 adequately labeled drawings from the skilled hands of expert artists Diedrick, Schlossberg, and McNett. A foreword by Dr. W. Wayne Babcock sums up most adequately the unquestioned value of this book.

This serious and important undertaking which the authors found to be "pleasant though onerous" will undoubtedly fill a great demand because of the immense interest in surgery of the anus, rectum, and colon at the present time. The reviewer considers this book excellent and recommends it highly both to the proctologist, and as a reference book to the general surgeon.—A. W. Martin Marino

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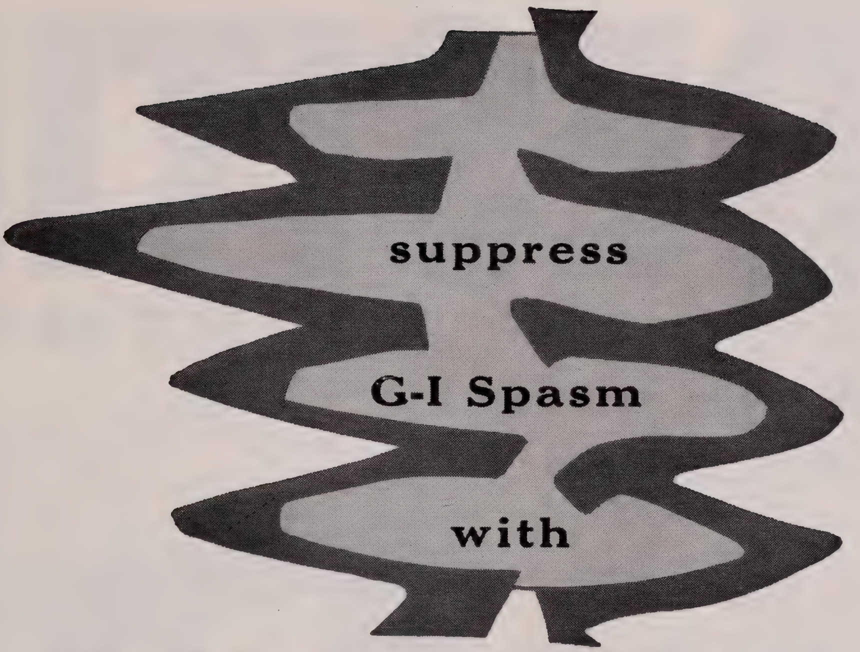

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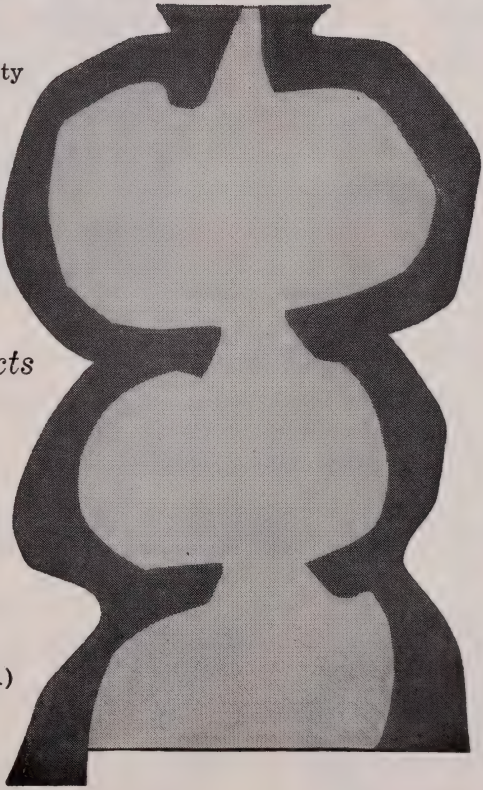

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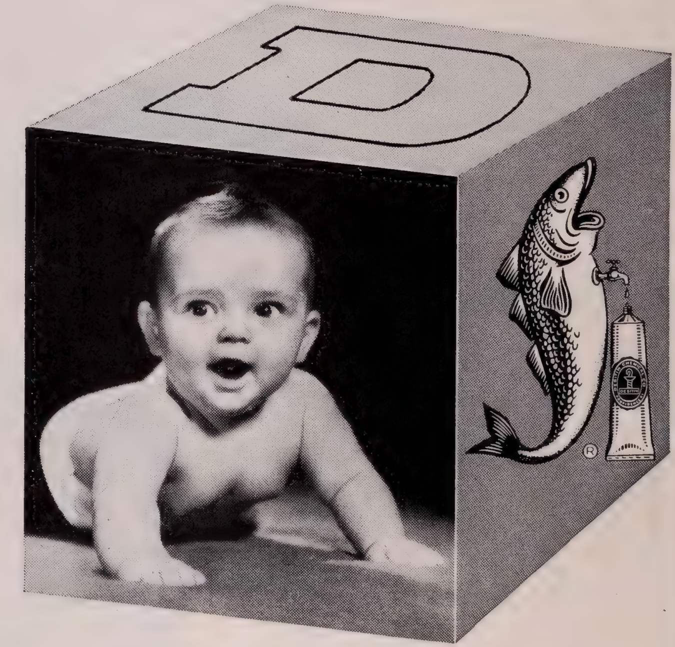

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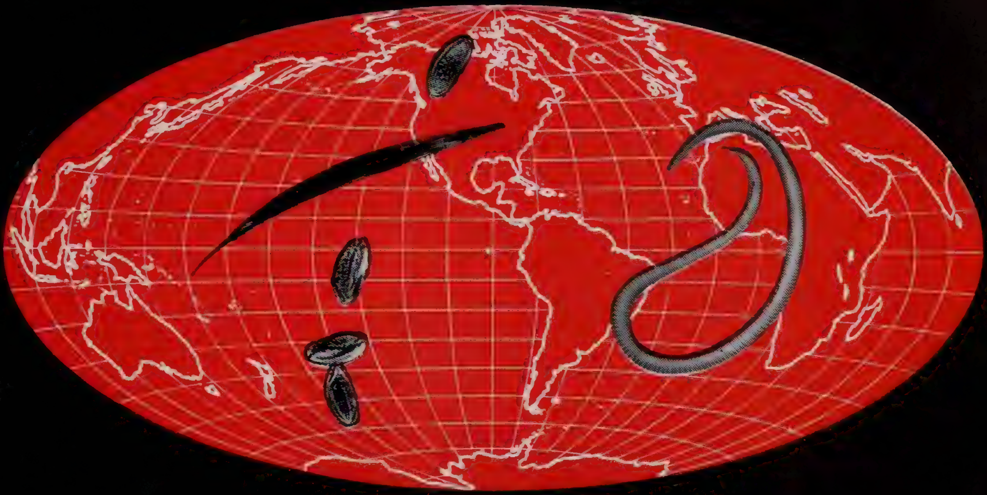

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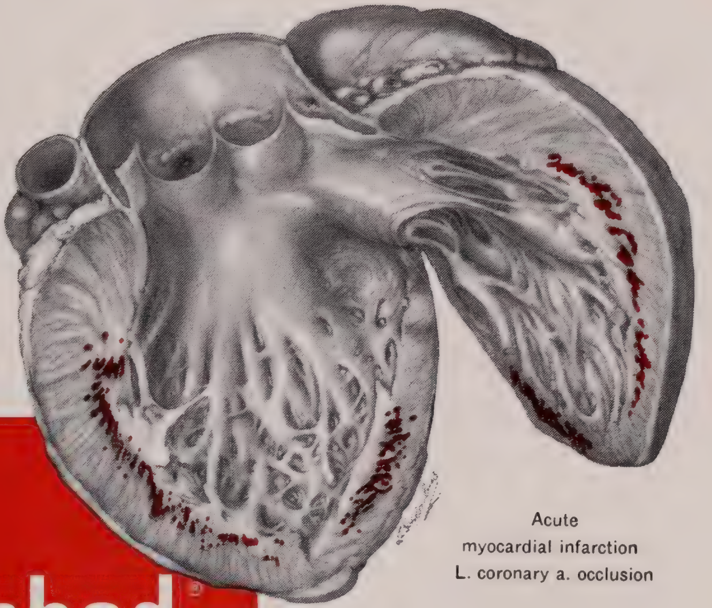

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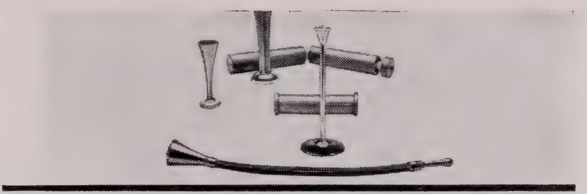

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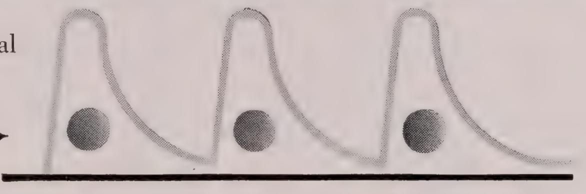

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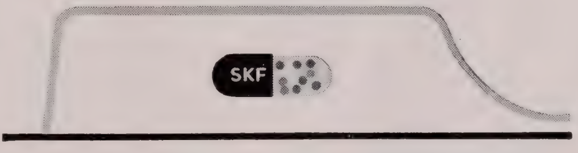

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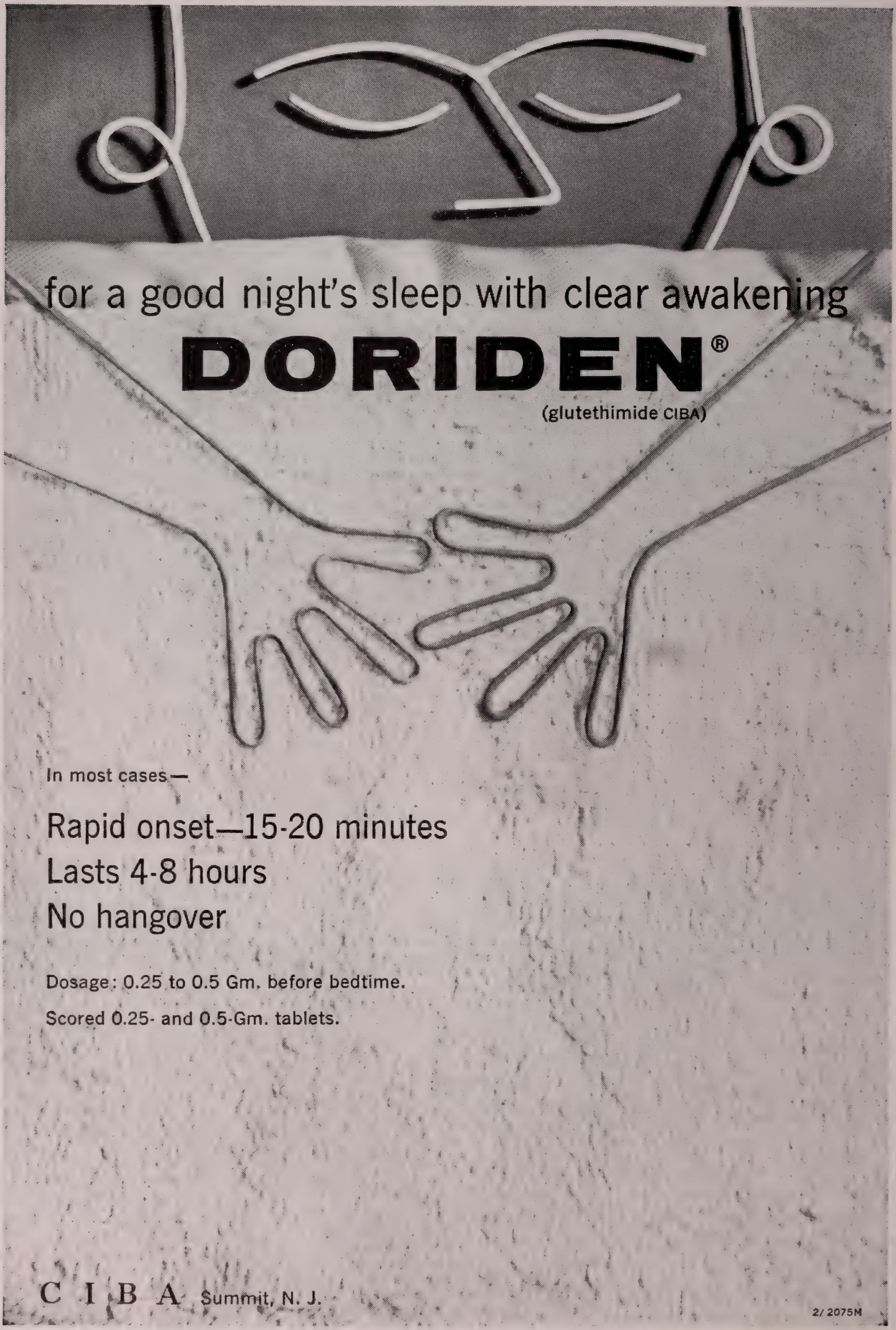

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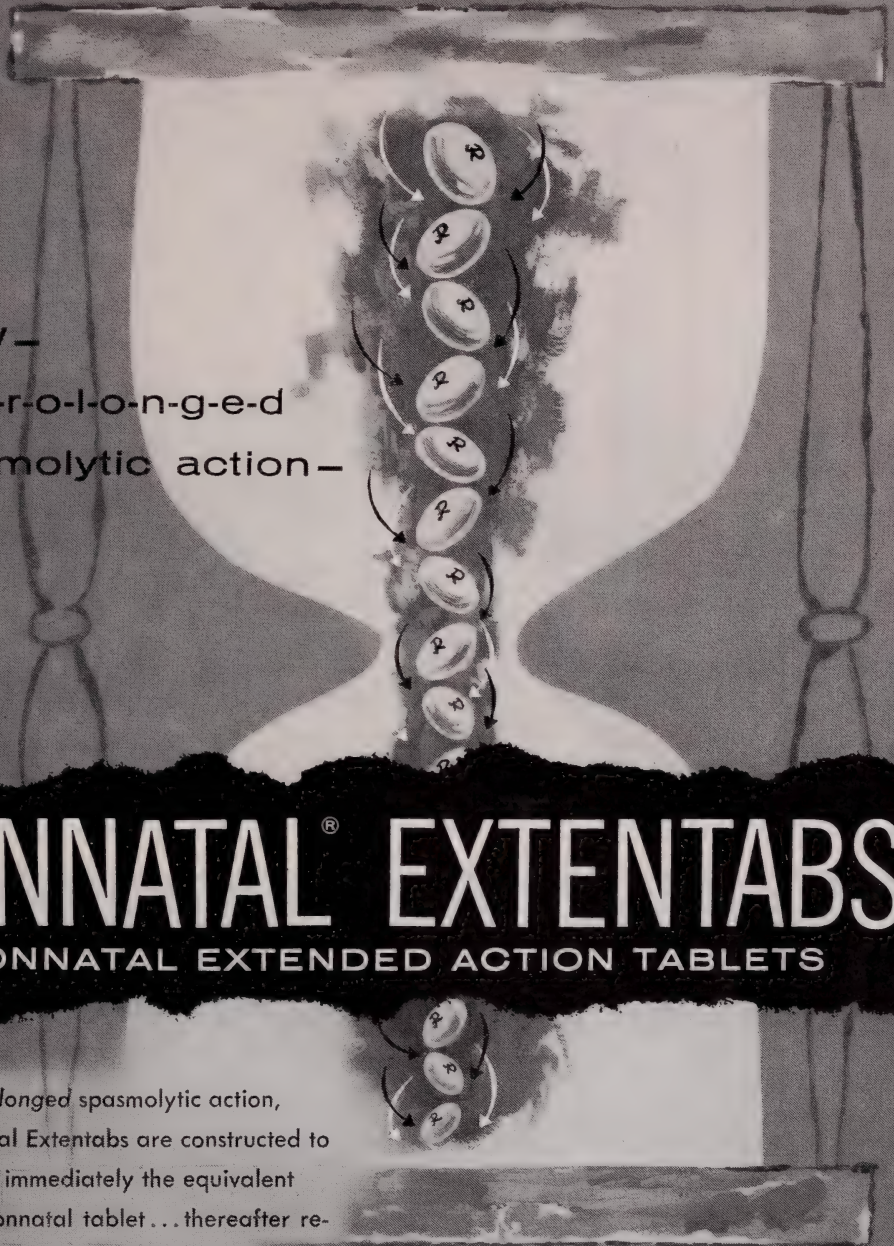

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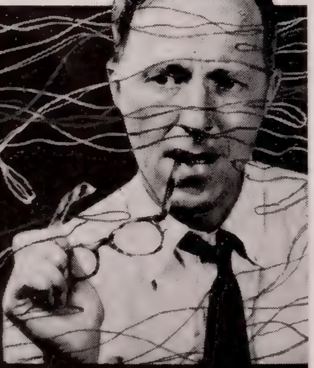

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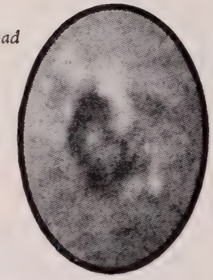
EXPLOSION

OF TRICHOMONADS WITHIN 15 SECONDS OF CONTACT WITH **VAGISEC**

A NEW AGENT, Vagisec, reaches deeply buried and surface trichomonads and explodes them within 15 seconds. No other trichomonacide has this effect.

The Davis technic. Vagisec liquid is the trichomonacide developed as "Carlendacide" by Dr. Carl Henry Davis, well-known gynecologist and author, and C. G. Grand, research physiologist. Over 100 leaders in obstetrics and gynecology tested this new agent, using the Davis technic, and reported "better than 80 per cent of cures among non-pregnant patients with one course of treatment."[1]

1. *Microphotograph (phase-contrast microscope) of a trichomonad*



2. *Trichomonad "exploded" within 15 seconds of contact with Vagisec, diluted as douche*

Synergistic action. Vagisec combines a chelating agent to capture the calcium of the calcium proteinate, a wetting agent to remove lipid material and a detergent to denature the protein. Result, the trichomonad swells up and bursts.

Thorough penetration. Vagisec penetrates the cellular debris and mucoid material lining the vaginal wall and buried between the rugae. It reaches trichomonads, hidden and surface.

Course of treatment. Dr. Davis recommends office treatment and home treatment and the use of both Vagisec liquid and jelly. "For a small percentage of women who have an involvement of cervical, vestibular or urethral glands, other treatment will be required."[1]

Office treatment. Expose vagina with speculum. Wipe walls dry with cotton sponges and wash thoroughly for about three minutes with a 1:250 dilution of Vagisec. Dry with cotton sponges. There is no tampon or messy discharge or staining. Six office treatments are recommended.

Home treatment. Prescribe both Vagisec liquid and Vagisec jelly for home treatment. Patient inserts Vagisec jelly each night and douches with Vagisec (1 teaspoonful to a quart of warm water) each morning except on office treatment days. Treatment continues through two menstrual periods. Four weeks after the course, the douche is omitted at least three days and the patient re-examined. Continued douching with Vagisec two or three times a week helps to prevent re-infection.

Summary. The Davis technic (Vagisec) reaches deeply buried trichomonads and explodes them in 15 seconds. It is a triple attack — office treatment, home treatment with jelly at night, and home treatment with liquid in the morning. Vagisec has been clinically tested and proved fast and effective. It is non-toxic.

[1] *Davis, C. H.: J.A.M.A.,* 157:126 (Jan. 8) 1955.

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423 West 55th Street, New York 19, N. Y.

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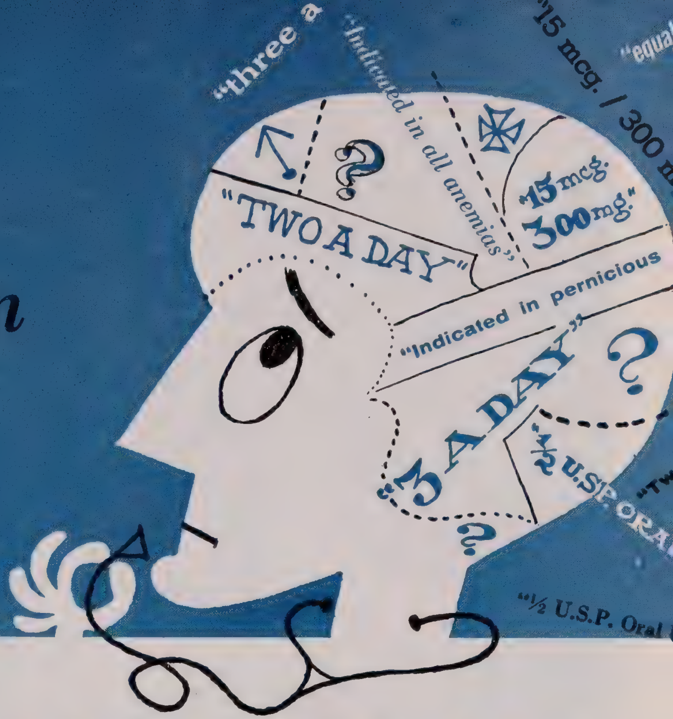
the confusion
about
hematinics


"three a
"Indicated in all anemias"
"15 mcg. / 300 m
"equal
"TWO A DAY"
"15 mcg. 300 mg."
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"3 A DAY"
"½ U.S.P. ORAL
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Manganese	0.5 mg.
Zinc	0.5 mg.

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Fluorine (CaF_2)	0.1 mg.
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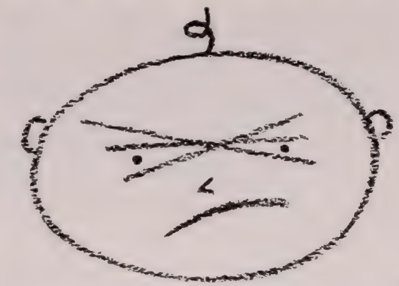

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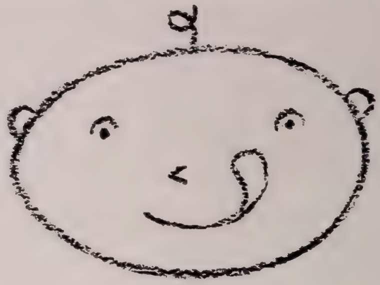

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1. Wolpe, Leon Z. and Silverstone, Paul C., J. Pediat. 21:635, 1942. 2. Osborne, T. B., and Mendel, L. B., J. Biol. Chem. 17:325, 1914. 3. Rose, W. C., Physiol. Rev. 18:109, 1938. 4. Lusk, G., J. Nutrition 3:519, 1931. Borsook, H., Biol. Rev. 11:147, 1936. 5. Schoenheimer, R., Ratner, S., and Rittenberg, D., J. Biol. Chem. 127:333, 1939 and 130:703, 1939. 6. Berggren, R. E. L., Jl. Dairy Science 463:474 Vol. XXI, 8, 1938.

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*Smith, R. T., New York Med. 8:16, 1952.

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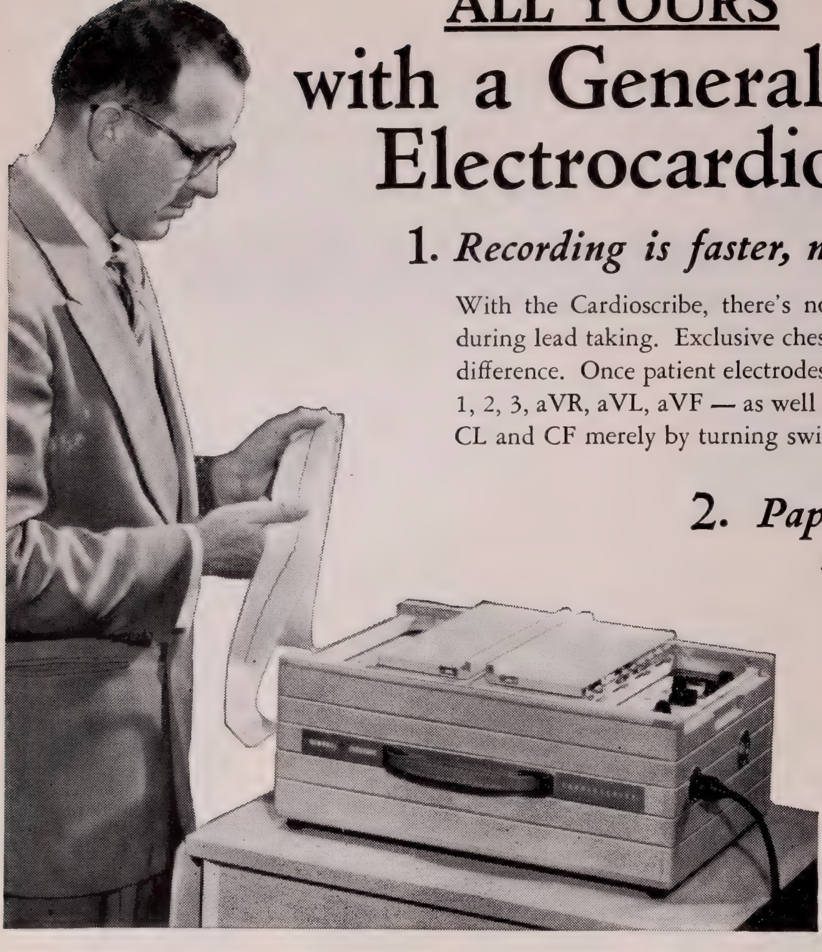

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1. Allen, E. V.; Barker, N. W.; Hines, E. A., Jr.; Kvale, W. F.; Shick, R. M.; Gifford, R. W., Jr., and Estes, J. E., Jr.: Proc. Staff Meet., Mayo Clin. *29*:459 (Aug. 25) 1954.
2. Livesay, W. R.; Moyer, J. H., and Miller, S. I.: J.A.M.A. *155*:1027 (July 17) 1954.

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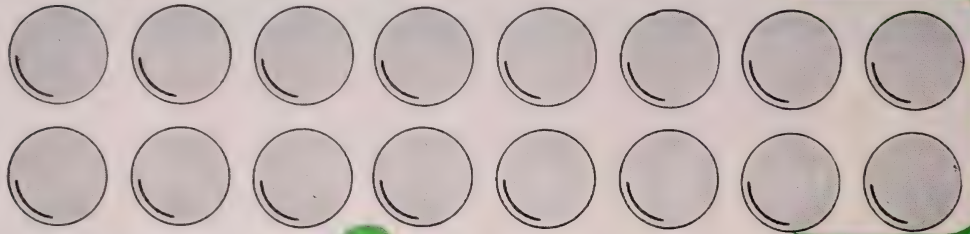

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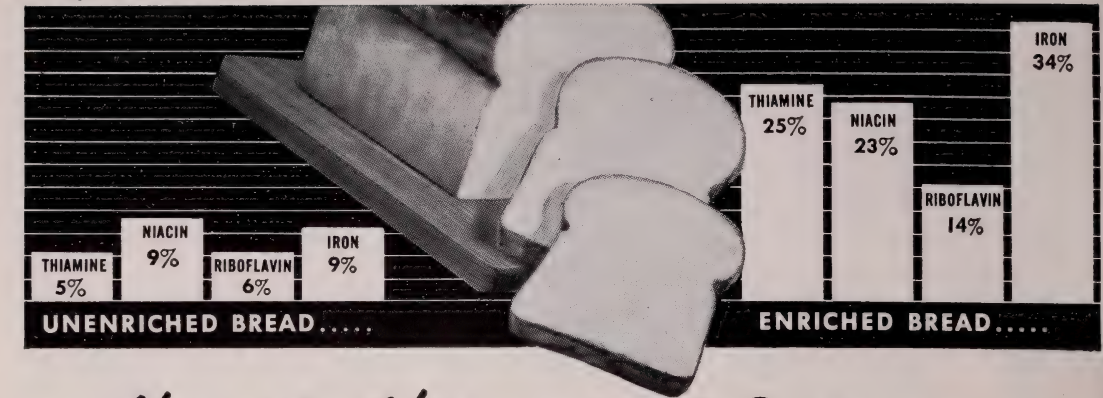

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1. Watt, B.K., and Merrill, A.L.: Composition of Foods—Raw, Processed, Prepared, United States Department of Agriculture, Agricultural Handbook no. 8, 1950.
2. Data furnished by the Laboratories of The American Institute of Baking, Chicago, Illinois.
3. Sebrell, W.H., Jr.: Trends and Needs in Nutrition, J.A.M.A. *152*:42 (May 2) 1953.
4. Flour and Bread Enrichment, 1949-50, The Committee on Cereals, Food and Nutrition Board, National Research Council, 1950.

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REFERENCE: 1. Kirwin, T. J., Lowsley, O. S., and Menning, J., Am. J. Surg. **62**:330-335, December 1943.

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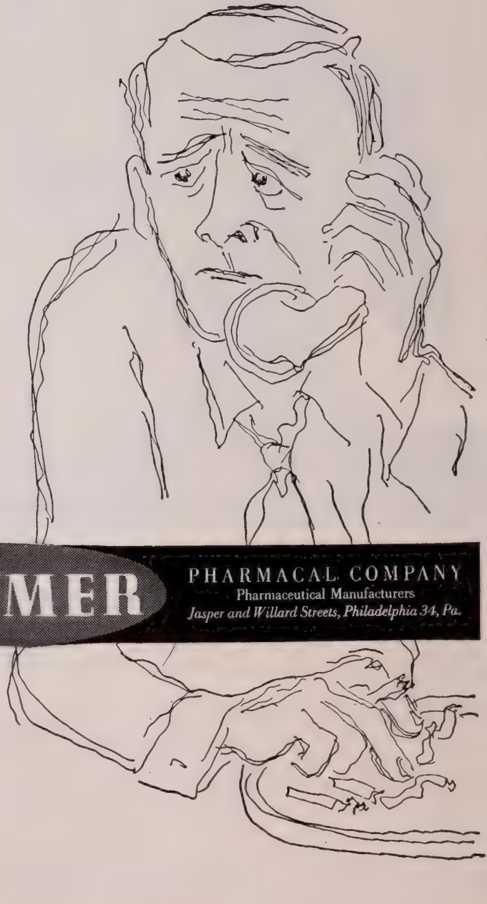
1. Krantz, J.C. & Carr, C.J.: Pharmacological Principles of Medical Practice, Williams & Wilkins Co., Baltimore, Md., 1951.
2. Goodman, L. & Gilman, A.: The Pharmacological Basis of Therapeutics. The Macmillan Co., New York City, 1941.



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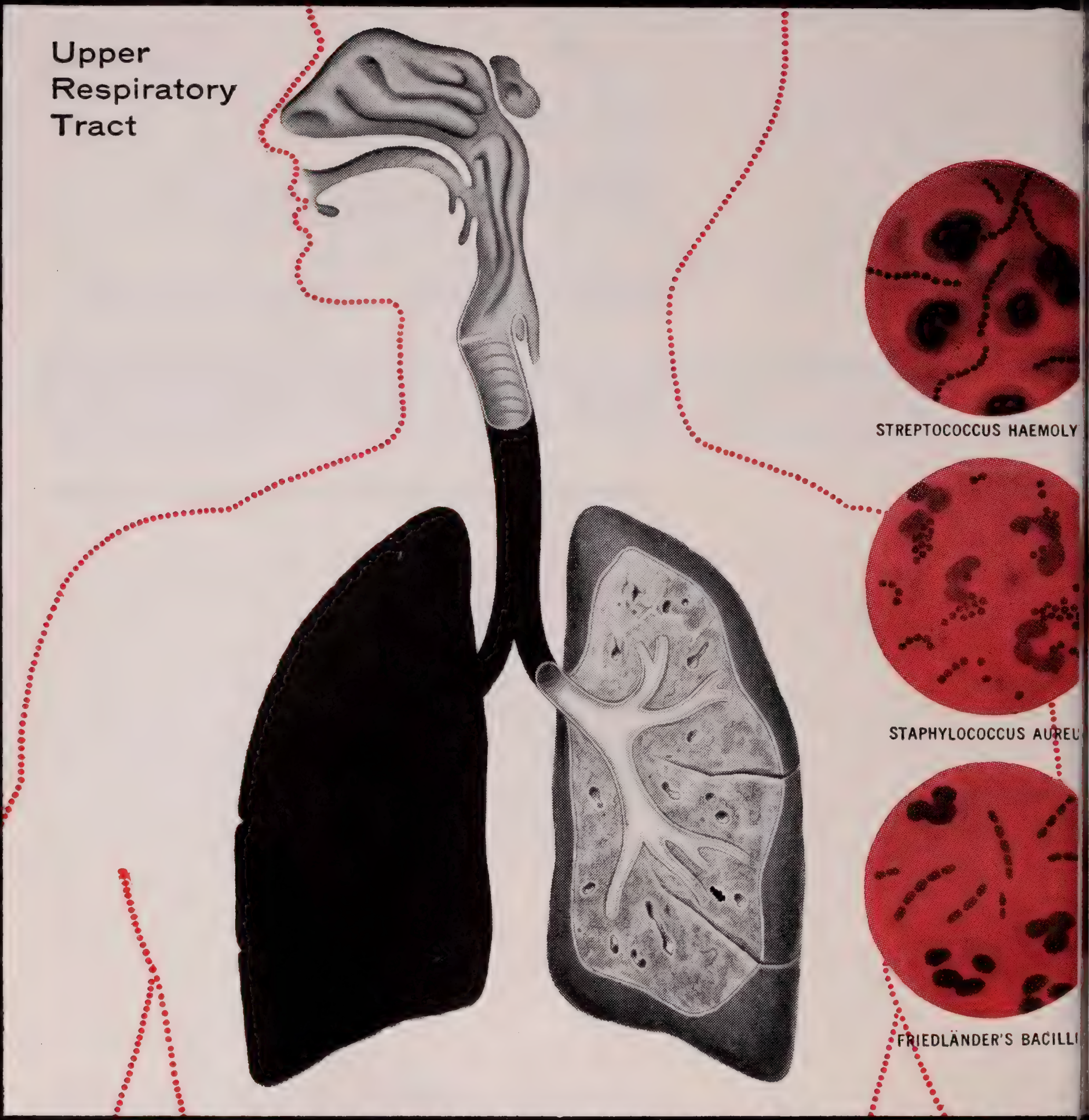
Cottonseed Oil	q.s.

10 cc. vials

The Upjohn Company, Kalamazoo, Michigan


Upper
Respiratory
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STREPTOCOCCUS HAEMOLY
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Infections of the upper respiratory or lower urinary tract are commonly associated with mixed bacterial pathogens. Combination therapy is the logical approach.[1,2]

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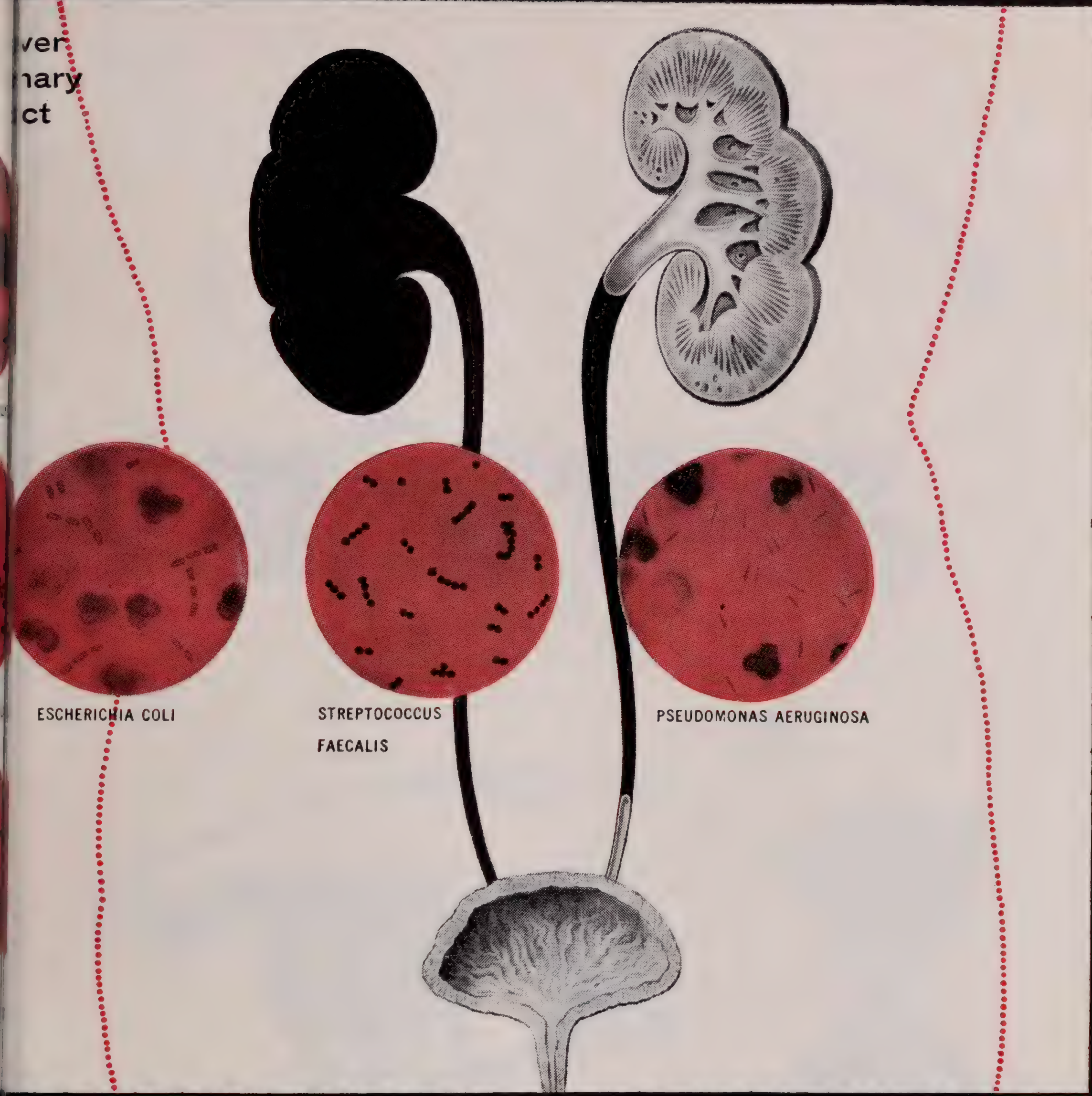
ESCHERICHIA COLI
STREPTOCOCCUS FAECALIS
PSEUDOMONAS AERUGINOSA

N MIXED INFECTIONS

CILLIN-SULFAS provides multiple attack
rough two distinct antibacterial mech-
isms. These actions give the physician the
eans to achieve control over a wide range
mixed infections, both gram-positive
d gram-negative.

CILLIN-SULFAS combines BICILLIN, the penicillin with a surety factor for absorption, and SULFOSE®, the highly soluble triple sulfonamide of low renal risk. For oral therapy distinguished by maximal safety and effective blood levels.

1. Daly, J. W.: Antibiot. & Chemo. *4*:687 (June) 1954. 2. Spink, W. W.: J.A.M.A. *152*:585 (June 13) 1953.

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d Triple Sulfonamides

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Philadelphia 2, Pa.

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AUREOMYCIN

LEDERLE LABORATORIES DIVISION *AMERICAN Cyanamid COMPANY* Pearl River, New York

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Chlortetracycline HCl *Lederle*

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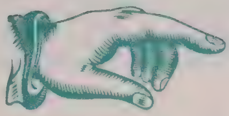


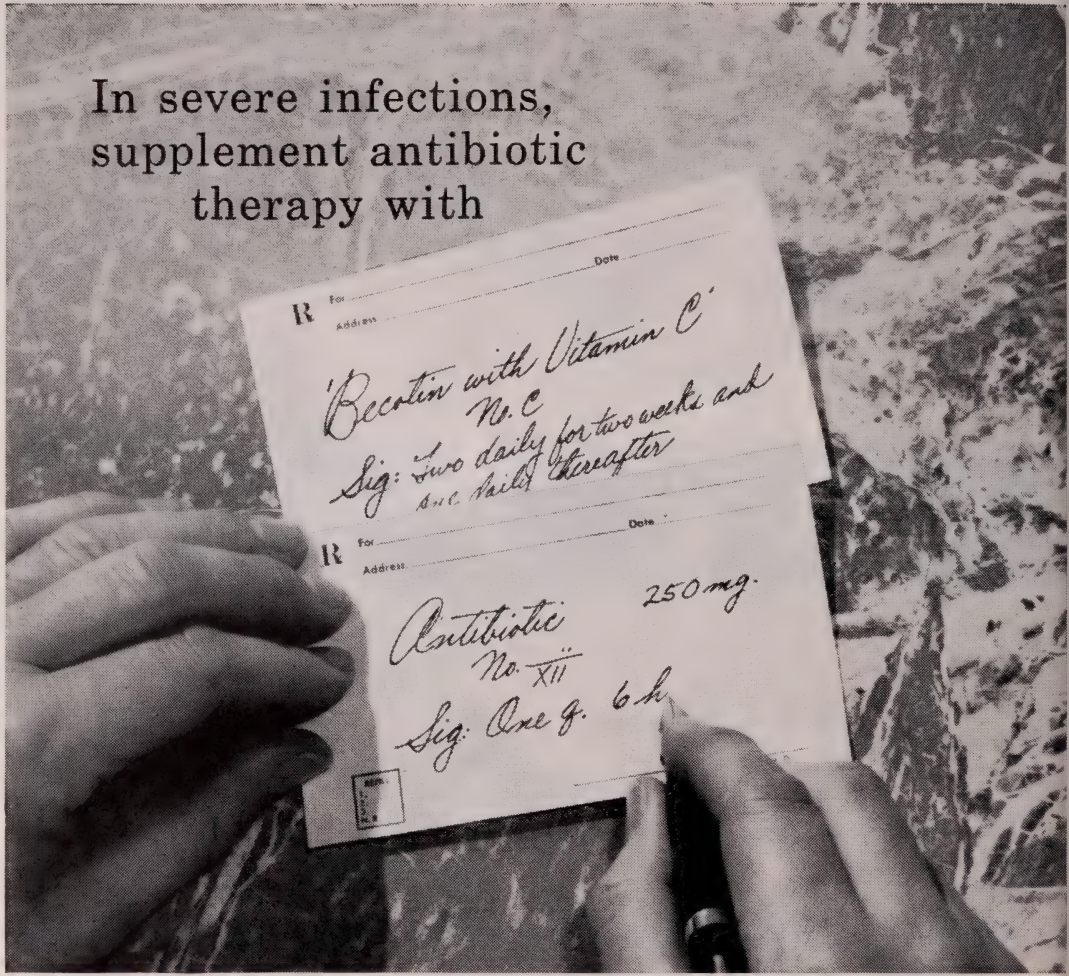
Seven years of world-wide use . . . more than half a billion doses administered . . . millions of patients restored to normal health, many saved from death—this is the unsurpassed record of AUREOMYCIN.

AUREOMYCIN, the first extensively prescribed broad-spectrum antibiotic, must certainly rank with the major therapeutic agents available.

Thousands of published clinical trials have established its efficacy in combating many kinds of infection. Thousands of doctors give it their highest acclaim by regularly employing it in their practices.

A convenient dosage form for every medical requirement. *Lederle*

*TRADE-MARK



℞ For
Address
Date
'Becotin with Vitamin C'
No. C
Sig: Two daily for two weeks and one daily thereafter

℞ For
Address
Date
Antibiotic 250 mg.
No. XII
Sig: One q. 6 h.

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(VITAMIN B COMPLEX WITH VITAMIN C, LILLY)

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EDITORIALS

Infant Mortality

The editors of the JOURNAL are able to announce that beginning with this issue there will be a distinguished series of articles published during this and subsequent years, emanating from the Special Committee on Infant Mortality of the Medical Society of the County of New York.

The attention of the membership is invited to a statement on page 505 of this issue by Dr. Peter M. Murray, president of the New York County Medical Society, concerning the aims, the purposes, and programs of the Special Committee, of which these articles constitute the proceedings.

The first article of the series will be found on page 506 of this issue, and it is to be hoped that one will appear each month thereafter. The work of this Committee and of its predecessor, the Maternal Analysis Group, has for years been successful in lowering mortality rates in mothers and infants. It is the hope of the editors that our readers will be pleased with this new feature of the JOURNAL.

Success is seldom achieved by people who contemplate the possibility of failure.—WILLIAM FEATHER

Mortality Trends Here and Abroad

How do domestic mortality rates at various age levels compare with those of foreign countries? The Statistical Bulletin[1] comments:

> The countries of Western Europe and the English-speaking countries elsewhere experienced substantial reductions in mortality in the period from about 1930 to 1950. The largest declines—approximately one third—were recorded in France and Italy, both of which had relatively high death rates around 1930; the smallest reductions—about one eighth—occurred in Australia and New Zealand, countries with traditionally low mortality. In general, the differences in death rate between countries decreased; this trend is observed for both males and females and in each age group. Nevertheless, the ranking of the countries according to magnitude of mortality did not change materially in the two decades.
>
> In each of the countries under review, females experienced a relatively greater reduction in death rate than males, even though females generally experienced the lower mortality in 1930. Consequently, the excess of male over female mortality increased during the two decades. In most countries the excess male mortality in both periods was relatively greatest in the age range forty-five to sixty-four years.
>
> Progress in reducing mortality was consistently more rapid at the younger than at the older ages. At the ages under forty-five, the death rates in 1950 were generally about half of what they had been two decades earlier. By ages sixty-five and over, the decreases averaged only about 10 per cent, and in a few countries the mortality actually increased somewhat among men at these ages. With this difference in trend by age has come a material change in the age pattern of mortality. The death rate before midlife has been brought down to low levels, while mortality has been concentrated more and more at the older ages.
>
> With respect to level of mortality, the rank of the United States among the countries under survey varied markedly with age. In 1950 very few countries had a better record than ours for mortality in early childhood. The position of our country becomes less and less favorable, however, as age advances. Thus, for white males in the age range ten to thirty-four years, from seven to nine countries showed lower mortality than the United States, reflecting principally the lower incidence of fatal accidents among males at these ages in these countries. By ages fifty-five to fifty-nine years, 15 out of the 19 countries had better general mortality records than the United States. The international picture for our white males had not changed essentially over the past twenty years, except that boys at the preschool ages have improved their relative standing among the countries.
>
> During the twenty years under review, the rank of our white females improved at every age, particularly at the extremes of life.
>
> Our favorable mortality experience at the younger ages reflects the large measure of control gained over many of the infectious diseases of childhood. Apart from our unfavorable accident mortality, it is difficult to explain the relatively poor record of our country at the older ages, particularly for males. It is possible that the relatively low mortality at the younger ages in the United States is due in part to the prolongation of life of persons with physical impairments facilitated by our excellent medical care and high living standards. Consequently, the proportion of impaired lives at the older ages may be greater in the United States than in other countries, with a corresponding unfavorable effect upon mortality. There may also be other and even more important factors at work. It may well be that our poor international standing at the older ages is related to the high proportion of overweight people in our population.

If there is a moral in this study, it would seem to be that it is risky to become old and fat. About the former, little can be done at the present stage of our knowledge and in view of the fact that "Time and Tide wait for no man." But the latter hazard can be minimized in the first place "by choosing one's grandparents wisely" and second by a little attention to abstemiousness.

---

[1] Metropolitan Life Insurance Co., Sept., 1954, p. 3.

New Uniform Case Report Form To Simplify Reporting Procedures

New York State Department of Health

A NEW uniform case report form to simplify procedures under which physicians report diseases by making it possible for them to report cases of communicable disease, cerebral palsy, venereal disease, and cancer on the same form has been developed by the State Health Department.

The new report form is expected to facilitate reporting of these diseases by physicians. The use of one card in place of the four previously used should be a time-saver for physicians over the course of a year and obviate the need for their keeping so many different cards in their desks.

The cards are neatly bound in a small pocket-sized booklet which may be easily slipped into the physician's bag or conveniently placed in a desk drawer. Each card may be easily torn out and mailed in after it is filled out.

The cover of the new confidential case report form contains a list of reporting instructions for all reportable diseases or disease outbreaks. It also contains a listing of the terms and pathologic diagnosis included under the definition of "cancer and other malignant tumors."

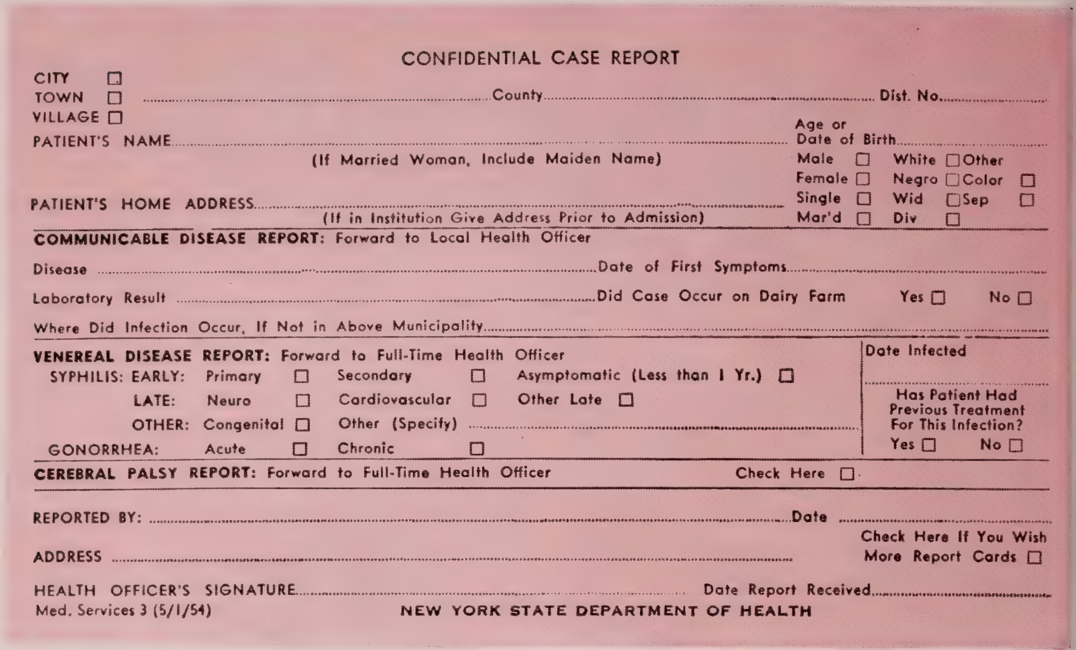
Under the new system, reports will be mailed in envelopes since they contain confidential information.

Physicians may simply fill out the report card and send it directly to the full-time city, county, or district health officer concerned if a case of venereal disease, cerebral palsy, or cancer is involved. In the case of all other diseases, the physician will send the report to the part-time local health officer. Telephone reports of these latter diseases will continue in those cities of

REPORTING INSTRUCTIONS

COMMUNICABLE DISEASE (Complete list of reportable diseases on inside back cover)	Use side of card printed in red. Report cases to the part-time local health officer if they occur in an area served by him. If the area is not served by a part-time local health officer, report the cases directly to the full-time health officer (district, county, or city). In areas where telephone reporting is permitted, telephone calls may be made to the full-time city health officer.
VENEREAL DISEASE	Use side of card printed in red. Report cases directly to the full-time health officer (district, county, or city).
CEREBRAL PALSY	Use side of card printed in red. Report cases directly to the full-time health officer (district, county, or city).
CANCER AND OTHER MALIGNANT TUMORS (List of terms and pathological diagnoses on outside back cover)	Use side of card printed in green. Report cases directly to the full-time health officer (district, county, or city).
TUBERCULOSIS	Report on special Tuberculosis Case Report form.
HABITUAL USERS OF NARCOTICS	Report on special Narcotic Report form.
OUTBREAKS (These include outbreaks of food poisoning, sore throat, diarrhea, epidemic influenza, epidemic keratoconjunctivitis, glandular fever and undiagnosed febrile disease.)	Report them immediately by telegraph or telephone to the part-time or full-time health officer. **Herman E. Hilleboe, M. D.** Commissioner of Health

Inside Front Cover



CONFIDENTIAL CASE REPORT

CITY ☐
TOWN ☐ .... County .... Dist. No. ....
VILLAGE ☐

PATIENT'S NAME .... Age or Date of Birth ....
(If Married Woman, Include Maiden Name)
Male ☐ White ☐ Other
Female ☐ Negro ☐ Color ☐
PATIENT'S HOME ADDRESS .... Single ☐ Wid ☐ Sep ☐
(If in Institution Give Address Prior to Admission) Mar'd ☐ Div ☐

COMMUNICABLE DISEASE REPORT: Forward to Local Health Officer
Disease .... Date of First Symptoms ....
Laboratory Result .... Did Case Occur on Dairy Farm Yes ☐ No ☐
Where Did Infection Occur, If Not in Above Municipality ....

VENEREAL DISEASE REPORT: Forward to Full-Time Health Officer
SYPHILIS: EARLY: Primary ☐ Secondary ☐ Asymptomatic (Less than 1 Yr.) ☐
LATE: Neuro ☐ Cardiovascular ☐ Other Late ☐
OTHER: Congenital ☐ Other (Specify) ....
GONORRHEA: Acute ☐ Chronic ☐
Date Infected ....
Has Patient Had Previous Treatment For This Infection? Yes ☐ No ☐

CEREBRAL PALSY REPORT: Forward to Full-Time Health Officer Check Here ☐

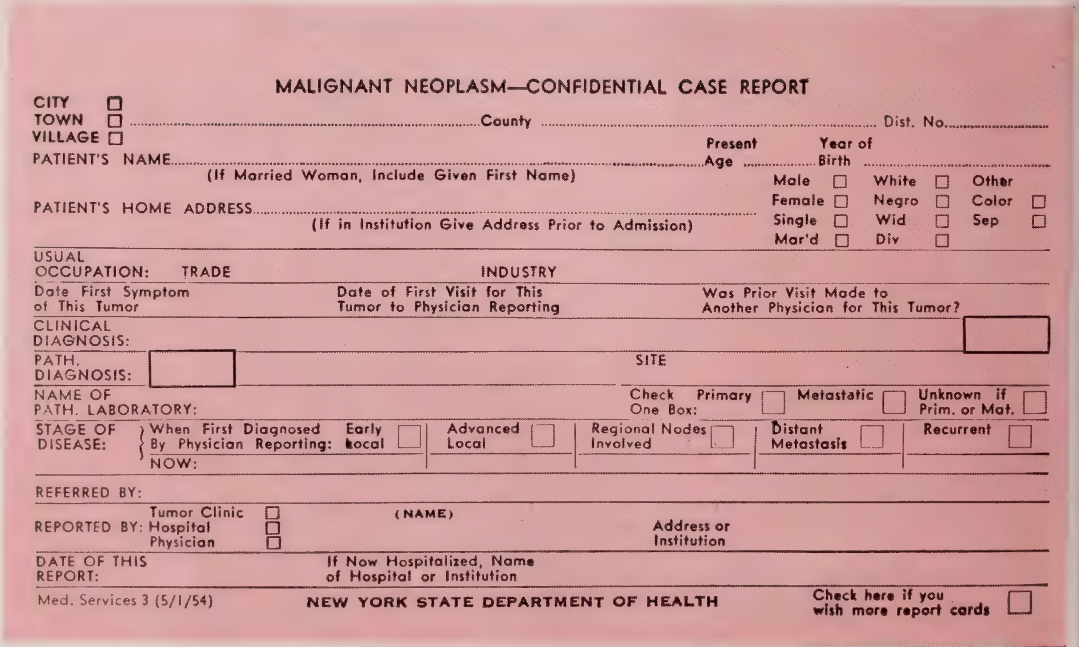
REPORTED BY: .... Date ....
ADDRESS .... Check Here If You Wish More Report Cards ☐
HEALTH OFFICER'S SIGNATURE .... Date Report Received ....
Med. Services 3 (5/1/54) NEW YORK STATE DEPARTMENT OF HEALTH

Front of Card

over 10,000 population which have a full-time health officer.

Only cases of tuberculosis and habitual users of narcotics will continue to be reported on separate cards, since most of the reports of these two conditions come from specialized facilities or institutions rather than from private physicians.

The initial supply of combined case report forms was available from full-time local health officers on January 1, 1955. It is planned that as the existing stocks of individual case report forms become depleted, the new booklets of com-



MALIGNANT NEOPLASM—CONFIDENTIAL CASE REPORT

CITY ☐
TOWN ☐ .... County .... Dist. No. ....
VILLAGE ☐
PATIENT'S NAME .... Present Age .... Year of Birth ....
(If Married Woman, Include Given First Name)
Male ☐ White ☐ Other
PATIENT'S HOME ADDRESS .... Female ☐ Negro ☐ Color ☐
(If in Institution Give Address Prior to Admission) Single ☐ Wid ☐ Sep ☐
Mar'd ☐ Div ☐
USUAL OCCUPATION: TRADE INDUSTRY
Date First Symptom of This Tumor | Date of First Visit for This Tumor to Physician Reporting | Was Prior Visit Made to Another Physician for This Tumor?
CLINICAL DIAGNOSIS:
PATH. DIAGNOSIS: SITE
NAME OF PATH. LABORATORY: Check One Box: Primary ☐ Metastatic ☐ Unknown if Prim. or Mat. ☐
STAGE OF DISEASE: When First Diagnosed By Physician Reporting: Early Local ☐ Advanced Local ☐ Regional Nodes Involved ☐ Distant Metastasis ☐ Recurrent ☐
NOW:
REFERRED BY:
REPORTED BY: Tumor Clinic ☐ Hospital ☐ Physician ☐ (NAME) Address or Institution
DATE OF THIS REPORT: If Now Hospitalized, Name of Hospital or Institution
Med. Services 3 (5/1/54) NEW YORK STATE DEPARTMENT OF HEALTH Check here if you wish more report cards ☐

Back of Card

LIST OF REPORTABLE DISEASES

Reports Required by Sanitary Code and Public Health Law

- Anthrax*
- Botulism
- Cancer and Other Malignant Tumors**
- Cerebral Palsy
- Chancroid*
- Chickenpox
- Cholera, Asiatic*
- Diarrhea of the Newborn in Hospitals or in Maternity Homes
- Diphtheria*
- Dysentery: Amebic* Bacillary*
- Encephalitis (Lethargic and Other Infections)
- German Measles
- Glanders*
- Gonorrhea
- Hepatitis, Infectious
- Hepatitis, Serum
- Leptospirosis
- Malaria*
- Measles
- Meningococcal Meningitis or Meningococcemia*
- Meningitis, Other Forms
- Mumps
- Ophthalmia Neonatorum
- Plague*
- Pneumonia (All Forms)
- Poliomyelitis (Infantile Paralysis)
- Rabies; Also Person Bitten by Rabid or Supposedly Rabid Animal
- Rocky Mountain Spotted Fever
- Salmonella Infection (Including Paratyphoid Fever)*
- Smallpox
- Streptococcal Sore Throat (Including Scarlet Fever)
- Syphilis*
- Tetanus
- Trichinosis
- Tuberculosis (Report on Special Card)
- Tularemia*
- Typhoid Fever*
- Typhus Fever*
- Undulant Fever*
- Whooping Cough

---

* Required that specimens be submitted to an approved laboratory.

** See outside back cover for list of terms and pathological diagnoses.

Inside Back Cover

bined case reports will be furnished to physicians by their respective health officers. Physicians or institutions concerned with specialized disease problems such as cancer can obtain the card forms for a single disease on request to health officers.

The Department is anxious to have the continued cooperation of physicians in reporting whenever it is required so that it may have adequate information as to the extent and characteristics of various disease problems in the field of public health.

Terms and Pathological Diagnoses Included* Under "Cancer and Other Malignant Tumors" and Reportable in Accordance with the Public Health Law

CARCINOMA
SARCOMA
EPITHELIOMA
ENDOTHELIOMA
} And any term of which one of these words is a part.

- Acanthoma
- Astrocytoma
- Brain Tumors
- Chorioma
- Embryoma
- Ependymoma
- Ganglioneuroma
- Glioma
- Granuloma Fungoides or Mycosis Fungoides
- Granulosa Cell Tumor (Ovary)
- Hypernephroma
- Hodgkin's Disease
- Leukemia
- Lymphoma
- Lymphosarcoma
- Linitis Plastica (Stomach)
- Melanoma
- Meningioma
- Myeloma
- Medulloblastoma
- Mesothelioma
- Mixed Mesodermal Tumor (Uterus)
- Neurocytoma
- Oligodendroglioma
- Pinealoma
- Syncytioma
- Seminoma
- Sympathoblastoma
- Spongioblastoma
- Teratoma
- Thymoma
- Paget's Disease (Breast)
- Wilms' Tumor (Kidney)
- Ewing's Tumor (Bone)
- Grawitz' Tumor (Kidney)

---

* This list is not exhaustive but comprises the great majority of terms usually used. When there is doubt concerning the malignant nature of a tumor, it should be reported.

Outside Back Cover

Reportable diseases include anthrax, botulism, cancer and other malignant tumors, cerebral palsy, chancroid, chickenpox, Asiatic cholera, diarrhea of the newborn in hospitals or maternity homes, diphtheria, amebic and bacillary dysentery, encephalitis (lethargic and other infections), German measles, glanders, gonorrhea, infectious and serum hepatitis, leptospirosis, malaria, measles, meningococcal meningitis or meningococcemia, other forms of meningitis, mumps, ophthalmia neonatorum, plague, pneumonia (all forms), poliomyelitis, rabies and persons bitten by rabid or supposedly rabid animals, Rocky Mountain spotted fever, Salmonella infection (including paratyphoid fever), smallpox, streptococcal sore throat (including scarlet fever), syphilis, tetanus, trichinosis, tuberculosis (report on special card), tularemia, typhoid fever, typhus fever, undulant fever, whooping cough.

In case of outbreaks of food poisoning, sore throat, diarrhea, epidemic influenza, epidemic keratoconjunctivitis, glandular fever, and undiagnosed febrile disease, physicians are asked to report immediately by telegraph or telephone to the part-time or full-time health officer.

New Health Department Publication on Acne Available

Teen-age acne and what can be done about it is the theme of the State Health Department's newest pamphlet, called simply "Acne." Written in teen-age terminology, the booklet is intended to reassure the adolescent and points out the prevalence of the condition among this age group.

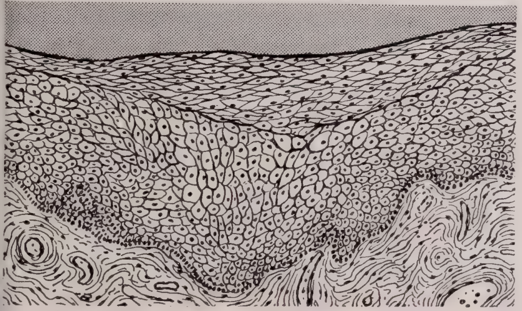
The publication, which was prepared by the Department's Office of Public Health Education with the assistance of some of the leading dermatologists in New York State, stresses that those with severe cases of acne should see their physicians. It offers several suggestions for the mild case These include frequent face-washing; avoiding foods, medicines, or anything causing outbreaks or skin irritation, and adequate sleep, rest, and exercise.

The booklet is suitable for physicians to give to young patients troubled with this condition since it will serve as a reminder about what they should do to supplement the physicians' services. Copies are available upon request from the New York State Department of Health, Albany, New York.

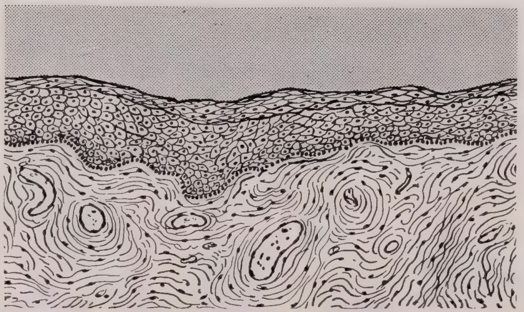
VALLESTRIL® — THE SELECTIVE ESTROGEN

*"Vallestril is an effective synthetic estrogen . . .
singularly free from toxic effects and
complications, especially uterine bleeding."**

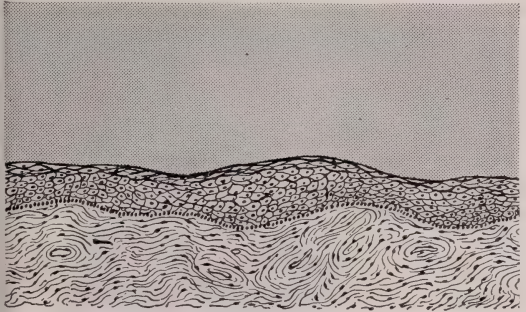
"Target Action" on Vaginal Mucosa



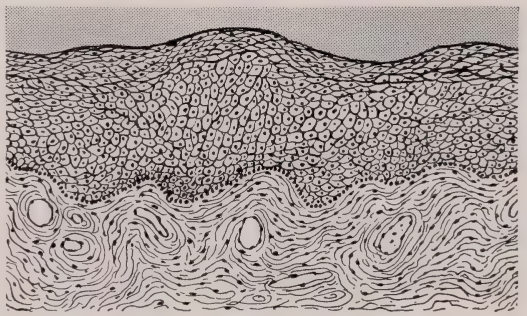
The adult vaginal epithelium is maintained by estrogen activity.



During the menopause, mucosa reverts toward the infantile type.



Postmenopausal mucosa — thinning and atrophy of mucosal layers because of estrogen reduction.



Vallestril therapy slows transitional phase during the menopause.

Vallestril is preferentially indicated whenever estrogens are of value. Its selective "target action" is on the vaginal mucosa with a minimal effect on the endometrium and, therefore, the incidence of withdrawal bleeding is exceedingly low.

> "The failure to encounter withdrawal bleeding in any patient was most gratifying . . . unique as well as clinically advantageous."*

Vallestril quickly controls menopausal symptoms, the pain of postmenopausal osteoporosis and the pain of osseous metastases of prostatic carcinoma.

DOSAGE: Menopause: One tablet (3 mg.) two or three times daily for two or three weeks, followed by one or two tablets daily for one month or longer depending on the patient's response to therapy. Supplied only in scored tablets of 3 mg. G. D. Searle & Co., Research in the Service of Medicine.

*Sturnick, M. I., and Gargill, S. L.: New England J. Med. *247*:829 (Nov. 27) 1952.

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will your cardiac patients
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the diuretic you prescribe

uninterrupted therapy is the key factor in diuretic control of congestive failure. You can prescribe NEOHYDRIN *every day, seven days a week, as needed.*

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BRAND OF CHLORMERODRIN

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acts only in kidney...
no unwanted enzyme inhibition
in other parts of the body.

standard for initial control of
severe failure MERCUHYDRIN® SODIUM
BRAND OF MERALLURIDE INJECTION

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SCIENTIFIC ARTICLES

panel discussion

RECTOCOLONIC DISORDERS

Presented at the 148th Annual Meeting of the Medical Society of the State of New York, New York City, Section on Gastroenterology and Proctology.

A. W. MARTIN MARINO, M.D., *Moderator* MAY 14, 1954

Introduction

A. W. MARTIN MARINO, M.D., BROOKLYN, NEW YORK

(*From the Department of Surgery, State University of New York College of Medicine at New York City*)

WE ALL know that rectal bleeding is perhaps the main reason which causes the patient to seek the advice of his physician. We know, too, that hemorrhoids are the most *common* cause of rectal bleeding, but we recognize, and more and more patients recognize, that cancer is the most *important* cause of rectal bleeding. For that reason we should suspect the presence of cancer in every patient who comes to us with a complaint of rectal bleeding until and unless we can prove otherwise. It is well known, on the other hand, that bleeding is not necessarily a symptom of cancer of the rectum or colon, i.e., a patient may have cancer without bleeding. This is especially true in the early stages of the disease. It is most important also to keep in mind that cancer of the rectum or colon may coexist with fecal impaction, pruritus ani, fistula-in-ano, hemorrhoids, ulcerative colitis, and other anal, rectal, and colonic disorders. In spite of all of these well-known facts, it is necessary to emphasize continuously the importance of a complete proctologic survey in all patients presenting anal, rectal, and colonic complaints. The proctologic survey includes a carefully taken family and personal history, inspection of anal and perianal regions, rectal digital palpation, anoscopy, proctosigmoidoscopy, and abdominal examination. Not infrequently a colonic barium x-ray study is indicated, and at times transabdominal colonoscopy must be performed in order to arrive at a proper diagnosis.

We are fortunate in having on our panel today four men who can discuss authoritatively the divisions of rectocolonic disorders assigned to them. After the panelists have introduced their subjects, they will answer written questions submitted to them through the moderator.

80 HANSON PLACE

MODERATOR'S NOTE: *Since there was no stenotypist present, we do not have a record of the questions and answers. It can be said, however, that many relevant, timely, and thought-provoking questions were submitted, and they were answered to the satisfaction of the questioners.*

Hemorrhoids

SYDNEY DONALD WESTON, M.D., BROOKLYN, NEW YORK

(From the Departments of Proctology of Maimonides Hospital and the Jewish Sanitarium and Hospital for Chronic Diseases)

I HAVE been asked to discuss with you the subject of hemorrhoids, paying particular attention to the treatment. More than 40 per cent of patients with rectal complaints suffer chiefly from hemorrhoids. Various types of light, ultraviolet tubes, and diathermy electrodes are employed in the treatment of internal hemorrhoids by those who are more interested in financial benefit for themselves than in therapeutic benefit for their patients.

There are several classifications of hemorrhoids, but for practical purposes there are two types with variations of each, the external and the internal. The internal hemorrhoid, which is covered with columnar epithelium, arises in the lower inch of the rectum and upper part of the anal canal from the superior hemorrhoidal plexus. The external hemorrhoid is covered either with transitional epithelium of the anal canal or the skin of the anus and arises from the lower third of the anal canal from the inferior hemorrhoidal plexus. The intermuscular septum separates these two types of hemorrhoids. There are three main internal piles: left lateral, right anterior, and right posterior. To these may be added smaller secondary hemorrhoids.

There have been many theories as to the origin of hemorrhoids. Predisposing factors may be either hereditary or anatomic, such as absence of valves, obstruction to the venous return by impaction, and compression of the veins passing through the muscle wall. Under exciting causes may be mentioned straining at stool, work or play, prolonged standing, and sphincteric relaxation. To these can be added abdominal and pelvic sources as pregnancy, fibroids, retroversion, large abdominal tumors, ovarian cysts, prostatic hypertrophy, urethral stricture, etc. Rectal congestion may be a factor and may be brought on by overeating, portal congestion, adiposity, too much horseback riding, or sitting too long.

Hemorrhoids is a venous disease. Rectal venous pressure has no parallel in the body. An attack of prolapsed, strangulated, thrombosed hemorrhoids is brought on as frequently by an acute diarrhea as by the passage of a hard, constipated stool. Most patients with hemorrhoids do not have cancer of the rectum, but nearly every patient with cancer of the lower bowel does have hemorrhoids. One or more of the following symptoms may be present: bleeding, prolapse, discharge, irritation, or pain. What of complications and sequelae? There can be hemorrhage, anemia, strangulation, thrombosis, edema, suppuration, ulceration, fibrosis, sloughing, and pylephlebitis.

Treatment of Internal Hemorrhoids

The treatment of internal hemorrhoids is approached in three ways: palliative, injection, and operative.

PALLIATION.—Palliation calls for the elimination of irritating cathartics, overeating, alcohol, and spices. Except in the hypertensive, up to 12 glasses of fluids daily are ordered. A tablespoonful of mineral oil every night as needed and an increased intake of fruits and vegetables are required. Prolapsed, thrombotic, infected internal hemorrhoids are treated conservatively with wet dressings of either hot witch hazel or boric acid, hot sitz baths, and bed rest.

INJECTION.—Injection treatment is to be used only in uncomplicated internal hemorrhoids, and even here it does not replace surgery as a means of cure. Never employ the injection treatment of hemorrhoids in the presence of infection. There are several sclerosing solutions that are used, but we personally favor a 5 per cent quinine urea hydrochloride solution. Injections are given every five to seven days, above the anorectal line in the submucosa around the neck of the hemorrhoidal vein. After inserting the needle, withdraw the plunger to see if you are in the vessel; this will prevent an intravenous injection of the sclerosing solution. Inject a few minims of the solution, and wait several minutes to ascertain whether your patient is allergic to the drug. Remember there is such a thing as quinine urea hydrochloride allergy. After injection of 2 cc. of the solution, allow the needle to stay put for one minute to prevent leakage. Instruct your patient, that if the injected pile should protrude, to replace it gently with some vaseline immediately.

What of complications? There could be sloughing with ulceration, fibrous tumor formation, stricture, secondary hemorrhage, submucous abscess, hematuria due to puncture of the prostate, and, of course, allergy.

OPERATION.—The three most important steps in the operative treatment are the preoperative, operative, and postoperative. Preoperatively, the patient is instructed for several days prior to surgery to force fluids and take 15 grains of sulfasuxadine three times a day. The patient is admitted to the hospital the day before operation, at which time he is given a rectal and spinal preparation and a saline enema in the evening. One and a half grains of Nembutal are administered for sleep. Two hours before operation, $1^1/_2$ grains of Nembutal are taken by mouth, and one hour before surgery, morphine sulfate, $^1/_6$ grain, and atropine sulfate, $^1/_{150}$ grain, are given by hypodermic. Various types of anesthesia are used, but where possible and feasible, a saddle block is utilized and the patient put in jackknife position. If intravenous Pentothal is resorted to, then the patient is put up in stirrups.

Over the years we have tried every method or procedure that has been described and some that haven't and have found that the Morgan-Milligan procedure used at St. Marks is the one operation, which, in our hands, removes all of the pathology with a minimum amount of scar tissue in the anal canal and leaves the patient with an outlet large enough for normal bowel action without discomfort and with good control.

Briefly, the procedure is as follows: The skin at the sight of the three major vessels is picked up with either an Allis or Pennington clamp; then the vessel is seized by applying a Kelly clamp high on the corresponding pedicle and a ligature of number 2-zero chromic catgut is passed beneath the clamp, tied, and put aside until later. A V-shaped incision is then made in the skin. The veins are dissected down to the pedicle, exposing the external sphincter. The chromic catgut suture is then used to transfix the pedicle to the longitudinal muscle to prevent retraction. Care should be taken to leave islands of tissue between areas of excision. If the sphincter is markedly hypertrophied or if there is any evidence of narrowing, a posterior proctotomy should be performed. Prominent secondary hemorrhoids and skin tabs are removed. All cases are then dressed with Oxycel gauze and a firm dressing applied.

Postoperative treatment for the day of operation calls for forced fluids; Demerol or morphine every four hours if necessary; an antibiotic daily; pituitrin, 1 grain every four hours per os until the patient voids; and getting the patient out of bed in twelve hours to empty the bladder. If spinal anesthesia has been used, an intravenous infusion of 1,000 cc. of saline is given, and the patient is kept flat for six hours. On the day after surgery the Oxycel is removed, hot sitz baths are ordered three times a day, and continuous hot witch-hazel dressings are applied. An anesthetic oil or ointment may be used in conjunction with the wet dressings. One ounce of mineral oil is given daily and the patient allowed a soft diet. On the second postoperative day a bicarbonate enema is administered in the morning, and a full diet is permitted. The patient is discharged on the third or fourth day postoperative, at which time a well-lubricated gloved finger is inserted into the anal canal and gently rotated to break up any attempt at bridging. This procedure is repeated at weekly intervals until complete healing has taken place.

External Hemorrhoids

A brief word about the perianal hematoma or thrombotic external hemorrhoid. "External thrombotic hemorrhoids" are really not hemorrhoids but are actually blood tumors caused by the rupture of a vein or veins beneath the skin surrounding the anus, which results in the collection of coagulated blood. If the "hemorrhoid" is small, all that is usually necessary are hot sitz baths, wet dressings, and the maintenance of soft bowels. If the mass is large and painful, then the thrombus should be excised together with an elliptic segment of overlying skin—not incised. This procedure is done under local anesthesia. The wound is packed with Oxycel and left unsutured. Hot sitz baths and wet dressings are started the next day.

1 HANSON PLACE

Fistula-in-Ano

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FISTULA-IN-ANO constitutes one of the continuing problems of the proctologist and, when complicated, can tax severely the surgeon's skill and knowledge of anatomy.

The etiology of the ordinary fistula is known to all and will not be described in detail here except to note briefly that it results from infection beginning usually in the preformed anal ducts found in the anal crypts or sometimes in an anal ulcer. The infection thus started burrows by one or more of several routes into the surrounding tissues, forming an abscess which ruptures or is incised surgically, and a fistula is born. Textbooks notwithstanding, tuberculous fistulas are rare, as are fistulas with high internal openings in the rectum above the anorectal muscle ring.

However, it is now well established that longstanding fistulas may develop into malignant tumors. This was long denied by medical writers, but the accumulation of cases in the literature affirms the fact, and this alone would constitute a sufficient reason for the eradication of the lesion. McIntyre[1] has well summarized the criteria which should lead to a suspicion of malignant degeneration in a fistula. These criteria are (1) the fistula should have been present for many years; (2) the fistula, although continuing to drain, may become more painful and indurated, and (3) the discharge may become more mucoid.

It should also be kept in mind that actinomycosis and tuberculosis, although uncommon, may be present. Fistulas with high rectal openings are almost invariably due either to trauma or to intraluminal incision of an abscess erroneously thought to be submucous.

Detection of the presence of a fistula is not likely to tax the diagnostic acumen of the surgeon. However, determination of the actual tract and its ramifications, as well as the exact location of the internal (or primary) opening, often presents difficulty.

Methods for Finding Internal Opening

There are several rules of thumb based on the location of the external opening which may lead the surgeon to certain suspicions. These rules of thumb may be enumerated as follows:

1. When the external opening is within 1 cm. of the anal verge, the tract usually does not undermine the subcutaneous external sphincter but often does have a blind submucous extension above its internal opening at the anorectal line.
2. When the external opening is large, irregular, and has undermined edges, tuberculosis may be suspected.
3. An external opening surmounted by a sizable tuft of granulation tissue is likely to indicate a deeply situated tract.
4. The presence of a number of external openings usually, although not invariably, indicates several branches of a single tract with a single internal opening.
5. An external opening 1 or 2 cm. lateral to the tip of the coccyx may indicate a retrorectal sinus.
6. The presence of two external openings, located more or less symmetrically one on each side, often indicates a horseshoe fistula with a single internal opening in the posterior commissure even if one of the openings is located in an anterior perianal quadrant.
7. Finally, there is Goodsall's rule with which most surgeons are familiar and which states that an external opening located posterior to a line drawn transversely through the anus indicates a curved tract with an internal opening in the posterior commissure, whereas one opening anterior to this line signifies a superficial straight tract proceeding radially into the anus.

Let me emphasize that none of the above is to be taken as more than a clue.

Since the eradication of a fistula requires also the elimination of the source, which is to say the internal or primary opening, the exact location of the latter becomes a matter of prime importance. This is not always easy. Several methods are at our disposal. In the first place, since most primary openings are found in the anal canal at or below the anorectal line, it becomes imperative first of all to visualize that area with a suitable anoscope, good illumination, and a suitable crypt hook. Many of these are on the market, although my personal preference is for a thin probe with its distal $^1/_4$ inch bent at an angle of 60 degrees. The crypts are visualized and explored, as is the lining of the anal canal distal to the crypts. Many an obvious internal opening has been missed, in spite of careful search, because it was low in the anal canal.

Careful palpation of the perianal tissues will often reveal a cordlike induration representing the tract and leading the finger toward its intra-anal terminal.

The use of dyes such as methylene blue at time of operation is unnecessary in most cases and often results in a dense staining of the entire field, thereby obscuring more than it reveals.

When dealing with deep and complicated fistulas, it is occasionally useful to inject the tract with warm Beck's paste or Lipiodol followed by stereoscopic x-rays of the area. In this case it is essential to remove carefully all of the radiopaque substance from the skin to avoid a misleading picture.

At the time of operation it is often useful to visualize the suspected portion of the anal canal and anorectal line with a suitable speculum. Traction with an Allis clamp on the external opening may then produce a visible dimpling at the site of the internal opening.

Treatment

Surgical cure of the fistula is theoretically simple and consists merely in converting the tunnel into an open gutter, removing all or as much as possible of the disease. All anorectal fistula surgery is based upon this principle. This means that *all* tissue overlying the tract must be incised, including whatever muscle may intervene between tract and skin surface. In addition, enough surrounding uninvolved tissue must be removed to provide adequate drainage, and this drainage must be maintained by painstaking postoperative care. With a simple, straight, superficial tract this is comparatively easy.

Let us describe, however, an operation on a deep curved posterior fistula with several external openings. Because of the tortuous route of the tract in this case, it will probably not be possible to pass a probe directly from the external to the internal opening. The probe is instead inserted in one external opening and the overlying tissue incised, after which the probe is reinserted in a new direction. This process is continued until all tracts are completely laid open to and through the exact internal opening. In the process it will undoubtedly be necessary to incise considerable portions of the sphincter musculature. It should be emphasized that even if a large amount of muscle extends between the tract and the skin surface, it must all be cut if the fistula is to be cured. In some cases it may be advisable to do this in two stages, incising the majority of the muscle bundle in the first stage, securing the remaining muscle with a seton as a marker, and incising the remaining muscle later after the first incision has healed. Fortunately this is not always necessary since the presence of even a small amount of intact puborectalis will ordinarily ensure adequate continence.

Occasionally the surgeon may be disconcerted to find, upon inserting a probe in the external fistulous opening, that the instrument proceeds for 3 or 4 inches in a straight cephalad direction, with no tendency to turn toward the anus. This is Morgan's "vertical" type, and in the great majority of such cases a side branch will be found extending to an internal opening in one of the usual locations. The problem immediately arises, however, of providing proper drainage for the deep end of the sinus-like tract. This problem is solved by first removing all horizontal tracts and the internal opening in the manner previously described. An incision is then made from the depth of the vertical tract directly posteriorly toward the coccyx. If necessary, the sacrotuberous ligament and gluteus maximus may be partially divided. After excision of surrounding skin and fat in order to saucerize the wound, this leaves a sizable defect. However, by such means adequate drainage is provided, and it is well to remember that postoperative difficulties in fistula surgery result mostly from wounds which are too small rather than from those which are large.

Although fistulectomy wounds will heal more quickly and with less trouble if the entire tract wall is removed, it is sometimes advisable to leave a small portion of the deep wall where a large amount of sphincter has been divided. The portion thus left is that part which passes through the muscle, and it is permitted to remain in order to prevent, by its fibrous attachment to the muscle on each side, too great a retraction of the muscle ends. In such a case, however, it is essential to remove thoroughly all granulation tissue by means of a curet and to take special care during the postoperative period to prevent bridging and pocketing of the site.

Pitfalls and Complications

With the exception of incontinence, complications of fistulectomy are nearly all due to inadequate surgery. In particular, the following points are stressed:

1. It is essential to find and eradicate the internal opening. There is no substitute for this, and the expert operator will almost always succeed in doing so. In the occasional case, however, where the tract can be traced to a point immediately below the anorectal line but in which an actual opening is not found, the entire anorectal line including all crypts for at least 1 cm. on each side of the probable site of the opening must be excised.
2. All of the accessory tracts should be removed; if for some reason this is not done, the remaining tract wall should be so thoroughly curetted that practically no fibrous tissue remains.
3. Wide external drainage is essential, and in this respect the surgeon must ruthlessly sacrifice any uninvolved skin and subcutaneous tissue which tends to obstruct drainage. This may leave a very large wound, but such wounds, if properly saucerized and cared for, will heal faster and remain cleaner than smaller ones with more nearly vertical sides. It is almost always possible to create additional drainage by carrying the incision posteriorly as far as the coccyx if necessary.
4. It is often quite easy to overlook additional external branching tracts, and this is another cause of postoperative difficulty. When the entire main tract or tracts have been laid open, a careful search should be made for additional branches. One method is to explore carefully with the probe, taking care not to err at the other extreme by creating false passages. A very useful maneuver is to remove granulation tissue by curetting. A small tuft of remaining granulation tissue, apparently immune to the curet, may prove to be the entrance to another branch.

Postoperative Care

Fistulous wounds are ordinarily not packed, but if packing has been inserted, it should be removed in twenty-four to thirty-six hours and not replaced. Sitz baths and routine anal hygiene are instituted on the day following operation. If adequate external drainage has been provided, the discharge should not be unduly purulent. When a relatively clean fistulous wound begins to show a drop or two of pure pus in its depths, a meticulous search should be made for a poorly draining pocket which must be eliminated. Premature agglutination of the deeper sides of the wound, particularly that portion entering the anal canal, may be prevented by the frequent use of a small glass rod, the size of an ordinary cocktail stirrer. This maneuver is efficacious and provides minimal discomfort to the patient. Exuberant granulations should, of course, be treated with silver nitrate and the cutaneous edges kept free from hairs by means of shaving. If it is kept in mind that the wound must heal from below according to the basic principles of surgery, and if the disease has been removed and adequate drainage provided, the postoperative care, while prolonged, need not be difficult.

Principles Regulating Division of the Sphincter

Questions commonly arise concerning the possibility of incontinence following division of the sphincter. In order safely to divide the muscle, the anatomy of the sphincteric mechanism must be thoroughly learned, and it must be realized that ordinary continence depends upon the various divisions of the external sphincter ani plus the puborectalis, rather than the internal sphincter. With these facts in mind, the following principles may be propounded:

1. The subcutaneous external sphincter may ordinarily be cut in one place with impunity except in the anterior commissure in the female. In many instances even this is safe.
2. The sphincter should be cut at right angles to the long axis of its fibers.
3. In well-muscled individuals, and especially in the posterior commissure, it is usually possible to sever almost the entire muscle provided that a 1 cm. bundle of puborectalis is left intact. In these cases, however, there may be some difficulty in controlling gas if a cavernous cicatrix results.
4. Muscle ends should not be packed apart for more than twenty-four to thirty-six hours.
5. If muscle ends, when severed, tend to retract unduly, they may be partially approximated by loose figure-of-eight sutures. To approximate the ends completely would, of course, defeat the purpose for which they were cut.

6. If it is necessary to sever all or almost all of the muscle, the greater portion may be divided and the remainder surrounded by a loose seton. The undivided portion may then be safely divided at a later date when the remainder of the muscle has healed.

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Progress in the Surgical Treatment of Chronic Ulcerative Colitis

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The unhappy results that have attended the treatment of chronic nonspecific ulcerative colitis by both physicians and surgeons alike since the dawn of the twentieth century have caused the literature to be filled with remedies, too numerous to mention, for the treatment of this disease. I doubt if there is any drug or potion that has not been used at some time to treat ulcerative colitis. These patients have been purged from both ends of the gastrointestinal tract, have received all the anthelmintics; their colons have been irrigated with all kinds and types of dyes and antiseptics. They have been starved, and they have been overfed. They have had the benefit of elimination diets and antihistaminic preparations. They have received all types of vitamin preparations, all the sulfonamides, beginning with Neoprontosil, the various antibiotics, and now are being exposed to the virtues of the newer hormone preparations. They are also being extensively psychoanalyzed.

I mention these things not to be humorous but to show the confusion that has existed and does exist in the mind of the practitioner who has to treat the patient with this dread disease. The surgical approach, however, through the years has been rather orderly in its progress. It has had setbacks for various reasons, mainly because of high mortality rates and the reluctance of internists, surgeons, and patients alike to accept the permanent ileostomy.

In reviewing the literature of chronic nonspecific ulcerative colitis, it is interesting to note the marked progress that has been made toward improved surgical thinking in the treatment of this disease. Rankin[1] states that the disease was first described in 1875 by Wilks and Moxon, although Cravelier depicted the disease in a pathologic drawing some thirty to forty years previously.

The earliest surgical attempt to treat chronic ulcerative colitis apparently was the insertion of an opening into the intestinal tract through which irrigations of the diseased segment could be carried out. Probably the most natural approach to this problem would be through the appendix, and we find the first appendicostomy was performed by Weir in 1902. Several years later Wood[2] in a paper on intestinal autointoxication was apparently describing cases of ulcerative lesions of the large bowel as well as so-called irritable colon. He instituted appendectomy, oophorectomy, and anterior fixation of the uterus for alleviation of symptoms on the basis of foci of infection and mechanical pressure.

The next concept to be presented was that of physiologic rest of the diseased colon, and to accomplish this end Mikulicz and Brewer performed complete transverse section of the terminal ileum several inches above the ileocecal valve. They fixed the proximal end of the bowel in the abdominal wound and inverted the distal end, dropping it back in the abdomen. If irrigation were decided upon later, an appendicostomy or cecostomy was resorted to, necessitating an additional operation. Later the transverse section of the ileum was performed, leaving both open ends in the wound on the abdominal wall. This gave physiologic rest and also allowed irrigation of the diseased segment.

In 1924 Strauss *et al.*[3] published two cases of chronic ulcerative colitis finally treated with colectomy after having appendicostomy and then ileostomy as the preliminary step to colectomy. This seems to be the first mention of colectomy in the literature as a definitive treatment in this disease. They stressed the advantages of ileostomy over appendicostomy and performed a loop ileostomy. It is interesting to note that in 1944 the same clinic[4] reported 102 additional cases, and their operative maneuvers remained the same, save for the substitution of transverse ileostomy for the loop ileostomy.

Many objections were raised by surgeons and internists alike to the permanent ileostomy. The incontinent artificial anus with soiling, offensive odor, and extensive skin excoriations which were so painful to the patient forced the closure of the ileal stoma upon many surgeons. They considered this operation a more formidable surgical maneuver than the performance of the ileostomy in the first place, and the fact that so many cases returned with a recurrence of the symptomatology following restoration of continuity further deterred their willingness to please both patient and physician.

To effect a partial short circuit of the colon, at least, and avoid the troublesome ileostomy, Regan and Mensing[5] temporized with an ileosigmoidostomy. These authors reported three such cases in 1932 and stated they had all remained free of the disease for a period of eight years.

As late as 1929 Stone[6] in an exhaustive study of the surgical treatment of chronic ulcerative colitis concluded that ileostomy was the treatment of choice but that appendicostomy had its place. He considered colectomy too formidable a procedure for the patient with this disease. Kiefer in 1932[7] also stressed ileostomy and avoided colectomy. This same author ten years later[8] in 1942 advised ileostomy followed by graded colectomy.

Ranking, Bargen, and Brown in 1932[9] stressed ileostomy in chronic ulcerative colitis and described an improved technic for establishing the small bowel fistula.

Until this time little had been said and apparently, because of the dreaded mortality rate, little thought given to extirpation of the diseased colon. The stress was on putting the diseased bowel at rest by a short-circuiting operation and hoping this physiologic rest would be a means of healing the ulcerative lesions. Some added the irrigation of the distal segment with all types of medication.

In 1937 Cattell in discussing Lund's paper[10] made a plea for early surgery in cases of chronic ulcerative colitis and urged a three-stage operation: (1) ileostomy, (2) colectomy, and (3) abdominal perineal resection of the distal colon and rectum. In 1939 Rankin[1] stressed the removal of the diseased colon in stage operations following ileostomy or ileosigmoidostomy.

Since then numerous papers have appeared in the literature describing the surgical approach to this disease. The large centers have made many contributions, and individuals throughout the world have added much toward better management in the surgical approach to chronic ulcerative colitis. There has been a marked lowering of mortality rate as technical skill has improved.

It should be noted here that the great advances stemming from research in physiology, biochemistry, bacteriology, and the other basic sciences probably deserve a large measure of the credit for better surgical results and the broadening of the field in which the present-day surgeon indulges. The contribution that blood replacement, improved methods in anesthesia, and the advent of the numerous antibiotics have made to surgery in general is also reflected in the handling of these cases. In 1941 Lahey[11] reported a mortality rate of 22 per cent for the ileostomy alone, and ten years later[12] this figure in his clinic had fallen to 2 per cent.

There has also been a trend toward decreasing the number of stages necessary to effect a complete eradication of the diseased colon. In 1949 Miller *et al.*[13] advocated the performance of ileostomy and hemicolectomy in the well-prepared patient, and others have reported ileostomy and complete colectomy as a one-stage procedure. This latter procedure would undoubtedly make the immediate mortality rate higher than is reasonable in all but experienced hands and should be saved for the most part for patients where heroic measures are necessary, namely, the danger of exsanguination from massive hemorrhage.

The latest technical advance, probably, is the performance of ileostomy, colectomy, and abdominal perineal resection all in the first stage. Patterson[14] has reported one case, and other surgeons have performed this operation successfully. It probably should be mentioned here that dread of ileostomy by internists, surgeons, and patients alike has been greatly lessened by the introduction of the ileostomy bag that is cemented to the patient's skin. The work on this type of bag was pioneered by an ileostomy patient, H. W. Rutzen. There are now available on the market various makes of this type of bag which lessens the hazards of the discharge of ileal contents on the skin.

What is the type of case that today we consider a candidate for surgical treatment? This subject has been argued back and forth between the internist and surgeon for years. One reason for the argument, as has been stated, was the reluctance to accept ileostomy, but more important was the lack of understanding of intelligent medical management of ulcerative colitis. It is important to remember that this disease is primarily a medical problem and that the surgeon is interested only in its complications. The internist, however, has to be cognizant of the fact that the major complication is failure of medical treatment.

Probably 25 to 30 per cent of patients with ulcerative colitis should be subjected to surgical intervention. The other 70 to 75 per cent respond indefinitely to adequate medical management. True, they may have occasional mild recurrences, but they should never be subjected to surgery.

Hemorrhage

Massive bleeding from the colon in ulcerative colitis is a distressing and difficult problem to manage and calls for extreme cooperation between the internist and surgeon. It occurs from deep ulcerations in the mucosa in a colon that is impaired in its ability to absorb vitamin K.

The operation of choice in such cases is ileostomy combined with complete colectomy in one stage. Unfortunately many of these patients will not stand such a formidable procedure due to their poor condition, and it is necessary to do only an ileostomy. Every attempt should be made to get such a patient in shape as soon as possible to withstand colectomy. The use of ACTH has been advocated in the postileostomy period, but it is too early yet to know whether this hormone has any effect upon the bleeding.

Obstruction

We are not prone to think of obstruction as occurring frequently in ulcerative colitis, but its frequency is much more than an academic consideration. We are all familiar with the shortened, thickened, lead-pipe type of colon occurring in longstanding cases of ulceration, and it is in these cases that cicatrix forms within the lumen of the bowel. There is no opportunity for any distensibility of the rigid wall, and symptoms of chronic obstruction develop. Surgical intervention is necessary in all of these cases.

Perforation

Perforation of the bowel in ulcerative colitis may be acute or chronic. Fortunately cases of the acute fulminating type of the disease with the attendant acute perforations are rare, but they can be salvaged if attacked vigorously in the early stages.

The clinical picture is different from the chronic form in an acute exacerbation. These patients are extremely ill, and the abdomen presents the signs of an acute surgical emergency, even before actual perforation takes place. This picture presents because of penetration of virulent organisms through a bowel wall that is largely devoid of mucosa, and in many places of muscularis as well, with a marked peritoneal reaction. This patient should be well covered with large doses of antibiotics and an ileostomy performed.

The chronic perforation will usually wall off as an abscess with all the localizing signs. Here the ileostomy should be performed first and the abscess drained secondarily.

Pseudopolyposis and Malignancy

The established malignancy in colons previously infected with ulcerative colitis is usually a hopeless proposition. Lahey reports only two survivals in a series of 18 cases. He believes that the difficulty in diagnosis, because of the similar symptoms present in both ulceration and neoplasm, may be one factor in the high mortality rate. It is also a fact that the immaturity of the malignant cell is greater in these cases, probably because they occur in younger people.

We do know that the malignancy occurs in the presence of so-called pseudopolyposis, and for that reason periodic sigmoidoscopic examination plus the barium enema roentgenogram should be done in all cases of chronic ulcerative colitis. The first sign of polyposis is the first warning sign of malignancy, and that colon would be removed promptly with the formation of an ileostomy.

Miscellaneous

Patients with multiple joint involvement are markedly benefited by ileostomy and colectomy and should be operated upon early before permanent damage is done to the joint cartilages.

As to the presence of multiple anal fistulas, abscesses, and marked rigidity of the anal sphincteric musculature—there is no hope of cure of these distressing local complications until the diseased colon has been removed and an ileostomy performed. It is probably not necessary to warn this group of the hazards of local anorectal operations in the presence of ulcerative lesions of the bowel, but we all see cases where such surgical mistakes have been made with the resulting infected wounds with no evidence of healing. These cases likewise require major colonic extirpation.

Summary and Conclusions

Progress in the surgical treatment of chronic ulcerative colitis has been orderly. The decrease in mortality rates has followed improved surgical technics, improved anesthesia, adequate pre- and postoperative care, replacement of blood loss, and the use of powerful antibiotics. Surgery is reserved for the complications of the disease which include hemorrhage, obstruction, perforation, pseudopolyposis and malignancy, and, most important, for patients who do not respond to adequate medical management.

In conclusion, I think the surgical world has progressed to the stage of ileostomy with complete colectomy for the treatment of these complications of chronic ulcerative colitis. There is much agreement in the statement that once an ileostomy has been established, complete colectomy with abdominal-sacral removal of the rectum should follow.

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Treatment of Cancer of the Rectum

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The last decade has seen considerable progress in the treatment of cancer of the rectum. I hope the many glowing reports in the literature have not brought about a state of complacency in the medical profession toward this killer of humans. The over-all salvage rate of patients suffering from the disease is still between 12 and 15 per cent.

The reporting of end results has not been uniform and in practically every instance represents a selection of patients. These results of treatment vary widely, are dependent upon the location of extent of disease and the degree of malignancy, and, to a great extent, represent the radical approach of the surgeon to the established disease.

The emphasis in treatment of cancer of the rectum for many years has been on its more and more radical surgical extirpation. This emphasis, I am happy to say, is now shifting toward the preventive medicine approach. The practice of proctosigmoidoscopy as a part of each general physical examination, with recognition of a precursor to a rectal cancer lesion and its early treatment, I believe, will contribute more to combat this disease than all of the surgical gymnastics which we have engaged in over the past sixty years. According to this theory time is of the essence in cancer therapy in this anatomic area. In rapidly growing, undifferentiated lesions there is little time in which successful therapy may be accomplished. In slowly growing lesions there is more time, but theoretically, if all cancers of the rectum were detected early, the cure rate would approach 100 per cent. To develop this idea further would lead us primarily into the recognition and treatment of the mucosal polyp. Our subject in this treatise, however, is the review of established methods of treatment of rectal cancer.

Sir Ernest Miles[1] in 1907 made the greatest contribution to the surgical treatment approach to cancer of the rectum when he emphasized the possibility of lateral and high lymphatic involvement by the disease and strongly recommended the one-stage abdominoperineal operation as the one which insured the greatest guarantee of complete removal of the rectal cancer and its local extensions. His first 63 resections were done with a 36.2 per cent mortality rate, and no patient over sixty survived. In his next 53 operations his mortality rate fell to 9.3 per cent. Due to many factors this mortality has now fallen below 5 per cent.

Since Miles's surgical approach to the problem, most surgeons have adopted his technic. Many have gone on to develop modifications, most of which have been good but some have been bad. The latter technics have been developed primarily around the sentiment of losing the anal sphincter.

According to the traditional concept of cancer surgery, if it is to be effective, it must be applied early and be sufficiently radical to encompass the spread of the disease. A judicious widening of the scope of the resection in particular cases is fully warranted. Before the superradical operations can be expected to replace the established ones, however, it must be shown that they can be performed with a reasonable comparable mortality and morbidity, and whatever disadvantages they may have in this or other respects must be compensated for by a distinctly superior cure rate. It will take some years to establish this fact, and also if one considers the wide range in the biologic behavior of cancer, it appears quite unlikely that further extension of areas of excision in advanced cancer of the rectum will affect the over-all survival rate much more than 5 per cent.

The present management of advanced cancer of the rectum places a moral obligation on the surgeon to see his patient through one way or another. Palliative surgical treatment to relieve suffering, especially due to obstruction and infection, is at present necessary and is too infrequently applied. The surgeon must meet these exigencies as they arise, and the final decision whether or not to employ a palliative procedure must be determined by the probability of alleviating suffering.

In inoperable disease there is need for much greater cooperation between radiologist and surgeon. The surgeon knows not only the patient but usually the anatomic extent of the cancer. X-radiation should be employed with the same accuracy and judgment as the scalpel. Quite frequently periods relatively free of suffering are thus obtained.

As a patient approaches the terminal phase of his disease, he should not be abandoned by the surgeon who originally operated upon him. There should be as accurate an appraisal as possible given to the family physician and the immediate family. There should be early judicious use of secondary operations for external metastatic disease and the recommendation of neurosurgical procedures for the relief of pain. Opiates should be reserved as the last resort.

121 East 60th Street

Reference

1. Miles, W. E.: Lancet 2: 1812 (1908).

A Hex on Sex

The magazines can print what they wish.
For sex education, I'll stick to fish.
The bass who finds that love is methodical
Won't write it up in the first periodical.
What if sex in a fish isn't zestful?
This much you have to admit: it's restful.
The baby fishes swim to and fro,
Heedless of what a minnow should know.
No salmon Sanger, no trout named Kinsey
Catches them playing gillsy-finsy.
Fish never leer or ogle or dimple.
In river boudoirs, they keep things simple.
Whenever a perch sees a worm, he bites,
And to heck with other appetites.
Pre-Caviar Care is far from grand,
And Pickerel Parenthood isn't planned.
The lady fishes just keep on roe-ing;
Their mates just pass them and keep on going.
Maybe that's why a bride-in fish life—
Seldom, if ever, becomes a fishwife.

—*Ray Schuman, The Canadian Doctor*

POSTGRADUATE LECTURES

Presented at the 148th Annual Meeting of the Medical Society of the State of New York, New York City, May 11 and 12, 1954

BERNARD J. PISANI, M.D., *Chairman*

Dr. Bernard J. Pisani: Welcome! Before starting our postgraduate lectures I would like to make one or two announcements that may help to coordinate the work we are trying to do to link our project with Dr. Redway, editor of the Journal. We are recording as much of the material as we can here today. The speakers all will have microphones into which most of the addresses will be recorded, and we are going to ask that the questions which will be directed to the panel be done from the center of the floor where we have a speaking mike that is just to my right. I ask that the questioner will give his name or her name, and then the question.

We will now get right into the program. I apologize to the members and to the speakers, especially, from the standpoint of the time allotted. This is laid down by dicta for which we are not responsible, and it seems a shame to have some of our distinguished guests come and speak for just fifteen minutes. There will be no banging of the gavel. There will be no lady keeping a time clock, but I do think that the material that will be presented concisely and forthwith will be within our time limit as set down. These are dicta set by the State Society. Some of our members, Dr. Zeman among others, will see if we can change some of these rules.

We are particularly fortunate to have as moderator of the first part of our program, which concerns the care of the aged, a very good friend to all of you, Dr. Theodore J. Curphey, coming as he does from the State Society and the garden island of Long Island. Dr. Curphey is chairman of the Council Committee on Public Health and Education of the Medical Society of the State of New York, and with his tremendous work in pathology out on the island, as I say, needs no introduction. I am going to ask that Dr. Curphey moderate the panel and introduce the speakers on the program this morning. We will then have a short intermission during which time we will ask you to visit the exhibits. Then we will conclude with the final part of the program beginning at a quarter to eleven.

Dr. Curphey, would you be kind enough to take the chair, and if the panel members will come up, we will be glad to have them here at the table.

Dr. Theodore J. Curphey: Thanks very much, Dr. Pisani. I want to say this. As chairman of the Public Health and Education Committee, we look forward every year to this opportunity of having a part in the program. Personally, apart from its postgraduate educational value, I always feel that it is a bit of a monument to the memory of Dr. Oliver Wendell Holmes Mitchell who was very active in the State Society in pioneering this postgraduate teaching day. It has always been every Tuesday, and its success has fluctuated from year to year. This year I envisioned a very successful program, largely through the efforts of Dr. Pisani and his committee. They have done a marvelous job. They have given us full opportunity on this morning's program. As many of you know, these lectures have been organized through the efforts of one of our subcommittee chairmen, Dr. Fred Zeman, who is chairman of the Subcommittee on Geriatrics.

Without further ado, I would like to proceed with the program. The first presentation is by Dr. Murray Steele and is a clinical picture of arteriosclerosis management. Dr. Steele, as all of us know, has had a great deal of outstanding experience in the field of research on this problem. He is a graduate of Hopkins, 1925, and very active in the Medical Society of Clinical Investigation. Dr. Steele, will you please come up, sir?

The Clinical Picture and Management of Arteriosclerosis

J. MURRAY STEELE, M.D., NEW YORK CITY*

(From the Department of Medicine, New York University College of Medicine)

IT MAY be partly my fault that this pretentious title became attached to a ten-minute discussion. The subject as stated could not be covered thoroughly in as many hours. I would, therefore, like to bring to your attention certain points, which appear to me to be important, concerning this disease or degenerative process which we call arteriosclerosis.

First there is a disagreement as to whether arteriosclerosis comprises one, two, or more diseases. Moschcowitz[1] has long maintained that there are at least two, and recent evidence from a London Hospital suggests that the *athero*sclerosis which causes coronary thrombosis is different from and increasing at a time when the disease of coronary *arterio*sclerosis is decreasing.[2]

The second point I would like to make is that there is evidence that the disease is not a slowly progressive but an intermittent one. Much like gout, there may be exacerbations with intermittent periods of nonprogression. Peck, McGill, and Holman[3] in the analysis of the aortas in 300 consecutive autopsies have found evidence for the presence of atheromatous plaques in nearly every individual over the age of seven years. Furthermore, they believe that atherosclerotic plaques come in "crops." That is to say, there is a period of time when plaques develop followed by a quiescent period with the subsequent appearance of another set of juvenile plaques. They described individuals who had two different sets of plaques, but after this the stage of development of the plaques became so diverse that it was impossible to separate them into groups. They also show that multiple crops increase in frequency with age.

We have had the opportunity of examining x-ray photographs of the aortas and arteries of the lower extremities of a number of patients with arteriosclerosis over periods of five to ten years. That the extent of calcification fails to increase or change at all in many patients has impressed us. This point may be of importance in the interpretation of cholesterol or Gofman's S_F 10-20 lipoprotein plasma levels. It might well be that if the process were not active at the time these measurements were made, no abnormality would be found in spite of the presence of well-advanced arteriosclerosis.

Third, I would like to point out that the course of the disease is almost indescribable in its variability. Arteriosclerosis may run such a benign course that without laboratory data we would not know that the disease existed in a particular individual, or it can run such a rapid course that the individual is dead of cardiac infarction at the age of thirty-odd years. The manifestations of the disease are almost invariably the result of an accident in a certain sense, namely, the closure or rupture of an artery at a strategic point or in a vital organ. If it be a coronary artery, or a major cerebral, or a major mesenteric artery that is blocked, the consequences are ominous. A femoral vessel can be completely obliterated, however, without serious symptoms ensuing. This is true, of course, also of a coronary vessel, provided it is not a major one. Under these circumstances collateral circulation may develop.

I would now like to turn to the second half of the title concerning management of the disease. Tests for so-called "athergenic activity" (S_F 10-20 lipoprotein molecules, cholesterol levels of serum) do not seem to be well enough established to serve as a basis for beginning either dietary or other treatment in a prophylactic way. Choline, inositol, and other lipotropic substances have been suggested but as yet have not been shown to be of proved value. Furthermore, the vast majority of individuals remain symptomless in spite of demonstrable arteriosclerosis so that little need for therapy exists. For these reasons it occurs to me that in treating the disease prophylactically one should interfere as little as possible with normal activities of life. In general, it seems that something in what we eat, or perhaps too much of something in what we eat, does tend to enhance the chance of an accident occurring during the course of atherosclerosis. Therefore, I would go along with the notion that an obese individual should be placed on a low calorie diet, low in protein, but for the most part, diet has yet to be proved effective.

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* By invitation.

Time is much too short to get into specific management of each of the accidents which punctuate the course of arteriosclerosis, such as coronary occlusion and cerebral thrombosis. With the principle in mind of creating as little disturbance as possible in the life of the individual concerned, patients following a stroke or coronary occlusion should be gotten out of bed as soon as possible or sometimes perhaps not even put to bed. I am inclined to believe that a happy patient sitting quietly in a chair, even after a coronary occlusion, has a better prognosis than a very unhappy patient in bed.

References

1. Moschcowitz, E.: J.A.M.A. **143**: 861 (1950).
2. Morris, J. N.: Lancet **260**: 1, 69 (1951).
3. Peck, G., McGill, H. C., and Holman, R. L.: Federation Proc. **10**: 367 (1951).

Dr. Curphey: For those of you who have just come in, we have just heard Dr. Steele, director of the Research Service at Goldwater Memorial Hospital, speak on the clinical picture of arteriosclerosis.

Now, one of the points that has been uppermost in the minds on the Committee on Public Health and Education in the arrangements of its programs has been to consider the problem and the person in their entirety. I think there is a great need in many of our educational efforts in medicine to include certain of the peripheral parts of the problem, specifically, the area—the social picture in relation to the problem of the patient. This has been done in previous sessions by this Committee, and today we are very fortunate indeed in having someone who can speak very well on this matter of the responsibility that the community has with respect to the problems of the care of the aged. It gives me particularly great pleasure to introduce Mr. Raymond W. Houston, Commissioner, Department of Social Welfare, State of New York, because he came from Nassau County. I would not say we spawned him there, but we certainly helped develop him, and now he is in Albany. I know we will enjoy his presentation.

The Responsibility of the Community to the Aged

RAYMOND W. HOUSTON, ALBANY, NEW YORK*

(*Commissioner, New York State Department of Social Welfare*)

I take my presence here this morning at the invitation of the Medical Society of the State of New York to be further evidence of the longstanding cooperation which has existed between the welfare and medical forces in the State of New York. Since the early years of the emergence of the public welfare program into a large-scale operation, the members of the medical societies, both locally and on the State level, have been of inestimable value to the evolution of a program of medical care for the needy of our State. The committee of the Medical Society of the State of New York, which still continues to advise us, has had no small part in the formulation of the existing pattern of medical care in the welfare field. While we in welfare and you in medicine have not always seen eye to eye, we have continued to have an instrumentality whereby we could get together, discuss our problems, and resolve our differences.

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*By invitation.

You asked me to talk about the community responsibility for the care of the aged. Because of the auspices, I have chosen to limit my remarks to community responsibility with respect to the field of medical care, regardless of economic group served. It would seem obvious that the first responsibility of the community in medical care for the aged is to provide the facilities wherein aged persons in need of any kind of medical aid can be housed and then to finance the staffing and operation of these facilities in order that the care needed may be given. In a large measure the community has responded to this need and has provided a network of varied facilities wherein many types of medical care and supervision are available to the aged.

If we think in terms of organization and intensity of the medical care given, we start with the more than 400 general hospitals in the State where the aged, as well as younger persons, in need of care for acute conditions are taken care of. In these facilities the cost of care is met partly by charitable funds but, to an ever-increasing degree, for those who cannot meet their own costs out of public funds. In fact, at the present time those who are found otherwise in need find their care in hospitals reimbursed by public welfare agencies pretty generally to the full extent of cost to the hospitals.

There are several types of facilities for the chronically ill and disabled. While these serve persons of all ages, the vast majority of the patients are in the older age categories. There are some chronic disease hospitals and a growing number of wings for the care of the chronically ill in general hospitals. In such instances again the same kind of financial arrangement has begun to prevail.

Some two years ago, Federal funds became available for the first time to assist in the care of persons placed in public medical institutions. Under the Federal requirement the Department of Social Welfare had to establish standards to define a public medical institution. So far, 26 county home infirmaries have met the standards and have qualified as public medical institutions, and they are in receipt of Federal funds. Effective January 1, 1954, State aid became available for the first time not only for those in the infirmary sections of county homes but for those in the residential sections of county homes. Presently the situation is that the State of New York meets 50 per cent of the cost of operation of county homes and sections of county homes not qualified as public medical institutions. In the case of those sections of county homes qualified as public medical institutions, the Federal funds are forwarded to the institutions, and the State shares on a 50:50 basis the balance of the cost.

Next in the chain are the many nursing homes, convalescent homes, and private homes for adults operated under private management. The State Department of Social Welfare has established standards governing the operation of these three types of facilities, and eventually it is expected that there will be stabilized services provided in each of the three types of facilities, that patients will be placed in these facilities in accordance with the services they require, and that the charges made will be based entirely upon the services rendered.

I should not fail to mention also that there are more than 200 homes for the aged in New York State which almost invariably began under religious, fraternal, and charitable auspices to provide pleasant residential facilities for aged persons at the end of life. With the emergence of the old-age assistance program under the Federal Security Act, many aged persons have found it more desirable to continue to live in their own communities on the funds provided to them from public welfare sources under the label of old-age assistance. Some of the less able persons have entered homes for the aged, and through the years it has been made possible to continue old-age assistance to some such persons while resident in these homes for the aged, which has helped to reimburse the homes for their care. A later development has been the emergence of a relatively large group of aged persons who subsist on the monthly payments made to them from old-age insurance. These persons too prefer to live independently until incapacity forces them to seek institutional care. Thus a gradual change has been taking place of conversion of these earlier homes for the aged more and more to a variety of nursing home facilities for the accommodation of the chronically ill aged who have income but need institutional living. I think we can expect this development to continue.

There are two problems, among many perhaps I should say, which I would like to touch upon briefly here this morning. One is that in all this chain of facilities we apparently have not been able to work out a reasonable flexibility. We find time after time that chronically ill persons are staying in hospitals erected and equipped with all of the extra facilities needed to give complete acute care. This appears to occur because of difficulties in finding facilities to accommodate the chronically ill after the acute phase of the illness has passed. I am afraid it sometimes happens that families or even facilities which have given care to the chronically ill fail to meet their responsibilities when they take their chronically ill to hospitals for acute conditions and then refuse to accept them back into the family or into the earlier facility at the termination of the acute phase. I think we have a good deal to do in working out agreements so that we do not continue to use the expensive acute facilities longer than absolutely necessary.

Second, as a layman in this field, I look with some concern on the ever-growing tendency to overcentralize our medical institutional facilities. When I hear it said that our medical centers must consist of teaching hospitals, of acute facilities, of facilities for the chronically ill, of facilities for early care of the mentally ill, of facilities for the alcoholics, and of all kinds of testing facilities for the program generally included under the term rehabilitative services, I wonder if we are not overcentralizing. I can grant that it is desirable from the point of view of convenience and stimulation to our medical personnel, and perhaps more skilled diagnoses and services from a medical point of view can be provided by these central facilities, but I am not yet convinced that these are all. I envision many humble aged persons who have never left their home areas and like to be in or near their familiar surroundings. These are folks who have lived simply, who enjoy simple, homey things and ways. They will be more contented and thus more responsive to treatment if their environmental factors are not too radically changed. Thus it would appear to me that affiliation of many smaller residential facilities, located close to people's origins, with regional and central facilities through their medical staffs is the better solution. I do not like to see the facilities themselves become more concentrated in a few places.

In discussing the community's responsibility to the aged, I must mention the size of our problem. There are nearly 1,450,000 persons sixty-five years of age and over in New York State. I would also call to your attention not only the needy 107,250 persons on our old-age assistance rolls, but the 37,000 persons on our aid-to-disabled rolls and approximately 50,000 adults on our home relief rolls. Most of the 37,000 disabled and a substantial number of the 50,000 adult home relief recipients are between the ages of forty-five and sixty-five. All of the disabled have medically certified physical and mental disabilities. Many of the home relief recipients also have disabilities, but their handicaps are not of a totally disabling nature. Both of these groups, although not at the chronologic age of sixty-five, have problems that are similar to problems associated with old age. I emphasize this fact because many of us forget, in thinking about medical and other services for the aged, that other groups in the population not regarded as aged because they are under sixty-five require similar services and facilities.

It is not generally recognized, but activities of local public welfare departments and of the State Department of Social Welfare benefit not only old-age assistance recipients but many other aged persons in the community. For example, one of the largest programs in the State available to the aged and all other groups in the population is that of medical care and hospital care. In New York State any person who requires such care and is unable to pay for it receives it without cost to himself in his local community. Approximately 500,000 persons, including many aged not on the old-age assistance rolls, receive hospital care as public charges annually in our local communities, at a cost of approximately $135,000,000.

Medical care is a major need of the indigent aged. An indication of how important such medical and hospital care is to the needy aged is this fact: Approximately $1,825,000 of our February expenditures of $7,950,000 for old-age assistance represents the cost of medical and hospital care. The $1,825,000 represents medical, hospital, and public home infirmary care given to old-age assistance recipients only through the old-age assistance program.

One other problem I would like to discuss briefly is the lack of skilled services in the geriatric field, and I would like to call your attention to the fact that in the populations of our county homes, which constitute about 10,000 aged, and in the populations of our nursing and convalescent homes, where another 10,000 aged persons are housed, we have accessible to the medical personnel of the State of New York a great opportunity to study, to investigate clinically, and to arrive at conclusions about the medical care of the diseases of the aged. Here and there throughout the State we do have bright spots where doctors are keenly and actively interested to explore the possibilities with respect to restoring the aged to some form of manageable health, but I am afraid I cannot say that this is the general pattern. Generally speaking, the pattern seems more to run to the acceptance on the part of a physician of a part-time assignment as physician to a facility to which he gives attention when his private practice allows him to do so, or, in the case of the nursing homes, the private physician of the community has a few patients whom he makes as comfortable as possible with little thought given to the possibilities of reconstruction. That this need not be so and that services of rehabilitation and help need not be highly organized nor overly expensive have been dramatically demonstrated in the county home facilities of Allegheny County in Pennsylvania. There, one devoted medical man with imagination has succeeded, with the simplest of equipment and a sparsity of skilled staff, in restoring to manageable good health many who in numerous instances in other places are left to be as comfortable as they can be, bedded down in institutions.

My conclusion is that we have in this State in a developing stage the variety of facilities which are necessary for the physical care of our aged people. Through welfare sources we have the funds available to meet the needs of those who cannot pay for the costs of their own care. My plea is that the medical profession avail itself of the golden opportunity which exists in these institutions to begin to perform in the field of the illnesses of the aged the miracles it has already performed in so many other fields.

Dr. Curphey: Thank you very much, Mr. Houston. We thank you for coming here. I think there are many points in your paper that are interesting to the medical group.

The next speaker will handle the surgical side of the problem—surgical indications and management. Dr. Cutler is Director of Surgery of Goldwater Memorial Hospital and consulting surgeon to the Rockland State Hospital, Orangeburg. Dr. Cutler, unfortunately, might have to leave very shortly after the presentation of his paper so that I shall request any members in the audience who choose to ask him a question to do so at the end of his paper.

Surgical Indications and Surgical Management in the Aged

CONDICT W. CUTLER, JR., M.D., NEW YORK CITY

(*From the Department of Surgery, Goldwater Memorial Hospital*)

Advanced age is not of itself a deterrent to needed surgery. With the growth of geriatrics as a somewhat specialized field of medicine there has developed a tendency to classify patients more or less arbitrarily on the basis of age. It has followed quite naturally that certain broad principles of therapy and management have been proposed for patients in their later years. In such generalities, at least as far as surgery is concerned, there lies a dangerous fallacy. It is the fallacy of false standardization.

In the proper application of the indications for surgery no such arbitrary standardization can be accepted as a valid criterion. Each patient, each problem must be dealt with on strictly individual considerations. Quite naturally we associate old age with physical deterioration. Since this is normal in the sense that it is universal, it may be considered a physiologic rather than a pathologic process. Yet this process of deterioration varies greatly in the individual. Some men are old at fifty. Some octogenarians still preserve their vigor and relatively undamaged tissues. Where, then, can one draw the age line to say that beyond this point certain rules governing surgical indications and management must apply?

If experience in dealing with older patients has taught us anything, it is the necessity of individualization. This is particularly necessary where to the processes which accompany old age there is added, as is so often the case, the factor of chronic disease.

Service at the Goldwater Memorial Hospital in New York City has provided an opportunity for considerable observation of such complex problems. Here not only were the patients old, averaging seventy-five years with a spread from sixty to one hundred and two, but most of them were also suffering from chronic diseases for which many had been hospitalized for years. These diseases, singly or in combinations, ran almost the entire range of chronic ailments affecting the various systems. The patients constituted, therefore, a particularly bad risk group from the surgical point of view. Even so, we were frequently confronted with emergency situations where recourse to surgery had to be taken unless the patient were to be abandoned to inevitable death. Among such emergencies were acute intestinal obstruction, fulminating cholecystitis, occlusion of the common bile duct, gastrointestinal hemorrhage from ulcer or tumor, perforation of a viscus from like cause, gangrene of the extremities, acute infections, and, rarely, appendicitis.

All of these conditions represented indications for prompt surgical relief, be the patients' ages or pre-existing diseases what they might. Without surgery they were doomed. Now there was no time to rectify the chronic ailment. The best that could be accomplished was to combat shock, to correct fluid and electrolyte deficiencies, to administer blood or plasma, to alleviate pain, to provide necessary support for the heart, and administer antibiotics. This preparation, however inadequate, must be rapidly completed and the patient brought promptly to surgery. So rapid was the deterioration of these patients under the effects of pain, hemorrhage, sepsis, obstruction, or jaundice that the chance for surgical relief might well be lost if the attempts at securing an optimum preoperative status were pursued too long.

Promptness in meeting and relieving the surgical emergency thus became the requisite. Next the surgery itself must be the most direct and simplest procedure which would afford effective relief. It must be performed accurately, directly, and gently. Careful avoidance of trauma to tissue was a more important factor in the recovery of these patients than was the speed of the operation; yet rapidity without roughness was desirable too. The anesthetic, if well administered, did not constitute a serious hazard. Cyclopropane, with easy induction, good oxygenation, and rapid recovery was the anesthetic of choice. Ether, too, with Pentothal induction was also safe and served well. For support during surgery blood transfusion has no equal.

These became the guiding principles in dealing with surgical emergencies in old and chronically ill patients. Their validity was attested by the fact that 56 per cent of such patients survived and recovered. Of the 44 per cent who died, more than half succumbed to incidental disease or conditions related to their pre-existing chronic states from ten days to several weeks after recovery from the emergency operation. These principles, with such modifications in the individual case as the situation might demand, were applied in the various types of emergency.

In intestinal obstruction acute and dramatic onset usually characterized occlusion of the small bowel, be it due to hernia, volvulus, adhesions, or gallstone. Obstructions of the large bowel, usually the result of tumor, were more insidious in onset and more difficult to recognize because of the habitual constipation so often present. In the presence of obstruction, in addition to the measures of rapid preparation above outlined, it was necessary to intubate the stomach and to keep it empty by suction. It was futile and dangerous to attempt to treat the obstruction by use of the Miller-Abbott tube or similar apparatus, thus seeking to avoid operation. The records showed that where such methods were employed for twenty-four hours or more, the mortality was 60 per cent. Where intubation was employed only as preparation and operation was performed within twenty-four hours of the onset of obstruction, the mortality was 39 per cent. Actually the survival rate was in inverse proportion to the time elapsing from onset to operative relief of obstruction. Of all the emergencies this one demanded the earliest attention. At operation the obstruction was best relieved by the simplest and most direct procedure possible, immediate survival of the patient being the sole objective.

In obstruction of the large bowel simple colostomy or cecostomy (often under local anesthesia) proved to be lifesaving measures. Reparative or curative surgery should not be undertaken in the presence of an obstructive emergency in these patients.

It was found that this same principle held good in dealing with fulminating cholecystitis. In a group of these cases in which the gallbladder was removed in the emergency, 62 per cent died. This mortality was reduced by more than half when cholecystostomy and drainage alone were employed. In obstructive jaundice due to common duct stone it was usually found necessary to remove the occluding calculus, but if the exposure proved difficult and the patient's condition was precarious, even this might be deferred, a temporary cholecystostomy being done to provide a biliary fistula and permit recovery from jaundice and better preparation of the patient to withstand a later choledocholithotomy.

Massive gastrointestinal hemorrhage also required quick intervention. There was no hesitancy in using the x-ray to determine its source—a most necessary preliminary to surgery. If esophageal varices were demonstrated, the immediate emergency might be controlled by the use of a balloon tube until such time as the patient could be properly prepared for a plication procedure. If ulcer of the duodenum or cancer or ulcer of the stomach was demonstrated, a rapid resection after adequate replacement of blood was the only effective recourse. Bleeding from diverticulitis or cancer of the larger bowel was managed best by exteriorization of the affected area and resection of the Mikulicz type. This operation also served well in dealing with perforation of the large bowel from diverticulitis or cancer. Perforation of a duodenal ulcer (which we have encountered in patients up to ninety-two years of age) was managed by simple closure and an omental patch.

Acute appendicitis was a rare occurrence in this age group but, when it occurred, was atypical in symptoms and physical findings and usually misdiagnosed. The appendix tended, as in children, to perforate early; hence rapid surgery was required for removal of the appendix or the simple drainage of an abscess if such had already formed.

Prompt incision and drainage plus the administration of antibiotics was the appropriate treatment for localized infection wherever it might occur since the resistance of these older people to bacterial invasion is notoriously low.

It is fundamentally this lowered resistance to infection, particularly in the presence of diabetes and arterial inadequacy, which has led to the classification of advancing gangrene of the extremities as a surgical emergency. The dry, mummifying, localized necrosis of one or several toes may be dealt with conservatively, but once the evidence of ascending infection with cellulitis becomes manifest, there remains only the choice of sacrificing either the leg or the patient's life. Undue delay is fatal. In such a situation low or mid-thigh amputation has been the procedure of choice. This is accomplished best under general anesthesia with accurate and careful hemostasis and without tourniquet. There is no attempt at flap formation and, if the infection has been fulminating, no suturing of the stump. In any case the circumferentially cut tissues are drawn down over the bone end by traction until healing is established. In cases of rapidly spreading cellulitis with diabetes, it may be well, as we have sometimes done, to segregate the limb by tourniquet and apply refrigeration to it until the diabetes is brought under control, the patient rapidly prepared, antibiotics administered, and blood for transfusion procured.

To the list of surgical emergencies in old people should be added fractures of the upper femur. Here the urgency is not so great, but the indications for early surgical intervention are equally clear cut. The ultimate results in such fractures when treated by nonoperative methods we know are deplorable. But even ignoring this consideration, there are few among the old and infirm who will survive the pain and prolonged confinement of sand-bagging, traction, plaster, or bed rest. Many more survive when we employ reduction and internal fixation under anesthesia. Most victims of such fractures can be adequately prepared and brought to operation within twenty-four hours after injury. The procedure is well tolerated, and as a rule such patients, free from pain, are sitting out of bed within a day or two following it. With respect to the emergency the question to be answered is not, "Can the patient stand the operation?" but "Can the patient stand any other method of treatment?"

The relatively satisfactory response to emergency surgery, even of these older patients of a very bad risk group, has naturally led to a more favorable consideration of operative relief for conditions of a more chronic nature. It has become possible, without prohibitive mortality, to offer surgical relief and often cure of conditions which either threaten life or make life miserable for these patients. Such conditions as operable cancer, wherever found; recurring cholecystitis; hernias which threaten incarceration, particularly femoral hernias; ulcers of the stomach or duodenum causing bleeding, obstruction, or unrelieved pain; contracture deformities; ununited fractures; occlusive lesions of peripheral arteries; indolent varicose ulcers—to cite a few examples—may now be justifiably considered as indications for operation.

It is in deciding the necessity for operation, in weighing the risks, and in choosing the appropriate procedure in each case that the principle of individualization particularly applies. It is not the age of the patient but an estimate of his condition upon which the decision must be based. The need for the proposed operation and the benefit likely to be derived from it must be balanced against the risks involved for the patient. On his condition, too, will depend the nature and extent of the operation and the manner in which it is to be performed; also whether it may be done as a single or as a staged procedure. These decisions may need to be modified depending on the patient's response to preparatory measures.

Unlike the situation in a surgical emergency, there is time in readying a chronically ill aged patient for operation to allow opportunity for optimum preparation. As far as possible, with the aid of the internist, heart and kidney function may be improved, hypertension lessened, obesity reduced, nutritional and vitamin deficiencies corrected, diabetes brought under control, tertiary lues treated, anemia and blood volume deficits ameliorated, and the patient's morale raised.

When these desiderata have been accomplished as far as possible in the individual case, the surgeon may approach his task with better assurance of a favorable outcome. His work will be governed by the same principles which have been enumerated as his guides in emergency operations: simplicity, directness, accuracy, gentleness, and conservation of blood.

Proper management in the postoperative period is of the utmost importance, whether the patient be recovering from an emergency operation or from an anticipated one. The effects of shock or hemorrhage must be forestalled or combated and fluid, protein, and electrolyte balances established and maintained from the first. Care must be exercised not to overburden a compromised circulation with fluid or damaged kidneys with salt. Oxygen in the early postoperative hours is of great value. Morphine and other narcotic drugs can be used only in diminished dosage. When consciousness is regained, deep breathing is encouraged, and moving and turning the patient is important. This disturbance, however, should not be too vigorous until circulatory stability is established. Use of the antibiotics should be continued in the early postoperative days as a prophylactic measure against infection and pneumonitis. The patient should be out of bed as soon as the surgical condition will permit, at least to sit up for a brief time. The taking of adequate food and drink by mouth is of the greatest importance.

In general, the complications most to be feared are pneumonia, atelectasis, renal failure, cardiac decompensation, coronary thrombosis, phlebitis and embolism, and cerebral vascular accidents. It may be predicted, on the basis of experience, that roughly half of the morbidity and mortality will result from pneumonitis. Fifty per cent of these, as well as of the other fatal complications, will be found to occur from ten days to several weeks after surgery, suggesting the part which pre-existing disease may play in determining the result. One cannot help but feel that in many of these instances it was the undergoing of surgery which disturbed a delicate homeostatic balance. In any case the surgeon must accept the responsibility even for this late mortality, for except in the emergency situation where surgery is mandatory, it is the final test of his judgment, skill, and management of the patient as an individual problem. To be sure, most of these late fatal complications can neither be predicted nor prevented.

For the early complications more directly related to surgery, some methods of prophylaxis and treatment are available. Infection and pneumonia may to some extent be forestalled or controlled by the use of the antibiotics. Atelectasis may be overcome by bronchial aspiration. Careful and exact hemostasis at operation and avoidance of the traumatizing tourniquet are prophylactic measures against propagating thrombi and embolism. When phlebothrombosis develops, recourse may be had to vein ligation or to one or another of the anticoagulants. However, these drugs, especially Dicumarol, must be used with great caution because of the frequency of excessive and unpredictable response of many older people. Even with small doses dangerous hemorrhagic states may be produced which may persist in spite of withdrawal and appropriate treatment.

The scope of this paper permits only a brief allusion to the period of recuperation of these elderly patients. It is desirable, however, to emphasize the importance of the employment of all measures of rehabilitation. Ample nutrition, the fostering of new interests, the regaining of physical strength, the restoration of independence by regaining the ability to care for themselves and to resume some degree of usefulness are the desired ends of this program. It is to be carried on by skillful dieting, by individual physical retraining, by the provision of recreation and religious exercises, by the teaching and pursuit of manual skill according to the patient's ability and inclination, and above all by the development of an attitude of contentment, courage, and hope.

620 Park Avenue

Dr. Curphey: Thanks, Dr. Cutler. Are there any questions anyone would like to ask Dr. Cutler before he leaves?

Dr. George F. Auwarter, Woodhaven: I am Dr. Auwarter. Dr. Cutler, did you do any blood volume studies on these elderly people? I should think that would be quite interesting.

Dr. Cutler: Yes.

Dr. Auwarter: But you left me with the impression—I may have misunderstood you—that practically all these people with bleeding from ulcers were subjected to gastrectomy. Is that apparently the procedure of choice?

Dr. Cutler: In answer to the first question, sir, blood volume studies were done, not in the early part of our experience, but we subsequently came to realize the importance of blood volume deficits. And when the Evans' blue test became available to us, we did that almost as a routine on most of our cases which were late in my own experience at the institution. I feel that the determination and correction of blood volume deficits is of very great importance. And we have done it.

Now, I did not mean to leave you with the impression that resection was practiced in all cases of hemorrhage from gastric or duodenal ulcer. That is not the case. Only those cases which appeared to be massive and not otherwise controllable were subjected to resection because that then was the only recourse. Of course, the matter of judgment entered there, as to how far one might carry a patient along with blood replacement before resection was undertaken. And I think we often erred by being too conservative and carrying our patients too far along before we subjected them to a resection for cessation of the hemorrhage. Extraordinarily enough, these people stand the resection remarkably well. They stand it much better than they stand the hemorrhage, and if you replace the blood too much or too long or in too great volume, your patient does not do nearly so well on his borrowed blood as he would have done on his own.

Dr. Auwarter: What is the likelihood of a second hemorrhage after the first one has subsided? When you get a bleeding ulcer, you treat it conservatively, and you feel confident now that it is likely you are going to have a second hemorrhage. Is that an occasion for interference?

Dr. Cutler: Yes, I think that when the patient has recovered from a severe hemorrhage, he should then be prepared for the possibility of a recurrence. If the recurrence materializes within a few days, then he should be subjected to surgery. If, on the other hand, it is possible to control the hemorrhage and evidence is obtainable that the ulcer is progressing toward healing and a second hemorrhage does not occur, then, of course, the case can be carried on a medical basis.

Dr. C. Ward Crampton, New York City: In operating on patients with high blood pressure, I would be glad to know of your procedure. Do you give any of these modern remedies to bring the blood pressure down? If so, what, and under what conditions? Where there is high blood pressure, is it worth while to see if there is an orthostatic hypertension, that is, a man may have high blood pressure lying down and a high blood pressure standing up. Are those particularly severe risks, and what can be done for them in advance, and what safeguards can be taken?

Dr. Cutler: That constituted one of our very difficult problems, and one in which we usually invoke the aid of our medical consultants. As to the applicability and practical usefulness of the drugs which might be used for the reduction of blood pressure, certainly we were not accustomed to using such drugs in the presence of an acute surgical emergency. But where a surgical procedure was contemplated for a chronic condition, we left the problem to the medical consultants to bring the patient into the best possible condition whether it required the use of blood pressure lowering medications or not. That was a matter that we felt was better left to them.

We did not particularly apprehend, I think, the operation on the patient with high blood pressure so much as we did on the patient whose blood pressure was abnormally low, and those which showed a lability of blood pressure in the various positions we considered singularly bad risks. We would avoid elective operation on such patients wherever possible. In the case of an emergency, however, we were often forced into operating on patients in such situations where the surgical procedure was supposed to be lifesaving and where delay could not have any other than a fatal result.

Dr. Curphey: I am afraid we shall have to move on now. Obviously no discussion would be complete did we not include the psychiatric problems. We have with us this morning, Dr. Goldfarb, assistant psychoanalyst of the Psychoanalytic Institute for Research and Training at Columbia and chief neuropsychiatrist at the Hospital and Home for Aged and Infirm Hebrews. Dr. Goldfarb.

Psychiatric Problems of Old Age

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(*From the Hospital and Home for Aged and Infirm Hebrews*)

The problems of geriatric psychiatry are of interest to the conscientious man of medicine not only because economic, social, sanitary, and medical advances have so prolonged life that persons over sixty-five years of age will soon be 10 per cent of our population, but also because these very advances will decrease the physician's burden and thus leave him more time for psychologic medicine. Furthermore, as popular preoccupation with more or less clear-cut physical illness decreases, patients may force the physician to concentrate his skills on their emotional and psychologic problems.

Such a focus on psychologic medicine is already occurring. Patients' concern and often glib talk about "psychosomatics" are already well known to us, but more important is their intelligent recognition that anxiety, disturbed personal interrelations, chronic tension, and personal ineffectuality may rightly be considered as disorders of structure-functioning that fall within the scope of medical healing arts. That such disorders do fall within the doctor's province stems from our understanding that strong emotion is a physiologic affair, an adaptive maneuver, that has profound and sometimes lasting influence on consequent structure-functioning and, conversely, that whatever affects our functioning structure profoundly influences the aspect of adaptation called mental processes.

The growing interest in matters psychologic is not simply the product of what we can recognize as a somewhat overenthusiastic professional psychiatric and lay press that serves to provide a nucleus for morbid preoccupations, pretentious talk, and great expectations. Rather the very existence of such a press (and it is not really new) is indication of the need and desire that many people have for psychologic help and enlightenment to free them from burdensome, unsatisfying, and unreasonable values, from entanglement in meaningless competition, and from helpless resignation to suffering, bewilderment, or fatalistic philosophies.

A static view of psychiatry for the aged will consequently satisfy neither the patient nor his family and friends. We can no longer look on psychiatric problems for the aged as those of a so-called "senility" in which chronic brain syndrome with this or that psychosis or wherein acute brain syndrome due to drug intoxication, cardiac failure, avitaminosis, or debilitating disease occurs, and in which our care is limited to custodial, casual supervisory, physical, and pharmacologic measures. True, for many of these people our methods of treatment may still be limited, but in the aged there is room for application of the psychiatric diagnostic and therapeutic skills which show promise or are effective in younger groups. This is chiefly the application of dynamic, or motivational, psychologic principles of diagnosis and treatment. In our use of motivational or dynamic psychology, if we fail to achieve the miracles and magic demanded of us, we may nevertheless remain aware that as we gain information about the psychiatric problems of the aged, we gain knowledge widely applicable to younger persons. In behavior disorders of the aged psychodynamic patterns of fundamental significance are often transparently revealed for our medical education.

Nature of the Problem and Our General Aims

In this discussion I expect to carry a considerable quantity of coals to Newcastle, and it is probably best that I begin at once in restating a number of things already well-known to you. First, as to the psychiatrist's job with aged patients—and the psychiatric job with them when it falls to any doctor, whether he has elected to specialize in psychiatry or not—the goals are much the same as in younger groups. The general problem is to develop, restore, or preserve a state of comfort and self-satisfaction in which there is dignity and self-esteem, at least a modicum of productivity, and also restraint from unreasonable aggression which may provoke retaliation. This includes the continuation or establishment of satisfactory personal relationships and the alleviation of biologic tensions with a minimum of substitution and compromise.

Second, as to the nature of the problem: in the aged, emotional and psychologic problems are more often than not inextricably interwoven with severe and often irreversible somatic disease; this may severely limit our goals. In older persons the real meaning of psychobiologic, comprehensive, or holistic medicine thrusts itself upon us. We see how mental and emotional suffering and disorder contribute to, are caused by, are aggravated by, or are modified by somatic disease. We see also in these older persons that physical illness may be dramatized and exploited, that emotional upset may masquerade as physical disease, and that the fear, anger, or the discomfort of physical illness may give rise to psychologic phenomena which obscure and complicate the illness. In the aged we have our best examples to illustrate that so-called psychologic and so-called somatic disease may be merely two different ways of describing or observing a single process; so closely interwoven are these phenomena that often we may choose psychologic or physical methods of treatment not merely in terms of the most significant etiologic factors but on the basis of expediency.

For these reasons, it is even more important in the aged than in younger groups that behavior disorder be viewed with the diagnostic tools of the internist as well as of the psychiatrist, if such a division of our art can honestly be made. I raise this question because it seems to me that the division of internal medicine from psychiatry is essentially an arbitrary one which can hold when we reach the phase of specialized treatment but can scarcely hold in the field of diagnosis. I am in complete agreement that it is a psychiatrist uncertain of his art and loath to relinquish his hard-earned strength as a medical man who tries to impress his colleagues by making diagnoses of organic disease; however, the psychiatrist is grounded in medicine because many patients reach him with the psychologic elaborations of diseases that require somatic treatment and which he must recognize. In such instances his skills contribute to the sifting of medical evidence and to comprehensive care. Similarly, the general physician must know psychiatry and be alert to the masquerading of emotionally determined disease as disorder in which the etiology seems physical.

Approach to the Problem

Now, to belabor the obvious, the diagnosis of behavior disorder in the aged, who bring their old anxieties and complicated patterns with them and who may have lost physiologic and psychologic flexibility, requires recognition that drugs must be suspected as insulting agents, that infections, tumors, metabolic disease, and the like be ruled out, that symptomatic and specific care for the correction of cardiovascular, renal, pulmonary, and other systemic disease be complete. We must evaluate the state of nutrition (including vitamins) and hydration and be aware of anemia if it is present. In addition, where behavior disorder is present in the aged, the presence of pain must be suspected and causes for it ruled out; unnoted glaucoma, a distended bowel or bladder, a plantar callosity, or a thrombophlebitis may cause emotional and mental disturbance which obscures the very process which has elicited its exacerbation. Therefore, we seek information as to past attacks and "what went with them," stop drug intake where it can safely be done or substitute ones less likely to be causative factors. We may supplement an apparently adequate diet with vitamins, especially nicotinic acid, thiamine chloride, and ascorbic acid. In sum, in the aged with behavior disorder we must give special care to physical examinations and always remember that where there is limited reserve and flexibility of functioning, little things may tip the balance toward disorganization of behavior. Further, it must be emphasized that while our examination proceeds, we remain aware of the therapeutic efficacy, from the psychiatric point of view, of such painstaking examination and attendance.

But of utmost importance is the fact that man's chief environment is man, and even where pain and cerebral damage contribute to behavior disorder, the reaction may respond to change in the personal climate. One such change is the development of personal interrelationships which relieve guilt, permit free expression of emotion, decrease fear and anger, and enhance the sense of worth. In the aged, who feel their helplessness keenly and are often overwhelmed by fear and anger, this usually requires the work of a team in which social agency worker, nurse, family, and the physician play interweaving roles.

We are well aware that in the youthful person psychotherapy aims for the restoration of pleasurable interests. Among such pleasures are associations with people, eating, sexual activity, solving intellectual problems, and other sensual or intellectual pursuits from which satisfaction is gained and on which self-esteem rests. We know too that in the emotionally ill younger person such a goal is rarely realized without frequent, lengthy visits to a psychiatrist over a long period of time, more usually years than months. How then can we feel other than hopeless when confronted by the aged who may have lost their sexual powers; whose taste and digestive capacity has waned; whose sight, hearing, and muscle strength is poor; whose cerebral cortices are inadequate to the simplest of problems; and who have lost the people with whom they had reciprocating interest? We can feel hopeful because there is a source of pleasure that the old person can take with him from childhood; it is to feel loved when he feels the interest and understanding of another person and, therefore, to feel more worth while, esteemed, pleased with himself, and to take pleasure in returning such affection. However, if the affections have been poorly developed or have never been acquired—and this, believe me, is very common—what then? We need not feel hopeless here either, for such persons take with them from childhood a capacity to derive pleasure from struggle with, and a sense of mastery over, the powerful parent figure, and they show a lifelong propensity to delegate persons in the environment to this status. They devote their lives to variously disguised struggles to dominate and control persons they regard as surrogate parents and can derive pleasure from real or fancied victories over such opponent-protectors. This they do with the psychiatrist who by exercising his skills can help them to feel they have both defeated him and won him to retain his powerful service.

Case Illustrations of Common Problems

Let me present a few examples to clarify the problem and to indicate approaches to treatment.

In many aged persons the diagnosis of mental disorder requires no great specialization, but the treatment of the patient requires time and special facilities not within the general physician's field of obligation. The following case illustrates that in the older group we find psychiatric disorders carried over from youth, or disorders no different from those of younger persons but which develop late.

CASE 1.—A seventy-three-year-old woman, resident of a home, went to bed late, arose early, almost continuously sang, danced, and cracked jokes. Her wit was broad and caustic, sometimes infuriating other residents. She badgered and commanded them about. Her perpetual activity caused her to neglect her toilet, forget to evacuate urine and feces, and she seemed too busy to eat. She countered staff efforts to help her by declaring they were tools of a company which controlled the Home to persecute her. Psychiatric examination quickly confirmed the existence of a manic state in a woman whose history revealed previous attacks of manic-depressive psychosis, manic type, of mild degree, which had been tolerated by her family as eccentricity. Chronic brain syndrome of moderate severity neither contributed to nor was significantly altered by the mood disorder. She was transferred to a mental hospital. The facilities and care there permitted her to be easily managed.

Comment.—The patient is certainly chronologically aged, but her disorder is well known in younger groups. Psychosis, like psychoneurosis, may begin early and follow people to the grave. Therefore, in the older group, overactivity, euphoria, self-neglect, and aggressivity are not at once to be attributed to "aging" or senility. Also, in the aged person prompt treatment is imperative because exhaustion and debilitation are more rapid. In this case electroconvulsant therapy, which has no special dangers for the aged, might have been used to shorten the course of her illness. This, then, is an aged patient whose disorder can be recognized by any well-trained doctor but whose care requires special training and facilities most easily available in a mental hospital.

The loss of friends and relatives often provokes a state of pathologic mourning.

Case 2.—A sixty-three-year-old tailor became sad, ate poorly, lost weight, complained of poor sleep, and tended to cling to his wife following the death of a brother-in-law toward whom he had always been indifferent. Psychiatric examination was prompted by a social worker seen for advice on another matter by his son. Interview revealed that this man, who had never been provident or effective and had yielded command of the household to his wife, felt unloved and unwanted by the family. Because this relieved him of certain burdens, he tolerated it well (except for a transient depression in his forties) until he saw the grief of the family at his relative's death. He was then overwhelmed by the feeling that when he died, no one would grieve for him. The change in family attitude started by the social worker, which resulted in his referral for consultation and then to a psychotherapist, resulted in such rapid recovery from the depression that psychotherapy was discontinued after the first treatment session. He remains well, to the great surprise of the consultant.

Comment.—The importance of family attitudes is emphasized in this example; expression of family interest through search for medical aid often initiates a chain of events which "cures" the patient. This case gives insight into the hostile and coercive aspects of depression; it forced his family to "love" him. The patient's great grief was his anger against the family, ironically turned on himself, to trouble them and excite their compassion.

Case 3.—A sixty-six-year-old woman, long known to exaggerate her physical symptoms of arthritis and precordial pain, was seen in psychiatric consultation at the request of her private physician. She had become suddenly mute and had retreated to bed in a state resembling stupor after weeks of sadness, crying, and withdrawal. A semihypnotic suggestive initial approach (after neurologic examination) revealed the existence of depression with slowing, early morning waking and rumination, anorexia, and suicidal thoughts and plans. The depression was activated by the impending marriage of her oldest daughter, the last of three to do so. The family, wisely as it turned out in this case, preferred that psychotherapy rather than shock treatment be the method of treatment.

In a series of sessions, over a six-month period, this patient's course was similar to that of many younger patients in dynamically oriented psychotherapy. Specifically, she formed a deep attachment to the therapist whom she viewed as the equivalent of a son, lost to her by adoption, about whom she had built a fantasy of protective care should she ever regain him. Her hostility to her husband, her fears and overwhelming guilt about sex, her overprotective hostile dominance to her children, and her resentment toward a daughter, on whom she depended as a child does on a parent and whose marriage she opposed because it meant abandonment to her, were partially uncovered. Her denial of helplessness through caring for others was discussed. In the permissive therapeutic setting her resentments could be aired and examined with decrease of guilt and elevation of self-esteem. The problems of the complicated relationship to her daughter were not resolved, but she accepted the "desertion" through strengthening of the illusion she was a misunderstood but nevertheless good mother. She regained her desire to live, resumed her old pattern of gratifying maternal protective behavior with friends, relatives, and in volunteer work. She was then returned to her physician for occasional checkup and symptomatic care as in the past.

At present, two years later, she continues to do well. Her doctor, who is equated in her fantasy with the son she lost so long ago, continues to be a "prop" to whom she can turn for protective care.

Comment.—This is another example of a chronologically older person, although sixty-six is not very old these days, whose problem is of a kind seen frequently in younger persons. However, the treatment was somewhat more active and yet more limited in goal than it might have been with a younger person. The success of psychotherapy in what at first seemed to be an involutional psychosis (but may be considered a reactive depression in a woman with longstanding psychoneurosis of obsessional and hysterical type) in good part seems to have depended on the propensity of older people to establish rapidly a marked dependency on the doctor. Here again, it is clear that the presumptive diagnosis could be made by the attending doctor, but he needed the specialist's help in accurately defining it and for the treatment required.

Now let us consider some problems which are similar to those seen in younger persons but which are seen with great frequency in older patients and are complicated by failing memory. The following patient is one in whom complaints of bodily dysfunction and pain proved to be the clue to a need for psychiatric treatment.

Case 4.—Mrs. A., a sixty-seven-year-old woman, long separated from her husband, began to complain bitterly of pain and weakness in the right arm. She was known to have suffered a "mild stroke" prior to admission to the Home, and the resident physician suspected neurologic disorder. Examination revealed insignificant right hemiparesis and sensory changes and the existence of moderate chronic brain syndrome, the magnitude of which appeared greatly accentuated by anxiety and depression. Her complaints were in a context of suppressed and largely repressed murderous rage against her son-in-law who was taking her daughter and grandchild to a distant state, of rage against the daughter for ingratitude, of jealousy of the grandchild, and of almost overwhelming guilt for all these unacceptable feelings. The treatment required was, therefore, not medical-neurologic but psychiatric. She was seen in short sessions 15 times over a nine-month period, while her children made their plans and moved, and she was helped to maintain herself sufficiently well so that she could visit them for a number of weeks without untoward incident. The mild depression which followed return to the Home had been predicted, and the psychiatrist and institution staff were prepared to assist her with it. With psychiatric treatment her somatic complaints cleared. She requires recurrent treatment for relapses.

Comment.—In this patient anxiety and depression fluctuated in intensity but could be ameliorated; when they were mild, her symptoms of so-called organic encephalopathy were minimal. Incidentally, the complaints of pain in the right hand were discovered, in treatment, to be related also to guilt about an illicit sexual union and to the recrudescence of sexual fantasies when her daughter's departure caused exacerbation of her aggressive dependent needs.

This woman of sixty-seven is a fair example of many old persons in whom seemingly reasonable and justified complaints of pain and disability are a clue to overwhelming anxiety, anger, and guilt. She is an example of emotional disturbance masquerading as physical illness and of dramatization of illness as a means of finding a helpful person with whom to discuss her problems, while she denies the feelings of helplessness which threaten to overwhelm her. We see that she sought a protective figure under the guise of suffering from a physical disease.

There are variations of this problem. Complaints of pain, querulousness, and the presence of anxiety may stem from and be a clue to other matters than psychologic and social problems.

Case 5.—A querulous sixty-nine-year-old man, with chronic cardiac disease, was referred to the neuropsychiatrist for investigation of pains and tenderness of the legs and lower abdomen. The neuropsychiatrist, in his role as neurologist, found slight asymmetry of the deep reflexes and questionable hypesthesia and hypalgesia of the right lower extremity without clear-cut level. Three days later, on re-examination it was obvious that the distressed and fearful patient, in his eagerness to cooperate, had shifting and indefinite changes of sensation in the lower extremities. Discarding the restraints of his role as neuropsychiatrist, the physician did a more complete examination and discovered a considerably enlarged and tender liver to be present in the absence of cardiac failure. Referral to the attending physician resulted in diagnosis of carcinoma of the liver. The patient died within a few months. Proper diagnosis permitted institution of symptomatic medical care which to some degree ameliorated the patient's anxiety. The anxiety was largely due to the generalized discomfort and malaise for which neither the patient nor his physician could find good cause.

Comment.—Here is a patient in whom neurologic disease was suspected and who was so anxious and querulous that psychiatric aid was requested. Here, the pain had its basis in a physical disorder, the symptomatic treatment of which required pharmacologic and physical measures as well as reassurance. Adnistration of the former to some degree provided the latter.

Along the same lines, but somewhat more complicated, is the following example in which pain contributed to delusions and disorientation and in which the delusions served as a clue to the source of pain.

Case 6.—A maiden lady, eighty-eight years old, with known chronic cardiovascular disease and nontoxic thyroid adenoma, had been admitted to the Home with clear evidence of mild depression and chronic brain syndrome of moderate degree. Seven months later, in an episode of cardiac failure, she complained bitterly she would be killed by Hitler, starved to death by the nurses, or thrown in the river, and her disorientation was complete. Outstanding among her complaints was that her eyeglasses had been stolen and the ones she had were not her own. An astute resident physician, who made rounds with the psychiatrist, recalled that previous to this attack of heart failure, the patient had complained of poor vision and had been found to need a change of spectacles. He examined the eyes of the disoriented woman and discovered an acute glaucoma of the right eye which responded to treatment. She continued restless and fearful and after two months became a custodial problem that required transfer, but she desisted in her complaints about spectacles once the ocular tension subsided.

Comment.—From this aged patient we learn that pain may be signaled and discomfort expressed through elaborate symbolic elaboration. A physician who deals not only with those who have chronic or acute brain syndrome but also with the cerebrally intact is well repaid for alertness to such signs.

Subtle change in the personality or behavior may lead to discovery of need for special treatment.

Case 7.—A sixty-five-year-old man with hypertensive cardiovascular disease, was admitted to the Home following his third "cerebral vascular accident" within a year. All episodes had involved the left side, and physical rehabilitation measures were undertaken for his left hemiparesis. The therapists noted he was initially "cynical" and hopeless, but he made good progress, "cheered up," and was able to return home after four months. His wife and the social worker believed his mental state peculiar, his memory poor, and were concerned because he had another "mild stroke." Neuropsychiatric study was requested because of his mental state. Examination confirmed the presence of left hemiparesis, but the history of "strokes" revealed them to be episodes of unconsciousness probably associated with seizures of Jacksonian type, and his mental state was suggestive of frontal lobe damage. Investigation for expanding intracranial lesion revealed right frontotemporal tumor. At operation this was found to be a meningioma which could be almost entirely removed. He made a good recovery but unfortunately a few months later suffered a coronary occlusion and died.

Comment.—This man's brain tumor came to medical attention not because of the neurologic signs and symptoms alone but because the change in personality led to especially careful anamnesis and evaluation.

Case 8.—A seventy-four-year-old childless widow, whose late husband was a doctor, became unmanageable in the infirmary where she was being treated for congestive cardiac failure. Her attitude to the psychiatrist was one of friendly, apologetic, ingratiating compliance. She made certain to inform the psychiatrist directly of her late husband's occupation. Her flow of conversation clearly indicated her dependence upon the fatherly protection of an interested physician whom she actually equated with her husband and her father. With both her husband and her father she had been a "good girl," compliant, ingratiating, believing her care to be contingent on her good manners, mid-Victorian ladylike virtues, intellectual interest, and feminine submissiveness. Therefore, when the psychiatrist instructed the staff to tell her that the diet and care she objected to was given specifically on his order, she became, for the time, a model patient.

Six months later, she was again referred to the psychiatrist because of memory defect, disorientation, obnoxious and unmannerly behavior, and slovenliness at the dining table. She seemed unfit for apartment residence and seemed a candidate for transfer to custodial care. In the course of treatment she became querulous and seemed threatening to relapse. In discussion she complained about pain. Examination revealed beginning herpes zoster. Her rather stormy, painful course was weathered with no greater incident than in a more youthful, less debilitated person.

After some months of improvement, by way of a dream, she informed the therapist that in her adult lifetime of lavish entertaining in a Westchester home, she never was certain whether she was loved for herself or for her goods and accoutrements, both material and intellectual. When in a few words, well-timed, the therapist made clear to her it was she who was endearing and not her gifts, she made sudden startling improvement over and above the steady slow previous progress and could be discharged from regular treatment, although she was seen intermittently thereafter. She has regularly sent the therapist sentiment-filled cards on Valentine's, Mother's, and Father's Days. As an interesting sequel, let me report that a year and a half later she was hospitalized for cardiac failure and one night threatened suicide. She had paranoid delusions that the attendant was influencing her by means of voodoo and causing her heart disease. Direct reassurance and manipulation of the environment probably helped, but the chief reason for improvement was undoubtedly clearing of the cardiac failure.

Comment.—In the aged one, as in the youth, private motives are not put on public display; moreover, age alone does not decrease our propensity to hide from ourselves the motives that may direct our thoughts and actions. The therapist recognized this woman's hidden desire for an admiring, protective, powerful parent and her delegation to him of this role. By encouraging her illusion he was such a person and that she had won her place with him, her pride increased, her sense of strength and confidence returned, and she functioned better.

Conclusion

Among the cases presented are some emotional illnesses which had their onset in youth and have persisted or have flowered late. We have no good reason to assume that such disorders are less amenable to treatment than in the more youthful. Also where physical disability is added to previously existing emotional disorder or where emotions accentuate bodily illness in the aged, the benefits of dynamically oriented psychiatry need not be denied because of presumed "inflexibility" or loss of resources. We all look forward to the day when medicines will be available to decrease the disorganizing effects of fear and rage without limiting cerebral functioning, or which will improve cerebral functioning without causing disturbing unrest, tension, or agitation. We do not have these medicines yet, and if we did, I am sure that they would usually require accompanying psychotherapy for good effect.

The case material illustrates and justifies my opinion that the establishment of an effective psychotherapeutic relationship is possible with persons in the seventh decade and beyond. Good results may be achieved even where chronic brain syndrome is present. In fact, the symptoms of such disorder may decrease with psychotherapy. It also appears that the very dependency of the aged may facilitate the development of a psychotherapeutic relationship. It is thus not a deficit but a resource, a stepping stone to cooperation and a fulcrum for the re-establishment of pride and a sense of strength in elderly, discouraged, fearful, and resentful patients. Even where somatic disease is aggravated by or based upon emotional disorder, psychotherapy may be ameliorative. It is definitely indicated, of course, where bodily symptoms are the patient's means of expressing emotional distress.

In the aged patient real physiologic deficiencies and defective sensory, effector, and homeostatic as well as general integrative functions are added to pre-existing psychologic difficulties. In him, helplessness is accentuated; he is consequently anxious, and the physician is automatically delegated as a parental surrogate. The parent-physician is expected somehow to cure magically all ills and solve all problems. The history-taking, examination, and initial diagnostic studies encourage the patient in his delegation of magical powers to the physician. He simultaneously feels convinced that the magic formulas are at work and that, if they are not already, they certainly will be a help soon. How effective a remedy the anamnesis and examination may be I need not tell you; you are all aware that many a sick one is "cured" by the patient, understanding, calm diagnostic session in which the sufferer finds opportunity to ventilate fears and angers, make confessions of guilt, and find reassurance and support from the protective sympathetic approach of the interested physician during his careful examination. From these reactions of the patient to the physician we derive clues as to how the larger personal environment may most effectively put the unhappy person at emotional ease.

At present our psychiatric treatment of emotional illness in older persons is all too often oriented toward gratification of dependency strivings or toward forcing the patients toward nonthreatening (to us) inhibition and withdrawal. It is more reasonable to recognize that this dependency can be an asset of the personality that can be put to use in psychotherapy, thus serving society as well as the patient by opening the way to self-satisfaction which favors continued contact with reality, a broadening of this contact, and a decrease in the person's need for magical fulfillment in a setting of "parental care." Perhaps we can do this in the future.

At present we can make approaches to this goal by keeping in mind that with many aged persons an illusion can be fostered and maintained that all-embracing "parental" care and protection are continuously present or available. On the basis of this illusion the older person may surprise us with improvement in performance and decreased suffering. The human propensity to be dependent can be regarded as an asset; it makes an opportunity for the patient to gain pleasure.

The author feels deeply grateful to Dr. Frederic D. Zeman, Chief of Medical Services of the Home for Aged and Infirm Hebrews, New York City, for the helpful opportunities, advice, and assistance given him in the study of older persons. Also, his appreciation to Mrs. Helen Turner and the entire staff of the Home for their assistance in the follow-up of patients seen in that institution.

Dr. Curphey: Thanks, Dr. Goldfarb.

Now I am on the horns of a dilemma. I should like to extend some time to the audience for a discussion, but we have exceeded our alloted time. In fairness to the people on the next part of the program, I am afraid we shall not have time for discussion. May I, on behalf of the Council Committee on Public Health and Education, express our appreciation and, I am sure, that of all of the audience to this very excellent presentation on this timely subject.

Dr. Pisani: We will proceed with straight presentations and then have a joint question-and-answer period following the presentation of the papers in the second half.

Our final paper this morning is one on postgraduate training in the Veterans Administration. The presenter will be other than named on your official program. This subject is presented as part of our postgraduate lectures because it was felt by the Committee that opportunities for postgraduate training and sources for this training should be presented to the membership. It is felt by all of the men who worked within the Veterans Administration in a consultant and advisory capacity that the Department of Medicine and Surgery has been well served by its division of Research and Education. I am very happy to present to you Dr. John C. Nunemaker who comes to us from Washington and who is Chief of the Research Division of the Department of Research and Education of the Department of Medicine and Surgery of the Veterans Administration. Dr. Nunemaker.

Postgraduate Training Problems in the Veterans Administration

JOHN C. NUNEMAKER, M.D., WASHINGTON, D.C.*

(Director, Education Service, Office of Research and Education, Department of Medicine and Surgery, Veterans Administration)

In the Veterans Administration there is but one class of patients, although there are two groups of hospitals. The patients are all veterans and are predominantly male. The hospitals are those affiliated with medical schools and those not so affiliated. In each group are general, psychiatric, and tuberculosis hospitals, and the total of 170 hospitals is divided about equally between the two groups. The education needs are the same for the personnel of both groups of hospitals, but the means by which they are achieved are vastly different.

Having been chief of the medical service of an affiliated hospital for six years prior to coming to Washington two years ago, I was intimately acquainted with the educational process in hospitals of that group but woefully ignorant of the problem in the hospitals not affiliated with medical schools largely because of their remote locations.

I have come here today to discuss with you the problem of supporting a worth-while educational program for the personnel, especially the physician, in the 50 per cent of VA hospitals not affiliated with medical schools.

Since the chief aim of the Department of Medicine and Surgery is patient-care, all other programs are designed primarily to support the patient-care program. Thus, both the Research Program and the Education Program are not ends in themselves but are two legs of the tripod which provides the requirement of P.L. 293, 79th Congress, for a "complete medical and hospital service." With this "complete medical and hospital service" firmly supported on the tripod of patient-care, research, and education, the quality of medical care in VA hospitals has attained an outstanding position in American hospital medical practice.

With the birth of the present Department of Medicine and Surgery in 1946, the policy to affiliate Veterans Administration hospitals with medical schools was one born partly of necessity since the returning numbers of veterans eligible for medical treatment and hospital care created a requirement for professional staff which could not otherwise be met. The medical schools were to nominate the visiting staffs and also approve the full-time physicians employed in those hospitals. Since there were large numbers of young physicians returning from military service and desiring graduate specialty training, the development and supervision of residency programs was also made a responsibility of the medical schools and was placed under the supervision of deans' committees. The payment of a stipend to these residents is based on the service they perform rather than being considered a training allowance. This feature of all residency programs is now quite widely recognized throughout the United States.

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* By invitation.

The problem of attracting and retaining qualified full-time personnel in such affiliated hospitals thus became relatively slight since there was produced a university hospital type of educational environment which attracted the best among highly trained specialists. An active postgraduate program in this class of hospitals was an inevitable accompaniment of the formal graduate programs and was actually one and the same in many instances. In other words, any educational activities formally organized for the resident staff were also freely available to the full-time staff.

In addition to the residency programs, most of these same hospitals affiliated with medical schools support other special training programs for varied professional and technical groups such as clinical psychologists, social workers, dietitians, pharmacists, counseling psychologists, occupational therapists, and others.

In the Department of Medicine and Surgery there are also provisions whereby full-time physicians may receive residency type training in psychiatry and/or neurology providing they signify their intention, as "career physicians," to enter into an agreement to provide up to an additional two years of service during or after completing their formal training. This training program is now limited to psychiatrists and neurologists only and is an evidence of the acute need in this field.

Medical illustration laboratories exist in about half of all VA hospitals, and medical record librarians are available in only about one fourth of the hospitals, but again, these services, which are valuable aids to education, exist almost entirely in hospitals affiliated with medical schools.

All VA hospitals follow a basic staffing pattern of a full-time staff, down to the Service Chief level, with supplementary services rendered by visiting staff. They all schedule regular staff conferences, clinicopathologic conferences, and many other activities which exceed the minimum required by the Joint Commission on Hospital Accreditation. The additional contacts derived from affiliation with a neighboring medical school are not available to the full-time physicians in these remote hospitals, so a large portion of the lecture and tuition funds has been channeled to these nonaffiliated hospitals.

In this modern day physicians do not seek institutional employment on a full-time salaried basis for relative security and regularity of working conditions alone. They inquire carefully into the other phases of hospital practice which will provide the intellectually and emotionally stimulating environment designed to prevent professional stagnation. Although the quality of the men serving in nonaffiliated hospitals is high, the quantity leaves something to be desired.

Before I conclude with a brief outline of our recent planning for the future, I will mention two factors which will illustrate how the laws of supply and demand have forced us to alter the promising pattern established in the past few years.

In fiscal year 1949, when there were 126 hospitals, the Education and Training Program budget was $4,000,000. It was possible, however, to spend only about $1,250,000. By the end of this current fiscal year there will be 171 hospitals in operation, and yet the budget for the Education and Training Program has dropped to $1,300,000. While there has been an increase of nearly 30 per cent in the number of hospitals, the average of obligated funds per hospital has fallen from nearly $11,000 per hospital to about $7,500 per hospital.

In comparison with the approximately 555 million dollars available to the Veterans Administration for its hospital medical care program, the $1,300,000 appropriated for education and training seems quite small. Education and Training Program funds pay no salaries to physicians but are used for tuition, lectures, other contractual activities, medical illustration activities, and travel. Educational detail, or travel, is the largest single item. It is difficult to demonstrate properly the importance of educational travel, this being distinctly different from travel for supervisory or administrative purposes. Generally, less than 50 per cent of the funds needed for educational travel is appropriated.

So much for the problem of supply. Now for a very brief illustration of the problems of demand.

It has been estimated that for the present fiscal year 1954, the total of personnel eligible for training is approximately 76,000. This can be divided into two groups; those not under Civil Service are physicians, dentists, and nurses, and total about 23,000, of which about 4,000 are physicians. The Civil Service group of professional personnel, technicians, aides, etc., totals about 53,000. With the funds available for travel and tuition, planned formal training can be given to only about 7.6 per cent of the physicians, dentists, and nurses, and only 3 per cent of the other technical group.

There is, therefore, an enormous problem facing the Education Service of the Veterans Administration. It is the policy of the Federal government to effect economies now and in the future, so that it is unrealistic for the Veterans Administration to expect significant increases in funds for education purposes. Although the ten-year-old VA hospital building program of new hospitals is essentially at an end, there has been no significant closing of the older VA hospitals so we must not anticipate any significant decrease in education and training needs.

The only sensible solution lies in reconsidering and evaluating the pattern that has evolved since 1946 and in developing a new plan aimed at making the limited funds available to the greatest number of people and at the same time aimed at supporting high quality medical care and facilitating recruitment of high quality professional personnel. Briefly, here is what we have done and are doing:

1. One and one-half years ago, the Chief Medical Director appointed an Advisory Committee on Education, composed of five men, each a dean of a medical school, representing both tax-supported and privately financed schools; all of them are leaders in the Association of American Medical Colleges. Their recommendations are invaluable to the Education and Training Program, and each of the following items has either had their endorsement or had its genesis in their suggestion.

2. Because of the success of the deans' committee program in the affiliated hospitals, similar medical advisory committees are to be formed for those hospitals not affiliated with medical schools but near communities able to provide properly qualified high-caliber physicians. Such committees should provide a more sound guidance for the full-time staff and should aim at the development of postgraduate medical education rather than residency programs or graduate education. Two such medical advisory committees have been established to date under this very new program.

3. Although travel to attend the meetings of national societies and organizations will not be discontinued, more of an effort will be made to arrange intra-VA conferences. The director of the Tuberculosis Service, Dr. John Barnwell, and the director of the Psychiatry and Neurology Service, Dr. Harvey Tompkins, have repeatedly demonstrated the great value of intra-VA conferences in those specialties, and they have been widely attended by non-VA people.

The VA hospitals are scattered throughout the country, and more effort will be made this next fiscal year to hold at least one medical or professional conference in each of the six geographic areas established for administrative purposes. Here the personnel from the two groups of hospitals in each area can mingle freely and discuss mutual problems peculiar to the VA as well as discuss the general medical problems of so much concern to all physicians.

4. A further effort to break down the barrier between the two groups of hospitals will be made on an individual hospital basis. It has already been demonstrated that full-time physicians from affiliated hospitals can travel several hundred miles to make rounds, lecture, and otherwise participate in the activities of nonaffiliated hospitals with great advantage to all. Such activities involve only travel cost and no consultant fee. Oftentimes these full-time VA physicians are of a professional caliber as high as or higher than some of the consultants available to the nonaffiliated hospitals. An extension of this policy would be to invite full-time men from the remote hospitals to spend several days to several weeks in the affiliated hospitals for special observation, orientation, or training. The above plan has never been developed on a wide scale but could provide a mechanism for bringing all VA hospitals into the educational orbits of the medical schools without significantly increased burden to the school faculties.

5. The most recent suggestion came from the

May 1, 1954, meeting of the Advisory Committee on Education. It was pointed out that the occasional lecture given by an eminent visiting scientist was all right as far as it went, but his visit could be made to provide a much richer and more lasting experience for the entire hospital staff if he could stay for several days or one week and participate in all the hospital activities much as the "visiting professor pro-tem" does in a number of teaching hospitals today.

In addition to what such a man could teach, further suggestions and criticisms could come to be of great value for future planning by both the hospital manager and the central office staff.

Since most active professors and busy consultants are unable to contribute any great amount of time to such activity, one suggestion is that many of the leaders in medical education in this country might welcome such an opportunity after their retirement from active academic life. It has been suggested that such eminent men might be willing to spend perhaps one week out of every month in residence at one of the remote hospitals.

The costs of such a plan have not yet been calculated and would undoubtedly require some alteration in present policies. It nevertheless seems so meritorious that it will be tried—at least on a pilot basis with hopes of extending it in the future.

Conclusion

I have attempted to describe briefly to you the current thinking of the Education Service of the Department of Medicine and Surgery of the Veterans Administration as regards the support of a sound postgraduate and inservice program. I have expressed the hope that the level of educational achievement in the hospitals affiliated with medical schools can be approximated for those hospitals not so affiliated through closer integration of the staff activities of the two groups of hospitals and through more carefully planned use of the limited funds without, in any way, interfering with the vigorous programs now existing in the more fortunately located hospitals.

Dr. Pisani: We have caught up considerably on our time, but we are still a bit behind, and I will ask therefore that we limit our question period to one of about ten minutes.

Now, I would like to ask are there any questions relative to Dr. Nunemaker's presentation on "Postgraduate Training Within the Veterans Administration's Hospitals?"

Voice from the floor: What facilities does the Veterans Administration provide for physicians not connected with the services or for postgraduate education? Do they provide anything of that nature?

Dr. Nunemaker: Well, it is part of public relations, of course, and administration to welcome all visitors on any level in the hospitals affiliated with medical schools. So often the weekly grand rounds and major specialties alternate between the university hospitals and the veterans hospitals. They are one and the same except under two different roofs. In many respects from all the teaching activities there has been no formal development yet in the program whereby practicing men in communities can come to spend periods of time in a VA hospital or take courses. That is something I dream about frequently, and it might very well develop. Certainly, everyone I know of wants these hospitals to be of as much value to the country, to practitioners as well as patients, as they can possibly be. Many of them are surprisingly excellent teaching institutions today due largely to the efforts of medical schools, I must say.

Voice from the floor: Are those facilities available?

Dr. Nunemaker: Not to the same extent, but there are a few outstanding examples, and we hope there will be many more because many of them are located in what we call the hinterlands—the real hinterlands.

Dr. Pisani: There are no other questions on behalf of our members, and the Chair would like to thank our lecturers for today's session. The meeting will stand adjourned.

Special Committee on

INFANT MORTALITY

Medical Society of the County of New York

HAROLD ABRAMSON, M.D., *Editor*

The Special Committee on Infant Mortality of the Medical Society of the County of New York was formed in 1939 as a direct offshoot of the Maternal Analysis Group. The purpose of this Committee is to study ways to lower the perinatal mortality rate in the County of New York.

Through the intervening years many methods of study were tried to accomplish this aim. Although there is no scale with which to measure the contribution of this Committee, it is gratifying to note that the neonatal death rate in New York County is much lower today than at the time when the first meeting was held. The factors and agencies contributing toward the decline in these deaths are of course many.

One of the approaches of this Committee to the problem is to hold from three to eight open meetings a year, with guest speakers from all parts of the country who are particularly interested in the subject. These meetings are addressed by obstetricians, pediatricians, pathologists, anesthesiologists, pediatric surgeons, physiologists, and neurologists and are always well attended.

In an endeavor to enlarge our audience and to stimulate the formation of similar committees in other communities, the NEW YORK STATE JOURNAL of Medicine is lending its cooperation. In its pages during the next year will appear papers read before our Committee by various speakers.

As president of the Medical Society of the County of New York, I am proud to endorse this program and to bring before my colleagues one of the things that is being done in New York County to further the interests of our citizens.

PETER MARSHALL MURRAY, M.D., *President*
Medical Society of the County of New York

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By Invitation

RICHARD DAY, M.D.
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Management of Prolonged Labor and Its Effects on Neonatal Mortality

EDWARD G. WATERS, M.D., JERSEY CITY, NEW JERSEY

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IT IS rather natural that "prolonged labor" should be an arbitrary designation for a childbirth factor so unpredictable. Hardly do two clinics regard it alike, as with the words "uterine inertia," which supposedly is one of its causes. It is, and for the records probably must be, defined by the number of elapsed hours, which may be twenty, twenty-four, or thirty. Our own conception is that twenty-four hours is long enough to be "prolonged." DeLee quoted one case in his experience where labor lasted eight weeks. (By retrogression somewhat further from parturition, this could well have become dysmenorrhea.) Another labor may be prolonged when well within the stated limits—for instance, a multipara who attains full dilatation in two hours and then fails to deliver after six more. This surely is prolongation. I am certain you all have seen multiparas with flat pelves and unruptured membranes who performed in like manner. So the hour limits of prolonged labor may be subject to considerable interpretation, while fixing, as one must, conditional limits.

While I am supposedly confined to "management," it is not possible to omit references to causes and conceptions of mechanisms producing or influencing prolonged labor since there is no single management, and applied therapy waits upon the cause. Treatment could be considered concomitantly with some of the more usual causes.

Commonly regarded as a major factor is uterine inertia, in itself difficult to define. It may be neatly catalogued as primary or secondary, in some cases to one's satisfaction. In the primary group are uteri which are neither ready nor willing to start real labor and include many "postmature" pregnancies which eventually often produce immature babies. Many are patients, and not a few, who painfully interpret the pregnancy with long Braxton-Hicks contractions. We have one such patient now at the eighth month who has been in labor by these standards for over two months already, and she still suffers. There is of course the infrequent occasion where the uterus, containing a term-size baby and near the calculated date, starts an ineffective type of labor, judging by effect on cervix and the presenting part. Commonly it is impossible to determine the sequence as well as relative importance of faulty labor, large baby, positional and cervical dystocia. It is significant that at least four out of five of the ineffective uteri are of primiparas, and yet when the cervix and vagina have been bypassed in the first birth through cesarean section, the next labor is rarely if ever characterized by repeat performance of inaction on the part of the uterus. My own experience indicates that elderly primiparas are not peculiarly selected for either inertia or "rigid cervix" unless they are the short, fat, and squat infertile candidates for the dystocia-dystrophy syndrome.

Uterine tension and disharmony based upon nervous tension and emotional factors are conceivable and also improbable. With or without the laying on of soothing psychotherapeutic syrups, subsequent labors are generally good despite horrible fear-producing experiences in some first labors. We all use reassurance as part of our general approach to patient welfare to calm the sympathetic nervous system and hope for well-coordinated uterine effort. As for psychotherapy in pregnancy and later in labor, I do not question its use, merely its importance.

Another speculative diagnosis in prolonged labor is constriction ring formation leading to

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Presented at an open meeting of the Special Committee on Infant Mortality, Medical Society of the County of New York, November 5, 1952.

TABLE I.—COMPARATIVE GROSS FETAL LOSS, ABDOMINAL AND VAGINAL DELIVERIES, MARGARET HAGUE MATERNITY HOSPITAL, 1945–1950

		Total Fetal Loss	
	Number	Number	Per Cent
Total deliveries 1945–1950	51,287	1,868	3.6
Vaginal deliveries	49,255	1,732	3.5
Cesarean sections	2,032	136	6.7

dystocia. By some this is considered common, by others almost nonexistent. The fence-straddlers regard it as "commonly overlooked." While we have no doubt of its existence, since we have seen it occur, we regard it as uncommon and, therefore, of relative unimportance. Those who believe it to be a frequent inhibitor of progress use adrenalin to relax the ring, which is interesting, since the prevention of elaboration and release of adrenalin is sought by those who believe overexcitation of the sympathetic nervous system may produce such a ring. Such benefit from adrenalin as we have had, where rings were positively diagnosed, I regard as coincidental. Simulation of ring formation by a full bladder seems stupid, and it is. Nevertheless, we have had many such "rings."

Unrecognized fetopelvic disproportion is one of the most usual occurrences in prolonged labor, and obviously the need is to find it out and apply the indicated remedy. The relationship here of cause and effect requires action, action in determining influencing relationships in the dystocia problem first and then application of such therapy as these determine. The indications are usually clear-cut and patterned. This is not so, however, in the purely positional dystocias, such as persistent transverse arrest, where labor prolongation simulates real fetopelvic dystocia. Diagnosis of the cause of the long labor points to the treatment. One need hardly stress the importance of differentiating the conservative management of those long in labor but making progress, as against neglect of those in strong labors of shorter duration where all progress has stopped.

This brings us to the point where we evaluate a patient having so-called prolonged labor in the following manner:

1. Determine by careful consideration of frequency, review of events and symptoms leading to labor, and length and character of the palpated uterine contractions, whether or not actual labor has been present.
2. Make a completely thorough vaginal examination with x-ray pelvimetry if needed to evaluate the cause of prolongation.
3. Have the submitted facts reviewed by a competent consultant.

In this way many prolonged labors become, in effect, no labors. Others become obstructed as well as prolonged labors, and true inertia may be excluded. When primary uterine inertia is ruled, and very often with secondary, the obstetrician is given a sedative and put to bed. This is the safest procedure I know of for the patient. The latter is given rest, time, and encouragement. When dilatation has proceeded and labor is arrested, rest and sedation first are followed by enemas, rupture of membranes, and occasionally calcium gluconate intravenously for its effect on the myoneural junction and intravenous pitocin (0.5 cc. per 500 cc. of 5 per cent glucose, 30 drops per minute).

For the rare (in our belief) constriction rings, inhalation of amyl nitrate is tried in the normotensive, as well as intravenous magnesium sulfate, 1 Gm. in 10 or 20 cc. of water. One cannot predict when either will do any good. I have no faith in the use of adrenalin, and in fact, it should do more harm than good. I ascribe its occasional miracle to coincidence. If magnesium sulfate has been tried and the ring dissipated, intravenous calcium should be used when delivery is being effected. In this condition the large variety of recommended oral antispasmodics seem to profit the druggist the most. I have no experience with tetraethyl ammonium chloride, a transient sympathetic nerve ganglia paralysant.

It seems superfluous to state the need for hydration and electrolyte balance, the care of bladder and bowels, caloric intake, checks for temperature elevations, ketosis, and the like. We place these patients on chemotherapy and/or antibiotics, although judging by some of our studies, they largely represent rather good-sized waste of money and material when used prophylactically for prolonged rupture of membranes and prolonged labor.

Delivery is effected vaginally when the cervix is fully effaced and dilated. Except for truly rare indications, Dührssen's incisions are not used. The characteristic "hot cross bun" healing of the cervix is only one reason for the disuse. Bags are in almost complete disrepute also for this condition. Manual dilatation of the cervix is never done and Willett forceps

TABLE II.—INDICATIONS FOR CESARIAN SECTION, MARGARET HAGUE MATERNITY HOSPITAL, 1945–1950

	Total Stillbirth and Neonatal Deaths	Per Cent Delivered by Cesarean Section	Total Cesarean Sections	Cesarean Sections Performed Mainly for				
				Fetopelvic Distress Number	Fetopelvic Distress Per Cent	Primary Inertia	Constriction Ring	Cervical Dystocia
1945	272	3.7	245	161	68	4	1	0
1946	334	11.8	307	228	75	4	3	0
1947	371	7.5	424	270	63.6	18	5 (1*)	2
1948	313	6.8	351	212	60	11	4 (1*)	1
1949	294	4.4	363	217	60	11	6	0
1950	284	5.9	342	182	53.4	10	3	0
Total	1,868		2,032	1,270	62	58	22 (2*)	3

* Preoperative.

scalp traction rarely needed or employed.

These patients should be assisted as soon as the requirements for safety are satisfied, and low forceps extraction is a requirement in most. Judicious assistance now is in the fetal as well as maternal interest. In all of these problems the anesthetic should be local or regional, not inhalation. The dangers of regurgitant aspiration, acidosis, and postpartum hemorrhage are increased by all general anesthetics, and the hazard to the fetus parallels that to the mother.

When prolongation of labor is due to fetopelvic disproportion, the operator must judge not only when conditions warrant interference but also the type of interference best suited for maternal and fetal results. This does not mean a quick review followed by a quicker abdominal incision since there is almost no statistical support that such a course means higher fetal salvage. On the other hand, a delivery completed from below with a living baby and living but cloaca-bearing mother is a poor standard for success. In this group the art of obstetrics dominates technic for here it comprises a systematic application of knowledge and skill for the production of the most highly desired end result. There is *no one way* for best managing any of the cases of prolonged labor due to fetopelvic disproportion; there is only a best way for each one.

With the circumstance of positional dystocia, the resolution of prolonged labor here rests upon accurate examination and decision that it alone is the cause. A face presentation may be solely positional, but there may also follow post-correction dystocia. A deflexed transverse head arrested in mid-pelvis may likewise be either solely positional or may be formed as part of real midpelvic contraction. One might correct and vaginally deliver with ease most patients with positional dystocias since after correction there are rarely any difficult forceps with normal pelves. On the other hand, to insist stubbornly, after a correction of the malposition, on a vaginal delivery through a pelvis contracted relative to the given fetus is to gamble away the mother's tissues if not her life and the fetal bones and brains. When these cases come to cesarean section, as many of them do, the maternal rights are best conserved by the extraperitoneal cesarean with chemotherapy and/or antibiotics, the minimum for the truly infected patient. The Porro operation or cesarean hysterectomy should no longer be countenanced. Bastard procedures, such as Dührssen's incisions followed by mid or high forceps, are likewise banned. Spinal anesthesia is the preferred one with accompanying adequate oxygenation of the patient, mostly for the fetus' sake. The fetus is usually hypoxic due to myometrial anemia and strictured blood supply from the repeated contractions or from the fall in pressure generally attending regional anesthesia.

Before considering the fetal hazards, one should note well the greater maternal risk. The mother is a functional reproducing unit, and this one experience generally is not an "all or none" effort. Irrespective of fetal outcome pregnancy is likely to recur, and the patient and her birth tract must be preserved to that end. For the progeny it is a one-time threat, albeit 100 per cent for the fetus of the given pregnancy. Therefore, the risks accepted in terminating the labor must favor the mother. This is not always done. I have seen multiparas in poor condition sectioned for an almost pulseless prolapsed cord from a hopelessly compromised fetus, and sections done on toxemic patients with previable fetus. Regard for *both* is a compulsion, but maternal consideration is paramount.

The fetus may be ringed with threats when labor is prolonged. The uterus may compress the cord and produce hypoxia if the membranes are long ruptured or if there is occult cord prolapse. Long, hard, frequent contractions deplete the placental site of oxygen. The baby may be infected if labor is long and the uterus dry, although this I doubt. Amnionitis, often marked, is followed by fetal pneumonitis in many or aspiration of material which plugs bronchi and causes atelectasis or allows development of the pneumonic hyaline-like membrane. Amazingly in the vast majority of prolonged labor cases, nothing transpires, although the actual small fetal loss is high in relation to those in normal labors. Incomplete development of fetal lungs, found as a cause of intrapartum fetal death in apparently normal babies by Potter, occurs in those cases also. But what happens to the fetus, especially in the neonatal days, is dependent more upon what happened during delivery. Fetal loss is not prevented by section, but it is certainly increased by ill-advised operative vaginal maneuvers. Forceps do not produce all brain hemorrhages nor spastic paraplegics, but they certainly do help fatten the number. Fetal heart rate fluctuations induce similar changes in the obstetrician, then tremors in judgment and hand, and finally metallic earthquakes in the maternal pelvis. Almost all can be dismissed except persistent and marked elevation of rate with fading and then slowing and irregularity. In our clinic neonatal mortality is practically uninfluenced by prolonged rupture of the *membranes* unless accompanied by prolonged labor.

Most babies die because they are immature or congenitally malformed, the others because of incomplete development of the lungs, asphyxia, and trauma. The drama of the clutching hand of the versionist, the decompositor of breeches, the "forceps on the head and the bracing foot on the table" extraction technic, and cesarean section before onset of labor when the fetus is supposedly postmature are all ready contributors to fetal and neonatal mortality.

Anoxia of the fetus is a potent cause of intrauterine, intrapartum, and neonatal death and damage and is produced in a wide variety of ways, some already noted. It is productive of nonregenerative brain damage, especially of the basal nuclei, and induces capillary damage through vascular stasis hemorrhage and necrosis. Asphyxia from any cause, atelectasis, hypotension as encountered in shock and hemorrhage or after high spinal anesthetics, cord prolapse and strangulation, abruption, and severe anemia are all contributory causes. The sensitivity of nervous tissue to hypoxia exceeds that of other tissue and accounts for the irreparable damage following prolonged oxygen deprivation. The urgent need for adequate fetal oxygenation immediately upon birth should be self-evident.

This concludes a potourri of obstetric data as it applies to prolonged labor and its effect upon fetal loss. We might paraphrase Gertrude Stein by saying that since prolonged labor—with its shadow, uterine inertia—is considered an is or is not and is not an is and of an importance ratio that is is not an is, the confusion is of the subject and not the analysis. The homely truths of sensible and balanced obstetric judgment and actions are more and more, we hope, learned and applied through study of results upon mother and child of our judgment and actions through the years. We constantly seek to better our position and to improve our results by the guiding principles of salvage and safety of the *content* of the womb as well as the one who *carries it*.

New Concept in Etiology and Treatment of Neurodermatitis

Over a period of five years, the author compared the pH of the blood and skin of 135 patients suffering from generalized neurodermatitis with that of 138 patients having other skin disorders. In a large majority of the neurodermatitis cases he found a higher pH.

Accordingly, he evolved a treatment based on the hypothesis that there is a relationship between neurodermatitis and an increased alkaline reserve and alkalinity of the body. The author outlines his therapeutic measures, which he reports have produced encouraging results.—*Paul D. Foster, M.D., Mississippi Valley Medical Journal, September, 1954*

The Problem of Cardiac Arrest

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THE problem of cardiac arrest is of such obvious importance to all practicing physicians and particularly to surgeons and anesthesiologists that no apology is necessary for discussing this subject in some detail. In this presentation an attempt will be made to present the results of some recent experimental findings as well as some related clinical experiences. On the basis of this evidence it would seem that certain inescapable conclusions must be drawn which are at variance with many presently accepted ideas.

It is true that the number of explanations for cardiac arrest does not greatly exceed the number of speakers and writers on the subject, and a man on the sidelines might well recall an old Chinese proverb, "That those who tell do not know and those who know do not tell." Interest in the causal genesis of cardiac arrest and the possibilities of its prevention are relatively recent, and while there are many reasons for this state of affairs, two stand out quite prominently. First, except for some routine generalities the surgeons have left etiology sufficiently vague in order to focus everyone's attention on their indefatigable ingenuity in devising technical tricks for its operative correction. Second, the anesthetists have been so prostrated before the demon goddess of anoxia that it has been for a great many, and still is for some, heretical if not actually disreputable to consider the possibility of any other causative factor.

At the present time, however, it is quite apparent that older concepts are being re-evaluated, and a more objective approach is presently being entertained by large numbers of physicians of every type in the profession, and while there is no general agreement as to its etiology or the possibilities of its prevention, much is to be gained by a discussion of some of the fundamental concepts involved.

There is considerable confusion among different observers as to precisely what one understands by the term cardiac arrest. In this paper the term cardiac arrest is defined as any sudden failure of the heart to maintain circulation. Indeed, one might say also that it is always unexpected. In view of the fact that the heart plays such a crucial role in the circulatory derangements, some of the pertinent fundamentals in cardiac dynamics must be carefully considered

The Heart

The heart, according to Lovatt Evans, beats 2,600 million times and pumps 155 million liters or 150,000 tons of blood from each ventricle during the course of an average lifetime. This is the energy output involved in elevating vertically 10 tons a distance of 10 miles. For an organ weighing 300 Gm. this is really an astonishing and almost incredible performance.

It is well recognized among all members of the profession that the adrenal gland is two different organs, performing quite different functions, and the same is true of the pituitary and pancreas. It is frequently forgotten, however, that the heart is two different organs, and this is something that one must be very clear about. The heart is composed of two types of tissues, dissimilar phylogenetically, morphologically, and functionally, which operate as a unit: (1) the specific tissue and (2) the common myocardium.

SPECIFIC TISSUE.—The specific tissue comprises the sinus node and its very short connections in the right auricle; the auriculoventricular node and its junctional fibers in the right auricle and the few small connections to the left auricle; the bundle of His; the branches and ramifications in the right and left ventricles. No specific tissue has been recognized in the auricles apart from that mentioned above.[1] The specific tissue is composed of atypical muscular elements, and in the sinus node and auriculoventricular node the cells appear larger with many nuclei, have very few cross striations and an increased amount of interstitial connective tissue.[2] As one follows the right and left bundle branches down, the morphologic differences gradually disappear until within the common myocardium their recognition is not possible but their unique functional qualities remain unaltered.

While there is no absolutely reliable anatomic characteristic of the specific tissue, there is a functional difference which for all practical purposes is absolute. This is the capacity of every single unit or fiber of the specific tissue to form a stimulus autonomously without any outside influences. This automaticity does not exist in the common myocardium. This rhythmic formation of stimuli in every specific fiber goes on constantly and continuously as long as the fiber remains viable. The rate of stimulus formation in the upper pole of the sinus node is of the order of 90 per minute with gradually decreasing rate from above downward until within the ramifications in the common myocardium of the ventricles it falls off to the order of 1 or 2 per minute. If, for instance, the sinus node is cut out from a mammalian heart and is divided into the smallest possible parts, one still sees rhythmic contractions.[1] It is very important to realize that the specific tissue never starts contracting any more than spermatozoa start living—it is always contracting.

The auricles in the mammalian heart are richly supplied with vagal fibers, and these vagal fibers on stimulation can completely suppress stimulus formation in the sinus node. *There are no vagal fibers in the mammalian ventricle,* and nothing can interfere with stimulus formation below the auriculoventricular node in a healthy heart by any type of vagal activity. There are sympathetic fibers throughout the heart.

THE LAW OF AUXOMERIC CONDUCTION.—This law states that as long as there is one single healthy fiber in the specific tissue, conduction will be normal, that is, a stimulus can go from one cell to many thousands of cells and serves to explain the infrequency of conduction disturbances.

From the above it will be noticed that there is no failure of conduction unless all cells throughout the whole cross section fail to function. It is claimed by Pick[3] that this specific tissue will contract and function rhythmically without oxygen and even in the presence of cyanide. He also states that this tissue can be revived twelve hours after death and describes the case of a child from whom, twenty-three hours after death, the papillary muscle with an attached Purkinje fiber was transferred to a nutrient solution and showed contractions of 2 per minute; after oxygenation frequency was 22 per minute, and contractions increased in amplitude. Kuliabko[4] reports the case of a child of three months of age in whom he was able to demonstrate specific tissue function twenty hours after the child had died of pneumonia. He is firmly of the opinion that regions of the sinus node remain viable for seven days after death.

All authorities agree that the specific tissue is the last structure in the body to die. In addition, there is excellent evidence to justify the assumption that the specific tissue will conduct an impulse under conditions in which it would not be able to originate a stimulus. The specific tissue is unusually rich in glycogen.

COMMON MYOCARDIUM.—The second tissue in the heart is the common myocardium. This is the contractile portion of the heart and is the tissue which expels the blood from the heart upon the receipt of a stimulus from the specific tissue. Under ordinary conditions the common myocardium never originates a stimulus but only responds to stimuli received. The energy transfer mechanism in the common myocardium is very different from that in the specific tissue. The common myocardium will function well in an aglycemic medium, but it will not do so in the absence of oxygen. It has a very limited capacity for going into oxygen debt, and, therefore, its function is related critically to the presence of oxygen. The common myocardium is the most vulnerable tissue in the body to oxygen lack as far as survival is concerned. For example, the brain will not function on being deprived of oxygen for short periods of time, but it does not die and can be placed in a manometric apparatus and will consume large amounts of oxygen. The common myocardium, on the other hand, not only stops functioning under comparable conditions but actually dies.

Etiology

There are two causes and only two causes for sudden failure of the heart to maintain circulation. The first one is ventricular fibrillation in which too many contractions occur by single contractile elements disconnected from each other without any coordinated action, with the result that no blood moves out of the heart. In this situation too many stimuli are formed, and this has been described by Lewis as functional fragmentation. In the series of cases reported by Stephenson *et al.*[5] approximately 12 per cent were due to ventricular fibrillation. The mechanism of ventricular fibrillation is not understood at all, and any discussion of its cause would be outside the scope of this presentation, although procedures for its treatment and prevention are reasonably well established.

Cardiac standstill or cardiac asystole results from failure of the ventricular specific tissue to form a stimulus. There are no other causes. Now, the question is, under what conditions does the ventricular specific tissue fail to form a stimulus? It would appear, on the basis of evidence presently available, that in order for the ventricular specific tissue to fail to originate a stimulus, three conditions have to be fulfilled: (1) previously existing disease such as diphtheria, poliomyelitis, rheumatic fever, or other unknown conditions which have destroyed areas of the ventricular specific tissue and reduced the number of normal functioning fibers to a relatively small group, (2) the depression of these remaining healthy fibers by drugs or anesthetic agents or both, and (3) suppression of stimulus formation in the right auricle.

For example, if a patient has had rheumatic fever with lesions in the specific tissue and widespread areas of destruction, then as long as one healthy fiber remains, conduction will be normal. However, if this healthy fiber is depressed by drugs or anesthetic agents conduction may still go on because of the receipt of a stimulus from the auricle and by all clinical methods of investigation may show normal activity. Now, if one suppresses stimulus formation in the auricle through a vagovagal reflex, this diseased and drug-depressed ventricular specific tissue will not now receive a stimulus from above and will be *unable* to originate a stimulus, and cardiac standstill will be as sudden and dramatic as it is unexpected.

In general, one can say that the New England States and the eastern slopes of the Rocky Mountains, particularly Colorado, have the highest instance and mortality from rheumatic fever, and it is in these same areas, according to Stephenson's analysis, that the highest instance of cardiac arrest occurs. Certainly there is a geographic distribution because of its increased frequency in one area over that of another. It is true that other factors may be involved, but at the moment this relationship appears to be more than accidental.

Due to the specific tissue being enclosed within a sheath and having a particularly rich blood supply, it has its own pathology, and one can say with assurance that there can be extensive anatomic alterations in the specific tissue without any changes in the common myocardium. On the other hand, there can be extensive changes in the common myocardium without any lesions or functional disturbances in the specific tissue. Scherf[6] states that it is not uncommon to see the coronary orifices so stenosed with aortitis that they would not admit the head of a pin at autopsy without there ever having been any evidence of disturbance in stimulus formation or conduction.

In regard to the depression of the specific tissue by drugs or anesthetic agents, it would appear that certain agents have a special affinity for the specific tissue, e.g., diphtheria toxin, quinine, and certain members of the barbiturates. If there are only a few remaining healthy specific fibers, the individual can still be an All-American football player, but if he is then given a preoperative administration of barbiturates followed by morphine, then Pentothal, then cyclopropane, it is easy to see that these few healthy fibers may be so depressed as to be unable to originate a stimulus. Under these conditions normal cardiac activity depends upon the receipt of an impulse from the auricle. If a vagovagal reflex is then initiated with suppression of stimulus formation in the auricle, one has a sudden failure of the heart in asystole, which on first sight appears to be most mysterious. However, further reflection soon shows it to have been the result of a series of interrelated events, some of which occurred long ago and some immediately preceding the emergency. When these phases are put in their proper sequence, all mystery disappears, and the whole story becomes intelligible in the familiar terms of biologic phenomena that are separately well understood.

One cannot leave this question of etiology without discussing the role of anoxia. Anoxia is the anesthetist's Satan whose diabolic machinations explain all his difficulties. Indeed, some of our colleagues would explain everything from alopecia to procidentia upon the basis of inadequate ventilation. The slightest degree of anoxia is a real hazard, and everything possible should be done to prevent it or to correct it immediately. However, anoxia per se never causes cardiac arrest. Otherwise the following statements, with which every experienced clinician is familiar, could not be true:

1. Cardiac arrest does not occur in asphyxia, hypoglycemia, hibernation, hypothermia when it is allowed to proceed uninterruptedly to the death of the animal,[7] apnea from cerebral lesions, apnea from oxygen inhalation when the respiratory center is depressed in its response to carbon dioxide apnea that follows the sudden removal of long-standing tracheal obstructions, or apnea from an overdose of ether.

2. No cases are reported in emphysema, asthma, or congestive failure.

3. No case occurred in newborn infants in the delivery room.

4. In the whale, the seal, and the beaver cardiac arrest does not result from the vissicitudes of submersion.

5. All organs and tissues react with an increased responsiveness initially, and only later does function fall off. Even nerve conduction is initially increased, and functional failure is slow and gradual.[8]

6. The heart has the greatest capacity to extract oxygen from the blood of any organ in the body, and conditions are known in which blood can be delivered to the coronary sinus containing no oxygen at all. The heart muscle has the highest amount of cytochrome of any organ in the body.

7. Anoxia releases adrenalin and noradrenalin which increase the work capacity of the heart.

8. If a dog's trachea is tied or clamped, it can be shown by the electrocardiograph or by direct observation of the exposed heart that the heart initially increases in rate and then slowly and progressively decreases in rate and vigor, but cessation of cardiac activity does not occur suddenly and continues for at least an hour and has been observed for an hour and thirty minutes.

9. In a series of rats that were killed by a crushing blow on the head or decapitated for other experimental purposes in which the thorax was opened very widely and the heart brought under direct observation, the heart continued to beat visibly more than two times per minute for as long as forty-two minutes, and the shortest time observed was sixteen minutes.

10. In persons taken out of the water in whom respiration has ceased, the heart goes on beating for an appreciable period of time, and cases are reported with survival.

11. If sudden cardiac standstill is due to failure to form à stimulus in the specific tissue of the ventricle and this tissue goes on functioning for many hours after death and is the very last tissue in the body to die, it is difficult to see how anoxia could cause its sudden failure to function.

The role of oxygen would appear to be essential for the enzymatic destruction of drugs or anesthetic agents or their excretion, and, therefore, anoxia could well potentiate the depressant action of drugs or anesthetic agents upon the functioning activity of the specific tissue. It would appear that anoxia may be the straw that breaks the camel's back, but the straw alone does not seriously inconvenience the camel any more than anoxia alone could cause cardiac standstill. On the other hand, anoxia is pernicious in the extreme to the common myocardium, in which case, however severe the degree of anoxia may be, there is no sudden failure and it should not be unexpected. Indeed, when cardiac standstill does occur, the failure of the heart to start promptly on being massaged is due to failure of the common myocardium, the functioning of which is so crucially dependent upon oxygen. The reason the heart stopped suddenly, however, was failure to form a stimulus in the ventricular specific tissue which is not dependent upon oxygen. Once a standstill has occurred, the resulting anoxia is most injurious to the common myocardium, and it requires a period of massage to clear the metabolites before it will respond to a stimulus.

Role of Carbon Dioxide

The role of carbon dioxide in the etiology of cardiac standstill is clearly shown by the fact that no case of cardiac standstill has been reported in emphysema, which is one of the few clinical conditions known in which there is both an acute and chronic retention of carbon dioxide. If retained carbon dioxide contributed to the danger of cardiac standstill, then hibernation would be a highly precarious procedure for the animal kingdom. In dogs maintained on a mixture of 20 per cent carbon dioxide and 80 per cent oxygen, the most powerful vagal stimulation slowed the heart, but there was always sufficient escape of ventricular contractions to maintain an adequate circulation. The important point here is not the time it takes for the first beat to come through after vagal stimulation but the number of beats that occur during the course of one minute. This simple rule is frequently forgotten.

Reflexes

The various locations from which reflexes could be elicited which might interfere with stimulus formation in the auricles has been described in some detail in a previous publication.[9] It has been suggested by several authors that if vagovagal reflexes played a role in cardiac arrest, the latter should occur more frequently during vagotomy, which is not the case. However, a moment's reflection will show that reflexes are initiated from stimulation of nerve endings and not nerve trunks. A particular reflex from stimulation of a nerve trunk can only be elicited by a very precise and specific type of electrical stimulation.

Treatment

VENTRICULAR FIBRILLATION.—The treatment can be readily summarized by stating that ventricular fibrillation should be treated by electrical defibrillation, and so efficient is this method usually that it is possible to fibrillate and defibrillate many times a dog's heart beating on a string actually disconnected from the body. In addition, if the ventricles are cut open widely and all the blood washed out of the heart after removal from the dog and then plunged into *cold* water, it immediately fibrillates and is even then readily defibrillated by the proper electrical shock. This illustrates the point that defibrillation is not dependent upon an adequate flow of oxygen.

CARDIAC STANDSTILL.—The treatment of cardiac standstill is early massage to produce blood supply to the common myocardium and the brain, and it is of utmost importance to realize that for the patient's survival the common myocardium is more important than the brain. Proof of this statement is the survivals who are vegetables.

Prevention

The prevention of cardiac arrest has not received from physicians or surgeons in general the attention its essential importance would seem to warrant. The reason for this is that when the emergency arises, one has no time to discuss why, because of the urgency to undertake treatment at the earliest possible moment. Atropine is an old, reliable, and thoroughly well understood therapeutic agent. Sudden cardiac arrest is almost always preventable by atropine, and this is almost certainly true in all those cases in which massage has produced a successful recovery. Atropine's value depends upon its action in preventing the interference with stimulus formation in the auricle. In order for cardiac standstill to occur, three events must have taken place, and atropine can prevent one of them.

The dose of atropine is not so important as the frequency with which it is given. On a purely empiric basis one can say that the average dose of atropine is effective in preventing a serious accident for ninety minutes and probably totally preventable for one hour and certainly gives some protection for two hours. Therefore, the rule is that atropine should be administered frequently in small doses rather than infrequently in large doses. In addition, atropine is the best agent known to minimize the dangers of ventricular fibrillation, except possibly in those cases occurring during hypothermia and cardiac manipulation.

Summary

In summary, one can say that cardiac arrest is a surgical emergency of the utmost urgency. There are two causes, ventricular fibrillation and cardiac standstill. The mechanism of ventricular fibrillation is not understood, and except for hypothermia atropine is an excellent agent to minimize the chance of its appearance. Cardiac standstill can only result from failure of the ventricular specific tissue to form a stimulus which in turn requires the presence of three conditions: (1) disease of the ventricular specific tissue, (2) depression of the remaining functioning elements by drugs or anesthetic agents, and (3) the reflex suppression of stimulus formation in the auricle.

Finally, however successful or ingenuous the surgical handling of a case of cardiac standstill may have been, surely it is a sobering thought to realize that this particular emergency was preventable, and preventable by such an old, safe, and reliable therapeutic agent as atropine, the very simplicity of which has contributed to its surprising and inexcusable neglect.

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The Effect of Traction of the Gallbladder on the Electrocardiogram

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A SIMILARITY in symptoms of gallbladder and coronary artery disease was noted as early as 1878, and many studies have indicated the high incidence of coexistence of the two diseases. Gallbladder disease has been found twice as often in the presence of coronary disease than in the general population.[1] On the other hand, Miller[2] showed that the degree of degeneration in the coronary artery was higher and that severe arterial degeneration was more common among patients with diseased gallbladders.

Other studies have attempted to show that reflexes originating in the gallbladder can give rise to symptoms of cardiac disease, particularly of pain, and that irritation and disease of that organ can alter the electrocardiogram. The explanation rests on their common innervation through the vagus nerve which supplies the cardiac and esophageal plexuses, stomach, liver, and gallbladder. The celiac plexus reflex, described by Smith,[3] causes increased vagal tone with a decrease in cardiac output and decreased contraction of cardiac muscle. In dogs distention of the stomach can cause a decrease in coronary flow, preventable by section of the vagi or by administration of atropine.[4] A stimulus applied to the esophagus has the same effect.

Wakefield[5] distended the gallbladder by injecting 30 to 50 cc. of saline into it through the fundus at operation and induced an acceleration of the heart rate, ventricular extrasystoles, and a delay in atrioventricular conduction. These effects were not noted if both vagi were sectioned or if large doses of atropine were given previously. Distention of the common duct through a T tube postcholecystectomy reproduced anginoid pains[6] but had little significant effect on the electrocardiogram.[7] Although autonomic reactions originating in the gallbladder or in the heart reflect pain to their specific dermatome areas, overlapping is frequent. Pain originating in the heart, coronary vessels, or aorta usually involve the first to fourth left thoracic segments, while for the gallbladder the levels are at the eighth, ninth, and possibly seventh thoracic segments. Since the gallbladder is connected by afferent pathways to the first to twelfth thoracic nerves on the right and to the fifth to tenth on the left, the heart or gallbladder can refer pain to a dermatome area not common to that organ by means of accessory fibers.

Improvement in clinical status and electrocardiograms following removal of the gallbladder for cholelithiasis has been reported frequently. Fitz-Hugh and Wolferth[8] reported six patients in whom angina and abnormal electrocardiograms improved following surgery. In another report, in three of four patients abnormal tracings became normal within six to eight days after cholecystectomy.[9] Breitweiser[10] followed 17 cases of cholelithiasis in which electrocardiograms had been done during the year prior to operation. In ten the postoperative tracings showed improvement, in four there was no change, and in three the condition appeared worse. However, she points out that her series is a selected group inasmuch as the electrocardiograms were made because cardiac disease was either present or suspected.

In a group of cases of acute and chronic cholelithiasis in which 2-step tests and ballistograms were observed, Walters and Master[11] concluded that the ST depression and T wave inversions occur only when underlying coronary disease is present. In dogs under anesthesia[12] no changes could be elicited in the rhythm and regularity of the heart by distention unless the coronary artery had been previously damaged. They suggested that if the irritability of the cardiac mechanism is increased in some way, such as occurs in jaundice, biliary tract lesions, and liver injury, cardiac arrhythmias can be induced by visceral distention. This is denied by Morton and his associates[13] who took electrocardiograms before, during, and after palliative transection of the homolateral vagus nerve just below the

TABLE I.—SUMMARY OF 20 CASES IN GROUPS I AND II

Case	Age	Sex	Diagnosis	Operation	Preoperative Medication	Electrocardiograms: Preoperative	Electrocardiograms: During Anesthesia	Electrocardiograms: During Traction	Electrocardiograms: Postoperative
						GROUP I			
1	33	F	Cholelithiasis	Cholecystectomy	Morphine and atropine	Normal	No change	Amplitude of T slightly decreased	Further decrease in amplitude of T
2	45	F	Cholelithiasis	Cholecystectomy	Morphine and atropine	Not taken	Normal	ST slightly depressed in aVf	No further change
3	65	F	Carcinoma body of pancreas; gallbladder normal	Exploration	Morphine and atropine	Left bundle branch block	T decreased in amplitude	T amplitude decreased; ST depressed	Gallbladder not removed
4	67	M	Chronic nodular pancreatitis; gallbladder normal	Exploration	Morphine and atropine	Right bundle branch block	T amplitude decreased; ST depressed	No further change	Not taken
5	65	F	Cholelithiasis; hypertensive cardiovascular disease; angina	Cholecystectomy	Morphine and atropine	Left ventricular strain; ischemia	T decreased in amplitude; ST depression persisted	T inverted in lead II; ST depression increased	T changes persisted; ST depression decreased
6	49	F	Cholelithiasis; metastatic carcinoma in liver	Exploration	Morphine and atropine	Not taken	ST depressed	Returned to normal	Gallbladder not removed
7	64	M	Cholecystitis; duodenal ulcer	Cholecystectomy	Morphine and atropine	Left ventricular strain; possible old septal infarct	T decreased in amplitude	Returned to preoperative tracing	Not taken
8	52	F	Cholecystitis; hypertension	Cholecystectomy	Morphine and atropine	Not taken	Normal	Normal	Normal
9	33	F	Cholelithiasis	Cholecystectomy	Morphine and atropine	ST depressed	T slightly decreased in amplitude	No further changes	No further changes
10	61	F	Cholelithiasis; hypertension	Cholecystectomy	Morphine and atropine	Ischemia; ST depression	ST more depressed; T slightly lower in amplitude	Returned to normal	ST depression reappeared
						GROUP II			
11	49	F	Cholelithiasis	Cholecystectomy	**Morphine**	Normal	ST depressed	ST depressed; T decreased in amplitude and inverted	Returned to normal
12	34	F	Cholelithiasis; rheumatic heart	Cholecystectomy	Morphine	Right axis deviation; peaked P wave	No change	No change	No change
13	65	F	Cholelithiasis; hypertensive heart disease; aortic sclerosis	Cholecystectomy	Morphine	Left ventricular hypertrophy and strain; ventricular extrasystoles	ST depression slightly increased	ST depression decreased almost to normal; T increased in amplitude	No further change
14	23	F	Cholelithiasis	Cholecystectomy	Morphine	Depressed ST in leads I and II	ST depression increased; T decreased in amplitude	T further decreased in amplitude	T inverted in leads II and aVf
15	60	M	Cholelithiasis; hypertension	Cholecystectomy	Morphine	Normal	No change	No change	Slight depression of ST
16	43	F	Cholecystitis	Cholecystectomy	Morphine	ST depressed; T flattened (ischemia)	Returned to normal	ST depressed; T inverted in aVl	No further change
17	69	F	Pancreatitis; hypertensive cardiovascular disease	Exploration	Morphine	Normal	No change	No change	Gallbladder not removed
18	39	F	Cholecystitis	Cholecystectomy	Morphine	Normal	T decreased in amplitude	Amplitude of T decreased further	No further change
19	43	F	Cholelithiasis; hypertension	Cholecystectomy	Morphine	Depressed ST; hypertension; ischemia	T decreased in amplitude	Returned to normal	No further change
20	45	M	Cholelithiasis	Cholecystectomy	Morphine	Depressed T	Returned to normal	Normal	ST depression reappeared in lead V_4

TABLE II.—Tabulation of Electrocardiographic Changes*

	Group I—10 Cases (Atropine)		Group II—10 Cases (No Atropine)		Combined Series 20 Cases	
Electrocardiogram	Cardiac	Noncardiac	Cardiac	Noncardiac	Cardiac	Noncardiac
Postoperative						
Normal	..	3	..	2	2	5
Abnormal	..	..	..	..	8	..
Ischemia	..	2	..	3	..	5
Bundle branch block	2	..	..	..	..	..
Left ventricular strain	2	..	2	..	..	..
Hypertension	1	..	2†	..	..	..
Rheumatic heart	..	..	1	..	..	..
During anesthesia						
Changes	5	3	2	3	7	6
No changes	0	2	3	2	3	4
During traction						
Changes	1	2	0	4	4	6
Returned to normal	2	2	2	0	4	2
No changes	1	1	3	1	4	2
Postoperative						
Changes	1	1	2	2	3	3
Returned to normal	0	0	0	1	0	1
No changes	2	2	3	2	5	4

* The term "changes" includes depressions of the ST segments and/or depressed amplitude or inversion of the T waves.
† Electrocardiogram normal in one patient.

origin of the recurrent laryngeal branch and stimulated these nerves electrically. Only two patients showed transient and minor changes.

In humans it has been difficult to evaluate properly the effect of irritation of the biliary tract on the electrocardiogram. Jaruszewski *et al.*[14] thought that depressions of ST in leads II, III, and aVf and elevation of ST in aVr during cardiac surgery were due to changes in the dynamics of the right side of the heart incident to anesthesia and hypoxia.

Method and Results of Study

Our study consisted in following consecutive patients to the operating room for cholecystectomy, regardless of the cardiac status or age. Tracings, which included three standard leads, augmented unipolar leads, and V_4 were made on the operating table before and during the induction of anesthesia. After entering the abdomen, the surgeon grasped the gallbladder with a clamp and exerted traction, during which another tracing was made. The gallbladder was then removed and an additional tracing made. Anesthesia used in all cases was Sodium Pentothal, nitrous oxide, and oxygen in 2:1 ratio and traces of ether. Succinylcholine chloride in 0.1 per cent concentration was used to induce relaxation. We feel that the amount of traction exerted was as much as would produce a maximal pull on the ducts in any circumstance of biliary tract surgery.

Group I.—The first group of cases consisted of eight females and two males with an age range of thirty-three to sixty-seven years, averaging 55.2 years (Tables I and II). All came to surgery for clinical symptoms indicative of involvement of the biliary tract. Six proved to have calculous cholecystitis, one a noncalculous cholecystitis, and one a duodenal ulcer as well as chronic noncalculous cholecystitis. Pancreatic disease was found in two patients, malignant in one. In these two patients and in one with metastatic carcinoma of the liver in addition to calculi, the gallbladder was not removed. In all the patients, however, traction was made on the gallbladder for its effect on the electrocardiogram.

Evidence of cardiovascular disease was present in five patients. Bundle branch block was seen in both patients with pancreatic disease (Cases 3 and 4). ST depressions and decreases in amplitude of T waves appeared in these during anesthesia, becoming more marked in one (Case 3) during traction. Another patient (Case 5) with hypertensive cardiac disease, status anginosus, and biliary calculi showed a left ventricular strain pattern with marked depression of ST in lead V_4 suggestive of ischemia. During anesthesia this ST depression persisted; T waves decreased in amplitude, and an arrhythmia appeared which was controlled with Pronestyl. T waves became inverted in lead II and decreased in amplitude in lead III, but depression of ST decreased during traction. No further changes were seen after removal. On subsequent examination angina of effort was still present, although not so marked.

An old anteroseptal infarct was present in Case 7 with hypertension, duodenal ulcer, and noncalculous cholecystitis. Flattening of T in leads II and aVf and deeper inversion in V_4 occurred with anesthesia, returned to the resting pattern on traction, and with no further change after removal.

Hypertension was present in another patient (Case 8) with a normal resting electrocardiogram; anesthesia caused very slight depression of ST in leads I and II, which disappeared with traction.

In the remaining five patients with no previous cardiac disease, the preoperative tracing was normal in three (Cases 1, 2, and 6) and showed ischemic ST depressions in the other two (Cases 9 and 10). During anesthesia two showed no changes (Cases 1 and 2), two showed slight depression of ST segments (Case 6 and 10), and the amplitude of T waves decreased in two (Cases 9 and 10). With traction on the gallbladder, depression of ST appeared in one (Case 2), decreased amplitude of T in one (Case 1), while no further changes appeared in the other. No disturbances in conduction were noted.

Summarizing, in eight of the patients (Cases 3 to 10) ST and T wave changes first appeared during anesthesia before the gallbladder had been manipulated, while in the other two these changes first appeared with traction. In the former eight, additional changes were induced by traction and still more change after cholecystectomy in two of these.

It appears that whether or not previous cardiac disease was present, ST and T wave changes occurred during the surgical procedure. Since in eight of the ten cases the changes were induced by anesthesia alone, it was considered questionable whether traction caused any significant alterations, especially since these changes were slight, usually not more than 1 mm. in either direction.

Group II.—After completing this first group of ten cases, we realized that the routine preoperative medication in this hospital included $^1/_{150}$ grain of atropine sulfate, and a review of the cases reported in the literature revealed that they too, in the main, had received atropine or scopolamine. Since this could interfere with the reflex path through the vagus, another consecutive group of ten cases was followed in which morphine alone was given (Tables I and II). This, coincidentally, also consisted of eight women and two men, ages twenty-three to sixty-nine with an average age of 46.9 years.

Cholelithiasis was present in seven and noncalculous cholecystitis in two, and in all of these the gallbladder was removed. One additional patient (Case 17) had pancreatitis, and the organ was not removed. Cardiac disease was likewise present in five: rheumatic heart disease in one (Case 12), hypertensive heart disease in two (Cases 13 and 17), and essential hypertension without cardiac disease in two (Cases 15 and 19). In this group also the only changes seen were in the ST and T waves.

The patient with rheumatic heart disease showed a right axis deviation with auricular hypertrophy, and no changes appeared either during anesthesia, traction, or after removal of the gallbladder. The patients with hypertensive heart disease showed indications of left ventricular hypertrophy and strain in the resting tracings; in one (Case 13) ST depression became more marked during anesthesia and returned to normal during traction; in the other no significant changes occurred at any time, other than a slight increase in the amplitude of T in lead aVl during anesthesia. In one hypertensive patient (Case 15) depression of ST first appeared after removal of the gallbladder, and in the other (Case 19) T decreased in amplitude during anesthesia with a return of the tracing to normal during traction.

The remaining five patients had no previous indication of cardiovascular disease and ranged from twenty-three to forty-nine years of age. Three showed ischemic depression of the ST segments preoperatively; in one (Case 14) these changes were more marked during anesthesia and even more notable during traction; in another the tracing returned to normal during anesthesia and remained so; in the third ST depressions disappeared during anesthesia, reappeared with traction, and persisted after removal. In the two with normal preoperative tracings, changes began to appear with anesthesia and increased during traction.

Comment

The changes observed involved only the ST segments and T waves and are identical with those occurring during myocardial ischemia. Since such changes were seen in the normal individuals even prior to anesthesia, no chemical or mechanical irritation could be considered. Hyperventilation per se can induce alkalosis with its consequent constriction of capillaries in heart muscle and ST and T wave changes, particularly in an individual who is fearful and apprehensive. Atropine had little visible effect in preventing these changes since they were present in six atropinized and seven nonatropinized patients.

Hypoxemia is another factor which affects coronary blood flow. On the one hand, it induces hyperventilation and can produce ischemic changes in the electrocardiogram as mentioned above. Continued hypoxia dilates the coronary vessels and increases blood flow in the heart until cardiac output fails. Tachycardia by shortening diastole also increases the oxygen need of the heart and will produce ischemic changes. It was thought that anesthesia, even with oxygen added, could produce all of these factors and account for the appearance of ischemic changes in 13 patients. Sodium Pentothal causes an insignificant decrease in the amplitude of T waves[15] or no changes at all in the electrocardiogram, even when given intravenously and even after the myocardium has been sensitized to its effect by the injection of ephedrine sulfate or epinephrine.[16] Although decrease of oxygen in the inspired air could also affect the amplitude of T waves, this is obviated by the use of a 2:1 mixture of nitrous oxide and oxygen, which has been shown to compensate for the depressant effect of Sodium Pentothal and to provide a blood oxygen saturation of about 96 per cent,[17] and by manually assisted respiration where it is indicated. Atropine does not prevent these changes to any significant degree.

Traction on the gallbladder was considered an adequate stimulus to the vagus pathways. Additional alterations were seen in eight cases, no added changes in six, and in four the tracing returned to normal. These latter changes might be considered as similar to ischemic changes since Kalter[18] showed such return to normal in patients with coronary insufficiency during a 2-step test.

Patients with cardiac disease did not fare worse than those without. In no case was the ischemia of significant degree. Our experience in these cases has impressed on us the fact that the amount of traction exerted on the gallbladder during the course of cholecystectomy does not produce enough alteration of the electrocardiogram nor enough interference with cardiac function to be considered a serious factor. Although atropine should minimize such effects, in the doses ordinarily used it had no remarkable influence. In fact, preoperative excitement and the induction of anesthesia appear to be of greater importance than the actual cholecystectomy, suggesting that adequate sedation and sufficient oxygenation to prevent hyperventilation and hypoxia are most necessary.

We can accept the fact that pain induced by gallbladder disease can simulate angina and conversely that the pain of coronary artery disease can be referred to the abdomen and thus simulate visceroabdominal disease. The common autonomic innervation could probably explain this overlapping of symptoms and the interrelationship of the pain segments affected. Whether visceral disease can in itself induce changes in the electrocardiogram is still a moot point. One must conclude that for visceral stimulation to induce electrocardiographic changes, there must be either an underlying irritability of the cardiac mechanism or coronary artery disease. Reversal of an abnormal electrocardiogram following surgery might imply that a trigger mechanism which was in the gallbladder had been removed. Such trigger mechanism can lie in other organs than the gallbladder and stomach, and we have recently observed in patients with prostatic disease and urinary difficulties a similar mechanism, with marked relief from angina following prostatectomy.

Summary and Conclusions

1. Electrocardiograms were made before and after the induction of anesthesia and during traction on the gallbladder in patients laparotomized for cholecystectomy. The amount of traction used was considered to reproduce the maximal tension to which a gallbladder is ordinarily subjected during cholecystectomy.

2. Two groups, each of ten consecutive cases, were studied, one in which atropine sulfate was given preoperatively and the other in which it was omitted.

3. Except for one case in which arrhythmia appeared during anesthesia, the only changes seen were in the ST segments and T waves. These changes were considered minimal.

4. Changes appeared during anesthesia in 13 of the 20 patients and additional alterations during traction in eight. No marked differences were found in the behavior of cardiac or noncardiac cases, atropinized or nonatropinized cases.

5. Attention is drawn to the association of symptoms of disease of the coronary artery and gallbladder with regard to the production of pain and the common pathway through the vagus nerve. Although blocking the vagus impulse has been reported effective by some in preventing alterations in the electrocardiogram, the amount of atropine ordinarily used preoperatively by us and others, $^{1}/_{150}$ grain, had no such effect in our series.

6. We feel that the hazards of gallbladder surgery in the presence of coronary artery disease can be minimized by observing these precautions: (*a*) adequate preoperative sedation to prevent apprehension with its consequent hyperventilation, (*b*) the use of larger amounts of atropine, and (*c*) adequate oxygenation to prevent hypoxia.

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Prostate Gland Removal Raises Survival Rate

Complete removal of the gland in men with early cancer of the prostate gives them survival chances almost as high as that for all other men of the same age, a Johns Hopkins Hospital survey shows. A study of patients treated by this operation in the last fifty years showed that 49 per cent of the patients whose cancer was detected in the early stage lived ten years or longer compared with 53 per cent of other men of the same age in the general population.

Dr. Hugh J. Jewett, Baltimore, said the study shows that so far no better treatment has been found for cancer of the prostate. And he said annual examinations for men over fifty years old should result in finding a large percentage of such cancers while they are still in the early, operable stages. Dr. Jewett reported on the long follow-up study in the November 13 issue of the *Journal of the American Medical Association.* He said cancer of the prostate is the most common type of cancer among men and is responsible for 11.8 per cent of all deaths from malignant disease annually in the United States. Its incidence in men over fifty years of age is probably no less than 14 per cent. Between 1904 and 1954 complete removal operations have been performed on 357 patients at Johns Hopkins, 320 of whom have been studied, In 1949 a study showed that of 127 patients operated on, 48 per cent lived five years after operation. A 1953 study showed 25 per cent lived ten years or more. Patients whose cancers had been found in the early stages had better chances than those whose disease had spread before the operations were performed.

From 1943 to 1954, 200 operations were done, with only a 3 per cent mortality. In the hospital's private service, there have been no deaths in eleven years, while the last 100 patients operated on since 1949 all survived. Their average age at operation was sixty years. Dr. Jewett said manual examination of the prostate gland is still the best method of screening patients over fifty and should result "in detection of a high percentage of patients suitable for the radical operation." He said in the Army, routine prostate gland examination of men over forty years has led to an operability rate of 54.5 per cent.

Management of the Chronic Headache Syndrome in an Outpatient Clinic

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It is probably true that the symptom of headache is one of the most common in medical practice. As a symptom of some underlying pathologic process, either organic, psychologic, or both, it may become a challenge to the physician from the point of view of diagnosis as well as treatment. Essentially, the headache problem is a complex one. It has been the feeling of the authors that many such patients could receive more effective therapy and be studied more comprehensively if carried in a supervised program which approaches the management of headache from the point of view of the whole patient rather than any specific disease process. With this in mind a "headache program" has been an active phase of this neuropsychiatric clinic of the Brooklyn Regional Office since January, 1948. This is a treatment program wherein all patients, regardless of diagnosis or possible etiology, who present headache as a predominant or isolated symptom are detailed to the program for investigation and treatment.

A total of 430 such patients have been processed in this "headache program" to date. The great majority have been World War II veterans ranging in age from twenty-one to forty years, with the bulk of them in the twenty-five to thirty-five-year age range. There have been a handful of World War I veterans forming a much older group and a few female veterans. The average duration of the headache complaint was approximately six years. Table I presents a breakdown of these 430 patients into diagnostic categories

TABLE I.—Numbers of Patients by Diagnostic Category

Diagnosis	Number	Per Cent
Psychogenic headaches	205	47
Post-traumatic encephalopathy	142	33
Migraine	62	15
Headaches associated with other organic conditions	21	5

All patients assigned to this program were given a thorough "workup," including a complete history with emphasis on factors possibly related to headache, physical and neurologic examinations, multiple x-rays of skull and neck, electroencephalogram, blood and urine studies, and any other special procedures indicated, such as spinal fluid studies, etc. Consultation with various specialties such as internal medicine, allergy, ear, nose, and throat, ophthalmology, etc., was freely utilized, and, in addition, each patient was given thorough psychologic testing and a social service evaluation. No psychogenic diagnosis was reached until every organic possibility was ruled out and positive evidence of psychiatric factors was found to be present. Objective personality evaluation by means of appropriate psychologic tests was made in all cases, although the clinical judgment of the neuropsychiatrist after many interviews with his patient was the most important factor in arriving at a diagnosis.

Psychogenic Headache

The diagnosis of psychogenic headache was carried by 205 patients or 47 per cent of the total number of patients under treatment. These psychogenic headaches were divided into two groups, the "tension headache" and the conversion reaction.

Tension Headache.—The tensional forms of head pain were by far the more frequent of the two. By "tension headache" is meant head pain occurring in relation to emotional conflict which may be conscious or unconscious and which expresses itself physiologically by affecting the circulation of the craniovascular tree and frequently involving the skeletal muscles of the head and neck.[1] We are dealing with physiologic concomitants of the tensional state experienced by the patient, which may include a variety of associated psychosomatic phenomena. In addition to the very frequent findings of muscle spasm in the neck and upper back, other occasional phenomena found included impotence in varying degrees; pruritis ani; a variety of skin manifestations such as urticaria, eczema, psoriasis, and neurodermatitis; cardiovascular and gastrointestinal complaints; labile hypertension; hyperhidrosis, etc.

The "tension headache" itself is usually bilateral, occipital, or frontal and may be accompanied by anxiety, nausea, and vomiting. There are no prodromata prior to onset of pain, and frequency and duration are variable. The pain is not so excruciating as in migraine, tends to develop slowly, and is often accompanied by associated pain in the muscles of the upper back and neck due to spasm. An interesting point is that the head pain often develops following a period of tension or anxiety and not necessarily during the emotionally stressful period.

Conversion Reaction.—The much less common head pain due to a conversion reaction will not usually demonstrate any such physiologic phenomena or even noticeable tension in the patient. The conversion symptom of pain is caused by a profound emotional conflict wherein the pain has symbolic significance to the patient and serves as a substitute for the conflict. Psychiatric study and psychologic testing reveal soon enough that the problem is one of conversion hysteria and that the symptom is the patient's present expression of his conflict.

Post-traumatic Encephalopathy

This syndrome presents serious diagnostic problems and, we believe, has been used very loosely as a diagnostic classification. It is well known that this diagnosis is frequently utilized on obtaining a history of head injury, no matter how insignificant the trauma may have been. A diagnosis of post-traumatic encephalopathy should not be made unless certain sequelae are found. The most common of these are irritability, anxiety, restlessness, fatigability, fainting spells, "blackouts," loss of memory, and difficulty in concentration. However, it should be stressed that such symptoms may also be characteristic of a neurosis! It is interesting that Brenner, Friedman, Merritt, and Denny-Brown[2] in their investigation of post-traumatic headache emphasize the high incidence of such headaches among patients with neurotic symptoms prior to injury and, in addition, stress the frequency of complicating environmental factors such as possibilities of "compensation." In their paper they note the difficulties in providing an adequate prognosis of subsequent liability to headache in case of head injury. Prognostic values could not be placed on either changes in the spinal fluid, electroencephalogram, reflexes, extent of scalp or cranial injury, or extent of disorder of consciousness immediately after injury.

While it is recognized that considerable brain damage may possibly result from a relatively slight blow to the head, it is believed that excessive emphasis has been placed upon head trauma and its possible residuals in many instances. All too frequently physicians have persisted in telling their patients, long after the injury, that their headaches and associated symptoms are due directly to the head trauma. This may give the patient something he can use to account for any or all of his difficulties, whether his symptoms have anything to do with the head injury or not. It is true that we cannot dismiss a head injury, no matter how slight; however, the approach to the care and handling of such alleged post-traumatic encephalopathies needs further study and reevaluation, particularly with reference to what we tell our patients. The importance of psychologic factors in these cases cannot be overemphasized.

Migraine

It is our experience that the diagnosis of migraine is too rapidly applied to almost any chronic severe headache. The diagnosis should be restricted to those cases demonstrating several of the classic features of this condition such as detailed by Friedman and von Storch:[3]

1. Recurrent headache, usually throbbing, and unilateral at onset.
2. Temporary visual disorders preceding the headache such as scintillating scotomas, photophobia, hemianopsia, and blurred vision.
3. Nausea, vomiting, and irritability at the height of the attack.
4. A frequent history of migraine in the immediate family.
5. Frequent presence of certain personality features such a perfectionism, rigidity, ambitiousness, and compulsive efficiency.
6. Other symptoms such as paresthesias, dizziness, sweating, speech disorders.
7. Relief usually by ergotamine derivatives in about 85 per cent of cases.

Of the 62 cases of migraine studied in the headache program, 53 had been previously diagnosed in military service as migraine. One had been diagnosed simply as "cephalgia," and eight had

TABLE II.—OTHER "CONDITIONS" FOUND IN MIGRAINE CASES

Condition	Number of Cases
Hypertension	2
Allergy	2
History of head injury	2
Duodenal ulcer	1
Arthritis	1
Total	8

been classified as psychoneurotics. Eight of these 62 patients also had other "conditions" worth noting (Table II).

It is noteworthy that among 62 cases of migraine only two patients had a hypertension, and this was of a mild character. Also only two had an allergy, hay fever in both cases. However, since we are dealing with a fairly young age group, we can perhaps expect a minimum of associated conditions. In an older age group we could possibly anticipate a greater frequency of hypertension and of arthritis.

One case of migraine was originally diagnosed as sinusitis and treated for this condition. Later the existence of migraine was recognized, and the patient was sent to an allergy clinic where she was desensitized to a multitude of "antigens" over a period of one year without any relief whatever from the headaches. Her first satisfactory relief occurred when she was given DHE-45 intravenously.

Every migraine patient carried in the program demonstrated neurotic personality characteristics, both clinically and by objective psychologic testing. None of our cases of migraine demonstrated any abnormal electroencephalographic findings or any positive family history of epilepsy.

Other Organic Conditions

Those headache cases associated with other organic conditions included such varied neurologic entities as Parkinson's syndrome, amyotrophic lateral sclerosis, and postmeningitic states as well as non-neurologic states such as sinusitis, hypertension, and tuberculosis. The role of psychogenic factors and vascular mechanisms in the production of headache among these cases appeared to be significant.

In four patients headaches were thought to be sequelae to a meningitis. In every instance a thorough neurologic examination in addition to appropriate ancillary tests failed to produce any positive findings. On the other hand, clinical evaluation and objective psychologic testing indicated marked personality difficulties in each case. Wolff[4] has pointed out that chronic headache after meningococcus meningitis is rare.

TABLE III.—CLASSIFICATION OF PATIENTS CURRENTLY UNDER TREATMENT

Type	Number	Per Cent
Psychogenic	44	36
Post-traumatic encephalopathy	39	32
Migraine	26	22
With other organic conditions	11	10

One patient had a history of encephalitis, and his headaches had been considered due to "residuals of encephalitis." Here, again, a thorough investigation revealed nothing significant to account for the headaches on an organic basis.

There were five patients whose chronic headaches were allegedly due to sinusitis. In several cases routine x-ray of the skull revealed nasal polyps of varying degree. When the patient was not informed of this, the character of the headaches remained unchanged, but when the patient learned of the existence of polyps, the headaches became more frequent and more severe, as did also the anxiety of the patient.

One of these patients presented acute frontal headaches of recent origin, and although he was known to be severely neurotic, his symptom was nevertheless diagnosed as due to sinus pathology. A diagnosis of acute frontal sinusitis was made, and he was effectively treated for this condition with subsequent relief from headache.

One patient with tuberculosis and headaches was referred to our program. Here the personality difficulties of the patient were lifelong and accentuated during his military service as a result of an amputation, with later development of active tuberculosis. The headaches could not be justified except as a result of psychologic stress.

Treatment Methods

A total of 120 patients are currently under active treatment in the headache program (Table III).

Most of the patients who apply for treatment have previously received some form of medical or even psychiatric care in the past, either in military service, at other clinics, or from a private physician. In addition to a variety of medications, previous treatment recorded includes psychotherapy, electroconvulsive therapy, physiotherapy, and chiropractic as well as osteopathic treatments.

The treatment approach at this clinic is both symptomatic and prophylactic. The former consists of pharmacotherapy for the purpose of interrupting the pain mechanism or to raise the pain threshold. The latter consists of psychotherapy. Most often there is a combination in varying degrees of pharmacotherapy and psychotherapy.

Medications utilized include the various analgesics, sedatives, antispasmodics, vasoconstrictors and vasodilators as well as controls in the form of placebos. Treatment with medication generally begins at the first or second interview since the patient in pain demands symptomatic relief and cannot be expected to wait indefinitely while his case is under study. In general, our policy is to avoid the use of drugs with addiction potential such as opiates or Demerol. Most effective have been the various ergot derivatives, either alone or in combination with other drugs. Much manipulation of drugs has been found necessary with considerable individual variation in effectiveness. An important factor in treatment is that all patients are told that in the event of an acute attack of head pain, they are free to come to the clinic without appointment for emergency treatment From the point of view of good doctor-patient relationship, this has had considerable therapeutic value.

Psychotherapy is basically a prophylactic approach, although it may also produce temporary symptomatic relief in many instances. Psychotherapy is applied to those patients who are most amenable to this approach and most available from the point of view of time. Patients who are either occasionally available to the Clinic or can only be seen infrequently receive only the most superficial psychotherapy. In general, patients given psychotherapy are permitted to ventilate their feelings to the therapist with the latter supplying a degree of warmth and understanding. Reassurance is used where it appears to be of greatest value in helping the veteran make decisions and assume responsibility. Some counsel is attempted in a rather directive fashion when indicated, with attempts at superficial interpretation and explanation when necessary.

Insight therapy of a dynamic nature has been limited to relatively few patients since obviously such a treatment approach would have to be of long duration with the patient clearly understanding that he must continue with treatment for a prolonged period of time. Patients both amenable and available for such treatment are limited in numbers.

Practical problems of various types generally involve the help of social service. Such problems may include housing, employment, financial situations, and developing realistic attitudes toward one's environment. Working with members of the family with the help of social service has been found particularly effective in many such instances.

Comment

Some of the problems encountered in this Clinic may be specific to a Veterans Administration installation. However, it is the feeling of the authors that many such problems pertain to any clinic or even to private practice.

Many patients have previously been in treatment for headaches and related symptoms, and their experience has not been satisfactory. They arrive with a past experience of failure in treatment and often anticipate further similar failure. They are not motivated into accepting treatment with a full belief that they can be cured or helped. Many have had extensive private psychotherapy and cannot readily accept any further psychotherapeutic approaches because of their experience of failure as regards results. It may be possible that these patients have not received appropriate or adequate psychotherapy or that they were not "ready" to accept psychiatric treatment for a condition which they considered "physical." Whatever the reason, this tends to make for a need to spend considerable time with the patient in order to offset his preconceived concepts or resistances. There are other patients who have had considerable contact with medications and combinations of medications with no effective relief and tend to regard all such new approaches, as well as psychotherapy, with skepticism.

Another factor militating against success in treatment is the refusal of many patients to accept the possibility of psychogenic factors as contributing to headaches. There is a tendency to place the blame on various organs of the body, particularly the structures of the head. To a great degree this may be due to the fact that such patients have had their headaches treated in the past by a variety of investigations of different organs of the body and have heard about headaches being produced by eyestrain, sinusitis, allergies, old head injuries, etc. Others, in addition, consider it a stigma to be told that head pain can possibly be due to what the patient considers a "defect" in his mental processes or in his emotions.

A problem of some importance which perhaps is more specific to a Veterans Administration clinic concerns the capacity of the patient to keep his treatment appointments. Due to requirements of a job he may find it difficult to keep his appointments with a clinic which is only available to him during certain hours. Many employers do not look favorably upon employes who take time from work for treatment. Patients have on occasion received a reduced pay check based on "time off" to visit the clinic, and it can readily be understood how reluctant they would be to lose any more income than necessary. The result is broken appointments and interruption of treatment.

The problem of "secondary gain" is likewise a factor impeding success in therapy and frequently must be worked through with great care. It may be manifested in the form of securing for the patient special consideration from friends and relatives. He may in this manner avoid assuming such responsibility as holding a job or supporting himself and his family. It may even be quite gratifying for him to continue at the level of a dependent who receives care and attention from certain people in particular. This status may satisfy his dependency needs. It is also possible that in addition to the satisfaction of such dependency needs, these patients may be utilizing their symptoms to punish close members of the family who must of necessity take care of them. They may thus be gratifying some of their latent hostility against specified people.

Conclusions

1. A coordinated program for the diagnosis and treatment of patients presenting a headache syndrome has been in progress at this clinic since January, 1948. The program presents special features in that the patients concerned are nearly all males, the great majority of them in a young age group. The results of this program and comments regarding our experience have been presented.

2. Essentially it must be understood that headache is a symptom of organic disease as well as a somatic, physiologic, or psychologic manifestation. Any approach which neglects careful study of possible disease processes such as intracranial and extracranial pathology, including neoplasms, arteriosclerosis, etc., and investigation of such factors as hypertension and eye, ear, nose, and throat disease, as well as pathology of the cervical spine, can be regarded as bad practice and involving serious risk to the patient. Study of such factors can be more effectively coordinated in a supervised program.

3. The effectiveness of the ergot derivatives in giving symptomatic relief for migraine and related conditions is impressive. The frequent effectiveness of placebos plus suggestion in many psychogenic headaches is likewise impressive.

4. The so-called post-traumatic encephalopathies pose a particular problem in that psychogenic factors appear to outweigh possible organic factors in the genesis of head pain in most cases studied. Many of these patients emphasize the length of hospitalization following head injury, as though the severity of the injury and of sequelae are dependent upon this factor. Wolff[4] has suggested that it might be advisable to get such patients out of bed as early as possible and that subsequently their symptoms should be minimized. With this we tend to agree and wish to add that these patients also need assurance as regards the "brain damage" they feel they have experienced. Psychiatric orientation at the very beginning may well contribute to a more rapid rehabilitation.

5. The authors are impressed with the importance and frequency of psychogenic factors in the large majority of cases studied, including many of those with definite organic history and pathology. However, although the value of psychotherapy cannot be sufficiently stressed, there is no evidence that psychotherapy exclusively is necessarily the treatment of choice. Experience indicates that an approach using various medications or combinations of medications for symptomatic relief combined with psychotherapy would appear to be the treatment of choice in most instances.

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CLINICOPATHOLOGIC CONFERENCE

ST. JOSEPH'S HOSPITAL, ELMIRA, NEW YORK

Conducted by F. S. HASSETT, M.D. MARCH 24, 1954

Discussed by WILLIAM F. LIPP, M.D., BUFFALO, NEW YORK

Case History

The patient was a fifty-seven-year-old white salesman who was admitted to the hospital complaining of severe abdominal pain. This was the third admission of this patient.

The first admission had been three years previously. Without any premonitory symptoms the patient suddenly had cramplike abdominal pain and shortly thereafter passed a number of black, tarry stools. His hematocrit had been 37, and a duodenal ulcer had been visualized by x-ray. He had been given transfusions and started on an ulcer diet. Amphojel had been used for six months and then discontinued. The patient always followed his diet meticulously and was entirely free from any symptoms.

The second admission was two years later when the patient again had an episode of sudden abdominal pain followed by the passage of black, tarry bowel movements. His hematocrit had been 31 on that admission. A gastrointestinal x-ray was done, without palpation, immediately following his admission and revealed no lesion of the cap, but a small diverticulum in the second portion of the duodenum had been visualized. He was again transfused and was discharged on an ulcer diet after eighteen days.

When he entered the hospital for the third time, he gave the following history: He had been home from work for three days because of symptoms of an acute lower respiratory infection. He had been subject to lower respiratory infections for years. It was his custom to treat these with aureomycin. For the three days at home, he had taken aureomycin, 250 mg. every six hours. He considered himself to be responding favorably when, on the third day, he had sudden, severe, cramplike pain in the abdomen which was generalized. This lasted twenty minutes to half an hour and then disappeared. There was some residual burning in the epigastrium. Because the patient had had two previous episodes of gastrointestinal bleeding, he had himself brought to the hospital for admission.

The patient had been "gassed" in the first World War. Since then he had had many respiratory complaints and had been subject to repeated respiratory infections. Five years previously, he had been bronchoscoped with negative findings.

Examination showed the patient lying quietly in bed in no apparent distress. The general examination was negative. The abdomen was soft and showed no distention. There was slight mid-epigastric tenderness. There was no muscle spasm rigidity. Rectal examination showed no masses or tenderness.

The urine showed a specific gravity of 1.022 and was otherwise negative. The red count was 4,600,000 with 14.5 Gm. of hemoglobin or 92 per cent. The white count was 10,000 with polymorphonuclears 87 per cent, stabs 1 per cent, lymphocytes 8 per cent, and monocytes 4 per cent. The hematocrit was 43. Serum amylase was 61 mg. per cent.

The following morning the temperature rose to between 102 and 103 F. where it remained for the rest of his stay in the hospital. The abdomen was distended and quiet. Wangensteen drainage was started and continued. An x-ray of his chest showed normal cardiac shadow and clear lung fields with elevation of the left leaf of the diaphragm. A flat plate of the abdomen showed moderate distention of many loops of small bowel in the central portion and left side of the abdomen. There was a little distention of the transverse colon and a little gas in the cecum. An upright film of the abdomen showed no free air under the diaphragm. A repeat of his blood count showed no change in the red count or hemoglobin; the white count had fallen to 6,800 with polymorphonuclears 91 per cent, stabs 3 per cent, and lymphocytes 6 per cent.

On the second day in the hospital penicillin, 400,000 units, and streptomycin, 0.5 Gm., every eight hours were added. The abdomen continued to be distended and tender. No mass was ever palpated within the abdomen. He did pass some gas rectally from time to time, and enemas produced fecal material. His condition gradually deteriorated, and he died on the twelfth day after admission.

Discussion

Dr. William F. Lipp: In this case we are confronted with the problem of a fifty-seven-year-old male with a history of two previous episodes of gastrointestinal bleeding occurring approximately two years apart. Then, a year after the second hemorrhage, he was admitted to the hospital relatively well. He became acutely ill on the second day of admission with some form of intra-abdominal disaster. He lingered for ten days or more in spite of intensive therapy, and finally he died.

As nearly as I can determine, there was nothing typical in his entire illness. Surprisingly, other than the evidence of bleeding, there is no history of digestive symptoms of any sort during the three years. Even in the terminal illness, I think he should have had more pain than he did, especially in that part of the body where, apparently, the lethal lesion existed. Curiously, the pain subsided, so that when he arrived at the hospital he was well, only to become very sick a day or two afterward. Even the episodes of gastrointestinal hemorrhage were unusual, preceded as they had been by severe pain. This suggests a mechanical rather than an ulcerating lesion. At the time of the first film study, on fluoroscopic examination, a peptic ulcer of the duodenum was reported. This was not confirmed by the radiograms. At the time of the second film study, and this was immediately after the second episode of massive hemorrhage, when gentle technics were employed, no ulcer could be demonstrated—just a duodenal diverticulum. As you know, this is not an uncommon lesion, and we have always felt that it was a relatively innocuous finding. The duodenal cap, seen at the same time, was perfectly normal in contour and outline. I think that it would have been of interest, if I may make some suggestions as I go along, to have followed the barium through the small bowel looking for a mechanical lesion, especially for a small bowel tumor.

Finally, we have films taken at the time of his third admission. The chest was clear. Important to me in this film is that there was no pleural reaction above the left diaphragm. The lung appeared to be perfectly clear at the base.

The scout film of the abdomen showed distended loops of both large and small bowel. There may have been some thickening between the loops of the bowel, which would suggest peritoneal inflammatory reaction, but there was nothing to localize for me the site of the condition producing the distention in these loops of the intestine.

In exercises such as these I think it is always best to explain the clinical picture on the basis of a single lesion together with its complications. In people past middle life we have the liberty, if we wish, to use more than one lesion in our explanation of the various phases of the illness. Also in exercises like this, we have the advantage of being retrospective in our attitude; whether this is an advantage or not, I do not know. At any rate, let us start with that phase of the illness which was most important to him at the time that he died, the third admission to the hospital. Let us see if we can decide what was the cause of death.

It would seem to me that there are only two possibilities. The first is generalized peritonitis, and the second is intestinal obstruction. The subsidence of the pain, the quiet abdomen, the passing of flatus—to me all suggest intraperitoneal inflammation or infection, and I think this is borne out by the films, which are consistent with what we call ileus. There was gas throughout the intestinal tract; there may have been some thickening between the loops of the bowel, but that was questionable. Certainly there was not much fluid within the lumen of the bowel itself, and whether that has significance or not, I do not know. To me, it would rather rule against a mechanical obstruction. The low white cell count, but with the left shift, suggests an overwhelming infection. I doubt whether the liberal use of antibiotics, which you remember he had taken before he came to the hospital, and the intensive antibiotic therapy afterward influenced the level of the white blood cell count. So it would seem to me that we are dealing in this terminal illness with spreading or generalized peritonitis. The great question is, of course, what caused the peritonitis, and how should it have best been treated or handled.

As I have mentioned, it would be best for us, from the point of view of clear thinking and reasoning, if we could explain all of this clinical course on the basis of one lesion together with various complications. What are the possibilities if we consider this to be all on the basis of one complicated disease? First, we have to think of peptic ulcer—peptic ulcer with hemorrhage in the past and now with perforation. But there is no ulcer history. There is no story of heartburn and sour stomach; there are few if any digestive symptoms described throughout the three years that this man had been intermittently ill. The severe pain preceding the hemorrhage is not what we expect in peptic ulcer. We usually have a few weeks of heartburn, sour stomach, epigastric distress, and then hemorrhage. But in 25 per cent of our patients we have no preceding or previous history of indigestion; the hemorrhage comes as a spontaneous and initial episode in the individual's sickness. There is no x-ray evidence of peptic ulcer that you or I have been shown. It is true that we had on the fluoroscopy of three years ago evidence of duodenal ulcer. This was not borne out by film study, and on the films there was a perfectly normal duodenal cap. I cannot rule out the presence of a gastric ulcer. We have no radiographic evidence of ulcer, at least permanent evidence of ulcer, and I should expect, with a three-year history, to have some distortion of the duodenal cap, a scar of some sort.

At the time of the terminal illness, if we talk in terms of perforation, it is unusual for the pain to subside so quickly. The pain usually lasts. This man's pain lasted for twenty minutes or a half hour, then gave way to a gnawing or burning sensation, and then subsided altogether. Finally, from the x-rays there was no air demonstrated under the diaphragm. We feel that in 75 or 80 per cent of the patients with perforated peptic ulcer, we should be able to demonstrate free air in the peritoneal cavity. There is one other possibility, while we are talking about peptic ulcer, that is, a peptic ulcer occurring within a diverticulum. I have no way of proving that, and I just have to mention it because of the curious pattern of the bleeding episodes, which seemed to consist of severe doubling-up pain, followed by some tarry stools.

Let us leave peptic ulcer for a moment and go on to the second possibility which is attractive to me. That is the possibility of a small bowel tumor. In this condition we would have (and this has been reported recently) a massive hemorrhage in the small bowel with melena, not with hematemesis. To demonstrate the lesion, one has to watch the barium carefully, at frequent intervals, as it passes through the small intestines. Sometime in the intervals in this man's illness it might have been well to do this and rule in or rule out such a mechanical lesion which could bleed. I suppose one could perforate, although the usual course of small bowel tumors is obstruction and not perforation into the peritoneal cavity. I would say this would be a fair possibility; it is not a probability, because I have no evidence to prove the existence of such a lesion.

Third, we have to think in terms of Meckel's diverticulum which can do all of these things. It can bleed, and it can perforate. However, as you know, this is not a common disease in older individuals. This is a disease of the young. And the bleeding itself—and we should have mentioned this in conjunction with small bowel tumors and with ulcer—the tarry stools suggest that the bleeding was from somewhere proximal to the middle portion of the intestinal tract. In other words, this should be upper gastrointestinal tract bleeding. When a Meckel's bleeds, we get bright red blood in the stool nine times out of ten. So, for various reasons I have to discard the diagnosis of Meckel's diverticulum. If it were a boy in his late teens, I think that it would fit together relatively well.

Fourth, in this age group we have to think of one other important abdominal catastrophe, and that is an interference with the circulation going to the intestinal tract, mesenteric vascular occlusion of one sort or another. Now, he had no general evidence of arteriosclerosis. He had no history of hypertension. It would be unusual, but occasionally there can be a very small vessel occluded which can cause pain and which can cause bleeding. It does not necessarily have to be massive. Personally, I have not seen it otherwise than as a massive disaster and with a large vessel involved, usually in a patient with hypertension, or marked arteriosclerosis, or fibrillating and throwing off emboli. Again here, the pain is intense and persistent. It does not subside as it apparently did in the patient that we have to consider today.

Finally, and we are looking for a lesion that we can relate the entire picture to, we have to think of a very common lesion that occurs in older individuals, and that is diverticulosis of the large bowel. But the bleeding in this instance was from higher up. When people with diverticula hemorrhage, we get bright red blood. As you know, we are always disturbed when we have a patient with massive bleeding of bright red blood from the bowel, and we find on x-ray diverticulosis. So infrequently does this lesion account for bleeding that we are always afraid that we are overlooking a neoplasm or some lesion such as that. When a diverticulum in the large bowel becomes inflamed and perforates, it rarely produces a spreading peritonitis. As a rule, localization with abscess formation takes place. That did not occur in this instance.

So I cannot conscientiously explain the clinical picture, although it is entirely possible that it can be explained, on the basis of a single lesion over the past three years with varying complications. For a moment, and perhaps for good, I would like to forget about the episodes of bleeding. What would cause the peritonitis which I feel this man died with? Certainly, the most exciting diagnosis would be acute pancreatitis. The diagnosis of acute pancreatitis is still difficult, no matter what you read in the literature. Recently we reviewed 44 patients seen over a fourteen or fifteen-year period at the Buffalo General Hospital. The correct diagnosis was made in only one third of the cases. Two thirds were wrongly diagnosed, and the most common confusing lesions were two: (1) perforated peptic ulcer and (2) acute disease of the gallbladder, perhaps acute cholecystitis. The treatment of acute pancreatitis, as you know, is conservative, but it depends upon an exact diagnosis, and this is often difficult to make. As an unfair digression, I could strongly suspect that the conservative treatment employed in this instance was based upon the acceptance of the diagnosis of acute pancreatitis.

What do we need for a diagnosis of acute pancreatitis, because most people have accepted the concept of conservative treatment if that diagnosis can be made? First, we have to think about it. We have to have a high index of suspicion. Second, in our experience in 50 per cent of our patients we have a good history of previous gallbladder disease. Third, we have an abdominal catastrophe, and it is a real catastrophe, as you know. Frequently, we have a mass. Almost always we have ileus, which this patient had. The temperature is normal. There is a pleural effusion which this man did not have, In 75 per cent of our 40 cases there was pleural reaction with either pneumonitis or effusion at the left base or perhaps both bases. This occurred early in the course of the disease, in the first or second day of the disease. Therefore, to us it is a valuable bit of confirmatory evidence in favor of the diagnosis of acute pancreatitis. A few days after the onset of the disease we have found that it is not infrequent to have a so-called Grey-Turner sign, an area of ecchymosis about the flank, or around the umbilicus, or in both flanks, due to the extension of the enzyme-containing fluid with blood to the subcutaneous tissues. The serum amylase or, better, the intraperitoneal amylase is usually elevated during the first twenty-four or forty-eight hours; then it tends to drop to normal. Ordinarily there is a marked leukocytosis, which this man did not have. Finally, we have found, on the fifth day, reduction of the serum calcium.

Those are the things we need for a diagnosis of acute pancreatitis, and they are not always present. Frequently they are wanting, and frequently we cannot make the diagnosis as we would like to. Obviously, in this instance we do not have all of these criteria fulfilled. Still the diagnosis rather appeals to me, and we now have this rule—if we are not reasonably sure of the existence of acute pancreatitis, then exploratory laparotomy must be employed. No one can afford to overlook such surgical-susceptible lesions as peptic ulcer or acute disease of the gallbladder, the two common confounding lesions. If at the time of laparotomy, we find an acute pancreatitis, we do nothing at all. We just close the abdomen, because we have not been keenly in favor of surgical intervention such as cholecystectomy or drainage of the area of disintegration in the pancreas. On the basis of the information given me, I think I would have urged laparotomy on the second day when this man showed evidence of peritoneal infection. As I say, if we found acute pancreatitis, we would probably have done nothing about it.

If acute pancreatitis is to me the most exciting lesion possible in this protocol, certainly the most common, and the one that most of us tend to overlook in older individuals, is acute appendicitis. Acute appendicitis occurred two times in our series of patients who were wrongly diagnosed. I think I would have recommended laparotomy at the sign of the peritoneal infection because I would be fearful, not of gallbladder disease, not of perforated ulcer on the basis of what was seen on the films and was found clinically, but because the pain subsided, as it so often does in acute appendicitis as the acute lesion gives way to the splinting effect of the generalized infection in the peritoneal cavity.

If I had been at the bedside, I think I would have made the diagnosis of acute pancreatitis. But because I was not clinically sure of acute pancreatitis on the evidence given me, I would have recommended laparotomy. I would not have been so fearful of finding a perforated ulcer or an acute gallbladder as much as I would of finding appendicitis. I think of it only because it is common, and we all have the opportunity to overlook it.

Question: What didn't make you think of an acute staphylococcus enteritis in a patient on antibiotics?

Dr. Lipp: That thought had occurred to me, and I was going to discuss that afterward. We have had in the last year or two somes ad experiences with some of the wide-spectrum antibiotics. We have had disasters in ten or twelve cases, in routine gynecologic cases in most instances, who have been given routine pre- and postoperative antibiotics. What happens is that with the intervention with the antibiotics, there are certain organisms that are suppressed in the intestinal tract, and there is an overwhelming growth of staphylococcic organisms. The clinical picture is altogether different. It is a cholera-like picture of rice-water stools and marked dehydration, of shock and death within a matter of hours or days. In our experience we have not had any perforation into the free peritoneal cavity as a result of this severe enteritis.

Question: Could you rule out dissecting aortic aneurysm?

Dr. Lipp: I had ruled it out, as I did the mesenteric occlusion, on the basis of an absence of circulatory signs, such sa generalized arteriosclerosis, such as hypertension, such as cardiac enlargement. That of course does not rule it out 100 per cent. Ordinarily, abdominal aneurysm would have produced more crucial signs than were described here. I would expect an earlier death.

Question: Knowing that this man had been admitted twice with sudden severe abdominal pain, at what point during the third admission would you have given up any thought of perforated duodenal ulcer?

Dr. Lipp: I would have given it up, I think, when he arrived at the hospital. I did give it up, as a matter of fact, because when he arrived at the hospital, there were no findings. To me, it would be unusual to have a perforation quiet down that remarkably, that is, within a matter of a few hours and then go on the next day to the evidence of peritonitis. I could conceive of a very small leak doing that, but clinically it does not fit together too well for me.

Question: You didn't seem to pay much attention to a serum amylase of 61 mg. per cent. How reliable is that test in acute pancreatitis?

Dr. Lipp: I would say in about 80 per cent of the time in acute pancreatitis, we get elevation of the serum amylase during the first forty-eight hours. In acute necrosis the most disastrous of the two types of acute pancreatitis, it falls precipitously as the pancreas disintegrates. In so-called edematous pancreatitis, it can stay up for a matter of three to five days. Recently, we have been taking fluid from the peritoneal cavity by needle. We find that the amylase is high there before it appears in the serum, and it stays higher for a longer period of time. I guess I did not pay much attention to the serum amylase report in the protocol, assuming it was a normal value. It would not rule out pancreatitis so far as I am concerned.

Diagnoses

Clinical.—*Perforated duodenal ulcer; generalized peritonitis.*

Dr. Lipp.—*Ruptured appendix; generalized peritonitis.*

Anatomic.—*Ruptured appendix; generalized peritonitis; duodenal ulcer.*

Pathologic Report

Dr. James A. Mitchell: At autopsy we found a generalized peritonitis. There were approximately 200 cc. of purulent fluid in the peritoneum, situated mainly in the pelvis. The small bowel and the stomach were greatly distended, and the small bowel was matted together by fresh, grayish, plastic adhesions. The appendix was retrocecal and gangrenous. The tip was lying in a pool of purulent material. It apparently had ruptured at the tip. The cecum was distended, and a large amount of exudate was noted on the posterior wall of the cecum. There was a duodenal ulcer present on the posterior wall of the duodenum just distal to the pylorus. The edges of the ulcer were slightly raised and indurated, but the floor of the ulcer was smooth and showed no evidence of any recent inflammation or hemorrhage.

The cause of death was paralytic ileus, generalized peritonitis, and ruptured appendix.

Summary

Dr. Lipp: Two things, I think, we can learn from this case. First of all, still one of the most difficult diagnoses we have to make in the dead of night, or in the light of day, is acute appendicitis. With all of the complicated lesions we see, the rare birds, the two things that I have most difficulty with in the practice of medicine are, first, acute appendicitis and, second, coronary thrombosis. On both of those lesions can we be trapped, and we are always chagrined when we err in the diagnosis. Especially are we disturbed about acute appendicitis when it occurs during epidemics of common acute enterocolitis. We have all made an erroneous diagnosis of acute enterocolitis because it was popular during that season of that year, and the individual had abdominal pain, and we assumed that it was due to viral infection. So we must never forget acute appendicitis as being a common lesion. Fortunately, of people who come to us as adults, most have scars in the right lower quadrant, and that allows us to rest at night.

A second important point is that peptic ulcer does not follow the clinical picture that the textbooks would have us believe and which we teach as being characteristic of ulcer. There is no history of ulcer in this clinical story that I can see. Even the bouts of hemorrhage, although ulcer is by far the most common cause of upper gastrointestinal bleeding, are most bizarre. They suggest, as I say, a mechanical, perhaps intussuscepting lesion rather than an ulcerating lesion. The diagnosis does not appear, I think, in the protocol. It is just a common one and one that we can never afford to overlook.

Aid Devised for Victims of Auto Chest Injuries

A technic has been devised to aid breathing by persons whose chests have been crushed by the steering wheel in auto accidents. Three Chicago physicians reported they have "stabilized" soft chest areas and successfully solved a difficult breathing problem for such patients by the use of weighted traction applied on pins painlessly inserted in the chest. They said more cars, higher speeds and "fantastic increases" in horsepower mean that more serious injuries, and a proportionate increase in chest injuries, can be expected. Such injuries now cause 20 to 25 per cent of automobile accident deaths. One of the most pressing problems in the treatment of "stove-in chest" is stabilization of the chest wall. Drs. Theodore R. Hudson, Robert T. McElvenny, and Jerome R. Head, of Northwestern University Medical School and Wesley Memorial Hospital, said their technic may help solve this problem.

In such chest injuries, the normal movements of the diaphragm and ribs is disrupted when injury-softened chest areas sink in instead of expanding with each breath. This also impairs coughing, which results in flooding of the lungs by secretions which normally would be coughed away. A vicious cycle is set up "as desperately ill patients struggle for increasing amounts of air only to find the situation made worse by their own efforts."

In minor injuries adhesive strapping is satisfactory but for serious ones existing technic may not be very effective. The doctors devised a method by which the softened part of the chest is held up and out by traction, with weights suspended from an overhead frame such as that used for some fracture cases. Pins placed in the softened part of the chest wall are held by metal spreaders, or "fingers," fastened to weighted cords. The pins are placed while the patient is under a local anesthetic, and the pull of the weights is painless. The pins cause no harm to the tissues around them and leave only small pinpoint scars.

Five patients have been treated by this method. Two of these patients died of other serious accident injuries, but the technic was successful in aiding their breathing. Two patients recovered completely without after-effects. A fifth patient was successfully treated in this way after the physicians wrote their report for the October 23 issue of the *Journal of the American Medical Association.*

CASE REPORTS

Idiopathic Steatorrhea with Hemorrhagic Manifestations Due to Prothrombin Deficiency

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WE RECENTLY had an opportunity to study a patient with severe hemorrhagic diathesis who was subsequently shown to have idiopathic steatorrhea. The purpose of this report is to describe studies which helped to establish the diagnosis of steatorrhea and demonstrated that the bleeding tendency was most likely due to prothrombin deficiency.

Case Report

The patient was a thirty-nine-year-old Italian female who had been treated since childhood for "anemia and low blood pressure." Between 1944 and 1953 she had had four severe bouts of diarrhea and abdominal pain lasting from two to nine weeks. She was first admitted to St. Mary's Hospital in 1944 because she had developed extensive subcutaneous hemorrhages after having had severe diarrhea for two weeks. The white blood cell count at that time was 28,000 per cu. mm. The blood smear, differential count, and platelet count were normal. The clotting time was twenty-one minutes by the Lee-White method. Prothrombin time was not determined. Subcutaneous bleeding ceased and did not recur until September, 1953.

When the patient was next hospitalized in 1947 because of severe diarrhea, the physical findings were within normal limits, and routine blood counts and urinalysis were normal. Roentgenographic examination of the large bowel and upper gastrointestinal tract revealed no abnormalities. During an episode of diarrhea in January, 1953, clubbing of the fingers was noted for the first time, and the blood pressure was found to be 80/60.

She was again hospitalized on September 3, 1953, because of profuse menstrual flow and multiple large subcutaneous hemorrhages which had developed during the preceding two days. There had been no hematuria, petechial hemorrhages, or epistaxis. A week prior to admission severe diarrhea had again recurred, and each day she passed approximately ten to twenty watery, yellow-gray stools.

On examination at this time the blood pressure was 110/60, pulse 120 per minute, and temperature 101.2 F. rectally. She appeared critically ill. There was an increase in melanin type of pigment in the exposed areas of the skin, the face was gaunt, and clubbing of the fingers was noted. Ecchymoses were present over the dorsum of the right hand, right scapula, left calf, and about the left knee. (Fig. 1). The left knee was swollen and painful on motion. Because the hemorrhages were deeply

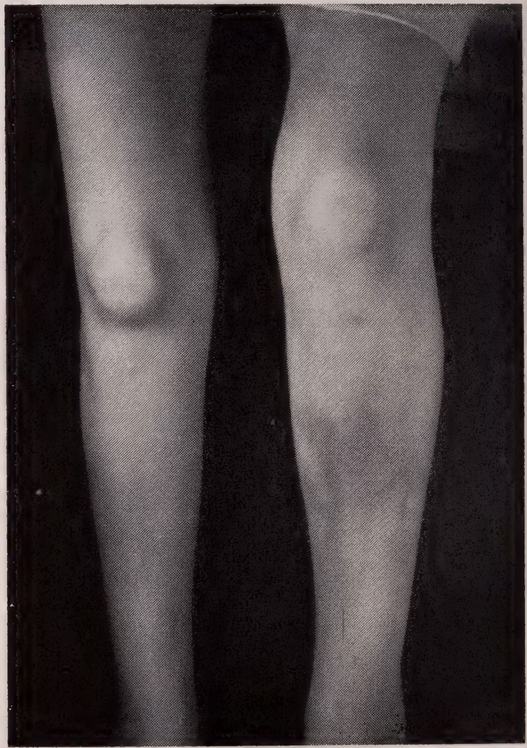

FIG. 1. Infrared photograph of patient's legs, September 7, 1953.

TABLE I.—RESULTS OF TEST FOR CIRCULATING ANTICOAGULANT

	Tube Number							
	1	2	3	4	5	6	7	8
Patient's whole blood (ml.)	0	0	0.4	0.8	1.2	1.6	2.0	2.0
Control whole blood (ml.)	2.0	2.0	1.6	1.2	0.8	0.4	0	0
Clotting time (minutes)	9	9	7	8	8	9	27	27

TABLE II.—DETERMINATIONS OF CLOTTING TIME OF RECALCIFIED PLASMA

Source of Plasma	Volume of Plasma (Ml.)	Calcium Chloride, 0.01 M (Ml.)	Clotting Time of Recalcified Plasma (Minutes)
Patient	0.1	0.2	4½
Normal	0.1	0.2	1½
Patient 50% Normal 50%	0.1	0.2	1½

TABLE III.—TEST FOR DEFICIENCY OF PLASMA ACCELERATOR GLOBULIN

Plasma	Prothrombin Time
Normal	13 seconds
Patient	>24 hours
Patient 50% Normal 50%	13 seconds
Patient 50% Normal treated with tricalcium phosphate 50%	> 24 hours

situated, discoloration of the skin was minimal during the first few days of observation.

Laboratory data obtained in September, 1953, were as follows: On admission the hemoglobin was 8.4 Gm. per 100 ml.; hematocrit 25 per cent; white blood cell count 7,100 per cu. mm. with a normal differential count. Serum albumin concentration was 2.9 Gm. and globulin 1.5 Gm. per 100 ml.[1] Fibrinogen determined by the method of Fister[2] was 168 mg. per 100 ml. (The normal mean for this laboratory is 200 mg. per 100 ml.) The clotting time by the Lee-White method was twenty-seven minutes. No coagulation occurred within twenty-four hours in the determination of prothrombin concentration by Quick's one-stage method. The bleeding time and capillary fragility test were normal. The platelet count was 190,000 per cu. mm. by the Rees-Ecker method.

Table I shows the results of a test for circulating anticoagulant performed with whole blood according to the method of Craddock and Lawrence.[3] This test revealed no anticoagulant in the patient's blood but indicated that the normal blood supplied one or more factors which reduced to normal the clotting time of the patient's blood. Similar conclusions could be drawn from determinations of the clotting time of recalcified plasma recorded in Table II.[4]

In an attempt to exclude the possibility of a deficiency of plasma accelerator globulin (factor V of Owren[5]), the studies recorded in Table III were performed. Normal human plasma was treated with tricalcium phosphate by the method of Quick[6] in order to remove prothrombin and convertin[7] (factor VII of Koller *et al.*[8]). When the treated plasma was mixed with the patient's plasma, it failed to influence the prothrombin time. On the other hand, normal untreated plasma reverted the patient's prothrombin time to normal, indicating that the deficiency in the patient's plasma was either prothrombin or convertin. More definitive evidence of prothrombin deficiency might have been obtained with a determination of prothrombin by the two-stage method, but facilities for this procedure were not available.

During the first twenty-four hours after admission the patient's condition became markedly worse. Bleeding into the tissues increased, menstrual flow became excessive, and the hematocrit fell to 15 per cent. During the next eight hours she was transfused with 1,500 ml. of whole blood that had been stored at 4 C. in acid-citrate-dextrose solution for six days. The prothrombin time nine hours after completion of the transfusion was thirty seconds with a normal control of thirteen seconds. At this time 50 mg. of vitamin K_1 (Mephyton, supplied by Merck and Company) was given intravenously, and a prothrombin time performed six hours later was thirteen seconds. Administration of vitamin K_1 had been delayed until this time as a result of a misunderstanding. This preparation was chosen in preference to water-soluble vitamin K since the cause of the prothrombin deficiency had not been determined. On the day after treatment with vitamin K_1 the patient was markedly improved, and the hematocrit was 30 per cent. Studies were then initiated to determine the cause of the prothrombin deficiency.

Large quantities of fat were demonstrated in stool specimens stained with Sudan III. A vitamin A tolerance test was performed by giving orally 7,000 international units of vitamin A acetate per Kg. of body weight and measuring the concentration of vitamin A in the blood by the Carr-Price method. Lack of absorption of this vitamin was evident from the following results: fasting 26 micrograms; four and one-half hours, 26 micrograms; seven hours, 11 micrograms per 100 ml. blood. Roentgenographic studies of the small intestine revealed marked segmentation, dilution, and flocculation of the barium meal and coarsening of the rugae. X-ray films of the bones of the skull, pelvis, forearm, and hand showed moderate osteomalacia. The serum calcium concentration was 8.6 and 9.9 mg. per 100 ml., phosphorus 1.2 and 3.1 mg. per 100 ml., and alkaline phosphatase 11.6 and 12.8 Bodansky units.

In an effort to differentiate idiopathic steatorrhea from pancreatic disease, the following laboratory examinations were performed. Duodenal intubation and determination of trypsin according to the method of Anderson[9] showed the presence of this enzyme in 0.01 ml. of duodenal contents (normal). The vitamin A tolerance test was repeated using vitamin A alcohol which does not require the presence of lipase for absorption. The results were as follows: fasting vitamin A, 11 micrograms per 100 ml.; four and one-half hours, 9 micrograms;

seven hours, 9 micrograms. The lack of absorption of the vitamin A alcohol was presumably due to an intrinsic defect in fat absorption by the intestine and not to deficiency of lipase. These tests indicating probable adequacy of the pancreatic enzymes trypsin and lipase made it appear unlikely that the patient was suffering from pancreatic disease.

The diarrhea subsided without additional therapy. The patient was discharged from the hospital on a low-fat diet with fat-soluble vitamin supplements and sorbital (sorbitan monoleate polyoxyethylene). Diarrhea soon recurred, however, and the patient was then given hydrocortisone, 50 mg. per day by mouth. Diarrhea ceased promptly, but after receiving hydrocortisone for three days, she developed tetany at which time the blood calcium was found to be 5.6 mg. per 100 ml. Tetany subsided promptly after administration of calcium and vitamin D. The effects of subsequent administration of hydrocortisone have been difficult to evaluate because of poor cooperation on the part of the patient.

Comment

Bleeding is said to be a rare complication of idiopathic steatorrhea.[10,11] Cooke, Peeney, and Hawkins,[12] however, in a recent review of 100 cases reported an incidence of 10 per cent. Although the skin is the most common site of bleeding, hematuria, hemarthrosis, and bleeding from the gastrointestinal tract have also been reported. The bleeding is usually trivial but may be severe at times, and in such cases its significance may be misinterpreted if the diagnosis of steatorrhea has not been established beforehand.

Kark, Souter, and Hayward[13] were the first to observe the relationship between hypoprothrombinemia of idiopathic steatorrhea and a deficiency of vitamin K. They showed that administration of vitamin K shortened the prothrombin time in such cases. Other authors have noted a prolonged prothrombin time, with or without hemorrhage, in this condition.[10,11,14] Allen[15] subsequently compared the effectiveness of various vitamin K preparations in shortening the prothrombin time in a case similar to ours.

In recent years it has been shown that a long prothrombin time, as determined by the one-stage method, may be found in a number of abnormal states including idiopathic hypoprothrombinemia,[16] deficiency of factor V,[5] factor VII,[8] hypofibrinogenemia,[17] and possibly the presence of circulating anticoagulants.[18] The laboratory procedures carried out in studying the case reported in this paper have excluded these possibilities, with the exception of factor VII deficiency, and support the conclusions of Kark, Souter, and Hayward that a deficiency of vitamin K absorption is probably the chief cause of bleeding in steatorrhea.

The diagnosis of steatorrhea was established in our case by the vitamin A tolerance test and supported by roentgenographic findings, hypocalcemia, hypoalbuminemia, and evidence of increased fat in the stool despite adequacy of pancreatic enzymes. The salutary effects of hydrocortisone therapy, as well as the precipitation of tetany by administration of hydrocortisone in this condition, have been mentioned by others.[19]

Summary

A case of idiopathic steatorrhea is reported in which severe hemorrhagic diathesis was shown to be most likely due to prothrombin deficiency, which in turn was attributable to faulty absorption of vitamin K.

We are indebted to Dr. B. Louis Tomaselli for the opportunity to investigate this case and to Drs. Charles E. Riley and Lane M. Christ and Miss Constance Curran for assistance with laboratory procedures. Dr. Augusta B. McCoord kindly performed the determinations of vitamin A.

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A man loses his illusions first, his teeth second, and his follies last.—HELEN ROWLAND

Shock of Four Days Duration Treated Successfully with L-noradrenalin (Levophed)

ENDEL KASK, M.D., NEW YORK CITY

(*From the St. John's Episcopal Hospital, Brooklyn*)

Much has been written about the usefulness of l-noradrenalin in treatment of shock, but rare, if any, are the cases in which the blood pressure has been maintained for such a period as four days by continuous intravenous administration of this drug. It is important, therefore, to report this case in which such a prolonged treatment was successfully undertaken during almost constant supervision and adjustments. The case may also be of interest as an illustration of such a rare occurrence as a recovery from severe anaphylactic (or anaphylactoid) reaction to the commonly used diagnostic radiopaque dye, Diodrast (iodypracet), for intravenous pyelography.

Case Report

The patient, a forty-two-year-old female of Jewish extraction (recent immigrant), had been advised to have intravenous pyelography by the outpatient department at St. John's Episcopal Hospital in Brooklyn. The finding of a subcutaneous nodule in the right flank and the fact that the patient complained of urinary symptoms were interpreted by the physician as suggestive of malignant disease in the urinary tract or vicinity. These complaints were of short duration, and the previous history (obtained after the dramatic incident described below) did not disclose any major illnesses. The patient gave an unclear history of asthma, which had not caused any real disability and had disappeared after moving from low coast to higher regions (in Israel), making only occasional and mild reappearance since patient had moved to New York. There was no history of previous urography.

On December 24, 1953, just prior to the pyelography (also at St. John's Episcopal Hospital), a skin test was performed with Diodrast in the usual manner, and after it had been deemed to be practically negative (with insignificant redness), a whole ampul (20 cc.) of Diodrast was given intravenously, the duration of the injection being impossible to ascertain. The patient did not notice any discomfort for at least eight minutes after the completion of the injection. After the routine eight-minute film (which did not demonstrate any excretion of the dye by the kidneys) had been taken, the patient suddenly experienced a desire to move her bowels, rushed to the bathroom, which was only a few steps away, and collapsed there. She was placed back on the table, and adrenalin was administered as quickly as possible. However, she showed evidence of a deepening shock, the pulse becoming almost imperceptible and cold peripheral perspiration making its appearance. About twenty minutes after the injection of the Diodrast the blood pressure could not be measured, the pulse being very rapid and feeble. The patient had not yet lost consciousness but was in an exasperating mental excitement and experienced air hunger. She complained bitterly about the danger she had been subjected to but made no mention of any pain or other localizing discomfort.

At this moment the author arrived and ordered immediately 100 mg. of cortisone acetate intramuscularly and 1,000 cc. of 10 per cent glucose in water, containing 4 cc. of a 1:1,000 solution of l-noradrenalin (or 0.2 per cent Levophed Bitartrate), to be started intravenously at once. Within five minutes these orders were carried out, and practically immediately after starting the infusion with l-noradrenalin the blood pressure could be maintained at about 100 systolic with the patient becoming more balanced mentally.

The patient was transferred to the medical ward without delay and admitted there as a ward patient. An eighteen-minute film had also failed to show any excretion of dye by the kidneys. On her way to the ward the patient went into deep shock with coma and absence of blood pressure when she was put to bed. At that time also wheezing (mostly expiratory) made its appearance, and rales suggestive of pulmonary edema could be heard on auscultation. However, immediately after speeding up the solution with l-noradrenalin, the blood pressure could be maintained at any reasonable level, and the patient regained her restless consciousness. She was given $7^1/_2$ grains aminophylline intramuscularly, after which pulmonary wheezes and rales disappeared within a short time. Benadryl, 80 mg., had been added to the intravenous solution.

From now on her blood pressure was checked continuously every ten to fifteen minutes for the following four days and nights. The rate of the intravenous drip containing l-noradrenalin (Levophed) was adjusted according to the level of the blood pressure, which was usually maintained between 80 and 100 systolic but which fell to zero or could be elevated to almost 200 (or perhaps more if we had tried), depending on the rate of the dropping from the bottle. The diastolic pressure followed these fluctuations to a lesser degree, usually remaining between 40 and 50. In view of the fact that the patient needed a large amount of continuous administration of Levophed, the concentration of this drug in the drip solution had to be increased fourfold to avoid enormous amounts of fluids since the average dosage necessary was about 80 cc. of Levophed Bitartrate per twenty-four hours. This considerable amount of the drug also became a serious problem to our pharmacy because new supplies were difficult to obtain during the four-day Christmas holiday when the treatment was carried out.

Salt was administered only to a very limited extent in the solution since the administration of cortisone was continued in the dosage of 75 to 100 mg. intramuscularly every six hours. ACTH was also given for the first two days (40 to 80 units per day) in the intravenous solution with the idea that cortisone might not be satisfactorily absorbed because of the poor circulation. Benadryl was also given intravenously up to 100 mg. at a time, without any apparent effect. The patient's psyche remained essentially unchanged for the first two days with restlessness and complaints of aches in various parts of the body but never in the precordium or in areas close to the heart. The chief and most constant tenderness seemed to be located in the abdominal muscles on the right side. (The patient had had her appendix removed many years ago, but no evident pathology had been demonstrated in the appendix.) In the morning of the third day patient was mentally changed, failed to reply logically, if at all, and kept fingering her hair which she managed to entangle so thoroughly during the last day of her shock that it had to be cut off. A psychiatric consultation suggested the possibility of the mental effect of the cortisone, after which cortisone was discontinued. At the end of the fourth day the mental condition showed abatement.

Contrary to our fears the urinary output was surprisingly high. During the first few hours of shock it was low (50 cc.), but during the following days it was sometimes higher than intake by vein (averaging 7,000 cc. per twenty-four hours both during and after the period when cortisone and ACTH were administered). Only small amounts of liquids were taken by mouth. Tests later demonstrated isosthenuria but no albuminuria (patient had no history of hypertension), and eyegrounds were normal, although patient complained of decreased vision after the shock.

The laboratory examinations on the day of admission (within a few hours after the injection of the Diodrast) revealed the following: hemoglobin 121 per cent, red blood cells 6,120,000 per cu. mm., and white blood cells 35,650 per cu. mm. with 83 per cent neutrophils (13 per cent juveniles) and only 1 per cent eosinophils. The hematocrit did not show hemoconcentration (packed red cells 85 per cent of normal reading). Two days later the hemoglobin was 117 per cent, red blood cells 6,900,000 per cu. mm., and leukocytes 23,900 per cu. mm. with no eosinophils observed. On the last day of the shock the hemoglobin was 99 per cent, red blood cells 5,020,000 per cu. mm., and white blood cells 14,800 per cu. mm. with no eosinophils. Thereafter the hemoglobin slowly decreased and stabilized at 70 to 80 per cent several weeks after the shock; the leukocytes decreased gradually to 6,450. The total eosinophil count varied from 121 to 266 per cu. mm., the percentage rising to 5 per cent four weeks after the beginning of the shock.

The blood chemistries revealed no very significant changes. The blood urea nitrogen rose from 15.7 mg. per cent two days after injection of the radiopaque dye to only 27 mg. per cent two days later and then slowly decreased. Six days after admission, because of the then complaints of vague epigastric pain, the serum amylase was tested and was found to be 351 per cent (the normal value being estimated at the hospital laboratory as 180 per cent, upper limit). The icterus index at the same time was 10 units (normal upper limit 6). Both of these values returned to normal gradually. The maximum tenderness had never been localized at the gallbladder or pancreas, and there never was any clinical icterus. The blood sugar was elevated only during administration of the glucose solution.

An electrocardiogram was taken two days after the onset of the shock and showed negative T waves in the first standard lead, in aVL, and in the sixth precordial lead. Regular sinus rhythm was present with rate 138 per minute. These changes were interpreted as secondary to the shock. On the follow-up electrocardiogram on the next day these abnormal changes had disappeared, and the rate had decreased to 95 per minute. The patient was being digitalized at this point, not because of any clear-cut evidence of cardiac failure but because of the desire to prevent any surprising development of cardiac decompensation in this unusual and precarious situation. The relatively rapid digitalization (within twenty-four hours) did not seem to bring about any evident change in the patient's condition, but three days after the second electrocardiogram a digitalis effect was demonstrable, with depression of the S-T segments in all the standard leads and negative T-waves in the second, third, and fourth precordial leads. A week later the T waves had become negative in all standard leads, in the five last precordial leads, and in aVF. Since the erythrocyte sedimentation rate was at the same time rising from normal (four days after admission) to pathologic values and a new, moderate leukocytosis appeared, a diagnosis of myocardial infarction could not be avoided, even if patient never complained of pain typical of this disease.

On the morning of the fourth day of the shock an attempt was made to discontinue the Levophed under constant supervision. During the half hour in which the drug was discontinued the patient maintained her blood pressure around 70 systolic most of the time but then showed decrease. The pulse became almost imperceptible; cold perspiration made its appearance, and patient became more restless and complaining. Prior to that, on the day after admission, the drip had stopped by itself, probably through displacement or obstruction of the needle, and the patient had relapsed immediately into coma. Hectic moments were experienced before a vein was surgically exposed and a more permanent needle inserted. On this occasion the patient almost had ceased to breathe before the solution with Levophed could be restarted. However, the coma disappeared within a fraction of a minute after the restarting, and blood pressure became good.

The Levophed was permanently discontinued on the morning of the fifth day, the patient being able to maintain her blood pressure at about 70 systolic and 30 to 40 diastolic. Thereafter it rose gradually to about 120/80 during the following several weeks. Patient was kept on bed rest because of the incident diagnosis of coronary occlusion, and digitalis was discontinued later without any evidence of appearance of cardiac decompensation.

The patient was discharged six weeks after her admission in fair condition, with only some anxiety on the part of the patient concerning her heart, because she had been told that she had myocardial infarction as a complication, and she knew that this was a dangerous disease.

A tumor specialist's opinion of the subcutaneous nodule was that it represented a neurofibroma.

Summary

Successful treatment of a patient with shock that lasted for four days is described, including laboratory studies. The case is instructive and remarkable on several counts:

1. In spite of the fact that descriptions of successful treatment of shock lasting nearly as long as four days are very difficult, if not impossible, to find in the medical literature, the case related here proves that such treatment is possible if enough perseverance and vigilance are observed and correct medication is started forthwith in a case in which blood loss or extensive anatomic damages to vital organs are not major etiologic factors.
2. Cortisone, ACTH, and antihistaminics appear to be of little if any value in the violent allergic reaction which this case is thought to represent. Continuous and sufficient administration of the natural pressor amine (l-noradrenalin, l-norepinephrin, levarterenol, Levophed) is all-important. With correct dosage it is possible to maintain the functions of vital organs in satisfactory condition even if the blood pressure is considerably below the patient's preshock level but above 80 mm. Hg systolic.
3. Long-lasting hypoxemia of the central nervous system does not necessarily leave any permanent mental symptoms, even if severe mental inadequacy is present during the hypoxemia.
4. This case illustrates need for clarification in diagnostic criteria and nomenclature for such exceedingly serious and almost always fatal drug reactions as described here and elsewhere in the literature.[1-4]

FOOT OF EAST 15TH STREET

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Heredity Theory of Epilepsy Questioned After Study

Epilepsy may be associated less with heredity than with complications before, during, and just after birth it is reported in the June 19 *Journal of the American Medical Association*. A study of 396 epileptic and 393 nonepileptic children "raises doubts" as to the family-pattern theory of epilepsy.

"The results of this study appear to indicate that there exists a relationship between certain abnormal conditions associated with childbearing and the subsequent development of epilepsy in the offspring."

Records of more than 500 epileptic children born in Baltimore between 1935 and 1952 showed "significantly more complications of pregnancy and delivery, prematurity and abnormal neonatal conditions" than a similar number of matched control births. These abnormalities were just as frequent among epileptic children whose parents did or did not have epilepsy."

The pattern of epilepsy in relation to mishaps in pregnancy or birth is similar to that already reported in cerebral palsy. This indicates that epilepsy should be added to the list of "reproductive casualties" that includes stillbirth, death of the newborn, and palsy.

The authors suggested one of the reasons for the theory of family transmission of epilepsy is that premature births tend to run in families and that a large number of the epileptic births are premature. They said their findings should be considered in attempts to improve conditions of maternal health and for the study of certain neuropsychiatric disorders.

The study, aided by grants from the Foundation for Mentally Retarded and Handicapped Children and the Civitan Club of Baltimore, was made by Drs. Abraham M. Lilienfeld and Benjamin Pasamanick, of the Johns Hopkins School of Hygiene and Public Health.

Woman's Auxiliary

to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

"The Distaff," Publication of the Woman's Auxiliary

To have a medium by which official expression may be given to the aims, program, and activities of organization work is a fortunate and challenging opportunity. We, the members of the Woman's Auxiliary, greatly appreciate the constructive and cooperative effort on the part of the Medical Society of the State of New York in the publication of our magazine, the *Distaff*. Through this cooperation the *Distaff* is a reality, and it is with determination that we strive to make it a publication worthy of the good will and tangible support of the State Medical Society.

Our magazine is published three times a year, in July, November, and March. In each issue we seek the fulfillment of our editorial policy, outlined in the following paragraphs.

1. The *Distaff* is a source of information for all doctors' wives. This refers specifically to activity work in the individual counties and districts. *Distaff* articles highlight the program and progress of Auxiliary effort and give emphasis to plans and achievements on the State level. It is important that the material be interesting and readable, but, more particularly, it must be informative.

2. We give prominent space to articles on current legislative thinking and action. This phase, perhaps more than any other, has unified the Auxiliary, has rallied and recruited membership. It is so vital to our welfare, now and in the future, that each issue of the *Distaff* features current legislation trends and outlines opportunities for Auxiliary action.

3. We believe that the *Distaff* has a tremendous opportunity to emphasize "human living" in the broadest sense of interrelationship. We are women, we are doctors' wives, we are mothers, and we are citizens. Therefore, we have a responsibility to the community in which we live and an obligation to share in its problems and projects. How great that sharing shall be can be determined only by the demonstrated need, and to that end our cooperative effort with community agencies and individuals is developed. We are interested in children, their care, their point of view, their safety, and their opportunities. We have a similar interest in the problems of the aging. Nursing service, and its growth, is well known as an Auxiliary project. We have profound respect for the worth and dignity of every individual. We believe in the fullest participation on the part of the membership, and to this end, members as well as authorities in certain fields are invited to contribute articles to the *Distaff*. The scope is unlimited in voicing the aspects of human living and citizen responsibility.

4. While each of these points is related to the others, perhaps the fourth area of our editorial policy sums it up best when we seek to have the *Distaff* serve as an organ for more effective liaison for the Woman's Auxiliary between the medical profession and the public. This is possible only when we are informed and in possession of true facts. An informed Auxiliary has always been basic in the philosophy of our organization. The *Distaff* has a responsibility to present facts clearly, and in this connection a group of associate editors with delegated assignments has proved to be of the greatest assistance.

Our circulation at present numbers approximately 5,000. This is a substantial beginning, but when we contemplate the potential, we recognize the fact that our goal will be achieved and our real effectiveness felt only when every doctor's wife in New York State is an Auxiliary member.

The *Distaff* is an important influence in the four areas described above, and we are dedicated through our publication to tireless support of the Medical Society of the State of New York and to its humanitarian service for all the people.

Mrs. John N. Dill, *Editor*
The Distaff

Overheard in the surgery—
"It's me 'eart doctor."
"Oh, and what's the matter with your heart?"
"The last doctor said I 'ad a prehistoric brewery."
"Oh yes, and does it produce mead?"—*The Lancet, July 24, 1954*

CORRESPONDENCE

Ratio of Doctors to Population

To the Editor:

In the November 15, 1954, editorial of the NEW YORK STATE JOURNAL OF MEDICINE, you state: "The number of doctors is at a record low ratio of one for every 730 persons, a proportion exceeded only by Israel."

The truth is that it is greatly exceeded by this great State of New York. Why do you hide it in your editorial?

Why don't you compare the actual figures for the whole of these United States and for this great State of New York?

ALFRED ROSSKAMM ROSS, M.D.

Belfast, New York

Is the Use of Epinephrine Dangerous in Connection with Procaine in Dental Procedures?

To the Editor:

There have been so many diverse opinions in regard to unfavorable action of epinephrine in connection with procaine for dental and oral surgical procedures that the Council of the New York Institute of Clinical Oral Pathology decided to get an authoritative opinion which could be used as a guide to the practitioner in the care of patients who suffer with diseases of the heart and the circulatory system.

On December 10, 1953, the following letter was therefore addressed to the New York Heart Association:

> Our Institute is most interested to get an opinion on the use of epinephrine in connection with procaine as a local anesthetic in patients with diseases of the heart and circulatory system. The opinions of heart specialists are so divergent that in the interest of the medical and dental professions this subject should be referred to a special committee for study.

The correspondence was completed with a letter from the New York Heart Association dated October 5, 1954, which reads:

> In further answer to your letter of April 16, 1954, regarding the use of epinephrine in dental practice on cardiac patients:
>
> This matter has been carefully studied by a committee appointed by the New York Heart Association for that purpose. I believe the enclosed report of this committee is a complete answer to the question which you have raised. This report has been approved by our policy committee for transmission to you.
>
> Please let me know of any further information you may wish to request.

REPORT OF SPECIAL COMMITTEE ON THE USE OF EPINEPHRINE IN CONNECTION WITH PROCAINE IN DENTAL PROCEDURES

NEW YORK HEART ASSOCIATION, INC.

Your committee submits the following report on the use of epinephrine in connection with procaine as a local anesthetic for dental procedures in patients with diseases of the heart and the circulatory system:

I. It is our understanding of common dental practice that epinephrine is used in dilutions of 1:50,000 and occasionally 1:100,000; never more concentrated than 1:50,000. Rarely more than 2.0 cc. of solution are used in any one session.

II. Epinephrine is combined with a local anesthetic, commonly procaine. One of the pharmacologic actions of procaine is to counteract the tendency of epinephrine to cause cardiac irregularities.

III. The dentist should have information from the physician about the nature and severity of the heart disease in the patient. He should also have knowledge of medication the patient is receiving, particularly such medication as might increase the activity of epinephrine. This knowledge is important because ordinary dental procedures may produce some emotional stress and cause cardiac disturbances which might be wrongly attributed to epinephrine.

IV. Under these conditions and with these precautions, the use of epinephrine with procaine for dental surgery presents no special hazards in persons with heart disease. We would recommend for any one session that there be used no more than 10.0 cc. of 1:50,000 epinephrine—no more than 0.2 mg. of epinephrine in any form.

The Policy and Budget Committee of the New

York Heart Association has given approval to the publication of the above report, which the Council considers so important that it deserves wide publicity.

New York Institute of
Clinical Oral Pathology

101 East 79th Street
New York 21, New York

Questionnaire on Cerebral Palsy

To the Editor:

The Coordinating Council for Cerebral Palsy is an agency concerned with determining the needs of persons with cerebral palsy and with improving the professional standards of care available to them in metropolitan New York.

In a city as large as our own it is not easy to learn which medical agencies are actually serving this group of handicapped people or are prepared to give them services. The actual number of persons with cerebral palsy in this community is not definitely known.

Because this information is essential to planning an adequate program of medical care, the Coordinating Council is mailing a one-page questionnaire to hospitals, convalescent homes, nursing homes, and services in our city. This questionnaire is designed to establish where persons with cerebral palsy are presently served and the nature of the medical services available to them. It also seeks to determine the actual number of persons under care.

We address this letter to you in order to solicit the cooperation of physicians who are concerned with this problem. We would hope that questionnaires which come to their attention will be promptly answered.

George G. Deaver, M.D.
President

Coordinating Council for Cerebral Palsy
in New York City, Inc.
47 West 57th Street
New York 19, New York

MEDICAL SOCIETY OF THE STATE OF NEW YORK

149th Annual Meeting

May 9 to 13, 1955

Hotel Statler ***Buffalo***

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the December, 1954, meeting of the Council of the Medical Society of the State of New York.

THE Council met December 9, 1954, from 9:15 A.M. to 12 NOON at the Manhattan Club, Madison Square, New York. Dr. Dan Mellen, president, presided.

Secretary's Report

Executive Committee (Dues Remissions).—Following approval by the Executive Committee, the Council voted to remit annual State dues of eight members for 1954 because of illness, of eight members for 1954 and two members for 1955 because of service with the armed forces, and of three members for 1954 because of financial hardship. It was also voted to request remission of American Medical Association dues of one member for 1953, nine members for 1954, and four members for 1955 and exemption of four members from further payments of national dues.

General.—Dr. Anderton reminded the Council that all annual reports should be in his hands not later than February 1, 1955. He described the 1954 Conference of County Medical Society Secretaries in Albany, November 17, and his activities during the preceding month.

The Secretary's report *was accepted.*

The Treasurer's report was approved.

Reports of Committees

Blood Banks Commission

Blood Banks Association.—Dr. Herbert H. Bauckus, chairman of the Board of Trustees, stated: "On the question of the financing of the Blood Banks Association, we are required to make a report to the House of Delegates by February 1. Soon we shall need to compile a report from the Trustees, and the Blood Banks Association is one of the features of that report. I have been concerned for some time, and so have the Board of Trustees as a whole, over the question of what funds should be provided and how we could help the Blood Banks Association and also carry out the wishes of the House of Delegates and of this Council.

"I have asked for figures of the budget of the Blood Banks Association, and we have obtained some, and I think you have had them in your report. Dr. Kenney gave me permission to make use of them. I think this subject should be clearly understood. It is difficult.

"I have no desire—and no member of the Board of Trustees has any desire—to hinder the work of the Blood Banks Association. We have a moral obligation, but we have now made available, since we have started to loan money to the Blood Banks Association, $41,000. All has not been used, but it is intended that it be used in the next month or two. No definite amount has been set as a limit for these loans. It has been suggested by the Blood Banks Commission that $48,000 might be their budget for that year, and the impression has been that we would supply that amount, and I may say it is my belief that if that would take care of the entire problem, it would be very fortunate. It looks to me, from the budget for 1955 of the Blood Banks Association, their expenditures might amount to $99,752. That depends on the use of money for a certain amount of work that has not yet been initiated. We probably will need to question some of these items.

"Under the question of expenditures in the proposed budget, about 13 employes are listed with their salaries. I noted for comparison that the budget of our own State Society for administrative work is $128,000. Up to the present most of the blood has been collected from Genesee County, and we intend to collect blood from the metropolitan area after a certain promotion program."

Dr. J. Stanley Kenney, president of the association, stated: "I should like to have on the record a letter that was addressed to Dr. Mellen, president, from the Genesee County Medical Society, October 8, 1954:

> Dear Dr. Mellen:
>
> I am writing to you to bring to your attention the importance with which our County Society regards the Public Relations potential of the Blood Assurance Program of the Blood Banks Association of New York State. At our annual meeting recently held, the report of the Public Relations Committee concerned itself largely with the favorable reaction of the public to the positive program of public service offered by the Blood Assurance Program. The report of the Blood Banks Committee concerned itself also with the beneficial effects of the Blood Assurance Program on public relations.
>
> Of course, you are aware that the pilot program in this county was an outstanding success, and certainly many of us feel that at the conclusion of the pilot project, we of the medical profession, as an organized group, enjoyed public approval to a degree never

before realized. We believe that this is the result of several factors, one of these being that the County Society was never before kept in the public eye so continuously over such a long period of time as it was during the intensive publicity campaign carried out with the very necessary and able assistance of the Blood Banks personnel. Another important factor was that a new and positive program of public service was being offered to the public by the organized medical groups. A third important fact, I am sure, is that 97 per cent of the members of our County Society took active parts in helping to put this program across. This meant that the great majority of the men appeared personally before more than one group to explain in a short period of time the Blood Assurance Program and to obtain from that organization its endorsement of the program. I can think of no more positive example of public service in action.

The inception of the Emergency Medical Service and the Mediation Committee, previously announced to the public some year or two ago, evoked some favorable comment in the newspapers, but the knowledge of these services could not be made as widely known and did not capture the imagination of the public in the same proportion that the Blood Assurance Program has. We have never before received such warm spontaneous editorial approval of any Medical Society program.

A feature story about the pilot project of the Blood Assurance Program has been prepared by a staff writer for a national magazine, the *Readers Digest*.

In previous meetings of the Society the rising cost of professional public relations within the State Society and even within our County Society has been a matter of considerable discussion. I believe it is a rather widely held view in our Society that future programs for public relations must be in the nature of positive programs of service such as the Blood Assurance Program. We do not doubt the benefit of having defeated, for the time being, the inception of government controlled medicine and the licensing of chiropractors, but we do rather strongly question whether medical public relations were improved to a degree commensurate with the funds expended. It is our understanding that in the neighborhood of ninety thousand dollars had been the yearly budget of Public Relations Department of the State Society, and we feel that even a considerable portion of this budget could be reasonably and logically well spent on the Blood Assurance Program as the most outstanding positive program for public service that the Medical Society of the State of New York has proposed to the people in many years.

We commend to you the Blood Banks Association of New York State and the Blood Assurance Program in the hope that it will find an ever-increasing potential for service to the people of New York State and serve as an outstanding example to the American Medical Association and to our entire country. Properly developed on an unselfish and equitable basis, it can be exactly that.

In closing I think it is worth mentioning that we were able to obtain large numbers of volunteer workers who felt that they were offering a real public service when they assisted on this program. Likewise, we were able to obtain a large number of donors when other volunteer agencies reported real difficulty in fulfilling quotas. We believe that this program has a very real appeal to the individual and will serve as a very important additional means for obtaining blood to meet our needs in this State.

Our County Society has outlined programs for continuing this project and recommends it to any of the other county societies giving it consideration.

Respectfully,
Robert S. Jenks, M.D., *Chairman*
Blood Program Committee
George S. Young, M.D., *President*
Genesee County Medical Society

"On Tuesday night, Dr. Solomon Schussheim, president of the Kings County Medical Society and chairman pro tem of the Blood Assurance Program Executive Committee, New York City, addressed a meeting of the members of that Executive Committee representing the five county medical societies in the metropolitan area. I will give a paragraph from his remarks, which I wish to go into the record.

> The Blood Assurance Program is a fresh approach to our public relations program. It is a direct service to your patients, as well as to the physicians of this State. Let me emphasize that the Blood Banks Association of New York State owns no blood banks, owns no blood, collects no blood, and sells no blood. It is a service organization supported by loans from the Medical Society of the State of New York. The funds are your dues. So while we have an obligation to effectuate the Assurance Program as a public service, we have a direct responsibility to the membership of the State Medical Society.

"We have been asked to assume financial obligations because of factors that were necessary, but it came at a time that was difficult."

After discussion it *was voted* that the Finance Committee be requested to study and report, to the next meeting of the Council, the advisability of recommending to the House of Delegates a special assessment or an increase in dues and, if so, the amount.

Constitution and Bylaws.—Dr. Anderton reported for Dr. Frederick W. Williams, chairman: "The Committee on Constitution and Bylaws approves the proposed alteration in the bylaws of the Medical Society of the County of Otsego, Chapter IX, Section 1. It changes the annual meeting from December to June.

"This change has received the approval of legal counsel and the members of the Committee. I move the Council approve this change in the said bylaws."

Approval *was voted.*

Economics.—Dr. Renato J. Azzari, chairman, presented the report of the Bureau of Medical Care Insurance, Mr. George P. Farrell, director.

It *was voted* to approve the report.

(*For the quarterly progress report see pages 114 to 116 of the January 1, 1955, issue of the* New York State Journal of Medicine.)

Ethics.—Dr. Thurman B. Givan, chairman, reported: "On November 11, 1954, the Council referred to our committee, with power to act, the following statement submitted by the Public Relations Committee: 'When a patient has been asked to return for further treatment, there is no ethical

[Continued on page 544]

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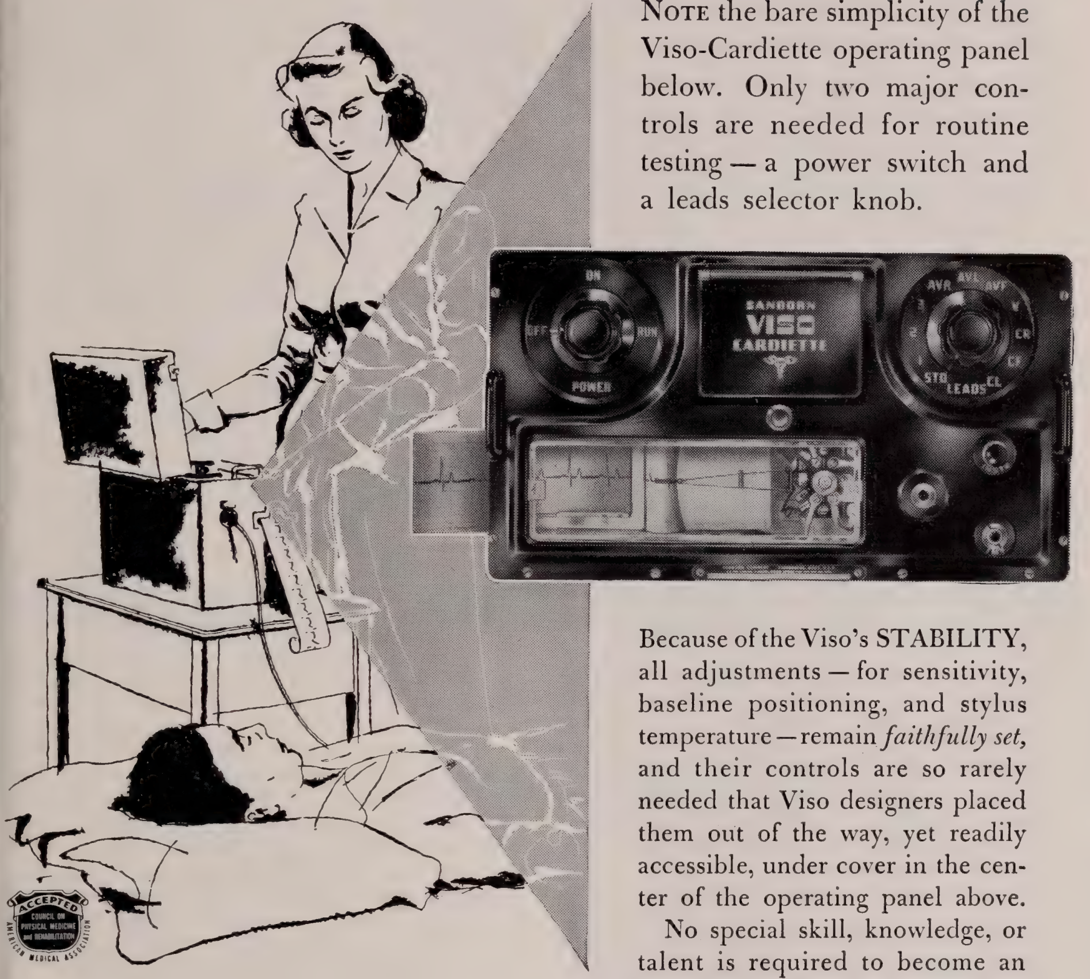

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[Continued from page 542]

reason why a doctor should not routinely follow up, and there is every practical and moral reason why he should. What is more, the reminder should come to the attention of the doctor too, so that if the case is potentially serious he may make more than a routine effort to have the patient get the needful attention.'

"This followed the request of Mr. Richard L. Frey, 8 Ridge Drive East, Great Neck, New York, for a statement of policy with respect to a doctor's obligation to follow up treatment of a patient when the patient does not solicit the necessary treatment and his own interest makes it imperative that he do so.

"The Committee considered the subject in the following light: *The Principles of Professional Conduct* of the Medical Society of the State of New York do not make reference to such a situation. However, Section 4 of Chapter 11 states, in part: '. . . Once having undertaken a case, a physician should not neglect the patient. . .'

"Section 2, Chapter 11, of the American Medical Association Principles of Medical Ethics states, in part: 'A physician . . . should assure himself that the patient or his friends have such knowledge of the patient's condition as will serve the best interests of the patient and the family.'

"The Committee noted that numerous instances might arise in which follow-up of a patient could assume legal significance. Thus, discovery of a hitherto undisclosed fracture on restudy of x-ray plates or unexpected finding of malignancy on tissue examination would render the physician responsible to inform the patient appropriately.

"On the other hand, the physician is under no obligation to seek out a patient in order that further treatment may be given, regardless of the consequences of cessation of treatment, if the patient is of legal age and sound mind and has been made fully aware of the circumstances.

"It is, therefore, the unanimous opinion of this Committee that a physician may ethically, and should, make a reasonable effort to follow up a patient for the purpose of administering needed treatment or, in the case of a minor or an incompetent, those responsible for him if they are not cognizant of facts in the physician's possession which render the treatment necessary for the patient's best interests. A 'reasonable effort' in this regard should be construed as requiring diligence on the part of the physician roughly proportionate to the seriousness of the patient's failure to receive the indicated treatment."

It *was voted* to approve the report.

Legislation.—Dr. James Greenough, chairman, reported: "The activities of the past two months have been preparation for the coming session of the Legislature. What the effects of the change of administration in the State government in the November elections will be upon legislative action is impossible to say. It would seem evident, however, that with opposing parties in the executive and legislative branches, there will be less close agreement in regard to proposed bills, and therefore there will be a decrease in the number of proposed laws which will be enacted.

"From the Albany office we have sent questionnaires to the 61 county legislation chairmen requesting opinions on the importance of 12 subjects with which we must deal this year. We received answers from 35, representing a membership of 19,245. This is gratifying and will help the committee in allocating time and effort to each subject.

"The responses have been tabulated by counties and weighted by multiplying the preference vote (12, 11, 10, 9, etc.) by the number of members in each county society. The most important, tabulating the score by counties, are:

1.	Revision of the Medical Practice Act	311
2.	Free choice of physician in medical expense insurance plans	303
3.	Free choice of medical expense insurance plan	292
4.	Opposition to licensure of cultists	273
5.	Amendment of the Education Law to allow injunctive relief	253

"The score by 'membership preference' shows in round numbers:

1.	Free choice of medical expense insurance plan	201,000
2.	Free choice of physician in medical expense insurance plans	200,000
3.	Amendment of the Education Law to allow injunctive relief	166,000
4.	Revision of the Medical Practice Act	144,000
5.	Opposition to the licensure of cultists	133,000

"The Committee on Legislation met yesterday afternoon. Fourteen members of the committee, our executive officer, counsel, and the director of the Workmen's Compensation Bureau attended.

"Since the bills to allow free choice of plan and to allow free choice of physician under medical expense indemnity plans appear to be of greatest importance in the opinion of the members of the Society, the Committee voted to introduce these bills and to work vigorously for their passage and, through its executive committee or a special subcommittee, put forth every effort with the executive officer and counsel for a successful campaign. The Committee wished to advise the Council of its action and respectfully to request additional financial aid from the Council and Trustees if it should be necessary.

"I would like approval of this portion of the report."

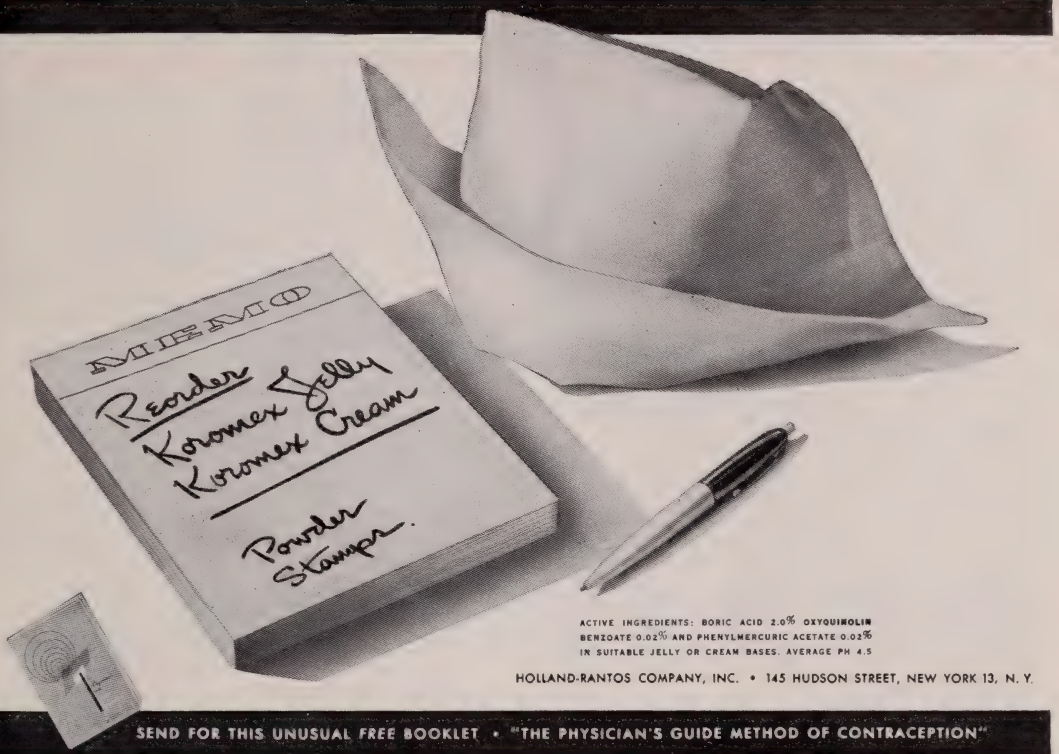
It *was voted* to approve this portion of the report.

Dr. Greenough continued: "The Committee also approved introduction and vigorous action upon the injunction bill, feeling that it was second in importance only to the two bills just referred to.

"The Committee voted to oppose with vigor any attempt to license cultists.

"As the Council knows, study of the chief problems in the present Medical Practice Act has been assigned to four committees. The Committee on Legislation discussed the problem of the control of

[Continued on page 546]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[Continued from page 544]

unlicensed persons practicing medicine. The matter was referred to its Executive Committee for further work and report.

"The problem of regulation and control of licensed physicians is awaiting the interpretation of 'unprofessional conduct' by the Regents.

"Your chairman has discussed with Dr. Gibson, the chairman of the Committee on Medical Licensure and Medical Service, the problem of the licensing of graduates of unapproved medical schools and also the still present problem of unlicensed residents and interns.

"As was reported by Dr. Brown at the last Council meeting, his committee is awaiting the result of the meeting of Dr. Louis Bauer's committee with the hospital representatives this afternoon.

"The bill to protect interns and residents in municipal hospitals in malpractice suits was discussed at length. Heretofore the Conference of Mayors has opposed the passage of such a bill as causing heavy financial losses to municipalities. The committee felt a strong position should be taken on this bill and every effort made to obtain passage. It was voted that the chairman appoint a subcommittee to work with Dr. Smith and Mr. Beasley in this matter. Drs. Kottler, Lawrence, and Lynch were so appointed.

"The committee expressed its gratitude to the president and Council for appointing the subcommittee of psychiatrists, Drs. Merwarth, Prout, and Sands, to meet with the Education and Mental Hygiene Departments and the psychologists to discuss licensure or certification of the latter.

"Dr. Kaliski presented many data concerning the abolition of the Medical Practice Committee, arbitration of medical bills in the county where the physician practices, and the results of the recent Moreland Commission's Study of Workmen's Compensation. The committee felt that this was an opportune time to strive for abolition of the Medical Practice Committee. The committee felt that the priority on this bill should be second only to the free choice and injunction bills.

"A legislator has asked what stand the Medical Society would take in regard to any bill liberalizing the sale of drugs outside of drug stores. He was told that the Society opposed any such bills. He requested the reasons for such opposition, and the committee instructed the Bureau to enlighten him on this subject."

This portion of the report *was adopted.*

Dr. Greenough continued: "The first meeting to discuss laws relating to the disposition of dead bodies will be held this evening.

"One other subject was discussed by the committee. Erie County has requested cooperation from the Legislative Bureau in their efforts to amend the Motor Vehicle Law to protect physicians from suits for damages for assault when they draw blood for chemical tests of alcoholic content at the request of the police. The Committee approved of the Bureau's cooperation and authorized the executive officer to assist Erie County.

"During November Dr. Smith with several upstate legislation chairmen met Dr. Wilson of the American Medical Association Legislative Bureau in Syracuse. Dr. Lynch and the legislation chairmen from the metropolitan area also met Dr. Wilson in New York."

It *was voted* to adopt the report as a whole.

Office Administration and Policies.—Dr. Anderton reported for Dr. Masterson, chairman: "Only three members of the Committee on Office Administration and Policies were present yesterday afternoon when the meeting was called. This was not a quorum. However, the following items were discussed.

"First, the Office Manager's report: There were various salary increases requested to take effect January 1, 1955. Because it was felt by those present that this was a matter which ought not to be delayed, the office manager was authorized to put these increases into effect, particularly in view of the fact that the items had been included in the budget which had already been approved by the Council and Board of Trustees."

Approval *was voted.*

Dr. Anderton continued: "It was the feeling of those present that the Council be asked to request the Board of Trustees to transfer the amount of $616 from item L-26, Provision for Salary Adjustments in the budget to Item C-2, Office Salaries."

It *was voted* that this recommendation be made to the Trustees.

Dr. Anderton continued: "It was noted that Miss Elizabeth Wheeler, after a long period of service with the Medical Society, has resigned effective December 31, 1954; I might add that the Board of Trustees is taking proper cognizance of Miss Wheeler's proposed retirement."

Publication.—Dr. Redway reported for Dr. Masterson that the Publication Committee had met Wednesday, December 8, 1954: "The Editor's report was accepted.

"The Editor recommended the approval of the following nominations to the Associate Editorial Board: Dr. Henry J. Noerling of Valatie, Dr. William Hammond of Scarsdale, and Dr. John F. Rogers of Poughkeepsie."

The Council *voted* approval.

After discussion it was agreed that there be a conference with representatives from the Medical Society of the County of Kings and the Publication Committee in order to further an annual library report.

It was voted to print in the 1955 *Directory* the *Principles of Professional Conduct* as they appear in the 1953 edition.

The question of exchanging the JOURNAL and *Medical Directory,* for various Russian publications, with the Lenin Public Library of Moscow was discussed. It was the sense of the meeting not to exchange.

"From correspondence received from West Virgina Pulp and Paper Company we learned that there

[Continued on page 548]

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	Thiamine HCl (B_1)	4 mg.
B complex vitamins...	Riboflavin (B_2)	2 mg.
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[Continued from page 546]

would be an approximate increase of 4 per cent in the price of paper effective January 1, 1955.

"A letter from the Florida Medical Association requested that we exchange 1955 medical directories.

"After discussion it was the sense of the meeting that the minutes of the Council as published in the JOURNAL be made as concise as is appropriate with the facts."

It *was voted* that the report be approved with one amendment: that the exchange of directories with the Florida State Medical Society be made at once without any reservations.

Public Health and Education.—Dr. Theodore J. Curphey, chairman, reported that he had attended three meetings and arranged eight postgraduate lectures and teaching days in eight counties since his last report to the Council. He described a meeting on November 17 of the Subcommittee on Heart Disease with representatives of the Industrial Health and Workmen's Compensation Committees at which it was decided (1) to prepare a statement of the problems relating to the employment of cardiacs for presentation to representatives of interested groups, (2) to develop and present a program on "The Cardiac in Industry" for the Friday morning session at the 1955 annual meeting of the Society, (3) to publish an article on this subject in the NEW YORK STATE JOURNAL OF MEDICINE.

Dr. Curphey continued: "May I submit for approval the following names to be appointed to the committee to study the problem of inhalation therapy? In September the Council appointed Drs. Wood, Krakow, and Collins, at the request of the Joint Council of Anesthesiologists, Pathologists, and Roentgenologists. These are the names: Dr. Irving M. Pallin, anesthetist at Brooklyn Jewish Hospital, consulting anesthetist at Cumberland and Veterans Administration Hospitals; Dr. Hylan Bickerman, associate of Dr. Alvan Barach, assistant physician at Vanderbilt Clinic; Dr. Edwin Emma, associate anesthetist at Beth Israel Hospital."

Approval *was voted.*

Dr. Curphey reported further: "At the Planning Committee yesterday, one of the members brought this pamphlet from his county. It deals with baby care and is being distributed by the Red Cross as a course for prospective mothers. I am informed that the program was instituted without any discussion with or request from the Medical Society for approval, and this gentleman thought it was a matter that perhaps the Council should take cognizance of, the formulation of these various courses throughout the State. They have one in Nassau County, too, where the Red Cross is providing courses on matters that are of medical concern without their taking the trouble to clear these with the county medical society. I don't know that the gentleman expected any action from the Council, but he did ask that I present the fact before this group.

"Another matter that I bring for information to the Council deals with a proposed bill in which the State Health Department is interested. The title is, 'AN ACT creating a State Commission to study the need and if necessary formulate and execute a Statewide plan for continuation medical education.' The gist of it is the establishment of a commission with a recommendation of six members: the Commissioner of Health, the Commissioner of Mental Hygiene, the Commissioner of Education, the President of the State University, and two other members to be appointed by the Governor, one of whom shall be a dean of a medical school within the State and the other an official or an employe of the State Medical Society. The Commissioner of Health shall be chairman of the commission.

"The Commission shall be charged with the duty of conducting an investigation as to the needs and is empowered to initiate and put into effect, if necessary, a State-wide plan for continuation medical education which may include but not be limited to the following:

"1. Inventory of existing opportunities for continuation medical education.

"2. Determination of the need for additional facilities for continuation medical education.

"3. Within the appropriations therefor, construct and operate additional physical facilities, including a continuation medical education center.

"4. Coordinate and supplement but not replace or supplant existing opportunities for continuation medical education.

"5. Within the appropriations therefor, enter into contracts with private institutions or agencies.

"The Committee suggested to the State Health Department that the commission, as formulated, was not truly representative in that it only contained three physicians who might not have any real knowledge of the problem of medical education. This is now in the stage of discussion. We recommended that the committee be broadened so that there would be nine members, four from various regions of the State, Albany, Syracuse, Buffalo, and Rochester, so as to have a preponderance of practicing physicians on the commission. This suggestion has been considered favorably by the State Health Department. We are having a meeting with them next Thursday, and this is one of the major items on the agenda.

"We have also sent to a number of men on the Council this information, and also the deans of the medical schools, asking for comments and advice. I understand the Health Department is desirous of having the State Medical Society introduce the bill. This demands careful thought before the State Medical Society approves the bill, either in principle or in form."

After discussion it *was voted* to adopt the report.

Public Relations.—Dr. Floyd S. Winslow, chairman, presented the following report: "In addition to carrying on its routine activities, the Public and Professional Relations Bureau, during the past month, continued distributing the 'Guide for Cooperation' and began handling inquiries concerning the guide.

[Continued on page 550]

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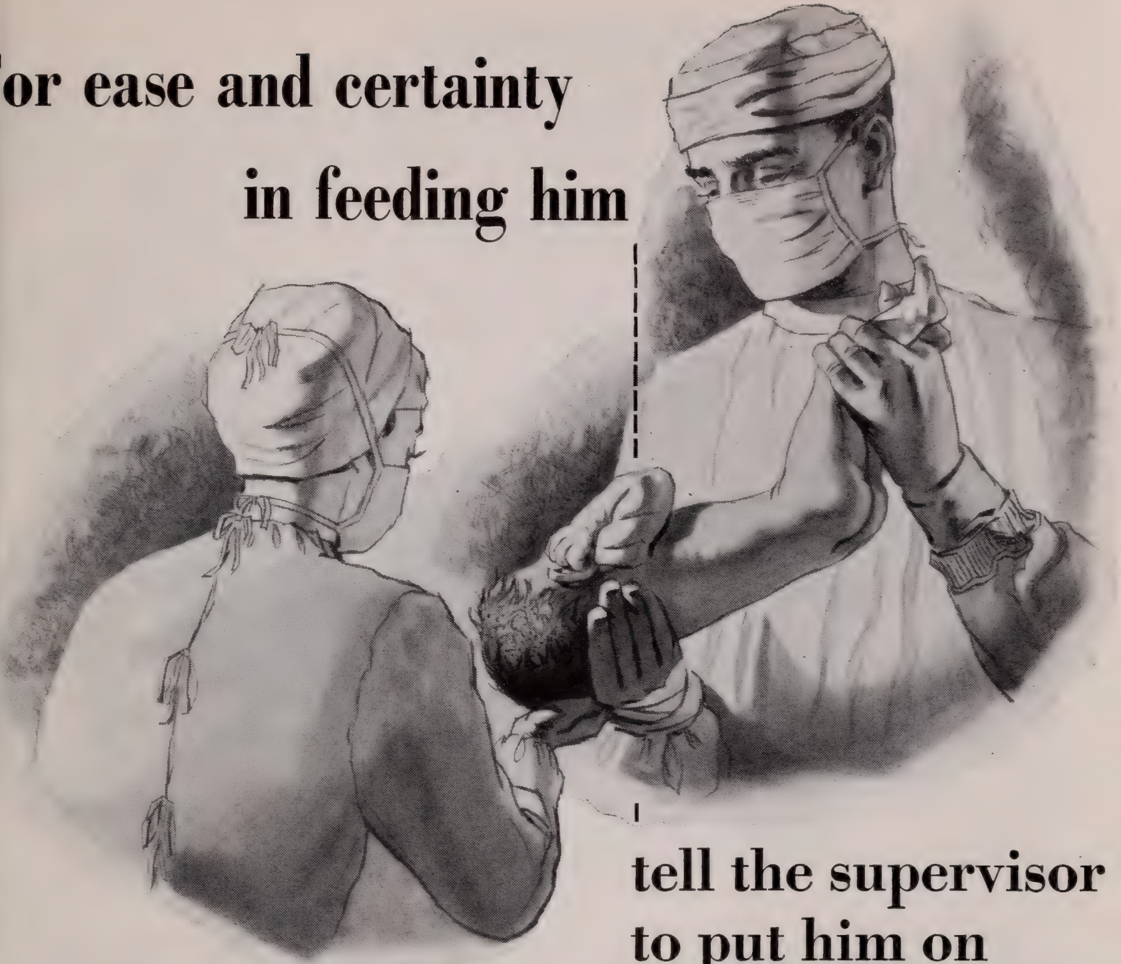

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[Continued from page 548]

"Following the initial distribution of the guide to the members of the Society, various editors, and television and radio stations, the Bureau made further distribution. Among those to whom copies were mailed were members of the Association of Private Hospitals, Inc., and other hospitals.

"As a result, there have been many requests for copies and favorable comments. There have been requests from the State Medical Societies of Michigan, North Carolina, South Carolina, Tennessee, Texas, and Connecticut, from advertising agencies, public relations firms, as well as from radio and TV stations, newspaper and magazine writers.

"Typical of the comments received was that expressed in the *Yonkers Herald Statesman,* which said that if the guide is successful and 'a greater quantity of valuable medical data and information intelligible to the public becomes available, the Medical Society of the State of New York will have done a great favor to its membership and, more important, to the general public in this State.'

"Several requests for information on medical subjects were received by the Bureau from representatives of media of public information who had received copies of the guide. In order to supply this information, Mr. Miebach conferred with Dr. Theodore J. Curphey, chairman, Council Committee on Public Health and Education. As a result the names of authorities in the fields under inquiry were suggested by Dr. Curphey. The field staff of the Bureau contacted these authorities and made arrangements for them to confer with representatives of the media of public information who had made the inquiries.

"Public relations chairmen of county societies are being urged to set up meetings with representatives of the press, radio, and television to discuss working out the guide to the advantage of all concerned.

"Among the routine matters were the mailing of releases announcing postgraduate lectures in the following counties: Broome, Fulton, Nassau, Ontario, and Steuben. A special release in which Dr. Dan Mellen, as president of the Society, endorsed the Diabetes Detection Drive was prepared by the Bureau.

"On November 17 Mr. Miebach represented the Bureau at the Annual Conference of County Medical Society Secretaries in Albany. Mr. Miebach spoke on the 'Guide for Cooperation.'

"Your chairman headed a panel discussion on 'How Professional Management and Professional Business Bureaus Can Help a Doctor's Public Relations' at the American Medical Association's seventh Annual Medical Public Relations Conference, held in Miami on November 28.

"Evidence of continuing interest in the recent 12-pamphlet series on medical economic subjects published by the Bureau was a request for information on the cost of the series from the Baltimore City Medical Society.

"As reported elsewhere, the Bureau continued its work of assisting the Woman's Auxiliary wherever possible.

"As a means of helping county medical societies conduct training courses for medical assistants in doctors' offices, the Bureau is preparing a brochure entitled 'Procedure for Organizing and Arranging Courses for Physicians' Office Personnel.' It will give hints for aiding people who work in doctors' offices to become acquainted with public relations technics."

The report *was adopted.*

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, stated: "As already reported by Dr. Curphey, the cardiac subcommittee under Dr. Wheatley met with members of the Committee on Workmen's Compensation in regard to the employment of the cardiac in industry.

"In the magazine *Occupational Hazards* for November and December, Mr. Zucker, of the Association of Commerce and Industry, has an article on compensation rehabilitation in which he recommends that every compensation claimant who is not back on duty in sixty days be referred to a voluntary hospital for evaluation. The hospital staff would not take charge of nor treat the case but would evaluate and make recommendations.

"Before he submitted this for publication, Mr. Zucker discussed it with me last spring, and I disagreed quite strongly with his point of view for several reasons. One is that any fractured hip is going to take more than sixty days before he is back on duty. There are fractures of the spine which are not going to be on duty in sixty days where the patient may be receiving perfectly adequate treatment and should not be sent to a hospital for evaluation. There are various other items in the article which do not go along with good medical care. I pointed them out to him, but he went through with the publication.

"The Commerce and Industry Association have in mind proposing legislation in regard to rehabilitation. This I believe has been a trial balloon."

The report *was accepted.*

Report of Delegates to the American Medical Association

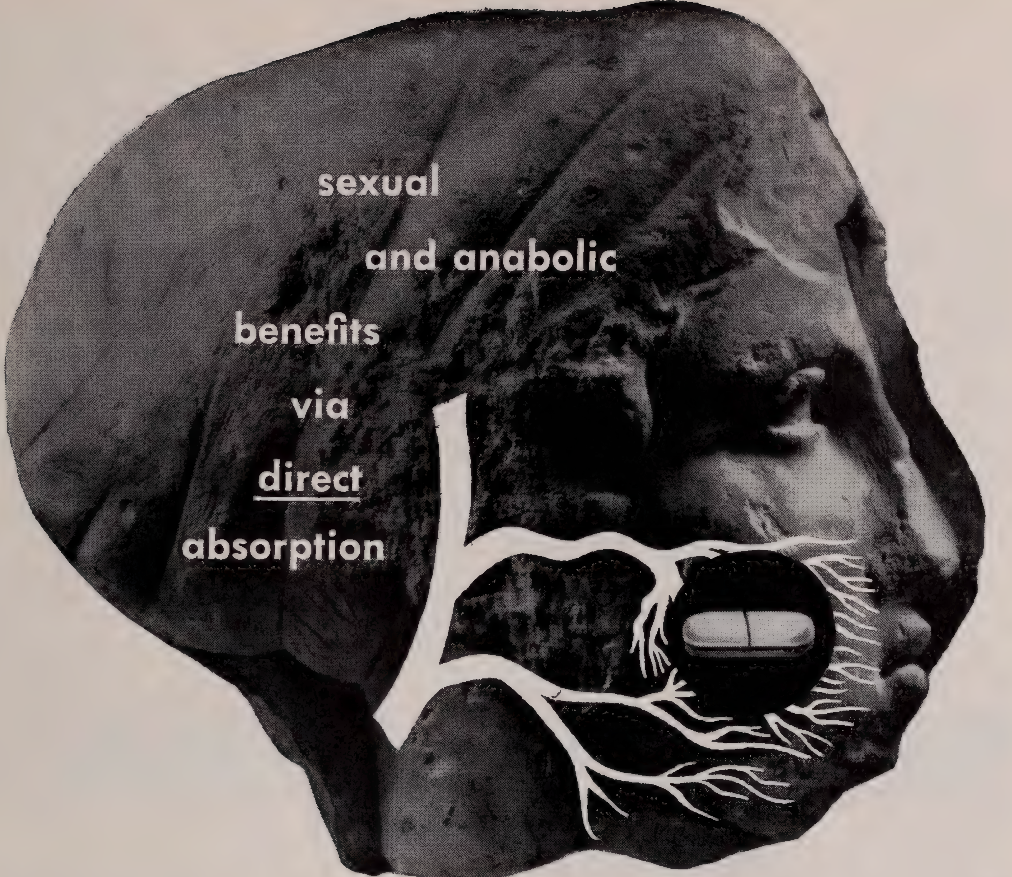
Dr. Floyd S. Winslow, chairman, stated: "This is the report of the delegation from the Medical Society of the State of New York to the American Medical Association, November 29 to December 1, 1954.

"Your delegates behaved themselves, except Dr. Masterson. Before the convention he put in a day of fishing and apparently overdid himself in pulling in all of the fish he caught. He was taken with an acute appendix next day and gave your delegates a few moments of real distress, but he soon was operated on and now is convalescing satisfactorily.

"In accordance with the Bylaws of the American Medical Association, Chapter IX, Section 1 (C)(3), Dr. Charles F. McCarty, of the Medical Society of the County of Kings, was selected by your delegates to substitute for Dr. Masterson.

"Following the first session of the House of Delegates, Chairman Floyd S. Winslow called a meeting in Dr. Louis H. Bauer's sitting room, from 12:50 to 1 P.M. Present were Drs. Di Natale, Murray, Eggs-

[Continued on page 552]



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[Continued from page 550]

ton, Givan, Winslow, Kenney, Wertz, Harold F. Brown, Flood, Keating, Dattelbaum, Azzari, Bauckus, d'Angelo, Anderton, and Bauer.

Members were urged to attend reference committee meetings regarding any matters in which they were interested. Also there was informal discussion regarding election of American Medical Association officers next June.

"Dr. J. Stanley Kenney was Master Sergeant-at-Arms for the meeting; Dr. Edward P. Flood was chairman of the Reference Committee on Amendments to the Constitution and Bylaws; Dr. Thomas M. d'Angelo was a member of the Credentials Committee; Dr. Peter J. Di Natale was a member of the Committee on Executive Session; Dr. Thurman B. Givan was a member of the Reference Committee on Insurance and Medical Service, and Dr. W. P. Anderton was chairman of the Reference Committee on Medical Education and Hospitals.

"Dr. James R. Reuling was Speaker of the House of Delegates and, with his Assistant Speaker, Dr. E. Vincent Askey, of California, conducted the sessions in their usual masterly and efficient manner.

"I hope you will not consider me too immodest if I call your attention to the fact that the chairman of your Public Relations Committee acted as chairman of the Public Relations Sessions in the afternoon preceding the meeting.

"The following resolution regarding Dr. Masterson's illness was passed by the House:

> Whereas, John J. Masterson, M.D., of Brooklyn, New York, came to Miami, Florida, in anticipation of a meeting of the House of Delegates of the American Medical Association, of which he is a member; and
>
> Whereas, that anticipation was in order to go fishing; and
>
> Whereas, after one day of catching whoppers, Dr. Masterson apparently strained himself and was stricken by acute appendicitis, not in piscatorial retribution; and
>
> Whereas, Dr. Masterson is at present convalescing satisfactorily amid Miami surroundings; therefore be it hereby
>
> *Resolved*, that this House of Delegates hereby extends our best wishes for rapid and complete recovery and many more days with Isaak Walton.'

"The Board of Trustees' report regarding the resolution introduced by Dr. Andrew A. Eggston in June 1954, advocating clinic treatment for narcotic addicts, is as follows: 'The Board considered the report of the Council on Pharmacy and Chemistry, as well as the pertinent material from the National Research Council and the Commissioner of Narcotics, and recommends that the resolution introduced by Dr. Eggston be not adopted. The Board, however, believes that the matter should be thoroughly explored and is referring the problem to the Subcommittee on Narcotic Addiction of the Council on Mental Health.'

"Your delegates were regular and punctual in their attendance and in every way satisfactorily represented our Society.

"There is one other matter that I would like to call to the attention of the Council. I think our delegates are agreed that one of the most conspicuous advances at this meeting was the manner in which the House of Delegates conducted their business. The American Medical Association now sends a notice to each state delegation asking them to send in their resolutions previous to the meeting. Many copies are then made of each resolution so when a delegate takes his place in the conference room, he has a folder at hand that has the resolutions numbered and in order in the folder. Then as they are presented the 'whereases' are customarily left out and only the 'resolveds' are read, and they are referred to the proper reference committees by the Speaker. Those resolutions being numbered, it is very easy to see to what committee they go. Then, on the platform is a large bulletin board which tells where and when the committees meet. Then our delegates can be instructed in conformity with the rules to try and follow their resolutions through these committees. When this method is compared to the method formerly in use, the advantages are obvious and very great. The business is conducted in a fine manner, and it adds greatly to expedition and comfort. This is a thing that might be respectfully suggested for our own House. I mean to offer a constructive suggestion.

Dr. Holcomb in discussion stated: "I have sent letters out as you recall for several years requesting all counties that have in hand resolutions to forward them to the office at least by February 1. I think last year there was an improvement, but the year before, I believe, we had 74 resolutions, and only about 16 came to the office in advance. Until that matter is corrected I don't think we can do very much about it. It is a matter that the county societies should take up, and then procedure could be followed as Dr. Winslow has suggested. It would certainly facilitate our proceedings and save a great deal of time."

Dr. Givan suggested that the district branches work on obtaining the resolutions, and Dr. Azzari suggested that a letter be sent from the Council to each county society regarding the matter.

The report of the delegates to the American Medical Association *was adopted*.

Dr. Winslow supplemented his report by stating: "Dr. Anderton wrote letters to the Florida State Society, the Dade County Medical Society, and to many other agencies that extended their hospitality to us. That was very thoughtful, and I think notice of it should go in the report."

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NECROLOGY

Ellery George Allen, M.D., of Syracuse, died on January 4 at his home at the age of fifty-four. Dr. Allen received his medical degree from Harvard Medical School in 1926. He was attending physician and hematologist at St. Joseph's Hospital, attending physician at University Hospital, and associate clinical pathologist and hematologist at Memorial Hospital. A Fellow of the American College of Physicians, Dr. Allen was a member of the American Federation for Clinical Research, the Syracuse Academy of Medicine, the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Howard Wallace Brown, M.D., of New York City, died on January 8 in his apartment at the age of sixty-two. Dr. Brown was graduated from the College of Physicians and Surgeons of Columbia University in 1920. He was a resident physician at Union Theological Seminary for twenty-seven years, and a member of the medical staff of Columbia University. He was a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Arthur Coates, M.D., of Babylon, died on January 6 at his home at the age of fifty-three. Dr. Coates received his medical degree from Hahnemann Medical College in Philadelphia in 1930. He was a commander in the Naval Reserve and on active duty in the South Pacific during World War II. An attending physician at Southside Hospital, Dr. Coates was a member of the Suffolk County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Harry Herbert Crum, M.D., of Ithaca, died on January 2 in Key West, Florida, at the age of eighty-three. He received his medical degree from the Cleveland Homeopathic Medical College in 1900. Dr. Crum was appointed Ithaca city health officer following the typhoid epidemic of 1904, and during 1914 and 1915 he acted as State sanitary supervisor for Tompkins, Schuyler, Chemung, and Tioga Counties. Dr. Crum was elected first honorary president of the Tompkins County Tuberculosis and Public Health Association in 1946, was its president for thirteen years, and was physician of the Tompkins County jail.

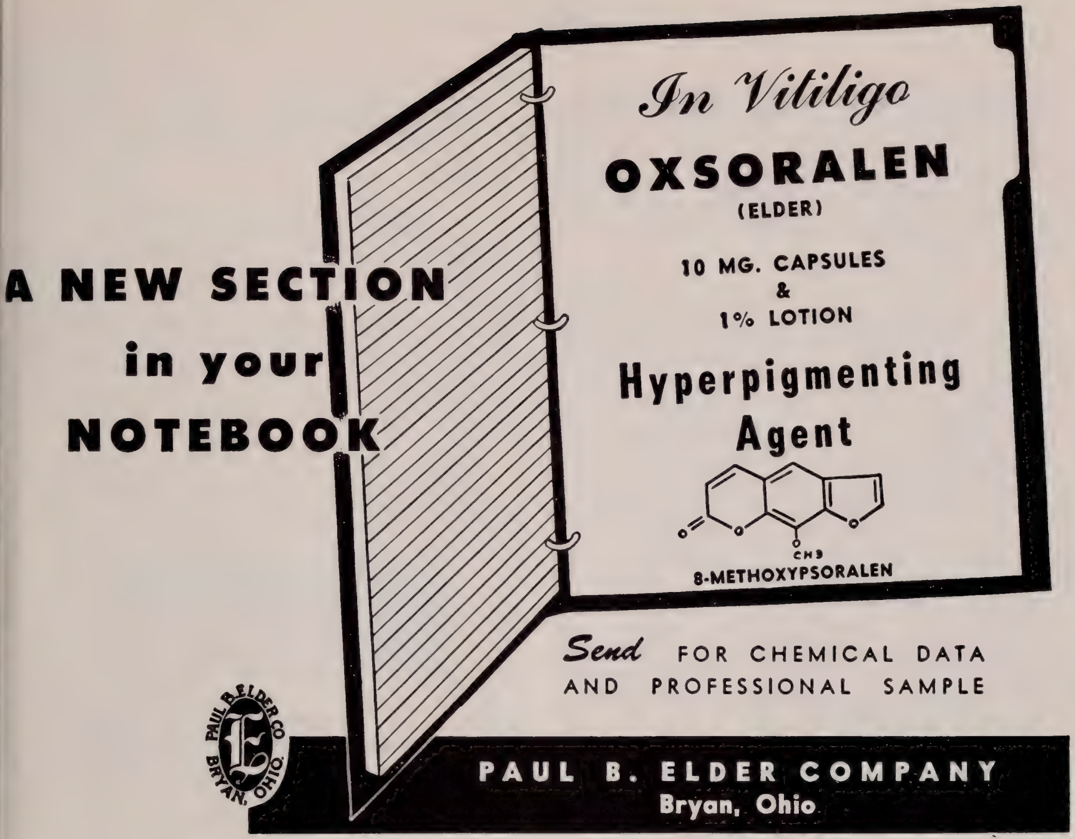
Melville Day Dickinson, Jr., M.D., of Tokyo, Japan, formerly of Geneva, died on December 20, 1954, in Tokyo. He was fifty-one years old. Dr. Dickinson received his medical degree from Harvard Medical School in 1928. For nearly three years Dr. Dickinson served as chief of the communicable disease control branch of the public health and welfare section of the Supreme Commander, Allied Powers, in Japan. He served with the Navy as a doctor from 1929 to 1935 and from 1935 to 1944 was a general practitioner in Geneva. Dr. Dickinson had been on the staff of the Geneva General Hospital and a member of the Geneva Academy of Medicine.

Alfred M. Hellman, M.D., of New York City, died on January 12 at his home at the age of seventy-four. Dr. Hellman received his medical degree at the College of Physicians and Surgeons of Columbia University in 1905. During World War I he was a captain in the Medical Corps, United States Army Reserve. Dr. Hellman interned at Lenox Hill Hospital, was consulting gynecologist and obstetrician there, as well as consulting gynecologist at the Lenox Hill Outpatient Department and Misericordia Hospital. He was a Diplomate of the American Board of Obstetrics and Gynecology, a Fellow of the American College of Surgeons, and a member of the New York Academy of Medicine, the New York Pathological Society, the New York County Medical Society, of which he was past president, the Medical Society of the State of New York, and the American Medical Association.

John Duncan Gulick, M.D., of Schenectady, died on December 24, 1954, at his home at the age of sixty-two. He received his medical degree from Albany Medical College in 1912. Dr. Gulick was a member of the National Guard and served on the Mexican border in 1916. During World War I he was a captain in the Twenty-second Engineers and returned to his practice in 1919. He was attending otolaryngologist at Ellis Hospital, a Diplomate of the American Board of Otolaryngology, and a member of the American Academy of Ophthalmology and Otolaryngology. Dr. Gulick belonged to the Schenectady County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Karl Koopmann Herz, M.D., of Hornell, died on December 12, 1954, at St. James Mercy Hospital at the age of sixty-two. Dr. Herz received his medical degree from Gottingen Medical School in Germany in 1920. He served four years in the German Army during World War I and was the

[Continued on page 556]



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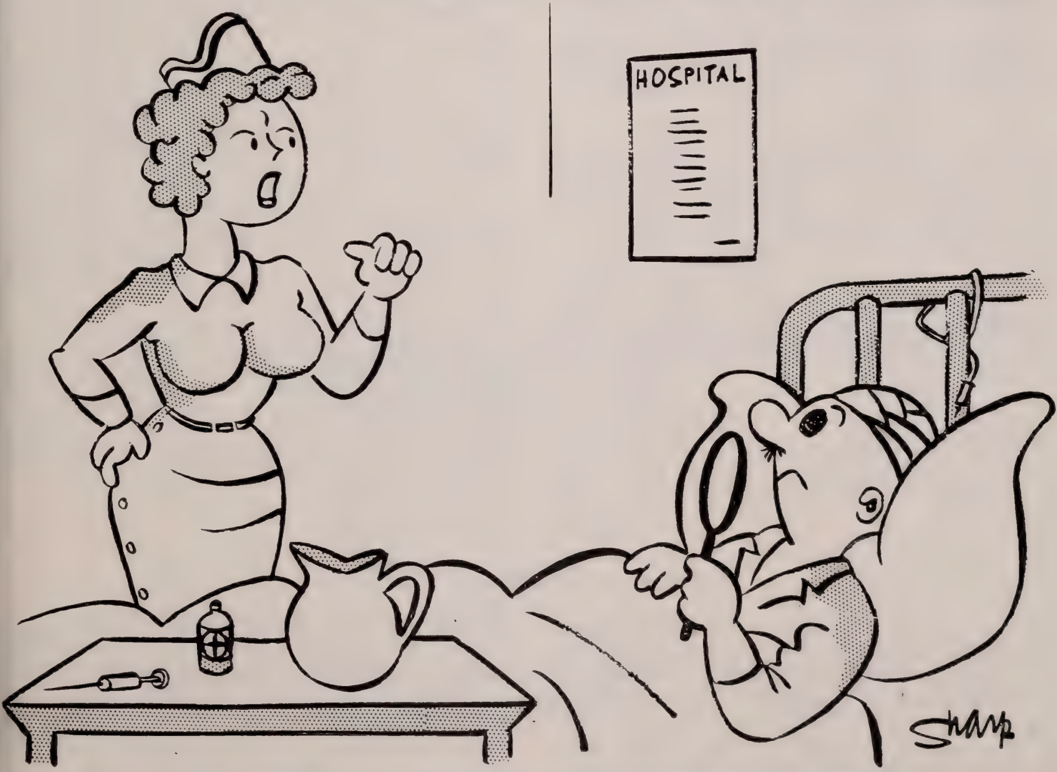

"The black eye is for what you said to me while you were under ether!"

[Continued from page 554]

recipient of the Iron Cross for his services as physician for contagious diseases. He was an attending physician at Bethesda and St. James Hospitals, and a member of the American Diabetic Society, the Steuben County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Milton Alter Juster, M.D., of Red Hook, died on December 25, 1954, at his home at the age of forty-six. Dr. Juster received his medical degree from Georgetown University in 1933. He was a retired Army surgeon and a former lieutenant colonel, having served in the Army Medical Corps from 1932 until his retirement in 1946. Dr. Juster was an assistant in bronchoscopy at Municipal Sanitorium in Otisville, assistant attending physician in endoscopy and gastroenterology at Sea View Hospital, and clinical assistant in bronchoscopy at French Hospital in New York City. He was a surgeon and endoscopogist at St. Francis Hospital in Poughkeepsie, attending clinical assistant in otolaryngology at Vassar Brothers Hospital in Poughkeepsie, on the staff of the Northern Dutchess Health Center in Rhinebeck, and consulting endoscopogist at Memorial Hospital in Catskill. Dr. Juster belonged to the Dutchess County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Edward P. Kilroe, M.D., of Manhasset, died on January 7 in Lenox Hill Hospital at the age of eighty-two. Dr. Kilroe received his medical degree from Bellevue Hospital Medical School in 1894 and interned there.

John Joseph Loughlen, M.D., of Olean, died on December 29, 1954, at his home. He was eighty-three years old. Dr. Loughlen received his medical degree from the University of Buffalo's School of Medicine in 1897. He took special courses in ear, nose, and throat at the Post-Graduate Hospital, New York City, and, upon his return to Olean, entered into the practice of medicine with his brother, the late Dr. Thomas B. Loughlen, until the latter's death.

Otto Niedner, M.D., of Brooklyn, died on January 3 in a nursing home at the age of eighty-nine. Dr. Niedner received his medical degree in 1889 from the University of Munich. He was physician of the Wartburg Lutheran Home for the Aged for thirty-eight years until he retired two years ago, and was also on the staff of Lutheran Hospital in Brooklyn.

Edward Jenkins Parish, M.D., of Oneonta, died on January 20 in Fox Memorial Hospital at the age of eighty-one. Dr. Parish received his medical degree from Albany Medical College in 1896. He was a member of the New York National Guard for thirty-three years, having retired in 1938 with the rank of colonel. During World War I he had given personal rifle training to 1,200 men, and was an expert in small arms. He was an honorary staff member at Fox Memorial Hospital.

Charles Goodman Taylor, M.D., of New York City, died on January 8 in Duke Hospital in Durham, North Carolina, at the age of seventy-one. Dr. Taylor received his medical degree from the College of Physicians and Surgeons of Columbia University in 1907. He served in the Army Medical Corps during World War I and became resident physician of the Neurological Institute in New York City in 1909. He was president of the eastern branch of the Medical Society of Analytical Psychology, a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Stratford Corbett Wallace, M.D., of New York City, died on January 9 at his home, at the age of fifty-one. Dr. Wallace received his medical degree from Cornell University Medical College in 1928 and interned at Bellevue Hospital. He was medical director of the Mary Manning Walsh Home for the Aged; on the staffs of New York Hospital, Cornell Medical College, St. Luke's Hospital, St. Vincent's, St. Elizabeth's, Post-Graduate, and Morrisania Hospitals. Dr. Wallace belonged to the Celtic Medical Society, the New York Genealogical Society, the New York County Medical Society, and the Medical Society of the State of New York.

Wolf Winocour, M.D., of Lynbrook, died on January 9 at his home, at the age of sixty-three. Dr. Winocour received his medical degree from Glasgow University in 1915. He was a member of the Nassau County Medical Society and the Medical Society of the State of New York.

Exhibit of Industrial Solvents

Uses and abuses of common solvents found in and around the home and factory are pinpointed in a new exhibit, "Industrial Solvents," prepared by AMA's Bureau of Exhibits in cooperation with the Council on Industrial Health. Particularly stressed are the hazards involved in using carbon tetrachloride and other solvents incorporated in paints, paint and varnish removers, and insecticides. As a precaution, the exhibit suggests adequate ventilation and proper labeling and lists the various symptoms and accepted treatments. The exhibit—suitable for professional showings—may be secured from the Bureau of Exhibits.—*A.M.A. News Notes, December, 1954*

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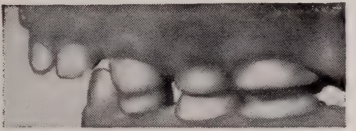

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MEDICAL NEWS

Tobacco Research Grants Announced—The Tobacco Industry Research Committee has announced nine grants totaling $164,295 for study of the effect of smoking on health.

Among the recipients are Dr. Leopold R. Cerecedo, professor of biochemistry at Fordham University, who will survey early chemical changes in the lungs of tumor-bearing rats and mice; Dr. Marion B. Sulzberger, chairman of the Department of Dermatology and Syphilology of the New York University Post-Graduate Medical School and director of the New York skin and cancer unit of the N.Y.U.-Bellevue Medical Center, who will investigate the effects of tobacco on the human vascular system, and Dr. George E. Moore, Roswell Park Memorial Institute, Buffalo.

National Council to Combat Blindness—The National Council to Combat Blindness, Inc., is accepting applications for its 1955–1956 research awards for grants-in-aid and full-time research fellowships in the field of ophthalmology and its related sciences. The Council has added to its research program the financing of summer fellowships initiated by its scientific advisory committee.

Applications for 1955–1956 grants-in-aid and fellowships will be considered at the sixth annual meeting of the organization's Scientific Advisory Committee, to be held in May, 1955. The closing date for the receipt of completed applications is April 15. Appropriate forms may be obtained by addressing: Secretary, National Council to Combat Blindness, Inc., 30 Central Park South, New York 19, New York.

Grants-in-aid and fellowship awards to New York recipients for the fiscal year 1954–1955, are: University of Buffalo Medical School, Dr. Angelos N. Dellaporta ($2,000); Presbyterian Hospital Medical Center, Institute of Ophthalmology, New York, Dr. William G. Everett ($250); New York Eye and Ear Infirmary, Dr. Bernard Goldberg, Dr. Ralph Leverne, Dr. Gerald Kara ($1,000); and Dr. Jerry Hart Jacobson, ($2,400); Institute of Ophthalmology, Columbia University, George K. Smelzer, Ph.D. ($1,200); Manhattan Eye, Ear and Throat Hospital, New York, Dr. C. C. Teng ($2,500); and College of Physicians and Surgeons, Columbia University, Dr. Ludwig von Sallman ($1,000).

Hospital Construction—The Division of Hospital Facilities, FSA, reports that as of December, 1954, one new project had been approved for Hill-Burton grant in the State of New York. Community Hospital in Cobleskill has had 50 beds added at an estimated total cost of $600,000, the Federal share being $200,000.

Already completed and in operation are 71 projects at a total cost of $71,841,913, including Federal contribution of $20,861,125 and supplying 3,993 additional beds. Approved, but not yet under construction are nine projects at a total cost of $13,436,851, including $3,473,685 Federal contribution and designed to supply 887 additional beds.

American Medical Education Foundation—Contributors from New York State to the American Medical Education Foundation for the month of November were: *Albany*—Drs. Kenneth M. Archibold, James H. Cullen, William L. Gould, M. F. Murray, and Robert W. Raymond; *Alton*—Dr. Ralph Munzner; *Auburn*—Drs. Joseph F. Graceffo and Roland J. Walker; *Binghamton*—Drs. Alvin R. Carpenter, F. R. Fenning, Harry H. Levy, and R. J. McMahon; *Bronx*—Drs. Harold Goldstein, William Horowitz, Jr., Peter Pellegrino, Abraham Raab, and P. Sherman; *Brooklyn*—Drs. William Bloom, S. C. Failla, Cecil C. Gloster, Jacob Handelsman, Irving Horowitz, Gladys M. Muller, Louis S. Nelson, and Simon Smelensky; *Buffalo*—Drs. George C. Brady, L. M. Lockie, Frank J. Montrose, and Sigmond A. Zawadski; *Cambridge*—Dr. D. M. Vickers; *Cape Vincent*—Dr. Gordon S. Coutts; *Clyde*—Dr. John L. Pulvino; *Dansville*—Dr. Victor M. Breen; *East Meadow*—Dr. Irwin H. Friedman; *East Williston*—Dr. Edward L. Seretan; *Endicott*—Dr. John A. Kalb; *Florida*—Dr. Michael Temczyn; *Flushing*—Dr. Charles Marks; *Forest Hills*—Dr. Harry Kassop; *Franklin Square*—Dr. Bruno Landau.

Also: *Garden City*—Dr. Albert Lesser; *Geneva*—Dr. H. J. Knickerbocker; *Great Neck*—Dr. Leonard J. Bloome; *Greenlawn*—Dr. J. C. Bernstein; *Hammondsport*—Drs. Donald F. Coon and Eldred J. Stevens; *Hempstead*—Dr. David D. Dexter; *Hollis*—Dr. Wallace M. Shaw; *Hudson Falls*—Dr. Robert W. Homer; *Huntington*—Dr. J. L. Sengstack; *Jamaica*—Drs. J. F. Faigle, Sr., Frank Lamberta, James P. McManus, and V. G. Tosti; *Kenmore*—Dr. Joseph Tannenhaus; *Kingston*—Drs. Peter D. Corsones and Saul Ritchie; *Lima*—Dr. Ernest A. Sanders; *Lyons*—Dr. Frank Wood; *Manhasset*—Dr. F. A. Hill; *Minoa*—Dr. Harold J. Platz; *Mount Vernon*—Drs. Esther R. Aronson and Joseph G. Rothenberg; *Mt. Kisco*—Dr. Grant Sanger; *Newark*—Drs. Norbert Menuhin and James Tyner; *Newburgh*—Drs. R. E. Passenger and F. R. Small; *New Hyde Park*—Dr. Phillip E. Lear.

Also: *New York City*—Drs. Harry Bakwin, David Barrows, Howard T. Behrman, David M. Bosworth, Joan V. Brady, K. Butler, John R. Cobb, Joseph E. Connery, Albert Cornell, Max P. Cowett, J. H. Cudmore, Phebe L. DuBois, Murray Dworetzky, Joseph D. Ferrara, Abraham J. Fleischer, Jacob

[Continued on page 560]

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References: 1. J. Am. Pharm. Assoc., Sc. Ed. 39:21 (Jan.) 1950. 2. Ind. Med. 20:480 (Oct.) 1951. 3. In Press. 4. J.A.M.A. 141:124 (Sept. 10) 1949.

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[Continued from page 558]

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New Drugs in Mental Hygiene Study—Results of broad scale research with thorazine and reserpin in the treatment of mental illness have been announced by the New York State Department of Mental Hygiene. The tests have been conducted in 20 of the mental hygiene institutions under the direction of Dr. Henry Brill, assistant commissioner in charge of research. It has been found that administration of thorazine regularly relieves anxiety and emotional tension, making the patient more relaxed and comfortable and accessible to other types of therapy. Similar results were obtained with 700 patients who received reserpin.

Dr. Brill said that in some cases thorazine and reserpin have replaced electric shock and lobotomy. About 70 per cent of properly selected patients have shown "significant improvement."

Larger Outpatient Service Needed—The medical staff of the North Shore Hospital has recommended that additional clinical care in the outpatient department be provided for the medically indigent people of the community in "the spheres of cancer detection, mental hygiene, cardiovascular diseases, diabetes, and arthritis."

Outpatient care already includes medical, allergy, dermatology, pediatric, surgery, consultation, obstetrics and gynecology. From March 1 through November 30, 1954, 511 persons received 1,948 treatments.

Videclinic Viewed by Physicians—A report to physicians on management of coronary artery disease was made February 9 on the first nationwide "Videclinic," a pioneer postgraduate medical program on large-screen, closed-circuit television. It was presented by the American Medical Association in cooperation with Smith, Kline & French Laboratories. Audiences were composed exclusively of physicians, interns, residents, and senior medical students. Dr. David P. Barr, professor of medicine at Cornell University Medical College and physican-in-chief at New York Hospital, was one of the participants.

Heart Association Manual—The American Heart Association has issued a manual called "Standards for General Convalescent Homes Caring for Cardiac Children," based on a statement originally prepared by the New York Heart Association. The manual outlines and provides a checklist of the services, facilities, and personnel convalescent homes require if they are to meet adequately the special needs of children with rheumatic fever or congenital heart defects. Copies of the manual are available from the American Heart Association, 44 East 23rd Street, New York 10, New York, or from local heart associations.

Meetings—Past

New York State Academy of Preventive Medicine

The New York State Academy of Preventive Medicine was organized at a meeting held in Buffalo on October 13, 1954, by a group of approximately thirty diplomates of the American Board of Preventive Medicine residing in New York State. Twenty additional diplomates had indicated by proxy their desire to participate in the formation of the New York State Academy of Preventive Medicine. Dr. V. A. Van Volkenburgh, assistant commissioner for local health services, New York State Department of Health, Albany, was elected temporary chairman of the organization. Election of officers is expected to be held at the Academy's next meeting in May, 1955 in Buffalo, concurrently with annual meeting of the Medical Society of the State of New York.

American Group Psychotherapy Association

The twelfth annual conference of the American

[Continued on page 562]

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[Continued from page 560]

Group Psychotherapy Association was held in New York City on January 15. Dr. Florence B. Powdermaker, attending psychiatrist at the College of Physicians and Surgeons, and Dr. Goodwin Watson, professor of education at Teachers College, both at Columbia University, spoke on the use of psychotherapy groups.

Nassau County Medical Society

The Nassau County Medical Society met on January 25, at the Cathedral House in Garden City. A round table discussion on "Diabetes" was held. Participants were Dr. William S. Collens, chief of the diabetic clinic and chief of the peripheral disease clinic, Maimonides Hospital, Brooklyn; Dr. Henry Dolger, physician in charge of diabetes and prenatal diabetes clinics, Mount Sinai Hospital, and Dr. Edmund Tolstoi, associate professor of clinical medicine at Cornell University Medical College.

Rheumatic Fever and Cardiac Service

The fifth anniversary of the establishment of the Rheumatic Fever and Congenital Cardiac Service in the Department of Pediatrics, Jewish Chronic Disease Hospital, was held on January 27 in the Freeman Pavilion. Dr. Robert E. Gross, Ladd Professor of Children's Surgery, Harvard Medical School, Boston, spoke on "Certain Aspects of Cardiac Surgery." Discussants were Dr. Clarence Dennis, professor of surgery, State University College of Medicine at New York City, and Dr. Currier McEwen, dean and associate professor of medicine, New York University College of Medicine.

Roslyn Park Hospital Staff Conference

A clinicopathologic study of "Diseases of the Breast" was held at the monthly staff conference of the Roslyn Park Hospital on January 31. The medical aspects were covered by Dr. Phillip Rosenblatt, pathologist, St. Peter's Hospital, Brooklyn; surgical aspects by Dr. William Trevor, Department of Surgery, St. Clare's Hospital, New York City, and discussion led by Dr. Isadore Rothstein, pathologist, Roslyn Park Hospital, Roslyn Heights.

American Academy of Allergy

The eleventh annual meeting of the American Academy of Allergy was held February 7 through 9, at the Hotel Statler, New York City.

Meetings—Future

Brooklyn Psychiatric Society

The Brooklyn Psychiatric Society will hold its regular meeting Thursday evening, February 17, at the Brooklyn State Hospital. Dr. Kelliher Bondar will speak on "Suicide."

Institute of Industrial Medicine

The Institute of Industrial Medicine of the New York University Post-Graduate Medical School, 550 First Avenue, New York 16, New York City, will hold the following seminar programs for the remainder of the present academic year. February 18: "Cigarette Smoke and Lung Cancer"—Drs. Donald Mainland, David Taber, and Dr. W. E. Smith; February 25: "Occupational Hazards in the Operation of the Atomic Energy Industry"—Dr. Roy E. Albert; March 4: "Clinicopathologic Conference"—Drs. Marvin Kuschner and Milton Helpern; March 18: "Bladder Tumors Due to Simple Chemicals"—Dr. Herbert Weinfield; April 1: "Contact Dermatitis Due to Simple Chemicals"—Dr. Herman N. Eisen, and May 6: "Pneumoconioses: Some Problem Cases From the New York State Department of Labor"—Dr. Irving Tabershaw.

Academy of Proctology

The New York Chapter of the International Academy of Proctology will meet on Monday, February 21, at 8:30 P.M. at the Hotel Plaza, 59th Street and Fifth Avenue, New York City. The subject of the meeting will be "Office Procedures in Proctology." Speakers will be Dr. Berthold Weingarten, Montefiore and Fordham Hospitals, New York City, and Dr. Alfred J. Cantor, author of *Ambulatory Proctology.*

New York Cancer Society

The sixth meeting of the New York Cancer Society for 1955 will take place March 1, at the New York Academy of Medicine, Hosack Hall, Fifth Avenue at 103rd Street, New York City. There will be a panel discussion on the "Management of Cancer of the Thyroid." Moderator will be Dr. Lawrence Sloan, associate professor of clinical surgery at Columbia University. Participants will be Dr. George Crile, Jr., Cleveland, Ohio; Dr. John C. McClintock, assistant professor of surgery at Albany Medical College, and Dr. Rulon W. Rawson, chief, division of clinical investigations, Sloan-Kettering Institute for Cancer Research, New York City.

Symposium on Air Pollution

The third annual symposium on air pollution and its control will be held at Wagner College, Staten Island, on Saturday, March 5, from 9 A.M. to 4:30 P.M.

The panel of lecturers will include experts in the fields of public health, agriculture, and engineering, as well as air pollution control officials of governmental agencies and industry.

The symposium will be under the auspices of the Department of Bacteriology and Public Health of Wagner College. Dr. Natale Colosi is the chairman

New York Heart Assembly

The second annual scientific session of the New York Heart Assembly, sponsored by the American Heart Association, will be held March 17 and 18 at the Academy of Medicine, Rochester. The meeting is

[Continued on page 564]

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[Continued on page 565]

[Continued from page 562]

open to all physicians throughout the State. There will be no registration or admission fee.

On Thursday, March 17, at 2 P.M., Dr. William S. McCann, professor of medicine, University of Rochester School of Medicine and Dentistry, will preside at the scientific session. Dr. Maurice A. Donovan, Schenectady, chairman, New York Heart Assembly, will bring greetings. Speakers on the program include the following: Dr. David D. Rutstein, professor of preventive medicine, Harvard Medical School, "Preventive Aspects of Rheumatic Fever"; Dr. Irvine H. Page, Cleveland Clinic Foundation, "Pathogenesis of Arteriosclerosis"; Dr. Norman Jolliffe, chief, Bureau of Nutrition, New York City Health Department, "Obesity and Its Relationship to Cardiovascular Disease"; Dr. Perrin H. Long, director, Medical Division, Kings County Hospital, "Iatrogenic Aspects of Cardiovascular Disease."

At 8 P.M. a panel discussion on "Current Management of Cardiovascular Diseases" will be held with Dr. Richard H. Lyons, professor of medicine, State University of New York College of Medicine at Syracuse, as moderator, and Drs. Rutstein, Page, Jolliffe, and Long as participants.

On Friday, March 18, at 10 A.M., a one-day general meeting will be held featuring Dr. Herman K. Hellerstein of Cleveland and Dr. Charles Marple of New York City, who will present papers on the rehabilitation of the cardiac and the research program of the American Heart Association, respectively.

Further information may be obtained by contacting the New York Heart Assembly, 105 East 22nd Street, New York 10, New York, or any local county heart chapter in upstate New York.

Cancer Diagnosis Courses

Two postgraduate courses in cancer diagnosis and treatment that are planned for the 1955 spring term are: The Sloan-Kettering Division, Cornell University Medical College, March 28 to April 1, 1955, fee $60. This course in cancer diagnosis and treatment is given by the staff of Memorial Hospital and the James Ewing Hospital of New York City. It is designed primarily for the physician in general practice, and participation will be approved for credit by the New York State Chapter of the American Academy of General Practice.

Columbia University Faculty of Medicine, April 18 through 30, 1955, fee $100. This course in cancer diagnosis and treatment is given by the faculty of the College of Physicians and Surgeons. The course is designed primarily for those physicians who have special interest or responsibility in the cancer field.

The New York State Health Department will provide a limited number of fellowships for tuition for physicians licensed by and living in the State of New York, for the above courses. Application blanks can be obtained from Memorial Center for Cancer and Allied Diseases, 444 East 68th Street, New York 21, New York; from the Columbia University Faculty of Medicine, 630 West 168th Street, New York 32, New York, or from the Bureau of Cancer Control, New York State Department of Health, 39 Columbia Street, Albany, New York.

Schoenbach Memorial Lecture

The third annual Emanuel B. Schoenbach Memorial Lecture will be delivered in the solarium of the Maimonides Hospital of Brooklyn on Thursday, April 21, at 8:30 P.M. The speaker will be Dr. Paul B. Beeson, ensign professor of medicine, Yale University School of Medicine. Dr. Beeson will speak on "The Movement of Microorganisms in the Host's Tissues."

Personalities

Appointed

Colonel Robert J. Benford, USAF (MC), as editor of the "Journal of Aviation Medicine". . .Dr. Henry D. Fearon, of Oneida, as director of medicine at the Methodist Hospital of Brooklyn. . .Dr. Griffith J. Winthrop, as medical chief for Ontario County Civil Defense.

Elected

Dr. C. V. Keating, re-elected for a fifth term as president, Dr. D. A. Aston, vice-president, and Dr. Frank Hacker, secretary and treasurer, of the Highland Hospital Medical Staff in Beacon . . . Dr. Ralph T. B. Todd, Tarrytown, re-elected president, Dr. Robert W. Helm, Ossining, vice-president, and Dr. Vincent A. DelVecchio, Ossining, secretary-treasurer, of the medical staff of the Phelps Memorial Hospital.

Speakers

Dr. Charles S. Beck, Lakeside Hospital, Cleveland, at the Binghamton Academy of Medicine on January 25 on "Operations for Coronary Artery Diseases" . . . Dr. Arthur C. DeGraff, at the Rensselaer County Medical Society meeting, March 8, at the staff house of Leonard Hospital in Troy, on "Newer Concepts in the Management of Congestive Heart Disease" . . . Dr. Edward J. Donovan, associate professor of surgery, Columbia University College of Physicians and Surgeons, at his inauguration as president of the New York Academy of Medicine at the Academy's headquarters in New York City . . . Dr. Charles L. Fox, research associate professor at New York Medical College, before the Rensselaer County Medical Society, February 8, at the Samaritan Hospital in Troy, on "Fluid and Electrolyte Therapy of the Surgical Patient" . . . Dr. Rafael R. Gamso, medical superintendent, and Dr. Percy Mason, visiting psychiatrist, Riverside Hospital, before 75 members of the clergy of all faiths at a meeting on drug addiction, on January 10, at Riverside Hospital.

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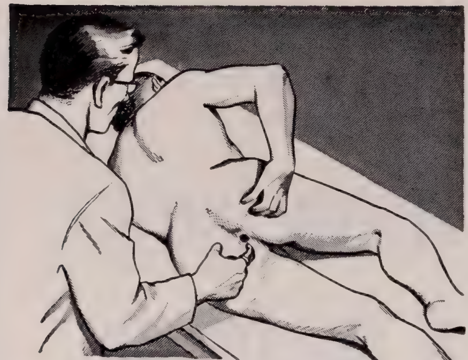
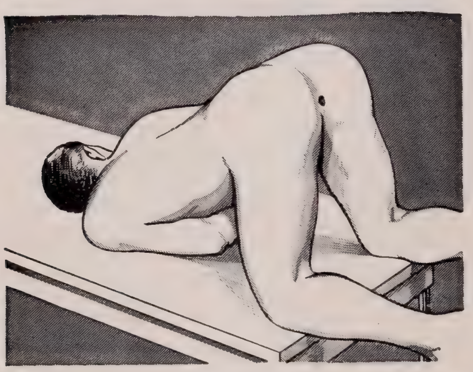
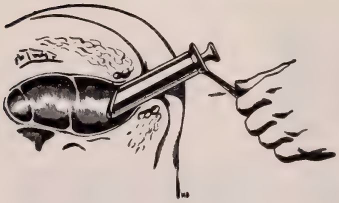


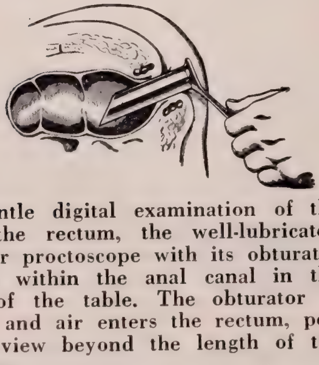
Sims position for digital and anoscopic examination, right knee across and in front of left thigh.



Shoulder-chest position on ordinary table for proctoscopic and sigmoid examination. Thighs slightly apart, at right angles to edge of table. Left shoulder under chest, face to right.

Anorectal examination — digital and anoscope or proctoscope.





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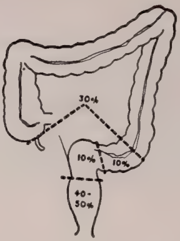

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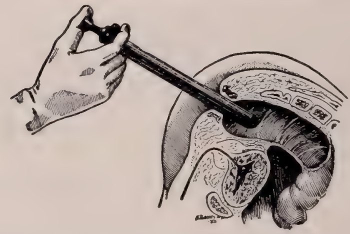

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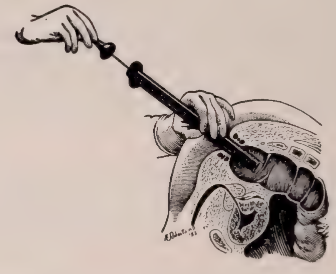
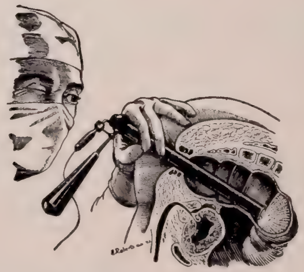


Obturator is removed before advancing the sigmoidoscope.



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1. Krantz, J. C., and Carr, C. J.: Pharmacologic Principles of Medical Practice, Baltimore, Williams & Wilkins Co., 1951, p. 587.

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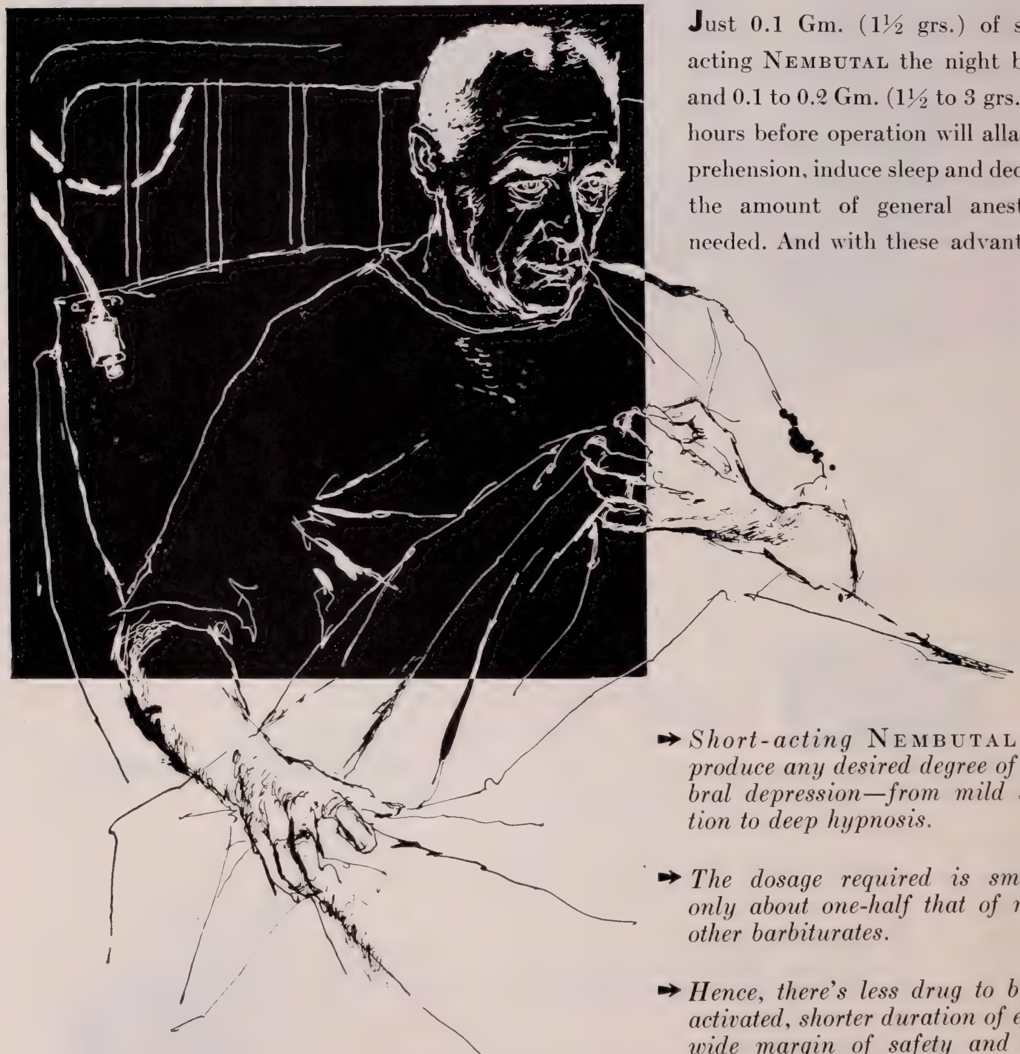

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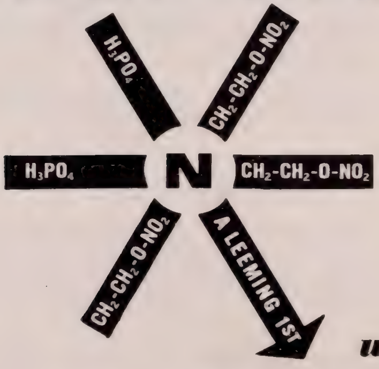

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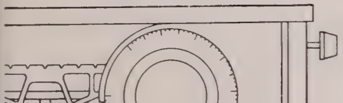

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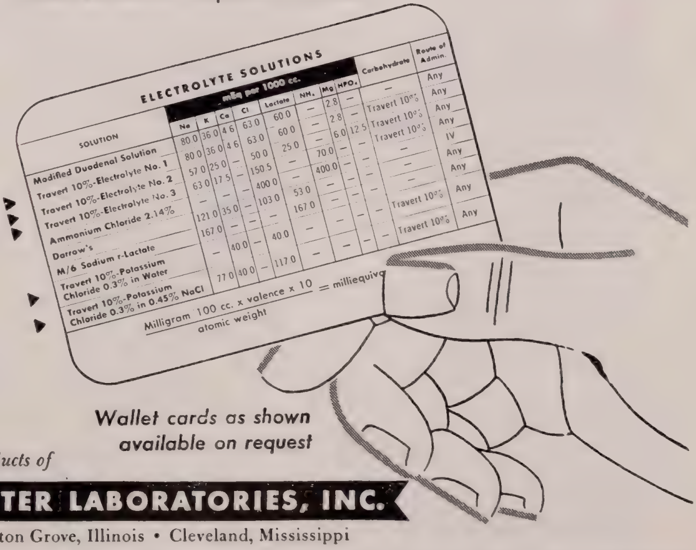

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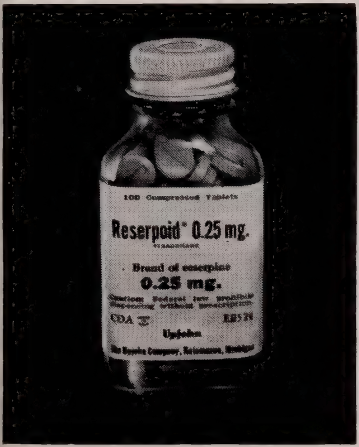
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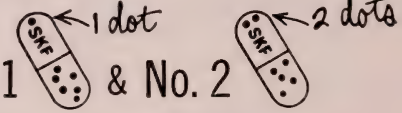

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F**or** *infection*

and

stress . . .

...with a single prescriptio

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Unique new Stress Fortified Terramycin-SF, Tetracyn-SF and Pen-SF are formulated in accordance with National Research Council recommendations[1] for vitamin supplementation in sickness or injury. This supplementation is a significant contribution to rapid recovery and convalescence. The patient is assured the maximum benefits of modern antibiotic therapy plus the needed vitamin support—without additional prescriptions, and at little additional cost.

1. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, Prepared with Collaboration of the Committee on Therapeutic Nutrition, Food and Nutrition Board, National Research Council, Baltimore, Waverly Press, 1952.

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F*ortified*

Terramycin®-**SF**

Brand of oxytetracycline with vitamins

Tetracyn®-**SF**

Brand of tetracycline with vitamins

Pen-**SF***

Brand of penicillin G potassium with vitamins

*TRADEMARK

at little

additional cost to the patient

Stat therapy for infection and

Terramycin

Brand of oxytetracycline with vitamins

Tetracyn

Brand of tetracycline with vitamins

Pen

Brand of penicillin G potassium with vitamins

The usual daily dose of 1 Gm. of either broad-spectrum antibiotic or 600,000 units of Pen-SF supplies the equivalent of one Stress Formula capsule as recommended by the National Research Council, at little additional cost to the patient.

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SF

CAPSULES 250 mg.
ORAL SUSPENSION *(fruit flavored)*
250 mg. per 5 cc. teaspoonful

SF

CAPSULES 250 mg.
ORAL SUSPENSION *(fruit flavored)*
125 mg. per 5 cc. teaspoonful

Each 250 mg. Capsule of these broad-spectrum antibiotics of choice and each 250 mg. dose of the flavorful Oral Suspensions supplies in addition to the antibiotic:

Ascorbic acid U.S.P.	75 mg.
Thiamine mononitrate	2.5 mg.
Riboflavin	2.5 mg.
Niacinamide	25 mg.
Pyridoxine hydrochloride	0.5 mg.
Calcium pantothenate	5 mg.
Vitamin B_{12} activity	1 mcg.
Folic acid	0.375 mg.
Menadione (vitamin K analog)	0.5 mg.

SF*

CAPSULES

* TRADEMARK

Each Capsule contains 200,000 units of penicillin G potassium plus:

Ascorbic acid, U.S.P.	100 mg.
Thiamine mononitrate	3.33 mg.
Riboflavin	3.33 mg.
Niacinamide	33.33 mg.
Pyridoxine hydrochloride	0.66 mg.
Calcium pantothenate	6.66 mg.
Vitamin B_{12} activity	1.33 mcg.
Folic acid	0.50 mg.
Menadione (vitamin K analog)	0.66 mg.

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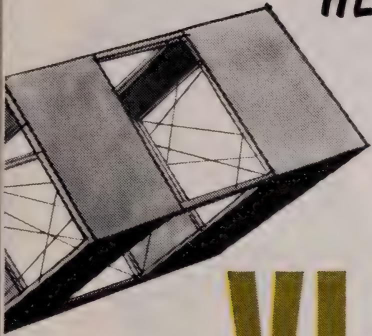
Riboflavin	1.2 mg.
Pyridoxine Hydrochloride	0.5 mg.
Ascorbic Acid	40 mg.
Vitamin B_{12}	3 mcg.
Nicotinamide	10 mg.



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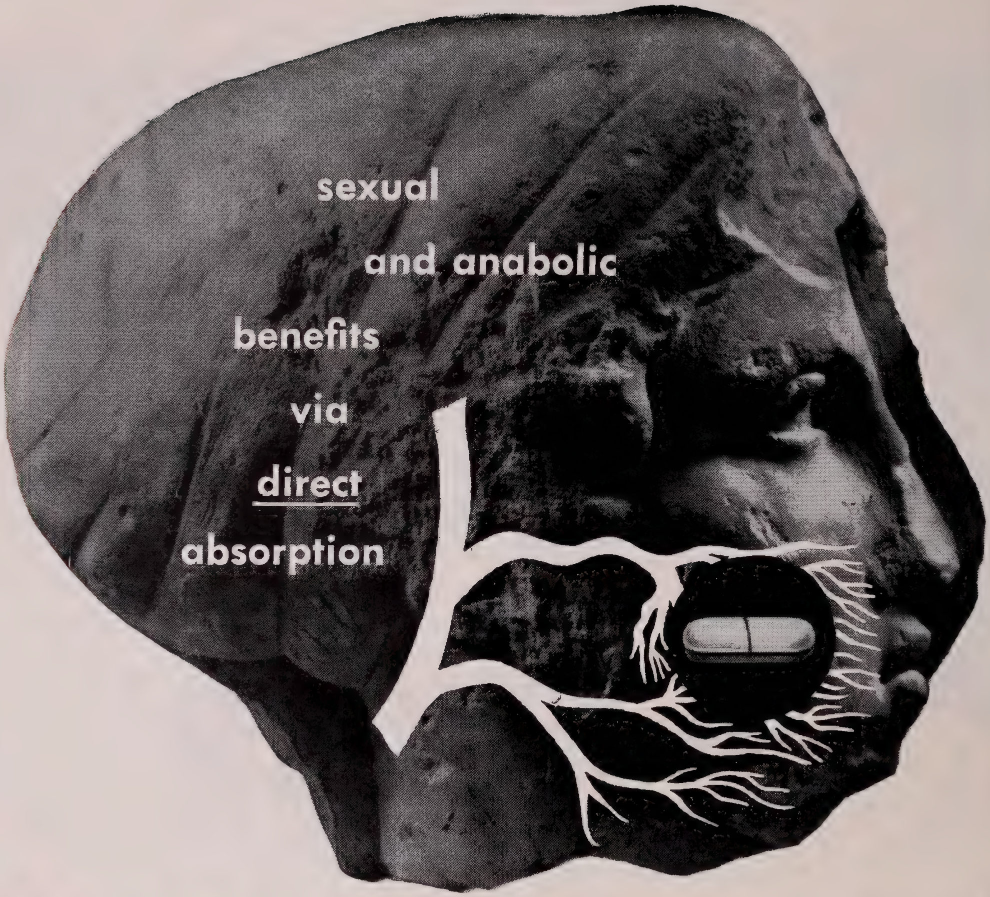

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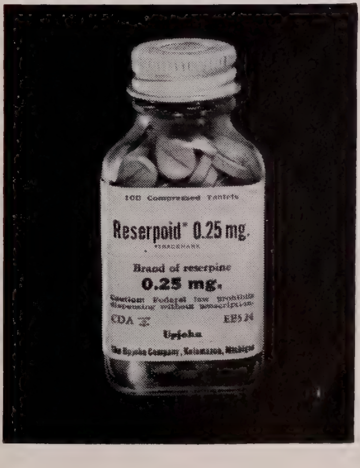
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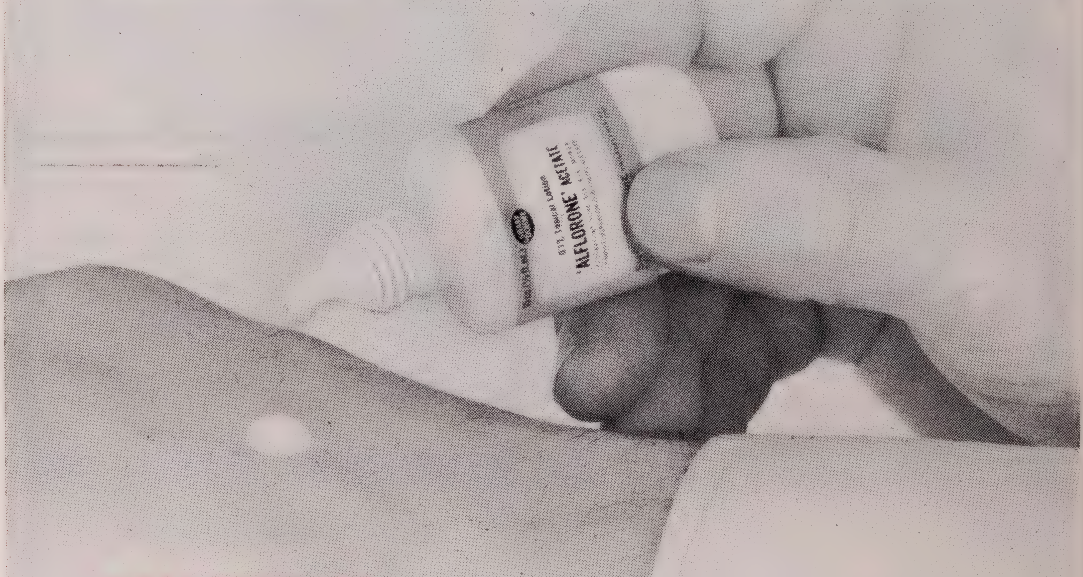
TOPICAL LOTION

'ALFLORONE'

ACETATE

(FLUDROCORTISONE ACETATE, MERCK) 9 ALPHA-FLUOROHYDROCORTISONE ACETATE



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Superior spreading qualities—a small quantity covers a wide area.

MOST ACCEPTABLE
Most patients prefer the cosmetic advantages of this easy-to-apply, smooth spreading lotion.

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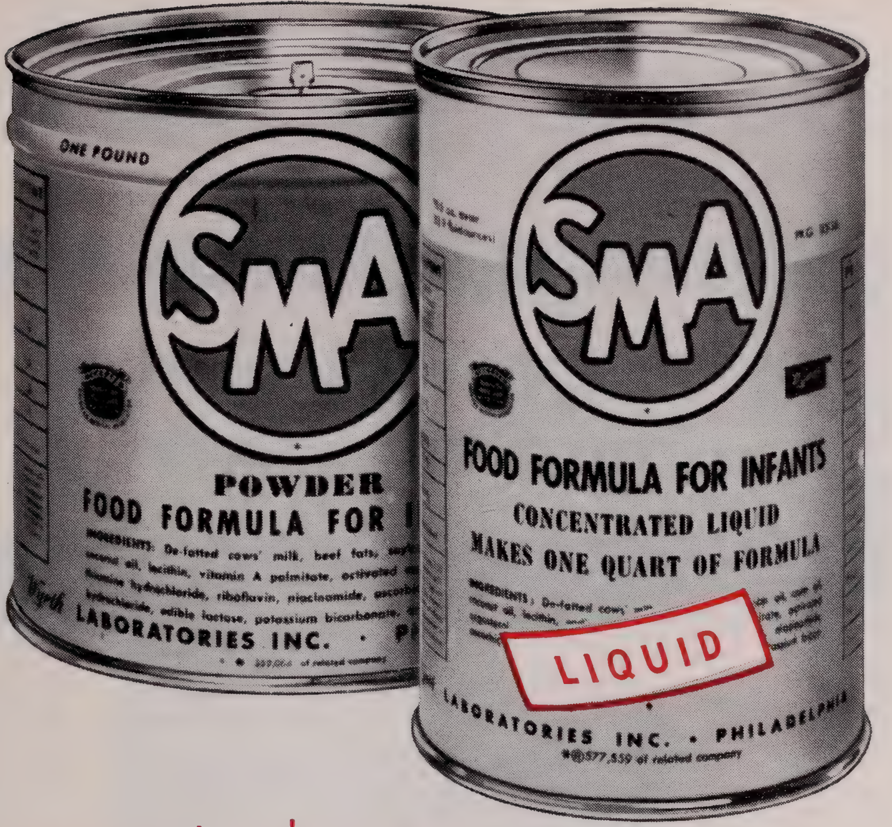
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CONCENTRATED LIQUID
MAKES ONE QUART OF FORMULA
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from an editorial in the J.A.M.A.
(156:991, Nov. 6, 1954):

Oral broad spectrum antibiotic therapy may cause infection with Candida albicans

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antifungal prophylaxis
in one capsule

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Minimum adult dose: 1 capsule q.i.d.
Supply: Bottles of 12 and 100.

MYSTECLIN
SQUIBB TETRACYCLINE—NYSTATIN
antibacterial · antifungal

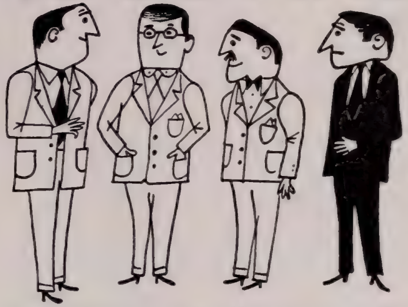
'MYSTECLIN' IS A SQUIBB TRADEMARK

SQUIBB

VAGINAL TRICHOMONIASIS –

25% OF HUSBANDS

FOUND TO HARBOR THE PARASITE



TRICHOMONAL infestation is not a purely gynecological disorder. Bernstine and Rakoff point out that "the presence of trichomonads in the genito-urinary tract of men is now known to be of rather common occurrence."[1]

Significant statistics – "The incidence of infestation in the male is placed at 5 to 15 per cent."[1] Whittington reports it in 27 per cent[2]; Feo in 15.5 per cent[3]; Freed in 28.5 per cent.[4] In Karnaky's study of 150 husbands of women with recurrent trichomoniasis, 25 per cent harbored the parasites.[5]

The ubiquitous protozoan – The reported incidence would, probably, be even higher if all foci of infection (urethra, prostate, seminal vesicles, bladder, kidney, pelvis, and preputial sac) were studied in each case. Another reason for inadequate statistics is that male trichomoniasis is largely asymptomatic.[1,3,6-8]

Re-infection now prevented – In view of this mildness or absence of symptoms, male trichomoniasis is rarely the subject of active therapy. It tends to subside by itself within a few months, provided "re-infection does not occur."[5] Unfortunately, such infected husbands, though symptom-free, are "none the less a potential source of re-infection in wives successfully treated."[8] The re-infected wife, in turn, reinfects the husband.

To break the re-infection cycle, Karnaky insists that "the husband should wear a condom at coitus for four to nine months, during which time these trichomonads will usually die out of their own accord."[7] Bernstine and Rakoff give similar recommendation: "If the male harbors trichomonads, condoms should be used during sexual intercourse until it is certain the infestation has been cleared up entirely."

Prescribe specifically—Take specific measures to win co-operation of the husband. In prescribing a condom, be selective and take advantage of Schmid product improvements.

When there is anxiety that the condom might dull sensation, the answer is to prescribe XXXX (FOUREX)® skins. Made from the cecum of the lamb, they feel like the patient's own skin, are pre-moistened and do not retard sensory effect. If cost is a consideration, prescribe RAMSES,® a transparent, tissue-thin, yet strong condom of natural gum rubber. SHEIK,® also of natural gum rubber, is even more reasonable in price.

Any husband, any wife, in your practice, would prefer to hand the druggist your *prescription* for a condom, rather than to ask for it "in public." Isn't that true? Your act of diplomacy prevents an embarrassing situation. To assure finest quality and earn appreciation for your thoughtfulness, prescribe XXXX (FOUREX), RAMSES or SHEIK by name. Prescribe Schmid protection for as long as *four to nine months* after the wife's infestation has cleared. The protection Schmid condoms afford is the very foundation of re-infection control.

References: 1. Bernstine, J. B., and Rakoff, A. E.: Vaginal Infections, Infestations, and Discharges, New York, The Blakiston Co., 1953, pp. 256-258. 2. Whittington, M. J.: J. Obst. & Gynaec. Brit. Emp. 58:614 (Aug.) 1951. 3. Feo, L. G.: Am. J. Trop. Med. *24*:195 (May) 1944. 4. Freed, L. F.: South African M. J. (March 27) 1948, as abstracted in Urol. and Cutan. Rev. 52:489 (Aug.) 1948. 5. Karnaky, K. J.: Urol. and Cutan. Rev. *42*:812 (Nov.) 1938. 6. Glen, J. E., Jr., and Bailey, R.S.: J. Urol. *66*:294 (Aug.) 1951. 7. Karnaky, K. J.: J.A.M.A. *155*:876 (June 26) 1954. 8. Lanceley, F., and McEntegart, M. G.: The Lancet *1*:668 (April 14) 1953.

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is equivalent to
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*L. J. Cass *et al.*, *New England J. Med.*, 249:132, 1953; *Am. J. M. Sc.*, 227:291, 1954.

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Life becomes more *livable*
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Reduced heart rate—due to Rauwiloid—lengthens diastole and leads to better coronary filling and lessened cardiac work.

This new approach reduces nitroglycerin need, in many instances obviates it; increases exercise tolerance, reduces anxiety, allays apprehension, and produces objective, ECG-demonstrable improvement.

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IMPROVED PSYCHIC STATUS

Dosage: one to two tablets q.i.d. In bottles of 100 tablets.

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In any of its numerous dosage forms, ACHROMYCIN is a potent weapon to combat a variety of infections. This true broad-spectrum antibiotic has proved effective in controlling Gram-negative and Gram-positive bacteria, rickettsia, spirochetes, and certain viruses and protozoa.

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HROMYCIN*

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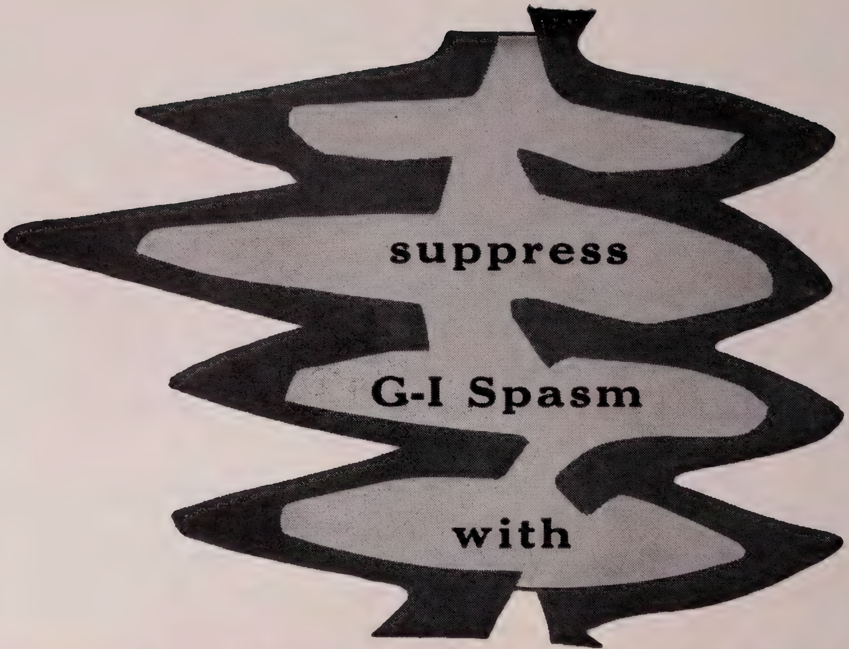
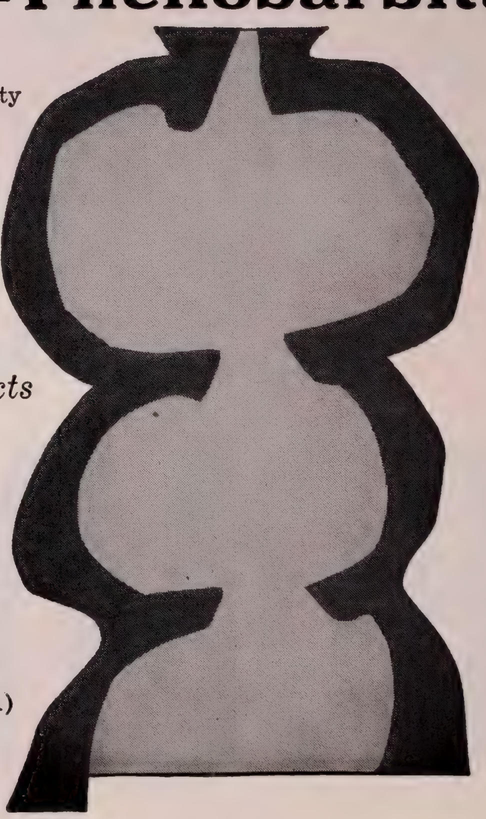


Trasentine®-Phenobarbital



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references: 1. Boland, E. W., and Headley, N. E.: J.A.M.A. 148:981, March 22, 1952. 2. Boland, E. W.: M. Clin. North America, Philadelphia and London, W. B. Saunders Company, March, 1954, p. 337.

*brand of oxytetracycline and hydrocortisone

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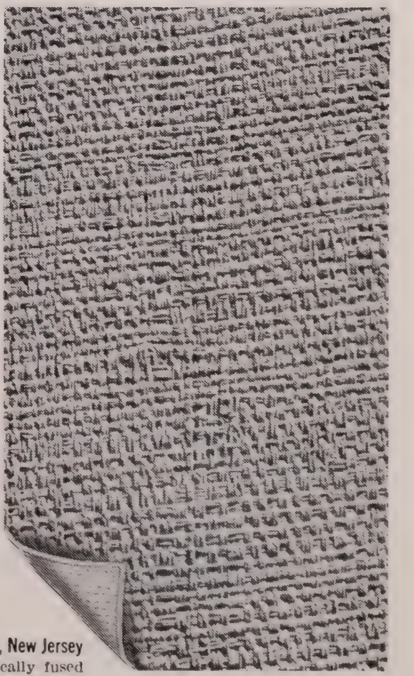

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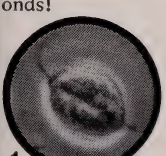
DAVIS TECHNIC FOR VAGINAL TRICHOMONIASIS

EXPLODES TRICHOMONADS

WITHIN 15 SECONDS

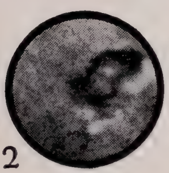
VAGISEC, a new agent for the treatment of vaginal trichomoniasis, was originated as "Carlendacide" by Dr. Carl Henry Davis, well-known gynecologist and C. G. Grand, research physiologist.

Vagisec's triple action kills trichomonads within 15 seconds of contact. Its unique synergism "captures" calcium, removes lipid materials, and literally explodes the trichomonad — all within 15 seconds!



1

Microphotograph (phase contrast microscope) of a Trichomonas vaginalis



2

Trichomonad "exploded" within 15 seconds of contact with **VAGISEC** *liquid as used in douche*

Debris and mucus hide trichomonads. Trichomonads do not exist in vaginal secretion alone. They are vigorously motile and burrow deeply into the surface of the vaginal mucosa, covered by cellular debris and mucus. Vagisec penetrates this protection by lowering surface tension. It penetrates into the folds of the vaginal mucosa.

Vagisec attacks three ways. The chelating agent in Vagisec attaches itself to the calcium of the calcium proteinate, weakening the surface of the trichomonad. The wetting agent in Vagisec removes waxes and lipid materials from its surface, allowing the detergent in Vagisec to move into the cell, breaking up its structure by denaturing the protein. Then water moves in and blows up the trichomonad.

No other agent or combination of agents kills the trichomonad in this specific fashion, or with the speed of Vagisec.

Result of intensive research. Davis and Grand made studies[1] of commonly used trichomonacides. They showed that most antiseptics coagulated albuminous material, which protects trichomonads.

They realized that a satisfactory trichomonacide had to penetrate and dissolve mucinous material. It had to be non-irritating to the already inflamed mucosa and lethal to the trichomonad on brief contact.

Based on these concepts, an exhaustive study[2] of all available new trichomonacidal agents resulted in the development and patenting of "Carlendacide." Clinically tested, "Carlendacide" proved to be a remarkably fast-acting, effective treatment for vaginal trichomoniasis. Dr. Davis recommends a combination of office treatment and home treatment, the Davis technic.

Office treatment. The vagina is exposed with a speculum. The walls of the vagina are wiped dry with cotton sponges and then thoroughly washed with a 1:250 dilution of Vagisec. (Thorough washing takes about three minutes.) The vagina is then dried with cotton sponges. The patient can leave the office without a tampon, or messy discharge or staining.

A minimum of six office treatments are recommended: three the first week, two the second, and one the third week.

Home treatment. Both VAGISEC liquid and VAGISEC jelly should be prescribed for home treatment. Have the patient insert VAGISEC jelly each night and douche with VAGISEC liquid (1 teaspoon to a quart of warm water) each morning except on days she receives treatment at the office. This treatment should continue through two menstrual periods. Four weeks after treatment, the douche should be omitted at least three days and the patient re-examined.

Afterwards, the patient should continue douching with Vagisec at least two or three times each week as a precaution against re-infection.

Summary. Vagisec kills trichomonads in 15 seconds. Failure due to lack of penetration is eliminated. Vagisec is non-toxic and leaves no discoloration or messy discharge. The Davis technic is a triple attack of Vagisec office treatment, home treatment, and Vagisec jelly. Vagisec has been clinically tested and proved as a remarkably fast-acting, effective treatment for vaginal trichomoniasis.

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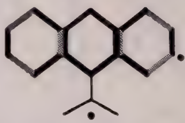
THORAZINE†



This selected bibliography illustrates the diverse and widespread use of 'Thorazine' in the United States and throughout the world. Since 1951, world-wide interest in 'Thorazine' has developed to the point where published reports are now appearing at the rate of approximately 10 a week.

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Chlorpromazine is known as 'Largactil' in Canada, England, France and Italy; as 'Megaphen' in Germany; as 'Ampliactil' in Argentina; as 'Amplictil' in Brazil; and as 'Hibernal' in Sweden.

*Translation

[†] Trademark for S.K.F.'s brand of chlorpromazine.

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EDITORIALS

Educational Opportunity of the Physician

Practicing physicians have an educational opportunity, which many of them neglect, in their daily counseling of patients who obtain from doctors a large segment of their knowledge of how to keep the family well.

Scientific information obtained in schools and colleges often quickly becomes obsolete. Consequently, keeping up to date means that the housewife must turn to new sources for health information. Traditionally the family physician is one of these sources. One health factor very much on the mind of the homemaker is proper nutrition for her family, but because nutritional recommendations to the public are constantly changing as new information becomes available through research, she is continuously reorienting her lay understanding of new scientific achievements.

A recent homemaker survey of two urban areas demonstrated the large educational role physicians play in the dissemination of nutritional information. Thirty-eight per cent of the housewives said the doctor was the major source of their information. Interestingly enough the survey revealed that radio was of the same order of importance in this regard as physicians. Only newspapers, magazines, and television came ahead of the physician and radio as sources of nutritional facts for homemakers.[1]

In these times when food faddists flourish, it becomes most important for the physician to be up to date on nutrition. The above facts bring into sharp focus the responsibility the physician has in the area of nutritional education. To help physicians meet the responsibility the editorial board of the JOURNAL is sponsoring a new series of "Facts About Nutrition," the first article of which appears in this issue.

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[1] Cornell University School of Nutrition. Research in Progress.

Digitalis Administration

The attention of the membership is invited to an article in this issue on page 619 dealing with practical considerations of digitalis administration by Arthur Master, M.D. To those physicians using the drug for treatment of their patients it may not be "generally known that older persons require a smaller dose of digitalis or that the electrocardiogram is not a quantitative measurement of digitalis effect," for instance. Common signs of digitalis intoxication are also discussed, as well as modifications of usual dosage for persons living at high altitudes. May calcium in small amounts be given at the same time digitalis is administered? Should digitalis be given in the presence of complete heart block if heart failure is present?

These and many other practical considerations relating to the use of this drug make this an article of outstanding interest to the practitioner. It is hoped that this will be the first of a series of articles to appear in the JOURNAL this year dealing with various practical aspects of clinical cardiology. Watch for another in this series soon.

A County Medical Society Pioneers

A copy of the January, 1955, issue of the Fairfield County (Connecticut) *News Capsule* is before us. It portrays a health exhibit of the county medical association at the Danbury Fair in October, 1954.

According to the publication, interest on the part of the public was great. Some 21 voluntary physicians manned the booth during the Fair as a project of the public relations committee of the medical society. They answered questions and distributed literature. More than 10,000 first aid charts and some 6,000 emergency call pamphlets were given away. The booth, as illustrated in the *News Capsule*, was attractively laid out, inviting visitors' attention to numerous displays. Visitors expressed the hope that the county society would repeat it or some variation of it in succeeding years. Many offered suggestions and "even constructive criticisms."

New York State as a matter of fact was a pioneer in the initiation and development of the county fair which fostered the betterment of and increase in farming and stock breeding. Many counties in the rural areas of the State still continue fairs annually.

The medical profession in those areas might well follow the lead of Fairfield County in its county fair public relations program. We feel sure that the members of the Woman's Auxiliary would be glad to assist the physicians in developing appropriate exhibits if requested to do so. It would be an unparalleled opportunity for the medical profession to meet, to assist, to inform the inquiring citizen and his family on many matters of interest to them. We offer the suggestion for what it may be worth and extend congratulations to Fairfield County (Connecticut) on its initiative and leadership.

Editorial Comment

Fees Charged by Pharmacists. The following resolution adopted by the New York State Pharmaceutical Association has been called to our attention. We publish the resolution herewith for your information.

> *Resolved,* that the New York State Pharmaceutical Association ask the several medical societies of the State of New York to call to the attention of all medical practitioners that in filling a prescription a pharmacist charges a fee for his professional services, and that doctors should refrain from quoting the cost of a prescription to their patients.

Dr. Norman S. Moore Appointed. On December 22, 1954, Governor Dewey appointed Dr. Norman S. Moore of Ithaca, New York, a member of the State Public Health Council.

Dr. Moore fills the vacancy caused by the retirement of Dr. Herman G. Weiskotten of Skaneateles, who was vice-chairman of the Council. The term of Dr. Moore will run until January 1, 1956.

Dr. Moore is physician-in-chief at the Cornell University Infirmary and Clinic. He was born in Ithaca on April 17, 1901. He was graduated from Cornell University, where he received his medical degree. Since 1943 he has been chairman of the Department of Clinical and Preventive Medicine at the University.

Dr. Moore is active in many medical organizations. He is president of the American College Health Association; past-president of the Tompkins County Medical Society and the Sixth District Branch of the Medical Society of the State of New York, and past vice-president of the Medical Society of the State of New York.

He is assistant editor of the NEW YORK STATE JOURNAL OF MEDICINE; a fellow of the American College of Physicians and the American Medical Association; diplomate of the American Board of Internal Medicine; member of the American Public Health Association, American Heart Association, American Tuberculosis Association, and the American Society for the Advancement of Science. He is a member of the board of visitors of Roswell Park Memorial Institute.

For many years Dr. Moore has helped to guide the policy and has suggested many of of the improvements in the publications of the Society. As a member of the Publications Committee, as former associate editor of the JOURNAL, and recently as assistant editor, he has worked unremittingly to better the quality of the scientific contents of each issue and has provided many splendid aritcles in the field of recent advances in nutrition.

His appointment to the State Public Health Council is well merited and will advance the public interest.

Nationwide Increase in Families. Encouraging news comes from a usually reliable source, the Statistical Bulletin,[1] which has this to say:

> The great willingness of the present generation to take on the responsibilities of family life is reflected by the record number of persons married after World War II and by the continuing boom in births. During the 1940's the number of families in the United States increased by 6.1 million, or 19 per cent, bringing the total to about 38.3 million in April, 1950. In the decade between 1930 and 1940, the increase was only 4.2 million, or 15 per cent. Moreover, the number of families has continued to grow since 1950 and is now at an all-time high.
>
> Every section of the United States had more families in 1950 than in 1940. The gain varied markedly, however, from state to state. Practically no increase—only 1 per cent—occurred in three south central states, namely, Mississippi, Arkansas, and Oklahoma. Relatively small gains, less than 10 per cent, were experienced by Vermont and Kentucky and by five of the west north central states. At the other extreme, six states recorded gains far in excess of the national average. In Arizona,

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[1] Metropolitan Life Insurance Co. **35:** 4 (Nov.) 1954.

[Continued on page 616]

FACTS ABOUT NUTRITION

Prepared by the School of Nutrition, Cornell University, Ithaca

NORMAN S. MOORE, M.D., *Editor*

Recommended Dietary Allowances

When the revised Recommended Dietary Allowances of the Food and Nutrition Board of the National Research Council were published in 1953, the major changes from the 1948 recommendations were gradation of caloric allowances for the adult by age; specifications for the standard man and woman; adjustments in essential nutrient intakes with changes in body size; separation of recommendations for boys and girls at age ten instead of age twelve; reduction in recommended calcium for the adult, and an increase of calcium for girls of sixteen to twenty years (Table I). Formerly, the Recommended Dietary Allowances had specified three levels of activity for an average man or woman. The revised recommendations, while retaining the principle that allowances must be adjusted up or down to meet specific work or exercise needs, feature age instead of activity as a basis for recommendations for both sexes.

It is well that physicians keep abreast of recommended modifications in dietary allowances, for changes are the result of scientific progress. When revising recommendations, the Food and Nutrition Board relies on published evidence relating to requirements for various dietary essentials. In addition, the Board seeks the judgment of many nutritional authorities, especially those in active research. The recommendations are not requirements. By their very definition they are designed for healthy persons living in the United States. The recommended allowances represent not merely the minimal needs of average persons, but levels of nutrient intake which will cover most of the individual variations found in our population. In general, the recommendations are higher than minimum requirements, but in deficient states they may be lower than will be therapeutically effective. The margin between "minimal requirements" and "recommended allowances" varies considerably among essential nutrients because of the variation of the body's capacity for storage, the extent of the variation in body needs, and the different margins between minimal and optimal or between optimal and excessive intake of some nutrients.[1]

Recent observations that a large segment of the population consumes excess calories, together with accumulating evidence that the excess indulgence has physiologic disadvantages, undoubtedly influenced the Board to take into consideration age, activity, body size, and climate in the new allowances for calories. Formerly the standard man weighed 154 pounds, and his age was not stipulated. The standard man and woman are now described as twenty-five years old, living in a temperate climate, and weighing 143 and 121 pounds, respectively. The gradation of caloric allowances now recommended for adults is in the order of 5 per cent decrease for each decade after age twenty-five. The subjects are assumed to be physically active. However, in this connection one must remember that the time during which a worker is engaged in his work is only about 20 per cent of the total number of hours in a week, that about 30 per cent of his time is spent in sleeping, and about 50 per cent of the worker's time is leisure. From a caloric intake point of view, what he does with his leisure time then becomes more important than what he does on the job. It is possible for a clerical worker to spend his leisure time in heavy activity, and, conversely a man employed in heavy manual work may spend his leisure hours in sedentary indulgence.

In the new recommended allowances, calories are adjusted to body size by adjusting the intake according to a formula which is based on the re-

TABLE I.—FOOD AND NUTRITION BOARD, NATIONAL RESEARCH COUNCIL RECOMMENDED DAILY DIETARY ALLOWANCES,[1] REVISED 1953
DESIGNED FOR THE MAINTENANCE OF GOOD NUTRITION OF HEALTHY PERSONS IN THE U.S.A.
(Allowances are considered to apply to persons normally vigorous and living in temperate climate)

	Age Years	Weight Kg. (Pounds)	Height Cm. (Inches)	Calories	Protein Gm.	Calcium Gm.	Iron Mg.	Vitamin A I.U.	Thiamine Mg.	Riboflavin Mg.	Niacin Mg.	Ascorbic Acid Mg.	Vitamin D I.U.
Men	25	65 (143)	170 (67)	3,200[2]	65	0.8	12	5,000	1.6	1.6	16	75	. . .
	45	65 (143)	170 (67)	2,900	65	0.8	12	5,000	1.5	1.6	15	75	. . .
	65	65 (143)	170 (67)	2,600	65	0.8	12	5,000	1.3	1.6	13	75	. . .
Women	25	55 (121)	157 (62)	2,300[2]	55	0.8	12	5,000	1.2	1.4	12	70	. . .
	45	55 (121)	157 (62)	2,100	55	0.8	12	5,000	1.1	1.4	11	70	. . .
	65	55 (121)	157 (62)	1,800	55	0.8	12	5,000	1.0	1.4	10	70	. . .
	Pregnant (3rd trimester)			Add 400	80	1.5	15	6,000	1.5	2.0	15	100	400
	Lactating (850 ml. daily)			Add 1,000	100	2.0	15	8,000	1.5	2.5	15	150	400
Infants[3]	0 to 1/12[4]												
	1/12 to 3/12	6 (13)	60 (24)	Kg. × 120	Kg. × 3.5[3]	0.6	6	1,500	0.3	0.4	3	30	400
	4/12 to 9/12	9 (20)	70 (28)	Kg. × 110	Kg. × 3.5[3]	0.8	6	1,500	0.4	0.7	4	30	400
	10/12 to 1	10 (22)	75 (30)	Kg. × 100	Kg. × 3.5[3]	1.0	6	1,500	0.5	0.9	5	30	400
Children	1 to 3	12 (27)	87 (34)	1,200	40	1.0	7	2,000	0.6	1.0	6	35	400
	4 to 6	18 (40)	109 (43)	1,600	50	1.0	8	2,500	0.8	1.2	8	50	400
	7 to 9	27 (59)	129 (51)	2,000	60	1.0	10	3,500	1.0	1.5	10	60	400
Boys	10 to 12	35 (78)	144 (57)	2,500	70	1.2	12	4,500	1.3	1.8	13	75	400
	13 to 15	49 (108)	163 (64)	3,200	85	1.4	15	5,000	1.6	2.1	16	90	400
	16 to 20	63 (139)	175 (69)	3,800	100	1.4	15	5,000	1.9	2.5	19	100	400
Girls	10 to 12	36 (79)	144 (57)	2,300	70	1.2	12	4,500	1.2	1.8	12	75	400
	13 to 15	49 (108)	160 (63)	2,500	80	1.3	15	5,000	1.3	2.0	13	80	400
	16 to 20	54 (120)	162 (64)	2,400	75	1.3	15	5,000	1.2	1.9	12	80	400

[1] In planning practical dietaries, the recommended allowances can be attained with a variety of common foods which will also provide other nutrient requirements less well known; the allowance levels are considered to cover individual variations among normal persons as they live in the United States subjected to ordinary environmental stresses. Other nutrients discussed in the text include: carbohydrate and fat, p. 23; water, p. 23; sodium, potassium, and chlorine, p. 23; phosphorus, p. 24; copper, p. 24; iodine, p. 24; fluorine, p. 24; trace elements, p. 24; vitamin B_6 group, p. 25; vitamin B_{12}, p. 25; folacin, p. 26; pantothenic acid, p. 26; biotin, p. 26; and vitamin K, p. 27.

[2] These calorie recommendations apply to the degree of activity for the reference man and woman described on page 614 of the text. For the urban "white-collar" worker they are probably excessive. In any case, the calorie allowance must be adjusted to the actual needs of the individual as required to achieve and maintain his desirable weight.

[3] The recommendations for infants pertain to nutrients derived primarily from cow's milk. If the milk from which the protein is derived is human milk or has been treated to render it more digestible, the allowance may be in the range of 2 to 3 Gm. per Kg. There should be no question that human milk is a desirable source of nutrients for infants even though it may not provide the levels recommended for certain nutrients. (See discussion in text.)

[4] During the first month of life, desirable allowances for many nutrients are dependent upon maturation of excretory and endocrine functions. Therefore no specific recommendations are given.

TABLE II.—APPROXIMATE WEIGHTS CORRESPONDING TO SPECIFIED PERCENTAGES OF THE CALORIE ALLOWANCES FOR THE STANDARD MAN AND WOMAN

Weight in Pounds		Per Cent of Standard Allowance
Men	Women	
105	90	80
124	104	90
143	121	100
163	135	110
183	156	120

lation of weight to surface area. To make this clear the Board's table is reproduced, showing how the allowances for standard weight are adjusted up or down according to body size (Table II).

As regards climate the recommendation provides adjustments for environmental climate. Because the standard figures are based on climate for the north temperate area, there is no adjustment necessary for residents of the northeast. Generally speaking, however, caloric intake should be adjusted upward or downward 5 per cent for each 10 C. change in the environmental temperature.

The new recommended dietary allowances can be used best as a guide for the practicing physician. In order to enable him to make optimum use of the recommendations, subsequent "Facts About Nutrition" will discuss the real place in nutrition and also the public abuse of essential nutrients.

Reference

1. Recommended Dietary Allowances, Revised 1953. A Report of the Food and Nutrition Board. National Research Council publication 302, National Academy of Sciences, Washington, D.C., 1953.

Editorial Comments

[Continued from page 613]

California, Florida, and Nevada the number of families increased by more than one half and in Oregon and Washington by about two fifths. It is noteworthy that these states led the country in population growth and that all but one are located in the West.

About 138 million persons, or more than nine tenths of the population in the United States, were living in family units in 1950. Family size was smallest in the District of Columbia and along the Pacific Coast, where it averaged about 3.3 persons per family. On the other hand, states with substantial farm populations, particularly those in the South, tended to have the largest number of persons per family. The Carolinas and Mississippi, for example, had somewhat more than four persons per family. The record influx of population into California was the major factor in that state's gain of one million families. As a result, California has passed Pennsylvania and Illinois in number of families and is now outranked only by New York.

In view of the record number of births in recent years, it may come as a surprise to many readers that the average number of persons in an American family has decreased. For the country as a whole, the average number per family declined from 3.77 in 1940 to 3.60 in 1950. A number of factors account for this paradox. Foremost, of course, was the marriage boom which reduced the number of persons in existing families and at the same time added many new families with a small number of persons. Then, too, the increase in the size of our Armed Forces since 1940 has withdrawn millions of our men from their homes. Finally, favorable economic conditions and the large volume of housing construction enabled thousands of married couples and other groups of related persons to establish independent households. As a matter of fact, the increase in households, 23 per cent for the country as a whole, was greater than the rate of increase for families in every area of the country outside of the West, and in that region the rates of growth for households and families were practically on a par.

Such an increase in families argues potently that a greater demand for family physicians may accompany it. Or does it merely mean perhaps a greater case load for those already in practice? Your guess is as good as ours.

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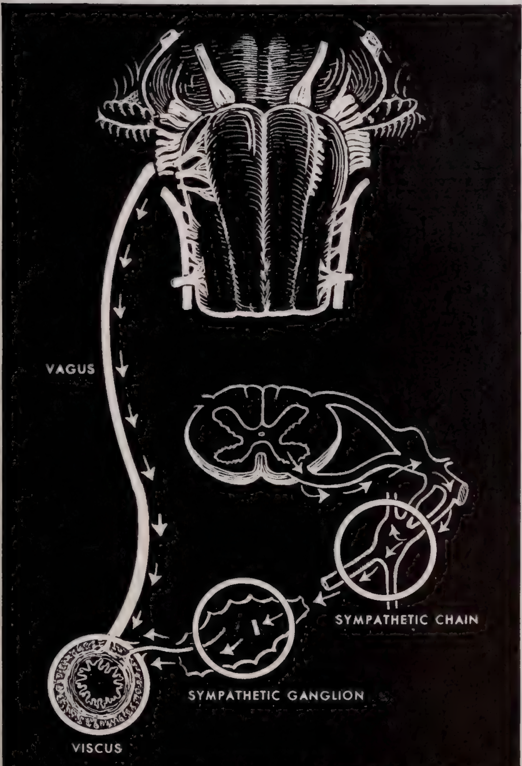
Pro-Banthīne consistently controls gastrointestinal hypermotility and spasm and the attendant symptoms.

Pro-Banthīne is an improved anticholinergic compound. Its unique pharmacologic properties are a decided advance in the control of the most common symptoms of smooth muscle spasm in all segments of the gastrointestinal tract.

By controlling excess motility of the gastrointestinal tract, Pro-Banthīne has found wide use[1] in the treatment of peptic ulcer, functional diarrheas, regional enteritis and ulcerative colitis. It is also valuable in the treatment of pylorospasm and spasm of the sphincter of Oddi.



Sites at which Pro-Banthine inhibits excess autonomic stimuli through control of acetylcholine mediation.

Roback and Beal[2] found that Pro-Banthīne orally was an "inhibitor of spontaneous and histamine-stimulated gastric secretion" which "resulted in marked and prolonged inhibition of the motility of the stomach, jejunum, and colon. . . ."

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In Roback and Beal's[2] series "Side effects were almost entirely absent in single doses of 30 or 40 mg. . . ."

Pro-Banthīne (β-diisopropylaminoethyl xanthene-9-carboxylate methobromide, brand of propantheline bromide) is available in three dosage forms: sugar-coated tablets of 15 mg.; sugar-coated tablets of 15 mg. of Pro-Banthīne with 15 mg. of phenobarbital, for use when anxiety and tension are complicating factors; ampuls of 30 mg., for more rapid effects and in instances when oral medication is impractical or impossible.

For the average patient one tablet of Pro-Banthīne (15 mg.) with each meal and two tablets (30 mg.) at bedtime will be adequate. G. D. Searle & Co., Research in the Service of Medicine.

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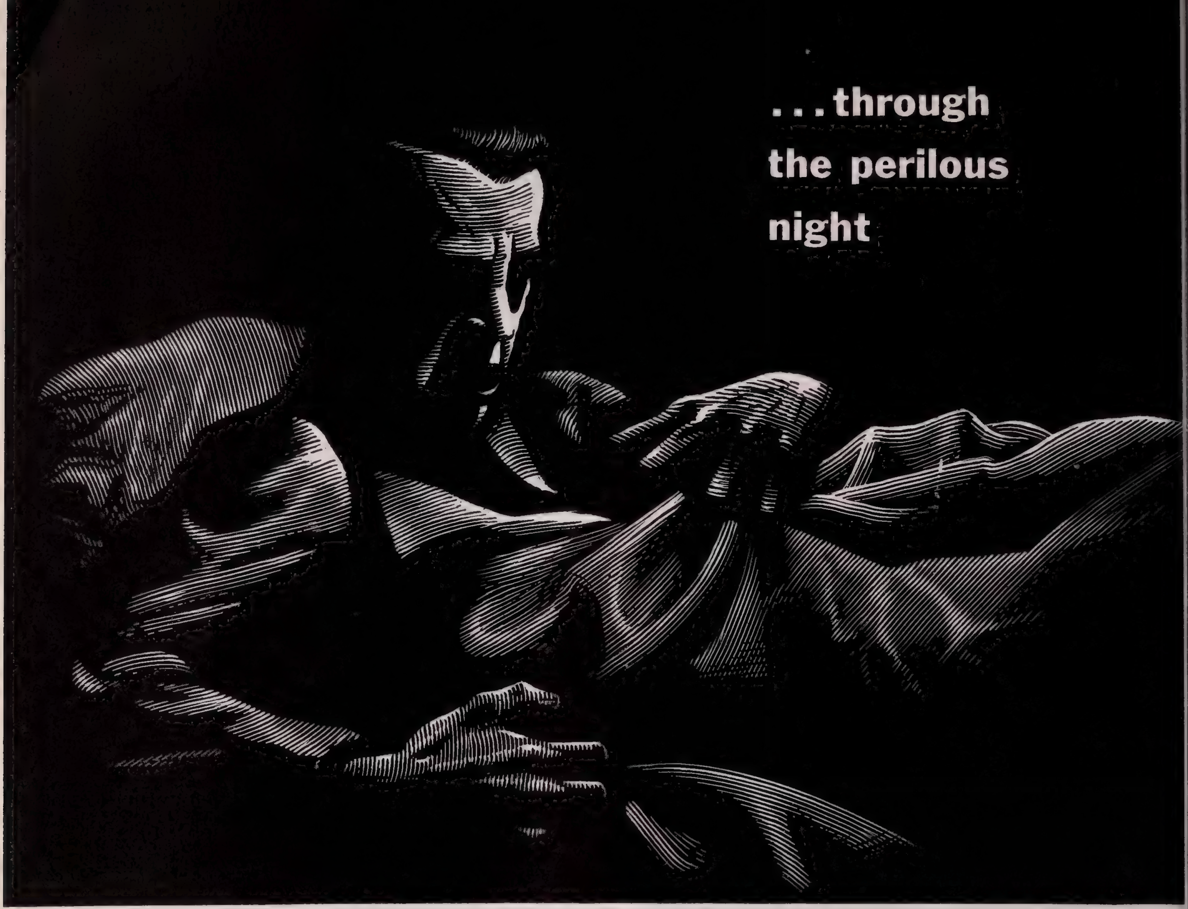
1. Schwartz I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: Gastroenterology *25:*416 (Nov.) 1953.
2. Roback, R. A., and Beal, J. M.: Gastroenterology *25:*24 (Sept.) 1953.

SEARLE

Advertisement



You can prevent attacks in angina pectoris

Fear is a faithful companion. In angina pectoris, particularly, many patients live in constant dread of recurrent attacks.

Prophylaxis with Peritrate, a long-acting coronary vasodilator, offers new security in a majority of such cases. A single dose affords protection for as long as 4 to 5 hours, compared to 30 minutes or less with nitroglycerin.

Different investigators[1-3] observed that 80% of their patients responded to Peritrate therapy with fewer, less severe attacks . . . reduced nitroglycerin dependence . . . improved EKG's.

A variety of convenient dosage forms now extends these benefits. Peritrate Delayed Action tablets (10 mg.), taken with the regular bedtime dose of Peritrate (plain) help allay the fear of nighttime attacks. Adapted to the recommended daily dosage of 40-80 mg., Peritrate is available in 10 mg. and 20 mg. tablets. And when added sedation is indicated, you can prescribe Peritrate (10 mg.) with Phenobarbital (15 mg.).

1. Winsor, T., and Humphreys, P.: Angiology 3:1 (Feb.) 1952. 2. Plotz, M.: New York State J. Med. 52:2012 (Aug. 15) 1952. 3. Dailheu-Geoffroy, P.: L'Ouest-Médical, vol. 3 (July) 1950.

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SCIENTIFIC ARTICLES

Practical Considerations of Digitalis Administration

ARTHUR M. MASTER, M.D., NEW YORK CITY

(From the Cardiographic Laboratory, Mount Sinai Hospital)

Although Withering[1] called attention to the therapeutic effects of foxglove in dropsy more than a century and a half ago (1785), digitalis still is the most efficacious drug in the treatment of heart failure. It is of prime importance in the early stages of failure. It is also of great value in the treatment of many arrhythmias, even if the heart has not failed. Salt-poor diets, mercurial diuretics, resins, and acidifying drugs are of secondary importance. They are required only in the later stages when renal factors and salt retention dominate the clinical picture.

The literature on the use of digitalis has been thoroughly reviewed by others[2-6] and need not be summarized again now. Yet a number of practical points in the administration of digitalis have received little or no mention or are still controversial. For example, it is not generally known that older persons require a smaller dose of digitalis or that the electrocardiogram is not a quantitative measurement of digitalis effect. Furthermore, physicians disagree concerning the use of digitalis in cardiogenic shock and in ventricular tachycardia with congestive failure. These and other moot points will be emphasized in the following discussion.

All digitalis preparations are potentially dangerous. They must be administered with care because their therapeutic dose is about 60 per cent of their toxic dose. In other drugs which are in common clinical use there is a wide gap between the effective and the toxic doses. In digitalis alone is this gap markedly narrowed. Each case must be considered individually, therefore, and not be treated routinely. A single rule for the administration of digitalis cannot be safely formulated. Such a rule may be applicable to the majority of patients, but the exceptions are too numerous to warrant its general use. Gold and his collaborators [7-9] have repeatedly stressed this point with reference to digitoxin.

Toxicity of Digitalis

Digitalis is still so improperly administered that numerous instances of digitalis intoxication and even heart failure and death result from its overdosage. The widespread use of purified digitalis preparations has further increased these disastrous effects.[10-12] Digitalis, therefore, should never be prescribed without first describing to the patient the symptoms that may appear when the therapeutic effect has been exceeded.

Anorexia and weakness[13] are the first symptoms of excessive dosage. Abdominal discomfort and cramps may also appear early. Visual disturbances (yellow and green vision and scotomata) are not infrequent evidences of beginning intoxication. So many other types of resultant visual defects have been reported, however, that any unexplained visual complaint may justifiably be regarded as an early indication of digitalis overdosage.[14] Cerebral excitation (headache, irritability, nervousness, and restlessness) or cerebral sedation (drowsiness, melancholy, listlessness, and dizziness) may also result therefrom. Other rare symptoms of severe intoxication with digitalis are delirium, hallucinations, psychosis, confusion, and stupor or coma. Since nausea, vomiting, and diarrhea are late manifestations of digitalis intoxication, their appearance is an indication for the immediate discontinuance of the drug. One should not, however, mistakenly wait (as so

TABLE I.—Oral Digitalis

		Digitalis Leaf	Digitoxin (Digitaline Nativelle, Crystodigen, Purodigen)	Digoxin	Lanatoside C (Cedilanid)	Gitalin (Gitaligin)
I.	Tablet* (10 pounds)	0.1 Gm. $1^{1}/_{2}$ grains 1 U.S.P. unit	0.1 mg.	0.25 mg.	0.5 mg.	0.5 mg.
II.	Average digitalizing dose (150 pounds)	1.5 Gm. $22^{1}/_{2}$ grains 15 U.S.P. units	1.5 mg.	3.75 mg.	7.5 mg.	7.5 mg.
III.	Initial dose	*ONE-HALF*	*AVERAGE*	*DIGITALIZING*		*DOSE*
IV.	Dose range	1.5 to 3.0 Gm. $22^{1}/_{2}$ to 45 grains 15 to 30 U.S.P. units	1.0 to 3.0 mg.	1.50 to 5.0 mg.	5 to 10 mg.	5 to 10 mg.

* One tablet is the daily maintenance dose for 75 per cent of patients.

frequently happens) for these symptoms of overdosage to appear.

Digitalis may poison the heart muscle and produce irritable foci from which ectopic beats arise. It may also produce anatomic changes within the heart muscle.[15,16] The most common signs of digitalis intoxication are premature beats (extrasystoles), often occurring as "bigeminy" or "trigeminy," but arrhythmias and tachycardias of all kinds may appear. The tachycardias of ectopic origin may be ventricular, auricular, or nodal.[17–21] Bradycardia may develop. Heart block is a well-recognized sign of digitalis overdosage.[22–24] First degree block with simple auriculoventricular prolongation is not serious, but second degree block with an increasing defect of auriculoventricular conduction and with dropped beats signalizes the imminence of complete heart block. With the latter, Stokes-Adams seizures may occur. Slowing of the ventricular rate to 50 or less, or even to 60, is a sign of danger and necessitates the discontinuance or reduction of the maintenance dose of digitalis.

There are really no electrocardiographic changes pathognomonic of a digitalis effect. The RS-T depressions and T-wave alterations, so commonly found in patients or animals treated with digitalis, are seen also in acute or chronic coronary insufficiency, as well as in other conditions. They appear after therapeutic digitalization as well as in digitalis intoxication and are similar in both. Hence, these alterations cannot be employed as a quantitative measurement of the digitalis effect.[25] They are probably indicative of subendocardial ischemia and, in toxic cases, of definite myocardial injury.[26] Prolongation of the P-R interval occurs early. The Q-T period is shortened. An abnormally wide QRS is very rare, as is the Wolff-Parkinson-White syndrome.[25,27] The T wave is usually only semi-inverted, but a deeply inverted T wave does rarely occur.[28] The presence of deeply inverted T waves indicates that toxicity with myocardial damage has been produced or that the T waves were somewhat inverted before the medication was begun.

Arrhythmias due to digitalis appear only in cases in which intoxication has occurred. The multifocal nature of the QRS complexes of the electrocardiogram indicates the toxic influence of digitalis on the myocardium. The cardiac rhythm may be chaotic. A bizarre electrocardiographic arrhythmia, which defies interpretation, should suggest digitalis intoxication.

Although digitalis is especially indicated in auricular fibrillation with a rapid ventricular rate, it must not be forgotten that toxic doses of digitalis may produce this irregularity also.[17–19]

Potassium and atropine are employed in the treatment of digitalis intoxication, which is often serious and more easily prevented than cured. Potassium (2 to 10 Gm.) is usually administered orally but may be given intravenously. Orange juice has a relatively high potassium content and may be efficacious. When blood potassium levels are normal, there is less danger of digitalis intoxication.[29–36] Atropine, too, may be given by mouth or parenterally. As a result of experiments on dogs, aminophylline and theobromine sodium acetate have also been recommended to reduce the toxic effect of digitalis.[35,36] For the most serious manifestation of poisoning, i.e., ventricular tachycardia, Pronestyl should be administered intravenously. Quinidine has also been advocated.[36] The drugs now so commonly employed for the prevention or alleviation of motion sickness have been successful also in combating the nausea produced by digitalis.

The name and strength of the digitalis preparation which has been prescribed should be inscribed on the container. This information may be of great aid to a physician called upon to treat a cardiac patient.

Oral Administration

The digitalis preparations in common use are digitalis leaf, digitoxin, Digoxin, lanatoside C, and gitalin. In Table I, in the first row, the customary marketed tablet strength of each preparation is listed. In the second row the usual digitalizing dose of each is given. Since each tablet is effective for about 10 pounds of body weight, the average digitalizing dose for a patient weighing 150 pounds is 15 tablets. If the patient weighs more than 150 pounds, one tablet may be added for each additional 10 pounds; if less, one tablet may be subtracted for each 10 pounds. The principle of digitalis dosage, according to the weight of the patient, was popularized by Eggleston[22,37] about forty years ago.

The method of administration of each of the oral digitalis preparations is about the same. The initial dose is usually one-half the average digitalizing dose (Table I, Row 3). Thus, seven or eight tablets are the usual initial dose for a man of 150 pounds if he did not have any digitalis recently. Thereafter, three or four tablets are given every four to eight hours until digitalization occurs or signs of early toxicity appear. Complete digitalization can thus be attained within sixteen to forty-eight hours as desired. The amount of each drug ordinarily necessary to digitalize each patient varies somewhat (Table I, Row 4). The daily maintenance dose is usually one standard tablet for the average 150-pound patient.

DIGITALIS LEAF.—The digitalis leaf is still commonly employed in this country. A single dose of digitalis leaf is usually entirely absorbed within two hours and exerts its full action on the heart within six hours. It is eliminated gradually from the body. Repeated doses, therefore, produce cumulative effect and may eventually result in digitalis poisoning. Even after the drug has been discontinued, its action on the heart may persist for from several days to two or even three weeks. Digitalis leaf is most frequently dispensed in a 0.1-Gm. tablet ($1^1/_2$ grains or 1 U.S.P. unit), which is effective for 10 pounds of body weight. Its administration has been described. The dose range for digitalization by the leaf is 1.5 to 3.0 Gm. ($22^1/_2$ to 45 grains, or 15 to 30 U.S.P. units, or 15 to 30 0.1-Gm. or 1.5-grain tablets). Thereafter, a daily maintenance dose of a single 0.1-Gm. ($1^1/_2$-grain) tablet usually suffices.

The potency of the leaf varies in different batches as determined by assay on the pigeon. Since such huge quantities are manufactured, however, the tablets have a uniform effect. The variable potency of different batches of digitalis leaf is not necessarily a disadvantage. It may even be advantageous since it compels the physician to be cautious and to vary the dosage of each individual preparation in accordance with its effect on each individual patient.

The leaf is probably as good as any other oral digitalis agent and is the cheapest. Such an experienced physician as Meakins said very recently, "The swing is away from these specific glycosides and the trend is toward Withering and dry digitalis leaf, prepared under proper pharmaceutical standards. It is simple and safe, overdosage is difficult."[38] No fault can be found with this statement.

DIGITOXIN.—Digitoxin[7–9] (Digitaline Nativelle, Crystodigen, Purodigen, etc.) is prepared in tablets of 0.05, 0.1, 0.15, and 0.2 mg. The 0.1-mg. tablet is effective for 10 pounds of body weight. It is pure digitalis glycoside of constant potency. Thus, biologic assay is unnecessary. It is administered, as are the other digitalis preparations, if the patient has had no digitalis for three weeks previously. It has been suggested that the initial dose be 12 tablets (1.2 mg.), rather than seven or eight, but this is not advisable. The 0.1-mg. and 0.2-mg. tablets are the commonly employed daily maintenance doses. The dose range for full digitalization by digitoxin is usually 1.0 to 3.0 mg.

Tablets of 0.2 mg. of digitoxin are not infrequently prescribed, but the simplest and safest procedure is to base the calculations of dosage on the 0.1-mg. tablet strength. Gold[9] reported that the daily maintenance dose of 0.2 mg., which he advised, could safely be given to only three of every four patients. Yet, this and even larger doses have been mistakenly prescribed for all patients. Since digitoxin has a strong cumulative action, the toxicity resulting from its overdosage persists for a longer period than does the toxicity of other preparations of digitalis. Hence, greater caution is necessary in its administration.

Digitoxin is the least satisfactory of the glycosides, simply because physicians do not or will not exercise sufficient supervision. Fortunately, physicians are beginning to appreciate the difficulties inherent in digitoxin.[10–12]

Digoxin.—Digoxin[39–42] is manufactured in tablets of 0.25 mg. It is a pure crystalline glycoside which, unlike the leaf, is of constant composition, with a constant action. It is quickly absorbed from the stomach and intestine and is rapidly eliminated, thus preventing and overcoming toxicity. The method of its administration has been detailed previously. The usual daily maintenance dose is a single tablet (0.25 mg.). The digitalizing dose range of Digoxin is 1.50 to 5.0 mg.

Lanatoside C.—Lanatoside C (Cedilanid)[43–46] is marketed in 0.5-mg. tablets. It is a crystalline glycoside, which also acts rapidly and is rapidly eliminated from the body. It is administered as are the other oral digitalis preparations. The digitalizing dose range of lanatoside C is between 5 to 10 mg. The maintenance dose is usually one 0.5-mg. tablet a day.

Gitalin.—Gitalin (Gitaligin)[47,48] is sold in 0.5-mg. tablets. It is a white amorphous powder, a mixture of water-soluble glycosides of digitalis purpurea. Its potency is constant and does not vary from batch to batch, as does the digitalis leaf. It is absorbed well on oral administration. Its method of administration is the same as that of the other preparations. The usual maintenance dose is one 0.5-mg. tablet. The range of dosage for digitalization usually is between 5 and 10 mg.

Recently, Gitaligin has had ardent proponents.[47–50] Its claimed advantages are a wider therapeutic range, i.e., a greater margin of safety than that of digitoxin, Digoxin, lanatoside C, or digitalis leaf, and a fairly rapid elimination. Thus, digitalization with Gitaligin is said to be attainable with about one-third the toxic dose, whereas the other digitalis preparations require approximately two-thirds the toxic dose. This holds true both for initial digitalization and for maintenance. The rate of elimination of Gitaligin is said to be less rapid than that of Digoxin and more rapid than that of digitoxin or the digitalis leaf. Hence, if intoxication does appear after Gitaligin administration, it will not be so prolonged as the toxicity produced by the latter two preparations. It is claimed also that an occasional patient may respond to Gitaligin who does not respond to the other digitalis preparations because they produce evidence of toxicity before a therapeutic effect is attained. If these claimed virtues of Gitaligin are substantiated, it will, indeed, be the most valuable of the digitalis preparations.

Although the tablet strength of each preparation shown in Table I is the one commonly employed, larger and smaller dose tablets also are usually manufactured: Digitalis leaf, e.g., is sold not only in 1 1/2 grain tablets but also in tablets of 1 grain, 3/4 grain, and even 1/2 grain; digitoxin is manufactured not only in 0.1-mg. tablets but also in 0.05 and 0.15 and 0.2-mg. tablets.

TABLE II.—Intravenous Digitalis

	Dosage (Mg.)	
	Initial	24 Hours
Strophanthin	0.25	0.5 to 1.0
Cedilanid	0.8	1.6
Digoxin	0.75	1.5
Digitoxin	0.6	1.2

The usual dose range of each preparation required for full digitalization also varies (Table I). The figures cited are the average. Thus, full digitalization by digitalis leaf may in rare cases be attained by less than 1.5 Gm. or may require more than 3 Gm. Similar variations occur when Digoxin, digitoxin, lanatoside C, and gitalin are used.

Intravenous Administration

Intravenous digitalis medication is intended for emergency treatment of severe heart failure in patients who have not had any digitalis for at least three weeks. The initial dose and the total twenty-four-hour dose are listed in Table II.

Strophanthin is the most commonly employed emergency intravenous digitalis preparation.[51] The initial dose is 0.25 mg.; thereafter, 0.1 mg. is given every hour. The twenty-four-hour dosage varies from 0.5 to 1.0 mg. The administration is discontinued when the full effect of therapy appears or when the very first signs of toxicity supervene. Many good preparations of strophanthin are manufactured. Ouabain is a pure glycoside substance, derived from strophanthin G, and is marked as strophanthin G (ampuls of strophanthin K are also available). These drugs are of no value when given orally or intramuscularly and must be administered intravenously. They produce some effect within five minutes after administration and their maximum effect within one-half to two hours. Within twenty-four to seventy-two hours the effect of the drug is lost; most of the loss occurs during the first day.

Cedilanid is made in ampuls of 4 cc. and 2 cc. The 4-cc. ampul contains 0.8 mg. and is given immediately as half the dose usually necessary. The 2-cc. ampul (0.4 mg.) is then given every four to six hours for two (or possible three) doses until digitalization occurs.

The effect of these emergency intravenous preparations is of short duration. They are excreted within a few hours or a day or two. In order to continue digitalization, therefore, any one of the oral digitalis preparations should be administered when the first intravenous dose is given.

Digoxin has also been used intravenously in emergency treatment. Hitherto, Digoxin had to be diluted and administered by infusion. A preparation is now about to be marketed which can be given intravenously without dilution. The initial dose is 0.75 mg., and the usual twenty-four-hour digitalizing dose is 1.5 mg.

Digitoxin, too, may be used intravenously. The initial dose is usually 0.6 mg., and the digitalizing dose for twenty-four hours is usually 1.2 mg.

Intramuscular route, of course, is also a practical one for treatment with digitalis and is particularly useful in infants and in children in whom the veins are small. Many good intramuscular preparations are on the market.

Practical Considerations

Age.—It is usually assumed that children require about twice as much digitalis, per pound of body weight, as do adults.[52,53] This is erroneous. The dose of digitalis for a child is proportionately about the same as that for an adult.[54] This erroneous assumption may have become widespread because digitalis is so often used in children with rheumatic carditis. Since it is often inefficacious in this disease, larger amounts have been employed in futile attempts to obtain an effect.

Most patients over sixty, however, require a smaller dose of digitalis than do patients who are twenty to fifty years of age. An eighty-two-year-old physician, for example, has a complete heart block. He has been in heart failure for years; he has an enlarged heart and liver; his legs are swollen. Nevertheless, for the past five or six years he has maintained a worth-while existence by taking only one $^1/_2$-grain tablet of digitalis leaf three times a week. He finds that he becomes dizzy and develops "indigestion" if he takes more of the drug. Another man, seventy-six years of age, suffered from arteriosclerotic heart disease with auricular fibrillation. He too developed "bigeminy" and "indigestion" when he took more than one half of the ordinary 0.25-mg. scored tablet of Digoxin three times a week.

The reason for the low dosage often required by many old people is not clear. It may be that they are very sensitive to vagus stimulation.[55] It is well known that they are particularly sensitive to carotid sinus pressure. Since digitalis stimulates the vagus, the older person may need less digitalis to produce the desired effect. Older people also produce less sex hormone, and this lack may make them more sensitive to digitalis. Besides, there is an alteration in the chemistry of the heart muscle in the aged. They have less potassium in the myocardium, and potassium is an essential electrolyte for the action of digitalis.

Some old patients, on the contrary, require the average adult dose of digitalis or even more. Hence, in the aged also the dosage of digitalis must be carefully determined for each individual patient.

Hyperthyroidism.—If digitalis does not control a rapid ventricular heart rate, regular or irregular in rhythm, hyperthyroidism should be suspected. The diagnosis should be established or excluded by a determination of the basal metabolism, the radioactive iodine uptake, or the protein-bound blood iodine level. In this disease digitalization may be a formidable task, and much larger doses may be required to control heart failure. A bizarre arrhythmia in hyperthyroidism, arising from many irritable foci, may be due to digitalis intoxication. In the presence of hyperthyroidism, as in the presence of any disease, excessive digitalis may produce myocardial damage.[55]

Infections and High Cardiac Output Conditions.—Digitalis is often ineffective and may even be harmful in pneumonia, acute rheumatic fever, diphtheria, myxedema, and in conditions with increased cardiac output, such as anemia, arteriovenous aneurysm, and beriberi. In this country some time ago digitalis was a very popular therapeutic agent in pneumonia in spite of warnings by a few. The studies of Niles and Wyckoff[56] and the reports of Wyckoff, Dubois, and Woodruff[57] demonstrated its harmfulness in pneumonia.

Angina.—Should digitalis be prescribed in patients with an anginal syndrome? Gold and his colleagues believe that digitalis is of help if the proper therapeutic dose is given.[58] In my experience, however, as in that of Fenn and Gilbert,[59] digitalis may increase the anginal pain. Only in the presence of heart failure do I employ it.

Coronary Occlusion.—Digitalis should not be given routinely to patients with coronary occlusion.[60] It may be administered immediately, however, to those who are in moderate or severe heart failure. Since patients with acute coronary occlusion commonly get well under the usual routine treatment, and since digitalis is a poison, it should be prescribed in such cases with special caution. Avoidance of too many unnecessary therapeutic agents is one of the reasons for the steady decrease in mortality from coronary occlusion. It is not that digitalis is less efficient in left heart failure than in right. It is dramatically effective in cardiac asthma and pulmonary edema, but it is entirely unnecessary in the slight left heart failure so frequently seen at the very onset of a coronary occlusion.

Surgical Procedures.—Digitalis is of no value preoperatively unless the patient is in heart failure or if there is auricular fibrillation with a rapid ventricular rate. It should not be administered routinely prior to surgery.

Mercurial Diuretics.—In the presence of severe heart failure with fluid in the lungs, abdomen, and legs, it has been suggested that digitalis be withheld for a day or two before a mercurial diuretic is administered. As a result of the mercurial diuretic, 2 to 5 or 10 pounds of fluid are excreted, and digitalis intoxication may ensue. A possible explanation for this is that a large amount of digitalis is suddenly mobilized into the bloodstream. The more acceptable reason is that there is a loss of potassium during mercurial diuresis with a resultant reduction of the patient's tolerance to digitalis. The administration of 10 Gm. of potassium a day will prevent this toxic effect.[29]

Calcium.—From the theoretic considerations and from experimental findings, it is dangerous to administer calcium at the time that digitalis is given.[34] Clinically, however, the simultaneous administration of both is not harmful. Calcium gluconate has been given intravenously to fully digitalized patients with heart failure for circulation time measurement without any ill effects.

Auricular Flutter.—In the treatment of auricular flutter with digitalis I ordinarily discontinue the medication when auricular fibrillation occurs. A regular sinus rhythm often appears spontaneously thereafter. However, continuation of the digitalis until sinus rhythm is present is probably just as efficacious.

Heart Block.—Should digitalis be given in the presence of complete heart block? If heart failure is present, yes. If partial heart block with heart failure is present, the question is not so easily answered. Very often, in the transition from partial to complete heart block digitalis may produce symptoms. In partial block, therefore, digitalis should be used with particular care. Often, however, by relieving the heart failure, digitalis will clear up the heart block also.[23]

Ventricular Tachycardia.—This dangerous form of tachycardia may itself be due to digitalis. If it is not and if heart failure is present, digitalis will be of benefit and may abolish the condition. In any case in which digitalis is being used, it should be discontinued if ventricular tachycardia appears.

Coagulability of the Blood.—Because of the widespread administration of anticoagulants to patients with heart disease, the possible effects of digitalis on the coagulation time of the blood should be carefully studied. Does digitalis shorten the coagulation time and cause thrombosis? Clinically, I have found that digitalis does not interfere with the administration of the anticoagulants. Sokoloff and Ferrar[61] also found no significant alteration of the coagulability of the blood in ten patients before and during oral digitalis therapy.

Shock and Operation.—The general practitioner not uncommonly prescribes digitalis in peripheral shock. Clinically, digitalis is actually contraindicated in this condition unless congestive heart failure is present. There is a diminution in the cardiac output in shock, and digitalis further reduces the blood volume and the venous return.[62–64] Thus, in shock following infection or in shock following operation, digitalis is not only useless but also may be harmful and even hasten death.

High Altitudes.—At high altitudes the initial therapeutic dose of digitalis and its maintenance dose are said to be less than those usually required.[65]

Quantitative Measurement of Digitalis Effect.—Electrocardiographic alterations cannot be employed as a quantitative measurement of the effect of digitalis. It is often very difficult to determine whether a rapid ventricular rate and nausea, retching, or vomiting are due to heart failure which has been treated with inadequate doses of digitalis or to digitalis intoxication. In such cases the administration of strophanthin or lanatoside C intravenously aids in this differential diagnosis.

A woman of thirty-five had chronic rheumatic heart disease and longstanding auricular fibrillation. For weeks she had been in severe congestive failure; she had an enlarged, tender liver and a very rapid ventricular heart rate. She was continuously nauseated and was racked by a constant dry cough. Treatment by means of a strict salt-poor diet, mercurial diuretics, and the usual dosage of digitalis was inefficacious. She had at times received Digoxin in an alternating daily maintenance dose of 0.5 mg. and 0.25 mg.; at other times she had received Gitaligin in alternating daily doses of 1.0 and 0.5 mg. To determine whether the patient was "under" or "over" digitalized, a diagnostic test was made. Three intravenous injections of 0.4 mg. of lanatoside C were administered, one every four hours. The ventricular rate promptly fell from about 120 to about 90, and the nausea, retching, vomiting, and cough completely disappeared. Thus, it was evident that the patient had not been receiving a "therapeutic" amount of digitalis. The Gitaligin, which she had been getting at the moment, was increased, therefore, to 1.5 mg. daily and then 1.25 mg. daily. The condition was decidedly improved thereby and has remained so on this daily amount of digitalis.

Although lanatoside C has been used as a differential diagnostic test, I more often administer 0.1 mg. strophanthin intravenously every hour for this purpose. After one to two doses have been given, one can usually know whether the patient had previously received an adequate amount of digitalis or not.

Instead of strophanthin, Lown and Levine[66] have recently employed acetylstrophanthidin,[67] which they believe to be safer. Two ampules, each containing 0.6 mg. of acetylstrophanthidin, are diluted to 20 cc. in 5 per cent glucose and water. Then 0.3 mg. of this drug (5 cc. of the solution) is given intravenously every five minutes until either a therapeutic effect or a mild toxic response occurs. The procedure may be varied. If digitalis intoxication is suspected, either the interval between doses is increased to ten minutes, or the initial two doses are reduced to 0.15 mg. each. With the onset of intoxication, nausea excepted, the test is stopped. If toxicity occurs after the first injection of 0.15 mg. or 0.3 mg. of acetylstrophanthidin, "overdosage" is presumed to be present. If signs of poisoning are observed after 0.6 mg. of the drug without the appearance of a therapeutic effect, the patient is regarded as adequately digitalized. If toxicity first appears after 0.6 mg. or 0.9 mg., fractional doses of any one of the commonly used digitalis preparations are given until the same effect has been attained. If the patient requires as much as 1.2 mg. of acetylstrophanthidin, full digitalization is carried out.

Summary

Digitalis is the most important drug in the treatment of heart failure. It is, however, one of the most poorly administered preparations in medicine. Numerous instances of digitalis intoxication and even death have resulted from its overdosage.

Although each patient must be treated as an individual problem, a general rule concerning the oral dosage of commonly employed digitalis preparations has been formulated for the physician's guidance.

Digitalis should never be prescribed without first apprising the patient of the symptoms that may appear when the therapeutic effect has been exceeded or when a sensitivity to the drug exists. Early subjective complaints are anorexia and weakness. Abdominal discomfort and visual disturbances may also appear early. Since nausea, vomiting, and diarrhea are late manifestations of digitalis intoxication, it is dangerous to wait for these telltale evidences to appear.

The most common signs of digitalis intoxication are premature beats (extrasystoles), often "bigeminy" or "trigeminy," but arrhythmias and tachycardias of all kinds may appear. Bradycardia also may occur. The tachycardias of ectopic origin may be ventricular, auricular, or nodal. Heart block may be a sign of digitalis overdosage.

The cardiac rhythm may be chaotic; hence, a bizarre electrocardiographic arrhythmia, which defies interpretation, should suggest the possibility or even the probability of digitalis intoxication.

The electrocardiographic changes caused by digitalis are RS-T depressions and T-wave alterations. There is, however, no electrocardiographic change pathognomonic of a digitalis effect, nor can these alterations be employed as a quantitative measurement of the digitalis effect.

Digitalis leaf is a simple and safe preparation.

Since digitoxin has a marked cumulative action, its toxicity persists longer than that of the other preparations of digitalis.

Digitalization with Gitaligin, as well as maintenance, is said to be attainable with about one-third the toxic dose, whereas other digitalis preparations require approximately two-thirds.

Intravenous digitalis medication is for emergency treatment. Ouabain is most commonly employed for this purpose. It is of no value when given orally or intramuscularly. Its action is of short duration. In order to continue digitalization, therefore, oral therapy should be instituted when the intravenous medication is first administered.

The dose of digitalis for a child is proportionately about the same as that for an adult.

Most aged patients require a much smaller dose of digitalis than do adults who are twenty to fifty years of age.

A bizarre arrhythmia arising from many irritable foci may be due to digitalis intoxication. This may be observed in hyperthyroidism, myxedema, pneumonia, acute rheumatic fever, and diphtheria, as well as in conditions with increased cardiac output, such as anemias, arteriovenous aneurysm, and beriberi.

Digitalis may increase anginal pain. Only in the presence of heart failure should it be employed in this condition.

Digitalis should not be used routinely in coronary occlusion. However, it may be administered immediately to patients with moderate or marked heart failure or with ventricular tachycardia. For the treatment of ventricular tachycardia intravenous ouabain should be administered.

Digitalis should not be prescribed preoperatively as a routine procedure. It is of no value unless the patient has heart failure.

In the presence of severe heart failure with fluid in the lungs, abdomen, and legs, digitalis should be withheld for a day or two before a mercurial diuretic is administered. It is better, however, to continue the digitalis and also to administer potassium.

It is not dangerous to administer calcium in small amounts at the time that digitalis is given.

In the treatment of auricular flutter digitalis may either be discontinued when auricular fibrillation appears, or it may be continued until sinus rhythm is present.

Digitalis should be given in the presence of complete heart block if heart failure is present. If partial heart block with heart failure is present, digitalis should be used with particular care.

There is no clinically significant alteration of the coagulability of the blood in patients before and during oral digitalis therapy.

In shock digitalis is not only useless but often may also be harmful and may even hasten death. It should be prescribed only if evident heart failure is also present.

At high altitudes the initial therapeutic dose of digitalis and the maintenance dose are said to be less than those ordinarily required.

In cases in which it is difficult to decide whether the patient has been under or overdigitalized, strophanthin, Cedilanid, and possibly acetylstrophanthidin intravenously may be employed as a test to determine whether digitalization has been adequate or excessive.

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Leading Child Killer Can Be Prevented

A "vaccine" has been prescribed for the major killer of children—accidents. Between 11,000 and 13,000 children are killed each year, and 40,000 to 50,000 are permanently injured by accidents. Accidents cause more deaths of youngsters than the next five or six most important causes combined. But Dr. Harry F. Dietrich, Beverly Hills, California, pediatrician, said that accidents—like diseases—can be prevented and treated with the right vaccine.

The vaccine consists of protection and education before the child even starts school, Dr. Dietrich said in the November 6 *Journal of the American Medical Association.* It must be given at the preschool age because that is when a child's behavior and personality are shaped and it is also when one half of all fatal accidents occur. "Up to the age of twelve to eighteen months the infant needs complete protection from all accident hazards. If he is burned, drowned, crushed, poisoned, or mangled he has been denied that protection," Dr. Dietrich said. ". . . consider the child's situation at age five or six when school and play take him away from the protective devices of the home. His safety now depends on what he has learned. Whether or not he dashes blindly into the street, stumbles into a water-filled quarry, ignites a pile of rubbish, loses his arm in some power machinery, or drinks from a bottle filled with paint thinner, depends on what his parents taught him between the ages of one and five.

"It must be apparent that after the age of one, protection must gradually be reduced and replaced by education. While still maintaining protection against subtle and incomprehensible hazards, parents must begin to teach the child to do safely all of the things he wants to do and is capable of doing. Protection is primarily intended to keep the child unharmed until he is able to be taught. Children must learn to live safely with, rather than without, such things as fire, machinery, electricity, and chemicals." The application of accident prevention in the home requires three tools: "forethought, time, and discipline."

In addition to home protection and education, Dr. Dietrich suggested improvements in adult education, accident prevention courses in medical schools, legislation, improvements in packaging and labeling insect poisons and medicines, and possible control of inflammability of children's clothing. But he said "even brief consideration of the motor vehicle accident situation will keep us from placing too great dependence on laws." The problem must be solved instead by the medical profession and parents, because of "the devastating toll that accidents are extracting each year."

Roentgen-ray Examination in Medicolegal Autopsies

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WE HAVE found roentgen-ray examination in medicolegal autopsies useful in several ways. From a general standpoint such examination furnishes an additional and different type of evidence for the records, and it offers illustrative material for teaching students in forensic science.

Roentgen-ray examination is particularly useful (1) in the detection of bullets and the effects of shooting within the body, (2) for disclosing fracture of bones, (3) for the demonstration of air and gas in tissue and in body cavities, and (4) for supplying data for purposes of identification.

Detection of Bullets

In cases where death has apparently been caused by shooting, roentgen-ray examination of the body before autopsy is done routinely. Films from several positions may be made. Thus, bullets or fragments of bullets can be located easily and quickly.

Entrance wounds may disclose the presence of metallic fragments. The number of bullets or fragments of bullets is definitely determined. By the distribution of metallic fragments, course of the bullet may be estimated. The shape and size of bullets can be suggested by the roentgenologist. The effects of shooting, such as fractures of bones, blast injuries in lungs, air and fluid in body cavities, and subcutaneous emphysema, are satisfactorily shown. Rarely, fluoroscopic examination aids in locating a bullet. If no bullets are present in the body, their absence is verified for the records.

The following cases exemplify the use of roentgen-ray examination in medicolegal autopsies where the examination was made to detect bullets and the effects of shooting within the body.

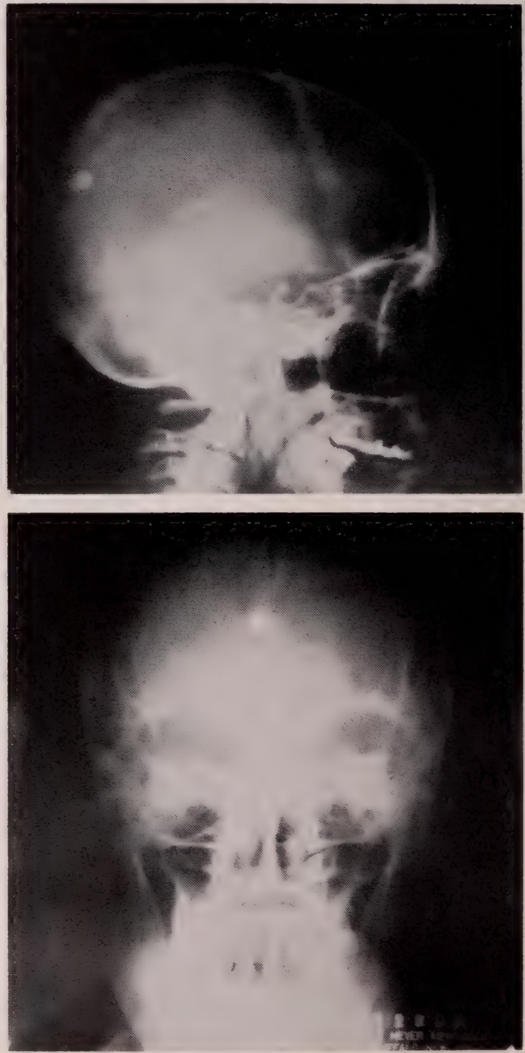

FIG. 1. *Case 1*—Anteroposterior (*top*) and lateral (*bottom*) x-ray films of skull showing bullet.

CASE 1. DETECTION OF BULLET INSIDE SKULL BY MULTIPLE PROJECTIONS (1950).—M. B., a thirty-four-year-old white man, was admitted, unconscious, to the hospital by ambulance. He was bleeding from a wound in the right upper eyelid and from the mouth and both nostrils. He died about two hours after hospital admission.

X-ray films of skull showed bullet in left posterior parietal area, anterior to lambdoidal suture, 3 mm. to left of midline; scattered fragments of bullet, mostly in frontal region, in medial portion of right orbit and in region of right squamosal suture (Fig. 1).

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Autopsy showed entrance wound in right upper eyelid; path traced through right orbit, into skull, backward and to the left at base of brain; fractures of orbital plate, cribriform plate, ethmoid and sphenoid bones; hemorrhage into ethmoid and sphenoid sinuses, into nose and pharynx, into right orbit and both lids of right eye, intracranial hemorrhage.

Toxicologic examination showed brain alcohol 16 mg., blood alcohol 50 mg. per 100 cc.

CASE 2. DETECTION OF BULLET AND BONY FRAGMENTS INSIDE SKULL, BULLET ENTRANCE AND COURSE, AND FRACTURE OF SKULL (1950).—M. F., a thirty-six-year-old white woman, was found lying dead in a ditch along a road. She had apparently been shot through the mid-forehead.

X-ray films of skull revealed multiple fractures of explosive type with fragment of left posterior parietal area displaced outward at point of impact of projectile; entrance of projectile, slightly to left of midline on level with nasal bone; multiple metallic fragments scattered from region of left orbit on a direct line with orbit and parietal bone approximately above level of occipitoparietal suture where there were two large fragments and several smaller ones; bony fragments, in course of projectile, lying in brain in midportion of cranium; fractures of nasal bone and zygoma.

Autopsy revealed entrance wound in left nasoorbital region; metallic fragments found inside skull with path traced from entrance through brain; bony fragments in brain; intracranial hemorrhage; multiple fractures of skull.

Toxicologic examination was negative.

CASE 3. DETECTION OF FRAGMENTS OF BULLET WHICH HAD NOT ENTERED SKULL (1949).—E. P., a sixty-one-year-old white man, was bludgeoned and shot about two months before his confessed assailant led the police to where the body had been dumped in a State park.

X-ray films of skull demonstrated multiple metallic foreign bodies in ringlike distribution in left posterior parietal area without fracture or penetration of skull; gas within skull in frontal area; multiple fracture lines involving right side of skull with depression of bony fragments; fractures of both mandibles, right zygomatic arch, right superior orbit, and sphenoid bone.

Autopsy demonstrated entrance wound in scalp, left of midline posteriorly, with multiple metallic fragments in scalp and under periosteum; multiple, comminuted, compound depressed fractures of right side of skull; fractures of mandibles and zygomatic bone; marked brain damage; hemorrhage into scalp.

CASE 4. DETECTION OF BULLETS AND FRAGMENTS WHICH HAD NOT ENTERED SKULL AND FRAGMENTS INSIDE SKULL (1951).—E. Y., a twenty-five-year-old Negro, was found lying dead in a clearing. His hat with blood-stained lining was discovered 20 feet away.

X-ray films of skull showed one metallic fragment within skull close to vertex in region of right fronto-parietal suture, about 1.5 cm. posterior to it; several conglomerate densities in region of base of skull, on left, just below parieto-occipital suture; several smaller fragments in region of posterior margin of foramen magnum; several small vague foreign bodies on a plane between foramen magnum and fragment in vertex; fractures of skull.

Autopsy showed three entrance wounds in occipital region; two misshapen bullets and fragments outside skull in left occipital region; path of third bullet traced inside skull with bullet found in right cerebral hemisphere; fractures of skull; edema of brain; intracranial hemorrhage.

Toxicologic examination for brain alcohol was negative; blood alcohol was 50 mg. per 100 cc.

CASE 5. DETECTION OF BULLET AT EXIT PERFORATION OF SKULL (1954).—C. W., a forty-year-old white man, was found in a bathroom with a bullet wound in right temple. Beneath the body lay a rifle.

X-ray films of skull demonstrated metallic foreign body in left parietal region in midst of diminished density of bone, having appearance of perforation of skull with bullet in this perforation or just outside; multiple fragments across brain substance from right temporal area toward point of lodgement; small metallic fragment anterior to body of second cervical vertebra; fractures of skull in stellate fashion outward from right temporal area.

Autopsy demonstrated entrance wound in right temporal area of scalp with path traced through skull and out of skull in left posterior area with fragments just outside skull in scalp; intracranial hemorrhage; multiple fractures of skull.

Toxicologic examination showed brain alcohol 176 mg., blood alcohol 125 mg. per 100 cc.

CASE 6. DETECTION OF BULLET WHICH HAD PASSED THROUGH SKULL AND OF AIR INSIDE SKULL (1952).—J. L., a thirty-five-year-old white man, shot himself in the forehead.

X-ray films of skull revealed multiple small metallic fragments extending from right frontal sinus posteriorly to region of petrous bone on the left followed thence downward and posteriorly to region of left occiput where there was a fracture at base of skull; large metallic fragment lying just outside outer table of skull; moderate amount of air in frontal region between brain and bone; stellate fracture originating in region of right frontal sinus; fractures of roof of both orbits, cribriform plate, and sphenoid bone.

Autopsy revealed entrance wound through forehead with path traced inside skull, through brain, left occiput into soft tissues of neck, where misshapen bullet found; fractures of skull; intracranial hemorrhage.

Toxicologic examination showed brain alcohol 50 mg., blood alcohol 50 mg. per 100 cc.

CASE 7. DETECTION OF BULLET IN ABDOMEN, OF BULLET FRAGMENTS IN NECK, AND OLD BUCKSHOT IN ABDOMEN (1953).—W. W., a forty-year-old Negro, was treated in a hospital for two bullet wounds in neck and one in abdomen.

X-ray films of abdomen showed bullet overlying intervertebral region between fifth lumbar and first sacral vertebrae; multiple radiopaque densities through right side of abdomen; fluid levels in bowel. X-ray films of neck demonstrated metallic fragments overlying horizontal ramus of left mandible with some extending into cervical region and also downward.

Autopsy showed entrance wound in abdomen with path traced through duodenum, into retroperitoneum, involving inferior vena cava, passing through fourth lumbar vertebra to lodge at fifth lumbar vertebra; retroperitoneal and intraperitoneal hemorrhage; peritonitis; sutured gallbladder and liver; entrance wound in left side of neck with bullet path traced in scalp to exit wound in suboccipital area; intracranial hemorrhage; buckshot in abdomen.

CASE 8. DETECTION OF MULTIPLE FRAGMENTS OF MULTIPLE BULLETS IN CHEST, ABDOMEN, AND LEG; FLUID IN PERICARDIUM (1951).—G. G., a thirty-one-year-old Negro, was shot while in a tavern. He was taken to a hospital and pronounced dead on arrival.

X-ray films demonstrated small metallic fragment about level of diaphragm on left; 3 cm. below this, overlying tenth rib posteriorly, a solitary fragment; three metallic fragments overlying posterior portion of left eleventh rib; another fragment at level of left twelfth rib posteriorly; also a solitary fragment over left sacroiliac joint; fragment, irregularly shaped, on inner aspect of left femur, 5 cm. below trochanter.

Autopsy demonstrated entrance wound in left side of chest with path traced through pericardium, heart, diaphragm, liver, stomach to lodge in retroperitoneum; hemopericardium; hemoperitoneum; entrance wound in left abdomen with path traced through peritoneal cavity, sigmoid colon, iliopsoas muscle to fragment lying anterior to pelvic bone on left; entrance wound in left lateral thigh with bullet found in medial portion.

Toxicologic examination was negative for brain alcohol; blood alcohol was 50 mg. per 100 cc.

CASE 9. DETECTION OF BUCKSHOT (1952).—P. T., a forty-nine-year-old white man, was shot in back of head by shotgun.

X-ray films of skull showed large bony defect in right occipital area; fractures of skull; buckshot outside and inside right side of skull, extending along parietal, occipital, and right mandibular area; question of air in occipital region inside skull.

Autopsy showed entrance wound in right occipital area; fractures of skull; brain damage; multiple buckshot.

Toxicologic examination demonstrated brain alcohol 9 mg. per 100 cc.

CASE 10. DETECTION OF BULLET FRAGMENTS, FRACTURES OF SPINE AND RIBS, FLUID IN CHEST, AND BLAST INJURY OF LUNG (1951).—B. G., a thirty-year-old Negro, died after admission to hospital, bleeding from wounds in right side of neck and back.

X-ray films of skull showed no bullet X-ray film of chest revealed fracture of transverse process of right seventh cervical vertebra; fracture of first to sixth ribs on right; fluid on right side; blast injury of right lung; metallic fragments on right. X-ray film of abdomen showed no bullet.

Autopsy revealed entrance wound of right cervical region with path traced into right pleural cavity, fracturing first to sixth ribs along spine, and out through back at level of eighth rib; laceration of pleura over right lung and laceration of lung with extensive hemorrhage; retropleural hemorrhage; hyperemia and edema of right lung; hyperemia and emphysema of left lung.

Toxicologic examination showed brain alcohol 26 mg., blood alcohol 50 mg. per 100 cc.

Detection of Fractures

The usual difficulties encountered in the roentgen-ray demonstration of fractures must be taken into account since linear fractures may not be demonstrated at all or only after extensive use of multiple, varied angulation projections. This holds true especially for fractures of the facial bones. The difficulty sometimes met in linear fractures of the ribs without displacement may have to be considered. The occurrence of certain conditions such as subcutaneous emphysema, postmortem gas formation, may hamper evaluation of bone changes on an x-ray film.

CASE 11. FRACTURE OF RADIUS DUE TO BULLET (1951).—A. B., a twenty-five-year-old white man, was shot several times while in a tavern. The man was operated for laceration of the right femoral artery and vein and for perforation of the small intestine. He died three days later.

X-ray films showed fracture in upper third of right radius, explosive type. Three bullets were shown in abdomen, pelvis, and right thigh.

Autopsy demonstrated multiple bullet wounds in right leg, right forearm, and abdomen; perforations of urinary bladder; ligated vessels of right leg; sutured perforation of small intestine; fractures of right radius and of pubis; lower nephron nephrosis (urea nitrogen 125 mg.).

Toxicologic examination was negative.

CASE 12. LINEAR FRACTURE OF MANDIBLE (1952).—A. C., a forty-eight-year-old Negro, was struck with a fist. Falling to the floor, he was then kicked about face and head several times. He died before an ambulance arrived.

X-ray film of mandible revealed linear fracture through right ramus without displacement of fragments.

Autopsy showed fracture of nose; fracture of right mandible; multiple lacerations of face and mouth; hemorrhage of right mandibular and cervical regions; hemorrhage in pharynx; aspirated hemorrhage in larynx, trachea, and bronchi; hyperemia and edema of lungs.

Toxicologic examination showed brain alcohol 262 mg., blood alcohol 250 mg. per 100 cc.

CASE 13. FRACTURES OF FACIAL BONES (1949).—H. M., a thirty-nine-year-old white man, was found on the ground below an upper story room from which he had fallen or had been pushed. He died three hours after admission to a hospital.

X-ray films of skull demonstrated multiple fractures of left antrum, inferior orbital margin, and posterior portion of left zygoma; of right antrum, zygoma, maxilla, and mandible; of nasal process; questionable fracture of right frontal bone, lateral to frontal sinus.

Autopsy revealed multiple fractures of right temporal, frontal, and parietal bones and facial bones; brain damage; intracranial hemorrhage.

Toxicologic examination showed brain alcohol 11 mg., blood alcohol 50 mg. per 100 cc.

CASE 14. FRACTURES OF FACIAL BONES UNDETECTED (1953).—A. M., a thirty-six-year-old Indian man, was beaten to death with butt of carbine.

X-ray films of skull showed fractures of left parietal area extending into frontal area on left; fracture of rami of left and right mandible; no definite fracture of maxillae.

Autopsy showed multiple lacerated wounds of face, scalp, lips, and neck; fractures of nasal, maxillary, and mandibular bones; multiple fractures of skull; intracranial hemorrhage; brain damage; laceration of left elbow; fracture of left ulna.

Toxicologic examination showed brain alcohol 223 mg., blood alcohol 245 mg. per 100 cc.

CASE 15. FRACTURE OF STERNUM, POSTMORTEM SPECIMEN (1953).—J. B., a twenty-nine-year-old Negro, died after he was struck and hit by another man.

Autopsy showed fracture of skull; petechial hemorrhages of brain; fracture of sternum with contusion of lung, anterior mediastinum, pericardium, and anterior myocardium; multiple contusions of skin and soft tissues; pulmonary edema.

X-ray film of sternum revealed irregular fracture line, transversely, across distal third of body of sternum.

CASE 16. HEALING FRACTURES OF RIBS, POSTMORTEM SPECIMEN (1948).—L. K., a fifty-eight-year-old white man, died of advanced pulmonary tuberculosis. About eighteen days before death he fell hitting his left side against a doorway. Postmortem x-ray film of excised left tenth and eleventh ribs showed healing fractures, posteriorly.

CASE 17. OLD FRACTURES OF RIBS, POSTMORTEM SPECIMEN (1953).—L. M., a forty-three-year-old white man, died of advanced pulmonary tuberculosis, Laennec's cirrhosis, and chronic pancreatitis.

Postmortem x-ray film of excised right seventh and eighth ribs showed fractures with callous formation indicating fractures at least several months in duration; also noted exophytic spurs projecting from each rib and producing pseudoarthrosis.

Demonstration of Air and Gas

In certain cases, examples of which follow, antemortem and postmortem air and gas are demonstrated by roentgen-ray examination:

CASE 18. AIR IN SOFT TISSUE AND PLEURAL CAVITY (1952).—D. H., a forty-five-year-old white man, was shot to death during a robbery.

X-ray film of chest and neck showed subcutaneous emphysema along chest wall, especially on right, with considerable air in soft tissues of right side of neck; haziness of both lung fields, more on left; fluid in right pleural cavity; pneumothorax on left; tiny metallic densities overlying right mid-lung field; no definite fractures of ribs seen.

Autopsy revealed entrance wound in right posterior upper arm-shoulder with path traced through right side of chest; fractured seventh rib; right lower lobe, mediastinum, esophagus, left bronchus, left upper lobe, through left side of chest, and through left upper arm; bilateral hemothorax.

Toxicologic examination was negative.

CASE 19.—Described as Case 6 under "Detection of Bullets" with antemortem air inside skull.

CASE 20. APPARENTLY POSTMORTEM GAS INSIDE SKULL (1951).—B. D., a thirty-four-year-old white woman, was found dead in a creek bed at the base of a cliff. X-ray films demonstrated fractures of skull, nasal and left zygomatic bones, dorsal spine, left clavicle; no fractures of ribs seen;

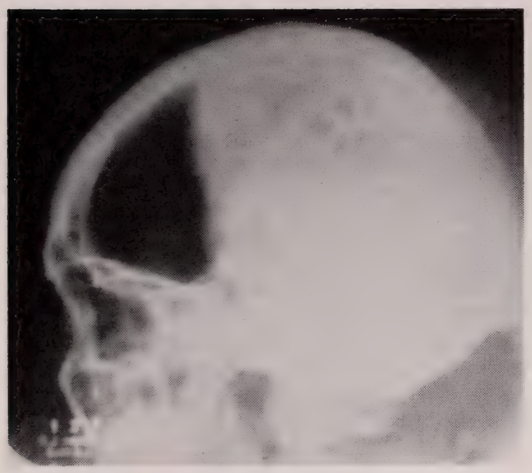

FIG. 2. *Case 21*—X-ray film of skull showing postmortem gas.

mottling of lung; no gas in soft tissue planes in any portion of body; moderate gaseous distention in abdomen; gas in frontal area of cranial cavity (one eighth of volume of skull); mottling of lung fields, especially on right side; marked swelling of soft tissues of face.

Autopsy showed comminuted depressed fractures of skull; brain damage; intracranial hemorrhage; fractures of dorsal spine, nose, and left clavicle; fractures of first to fifth ribs on right and first to sixth ribs on left at vertebral junction; pulmonary hemorrhages; multiple abrasions of skin and lacerations of lips; subcapsular hemorrhages of liver.

Toxicologic examination revealed brain alcohol 257 mg., blood alcohol 200 mg. per 100 cc.

CASE 21. POSTMORTEM GAS FORMATION (1951).—A. G., forty-eight-year-old Mexican, was found dead lying in a trunk in a derelicts' colony. He had last been seen alive two days before.

X-ray films were negative for bullets and fractures; postmortem gas was visible in soft tissues and cavities (Fig. 2).

Autopsy showed severe postmortem autolysis and gas formation.

Toxicologic examination of liver revealed methyl alcohol 31 mg., ethyl alcohol 95 mg. per 100 cc.

CASE 22. AIR IN TRACHEA, BRONCHUS, STOMACH, AND SMALL INTESTINE (1951).—A pregnant woman was admitted to the hospital after criminal abortion had been attempted. Twelve hours later she passed a premature live male fetus, which was placed in an incubator. Death of the fetus occurred in twelve hours.

X-ray films of dead infant showed fetal age five to six months; air in trachea and right main bronchus; no air in either lung; air in stomach and small intestine.

Autopsy of premature infant (weight 390 Gm., 28.5 cm.) showed that the left lower lobe and margins of right lung floated in water; other portions of lungs sank in water. Microscopic examination of lungs revealed atelectasis with distended alveoli.

Identification of Remains

Roentgen-ray examination served as an additional tool for purposes of identification. It helped in differentiating human and animal remains, in determining age, sex, and race of human body, in matching bony parts found at different times, and in estimating time for which bones had remained in ground.

CASE 23. DIFFERENTIATING HUMAN AND AMINAL BONES (1953).—Bones were unearthed by a ditch-digging machine. The road gang foreman, a former butcher, told the police that he felt the bones could be of human origin.

X-ray film showed the bones to consist of ends of two femurs, two vertebral bodies, scapulae and metatarsals, hemipelvis, and fragments of shafts of femurs. The bones were not human; they were from a moderate-sized animal, probably a large dog.

CASE 24. IDENTIFICATION OF HUMAN BONES WITH AGE, SEX, AND HEIGHT (1952).—Unearthed bones included one skull, mandible, four cervical vertebrae, five dorsal vertebrae, two lumbar vertebrae, two radii, two ulnas, fragments of one radius and ulna, clavicle, pelvis (three pieces), one humerus, one scapula, manubrium of sternum, two first metatarsals, two second metatarsals, two third metatarsals, two os calcis, one astragalus, two cuboids, three cuneiforms, one proximal phalanx, two femurs, two tibias, two fibulas, five sets of incomplete ribs.

X-ray interpretation was that the bones were from two bodies: the first, that of a woman about 63 inches tall, thirty-five to forty years of age; the second body, that of a man. Bones had been in ground for a considerable period of time.

Anatomic interpretation was as follows: bones from two bodies, the first that of a woman, 64$^1/_4$ inches tall, thirty to thirty-five years of age, of South Central European stock; the second body, that of a man. Both male and female bones had been in ground quite a few years.

CASES 25 and 26. IDENTIFICATION OF CHARRED BODIES.—Two charred bodies were recovered from the burned ruins of a home in which two male infants and a dog were believed to have perished.

X-ray films of charred remains showed both bodies to be of human beings: one approximately five months of age, the other two to three years of age. Only portions of the torso and anterior part of skull were present in each specimen. Information from the mother disclosed the ages of the infants to be four months and two and one-half years.

Case 27. IDENTIFICATION IN PARTS OF BODY.—Within one week a human right arm, left knee joint, right knee joint, torso, and skull were found over an area of several counties.

X-ray interpretation was as follows: All were portions of same individual. Bony age was estimated to be thirty-five to forty years; height of individual estimated 5 feet to 5 feet 4 inches; sex female. Edges of bones had been cut rather cleanly by an instrument which produces rather square cut (saw). Also there was gas in tissues, and a fracture of the skull, depressed in right occipital region, was seen.

Anatomic interpretation revealed body length about 5 feet 1 inch; white female with light brown hair. Final identification was made through dental chart and fingerprints.

Toxicologic examination was negative.

Summary

The use of roentgen-ray examination in medicolegal autopsies is described. Such an examination may be of value as an adjunct to a complete autopsy. Illustrative cases are presented to indicate how roentgen-ray examination in medicolegal autopsies contributes information for the records and material for teaching forensic sciences, particularly in the fields of detecting bullets and their effects in the body, showing fractures in bones, disclosing air and gas in tissue and body cavities, and making identifications.

Dr. Bernard W. Juvelier made autopsies on certain cases. Medical examiners included Drs. Rocco DeDominicis, Paul T. Rutecki, Aaron Wagner, Milton J. Schulz, John P. Hylant, and James F. Benedict. Special examinations were made by Drs. Oliver P. Jones and Niels C. Klendshoj and Mr. Milton Feldstein.

Discussion

Jesse D. Stark, M.D., *New York City.*—X-rays were discovered less than fifty-nine years ago, and although their use today is universal, it is surprising that roentgen examination in conjunction with postmortem examination is so rarely performed.

Various early writers, among them Kolle in 1897, listed the possible uses of the infant radiations, and although they proposed the possible use of x-rays in medicolegal cases involving fractures and foreign bodies, no one thought of postmortem x-ray examination, medicolegal or not. As to fracture cases, it is interesting to note that Kolle thought that x-ray evidence might take the place of "heretofore expensive expert testimony." I withhold any pertinent comment, except that, on the contrary, expense is a deterrent to their use in the particular field under discussion today.

The entire subject of postmortem x-ray examination is very sparse in the literature. In 1940 Hampton and Castelman presented a correlative study of postmortem chest films and autopsy findings with specific reference to pulmonary embolism and infarction. This is of interest because it illustrated the difficulty of procuring satisfactory roentgenograms of cadavers and because it demonstrated the difference in findings between those of living subjects and cadavers. A special holster was used by these two writers to support the subject in an erect position. A special solution was instilled by gravity through the trachea until both lungs were approximately the same size as during life. In this manner the postmortem films corresponded to the antemortem films taken during quiet breathing or expiration. The diaphragmatic domes were usually two interspaces higher than in vivo, and the lower lobes were incompletely aerated. The blood vessels were usually smaller and less distinct, the aorta half the living size, the heart size variable, and the anteroposterior diameter of the chest reduced.

I have described these findings in detail in order to impress you with the fact that x-ray examination of a cadaver is quite different from the x-ray examination of a living person, and that itself is difficult enough in some cases. If the patient cannot cooperate, the films are not always satisfactory. With the cadaver, naturally, we can expect no cooperation at all, and the role of the technician is most difficult. Second, as brought out above, the postmortem appearance of the anatomic structures is quite different, especially in the soft tissues.

Because of these difficulties it is easy to opine the reason for the scarcity of this special type of examination. We can understand, therefore, the title of a paper published in 1952 by Poppel, Scheinmel, Jacobson, *et al.;* "A Plea for Routine P.M. Chest Teleoroentgenography."

It is thus a great pleasure to discuss this paper of Drs. Sanes and Eschner, because it is not just a plea but ample proof that roentgen-ray examinations in medicolegal autopsies are not only definitely useful but feasible as well.

There is no argument with their thesis that it is valuable in the detection of bullets and their effects, for disclosing fractures, demonstration of changes in tissues and cavities, and for supplying data for purposes of identification.

As you have seen, their material is most useful as an adjunct in the teaching of forensic medicine.

I should think, from the viewpoint of the roentgenologist, that the postmortem films demonstrating definite findings would be most useful, not only in guiding the pathologist during an autopsy, but in the courtroom as a valuable piece of evidence, which the jury could see with its own eyes. Without disparaging the pathologist or lawyer, perhaps we may quote "one picture is worth a thousand words."

I urge that a complete x-ray outfit, complete with darkroom, be installed in every morgue. I have discussed this with Dr. Milton Helpern, Chief Medical Examiner of the City of New York, and he is in full accord with this idea. I questioned him as to the scope of postmortem x-ray examinations in this city and was told that it was limited because only a portable x-ray machine is available, and the exposed films must be carried to the darkroom of Bellevue Hospital for development.

I believe the authors have presented an excellent example of coordination by pathologists and roentgenologists. They have demonstrated that the task of the pathologist is eased when x-ray signposts are available as preliminary guides. This they have done not in a few, but in many cases.

Their example should be followed more widely. Expense would be involved, and a technical staff would be necessary. Roentgenologists, I am certain, would be eager to cooperate. There is no doubt that the accrued benefits would be invaluable.

C. Zent Garber, M.D., *New York City.*—The comparatively large series of cases reported by Drs. Sanes and Eschner demonstrates the usefulness of routine roentgen-ray examinations in the medicolegal autopsy. The information they obtained falls into the four categories of routine tracing of bullets and their effects, locations of fractures, demonstration of gas in body tissues and cavities, and the identification of human and animal remains.

The tracing of a bullet by anatomic dissection may not be a simple matter, and any help as to site of lodgment, number of bullets, or absence of bullets can be welcome to a pathologist if it does not too long delay the beginning of his examination. Bullets which have wandered after death or ricocheted in bizarre pattern have stimulated pathologists occasionally to seek roentgenographic help. This has usually been done after unproductive dissection, and roentgenograms are then made under inconvenient conditions and with considerable delay. Rarely two bullets have entered a body through a single hole. A bullet which has passed through the body may leave metallic fragments behind. A small foreign body may be driven deep into a wound. Preinformed by the roentgenograms the pathologist would be in a favorable position to recover such material as evidence. The fluoroscopic image might be a poor substitute in some such cases. Obviously fresh or old fractures may be missed altogether in a routine autopsy, especially in a case with multiple injuries and a demonstrable, adequate cause for death.

The authors did not consider it necessary to argue the theoretic desirability of roentgen-ray examinations in the medicolegal autopsy, nor do we. Their case reports indicate that the roentgenograms in a considerable proportion of cases were capable of supplying information which could make an autopsy more complete and easier to perform. They contributed easily visualized additional evidence for the records and for teaching. In the identification of remains, roentgenography contributed information of major importance and in two cases was the sole means of identification of two badly burned bodies. One may note that Brown, Delaney, and Robinson[a] and Singleton[b] in identification of badly burned victims of the "Noronic" steamship disaster reported identification of 24 of 35 bodies by matching available premortem with postmortem roentgenograms. In Simpson's[c] book, "Modern Trends in Forensic Medicine," Boyd and Trevor wrote that they "have been most impressed by the help provided by x-rays in the study of human remains. All material should be subjected to radiographic screening before detailed investigation. Apart from foreign bodies or bullets, fractures and dislocations can be seen and their nature and distribution may be of much forensic importance."

That Drs. Sanes and Eschner have been able to organize and carry through a system of routine roentgenologic examinations in the series presented is a considerable achievement. Their work marks a pattern which will stimulate more frequent use of roentgen-ray examinations in the medicolegal autopsy.

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[a] Brown, T. C., Delaney, R. J., and Robinson, W. L.: J.A.M.A. **148:** 621 (Feb. 23) 1952.

[b] Singleton, A. C.: Am. J. Roentgenol. **66:** 375 (Sept.) 1951.

[c] Simpson, K.: (ref., chap. 7) Modern Trends in Forensic Medicine, St. Louis, C. V. Mosby Co., 1953.

Howe'er their patients may complain,
Of head, or heart, or nerve, or vein,
Of fever high, or parch, or swell,
The remedy is Calomel.

—*Calomel, Stanza 2, before 1853*

Muscular Exercise in the Treatment of Bronchial Asthma

Technic and Physiologic Basis

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(*From the Medical Department of the New York State Veterans Camp, Mount McGregor*)

THE value of muscular exercise has been demonstrated in the reconditioning program of the Armed Forces in World War II. Breathing exercises have their place in this program. The importance of such therapeutic physical activities for civilian medicine has been stressed.[1–3] The methods used and the results obtained in the application of an exercise program in the treatment of 23 patients with bronchial asthma will be presented.

Therapy of bronchial asthma by muscular exercise, including breathing therapy, athletics, and relaxation, has been described.[4–10] Livingstone[7] mentions that in two world wars the majority of recruits were free from attacks while in active service under severe conditions only to relapse on returning to the "fleshpots of civilian life."

Technic

For breathing therapy the technic of Hofbauer[4] and methods of the author were used. The most outstanding features of Hofbauer's technic are expiratory humming and nasal respiration.

The beginner should use the nasal airway exclusively. If there is an organic obstruction of this airway, it should be removed by surgery. Frequently, however, a functional condition, often seen in allergic patients, is the cause of obstruction. It is a filling of the venous plexus of the nasal mucosa with blood. The author devised a few simple exercises which proved to be helpful in such conditions.[6] The correct sequence of those exercises follows:

1. "Exercises of the lower half of the body" in upright standing position:

(*a*) Lifting the heels as high as possible and lowering them to the floor, both within one second. Repeat 50 to 60 times.

(*b*) Drawing in and pushing forward the abdominal wall within one second ("belly dance"). Repeat 50 to 60 times.

2. "Sucking" inspiration to be done exclusively in sitting position and only after mastering physiologic breathing technic. After exhalation the nasal inspiration is executed with moderately forceful "sucking in" of the air, whereby the relaxed nasal wings approach the septum by the suction so that the air enters through two narrow openings. Repeat six to eight times.

In nine of our patients with functional nasal obstruction, these exercises were definitely beneficial.

The expiratory, not the inspiratory, phase must always be stressed. The events during that phase are as follows: The thorax is lowered, getting narrower, especially in its lower parts. Contraction of the muscles of the abdominal wall starts progressing gradually from the caudal to the cranial abdominal regions. Thus, the abdominal contents are pressed against the diaphragm, elevating it from its inspiratory position. This action is best helped by producing a long-drawn "humming" sound during nasal exhalation as advised by Hofbauer.[4] The pitch of humming is raised at the end of the expiratory phase. In a short pause after exhalation the contracted abdominal muscles relax. The abdominal wall "falls forward." The intra-abdominal pressure is thus lowered, making possible the start of the inspiratory phase.

In the inspiratory phase the contracting diaphragm is lowered, pushing the abdominal contents against the abdominal wall which consequently bulges. Only at the end of this contraction, do elevation and widening of lower thoracic parts take place and then, finally, of the upper parts.

In both respiratory phases the intensity of muscular action increases gradually until it reaches its maximum at the end of each phase. In bronchial asthma the diaphragmatic ("lower,"

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"abdominal") respiration should be stressed and elevation of the upper thoracic parts discouraged.

The author found the relaxed sitting position preferable to the often recommended supine position in starting the breathing program. The patient, stripped to the waist, sits with the elbows on his thighs near the knee joints. His chin is supported by one hand. The fingers of the other hand control the abdominal motion. With progressing training both hands support the chin. The abdominal muscles are thus completely relaxed. Another relaxing position advisable in beginning asthmatic attacks is sitting before a desk or table and placing both forearms at the table's border, one hand on top of the other. The forehead rests on the hands.

Before start of "abdominal" breathing, poorly educated abdominal muscles should be trained by frequently performing the described "belly dance" in sitting position, also by lifting the head in supine position.

After the patient has learned physiologic respiration, speaking with immediate closure of the lips after the last spoken word followed by exclusively nasal inspiration should be practiced.

"Whistling exhalation" (pressure breathing) consists in expelling the air through tightly pursed lips as if one were trying to extinguish a candle held out at arm's length. This technic should be used only after thorough training in nasal and diaphragmatic respiration. The author usually combines it with strenuous activities, e.g., running. In patients who have difficulty with "humming," he advises the use of "controlled inaudible exhalation" by having them direct the air stream exhaled through the nose against the ulnar part of the back of one hand, thus controlling duration and intensity of exhalation.[6]

Training of muscular relaxation[5,7,11,12] is advisable in apprehensive and tense patients. Breathing exercises themselves have a relaxing influence.

After learning the described breathing technic in sitting position, the patient is taught to practice it in other positions, e.g., standing, supine, and knee-elbow position, then in combination with different activities of daily life: walking, uphill walking, sitting up, bending forward. In activities consisting in many fast movements as in walking and running, each respiratory phase should be timed by a certain number of movements, always adapted to the individual condition. In walking, for example, the exhalation can be done during four normal steps, inspiration during two such steps. With training, duration of each phase can be increased but never the inspiration to a greater extent. In longer lasting motions, such as sitting up and lying down exhalation should be executed during contraction of the abdominal muscles, inspiration when they are relaxed, i.e., in supine position. The energy-saving technic of certain activities should be demonstrated.[13,14]

Simple gymnastic exercises (calisthenics) can be applied. Younger patients and those previously accustomed to physical work and in good general condition should be trained in athletic activities. All exercises must be individually adapted and gradually increased (graded). Outdoor activities are to be preferred. Their beneficial influence will be increased by contact with nature. On hikes discussion of natural phenomena enhances the psychologic value. The author calls these hikes "therapeutic nature hikes."

Classification of Exercises.—This division intends to give only approximate indications for choosing the workload in patients. A strict division is always arbitrary, because a "light" exercise can be strenuous for a debilitated patient, and some of the "moderately strenuous" exercises may be light for physically well-trained patients. All exercises must be individually adapted.

Light.—Lifting of heels in standing position; drawing in the abdomen and pushing it forward; stretching of fingers and closing them to a fist; sitting up from supine position with help of arms not more than three times; walks not longer than half a mile.

Moderately Strenuous.—Bending forward and straightening up in standing position, sitting up from supine position without help of arms, bending and stretching of arms in knee-hand position, all of them not more than three times; walking for more than $^1/_2$ to $1^1/_2$ miles; uphill walking for not more than 100 feet vertical distance on an incline of not more than 33 degrees (about that of a moderately steep stairway) with a speed of not more than one second for one step; short distance running for not more than 60 feet.

Strenuous.—Calisthenics, athletics, walking, and climbing limited only by symptoms of overexertion, e.g., dyspnea, palpitation, change of color of face to pallor or marked redness, headache, disturbance of equilibrium, stitch, tremor. Stop at start of one of these symptoms.

TABLE I.—SUMMARY OF TREATMENT AND RESULTS IN 23 CASES

Case	Age	Duration of		Complications	Increase of Diaphragmatic Excursions*				Increase of Vital Capacity		Performed Exercises†	Result	Remarks
		Treatment (Weeks)	Disease (Years)		Right leaf		Left leaf						
					Cm.	Per Cent	Cm.	Per Cent	Cc.	Per Cent			
1	57	9	2	Pulmonary emphysema	4.5	180	5.5	220	550	20.4	Moderately strenuous	Good	Exact performance, regular attendance
2	46	10	2	Anxiety neurosis, liver cirrhosis	...	...	...	...	...	...	Moderately strenuous	Some improvement	Left suddenly, final tests not possible
3	53	6	2	Pulmonary emphysema	...	...	...	...	...	...	Light	Some improvement	Paradoxic respiration restored to normal. Final excursion of each diaphragmatic leaf 5.5 cm.
4	60	5	10	......	No change		No change		50	2.3	Light	Doubtful	Infrequent attendance
5	30	7	8	......	...	...	...	...	...	...	Strenuous	Some improvement	Final tests not possible
6	28	12	9	Pulmonary emphysema	3.5	117	4.3	108	250	8.5	Moderately strenuous	Good	Exact performance
7	29	10	7	Vagectomy and 2 sympathectomies done previous to admission	3	150	3	150	650	35.1	Moderately strenuous	Good	Exact performance, regular attendance
8	40	3	6	......	1.7	57	1.7	72	700	28	Moderately strenuous	Some improvement	Duration of treatment too short
9	62	11	24	......	2	33	2	33	450	13.6	Light	Some improvement	Poor attendance
10	60	4	12	Pulmonary emphysema, basal pleuritic adhesions	...	...	...	...	No change		Moderately strenuous	Doubtful	Paradoxic respiration restored to normal. Final excursions of each diaphragmatic leaf 3.3 cm.
11	55	11	2	Pulmonary fibrosis, low intelligence	5.2	158	5.2	137	1,000	35.7	Moderately strenuous	Good	Regular attendance, very cooperative
12	46	10	9	Pulmonary emphysema	5	167	5	167	100	3.8	Moderately strenuous	Good	Regular attendance, exact performance
13	58	6	20	Pulmonary emphysema, basal pleuritic adhesions	2.3	61	2.7	71	150	5.6	Moderately strenuous	Good	Regular attendance, exact performance
14	35	14	8	Pulmonary emphysema	6	272	6.7	262	300	7	Moderately strenuous to strenuous	Very good	Regular attendance, exact performance
15	64	12	25	Pulmonary fibrosis	3.8	127	1.7	49	No change		Light to moderately strenuous	Some improvement	Longstanding condition, higher age
16	46	4	8	Pulmonary emphysema	No change		...	...	850	45.9	Light	Doubtful	....
17	58	14	7	Pulmonary emphysema, basal pleuritic adhesions	No change		...	...	100	5	Moderately strenuous	Good	Regular attendance
18	36	12	7	Plate in skull after fracture, nasal sinusitis, retroversioflexio uteri	No final test		...	...	250	13.2	Light	Doubtful	Irregular attendance
19	52	12	10	......	3.4	85	1.6	29	300	10.7	Strenuous	Very good	Regular attendance, exact performance
20	47	9	10	Pulmonary fibrosis, basal pleuritic adhesions	2	36	3	60	350	12.3	Moderately strenuous	Some improvement	Irregular attendance
21	57	6	11	Pulmonary emphysema, basal pleuritic adhesions	3	75	4	80	350	15.6	Moderately strenuous	Very good	Regular attendance, exact performance
22	53	10	1/2	Nasal polyps removed by surgery	1.7	25	1.6	23	No change		Moderately strenuous to strenuous	Some improvement	Performance not always exact
23	57	8	5	Neurosis (tension), pulmonary emphysema	1.5	75	2	100	200	10.8	Light	Some improvement	Very tense, performance not exact

* Diaphragmatic excursions: see text, Methods of Evaluation.

† Exercises: see text, Classification of Exercises.

Methods of Evaluation

Cessation or markedly diminished frequency of asthmatic attacks gives the most important indication of good results. Excellent breathing technic, marked improvement of all breathing difficulties, and increase of physical efficiency also indicate improvement. A valuable test is the comparison of the "movement sketches" of the diaphragm, i.e., of drawings which indicate the level of the diaphragm in maximal inspiratory and expiratory positions made before start and at the end of treatment. These levels are observed during fluoroscopy and recorded with a skin pencil on a clear film placed over the screen. Their difference (the excursion) is expressed in centimeters for the right and left leaf of the diaphragm separately, and the increase of excursion is noted at the end of therapy (Table I). A roentgenographic technic providing a purely objective control of the diaphragmatic excursions consists in a double exposure of the diaphragm in deep inspiratory and expiratory position on a single film.[15] However, in patients who are not able to hold their diaphragm in one position, only the movement sketch gives correct information.[16] Therefore, only the results of fluoroscopic control are given in the table. A definite increase of vital capacity at the end of treatment indicates a favorable result, especially if corroborated by an improvement of the asthmatic condition and by markedly increased diaphragmatic excursions.

Clinical Observations and Results

Twenty-three patients suffering from bronchial asthma were treated (Table I). The length of treatment was limited by the duration of each patient's stay in our institution. It was not shorter than three weeks and did not exceed fourteen weeks. The shortest duration of the asthmatic condition in any of these patients previous to the described therapy was five months; the longest was twenty-five years. In 19 patients complications were present, of which pulmonary emphysema was the most frequent. In two patients (Cases 2 and 5) who left suddenly, no final tests were possible. All patients were treated initially with breathing therapy soon to be combined with other muscular exercises. In ten patients good to very good results were obtained; in nine some improvement was achieved; in four the improvement was doubtful. Table I gives a condensed review of the treated patients with most important observations and results. Except for four patients with basal pleuritic adhesions (Cases 13, 17, 19, and 21) who showed good results, all revealed a marked increase of diaphragmatic excursions and an increase of the vital capacity. In two patients fluoroscopy revealed at start of treatment a "paradoxic" respiration (inspiratory elevation, expiratory lowering of the diaphragm) which was changed to normal (Cases 3 and 10). All patients, except Case 18, were males.

Breathing therapy and in some cases individually adapted other muscular exercises were also successfully applied in other conditions than bronchial asthma. These were as follows: nervous asthma two cases, plain pulmonary emphysema three, pleuritic adhesions three, bronchiectasis with dyspnea four, pulmonary fibrosis two, and functional nasal obstruction on allergic base four cases. As a prophylactic measure, education to the physiologic type of respiration was used in two patients reconvalescing from spontaneous pneumothorax in order to avoid undue expiratory pressure in the future.

Case Report

Case 14.—A thirty-five-year-old man had a family history which revealed that an aunt suffered from "asthma" but did not specify whether it was bronchial asthma. During service with the armed forces he had "cat fever" (catarrhal fever) with cough and expectoration on three occasions, each time lasting for about one week and recurring at intervals of one year. After the first attack of "cat fever" in 1943, he started to have wheezing and shortness of breath. Severe attacks of bronchial asthma began in March, 1950. An allergy to dust and bacteria was detected. The following foodstuffs caused respiratory distress: apples, nuts, chocolate, raisins, baked beans, veal, and beer. Laughing or leaning to the right side caused an attack, as well as a short walk for the distance of one block and a tooth extraction. Patient was operated on for a nasal polyp in July, 1951. Previous therapy by medication consisted of injections of epinephrine, five to nine times a day; aminophylline parenterally and by rectal suppositories; potassium iodide, calcium lactate, Tedral, and several other drugs orally and nebulized epinephrine by inhalation. Treatment with cortisone had a very good effect during the one month of its application. Patient reported that at the end of the exercise treatment he felt as well as during the month of cortisone treatment.

Examination showed a patient with tired expression, haggard face, dark rings around the eyes, pulse 104, and blood pressure 105/80. There was marked thoracic respiration and breathing through the

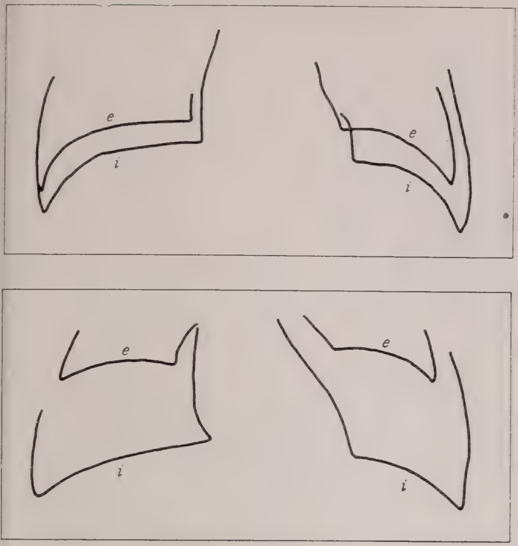

FIG. 1. Movement sketch of diaphragm showing excursion of leaves before (*top*) and after (*bottom*) institution of exercises: (*i*) inspiratory and (*e*) expiratory position of the diaphragmatic leaves.

mouth. Clinical examination of the lungs revealed the presence of pulmonary emphysema. X-ray of the chest showed the lung fields to be essentially clear. The vital capacity was 4,300 cc. The movement sketch of the diaphragm revealed small excursions of its leaves (Fig. 1A).

On the third day after start of therapy, the author was present when patient had an asthmatic attack with typical expiratory dyspnea and wheezing, while sitting in a room where the air was close. After bringing patient into a well-ventilated room, the patient was advised to do the previously learned breathing exercises in sitting position, with the trunk leaning on his arms, elbows on the knees. Within ten minutes the attack disappeared without the use of any drugs. After learning physiologic breathing in different positions, the patient was instructed to combine it with exercises. Duration and intensity of exercises was gradually increased. Stimulation of the skin was also used to fight the allergy. Warm showers with immediately following cold water application restricted to face and neck, self-massage exercises combined with physiologic breathing, and ultraviolet radiation of the entire body surface were applied.

The three exercises for freeing the nasal airway proved to be very helpful in this patient, who frequently suffered from functional obstruction of that airway. Two months after start of therapy, patient was able to walk for seven miles without having any distress. A tooth extraction did not have any bad effect; he could go to the movies. Previously, all these events caused attacks. Leaning to the right side and laughing did not cause distress any more, only violent laughing. Eating of any of the previously mentioned foodstuffs did not cause a reaction. The appetite improved distinctly. All medicines were given up. The only drug the patient still used was one aminophylline suppository at night. The patient's weight had increased by $18^1/_2$ pounds since start of treatment. The turgor of his skin increased. He looked much better. The movement sketch of the diaphragm revealed a very marked increase of the diaphragmatic excursions. (Fig. 1B and Table I). The vital capacity was 4,600 cc. at the end of treatment, representing an increase of 300 cc.

Comment

In general, we can regard the results of the described therapy as identical with the effects of training,[17] i.e., more efficiency and better ability to cope with increased metabolic demands which means better constitution. Constitution, according to Webster, is "the aggregate of the physical and vital powers of an individual." Therefore, we can term the described therapy "constitutional therapy," which was the foremost therapy of the old Greeks[18] and again comes into the limelight in the wild field of rehabilitation.

The ill effects of mouth breathing have to be stressed. Its less-known consequences are insufficient ventilation of the pulmonary apices and deformities of the thorax.[4] The effect of "exercises of the lower half of the body" on clearing the nasal airway is caused by redistribution of the blood during muscular exercise. A greater proportion of the total blood is driven through the muscles than during rest.[19] This shifting of blood flow has been termed "hemometakinesia."[20] Exercise of muscles of the lower half of the body in erect position causes a redistribution of blood from cranial organs to the active muscles. Gravity enhances that effect. Sucking "inspiration" works on a mechanical basis. In deep inspiration the negativity of the intrathoracic pressure is increased and leads to sucking of blood from the extrathoracic organs (nasal mucosa) into the intrathoracic veins and auricles.[19] The negativity of that pressure is increased to even a higher degree in "sucking respiration."

Inspiratory efforts of the thoracic type are characteristic of the dyspneic asthmatic patient. They increase the overdistention of the lung with its already inflated alveoli without relieving the dyspnea. Repeated overdistention will finally lead to pulmonary emphysema. In the presence of pulmonary emphysema further overdistention will augment the existing damage. The diaphragm is held in low inspiratory position. Its excursion, its "stroke," is diminished.[21] Respiratory action of the abdominal muscles is almost completely neglected. Large parts of the lungs are insufficiently ventilated. Complicating emphysema increases the degree of uneven ventilation. Anoxemia and carbon dioxide retention are the consequences. These facts illuminate the need for restoration of diaphragmatic respiration with stressing of the expiratory phase.

All exercises should be performed when the patient is free from an attack (with one exception, see "humming" below). Before start of therapy we must consider the age, physical training, intelligence level, mental attitude, habits, and clothing of the patient. Pulmonary function of healthy persons above the age of fifty appears abnormal if compared with that of healthy young adults.[22] With greater age more difficulties in restoration of pulmonary function have to be expected. Patients accustomed to physical work will learn exercises faster than untrained persons. A low intelligence level is a handicap but no contraindication (Case 11). The will to become healthy, confidence, and cooperative spirit are the attitudes most contributory to success. Any addiction is unfavorable. During deep breathing the activity of the diaphragm provides 60 per cent of the air breathed. The antagonists of the diaphragm are the muscles of the abdominal wall. Even the slightest pressure exerted on the abdominal wall by the usual belts, elastics, etc., should be avoided in order to prevent diminution or cessation of the abdominal respiratory action with the resulting damaging effect on respiration and circulation.[23]

Expiratory humming creates a moderate resistance to the action of the abdominal muscles. Thus, stressing and improving this action markedly improves exhalation, as demonstrated by x-ray studies.[4] Wheezing often disappears during humming. "Warding off" a beginning asthmatic attack has been frequently observed (Case 14).

In starting the program the described sitting position is preferred because the abdominal muscles are relaxed and contractable to a higher degree and the vital capacity is greater in the sitting than in the supine position.[24] Shadowgraphs of the abdominal silhouette show greater excursion of the abdominal wall in the sitting, knee-elbow, and standing position than in the supine position (Fig. 2).

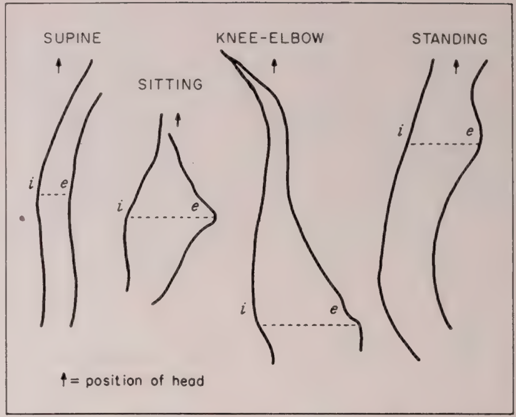

FIG. 2. Shadowgraphs of abdominal silhouette in various positions: (i) inspiratory and (e) expiratory position of the abdominal silhouette.

Experiences of mountain climbers[13,25] and observations on working men,[26] as well as personal experiences, compelled the author to use "whistling exhalation" (pressure breathing) in the therapy of bronchial asthma and pulmonary emphysema.[6] Barach,[27,28] who also advocates this technic, reports that the resulting back pressure maintains a wider lumen in the bronchioles of patients with bronchospasm. On the same basis the disappearance of wheezing during humming expiration may be explained.

The favorable effect of muscular exercise in bronchial asthma reported here and by other authors leads to comparison with the effect of adrenal hormones, of which the medullary hormone, adrenalin, is well known for relieving bronchospasm. Recently good results in bronchial asthma by the use of the cortical hormone, cortisone, have been reported. The similarity between therapeutic results with cortisone and muscular exercise was especially striking in Case 14. In this patient also the disappearance of allergic symptoms during treatment strengthened the assumption of adrenocortical hormone influences.[29] These observations led the author to consider that a great part of the therapeutic effect of muscular exercise is due to stimulation of the adrenal cortex. Substantial support for this conclusion was found in the studies of Selye on the general adaptation syndrome.[30] This syndrome's first stage, the "alarm reaction," consists of the damaging "shock" phase and a following phase of defense, the "counter shock phase." In the latter, enlargement of the adrenal gland takes place with excess production of corticoid hormones, which help to raise the resistance of the body. The alarm reaction is caused by alarming stimuli, e.g., muscular exercise. Selye considers muscular exercise different from all other known alarming stimuli in that it causes remarkably little shock and very pronounced countershock phenomena. This means increased production of the damage-combating cortisone. The author calls the increased production of cortisone within the body caused by such physiologic stimuli as muscular exercise "autocortisonation." A similar effect is produced by mild alarming stimuli, e.g., mild application of contrasting temperatures, ultraviolet radiation, and massage. A biologic need for a minimum of alarming stimuli has to be assumed. A life not fulfilling this need apparently leads to decrease of the body's ability to maintain an effective homeostasis—hence, a lack of resistance to stress. Cannon,[31] who described "epinephrine alarm," stressed the need of sport activities for upholding the biologically necessary bodily reactions to the fighting emotions.

A further support for the author's conclusions is given by Richter.[32] He compared the adrenal glands of the domesticated Norway rat with those of the wild rat and found "that the adrenal glands have undergone a marked atrophy during the process of domestication. These glands...are less able to help the animal to protect itself from the effect of stress and fatigue. Man may have undergone parallel changes during his transition from a wild to a controlled environment. As he has become more civilized, his adrenals may have become less efficient, thus accounting for the present high incidence of diseases that respond so remarkably to treatment with cortisone and ACTH." Bronchial asthma can be considered as belonging to these diseases. Appropriately adapted muscular exercises are most suitable measures for training of atrophic, inefficient adrenal glands.

According to Selye, there are transitional steps between physiologic adaptive processes to stress and strain of everyday life and severe alarm reactions which cause death during the shock phase. Choosing the "therapeutically optimal alarming stimuli," including the "optimal emotional stimuli" and the "optimal activity dose," is an art and a field for research. The term "optimal sportdosis" has been used.[33]

Further beneficial influences of muscular exercise are the physiologic changes induced by training.[17] Also, the psychosomatic factor plays an important role.[34, 35] The will to become healthy and self-confidence are helped by purposeful activity. A favorable emotional influence is important during exercise.[36] The better the emotional condition, the better the effectiveness of remedial exercise on the general and local condition. A slight improvement will have a beneficial psychologic effect, from which in turn the therapeutic effect of muscular exercise will benefit. A perpetual beneficial circle is created this way.

The described measures are not to be regarded as a temporary therapy which may be discontinued after weeks or months. They should create lifelong protective habits in the asthmatic patient.

Summary

1. An exercise program, consisting of education to physiologic respiration and graded muscular exercises, was used in the treatment of 23 patients with bronchial asthma.

2. Good results were obtained in ten patients and improvement in nine others.

3. Improvement was evaluated by cessation or marked decrease in number and severity of asthmatic attacks, an increase in the excursion of the diaphragm, and an increase of the vital capacity.

4. Fluoroscopic and roentgenographic recording of diaphragmatic excursions has been discussed.

5. In addition to the favorable influence of respiratory re-education, the beneficial effect of the described exercise therapy in bronchial asthma can be attributed mainly to stimulation of the adrenal cortex to increased cortisone production.

6. The classic studies of Selye dealing with the general adaptation syndrome and the work of Richter on relation of domestication to the size of the adrenal glands strongly support this opinion.

7. The favorable physiologic and psychosomatic reactions due to training contribute to the very good results of this constitutional therapy.

I wish to express my gratitude to Dr. Walter S. McClellan, medical director of Saratoga Spa and associate professor of medicine, Albany Medical College, for his very helpful and constructive criticism.

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Discussion

Gustav J. Beck, M.D., *New York City.*—The addition of a program of muscular exercises to the therapeutic regimen of patients with bronchial asthma, pulmonary emphysema, and bronchiectasis is one of the most important contributions to the treatment of diseases of the lungs. Dr. Schutz's technics, if pursued assiduously both by patients and physician, may have most rewarding effects.

A consideration of physiologic principles has led Barach,[a] Bickerman, and me[b,c] to employ methods somewhat different from those already described. Assuming that the patient presenting himself for advice complains of shortness of breath, especially on effort, and bouts of bronchospasm and shows signs of pulmonary insufficiency compatible with the diagnosis of bronchial asthma and pulmonary emphysema, a consideration of the pathophysiology of his condition leads to the following conclusions: Bronchospasm and edema of the bronchial wall result in reduction of the diameter of the airways; since the bronchial diameter in inspiration is greater than in expiration, the patient's ability to take in air is facilitated, whereas its expulsion is impeded. Secretions accumulating in the tracheobronchial tree contribute to the necessity for a greater expiratory effort on the patient's part. Because of occlusion of some of the bronchioles during the expiratory cycle, the air which has entered a number of alveoli behind the obstruction will not be expelled. The accumulation of intra-alveolar air on successive inspirations results in the production of an increased intra-alveolar pressure and the rupture of alveolar walls. Since the intra-alveolar pressure at some point becomes considerably higher than the transient pressures in the bronchioles, an even larger number of bronchioles will become involved. Thus, the vicious cycle of the production of emphysema has been initiated. Since the further occlusion of bronchioles primarily during the expiratory phase will lead to more trapping of air in the alveoli and more emphysema, a still greater number of bronchioles becomes obstructed.

The patient's natural reaction to this physiologic process serves as the first clue in treatment: He performs naturally pursed-lip breathing to increase, by back-pressuring air into his bronchi, an intrabronchial pressure sufficiently great to keep the largest number of bronchioles open. He also increases the intra-abdominal pressure and increases lung volume throughout the respiratory cycle by leaning forward with his elbows on his knees or by sitting Yogi fashion, leaning forward over his crossed legs. By keeping his thorax in a position of inspiration, the bronchi are held in position of maximal dilation. Unconsciously, by leaning forward the emphysematous patient raises his diaphragm into a higher, more expiratory position and thereby helps himself by adding diaphragmatic motion to his otherwise prevalent thoracic respiratory efforts.

The emphysematous patient, who presents himself with markedly damaged lungs and uses his accessory muscles to assist his thoracic ventilation, has a low, functionless diaphragm, ballooned into the abdomen by the increased intrathoracic pressure produced by large emphysematous bullae. The loss of elasticity of lung tissue, preventing the passive return of the thorax and diaphragm to the expiratory position, fails to hold the diaphragm in the normal midposition. The weight of the viscera, liver, and spleen, exerted in a downward direction by gravity in the erect position, thus pulls the diaphragm to its low level in inspiration and keeps it there in expiration in patients with emphysema because of the absence of the upward force present in the normal, elastic lung. Since two thirds of the lungs are ventilated by the diaphragm in normal subjects, the absence of diaphragmatic movement is an important factor in the causation of pulmonary insufficiency.

Restoration of diaphragmatic motion, as pointed out by Dr. Schutz, is of great importance in the correction of dyspnea. It is our experience, however, that the training of diaphragmatic respiration can be performed more easily and successfully by passive methods, rather than by forced active encouragement in abdominal muscle and diaphragmatic contraction. When the patient is placed in the head-down position, the weight of the viscera displaces the diaphragm into the expiratory position. Without the slightest encouragement by the physician, the patient's respiration in the head-down position becomes a predominantly diaphragmatic one. This form of automatic viscerodiaphragmatic breathing serves as an excellent introduction to training in diaphragmatic breathing in the supine, sitting, and erect positions. As soon as the patient has been tilted headward sufficiently to initiate viscerodiaphragmatic breathing, the sensation of dyspnea disappears, the pulmonary ventilation decreases, the respiratory rate falls, and the tidal air increases. The patient is asked to observe the inspiratory and expiratory motion of his diaphragm and abdominal wall in that position and to repeat this in the supine position, using a weight on the lower abdomen. The latter again encourages the displacement of the diaphragm into a more expiratory position by increasing the intra-abdominal pressure. In the sitting and upright position elevation of the diaphragm is produced by means of a lower abdominal belt, designed by Gordon and Barach.[4] With encouragement of diaphragmatic breathing and the wearing of this belt, the patient's exertional dyspnea is markedly reduced.

The use of bronchodilator aerosols prior to initiation of breathing exercises is encouraged in order to provide reduction of bronchospasm and edema.

Leaning forward in a gorilla slouch during walking is most helpful in encouraging diaphragmatic breathing. If shortness of breath becomes much more marked due to overexertion, the patient is taught to apply pressure laterally to his lower ribs and upward on the diaphragm, while breathing out through pursed lips. In this manner air can be expelled manually from some of the overdistended alveoli. Dyspnea can be abolished very quickly in this fashion.

One of the most important and common errors committed by the patient during his training period is the production of hyperventilation by too great an effort. Hyperventilation, or the passage of a larger than normal volume of air through the tracheobronchial tree, produces the same difficulties as a marked narrowing of these passageways. Therefore, all exercises should be performed with a minimum of effort on the patient's part.

In the presence of obstructing mucopurulent plugs, spontaneous coughing is encouraged and methods of mechanical coughing by exsufflation with negative pressure are used to eliminate these secretions.

Karl Schutz, M.D., *Closing Remarks.*—Concerning the interesting discussion of Dr. Beck, I wish to point out that in the treatment of bronchial asthma I prefer active to passive methods for somatic as well as psychologic reasons which I have already explained. The breathing technic used by me implies active encouragement but not forced encouragement. It is used to educate the bronchial asthmatic patient to change his forceful breathing habits to an easy and smooth diaphragmatic breathing.

Of course, passive methods have their well-deserved place in the treatment of many pulmonary conditions, e.g., pulmonary emphysema. The "head-down" position advised by Barach and Beck appears to be an excellent method to facilitate oxygen saturation and carbon dioxide elimination with an even diminished ventilation and to inaugurate diaphragmatic breathing.

I wish to remark that in different bronchial asthmatic and emphysematous patients the position which will bring the most relief of dyspnea will be a different one. We have to study each case individually. I observed the described relaxed sitting position to be most relieving in most cases. In horizontal position many patients prefer the prone to the supine position. Very relieving appears to be a prone position in which a roll of blankets is placed below and across the pelvis and one below and across the upper thorax. In this position the viscera are lying on the abdominal wall like a baby in a cradle. I call this position, therefore, "the abdominal cradle." The "playing ball" with the intestines between abdominal wall and diaphragm is enhanced in that position.

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[a] Barach, A. S.: M. Rec. & Ann. **45:** 323 (Dec.) 1952.

[b] Bickerman, H. A., and Beck, G. J.: Ann. Int. Med. **36:** 607 (1952).

[c] Barach, A. L., and Beck, G. J.: Am. J. Med. **16:** 55 (1954).

[d] Barach, A. L.: J. Iowa State M. Soc. **44:** 275 (1954).

Coronary Artery Insufficiency

A Clinical, Physiologic, Pathologic, and Functional Concept

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THE clinical manifestations of coronary artery disease are invariably due to coronary artery insufficiency, but the clinical manifestations of coronary artery insufficiency may exist in the absence of significant coronary artery disease. Thus coronary occlusion occurs without myocardial infarction, and myocardial infarction occurs without coronary occlusion. For expediency the terms coronary artery disease and coronary atherosclerosis will be used synonymously, appreciating that all other morbid conditions affecting the coronary arteries, including luetic ostial stenosis, polyarteritis nodosa, thromboangiitis obliterans, rheumatic fever, and other infections, amount to less than 5 per cent.

To accept the syndrome of coronary artery insufficiency as an indication of the degree of atherosclerotic coronary artery disease is fallacious. Enos, Holmes, and Beyer[1] dissected the coronary arteries of 300 soldiers killed in Korean action with an average age of 22.1 years and found in 77.3 per cent gross evidence of disease as disclosed by "fibrous" thickening to complete occlusion in one or more branches. White, Edwards, and Dry[2] revealed atherosclerotic lesions in 75 per cent of all people over forty-nine years of age. Blumgart[3] demonstrated complete occlusions or considerable narrowing of one or more coronary arteries in 40 per cent of patients over forty years of age who died of noncardiac causes, but despite these lesions the myocardium was usually normal on gross and microscopic examination. Contrariwise Master *et al.*[4] have noted profound myocardial necrosis with diminished coronary circulation in the absence of significant coronary atherosclerosis, and Currens and Barnes[5] describe myocardial alterations simulating transmural infarction in a series of cases of myocardial infarction without coronary occlusion or overt coronary atherosclerosis.

Thus, paradoxically, the syndromes of coronary artery insufficiency may exist in the absence of significant atherosclerotic coronary disease. And since histologic vascular atherosclerosis is not synonomous with either clinical coronary artery disease or ischemic myocardial disease, the syndromes of coronary artery insufficiency should logically be qualified as to the pathologic physiology of the coronary circulation and resultant specific myocardial alteration. These ischemic myocardial alterations have been variously reported as myocardial infarction, myocardial necrosis, ischemic myocarditis, focal myocardial necrosis, diffuse myocardial necrosis, subendocardial necrosis, transmural myocardial infarction, and myomalacia.

Further, the syndromes of a compromised coronary circulation have been variously designated as angina pectoris, acute coronary artery insufficiency, chronic coronary artery insufficiency, coronary failure, atypical myocardial infarction, subendocardial necrosis, coronary occlusion, coronary thrombosis, and myocardial infarction. For many of these, clear-cut anatomic myocardial lesions have been frequently depicted and the pathologic physiology delineated. Yet the term coronary insufficiency has been at times loosely and indiscriminately employed to characterize any anterior chest pain not accompanied by objective manifestations of myocardial ischemia. The production of these syndromes to a large extent depends on two basic factors: (1) the extent of obstructive atherosclerotic coronary disease and (2) extracardiac factors which either directly increase the work of the heart or precipitate coronary occlusion or indirectly diminish coronary flow. The ultimate prognosis will depend on resultant myocardial alterations which in turn are the product of the compromised coronary circulation and development of compensaatory collateral circulation.

The term coronary artery insufficiency seems appropriate when employed in a generic sense for an inadequate coronary circulation. This im-

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plies dynamic physiologic disturbances usually superimposed upon a pathologic disease process of the coronary arteries. Thus any disproportion between the metabolic needs of the myocardium and the available blood supply will result in coronary artery insufficiency. A normal blood supply may be inadequate under conditions of major stress. A moderate diminution of the blood supply may be inadequate under conditions of minor stress. A pronounced diminution of the blood supply of course may be inadequate at rest. Any factor or group of factors that increases the myocardial demands or diminishes the coronary flow may effect coronary artery insufficiency. The character of the ensuing syndrome will depend on (1) the abruptness, nature, and speed of the coronary insufficiency; (2) the duration of the coronary insufficiency; (3) extent of the coronary insufficiency, i.e., size and number of vessels involved; (4) the degree of existing coronary artery stenosis; (5) fundamental state of the myocardium, i.e., cardiac hypertrophy, etc.; (6) qualitative integrity of the blood as affected by anoxic anoxia, anemic anoxia, etc. The ischemic pain, traditionally called angina pectoris, is one of the clinical expressions of these syndromes and the extent of myocardial damage the morbid sequel. Nevertheless, and surprisingly enough, many syndromes of acute coronary artery insufficiency have been nosologically founded on the duration of the ischemic pain with little regard for the accompanying vascular lesion or myocardial alterations.

The following schematic classification attempts to fulfill some of the objectives mentioned above and, even if oversimplified, is offered in the belief that credible criteria may be utilized to eradicate misinterpretation and confusion attendant upon promiscuous use of the term coronary insufficiency:

1. Potential coronary artery insufficiency—Coronary artery disease unaccompanied by ischemic phenomena.
2. Provisional coronary artery insufficiency—Coronary artery disease with ischemic symptoms and alterations prevented by provisional collateral circulation.
3. Acute paroxysmal coronary artery insufficiency—Coronary artery disease with transient, relative, insufficient coronary circulation and variable focal myocardial lesions.
4. Acute prolonged nonocclusive coronary artery insufficiency—Minimal or moderate coronary artery disease with extrinsically provoked, prolonged, relative coronary insufficiency and myocardial ischemic necrosis, largely subendocardial.
5. Acute prolonged occlusive coronary artery insufficiency—Coronary artery disease with acute occlusive lesions and massive ischemic myocardial necrosis.
6. Permanent coronary artery insufficiency—Marked coronary artery disease with multiple old occlusions and extensive myocardial fibrosis.

Potential Coronary Artery Insufficiency

The terms coronary artery disease and coronary heart disease are not interchangeable. Severe atherosclerotic disease of the coronary arteries may be present without compromising the coronary circulation and producing myocardial ischemia. Profound calcification of the coronary arteries has been demonstrated in individuals free from any symptoms of coronary insufficiency. Atherosclerotic changes occur at birth and may gradually progress until death without impairing the circulation to the myocardium.[6] Here the intimal thickening is uniform and concentric with no encroachment on the lumen. The calcific, capacious vessels are physiologically competent. Atherosclerosis of the coronary artery only produces clinical disease when the blood flow is impaired by overt stenosis or thrombus formation or rupture of atheromatous ulcer to effect myocardial ischemia. Further, Mann and his associates[7] have described 50 per cent diminution of the caliber of arteries for a distance of 1 cm. without any diminution of blood flow. Because the coronary circulation is adequate even under stress states, the patient is symptomless and free from electrocardiographic and other evidences of coronary insufficiency. Yet the potentialities for thrombus formation with obstruction and lethal myocardial ischemic consequences exist.

Provisional (Compensated) Coronary Artery Insufficiency

The inconsistency between the presence of obstructive vascular lesions and the absence of clinical or histologic evidence of myocardial damage is accounted for by the presence of an abundant collateral circulation. The coronary arteries are normally physiologic end arteries, but they have anatomic facultative intercommunications. Paradoxically the development of a functioning collateral circulation is dependent on the extent of obstructive vascular disease. This obstruction to normal arterial flow is the actual stimulus to anastomotic development. If occlusive processes are gradual, differential pressure gradients dilate previously impervious arterioles to effect an adequate circulation to a potentially ischemic myocardium. Blumgart[3] ligated either of the main coronary arteries in the pig with prompt death. However, when 75 per cent narrowing was produced for twelve days or more, postmortem studies demonstrated a rich anastomotic circulation. Furthermore, after five to twelve days sudden acute occlusion of the narrowed artery was performed with survival, and in some hearts not even microscopic necrosis was found. Burchell[8] demonstrated experimentally that it was possible to occlude the three main coronary branches in the dog without the production of an infarct or even demonstrable cardiac disability. In man Blumgart and his collaborators[9] pointed out that even though all three main coronary arteries were occluded, no infarctions resulted because of the development of a compensatory anastomotic circulation. Thus, in the presence of overt coronary obstruction, the potentially ischemic myocardium may be provided sufficient blood flow to prevent ischemic phenomena.

Acute Paroxysmal (Transitory) Coronary Artery Insufficiency, "Angina Pectoris"

A consistent clinical expression of coronary artery insufficiency is ischemic myocardial pain. Based almost solely on the duration of this pain, the syndrome angina pectoris was initially described by Herbeden and subsequently habitually accepted without implying the extent of existing coronary artery disease and provoked myocardial alterations. Ostensibly the syndrome angina pectoris is due to an acute transitory coronary artery insufficiency and has been universally defined as an episodic, oppressive, retrosternal pain of limited duration, more often less than three minutes, radiating into the shoulder and inner aspects of the arms, usually provoked by increased myocardial demands for coronary blood flow, such as exertion, excitement, exposure, and eating, and alleviated by rest and sublingual nitroglycerin. Occasionally the pain is only peripheral in the jaws and wrist. Fever, leukocytosis, accelerated rate of erythrocyte sedimentation, and other accepted signs of myocardial necrosis are absent; electrocardiographically transient RS-T segment and T-wave alterations may be of five to thirty minutes duration.

It is popularly believed that because of the brevity of the ischemic pain both the diminished coronary flow and ischemic myocardial alterations are reversible, and, therefore, not only minimal coronary artery disease exists, but also no myocardial damage ensues. This may perhaps be true in the few instances of acute transitory coronary insufficiency associated with aortic or mitral valvular disease and systemic or pulmonary hypertension. But the monumental studies of Blumgart, Schlesinger, and Zoll[10] have revealed that in the absence of the latter every patient manifesting this syndrome, "angina pectoris," showed at autopsy at least one old complete occlusion of a major artery and an average of 2.9 occlusions plus severe atherosclerotic narrowing. However, although the episode is associated with a compromised coronary circulation, either by multiple old occlusions or diffuse extensive stenosis, the transient acute coronary artery insufficiency per se is not caused by a concomitant acute obstructive lesion but rather a temporary acute reversible discrepancy between the current supply and momentarily increased demands for coronary blood flow. Occasionally a clinically occult occlusive process may be postulated in patients who experience unheralded "angina pectoris" when at rest or with minimal activity.

Thus, in the absence of valvular disease or hypertension, extensive obstructive coronary disease is fundamental to this syndrome, but the degree of myocardial necrosis seems nebulous and equivocal in the minds of many. A common belief is that no permanent destructive myocardial lesion occurs in "angina pectoris." The discrepancy between marked obstructive coronary artery disease and clinical absence of appreciable myocardial necrosis can be attributed in many instances to a compensatory collateral circulation. However, it is conceivable that the reserve of the adjusted coronary irrigation may be inadequate for stress states, and ischemic necrosis may follow. Frequent episodes probably eventuate in subclinical diffuse foci of necrosis and subsequent fibrosis. Sprague[11] states that if ischemic pain persists longer than three minutes, the myocardial anoxia is presumed to have progressed to a destructive, if only cytologic, level. Roessler and Dressler[12] found transient electrocardiographic changes identical with those of acute myocardial infarction accompanying attacks of "angina pectoris" and noted, "that transient coronary artery insufficiency, if it is of great magnitude, may in rare cases produce not only temporary elevation of the ST segment but also reversible changes of the QRS complex such as usually accompany extensive myocardial infarction and, although the latter did not occur in the reported cases, judging from the increase in sedimentation rate and transient low-grade fever, scattered areas of myocardial necrosis may have been present." More conclusively, Zoll, Wessler, and Blumgart[13] detected myocardial fibrosis in 90 per cent of autopsied "anginal" patients.

Because objective data are more often lacking and the condition is only recognized by an alert, intelligent appraisal of a reliable patient's story, "angina pectoris" may be lightly regarded. However, in the light of the above facts, this syndrome, often considered benign, may have grave connotations. White[14] in a large series observed nine to ten years to be the average duration of life. Block[15] examined the survival rate of 6,882 patients with coronary sclerosis and "angina pectoris" and demonstrated the highest mortality in the first year (15 per cent) and approximately 9 per cent per year thereafter. Others[13] noted a more malignant survival rate with one third of the patients dead within one year; one half dead within two years; three fourths dead within ten years; and an average duration of life of 4.1 years. Hypertension, valvular disease, and congestive failure have an adverse effect on mortality. Notwithstanding many patients with "angina pectoris" may have a normal life span, but the unpredictable occurrence of catastrophic complications renders the prognosis uncertain.

Acute Prolonged Nonocclusive Coronary Artery Insufficiency

Experimentally, no gross or microscopic evidence of myocardial necrosis was found following temporary coronary occlusion of five to twenty minutes duration, but when the occlusion was maintained for longer periods, areas of necrosis were evident. Among the syndromes of acute coronary artery insufficiency belong a group of entities interposed between paroxysmal transient coronary artery insufficiency and classic myocardial infarction. These have been variously classified, but the basic essential appears to be an acute prolonged but reversible nonocclusive coronary artery insufficiency with deficient total flow of the entire coronary system. The predisposing factors include significant atherosclerotic coronary narrowing, cardiac hypertrophy, and aortic valvular disease, but the syndrome may occur in the absence of intrinsic cardiac disease. The precipitating factors may be acute heart failure, paroxysmal tachycardia, pulmonary embolism, severe hemorrhage, severe infection, and shock. Although the acute deficiency of the coronary flow is reversible, the ischemic myocardial alterations are permanent and vary from subendocardial necrosis to classic transmural infarction.

Blumgart[3] limits the term coronary failure to attacks of cardiac pain more prolonged than those of angina pectoris but unattended by evidence of myocardial infarction such as fever, leukocytosis, progressive electrocardiographic changes, etc. The hearts of such patients did not show "myocardial infarction" on the occasions they were examined at postmortem. "In accordance with the concept that the cardiac pain is due to relative ischemia these attacks were considered coincident with increased demands on the heart as sustained exertion, paroxysmal tachycardia, etc., whereas in other instances coronary blood flow following fall in blood pressure in shock was responsible."

Master *et al.*[4] describe acute coronary artery insufficiency as a distinct disease entity characterized by more prolonged or more severe myocardial ischemia than occurs in angina pectoris but in the absence of acute coronary occlusion and usually caused by definitive provocative factors. The clinical picture purportedly may simulate coronary occlusion, but the electrocardiogram and pathologic changes are specific. "The necrosis following acute coronary artery insufficiency is focal, disseminated, and usually localized to the subendocardial region of the left ventricle, especially within the papillary muscle. The electrocardiogram is characterized by the presence of RS-T segment depression and T-wave inversion in one or more leads and often all leads. These changes are usually transient and disappear rapidly following subsidence of the ischemia. Deep Q waves and elevation of the RS-T segment almost never occur, thus differentiating this condition from massive infarction due to acute coronary artery occlusion."

Horn *et al.*[16] specifically restrict acute coronary artery insufficiency to indicate generally transient and reversible insufficiency of coronary blood flow, although the deleterious effects upon the myocardium may be permanent, and in a study of 25 hearts which disclosed evidence of recent myocardial changes in the absence of acute coronary occlusion they described characteristic subendocardial ischemic necrosis. "Although the subendocardial musculature was characteristically involved, it should be pointed out that interposed between the endocardium and the affected portion there was often an apparently normal thin strip of muscle. It is because of lack of change here, probably, that mural thrombi have been found so infrequently, and, when present, usually could be ascribed to antecedent myocardial disease. It is significant that the ischemic myocardial foci have been irregularly disseminated. The lesions, furthermore, have not been confined necessarily to the area of supply of the most severely narrowed vessel. However, in an occasional case, the myocardium, in addition to the scattered zones, was the seat of a more confluent area corresponding to a severely stenotic arterial lumen."

Littman and Barr[17] apply "acute atypical coronary artery insufficiency" to patients with manifestations of coronary insufficiency which are more severe than angina pectoris but which fail to satisfy the criteria for classic myocardial infarction. Included are cases of coronary failure, subendocardial necrosis, and "small or obscure myocardial infarctions not demonstrable by present methods." This latter subdivision demonstrated fever, slight leukocytosis, and slightly accelerated sedimentation rate but showed no evidence of heart failure or peripheral shock. "The pain lasts longer than fifteen minutes and makes its initial appearance without relation to physical effort. The electrocardiogram tends to run a curious course. Often it is normal on admission; then slowly over a period of days or weeks when a patient is asymptomatic, symmetric T-wave inversions occur which persist indefinitely thereafter. Occasionally the record shows T-wave inversions initially which remain without significant change. There are no S-T segment deviations. These patients are believed to have experienced small and obscurely located myocardial infarctions which are impossible to demonstrate. We have come to associate this condition with rather widespread coronary disease in older people. It is regarded with considerable respect but with a survival expectancy which is better than with frank, transmural myocardial infarction."

Levine and Ford[18] via the term "subendocardial infarction" described a group of cases of fatal myocardial infarction with electrocardiograms resembling those seen in stress tests for coronary insufficiency and showing rimlike subendocardial infarcts at postmortem. Microscopic examination revealed a zone of relatively intact myocardium, 0.5 mm. thick, immediately beneath the endocardium separating it from the infarcted myocardium. The most striking feature of the tracings recorded in the series was the absence of characteristic signs of "infarction." "The common denominator was found to be a deficient irrigation, not of a single coronary artery, but of the entire coronary system, be it due to clamping down on coronary flow at its source by syphilitic ostial disease, to shock however produced, or to any condition producing systemic hypotension and consequent diminution of coronary blood flow."

Friedberg[19] depicts a clinical-pathologic syndrome intermediate between angina pectoris and acute myocardial infarction, characterized by cardiac pain, which is more intense and prolonged than that of angina pectoris and unresponsive to nitrites, but without significant fever, leukocytosis, increased sedimentation rate, or the characteristic serial electrocardiographic changes seen in classic cases of acute myocardial infarction. "Usually there are RS-T segment depressions as may be observed in patients with angina pectoris during an attack of pain or during a positive hypoxemia test. The attack of pain may occur during effort or at rest, with emotion, exposure to cold, a heavy meal, a paroxysmal tachycardia, hemorrhage, shock, or any factor which significantly reduces the coronary blood flow or increases the work of the heart. The pathologic basis is either severe coronary arteriosclerotic narrowing, or occlusion without infarction, or mild, patchy myocardial necrosis without coronary occlusion."

Gilbert[20] considers "acute coronary insufficiency" a middle ground between "the brief episode of angina pectoris and actual infarction of the myocardium." "Clinically it resembles acute myocardial infarction, except that the signs of necrosis do not appear (leukocytosis, fever, elevated erythrocyte sedimentation rate, and QRS changes in the electrocardiogram).

Typically, it occurs in a patient with pre-existing coronary artery disease as a result of either a drastic increase in cardiac work and blood needs or of a severe decrease in coronary flow. Thus it is likely to arise in older patients during surgical shock, extensive bleeding, prolonged overexertion, anxiety, tachycardia, etc. It is of course possible for actual infarction to occur in the same setting."

After a critical review of these syndromes it becomes apparent that they constitute varying manifestations of the same pathologic physiology and have the following in common:

1. Abrupt onset.
2. Duration of ischemic pain of twenty minutes or longer, not relieved by nitroglycerin.
3. Absence of clinical signs and symptoms of extensive myocardial necrosis, i.e., absence of significant fever, leukocytosis, or rapid erythrocyte sedimentation rate.
4. Varying degrees of myocardial necrosis. The pathologic alterations are usually confined to the subendocardium of the left ventricle and left papillary muscle and are patchy and diffuse. Only rarely does a transmural infarction occur.
5. Absence of mural thrombi and peripheral embolization.
6. Characteristic electrocardiographic alterations.
7. Usually provocative factors as pulmonary embolism, paroxysmal tachycardia, congestive heart failure, hypoglycemia, and shock of any cause.
8. Reversibility of coronary insufficiency.
9. Because of the latter a more favorable prognosis than "acute myocardial infarction," particularly if indicated therapy is prompt.

Acute Prolonged Occlusive Coronary Artery Insufficiency, "Acute Myocardial Infarction"

Myocardial infarction literally comprises any ischemic myocardial necrosis irrespective of extent, location, or origin and, therefore, pertains to the variegated ischemic lesions: "subendocardial necrosis" "scattered foci of myocardial necrosis," "diffuse myocardial necrosis," and "atypical myocardial infarction." However, traditionally, acute myocardial infarction has been clinically limited to the ischemic massive myocardial process originating from an acute occlusive process of a major coronary artery. In this syndrome, frequently mistakenly termed acute coronary occlusion or thrombosis, the occlusive process may be (1) thrombosis initiated by intimal hemorrhage, perhaps associated with activity and increased capillary pressure, (2) intimal hematoma per se, (3) rupture of the atheromatous plaque, (4) thrombus formation in the atheromatous ulcer accompanying slowing of the coronary circulation with nocturnal rest and hypotensive states. When the prolonged occlusive process is abrupt and swift in onset, time is not available to develop a compensatory collateral circulation, and extensive myocardial ischemic coagulation necrosis, conventionally labeled myocardial infarction, results. This lesion is almost uniformly transmural, roughly wedge-shaped with base toward the endocardium, and usually corresponds to the distribution of the involved vessels, although "infarction at a distance" does occur.

The clinical diagnosis is based on prolonged pain indicative of prolonged ischemia plus pathognomonic seriatum electrocardiograms and the clinical expressions of extensive myocardial necrosis. The latter are too well known to bear repetition other than to emphasize the incidence (5 to 20 per cent) of painless myocardial infarction and so-called myocardial infarction equivalents.

The prognosis for patients with acute prolonged occlusive coronary artery insufficiency and myocardial infarction will probably vary with the preciseness of diagnosis. In 200 cases followed by Bland and White[21] up to time of death or with a survival for ten years, 38 (19 per cent) succumbed during the first month, and 50 (25 per cent) have lived more than ten years. Drake[22] reported a case with survival for forty years after an attack at age forty years. Levine[23] noted the average survival to be about three and one-half years; one fourth died in one year, one half in two years, three fourths in five years, and the remainder at varying intervals up to more than twenty-five years. Cole, Singian, and Katz[24] found the immediate mortality during the first two months was 23 per cent; 66 $^{2}/_{3}$ per cent lived over five years; 40 per cent lived over ten years and 10 per cent over fifteen years. Prognosis was better in younger individuals with a history of angina for one year or longer. The immediate prognosis and prolonged survival rate were worse in those who were at rest at time of onset as compared with those who were exercising, under emotional stress, or with other potential provocative factors. Hypertension, cardiac hypertrophy, and electrocardiographic patterns were found to be poor measures of survival, and the most frequent cause of death following one myocardial infarction was another myocardial infarction. The longer the patient survived, the better were his chances of surviving a subsequent infarction.

Permanent (Chronic) Coronary Artery Insufficiency

This syndrome is characterized by progressive coronary atherosclerosis with stenosis and multiple infarctions with diffuse myocardial fibrosis. Frequent episodes of transitory myocardial ischemia with minimal exertion or even at rest enhance further myocardial necrosis. The replacement by connective tissue leads to myocardial weakness, congestive heart failure, and cardiac hypertrophy. Massive hearts weighing 700 to 800 Gm. have been described. Surprisingly enough this syndrome has been observed in the absence of ischemic pain and again in patients with "angina pectoris" of long standing without a clinical history of myocardial infarction.

Functional Recovery Following Prolonged Coronary Insufficiency with "Acute Myocardial Infarction"

To state arbitrarily that "complete functional" recovery has occurred following any of the clinical-physiologic-pathologic syndromes of coronary artery insufficiency by definitions implies that the normal action of the heart pertains despite varying anatomic structural and physiologic defects. Currently there is not available any laboratory device or procedure that accurately measures the functional capacity of the heart or integrity of the coronary circulation, and the most reliable diagnostic aid is the patient's response to activity. Although the statistical prognosis for the syndrome, acute transitory coronary artery insufficiency (angina pectoris), appears better than acute prolonged nonocclusive (coronary failure) or acute prolonged occlusive coronary insufficiency (myocardial infarction), a diseased, compromised coronary circulation with potential catastrophic ischemic myocardial alterations exists. Exposure to adverse influences as sustained effort and emotional strain might enhance fatal or further disabling complications. One is inclined to feel with Paterson[25] that the difference between an individual with clinically evident coronary disease and so-called normal or asymptomatic lies not so much in his degree of atherosclerosis as in the extraneous factors which precipitate prolonged insufficiency or occlusion with infarction.

A liberal interpretation of complete functional recovery might denote symptomless return to former occupation or symptomless return to other gainful, less strenuous occupation. Thus perhaps one could substitute the terms productive recovery or economic restitution for "functional recovery." Unfortunately in many instances recovery from the acute attack is followed by symptoms which preclude return to an occupation within the competence of the patient. The best index to rehabilitation seems to be the ability of the patient to resume normal activity. Eggleston,[26] in discussing cardiac efficiency and prognosis following myocardial infarction, states, "While several tests may be employed for judgment of the degree of recovery of cardiac functional integrity after infarction, the results of such tests scarcely yield enough when compared to clinical experience and good clinical judgment to make the expenditure of time and labor worthwhile." Sprague[26] expresses similar sentiments with brevity: "perhaps the best and simplest way to discover whether or not a patient has made a recovery from myocardial infarction is first to find out how big his heart is and, second, whether he has shortness of breath or angina pectoris when he gets about."

Certainly the electrocardiogram has been disappointing. The persistence of T-wave inversion does not significantly influence the prognosis, and many patients with persistent T-wave inversion are leading active lives, while the return to normal in others has been attended by persistent symptoms of coronary insufficiency. Stress tests yield false positives, and negative tests do not rule out myocardial or coronary insufficiency. Attempts to eradicate functional elements by dihydroergocornine have not always proved successful. Levy,[27] a proponent of the anoxemia test, admits "lesser degrees of coronary insufficiency" may be present with a negative test. The ballistocardiogram might still be considered an experimental tool, and the practical advantages are moot despite the fact that many highly skilled in its interpretation obtain unique, unitarian data. Vital capacity determinations are usually normal in the presence of coronary artery syndromes without extensive myocardial disease.

Statistically Master and Jaffe[28] limited functional recovery after "coronary occlusion and insufficiency" to include patients who did not experience anginal pain, dyspnea, or severe weakness on resuming their previous occupations. Eighty per cent of the 412 studied were seen in private practice with only a few laborers. "Of the 154 who had made a complete functional recovery, 26 had hearts of normal size and normal electrocardiograms, 102 had some enlargement of the heart or an abnormal electrocardiogram, and 26 had marked enlargement of the heart or advanced changes in the electrocardiogram. Seventy-seven (60 per cent) were working full time at their original job or profession; this was particularly true of physicians. Thirty-one (23 per cent) were doing moderate or part-time work, and 20 (17 per cent) were not working, although at least half of the latter group could have worked had it been necessary for them to do so.... Our results indicate that a patient who makes a complete recovery from coronary occlusion has a 95 per cent chance of living for more than five years and a good chance of surviving for more than ten years."

Kaufman and Becker[29] in a series of approximately 200 cases of myocardial infarction of all types of employment found about 75 per cent to be re-employable. In their experience heart failure, repeated infarction, increased angina, and cerebral vascular accidents were just as apt to occur in the employed as in the unemployed. Levine and Phillips[30] studied 85 employes of the Kaiser shipyards with a total of 97 infarctions. Seventy-five per cent of the series performed manual labor. Only 20 patients, a little more than one fourth of the survivors, made a complete symptomatic recovery; 23 patients, one third of the survivors, had subsequent angina pectoris; 12 patients had congestive failure. Thirteen patients had mild degrees of angina pectoris, as well as congestive failure; 26 patients (31 per cent of all observed) returned to gainful occupation but did not continue. Friedberg[19] observed that patients who are able to resume gainful employment after surviving the acute attack of myocardial infarction represent a larger percentage than the asymptomatic group because many who continue to suffer anginal pain or mild dyspnea are nevertheless able to work.

Complete economic restitution, i.e., return to full-time work, was almost twice as frequent among the private as among the ward patients; the younger the patient, the more probable was his return to work.

In a series of 200 patients with acute myocardial infarction seen in private practice who survived the initial myocardial insult (two months), the author found the average age of onset was fifty-six years, the survival rate 4.1 years, varying from three months to eighteen years plus, and the total deaths to date 72 (36 per cent). The cases were grouped functionally in accordance with the criteria of the New York Heart Association:

Group I—Fifty-three returned to their former occupation with no limitation of physical activity and unattended by any symptoms until sudden death; eight cases.

Group II—Thirty-five returned to their former occupation, but activities were accompanied by symptoms including ischemic pain and exertional dyspnea; 16 deaths.

Group III—Sixty-seven engaged in occupations with limited physical activities within their competence; 25 deaths.

Group IV—Forty-five were unable to engage in any gainful occupation; 23 deaths.

If we are to qualify complete functional recovery by return to former occupation asymptomatically, only 26.5 per cent were in this category; 17.5 per cent returned to their former occupation with symptoms; 33.5 per cent engaged in gainful occupation with restricted physical activities; 22.5 per cent were unable to engage in any useful occupation. These data, obtained from a good cross section of industry and professions, from laborer to clerk to physician, do not appear so favorable as some of the aforementioned, but a more optimistic interpretation might have grievous recriminations.

Although many patients following extensive ischemic necrosis can return to a useful occupation asymptomatically or without distressing symptoms, others are not so fortunately circumstanced, either physically or emotionally. Statistical data may be wistfully helpful therapeutically, but individualization is fraught with unpleasant surprises and danger. It behooves one not to be overenthusiastic about complete functional recovery for, ironically enough, Vice President Richard M. Nixon in recently addressing an audience of international cardiologists cited a "dramatic" example of the progress in heart disease by describing complete recovery from a "heart attack," eight months earlier, of an aide to General Eisenhower, only to have one read five days later of his untimely death due to another "heart attack."

Obviously physical incapacity, as evidenced clinically by congestive failure and frequent "anginal" syndromes and objectively by pronounced cardiac hypertrophy and ectopic rhythms, plays a major role in rehabilitation. Other tangible factors include fear of another fatal or incapacitating attack, the character of former work, the attitude of industry in suitable allocation, and the desire to return to work. Less tangible but germane are economic status, emotional stability, social status, domestic cooperation, and the attitude of the attending physician. Current literature is replete with adverse iatrogenic influences. The patient should be informed of his condition in such a manner that he can, if possible, avoid further attacks and, on the other hand, should not be unduly alarmed, but rather given faith, confidence, and encouragement.

Often the feasibility of return to work becomes abstruse and based solely on a philosophy of life rather than on any profound scientific evaluation. Many prefer to live rather than exist. A trial at gainful occupation is sometimes warranted despite unpropitious medical signs and symptoms. The author can recall many fearnaughts who returned to work against advice in face of recurrent episodes of congestive heart failure, "anginal" episodes requiring 15 to 20 daily sublingual nitroglycerin administrations and often parenteral opiates, and refractory nocturnal dyspnea, and who lived three to four years, well within the range of anticipated survival. They achieved a measure of moral satisfaction and genuine happiness in maintaining their position in our social order. Death was to be accepted as a harmonious end to a full life. Quoting Benjamin Franklin: "When men are employed they are best contented; for on the days they worked they were goodnatured and cheerful, and, with the consciousness of having done a good day's work, they spent the evening jollily; but on idle days they were mutinous and quarrelsome." And if return to gratifying work might perhaps shorten one's life by a few months, as expressed by Edward Young: "That life is long which answers life's great end."

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A Chicago matron was seated next to a famous Boston lady at a Boston tea party. During a crisp exchange of conversation Mrs. Boston advanced the information that, "In Boston we place all our emphasis on breeding." Thereupon the Chicago matron responded, "In Chicago we think it's a lot of fun, but we do manage to have a great many outside interests."

—*Tonics and Sedatives, J.A.M.A., March 27, 1954*

The Ambulatory Treatment of Arterial Hypertension and the Early Response to Oral Cryptenamine

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Derivatives of veratrum have been employed medicinally for almost four and a half centuries, although their use in the treatment of hypertensive states originated within the past one hundred years.[1] The cardiovascular properties of these agents have been summarized extensively elsewhere in authoritative reviews to which the interested reader is referred.[2-6]

Veratrum-induced hypotension is mediated both by reflex vagal stimulation and by a direct central vasodepression. According to one observer[4] these substances "exert their hypotensive action in a unique manner, being the only known clinical agents that can stimulate the afferent side of the reflex pathway presumably responsible for the normal control of blood pressure." The mechanism apparently is a sensitization of afferent vagal nerve endings in left ventricular and great vessel walls ("Von Bezold reflex"). Sinus bradycardia most often accompanies the fall in blood pressure and may be dissociated from the latter effect by atropinization. Cardiac output is maintained, as is flow through vital vascular beds.

Veratrum derivatives are reportedly contraindicated in certain of the "reversible" hypertensive diseases (coarctation of the aorta and pheochromocytoma), in individuals with increased intracranial pressure unrelated to hypertension, in Adams-Stokes syndrome, and in the hyperactive carotid sinus syndromes. Nausea and bradycardia may be profound in digitalized patients, and it has been suggested that these drugs not be employed during the period of acute digitalization. In addition, veratrum should be used cautiously in individuals receiving quinidine.

The earlier use of veratrum in hypertensive disease was limited by the availability of only crude extracts containing mixtures of the various alkaloids in uncertain proportions requiring biologic assay for standardization. Nausea and emesis occurred regularly with dosages identical with, or slightly in excess of, the antihypertensive dose. Within the past decade purified alkaloidal preparations of veratrum album and veratrum viride seemed to offer the promise of standardization by weight, freedom from active emetic contaminants, and more critical dosage. A developing experience with these single purified alkaloids has, however, demonstrated the advisability of preliminary hospitalization for regulation[1] and although intravenous or oral acute administration of a single dose is rarely associated with vomiting, it has not been possible in the experience of students of the disease to maintain hypertensive individuals on consistent ration doses capable of lowering the blood pressure without producing emesis.[7]

Recently, cryptenamine, a new alkaloid isolated from veratrum viride, has been shown in animal experimentation to have a ratio of approximately 4:1 in regard to antihypertensive and emetic dosages when administered intravenously, a dichotomy apparently unique among the veratrum alkaloids.[8] Studies in humans with a spectrum of hypertensive disorders have supported the contention that "the divergence between the hypotensive and emetic dose of cryptenamine reported in animals also exists in man and is most apparent after intravenous administration wherein vomiting is common with the other veratrum alkaloids."[9,10]

In view of these reports dealing with parenteral cryptenamine, the development of an oral preparation (Unitensen, Irwin, Neisler & Co.†) suggested its trial in the treatment of hypertensives being managed on an ambulatory basis. This report is a summary of the early phases of re-

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† Generously made available by B. A. Marty, Director of Clinical Research, Irwin, Neisler & Co., Decatur, Illinois.

TABLE I.—RESULTS OF ORAL CRYPTENAMINE THERAPY IN 12 MALE PATIENTS WITH HYPERTENSION

Patient	Age	Known Hypertension (Years)	Preliminary Observation (Months)	Smithwick Group	Blood Pressure Readings: Pretreatment Average	Blood Pressure Readings: Initial Treatment	Blood Pressure Readings: Cryptenamine	Maintenance Dose of Cryptenamine (Mg.)
A. N.	63	3	3	III	190/115	210/110	130/85	8
J. R.	55	10	16	III	206/128	220/140	170/120	12
C. M.	34	14	4	IV	194/128	190/130	160/100	12
V. E.	53	4	1½	III	199/134	210/130	155/100	14
T. W.	50	3	24	III	200/120	210/130	195/130	10
W. B.	65	2	15	III	200/120	200/120	155/90	12
C. L.	50	2	15	III	200/130	190/110	160/100	8
A. T.	65	3	1½	III	207/116	200/110	175/110	12
G. R.	77	10	24	IV	210/130	210/130	190/110	10
R. A.	48	2	1	III	208/124	210/125	140/80	12
J. J.	57	4	48	II	209/119	210/130	150/90	10
B. S.	62	22	1	III	250/115	240/115	185/95	14

sponse to oral cryptenamine in a small "pilot" group of ambulatory hypertensives who were evaluated and followed by procedures which can be adapted for use by any physician engaged in office practice.

Material and Methods

Twelve ambulatory outpatients comprised the pilot study group. All patients were men, reflecting their predominance among the beneficiaries of the U.S. Public Health Service Outpatient Clinic, a large medical facility located in New York City. Eleven of the patients were suffering from "essential" hypertension, while the twelfth was a well-documented case of polycystic disease of the kidneys. These patients ranged in age from thirty-three to seventy-seven years, with a mean of fifty-six and one-half years, and, with a single exception, fell into Groups III and IV of the conventional Smithwick classification.[11] Hypertension had been known to the patients for a mean of six and one-half years, with extremes of two and twenty-two years. Preliminary observations were available for periods of one month to four years, with an average period of pre-cryptenamine study of slightly over one year for the group as a whole. All patients had previously received diets containing less than 1 Gm. of sodium daily, as well as trials of barbiturates alone or in combination with one of the xanthines; one patient could not be controlled on hydralazine, and three had exhibited no response to Rauwolfia derivatives. Prior to initiation of cryptenamine therapy, all exhibited a diastolic blood pressure persistently at or above 110 mm. of mercury; azotemia was present in mild degree in seven and was of moderate degree in an eighth. Initial and serial observations included anamnesis and physical examination, funduscopic evaluation, urinalysis, hemogram and sedimentation rate, electrocardiogram, preliminary 70-mm. photofluorogram and subsequent conventional posteroanterior roentgenogram of the chest for evaluation of cardiac size and configuration, blood nonprotein and urea nitrogen determinations, and, in some cases, more discrete evaluation of renal function utilizing common clinical tests. All patients were seen on the same day each week at roughly the same hour and were interviewed by one of two physicians throughout the entire period of observation.† Blood pressures[12] and pulse rates were recorded in the seated position at each interview following a period of casual conversation.

Treatment consisted of continuation of the low-sodium intake, mild sedation, and adjunctive measures previously received. Two-milligram tablets of cryptenamine, containing veratrum viride alkaloid equivalent to 260 C.S.R. units** per tablet, were employed. Treatment was begun with two tablets daily, one tablet immediately after breakfast and one at bedtime. After preliminary examination an afternoon dose was added at 2 P.M., and the dosage was gradually revised upward at the rate of one tablet every five to seven days, the total being adjusted so that the medium dose was taken after breakfast, the smallest dose at 2 P.M., and the largest dose at bedtime. Patients were instructed to refrain from eating for at least four hours after each dose of cryptenamine in an attempt to preclude or minimize possible gastrointestinal effects.

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† Edward Cross, senior assistant surgeon, U.S. Public Health Service (Reserve), assisted in these observations.

** One C.S.R. (carotid sinus reflex) unit "represents the amount of intravenously administered hypotensive agent per kilogram of body weight which just abolishes the pressor response to the carotid sinus reflex in dogs."[13]

TABLE II.—CHANGES IN BLOOD PRESSURE* WITH ORAL CRYPTENAMINE

Blood Pressure Drop (Mm.)	Number of Cases
Diastolic	
0 to 10	3
11 to 20	3
21 mm. and above	6
Systolic	
0 to 10	0
11 to 20	2
21 to 30	3
31 to 40	0
41 to 50	2
51 mm. and above	5

* Taken in the sitting position.

Results

The duration of cryptenamine therapy was one and one-half to three and one-half months. Seven patients received cryptenamine for three or three and one-half months, two patients for two months, and three patients for one and one-half months. In no instance was it necessary to discontinue treatment. The average daily dose ranged from 8 to 14 mg. (Table I).

Six patients had a decrement of more than 20 mm. of mercury of diastolic blood pressure below the initial treatment level, with extremes of drop for the entire group of 0 and 45 mm. of mercury. Seven patients attained a systolic blood pressure lowering of more than 30 mm. of mercury, with a range of fall for the entire group of from 15 to 80 mm. of mercury (Table II).

It is of interest that there seemed to be little difference between the patients who experienced a decrease of systolic blood pressure of less than 31 mm. of mercury and those with a more pronounced fall, as regards age, known duration of disease, average pretreatment blood pressure, or duration of cryptenamine therapy. Those with only a modest decrement in systolic blood pressure included the two severest hypertensives, according to Smithwick grading, and received, on the average, 1.6 mg. less of cryptenamine in maintenance dosage daily (Table IIIA). Similarly, the patients with less than 21 mm. of mercury drop in diastolic blood pressure differed from those with a drop of 21 mm. of mercury or more only in that the former seemed to be older, with a longer known duration of their disorder; dosage, duration of therapy, and average pretreatment blood pressures did not differ appreciably (Table IIIB).

Nine patients exhibited a decrease in average pulse rates while on cryptenamine therapy, but bradycardia was not observed in any patient; the decrease in pulse rate could not be correlated with the observed antihypertensive response, some of the more profound decrements being observed with little change in pulse rate.

Subjectively, six of seven patients with "characteristic" hypertensive headache expressed improvement. There was little change in patients who complained of palpitation, angina, and exertional dyspnea, as far as those symptoms were concerned. Several patients remarked spontaneously upon a general feeling of well-being, particularly those with the most pronounced hypotension.

Side-reactions

Six patients reported no symptoms which could be related to cryptenamine therapy (Table IV). Side-reactions were noted in the other six patients and included flatulence, nausea, urinary frequency, nervousness, lethargy, and a sensation of perioral numbness or cutaneous paresthesia; a combination of such reactions in any one patient was unusual. Vomiting accompanied nausea in only one patient, an individual known to have a substantiated duodenal ulcer; his complaints responded to conventional medical management without interdiction of cryptenamine. In general, symptoms disappeared when cryptenamine dosage was reduced by 2 to 4 mg. daily and were not sufficiently disturbing to

TABLE III.—POSSIBLE FACTORS INFLUENCING THE RESPONSE TO ORAL CRYPTENAMINE OF REACTORS AND NONREACTORS

Blood Pressure Drop*	Number of Patients	Average Age	Years of Known Hypertension	Months of Therapy	Smithwick Group	Average Pretreatment Blood Pressure	Maintenance Cryptenamine (Mg.)
A. Systolic							
Less than 31 mm.	5	55.2	6.4	2.7	III and IV	202/124	10.4
31 mm. and above	7	57.5	6.7	2.3	II and III	208/121	12.0
B. Diastolic							
Less than 21 mm.	6	59.8	8.3	2.5	III and IV	212/123	11.0
21 mm. and above	6	53.3	4.8	2.5	II, III, and IV	200/123	11.0

* From blood pressure reading on day 1 of cryptenamine therapy.

TABLE IV.—SIDE-EFFECTS OF ORAL CRYPTENAMINE

Side-effect	Number of Cases
Flatulence	2
Nausea alone	2
Nausea and vomiting	1
Urinary frequency	1
Lethargy	1
Nervousness	1
Perioral numbness and paresthesias	1
No side-effects	6

TABLE V.—CHANGES FOLLOWING TREATMENT OF ARTERIAL HYPERTENSION WITH ORAL CRYPTENAMINE*

	Heart Size	Electro-cardio-gram	Fundi	Urine	Non-protein Nitrogen
Improved	0	0	0	3	4
Same	12	12	12	8	5
Worse	0	0	0	1	3

* After $1^1/_2$ to $3^1/_2$ months of treatment; expressed as number of patients exhibiting the particular change.

cause cessation of treatment in any patient. No adverse reactions marked the response of digitalized patients. Cerebrovascular accidents, myocardial infarction, or the development of terminal uremia did not occur during these early phases of treatment.

Laboratory Studies

The initial baseline studies were repeated in all patients. Heart size, electrocardiogram, and fundi remained unchanged in all 12 patients (Table V). The urinalysis was the same in eight, better in three, and worse in one. The blood nonprotein nitrogen remained unchanged in all four patients with initial normal values and in one with nitrogen retention; levels declined in four with initial azotemia and rose in three others.

Comment

Evaluation of drug therapy in arterial hypertension is fraught with difficulty. Traditional concepts of the diagnosis have been subject to vigorous redefinition.[14] Any approach to treatment must be viewed in the perspective of the long, variable, and unpredictable course of the disease.[15–17] Further the consideration that the induction of normotension per se may prevent or reverse the consequences of the disorder in the various vascular areas seems challenged strongly by Perera's observation of the development of hypertensive manifestations following the disappearance of hypertension in the malignant phase of the disease.[18]

Strong motivation underlies the employment of antihypertensive agents in the management of arterial hypertension. The disorder is a prevalent one, afflicting about 5 per cent of the adult population of the United States.[16] The majority of individuals affected are symptomatic,[16] and even those who urge conservatism in the approach to the treatment of hypertension freely admit that few escape one or more of the commonly associated complications.[15] Wilkins[19] has emphasized our inability to make a clear-cut or exclusive separation between the various stages, types, or degrees of the disease and has indicated the futility of reserving treatment until the severest forms appear, while delaying it in early, potentially reversible stages. Only careful, long-term statistical evaluation of morbidity and life expectancy in large groups of treated and untreated individuals can be expected to resolve this dilemma and demonstrate whether or not the hypertensive, like the diabetic, may realize the dividends accruing from early diagnosis and prolonged, agressive control of his disease.[20]

The desirability of an effective antihypertensive agent in the management of the more select group of patients with hypertension represented by the subjects of the present study is clear. Almost half of an analogous series of medically treated hypertensives, the majority of whom were of Smithwick Group II and above, had expired within three years.[21] Smithwick and Thompson's follow-up of medically treated patients indicated that 71 per cent of those in Group III and 90 per cent of those in Group IV had died within five years of initial study.[11] Similarly, in Perera's study of the life history of 100 hypertensive individuals, the initial recording of a systolic blood pressure above 200 mm. of mercury, or of a diastolic blood pressure above 120 mm. of mercury, implied an average subsequent duration of life of nine years.[22]

Representative reports have documented the usefulness of derivatives of veratrum when administered by parenteral routes in the control of a variety of hypertensive emergencies as well as in the routine treatment of arterial hypertension in hospitalized individuals.[1,9,10,13,23,24] Oral therapy with veratrum has been limited by the defects mentioned previously, i.e., the relatively narrow margin between therapeutic and toxic doses, the frequency of complicating effects, and the development of drug tolerance requiring frequent revision of dosage.[2,7,25] These effects seriously compromise the possible utility of veratrum in noninstitutional treatment of hypertensive patients, many of whom must, of economic necessity and despite the ravages of their disorder, forego the long periods of hospitalization mandatory for the delicate adjustment of therapy when the majority of antihypertensive drugs of moderate to marked potency now available are employed. Promising preliminary reports dealing with parenteral cryptenamine led to this investigation of its possible role in the office management of ambulatory hypertensives when given as an oral preparation.

Although detailed evaluation is of limited statistical validity in view of the small size of the group of patients treated, certain qualitative observations relating to the response of these hypertensive individuals, during the early phases of oral cryptenamine administration, may be of interest. Office management and regulation were feasible in all cases; baseline and follow-up control were conducted utilizing standard clinical equipment and conventional laboratory tests. Therapy could be "tailored" to the requirements of individual patients by simple adjustment of dosage. When given in daily amounts of 8 to 14 mg. in divided doses as outlined, cryptenamine proved to be a moderately potent antihypertensive agent, inducing a drop of more than 30 mm. of mercury in systolic blood pressure and more than 20 mm. of mercury in diastolic blood pressure in half of the subjects. The others experienced more modest decrements. It was not possible to predict the potential efficacy of cryptenamine therapy in advance in any individual situation on the basis of severity of disease or the average of pretreatment blood pressure determinations; older hypertensives with long duration of disease seemed, on the average, to experience a less pronounced decline in diastolic blood pressure. The significant drop in diastolic blood pressure demonstrated by the lone case of "secondary" hypertension, an individual with polycystic disease of the kidneys, implies the participation of potentially reversible mechanisms in the genesis of his particular elevation of blood pressure, in addition to the definitive etiologic renal lesion.

The decrease in frequency and severity of hypertensive headache suggests that this drug was helpful in many instances. Little change has been noted to date in the symptoms of cardiac insufficiency or the coronary arterial syndromes. Side-effects were mild and noted by only half of the patients; these were similar to some of those previously reported with veratrum.[1,2] Vomiting was noted by only one patient, a subject with a possibly predisposing gastrointestinal lesion, and responded to standard antacid medical management without interruption of cryptenamine treatment. Side-effects were transitory, and in no case was it necessary to discontinue therapy because of their occurrence; simple adjustment in dosage or modification of the daily mealtime routine was often all that was required. Bradycardia was not recorded despite significant decrements in blood pressure in half of the patients. No patient on oral cryptenamine therapy experienced myocardial infarction or a cerebral vascular accident or developed uremia during the period of observation.

Laboratory follow-up showed no alteration of cardiac or retinal status during the early phase of observation. Urinary findings were largely stationary, although improvement was noted in several patients and deterioration in others. Nitrogen retention increased in some of those with initially abnormal values, declined in others, and remained stationary in all in whom baseline normal figures had been recorded.

No evidence of decreasing sensitivity to a fixed maintenance dose of oral cryptenamine was observed in any of seven patients who had received the drug for three or three and one-half months.

Oral administration of cryptenamine is being continued in this "pilot" group, as well as in an additional large number of ambulatory hypertensive individuals, in an attempt to evaluate the impressions concerning its usefulness received in the early phases of therapy.

Summary and Conclusions

1. Cryptenamine (Unitensen), a new alkaloid of veratrum viride, has been administered to 12 patients with hypertension for periods of one and one-half to three and one-half months by the oral route on an ambulatory basis.

2. Individualization of dosage was attained easily. Daily dosage ranged from 8 to 14 mg. and was given in three divided doses, arranged so that the medium dose was given after breakfast, the minimum dose at 2 P.M., and the maximum dose at bedtime.

3. Oral cryptenamine appeared to possess the

antihypertensive properties inherent in whole powdered veratrum viride. Half of the patients experienced a significant drop in systolic and diastolic blood pressures. Symptomatic improvement to date has been limited largely to the alleviation of hypertensive headache. No objective improvement, other than the fall in blood pressure, has been defined clearly during the early phases of treatment.

4. Oral cryptenamine appears to be a safe antihypertensive agent when administered according to the outlined method. Mild and transitory side-effects were reported by half of the patients and could not be correlated with the induction of significant decrements in blood pressure. Emesis, previously reported with other veratrum derivatives in high frequency at therapeutic levels, appeared in only one patient. It was not necessary to discontinue treatment because of complicating effects in any case.

5. These preliminary data suggest the usefulness of oral cryptenamine in the routine office treatment of the more severe grades of hypertension.

Further studies in larger numbers of patients followed for prolonged periods of time are in progress in an attempt to verify the characteristics observed during the initial phases of therapy. These will be reported at a later date.

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Evaluation of Episiotomy Repair with Number 3-0 Plain Catgut in Relation to Perineal Pain

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OF ALL obstetric surgical procedures episiotomy is the one most frequently done today to prevent the development of rectocele, cystocele, and prolapse of the uterus.

There are certain precautions in the technic of episiotomy to insure the best results as far as repair and elimination of pain are concerned: (1) asepsis,[1] (2) adequate incision,[2] (3) control of all bleeding points,[3] (4) use of absorbable catgut which offers less foreign material and less tissue reaction,[4] (5) no stay sutures,[5] (6) avoidance of dead tissue spaces,[6] (7) good exposure during repair,[7] (8) accurate approximation of tissues layer by layer,[8] and (9) avoidance of sutures through the rectum.

Material and Method

One hundred cases of routine episiotomy repair with number 2-0 chromic catgut as controls were used to check the results of the study of the use of number 3-0 plain catgut in 100 cases. The patients were all delivered at the A. N. Brady Maternity Hospital, Albany, a teaching unit of the Albany Medical College. In order to arrive at a method of evaluating each case, it was decided to question all patients on the fourth postpartum day about perineal pain and stitches.

On the fourth postpartum day each patient was asked three questions:

1. How do you feel?
2. Have you any soreness?
3. Have you any pain in your stitches?

The exact answers given by each patient were recorded on a special sheet.

The final grading was based on the patients' answers, reports of floor nurses, and nurses' notes. From these data the patients were divided into four groups (Table I):

Group A — Those patients who had no discomfort.

Group B — Those patients who had minimum soreness and required no medication.

Group C — Those patients who had soreness and needed occasional analgesics.

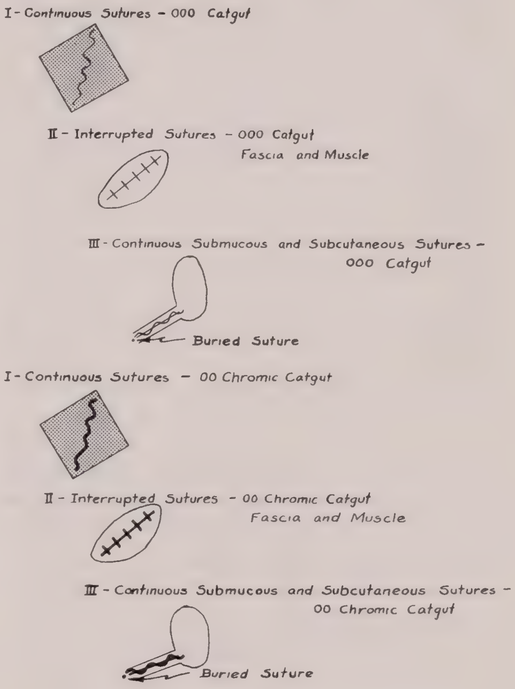
I - Continuous Sutures - 000 Catgut
II - Interrupted Sutures - 000 Catgut
Fascia and Muscle
III - Continuous Submucous and Subcutaneous Sutures - 000 Catgut
Buried Suture
I - Continuous Sutures - 00 Chromic Catgut
II - Interrupted Sutures - 00 Chromic Catgut
Fascia and Muscle
III - Continuous Submucous and Subcutaneous Sutures - 00 Chromic Catgut
Buried Suture

FIG. 1. Perineum diagrammatic outline.

TABLE I.—PERINEAL PAIN IN TWO SERIES OF 100 CASES

	Group A	Group B	Group C	Group D	Total
2-0 chromic catgut	80	12	3	5	100
3-0 plain catgut	90	8	2	0	100

Group D — Those patients who had marked tenderness and soreness and needed frequent medication for relief of perineal pain and soreness.

Medication used for perineal pain consisted of Nupercaine to sutures and codeine, 1/2 grain, and acetylsalicylic acid, 10 grains.

Results

The following results demonstrated the efficacy of repair of episiotomies with number 3-0 plain catgut:

TABLE II.—PERINEAL PAIN IN PRIMIPARAS AND MULTIPARAS

	Group A	Group B	Group C	Group D	Total
2-0 chromic catgut					
Primiparas	40	12	3	3	58
Multiparas	40	0	0	2	42
Total	80	12	3	5	100
3-0 plain catgut					
Primiparas	55	5	0	0	60
Multiparas	35	3	2	0	40
Total	90	8	2	0	100

TABLE III.—PERINEAL PAIN ACCORDING TO TYPE OF EPISIOTOMY

Type of Episiotomy	Group A	Group B	Group C	Group D	Total
2-0 chromic catgut					
Median	30	6	3	3	42
Mesiolateral	50	6	0	2	58
Total	80	12	3	5	100
3-0 plain catgut					
Median	35	3	2	0	40
Mesiolateral	55	5	0	0	60
Total	90	8	2	0	100

TABLE IV.—HEALING WITH TWO TYPES OF CATGUT

	Excellent	Good	Fair	Total
2-0 chromic catgut				
Median	32	6	4	42
Mesiolateral	48	8	2	58
Total	80	14	6	100
3-0 plain catgut				
Median	34	6	0	40
Mesiolateral	50	10	0	60
Total	84	16	0	100

1. There was very little or, practically speaking, no pain, tenderness, or swelling following the use of this type of catgut in episiotomy repairs in primiparas and multiparas (Table II).

2. It could be used for median or mesiolateral episiotomies (Table III).

3. There was better healing with number 3-0 plain catgut and less tissue reaction where this type of catgut was used in episiotomy repairs. The healing was better with mesiolateral than with median episiotomy (Table IV).

4. Patients in the number 3-0 plain catgut series required very little if any analgesics or medication to relieve perineal pain.

5. The patients felt much better, even as early as the third postpartum day, when number 3-0 plain catgut was used.

6. There was no technical difficulty with this type of catgut.

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"Protective and Comfortable"

As patients pass before us in our daily practice and we observe the pageant of illness more closely, we become aware that the clinical practice of medicine has changed in the past 25 years. Not so many of these diseases are related to the action of alien, or pathogenic agencies, on an otherwise normal organism. Illnesses now seem to arise from within the very nature of the organism itself and seem to represent some struggle in self-expression or some anomaly of our given biologic substratum. The question to consider is not so much the truth of the observation, but why is it so difficult for us to accept it as a discovery? Possibly because we are comfortable in our tradition. A tradition is like a cloister, protective and comfortable. We inherit this tradition from such men as Virchow who taught that there are no general diseases, only diseases of organs themselves; or Pasteur, who had us believe that each disease has a specific cause. It is an historical paradox that the great accomplishments of the past often become an obstacle to further development. There is always an inertia between the discovery of a new scientific truth and its acceptance into scientific work. As human scientists, we categorize our observations according to the scientific philosophy to which we were exposed in our training. We need constantly to revise this trend. Our observations are our greatest teachers.—*From "The Necessity of Illness," by Harrison Sadler, M.D., in Journal of Michigan State M. Soc. June, 1954*

General Medical Aspects in the Care of Back Cases

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The many new considerations in the care of back cases prompts the writing of the following impressions. It is quite obvious to this physician that in these days of compensation insurance, disability claims, and hospital reimbursements, a more modern and comprehensive attitude must be taken in handling individuals who present back problems.

To weigh the expression "back cases," one should first regard the diagnostic phases which from the etiologic standpoint may include (1) disease, (2) traumatic injury, or (3) functional disturbance, a classification in which neither disease nor traumatic injury can be demonstrated objectively. The etiologic, diagnostic conclusions, even though they may seem obvious in some situations, in others may properly have to be labeled "alleged injuries." Further, a patient who for one reason or another elects to malinger may present a quite incredible story as to the cause or the onset of back difficulty.

Once the etiologic conclusions have been drawn as nearly as possible, then comes the problem of differentiating the pathology concerned. Here the complexity is expanded many fold. There may be disease which cannot be demonstrated objectively; there may be a certain degree of "arthritis" which may confuse the picture; there may be injury superimposed upon disease, or there may be nothing but the patient's subjective complaints from which to make diagnostic deductions.

The first physician relationship which the "back patient" enjoys may well be the deciding factor in the success or failure during the course or in the final outcome of the case. If difficulties are magnified or exaggerated in the mind of the patient by the explanations that are made, a disability may extend for months, whereas it might have been a matter of days. This would be particularly true where compensation benefits or disability insurance are involved. If the patient's plight is minimized by the first physician, the patient may well turn to immediate specialist care and economic considerations of unnecessary proportions.

It is interesting to note the ease with which a private, self-paying back case is handled as compared with one where insurance benefits and disability may be expected. The private, self-compensating individual will make an honest attempt to understand the medical enigmas involved and will cooperate fully in treatment and rapid rehabilitation. The compensation case or the disability charge often expects the impossible in treatment and is in no hurry at all to revert to normal working routines. In fact, it sometimes appears that the latter type of person actually enjoys the infirmity which is so convenient and compensatory.

Except for x-ray diagnosis the referral of back patients to specialists, either by the general practitioner or, more especially, by the insurance carrier, often exaggerates the seriousness of the problem in the mind of the patient. Then the "grand disability" has had a first-class beginning. This pitfall can be avoided: first, by quick and understanding relations between the insurance representative and the original physician; further, by close interphysician relations where each case referral is concerned. One frequently finds that the insurance company takes an active interest in back problems only after the situation has reached unusual proportions, either in overtreatment or prolonged disability. I believe that the insurance company concerned should take an immediate and active interest at the very inception of all back cases. They should effect prompt and adequate accident investigation and afford full cooperation with the original physican. Such matters would tend to reduce the over-all expense of disability and medical care, and, what is probably more important, neuroses would not be nurtured.

Any physician or surgeon who cares for back cases must stand ready to accept the bitter with the sweet. He must realize and assume that each and every such patient, even though suffering from what is interpreted to be a minor injury, presents a potential major problem. He must be psychologist, psychiatrist, orthopedist, and neurologist, probably with the emphasis on the first two categories. He must be able to give the proper time to evaluation of the physical and adequate time to discussions with and appraisal of the patient as a whole. An unconcerned or indifferent attitude by a chain of one or more physicians has been the absolute reason why patients of this type often revert to cultist care. If physiotherapy is indicated, good, diligent physiotherapy should be afforded.

When radical or surgical treatment is felt to be indicated, further evaluations should be made. Will the patient properly accept the advice which is given? Is another opinion going to help the patient feel more confidence in the procedure? Thorough information must be given about the extent of the treatment and what can be expected of same. The patient must not be led to believe that excellent results are the rule when partial improvement is all that is anticipated. If the patient is misled in such a manner, poor results or incompletely satisfactory results will create great hazards in future care.

Best results can probably be obtained where it is possible for one physician to follow the case from beginning to end. In this way the patient feels there is someone on hand who completely understands the pain and difficulty which have been endured and the problems of readjustment which lie ahead. The close cooperation and understanding between the physician and any specialist who plays a part will smooth over the consultation hurdles and lend a warm personal touch to any major orthopedic or neurologic surgery which may necessarily be performed.

Summary

1. All back cases should be considered major problems.

2. These cases particularly should be considered from the standpoint of "the whole human being" and not simply as a mechanical or anatomic problem.

3. Physicians should be most careful to avoid a disinterested attitude, even though only partial improvement may be expected from adequate treatment.

4. Careful interphysician and interagency relations should be maintained to avoid misunderstanding by the patient. This would be of extreme importance in any case where permanent whole or partial disability is expected.

5. The physician nearest the patient should have the opportunity of complete chronologic management and constant understanding of each phase of the progress of such a case, even though he may not be directly involved in each part of the active treatment.

Disease Caused by Coxsackie Virus Discovered

The identification of the Coxsackie virus in 1948 put scientists in an extraordinary position: they had found a disease-causing virus before they discovered what diseases it caused. Three Pennsylvania researchers have reported they have found one Coxsackie-caused disease. They report evidence that one type of Coxsackie virus appears to cause a mild form of aseptic meningitis, an inflammation of the membranes enclosing the brain and spinal cord, the cause of which has not been known.

Klaus Hummeler, M.D., Philadelphia; Daniel Kirk, M.D., Elwyn, Pennsylvania and Mykola Ostapiak, Philadelphia, reported their findings in the October 16 *Journal of the American Medical Association.*

This disease organism was isolated in 1948 after an outbreak of what appeared to be nonparalytic polio in the town of Coxsackie, New York. It later was divided into groups A and B according to their effects on experimental animals. There is strong evidence that the group A is connected with a fever disease called herpangia, while group B causes epidemic pleurodynia (also known as Bornholm disease or devil's grip) which brings sharp pains in the chest or abdomen, and is much like nonparalytic polio. But heretofore investigators weren't able to say specifically that Coxsackie virus was the cause of any particular disease or syndrome. The virus has been found in patients suffering central nervous system disorders together with a Coxsackie infection. But physicians could not tell whether the infection and the nervous system involvement were both caused by the virus. The only sure way of telling would be to find Coxsackie virus in the spinal fluid of such a patient. This apparently has been reported only once.

The Pennsylvania investigators said they had isolated the virus in the spinal fluid of a patient with aseptic meningitis. He was one of 11 persons in a mental institution who were striken by a Coxsackie virus infection. All showed symptoms and spinal fluid changes like those in cases of aseptic meningitis. Coxsackie virus group B was found in six of the 11 patients by various methods, including the one virus isolation from spinal fluid. Other evidence supported the conclusion that the aseptic meningitis was caused by the group B virus. All of the patients recovered, and the researchers said the evidence proves that the group B Coxsackie viruses, commonly associated with pleurodynia, also can invade the nervous system and cause a mild meningitis.

Antihistaminics as Substitutes for Barbiturates

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THE extensive use of barbiturates in medicine is primarily based on their sedative effect. Sedation up to hypnotic effect is required in various medical disorders to relieve or combat insomnia of whatever etiology. Other indications include sedation for amelioration in emotional stress situations in neurotic conditions or to alleviate apprehension in essential hypertension and other psychosomatic disorders. In neurology their use as anticonvulsants is widely appreciated. Surgery may utilize them for their anesthetic effect before or during operation. In modern psychiatry their intravenous administration serves as a method for newer analytic approaches.

The tremendous popularity of the barbiturates in medicine coincides, probably not perchance, with the present-day hectic and turbulent activities of people all over the world, in which political and economic upheavals in the wake of two world wars and the fear of a third one keeps millions of people disturbed with uncertainty, apprehension, and anxiety between the agony of today and the unknown of tomorrow.

The two main unfavorable aspects of barbiturate medication concern (1) an acute overdosage, which may result in intoxication or poisoning, either accidentally or more likely with suicidal intent, and (2) the long-continued use of the drug, which may result in habituation. Promiscuously or injudiciously taken for a protracted period, the drug finally leads to acquired tolerance, necessitating gradually larger doses.

Barbiturate Habituation and Drug Addiction

After long-continued use of the barbiturates as a hypnotic the patient may develop a certain degree of habituation. This may be contrasted with true addiction to drugs such as morphine or heroin. In the latter case the addict is, as a rule, a constitutionally inadequate man, a stigmatized individual, or a psychopathic personality. Addiction to drugs in such cases is only a part of a generalized pattern.

In barbiturate habituation the individual is usually a normal man; he may be a neurotic type of businessman or an energetic executive with essential hypertension, gastric ulcer, or thyrotoxicosis among other psychosomatic disorders. This type of individual in the fervor of his creative, overactive life, under stress conditions, or as a result of some neurosis caused by financial reverses or marital difficulties, etc., may fall victim to insomnia. He is not craving for barbiturates. He would be only too glad if sleep could be induced without its use. In the case of drug addiction to morphine or heroin the addicts crave the drug effects, and they are ready to commit crimes in order to satisfy their needs. Rennie[1] expresses his ideas on this subject by stating, "Discontinuance (in barbiturism) of the use does not result in physiologic manifestations of addiction. Nonetheless, emotional dependence does occur in persons of unstable neurotic makeup; thus, psychologic, not physiologic, habituation is encountered."

Because of acquired tolerance the effective hypnotic doses of barbiturates after long-continued administration may have to be increased. Such larger doses, however, do not necessarily increase the hypnotic effect. They even may reverse the action, cause apprehension, restlessness, tension, and excitation, and prevent sleep. This restlessness improperly evaluated by the patient, or even by his physician, prompts an increase in the dose administered. Eventually, one may reach the point of desperation. Insomnia requires hypnotics, but the patient finds that the customary dose is ineffectual. The sleepless patient becomes excited, nervous, and agitated and then takes larger doses of the drug. That makes him drowsy, but lacking sleep, he becomes still more excited, and this vicious circle, in turn, makes the patient go around, like a dog chasing his tail. The irritated and exhausted patient fears the coming night because he knows that the hypnotic will not work, and the increased dosage with its after-effects reduces his activities the following day. A change to another barbiturate or to chloral hydrate may sometimes temporarily solve the problem. But this is a state between Scylla and Charybdis. Bromides under such conditions are rather ineffective. Tolserol, likewise, proves to be of no value in reducing irritability or anxiety and does not solve the problem of insomnia. Combination of various drugs is of temporary relief only.

The problem of habituation versus addiction is discussed by Maas,[2] Robinson,[3] Isbell,[4] Tatum,[5] etc. Barbiturism of an "innocent victim" leads, as a rule, to habituation. The man with personality changes and psychic damage is the victim of addiction. A psychopathic personality is the addict type, even before resorting to barbiturates or to narcotics. The drug does not make him an addict type. Contact with barbiturate drugs makes the "innocent victim" a user, the stigmatized man an abuser of the drug.

The Antihistaminic Drugs

In recent years antihistaminic preparations have come into clinical use. Their wide application proved to be a powerful substitute for the specific desensitization methods used in clinical allergy. If there is limitation to their use, then, as Cooke[6] states, "They do not satisfactorily replace specific therapy, since the side-effects such as somnolence limit the amounts that may be required to control symptoms." According to the New and Nonofficial Remedies, 1953,[7] "All the antihistaminic drugs produce undesirable side reactions. The incidence and severity of these toxic actions and the dose required to produce them vary with each drug." Further it states that "the most common untoward action is sedation. This varies with the particular drug, the individual response, and dose, from mild sedation to deep sleep." Also Beckman[8] in his book, *Pharmacology in Clinical Practice*, states that with respect to the synthetic antihistaminic drugs, their number is already confusing and extols the importance of the side-effects as the outstanding symptoms of overaction.

From these descriptions it is evident that all the antihistaminics possess side-effects, most important of which are *sedation, drowsiness, and sleepiness*. These side-effects interfere with the daily routine of the patients and militate against the usefulness of the drugs. Patients are advised not to drive cars and not to sign checks and papers while under the effect of these drugs.

One should discriminate between the soporific and all the other side-effects. Many in this latter group are partly due to and depend upon the sedative action of the drug. Lightheadedness, dizziness, lassitude, inability to concentrate, etc., are natural sequelae of the soporific action and not side-effects per se.

What constitutes a toxic side-effect may sometimes be difficult to define. According to Brown *et al.*[9] there is no satisfactory objective method for the clinical evaluation of the antihistaminic drugs. Often the patient's statements are the only guides.

There are no two patients alike. Furthermore, many allergic patients are neurotic and apprehensive, and they may have complaints which are not necessarily symptoms or side-effects of a drug which they incidentally take. Submitting data on the use of Perazil, a drug which they consider the most potent antihistaminic agent, Brown and his coworkers present a compromise paper since, as he states, if all the six authors had separately published their data on this very same subject, their results might have been quite contradictory.

The toxicity of the antihistaminics is generally considered very low. In fact, Kneeland,[10] speaking on the use of the antihistaminic drugs in the treatment of the common cold, states, "It would appear that in the approximately one half of cases where there is beneficial effect on the intensity of the catarrhal symptoms, the percentage of colds actually 'aborted' is small.

Antihistaminic drugs may be given at four-hour intervals during the acute phase of the disease, and to date no serious side-effects have been reported."

Certain limitations and contraindications to the use of the barbiturates may mean more indirect indication for the use of the antihistaminic drugs. Rennie[1] states, "Accumulation (of barbiturates) in the body can result in toxic effects, particularly in elderly, senile, arteriosclerotic persons. When restlessness or excitement results, the physician sometimes mistakenly increases the dose, not recognizing the barbiturate effect, hence unwittingly contributing to toxicity."

Again, "Barbiturates should not be administered to psychoneurotic patients, except as an emergency period of relief, clearly designated as such by the physician." There are no valid contraindications to the administration of antihistaminic drugs in allergic or nonallergic patients.

Capitalizing on Soporific Action of Antihistaminics

Capitalizing on the undesirable side-effects of the antihistaminic drugs, I have finally come to the conclusion that the somniferous side-effects could be utilized advantageously if the drugs were given in their full daily dose before retiring. The "undesirable side-effects" of the antihistaminic drugs could produce the desired, full therapeutic effect on those suffering from insomnia or other disorders requiring sedation.

In cases in which barbiturates fail, antihistaminic drugs may succeed. When in cases of acquired tolerance the barbiturates fail to exert their soporific action, the antihistaminics can often be employed to advantage. The undesirable side-effects are undesirable only if the drug is taken for its antihistaminic effect during the day hours. At night the same side-effects, if used for their sedative action, may prove to be desirable and may insure sleep in cases in which the barbiturates have proved ineffective.

For this purpose high-potency antihistaminic drugs were used, drugs which primarily were offered for nightly use, in order to eliminate the undesirable sedative effect during the working hours of the day. Chlorcylizine hydrochloride (Perazil, Burroughs Wellcome and Company), 50-mg. tablets, was given in full daily dose, three tablets at bedtime or one after the evening meal and two before retiring. Whereas the full dose was considered to be three tablets, in some cases two tablets sufficed, and occasionally even one tablet gave satisfactory sedation. Promethazine hydrochloride (Phenergan, Wyeth Laboratories), 12.5-mg. tablets, was given in full daily dose of three tablets at bedtime similarly administered. Chlor-Trimeton Maleate (Schering Corporation), considered the lowest dose antihistaminic, with 4 mg. per tablet or its repeat-action tablet with 8 mg., was administered similarly in a single nightly dose of three tablets. It was suggested that the drugs be taken about an hour before going to bed.

These three drugs acted similarly and with nearly equal potency. Perazil seemed to possess the greatest, Chlor-Trimeton probably the least marked somniferous action. Their interchange in individual cases seemed to be worthy of trial. None of them exerted any adverse action or untoward effect of any nature. All three drugs have been uniformly appraised and are considered equally potent antihistaminic drugs.[9,11-14]

The substitution of antihistaminics for barbiturates was effective. The replacement went smoothly in every case. From the day of substitution therapy the barbiturates were discontinued. Only in exceptionally severe cases in which three or five to tenfold doses of the barbiturates were being taken was a compromise "pro tempore" made; then the antihistaminics were given in combination with a single dose of barbiturate (Case 10). There was no craving for the barbiturates. The soporific action in most cases was comparable to that of the barbiturates.

In a few cases after a good start the hypnotic effect diminished a few weeks later. In such cases the interchange of the drugs usually proved helpful. More frequently, the antihistaminics could safely be reduced, both in dosage and frequency. The soporific action started somewhat later than with the barbiturates, but once it started, the sleep was deep and sound and lasted seven to eight hours or longer. Hangover, not rare after barbiturates, was seldom encountered here.

Case Reports

About 60 cases have been observed with the longest period of observation being twenty-two months.

CASE 1.—H. H., a female, aged forty-three, had had essential hypertension for over twelve years. Blood pressure was 250/135. There were electrocardiographic and eyeground changes. The patient was in a state of emotionalism with terrific daily headaches and chronic insomnia. Barbiturates were poorly tolerated; still patient was under constant barbiturate treatment. Fifteen months ago barbiturates were discarded and substituted by Phenergan. It solved the problem of insomnia, and this prompt soporific action has been maintained to date. Also her headaches greatly improved.

CASE 2.—F. T., a female, aged fifty-nine, had essential hypertension of twelve years duration. Recent blood pressure readings had reached 240/135. Coronary occlusion with myocardial infarction developed twice in succession, two and three years ago, respectively. There were typical electrocardiographic changes, atherosclerosis obliterans, and emotionality. Among many complaints insomnia was a constant feature. Various barbiturates had been taken for many years. In recent years even double doses failed to produce satisfactory sleep. Fifteen months ago barbiturates were discontinued after replacement by Perazil. Three tablets were given nightly. In the beginning the result was perfect. A few months later it deteriorated somewhat, but patient still fared better than under barbiturates. Occasionally when she felt tense or nervous during the day, one of the antihistaminic tablets proved quite satisfactory.

Case 3.—F. A., a female, aged sixty, had had essential hypertension for the past eleven years. The blood pressure readings soared to 265/130; tachycardia was present. This patient was extremely nervous and never without complaints. Insomnia was constant. Barbiturates had been taken for many years, but their hypnotic effect was very unsatisfactory. During the past year or so the barbiturates were fully eliminated, and antihistaminic drugs were substituted. Her sleep has improved and is considered better than under the barbiturate regime.

In all three cases, since the advent of the Rauwolfia preparations about twelve months ago, Raudixin (Squibb) has been given, which not only has reduced the blood pressure to perfectly normal levels but also due to its sedative and soporific action has controlled the insomnia too. Thus, under Raudixin medication even the antihistaminics have been discontinued. First the barbiturates were substituted by antihistaminics; now the latter have been substituted by Raudixin. In all cases sleep returned, and headaches, palpitation, and other nervous symptoms disappeared.

Case 4.—D. S., a male, aged sixty-six, had taken barbiturates at intervals for over twenty years. In the first few years the effect was perfect. During the last few years, however, gradually increased doses were required. Reverse action often developed, and restlessness and tension aggravated the situation. Larger doses in a long run proved to be rather disappointing. They might have caused drowsiness without inducing sleep. In the background of this insomnia structural diseases predominated. Eighteen months ago when a change to chloral hydrate and Tolserol proved totally ineffective, all this medication was discontinued, and barbiturates were given up.

Phenergan, Perazil, and Chlor-Trimeton, also in its repeat action tablet form, were alternately given with excellent results. Sleep was induced in sixty to seventy-five minutes and proved to be sound and deep. Now, these antihistaminics are taken at greatly reduced intervals, once or twice a month. On all other days sleep is secured without any medication. In this case the antihistaminic drugs broke the barbiturate habit, which opened the way to dispensing with the antihistaminics too.

Case 5.—A. N., a fifty-five-year-old female, had had insomnia for eighteen years. Recently barbiturates had often failed to produce satisfactory sleep even at increased dose levels. Twenty-two months ago barbiturates were given up, and Chlor-Trimeton, Phenergan, and Perazil were alternately given. The result was very good: deep and undisturbed sleep of eight hours duration. This patient now takes Phenergan once or twice a month. Sleep is secured on all other days without any medicinal help. In this case, not unlike the previous one, the antihistaminics served as a useful intermediary in completely breaking the drug habit.

Case 6.—P. B., a female, age forty-two, is a hardworking, nervous, and overconscientious individual. Tiredness, overwork, insomnia, and low blood pressure were the chief complaints. Nonbarbiturate sedatives were ineffective. Systematic use of the barbiturates was unavoidable. It was opportune to discard the barbiturates before habituation developed. Replacement with Phenergan and Perazil proved to be effective. Now, instead of taking three tablets, she takes only one, which serves to relax her completely, after which she is able to fall asleep. She favors this sedation over the barbiturate-induced sleep.

Case 7.—F. S., a fifty-five-year-old female with chronic lymphatic leukemia, suffered a most severe herpes zoster of a thoracic segment followed by a generalized herpes eruption all over the body. Two years later she still complains of pain in the thoracic herpes zoster area. Pain and excitement makes her insomniac. Barbiturates were replaced by Phenergan and Perazil with perfectly good results.

Case 8.—S. R., aged sixty-five, a psychoneurotic male, underwent an operation for a diaphragmatic hernia. Both the operation and the postoperative course were stormy and highly disappointing which aggravated his mental condition. He was hysterical, agitated, and sleepless. Barbiturates were successfully replaced by antihistaminic drugs.

Case 9.—D. B., aged seventy-nine, is an emotional man who occasionally requires nightly sedation. Barbiturates were not very well tolerated. This patient suffers also from vasomotor rhinitis, drug sensitivity, and very severe, intermittent, nonproductive cough, considered allergic in origin. He was given Perazil, which not only improved his sleep, but stopped the vasomotor rhinitis and the cough altogether. Symptomatic treatment before had proved to be rather ineffective. He now takes Perazil at great intervals, sometimes months apart. Small doses, one or two tablets, are quite effective.

Case 10.—H. K., aged sixty-five, a chronic hypertensive female, with blood pressure readings as high as 260/110, was also a chronic insomniac. She took a variety of barbiturates, five to ten full doses per night, and was still restless and sleepless. She blamed as a source of her continuous excitement and insomnia her paranoid husband, who was paranoid enough to keep her in constant excitement but not enough to justify permanent hospitalization. When I first saw her a few months ago, the barbiturates were discontinued, and after some explanation and reassurance she was given Perazil in combination with one dose of a barbiturate. Her sleep improved, and she slept eight hours. At the present time, two months later, she still fares much better than before, during the chronic intoxication stage of barbiturates. In this case, unquestionably, some psychic influences must have contributed to the excellent effect achieved.

Conclusions

Barbiturates can successfully be substituted by histamine-antagonizing drugs in certain medical disorders in which insomnia is predominant. High-potency antihistaminics (Perazil, Phenergan, Chlor-Trimeton) were administered in a single full daily dose before retiring. The replacement went smoothly in every case, and no unpleasant or adverse reactions or toxic effects were encountered.

The well-known sedative and hypnotic properties of the histamine-antagonizing drugs were advantageously utilized. These side-effects are considered toxic effects if the drugs are administered for their antihistaminic properties during the day hours; however, the same drugs, prescribed to insomniacs before retiring, elicit the desirable main effect though their incriminated side-effects. There are no side-effects to these main effects.

Insomnia in severe essential hypertension requires special consideration. Antihistaminic drugs serve as useful replacement therapy here as well as in other disorders requiring barbiturates. However, since the advent of the Rauwolfia preparations, the insomnia of the hypertensives has received an added help to combat this troublesome symptom. Raudixin (Squibb), aside from its antihypertensive qualities, possesses also a general, beneficial sedative action. It potentiates the action of the soporific drugs, and under its effect any other hypnotics, the barbiturates as well as their substitutes, the antihistaminics, can be reduced in dosage and eventually completely eliminated.

49 East 88th Street

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Nylon, Waterless Cleaners May Cause Skin Trouble

Nylon fabrics and waterless hand cleaners can cause or contribute to skin diseases of the hands and feet. Reports on the two substances were made by Dr. George E. Morris, Boston, in the June, *Archives of Hygiene and Occupational Medicine* and by Dr. Robert G. Carney, Iowa City, in the June, *Archives of Dermatology and Syphilology.* Both are published by the American Medical Association.

Dr. Morris said many waterless hand cleaners, which are used widely in industrial plants, are based on cold cream, soap, or synthetic detergents. However, the only waterless cleaner of any value to the "really dirty worker" is one based on such solvents as kerosene or benzine.

These solvents are "especially hazardous" since they sensitize and irritate at the same time. He said such cleaners are not only dangerous but are only "an expensive method of using kerosene as a skin cleaner." Dr. Morris reported on nine cases of hand skin disease caused by using such hand cleaners.

Dr. Carney stated that nylon fabrics may be an important factor in producing and prolonging skin diseases, particularly in persons with foot diseases involving the circulation.

This appears to be due to the lack of absorbency of nylon and suggests the possibility that nylon fabrics may promote or contribute to other disorders in which sweating and moisture are factors." he said.

He described cases in which such foot diseases were aggravated whenever the patients wore nylon hose and alleviated when they changed to silk or cotton.

Proctosigmoidoscopy, Roentgenography, and Colonoscopy in Diseases of the Large Bowel

A. W. MARTIN MARINO, M.D., F.A.C.S., BROOKLYN, NEW YORK

(From the Department of Surgery, State University of New York College of Medicine at New York City)

IN 1895 Wilhelm Konrad von Roentgen discovered what he termed the x-ray, and in the same year Howard Atwood Kelly introduced the standard proctoscope. In the intervening fifty-eight years refinements in roentgenology and improvements in proctoscopes and sigmoidoscopes have made these agencies prime factors in the diagnosis of diseases of the gastrointestinal tract. Nowadays, the importance of endoscopic examination of the large bowel is universally recognized. Anoscopy, proctoscopy, and sigmoidoscopy are more and more acknowledged as significant and integral steps in preparation for surgery of the anal canal, rectum, and colon. Not infrequently, transabdominal colonoscopy[1,*] is necessary for arriving at a complete diagnosis of intracolonic lesions which are not discoverable on x-ray examination or even by palpation of the bowel at laparotomy. It is interesting to note that although transabdominal colonoscopy is a procedure that has been employed only fairly recently, as far back as 1903 Monks[2] had considered the possibility of introducing into the bowel a rigid tube for purposes of inspection. He apparently did not perform colonoscopies, as evidenced by this statement: "...it is, of course, uncertain to what extent the shock and danger of infection, in connection with such a procedure, would prevent its use."

Although the roentgen ray and the proctoscope were introduced to the medical profession at about the same time, and in spite of the fact that anoproctosigmoidoscopy permits the actual visualization of lesions up to and including the lower sigmoid colon, prime reliance was placed upon the x-ray for the diagnosis of lesions of the large bowel up until a relatively short time ago. We, as proctologists, recognize and agree that roentgenoscopy and roentgenography comprise the best available means of recognition and diagnosis of conditions of the colon short of actually seeing the pathologic condition endoscopically. However, inasmuch as proctosigmoidoscopy reveals by direct vision the presence or absence of lesions in the parts examined, x-ray examination of that part of the large bowel is rendered unessential.

Lesions such as small polypoid tumors in the remainder of the bowel, which might otherwise go unrecognized by roentgenologic examination or even palpation of the colon at operation, can be seen by means of colotomy† and colonoscopy. In the experience of Deddish and Fairweather,[3] "current radiographic methods are only 50 per cent accurate in detecting the presence of a colonic polyp or cancer less than 1 cm. in diameter." Colonoscopy is also very useful in cases in which colostomy has been established for acute or subacute obstructive lesions of the sigmoid but in which a definite diagnosis remains in doubt. For example, we know how difficult it is at times to differentiate between diverticulitis and carcinoma of the sigmoid at operation. Not infrequently in such cases preoperative sigmoidoscopy is nonrevealing, but if colostomy becomes necessary because of obstruction, colonoscopy of the distal loop of a double-barreled colostomy can be most helpful, especially if a satisfactory biopsy is obtainable. Of course, the proximal loop can be examined at the same session.

In 1944 Norcross and Cattell[4] reported a case of rectal bleeding in a fifty-seven-year-old male who was colonoscoped through the proximal opening of a transverse colostomy. This procedure was used to find the site and cause of bleeding after the patient had been hospitalized four times within a year and had had many gastrointestinal roentgenologic examinations, barium enemas, proctoscopic examinations, and even an exploratory laparotomy without any abnormality being found.

Colonoscopy is also useful in end colostomies to determine the presence or absence of polyps or other lesions.

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[*] The author believes that the term colonoscopy is preferable to coloscopy.

Presented at the Quadrangular Meeting of the New York Proctologic Society, the New Jersey Proctologic Society, the Philadelphia Proctologic Society, and the New England Proctologic Society, Newark, New Jersey, December 5, 1953.

† Perhaps colonotomy would be a better term.

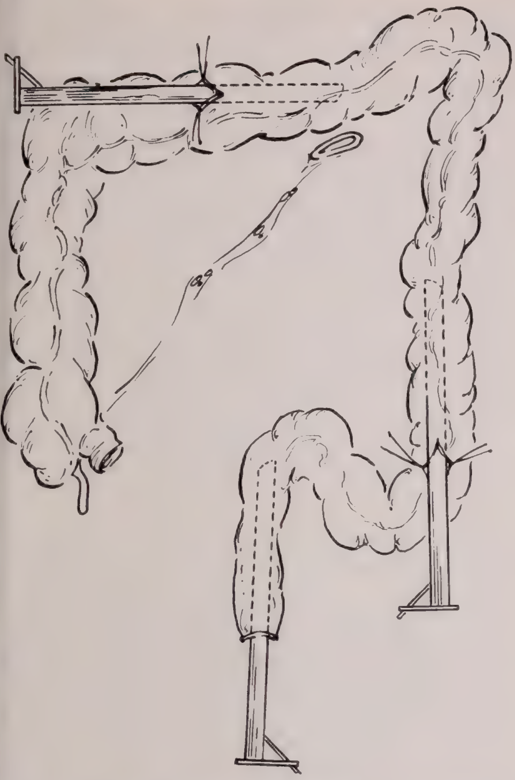

FIG. 1. Schematic representation of proctosigmoidoscopy and colonoscopy.

It is well, therefore, to keep in mind that for lesions of the large bowel we have available two fact-finding agencies, i.e., endoscopy and radiography. Each of these methods has its indications, advantages, and limitations, but when both are used, the combined observations are especially helpful in reaching a correct diagnosis. More than 75 per cent of all neoplastic lesions of the large bowel occur in the anal canal, rectum, and lower sigmoid and can be diagnosed by the direct procedures of digital examination and proctosigmoidoscopy. X-ray studies of the colon may be done to determine the presence or absence of inflammatory or neoplastic disease above the reach of the sigmoidoscope if there is no contraindication, such as a painful anorectal lesion or partial colonic obstruction, and if there is no possibility or suspicion of a colonic lesion that may perforate. The remaining 25 per cent require roentgenologic methods of diagnosis, but even after the most exhaustive high-voltage roentgen ray examinations of the large bowel, the surgeon depends upon palpation of the bowel and visualization of its serosa and mesentery for the operative diagnosis. In cases of doubt, it is a simple and relatively safe matter in these days of antibiotics to make one or more small incisions in the bowel wall and inspect endoscopically the suspected segment or segments of intestine (Fig. 1).

I believe that once in a while it is permissible and even necessary to have perfectly obvious facts brought to the attention of the medical profession, such as the fact that digital examination should precede proctosigmoidoscopy and that proctosigmoidoscopy should precede radiography in the diagnostic investigation of cases of suspected rectal and sigmoidal disease. No one would think of requesting roentgenologic study for the diagnosis of lesions of the vagina and cervix, two organs that are accessible to palpation and visualization. And yet, when there is a question of the presence of disease in the rectum, which is just as easily accessible to palpation and visualization, not infrequently some practitioners will employ the roentgen ray without doing a digital examination, not to mention proctoscopy. This is unfair to the patient and the roentgenologist. The patient is subjected to an indirect and often futile search for what can be felt and seen by direct examination, and the roentgenologist is deprived of invaluable information such as the presence or absence of disease and its exact location when present.

Roentgenologists agree that proctosigmoidoscopy should precede x-ray studies of the large bowel. It is our duty as proctologists to bring to the attention of all practitioners of medicine who deal with the large bowel the reasons for and the importance and advantages of this proper sequence. And further, it is our duty to advise and encourage these practitioners to perform digital rectal explorations and proctosigmoidoscopies on their own patients as part of a complete physical examination. As indicated earlier, radiography comprises the best available agency short of surgical exploration for the diagnosis of gastrointestinal conditions situated 20 to 30 cm. above the anal margin, but for lesions of the terminal portion of the bowel nothing can equal digital examination and proctosigmoidoscopy.

And here I shall repeat, for the sake of emphasis, that even after a proctosigmoidoscopic diagnosis has been made of any condition such as carcinoma, polypoid disease, and specific or nonspecific ulcerative colitis, a barium x-ray study of the colon is important in order to determine the status of the bowel at higher levels. Thoroughness in arriving at a diagnosis demands that the examination be not terminated because an anorectal lesion that might account for the symptoms is found on inspection and digital examination. A lesion higher up may coexist. The digital examination should always be followed by proctosigmoidoscopy. Not infrequently roentgenologic studies may be indicated.

The question arises as to whether we should request x-ray of the colon routinely on all patients who present themselves to us for diagnosis and treatment regardless of their complaint and the results of physical examination. A carefully evaluated history, the proper interpretation of the findings on abdominal and proctosigmoidoscopic examination, and the patient's state of mind determine, so far as I am concerned, whether or not the individual requires x-ray studies of the colon. I do not request them routinely. If there is anything in the history which is even remotely indicative of a lesion of the colon or if it seems to me that the patient would be benefited psychologically by ruling out or confirming the presence of a colonic condition, then I request x-ray studies.

Not infrequently in some patients it is impossible to advance the proctoscope beyond the rectosigmoid junction because of what appears to be functional spasm or acute angulation of the bowel. It is my custom to request x-ray studies of the colon in such patients in order to rule out organic disease. The roentgenologist is informed as usual of the proctoscopic findings so that he can concentrate his attention on the portion of the bowel above the range of direct vision.

Another situation that calls for roentgen ray examination of the colon is where one or more polyps are found on proctosigmoidoscopy. A careful roentgenologic search of the entire bowel above the reach of the sigmoidoscope is indicated in such cases to rule out the possibility of the presence of polyps beyond the reach of the instrument. And if there is roentgenologic evidence of a polyp, it is well to have the x-ray examination repeated, for although such examinations are indispensable, they are not always entirely reliable. In some cases, even after repeated x-rays, the diagnosis remains in doubt. Here again, colotomy and colonoscopy may be necessary to establish the correct diagnosis.

With the cooperation of Dr. John Pepe, who carried out the x-ray examinations, a study was undertaken to determine the feasibility of performing barium colon examinations immediately following proctosigmoidoscopy in 50 patients whose bowels had been prepared according to the following written instructions:

PROCTOSCOPIC EXAMINATION INSTRUCTIONS TO PATIENTS

1. Eat a light supper, early, the night before examination: fish, lean meat, chicken, or turkey; potato, baked or mashed; plain cake or gelatin; plain crackers or white bread; coffee or tea.
2. Four hours after supper, take 3 tablespoonfuls of castor oil.
3. Eat a light breakfast: strained fruit juices; toast with jelly or jam; coffee or tea.
4. Eat a light lunch: meat or cheese sandwich; jello or custard; coffee or tea.
5. About four hours before appointment, with a fountain syringe, take a plain water enema with 2 quarts of lukewarm water, using about 1 pint at a time, until the water returns clear.

The x-ray examination consisted of the usual roentgenoscopic and roentgenographic studies and, in many instances, was followed by double contrast studies for intraluminal disease. Comparison of the results obtained with the usual procedure wherein a patient prepares specifically for a barium colon study revealed no differences. At the start of this study consideration had been given to the possibility that gaseous distention together with rectal and sigmoidal spasm might interfere, at least in part, with a satisfactory roentgen examination. Steps were taken to prevent distention of the bowel with air during endoscopic examination. We concluded that with proper teamwork between the roentgenologist and the proctosigmoidoscopist, perfectly satisfactory roentgenologic colon studies can be obtained when done directly after proctosigmoidoscopy, thus avoiding loss of the patient's time and obviating repreparation of his bowels.

It is important for the proctoscopist to keep in mind that air introduced into the bowel during the course of proctosigmoidoscopy will interfere with the radiologic examination. It is my custom to introduce just enough air to enable me to identify the lumen of the bowel as the proctosigmoidoscope is advanced. If an excess of air is introduced, it may either ascend into the colon and cause distress, or it may be expelled along the side of the instrument and embarrass the patient and perhaps interfere with his cooperation. It is well, therefore, to make certain that a minimum of air is introduced into the bowel during proctosigmoidoscopy, and whatever air has been permitted to enter should be allowed to be expelled before x-ray studies are begun.

Summary

An adequate history, rectal palpation, proctosigmoidoscopy, radiography, and colonoscopy are means by which premalignant, malignant, inflammatory, metabolic, and functional diseases of the anal canal, rectum, and colon are discoverable. When cancer of the large bowel is discovered early, the disease can be eradicated, and the patient can live his normal span of life. The discovery and early eradication of premalignant lesions of the large bowel are the best methods of cancer prevention in that organ. It is imperative, therefore, that we as proctologists continue to stress to the medical profession and laity, not only the importance of early diagnosis of rectal and colonic lesions, but also to stress how this can be achieved. The means for making early diagnoses are available; it is a matter of educating the general public to take advantage of these means which are provided by private medical practitioners as well as by clinics and dispensaries.

80 HANSON PLACE

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Health of People Best on Record

In 1954 the health of the American people was the best on record, according to Metropolitan Life Insurance Company statisticians. Excellent prospects are seen for continued health progress in 1955.

In 1954 the national death rate dropped to an all-time low of 9.2 per 1,000 population, or 5 per cent under the previous low point registered the year before. Only a decade earlier, the death rate was one-sixth higher, namely 10.6 per 1,000 population. The country has now experienced death rates below 10 per 1,000 for seven years in succession.

The unusually favorable mortality in 1954, which is based on the experience for the first eleven months, reflected in part an absence of any major outbreaks of respiratory disease, it was observed. "Noteworthy also is the fact that in 1954 the death rate from tuberculosis fell to about 10 per 100,000 population," the statisticians report. "Thus in a single year mortality from tuberculosis was reduced by approximately 20 per cent. As recently as 1951, tuberculosis mortality in the United States was twice as high as it was in 1954."

"Exceptionally favorable also was the record for influenza and pneumonia. The death rate from these causes was only about 25 per 100,000 in 1954, or one-fourth less than the rate for the preceding year, the early months of which had seen an outbreak of influenza. The death rate from poliomyelitis in 1954 was about the same as in 1953, although there was a rise in the number of cases. It is estimated that there will be almost 39,000 cases of poliomyelitis during 1954, compared with about 36,000 in 1953. The results of the large scale immunization with the new vaccine for the prevention of poliomyelitis still remain to be evaluated."

The reported number of cases of measles and of whooping cough during 1954 was about 50 per cent greater than the year before. However, deaths from these conditions, as well as from scarlet fever and diphtheria, remained at a very low level in 1954.

"There have been no significant changes in the death rate from the major chronic diseases," the statisticians pointed out. "The cancer mortality for 1954 was practically unchanged from the year before, while the death rate from cardiovascular-renal conditions showed a small reduction. Mortality from arteriosclerotic heart-disease, which includes coronary artery disease, remained at about the same level in the two past years. The death record from diabetes in 1954 was somewhat lower than in 1953."

The fatal accident situation in our country improved somewhat during the year, decreases in death rates being recorded for motor vehicle accidents, home accidents, and occupational accidents. On the other hand, the homicide rate rose somewhat and suicides remained at about the same level as a year ago. Both infant mortality and maternal mortality continued to decline to new low levels. Infant mortality fell to a rate of about 27 per 1,000 live births, while the maternal mortality rate was estimated at only about 5 per 10,000 live births. The infant mortality rate has thus been reduced by more than one half in less than two decades, while the maternal mortality rate has dropped as much in the past six years.

According to the insurance statisticians, the benefits of improved health conditions during 1954, as compared with 1953, in general were shared by persons of all ages, of both sexes, and by white and nonwhite persons. "The remarkably good health record of the American people has been made possible by the development of the medical and allied sciences, the spread of medical services, the growth and extension of public health activities, and the marked rise in our standard of living. We are a health-conscious nation with a particular interest in personal hygiene. Furthermore, the rapid growth of hospital, surgical, and medical care insurance has made it possible for increasing numbers to give more prompt attention to their illnesses, with benefits that accrue from skilled diagnosis and treatment."

Rapport Between Psychiatrists and Psychologists

G. EMIL PIANA, M.D., FLUSHING, NEW YORK

A RECENT attempt by the Legislature of the State of New York to modify the Medical Practice Act has brought again into the forefront the old controversy about the competency of psychologists to diagnose and treat persons affected by mental disorder. Every psychiatrist realizes that emotional problems are closely connected with many factors: physical and psychic development, diseases incurred, and the environment in which one lives. The psychiatrist, in order to help people with emotional problems, must know the general pathology of childhood disease, all infectious diseases, all dystrophies, congenital or acquired; he must know the "disease process" which involves etiology, diagnosis, and treatment, all of which are closely knitted together, one in function of the other.

The psychologist believes he is qualified to make a diagnosis of mental abnormalities and to treat accordingly by relying only on psychologic testing.

It is agreed that the use of mental tests and of the methods of investigation of modern psychology are indispensable to the psychiatrist for a better understanding and evaluation of his cases. The psychologic technics give to psychiatry a scientific tool extremely helpful, and it would be unwise not to appreciate it to its full extent. However, this is only one part of the examination, and it is indispensable to study the patient as a whole in his somatic-psychic unity; it is necessary to see the constitutional factors or the acquired ones of his personality, and in many cases it is also necessary to study the physical-chemical components of the humors and of cells in order to reach a complete diagnosis with its therapeutic implication. The approach of the psychiatrist is a global one; it reaches a diagnosis and treatment by taking into consideration medical knowledge, psychologic findings, and social history. He makes a synthesis of all data and reaches his conclusions. It is easy to understand why he is better qualified to do this than the psychologist, the teacher, or the social worker; in fact, none of them has the indispensable medical knowledge to make a diagnosis and reach a therapeutic conclusion.

The psychologist and the educators do not consider at all the always possible hereditary factors, the biologic functions, the endocrine glands, the nervous system, and the interaction between body and mind. They have not, in other words, the necessary medical background to reach a complete diagnosis, to establish the etiology, and to appreciate the different elements necessary to a medical treatment.

In a psychiatric clinic one frequently comes across cases diagnosed through psychologic tests only and unsuccessfully treated for months or years, cases in which an electroencephalogram or a neurologic examination would have been sufficient to reveal irreversible organic conditions that properly diagnosed could have avoided months and years of useless and, frequently, aggravating efforts. A psychologic test has not a mathematic and precise value. To appreciate the influence of heredity, of inborn or acquired glandular dystrophy, of the emotional disturbance deriving from lack of affection, the psychologic tests are insufficient and incomplete. They are, it is true, an indispensable tool to the psychiatrist but an insufficient one to make a diagnosis and suggest a treatment. The diagnosis is exclusively the resort of the medical-clinical approach in its etiologic, prognostic, and therapeutic implication. The psychologist in the application of his tests sees only one element of the diagnosis which is much more complex and frequently requires knowledge of genetics and general medicine at large. It is the understanding of these many factors that permit a better therapeutic approach.

The psychologist has to be the collaborator of the psychiatrist, who should ultimately and exclusively have the responsibility of the treatment. Many fantastic, useless, and outright dangerous initiatives in the field of therapy could be avoided if the treatment were left to the most qualified in the field. A common sense approach indicates that "nervous and mental disorders" should be treated by a physician who has specialized in that branch of medicine, that is, psychiatry.

This is an extremely important problem to which we are particularly sensitive because we feel that a lot can be done in the field of preventive mental hygiene, that the completely specialized and trained physician is not hampered in his therapeutic and research efforts. In the broad field of mental hygiene a more beneficial and effective contribution could be made by the psychologist if he would concentrate his efforts on the progress and development of psychologic testings and collaboration with the psychiatrist. The collaboration between the psychiatrist, the psychologist, and the social worker is, however, necessary and indispensable for the understanding of the dynamics of the situation. It is only through this teamwork that the best results are achieved in diagnosis and therapy. The practice of medicine and its different forms of therapy, however, should be restricted to the medical profession which should have entire responsibility.

58-54 192nd Street

Visitor Compares British, U.S. Family Doctors

Dr. Charles M. Fleming, a Scottish physician, after a three-month tour in the United States, reported on his comparisons in the September 18 *Journal of the American Medical Association.*

"The general practitioner surgeon is now unknown in Britain; he disappeared with the advent of the National Health Service in 1948," Dr. Fleming said. "In the United States, the general practitioner is encouraged to investigate and treat his patients with a full range of diagnostic and therapeutic facilities, which in Britain are available only to the hospital specialist."

He said he was "impressed" with the standard of work done by most general practitioners here, the reactions of patients, and the confidence of all in the future of general practice. The British general practitioner slowly has been displaced from his position as "family doctor" by the encroachments of socialized medicine and the growth of the clinic system and specialization, he said. Often the family doctor acts only as "a signpost directing the patient to the right hospital department," since almost all but the simplest cases are referred to hospitals for diagnosis and treatment.

This is because the British National Health Service "started at the wrong end," he said. It has made it easier for the patient to enter the hospital by raising the status of the specialist, even though "it has been pointed out that the way to run a health service efficiently and economically is to keep the patient out of the hospital whenever possible."

According to Dr. Fleming, American family doctors have better equipment and use it more; save time by using extra help, such as nurses, secretaries, and laboratory technicians, and are better off in holding some kind of hospital appointment.

New Booklets on Community Health Planning

With an eye to better health at the community level, AMA's Council on Medical Service has prepared two attractive new pamphlets dealing with health leadership and community health planning. (1) "The Key to Community Health" describes community health councils, offers how-to-do-it information on organizing and operating them, with helpful hints for mobilizing community leaders to action. (2) "Main Line Route" was designed primarily for woman's auxiliaries, outlines 10 suggested public service projects such as emergency call plans, promotion of voluntary health insurance, maternal and child care programs.

Both booklets may be obtained by writing directly to the Council.—*A.M.A. News Notes, December, 1954*

CLINICOPATHOLOGIC CONFERENCE

STATE UNIVERSITY OF NEW YORK COLLEGE OF MEDICINE AT NEW YORK CITY AND THE UNIVERSITY DIVISION-PEDIATRIC SERVICE, KINGS COUNTY HOSPITAL, BROOKLYN, NEW YORK

Conducted by PERRIN H. LONG, M.D. FEBRUARY 4, 1954

Case History

This was the first Kings County Hospital admission of a four and one-half-year-old Negro male who was transferred from Kingston Avenue Hospital.

Kingston Avenue Hospital Admission.—The patient was originally admitted to the hospital because of joint pains, fever, and inability to walk.

His illness began with a sore throat and fever. He was treated by a private physician and received three daily injections of penicillin. Three days after the onset of his illness he developed pain in his knee and ankle joints. By the eighth day he was unable to walk and was sent to the hospital as a possible case of poliomyelitis.

His admission temperature was 104.2 F. His pulse was 120 per minute. Positive physical findings at this time were (1) apical systolic murmur and (2) painful knee and ankle joints.

A lumbar puncture was performed. The fluid was clear. There were 10 to 15 cells, protein 18 mg., globulin negative, sugar 83 mg. per cent. The smear of the spinal fluid was negative for organisms.

Other laboratory reports were as follows: On admission hemoglobin was 8.5 Gm. and white blood cells 12,400 with polymorphonuclears 68 per cent, lymphocytes 30, and monocytes 2; erythrocyte sedimentation was 30 mm. per hour. Fourteen days after admission sedimentation rate was 30 mm. per hour and urea nitrogen 8.7 mg.

The child's temperature was elevated for the first three days of admission. It then remained essentially normal for six days. It rose on the ninth day and ranged from 101 to 104 F. for the last five days of his stay. Therapy during this time consisted primarily of Gantrisin and penicillin. The patient remained two weeks at Kingston Avenue Hospital. He was transferred to Kings County Hospital approximately three weeks after the onset of his symptoms.

Kings County Hospital Admission.—On admission the temperature was 99 F., pulse rate 120. Positive physical findings were a loud, harsh, presystolic, and systolic murmur. A gallop rhythm was heard at the apex. The murmur was heard best posteriorly under the left scapula. Respirations were shallow and rapid. There was pain on pressure over the sternal area. No joint pains or swellings were noted. The liver and spleen were not palpable. All medication was stopped, and blood cultures were taken every four hours. A roentgenogram of the chest revealed a markedly enlarged heart.

The blood count on admission showed hemoglobin 7.5 Gm., white blood cells 9,900 with polymorphonuclears 62, myelocytes 1, metamyelocytes 1, band forms 2, lymphocytes 31, eosinophils 1, monocytes 1. Red cells were described as being hypochromic macrocytic. Several target cells were also seen. A sickle preparation was negative. Urine on admission was alkaline; albumin, sugar, and acetone tests were negative. Microscopic examination revealed 0 to 3 white blood cells per high-power field and a few epithelial cells.

Twenty-four hours after admission the patient suddenly began writhing in bed and now was in acute distress. He complained of paraumbilical pain and had a cough which was productive of frothy blood-tinged sputum. Heart rate was 180, respirations 80 per minute, blood pressure 100/40. The gallop rhythm and heart murmurs remained unchanged. The abdomen appeared soft. The liver was now palpated two fingerbreadths below the costal margin. There was right upper quadrant tenderness. He was started on intramuscular Terramycin.

Twenty-six hours after admission a high-pitched seagull type murmur was noted, superimposed on the previously heard cardiac murmur. The chest appeared clear. There was minimal abdominal distention. The abdomen was still tender in the right upper quadrant, and the liver was still palpable two fingerbreadths below the costal margin. The spleen was not palpable, and sounds were described as hyperactive. Therapy at this time consisted of 50 cc. of Mercuhydrin, oxygen, and Terramycin. A blood count showed hemoglobin 7.0 Gm. and white blood cells 13,200 with polymorphonuclears 63, lymphocytes 35, stabs 2.

Thirty-two hours after admission the apical rate was 160. The blood pressure was 120/60. Moist rales were noted in the right chest posteriorly, and the liver was noted as being three fingerbreadths below the costal margin. The heart sounds were described as becoming mushy. The patient expired two hours later.

Six blood cultures were negative for organisms; two blood cultures were positive for Staphylococcus aureus, coagulase negative, and one blood culture was positive for diphtheroids.

Discussion

Chairman Long: This morning we are going to turn the Conference over to Dr. Day and his associates. Dr. Day, will you take over?

Dr. Richard Day: I plan to ask Dr. Kaplan to take over the discussion of this case.

Dr. S. Kaplan: This four and one-half-year-old child was admitted to the Infectious Diseases Hospital at Kingston Avenue because of the possibility of poliomyelitis. However, there seems to have been very little in the subsequent course of events to justify seriously considering this diagnosis. The inability to walk, which is probably the reason poliomyelitis was suspected, was apparently associated with pains in the joints and not in the muscles. In addition, the two most important signs of nonparalytic poliomyelitis, stiffness of the back and stiffness of the neck, were absent. Further, examination of the cerebrospinal fluid showed that there were only 10 to 15 cells in a cubic millimeter, and the protein and glucose concentrations were normal.

When a four and one-half-year-old child presents with joint pains and fever, one has to think very seriously, of course, of rheumatic fever. There was a preceding illness, a sore throat, which is frequently found with rheumatic fever, and, in addition, there was the development of a systolic murmur. This is not of any particular significance in a child who has fever, but later on we shall see there is further corroborative evidence of heart disease.

Before leaving the Kingston Avenue admission I think it is worth while to point out that the hemoglobin concentration was 8.5 Gm. per 100 cc. of blood. This anemia is quite striking and, as we shall see, persistent. I should like to refer to one further point before dealing with the admission to Kings County Hospital and that is the fact that this child received three injections of penicillin at the onset of his disease and also received Gantrisin and Banthine subsequently. So on admission to this hospital it seems likely that the child was suffering from rheumatic fever.

On admission to Kings County hospital he exhibited a loud, harsh, presystolic and systolic murmur as well as gallop rhythm at the apex. This confirms the probability that this child did have rheumatic fever. There is one thing which is a little disturbing, however, and that is the fact that the murmur is recorded as being heard best posteriorly. The presystolic murmur of mitral stenosis is usually localized and heard over the maximum cardiac thrust. When murmurs are heard best posteriorly, one has to think of coarctation of the aorta, in which murmurs over the dilated collaterals are heard best posteriorly. However, the systolic murmur, which frequently goes with mitral stenosis, may be associated with mitral incompetence, is sometimes radiated to the axilla, and may be heard best perhaps not posteriorly but at least in the back of the axilla.

There was pain on pressure over the sternal area. That seems to have been thrown in for good measure. In a child of four and one-half one has to think of leukemia in the presence of severe anemia and pain in this area. In leukemia joint pains frequently occur, and the differential diagnosis between leukemia and rheumatic fever in childhood is often extremely difficult. However, there is nothing in the rest of the protocol to make me believe that this child did have leukemia. We note now that no joint pains or swellings were noted three weeks after the initial onset of the disease. This is not unusual in rheumatic fever in the young. There is an aphorism that, in the young, rheumatic fever bites the heart and licks the joints and, in older children, licks the heart and bites the joints.

The liver and spleen were not palpable. The x-ray of the chest revealed a markedly enlarged heart. I wonder if we may see the x-rays now.

Dr. L. Harrington: Posteroanterior roentgenogram of the heart shows obvious enlargement to the right and left. In addition, there are increased lung markings which are hypervascular changes. The possibility of lymphatic infiltration alone is not excluded.

On a left oblique view there is noted a slight elevation of the left main bronchus and prominence of the left ventricle posteriorly. Then we have a right oblique esophagram in which there is seen a slight concave indentation of the esophagus, displacing it somewhat posteriorly.

In evaluation of the cardiac size we have to consider the possibility that some of the enlargement may be due to pericardial fluid. The next step would be, if the patient were in condition to be examined, to determine if there was fluid in the pericardium. Since we have just three films in this examination and apparently kymographic, fluoroscopic, and other forms of examination were not available because of the patient's condition, we cannot definitely exclude the possibility of fluid in the pericardium. Assuming, however, this may be cardiac enlargement, the evidence would be that there is total enlargement of the cardiac chambers. The left atrial enlargement, as you noted by the elevated bronchus and slight esophageal indentation, is not moderate. The right enlargement appears moderate. The clinician evaluated many causes of cardiac enlargement, including sickle cell anemia in a Negro child. This was considered in this instance, but the x-ray does not seem to add corroborative evidence in view of the fact the spleen is not enlarged and the bone texture, as we see in the thorax, appears to be normal. We would prefer roentgenograms of the wrists and hands for better detail of medullary structures.

As far as other causes of cardiac enlargement go, we have to consider the congenital. There is nothing I can say definitely specific or conclusive regarding congenital disease in these films. It is not excluded. The possibility of an intraventricular defect is not excluded and has to be evaluated by the clinician.

So in summary, there is apparent enlargement of all of the cardiac chambers. The possibility of subpericardial fluid is not excluded. There is no indication of erosion of the ribs which might suggest coarctation.

Dr. Day: Is that a pleural line in the left lung?

Dr. Harrington: I think it is part of the general hypervascular density.

Dr. Day: I am referring to this (*indicating*).

Dr. Harrington: It is the septum which may be normally visible if the plane is at a certain tangent, or it may represent a minor pleural reaction. I think, in the absence of reaction at the base, that probably represents, actually demonstrates the interlobular septum. That was my impression on the examination.

Dr. Day: You don't see much of the left humerus.

Dr. Harrington: What I can make out of it does not show any obvious medullary changes. I would not exclude them. We know in sickle cell anemia the changes may be more manifest in the hands than in the large bones of the skeleton. I do not exclude it. I do not see enlargement of the spleen. There again in a small percentage of sickle cell anemias the spleen is of normal size apparently.

Dr. Kaplan: As far as the diagnosis of sickle cell anemia goes, that is certainly a possibility in a Negro child. We note, however, that the sickling preparation was negative. There certainly is anemia. There are also some primitive cells, some metamyelocytes and band forms, and several target cells. However, I am going to say that because the sickle cell preparation was negative, it is unlikely the child had sickle cell anemia.

We turn now to the final episode. Twenty-four hours after admission he began writhing in bed and was in acute distress. He complained of periumbilical pain and had a cough which was productive of froth. The heart rate increased to 180. The respirations were 80 per minute, and the blood pressure, about which we are given information for the first time, is noted to be 100/40. This is a wide pulse pressure. The gallop rhythm and heart murmurs remained unchanged. The liver began to enlarge, and there was tenderness in the right upper quadrant.

Finally, twenty-six hours after admission there appeared a high-pitched, seagull type murmur superimposed on the previous murmurs. This final acute episode seems to have been associated with something "giving" in the heart. I think the most likely thing which could have given is one of the aortic valve cusps. It is not possible to exclude ruptured aneurysm of the sinus of Valsalva, and I shall deal with that first.

Ruptures of aneurysms of the sinus of Valsalva at this age are extremely rare, but cases have been reported in children as young as this. There was a case report just a couple of years ago of rupture of a congenital aneurysm in the right ventricle. Ruptures of the sinuses of Valsalva give rise to symptoms which are dependent upon the cavity into which the rupture occurs. If the rupture occurs into the outflow tract of the right ventricle, one gets the symptoms of left-to-right shunt and increase in pulse pressure. If this was an aneurysm of the sinus of Valsalva, I don't think that it ruptured outside of the heart because there is not much evidence for that. It is possible for aneurysms to rupture not only into the auricle and into the outflow tract of the right ventricle but also into the pleural cavity. In ruptures of aneurysms of the sinuses of Valsalva one is frequently hard put to distinguish the condition from ruptured aortic cusp.

On going through the recorded cases of this condition, I got the impression that the high-pitched, seagull type of murmur is unusual in rupture of the sinus of Valsalva. To get a high-pitched murmur you have to get something vibrating at a pretty rapid rate, and it seems to me that a ruptured cusp, because of the high frequency of vibration, due to its size is a much more likely cause. If this child had a ruptured cusp, what was the etiology? There are instances recorded of ruptures of healthy cusps. I was able to find 16 cases in the literature of autopsies performed on people who had ruptures of cusps which were considered to be normal otherwise.

It is much more frequent for rupture of the cusp to occur on the basis of previous disease of the valve, either syphilis of the valve or vegetative endocarditis. This may be of the acute or subacute type. I think that this patient probably had endocarditis superimposed upon rheumatic fever, and I believe it was subacute. The reasons for that are as follows: First, there had to be some reason for his valve cusp to rupture. Second, he had a persistent severe anemia which would go with subacute endocarditis. So that my diagnosis, then, is acute rheumatic fever; endocarditis of the aortic valve and mitral valve; acute, superimposed subacute bacterial endocarditis of the aortic valve; rupture of a cusp, and finally left ventricular and cardiac failure associated with enlargement of the liver and pulmonary congestion. I think the pathologist will probably find, if this is correct, that the rheumatic endocarditis was of an acute type rather than chronic contraction of the mitral valve. There will be acute swelling of the valves, both the mitral and aortic.

Dr. Day: Dr. Kaplan is as far out on the limb as he could be. I am sure he is being so definite to avoid the charge of trying to hedge.

Rupture of a cusp would be such a rare event, I feel, in a child that I would like to struggle to make another diagnosis, to find another explanation.

If you choose to postulate that he had a bacterial endocarditis, although it is perfectly possible to have a series of blood cultures which are sterile, such a negative finding tends to make you wonder. Well, the cultures here were not sterile, but the organisms that were returned varied, suggesting that they were contaminants. A child can have pain from an acute episode of pericarditis, and his heart can fail rapidly. He could have had a thrombosis of some sort. We then of course go back to infection or pulmonary embolism or infarct. I would like to throw the other possibilities in while we wait for the questions.

In a case like this much depends upon the observer's interpretation of the severity and nature of the pain. As the protocol reads, the pain was severe, and the change in murmurs sudden and impressive.

Chairman Long: I would like to step into the fray just to get one thing into the record. If you hark back to 1937–1938 before we had any antibiotics and when we were using sulfonamides, you will remember that Dr. Swift and his group at the Rockefeller Institute definitely showed that one of the things you should not give to a child who had acute rheumatic fever and acute rheumatic heart disease was the sulfonamides because the child would do very badly. A number of them died very promptly.

In reading over this protocol I was very much interested in seeing that the child had received Gantrisin for two weeks. I have been wondering, since I read it over, if that had an unfavorable effect on the course of what I believe to be the acute rheumatic heart disease.

Dr. Day: Does anybody else want to comment? Dr. Dock.

Dr. William Dock: Is it unusual for children to have no polymorphonuclear percentage over 70 and no white counts over 12,000, either with fatal rheumatic fever, or with septicemia, or bacterial endocarditis?

Dr. Day: It is quite compatible with the septicemia. He is in an age span when the normal count has fewer polymorphonuclears than at other ages.

Dr. Charles Plotz: In the Arthritis Research Laboratory, which the Department of Medicine has, we do antistreptolysin titers. While we don't do it as a routine, if you ever have a case like this, and we have had some, it will be a good idea to try to get the antistreptolysin titer, and we can even get a C-reactive protein done.

Dr. Day: Does someone want to explain the final episode? Dr. Long?

Dr. Long: I have no comment.

Dr. Dock: Tamponade is a possibility. Pancarditis due to rheumatic fever and the final episode tamponade from pericardial effusion.

My confidence in anybody's ability to hear gallops and murmurs at rate of 180 is rather small, but I suppose pediatricians develop better ears than we have.

Dr. Day: It was heard before.

Dr. Dock: It was mentioned.

Dr. Day: Dr. Robbins, who heard the murmurs, is here. Do you want to tell us about it, Dr. Robbins?

Dr. Melvin Robbins: I heard the gallop rhythm at a slower rate. I did not hear the seagull murmur. Another observer heard that and reported it.

Dr. M. Soled: Do we assume that the anemia is due to some other condition the patient had, or was it related to the central problem?

Dr. Kaplan: If I am right, which is not very likely, I would suggest that the subacute endocarditis had its beginnings two or three weeks before the final episode and was responsible for the anemia.

Dr. Dock: Acute rheumatic fever can give hemoglobins as low as this in the adult. Does it not do that in children?

Dr. Kaplan: Yes, that is certainly true.

Dr. Day: It is the occurrence of anemia in rheumatic fever which is one of the prime things that makes difficult the differential diagnosis sometimes between leukemia and rheumatic fever until the laboratory data are in.

Dr. George Cohn: Can Dr. Robbins explain why digitalis was not used at all?

Dr. Robbins: It was thought it was contraindicated. We were entertaining a diagnosis of rheumatic fever over endocarditis. We thought inasmuch as it might be rheumatic fever, digitalis might be contraindicated.

Dr. Harold Lyons: In rheumatic fever did you use salicylates at all?

Dr. Robbins: We did use salicylates but only in dosages to counteract temperature elevations.

Dr. Lyons: So we don't know anything about any response to salicylates in this child?

Dr. Robbins: No.

Dr. Shapiro: Was an electrocardiogram done?

Dr. Robbins: The electrocardiogram was done at the Kingston Avenue Hospital, and another electrocardiogram was done on our ward here at this hospital, but the results of the second electrocardiogram are not available. He had prolonged auriculoventricular conductions.

Dr. Dock: He had one other evidence of subacute aortic endocarditis or of acute rheumatic fever since prolonged auriculoventricular conduction can occur in either condition.

Dr. Day: Shall we have the postmortem findings now?

Pathologic Report

Dr. P. Gruenwald: I am sorry to say this is not a spectacular case. This child at autopsy was 113 cm. in length. The body was pale with no cyanosis, edema, or jaundice; some froth was visible at the mouth. When the body cavities were opened, no excess of fluid was found in the peritoneal cavity. The edge of the liver was 8 cm. below the costal margin. There were some lymph nodes in the mesentery, which were thought to be conspicuously large, measuring 1.5 cm. They were firm. The pleural cavities were free. The pleural surfaces appeared normal. The pericardial sac contained 60 cc. of clear fluid. The surface of the heart appeared normal except for a few petechiae. The heart weighed 170 Gm. The normal weight at this age should be about 80 Gm.

When the chambers were opened, it was thought by the person who did the autopsy that they were somewhat dilated, but it was not thought that the dilatation was severe. The only lesions, in addition to this marked hypertrophy and mild dilatation, were on the mitral valve. There was a row of verrucae at the closing line, as characteristically seen in acute rheumatic fever, and you will see them in a moment in pictures. On the posterior wall of the left atrium there was a rough spot in the location where we look for McCallum's patch. No other lesions were seen. The aortic valves were uninvolved. There was no rupture or other abnormality of the chordae tendineae, no evidence of a previous attack, no grossly visible scarring.

The lungs were voluminous and somewhat heavier than usual. The right one weighed 380 Gm. and the left one 290. The normal weight would be approximately 100 Gm. each. They were purplish red in color, and on palpation it seemed that there was air in all portions of the lungs but that the amount of air was diffusely diminished. On section the tissue appeared very moist, as you would expect to see in pulmonary edema. Large amounts of frothy fluid exuded from the bronchi, and the fluid seen at the mouth at autopsy was apparently of the same nature.

The other organs showed nothing abnormal. The liver was slightly enlarged if at all. It weighed 680 Gm.; the normal weight is about 600 Gm. The spleen weighed 70 Gm.; the normal should be 45 Gm. There were prominent follicles.

Now I should like to show you some of the pictures. (*Slides were shown.*)

This first view shows the fixed heart which demonstrates on the mitral valve the verrucae, not very conspicuous in the fresh or fixed state. I shall try to point them out. There is one here (*indicating*) and one or two here. There was actually a row of them present all along the two leaflets of the mitral valve.

Here is the microscopic appearance of the mitral valve which does not show quite the textbook picture of the acute rheumatic lesion. This is apparently one that has just passed the acute stage and is beginning to show the development of granulation tissue which will eventually, if the patient lives long enough, go on to scarring. You can see a large amount of granulation tissue with thin-walled, young blood vessels, fibroblasts, etc. I doubt that this is fibrinoid, probably just a little postmortem blood clot sticking to the surface. It is hard to tell at this stage.

Here is a view of the posterior surface of the mitral valve, one we don't usually look at so much. There is a thick layer of granulation tissue.

Here is a higher power view of some of the granulation tissue showing young fibroblasts, young blood vessels, and all the trimmings that go with granulation tissue.

This is just to remind you what the acute picture should be like; it is from a different case. This shows the fibrinoid, the bright eosinophilic homogeneous material, which most people now believe is changed collagen of the valve rather than some other material deposited on it. This is a picture of the earlier stage which then went on into the formation of granulation tissue, as seen in the present case, and would have turned into scarring.

Here is a view of a rough spot on the posterior wall of the left atrium, and this again shows some not very characteristic inflammatory lesion. The location is more characteristic than the microscopic appearance. You could probably find some of these cells a little bit enlarged. Cells that you might want to call Aschoff cells don't have to be multinucleated. They are usually a little larger than tissue cells and have a basophilic cytoplasm and dense nuclei.

In the myocardium there are characteristic Aschoff bodies with an artery in the center. At another point there is a lamellated structure which contains a variety of tissue cells. Again these cells are not very striking here, and there was no evidence of any fibrinoid change of collagen fibers. This may also be the beginning of scarring and may eventually go on to the onionskin-like structure of the rheumatic scar, in which the lamellae of connective tissue are arranged around the artery like the layers of an onion. These were found in fair numbers.

Here is a somewhat higher power view of the same one, and here you can see some of these somewhat darker, larger cells. This shows a closeup of the same vessel.

Now we come to the lungs. Here is a picture of one of the lungs, and even looking at it you can get some idea that this was holding its shape, that it was not flabby. It also was quite voluminous.

The next picture will show multiple sections. If you will disregard differences in color brought about by partial exposure of the specimen to air, you will see they are hyperemic. The cut surfaces were moist, and frothy fluid could be expressed from the cut surface of the tissue.

This microscopic section shows the fluid-filled alveoli. Here is one that contains air, and all the others contain fluid. The alveolar walls are slightly thickened and probably have an increased number of cells in them, but this is not conspicuous. There are large mononuclear cells in the fluid in many of these alveoli.

Here is another view which shows somewhat more thickened alveolar walls in some areas, although this is hard to tell because they are not under tension. They are partly collapsed. There might be an indication of hyaline membranes although not typical and few in number. This shows the spleen with enlarged follicles.

There can be no doubt that this patient had acute rheumatic fever or had just passed the very acute stage. Looking at the heart, we have no evidence of anything dramatic having happened which would account for the fatal episode. It is of course practically impossible, looking at a heart grossly or microscopically, to judge with any accuracy the degree of myocardial involvement in failure—in other words, the functional ability of this myocardium. We cannot say now that this heart certainly did not fail. It may very well have, but there are no positive indications of any acute and severe failure.

The lungs show a condition which is compatible with three things. One of them is just the effect of heart failure with edema and focal hemorrhage. I showed you the large mononuclear cells. These might be pulmonary macrophages that can be found in any lung.

The second possibility is the so-called rheumatic pneumonia. This is a very controversial condition, and there are quite a number of authorities who do not believe that such a thing really exists. The more characteristic lesions, such as arteritis, were not present in these lungs, and I will not go further than to say that the findings in the lungs were consistent with what has been sometimes described as rheumatic pneumonia; that is, there was a moderate thickening of the alveolar walls, an exudate in the lumina which contained mononuclear cells, and areas of hemorrhage. All of these have been described as part of rheumatic pneumonia.

The third possibility is a condition in which we have been very much interested, and which we have had too much opportunity to study in this hospital. We have been calling it mononuclear pneumonia for want of a better name. Mononuclear pneumonia is a purely descriptive term, and it is a nonspecific reaction of the lungs. We find it in a large number of infants, children who die unexpectedly, and some who die suddenly. I don't know whether you are aware of the large number of infants that die each year at home or in the hospitals who are in apparently complete health and are suddenly found dead; the only finding in these infants is mononuclear pneumonia. It is also found in infants and, not so often, in older children who are under hospital care for some other condition, for instance congenital heart disease, who do fairly well and then suddenly become very severely dyspneic, show a rise of temperature, and die within a few hours, no matter what you do. This is a very mysterious condition. We have no idea what the cause of it is. More and more people are becoming aware of it, and more and more people suspect that it may have a viral etiology. It is possible that this condition, clinically associated with severe dyspnea, was present in this infant and that this precipitated the final course. You will note that of the three lung conditions that I mentioned none is really specific, and I do not feel justified to make a statement that only one of these three, with the exclusion of the other two, was present.

I think, therefore, we should consider these three possibilities: (1) that this was just pulmonary edema and hemorrhage due to cardiac failure, (2) that this was so-called rheumatic pneumonia, and (3) that this was the mysterious mononuclear pneumonia for which we really don't have very good criteria. I might mention that infants who die unexpectedly with mononuclear pneumonia have large mesenteric lymph nodes. Interestingly the lymph nodes near the lungs are not involved. I should like to close now with a summary of our diagnosis.

This child had rheumatic fever, just at the end of the acute phase, with myocarditis, mitral valvulitis with beginning scarring, and moderate pleural effusion. There was a pulmonary lesion which was diffuse and which I have just discussed. These were the only significant findings.

Comment

Dr. Day: I don't understand the terminal episode at all. I wonder if Dr. Long would elaborate a little bit on the harmful effect of the sulfonamides in acute rheumatic fever. Is this the picture?

Dr. Long: I think it might be pointed out that I did not take the history too seriously because I didn't know what a seagull murmur was, and I did remember that in Dr. Swift's and other reports, following the administration of sulfonamides, these children died and at postmortem showed the evidence of acute rheumatic heart disease. These patients, whether they had chronic rheumatic heart disease or not, were always in an acute phase at the time they died. It became a rule of thumb by 1939 that there was always a danger in giving sulfonamides to any child who had had an acute rheumatic cardiac condition.

DR. DOCK: With the early sulfonamides you got some methemoglobinemia. In an anemic child with heart disease that does great harm.

DR. LONG: But if I remember these patients correctly, and I would have to go back since I have not looked this up since 1940, with the sulfonamides none of these children had acute hemolytic anemia or a marked fall in hemoglobin. I am not sure of that. I would have to check that by looking it up.

DR. DOCK: The carbonic anhydrase system is upset.

DR. DAY: Not with Gantrisin but with sulfanilamide only.

DR. LONG: Whether you used sulfanilamide, or sulfapyridine, or sulfathiazole, it was not a good plan to give any of the sulfonamides to a child ill with acute rheumatic fever who was having a flareup of a chronic rheumatic heart disease or who was in the acute phase of rheumatic heart disease.

DR. GRUENWALD: Dr. Long, has periarteritis nodosa been induced by the sulfonamides? After all, these two diseases are somewhat related.

DR. LONG: Pathologists say that it has.

DR. DAY: Dr. Kahn, do you want to add anything?

DR. ROBERT KAHN: I could say possibly a few words since I was intimately involved with the young fellow for the short time that he was here. I think it is always hard to transmit on a written page the condition of a patient as a given individual saw him. On admission from the Kingston Avenue Hospital this boy was not that ill in my estimation. He was sitting up in bed playing. In the thirty-two hours that he was here, the last three or four hours were marked by a dramatic downhill course. Our approach to this boy was based upon the history and physical course in the Kingston Avenue Hospital where the initial febrile episode lasted about six days. Apparently he responded, at least by the disappearance of fever, to penicillin and Gantrisin.

On admission we had definite cardiac findings, gallop rhythm with tachycardia, with certain nondescript murmurs. I thought they were nondescript. At the end of the sixteen-day course at the Kingston Avenue Hospital, with the return of fever which coincided with the discontinuance of antibiotic therapy, there was the possibility of a subacute bacterial endocarditis superimposed not necessarily on acute rheumatic fever, which would be unusual, but perhaps on some unknown congenital defect. In view of that, no therapy outside of bed rest and symptomatic aspirin was given, and six blood cultures were drawn, every four hours. It was thought that if we eliminated the presence of a septicemia with bacterial endocarditis, in all probability the diagnosis would be acute rheumatic fever. Although in the third week of an episode of polycyclic type of rheumatic fever, which in retrospect it probably was, ACTH and cortisone are less effective. However, we would have used the corticoids as the only effective therapeutic agent we have to suppress rheumatic carditis.

Concerning the lung findings, which I thought were really fascinating, pulmonary involvement in rheumatic fever, which Dr. George Griffith published in 1942, occurs in about 20 per cent of the acute rheumatics, either bronchitis, in the lung parenchyma, or pleuritis. That estimation of 20 per cent has come down recently so it is now relatively infrequent except in fulminating cases. From a clinical point of view also my impression of rheumatic lung involvement is one characterized usually by a severe, intractable, hacking cough, at least if there is involvement of the lung parenchyma or the tracheal bronchial tree, not necessarily so if it is rheumatic pleuritis.

As I remember, the boy did not cough, at least in twenty-four of his thirty-two hours of admission. The previously mentioned possibility of an interstitial mononuclear pneumonia is very strong. Rheumatic pneumonitis is almost characteristic at times, associated with scanty although pink-stained sputum. This boy did not have that, and I feel that the possibility of this being a death due to interstitial mononuclear pneumonia is good.

I was also very interested in Dr. Long's comments about the sulfonamides. We will look it up to give more recent documentation to that thought, but it was also based upon experiments done in Mexico where the apparent spreading effect of India ink in the skin was accentuated by the giving of sulfa drugs—sulfonamides of the type mentioned before, pyridine, thiazole, and sulfanilamide. However, many studies recently have shown that the use of prophylactic Gantrisin and diazine or the more recent triple sulfa combinations are about equally as effective in preventing infections as penicillin and give no indication of any deleterious effect upon the generally admitted unpredictable course of rheumatic fever. Rheumatic carditis in a large series of cases includes a number of cases with a long term of protracted activity and exacerbations of carditis. One would think that with the more recent sulfonamides, sulfadiazine and Gantrisin, if they had any deleterious effect on the rheumatic fever, these cases treated by sulfonamide prophylaxis would have a different course from cases treated with just penicillin, in addition to prevention of hemolytic streptococcus infections.

Dr. Long: May I suggest that the speaker go and look this up? Because if he did, he would find that from the time of Dr. Coburn's, Dr. Carol Bedell Thomas', and Dr. Kuttner's work, back in 1936 and 1937, it was shown very definitely that you could use sulfonamides in prophylaxis at any time when the process was not acute, and that they had no deleterious effect. But the minute the patient developed an active phase, if you prescribed sulfonamides, then you got into trouble. I would like to correct one further thing. If you will look at the recent symposium on antibiotics which has just been published, the work done by the Commission on Respiratory Diseases in the Armed Forces, you will find that from the point of view of the prophylaxis of rheumatic fever, the sulfonamides are the least effective. It would now appear that the long-lasting penicillin which is available under the trade name of Bicillin is the most effective as a prophylactic agent.

One can say on the basis of this very extensive experience of the Respiratory Commission in these studies that the sulfonamides are the least effective in the prophylaxis of rheumatic fever.

Role of the Anesthesiologist in General Medicine

Although the average practicing physician is familiar with the every-day functions of the anesthesiologist, internists and general practitioners are somewhat inclined to overlook the kind of assistance he can offer them in managing certain medical conditions. On this premise the author discussed the potential role of the anesthesiologist in (1) the comatose patient, (2) intractable pain, (3) eclampsia, (4) infant resuscitation, (5) systemic tetanus, (6) immediate postoperative care, and, appending a note on aid to the pyschiatrist, (7) electroshock therapy. The central theme around which the discussion is contrived, says the author, is that the anesthesiologist is an expert in anoxia from any cause.—*Norman Zeldis, M. D., Connecticut State Medical Journal, September, 1954*

The Choice Is Yours

A changing economic environment imposes changes in your voluntary insurance in order to maintain a practical value to you and your patients.

How well do the present UMS plans satisfy the real needs? Other plans are being tested on a smaller scale. Proponents of socialized medicine are still vocal. . .and not without exponents in high official places. "Panel medical care" has made disturbing competitive inroads upon the fields of some doctors. . .and may easily become the stepping stone to a system of political control of medical practice.

The adjustments recently proposed to your county medical society by UMS will restore "service" to our members upon whom the cost of medical care is burdensome. Please give these proposals thoughtful consideration. It is still yours to choose. If you wish continuance of "free choice" and "fee-for-service," do your part and we'll do ours. . . for the goal of good medical care for all.—*Louis H. Bauer, M.D., U. M. S. Bulletin, November 1954*

CASE REPORTS

Bilateral Renal Agenesis

JOSEPH J. TOYE, M.D., SAYVILLE, NEW YORK, AND LOUIS E. MARSHALL, M.D., F.C.A.P.,
BAY SHORE, NEW YORK

(From the Department of Obstetrics and Pathology of Southside Hospital, Bay Shore)

It is seldom that the obstetrician has the occasion to diagnose a fatal congenital anomaly of the internal organs by the facial appearance of the newborn infant, but such is the opportunity in the rare infant who is born alive with complete agenesis of the kidneys.

Bilateral renal agenesis has been reported 166 times in full-term infants since the first reported case in 1663.[1] Potter[2] reported 30 cases among over 5,000 autopsies upon newborn fetuses and first called attention to the associated hypoplasia of the lungs, the sex linkage, and the typical facial characteristics of such infants. All of her cases showed marked hypoplasia of the lungs; all but four of the 30 were males; all had the following facial characteristics: "A mild increase in width between the eyes, with a very prominent fold of skin arising at the inner canthus, a flattening of the nose, mild retraction of the lower jaw, and large, low lying ears, with incomplete cartilaginous development."

Oligohydramnios is usual.[3] With little or no amniotic fluid many cases (30 per cent of Potter's) present as breeches. Smith[4] reports the only case with demonstrable amniotic fluid and intact membranes and cites this as evidence of amnotic fluid appearing in the absence of fetal kidneys.

Bilateral renal agenesis has been reported in nontwin siblings[5,6] and in one of a pair of uniovular twins.[1] This latter case lacked the typical facial characteristics usually seen in renal aplasia.

The etiology of renal agenesis appears to be defective development of the caudal part of the wolffian duct and the subsequent failure of growth of the ureteric bud. These processes occur in the fourth to fifth week of pregnancy.[7] No relation to maternal age, illness, or parity can be shown.[3] Related fetal anomalies, especially of the lower extremities are common, but bilateral renal agenesis often occurs alone.

Case Report

A thirty-seven-year-old, para 1, gravida 2, nonsensitized Rh-negative mother was delivered at term of a 3-pound, 8-ounce male stillborn fetus. The physical condition of the mother was exemplary, and her progress through pregnancy was without incident except that fetal motion and development appeared to cease at the thirty-second week. Three days before her expected date of confinement she began a normal labor of fourteen hours total duration, culminating in the easy, assisted breech delivery of a small stillborn male fetus. The infant was limp and the cord pulseless, but fibrillary twitching of one intercostal muscle showed death to be

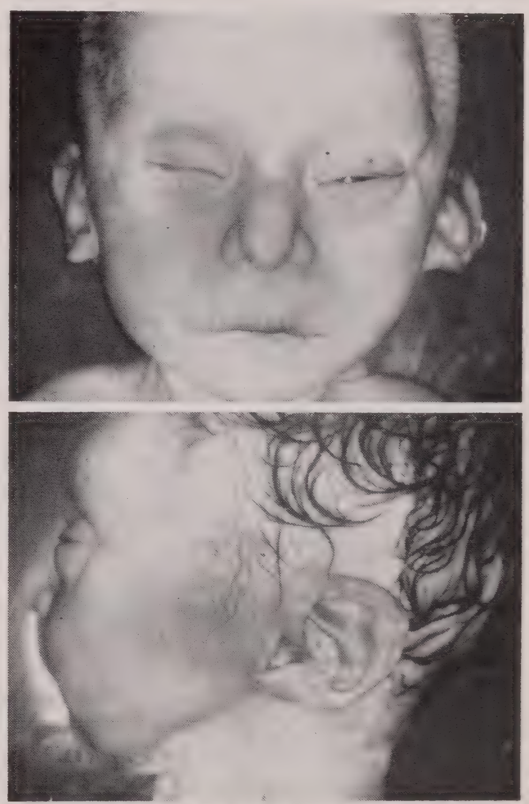

FIG. 1. Front (*top*) and side (*bottom*) views of typical facial appearance of bilateral renal agenesis.

recent. There were no signs of decomposition. There was no evidence of amniotic fluid at any time. Cord blood was not coagulated, and a sample tested Rh positive, Coombs's test negative.

Examination of the infant showed the typical facies as described above (Fig. 1). Autopsy revealed the complete absence of kidneys and ureters. The adrenals were fully developed and occupied the position normally held by the kidneys. The bladder was represented by a small, thin fold of tissue overlying the normal prostate gland, extending toward the urachus. The testes were present intra-abdominally. The lungs were incompletely developed and showed no sign of aeration. The heart was normal. There were bilateral cataracts.

Summary and Conclusions

A case of bilateral renal agenesis, the one hundred and sixty-seventh among full-term fetuses, is reported. Some such fetuses have been known to survive the first few hours of life despite the absent kidneys and the associated hypoplasia of the lungs. This fetus appeared to have died shortly before delivery.

The preponderance of males, the usual absence of amniotic fluid, the frequency of breech presentations, and a most typical facial appearance form a syndrome which allows external recognition of a major anomaly of the internal organs. Early recognition of such cases may contribute much to a better understanding of the physiology of the newborn. Bilateral cataracts, not previously reported, were present in this case.

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Medical Civil Defense

The October 9 issue of the A.M.A. *Journal* (Organization Section) carries a detailed article on the results of the recent survey of the status of medical civil defense planning in the states and territories conducted by the A.M.A. Council on National Defense. The survey was based on a series of 30 questions.

The final item on the questionnaire requested comments, suggestions, and recommendations as to how the council could be of most assistance to state officials and medical society officials in medical civil defense planning and operations. A wide variety of helpful suggestions was made. A summary of these interesting suggestions follow:

1. Encourage interest, and make officers of state medical societies, as well as individual physicians, more aware of the need for civil defense.
2. Encourage state legislatures to appropriate more money for civil defense.
3. Encourage more interest on part of state health departments.
4. Supply specific information about extent of need for mobile first aid stations.
5. Supply specific instructor training manuals—material on hand is too general.
6. Expedite assignments of improvised hospitals to regions and target areas.
7. Provide more civil defense conferences and information.
8. Sponsor biologic warfare courses on a high level for state officials.
9. Sponsor gas warfare defense courses for high-level officials.
10. Survey total hospital liabilities, etc.
11. Impress on physicians the fact that they may have to treat 100 times more persons in a given period than they now think they will.
12. Encourage standardized procedures in treatment and other fields.

Examinations Could Reduce Top Causes of Blindness

Eye tests for all children about their third birthday and regular examinations for older persons are "the only hope" of preventing the two greatest causes of blindness in the U.S., a Boston physician reports. Dr. Trygve Gundersen, an ophthalmologist, said early detection is essential in reducing cases of glaucoma and amblyopia ex anopsia. He said an estimated 1,130,000 persons have unrecognized glaucoma and perhaps more than a million are blind in one eye from disuse. How many of the glaucoma patients may become totally blind cannot be estimated, but the number "must be high." Many of the disuse patients can live with no great handicap—but would be completely sightless if injury or disease blinded their one good eye.

Glaucoma is a disease marked by strong pressure inside the eye which hardens it and produces a dull grey appearance. Amblyopia ex anopsia is a dimness of vision resulting from long disuse of the eye, which shows no visible impairment. It most frequently occurs among children with strabismus, or crossed eyes. Both of these conditions are preventable to a large degree, and the problem is primarily one of detection. Dr. Gundersen suggested eye tests for children on or just before the age of three, at which time amblyopia can be diagnosed and treated, and eye tests as part of routine physical examinations among persons over thirty, the most frequent sufferers from glaucoma. Dr. Gundersen's report appeared in the November 6 *J.A.M.A.*

The Rise of Medicine in New York City Before the Revolution

CLAUDE E. HEATON, M.D., NEW YORK CITY

In the decade before the outbreak of the War for Independence medicine made considerable progress in New York City. A medical society had been in existence for some years. Its members proceeded to found King's College Medical School, establish the New York Hospital, and contribute to medical literature.

The years under discussion, 1765 to 1775, are known as the revolutionary period, during which time New York was slowly changing from a Dutch town to an English provincial city. By 1771 the population of the city and county reached 21,863.

The Stamp Act of 1765 started a series of crises which eventually led to war. In spite of the political turmoil in the city, a medical school was established on August 14, 1767. On that date letters were presented to the governors of King's College from a group of six physicians proposing "to institute a Medical School within this College for instructing Pupils in the most useful and necessary Branches of Medicine," and offering to give a course of lectures the following winter.

All the petitioners were appointed to the first faculty with the following professorships: Samuel Clossy, anatomy; Peter Middleton, pathology and physiology; John Jones, The Theory of Chirurgy with a Course of Operations Upon the Human Body; Samuel Bard, theory and practice of physick; John Van Brugh Tennent, midwifery; and James Smith, chemistry and materia medica. In 1770 midwifery was added to Bard's chair and chemistry to Middleton's.

The school was opened on November 2, 1767, and continued until the spring of 1776 when the Continental Army took over the college building for use as a military hospital.

The opening of the school was celebrated by "a very elegant and learned Discourse" delivered by Dr. Middleton in the College Hall in the presence of the Governor of the Province, the Justices of the Supreme Court, and the officers of the college. The *New York Mercury* reported that "the satisfaction of the learned and splendid Audience on the Occasion was universal, and more especially so, when they considered the Performance as the Beginning of an Institution, so replete with Advantages to Mankind in General, and to the inhabitants of this Province in particular."

Dr. Middleton's address was published in 1769 by Hugh Gaine under the title *A Medical Discourse, or an Historical Inquiry into the Ancient and Present State of Medicine*. This is considered the first American publication on medical history.

Peter Middleton was born in Scotland. He received his M.D. degree from the University of St. Andrews. He is said to have served as a surgeon at Culloden in 1745. Soon after Dr. Middleton came to America, he and Dr. John Bard injected and dissected the body of an executed criminal "for the instruction of young men then engaged in the study of medicine." This was the first dissection in New York City (1750 ?). Middleton died in 1781.

King's College Medical School gave four M.D. degrees *ad eundem* in 1768, one of which was conferred on Dr. Samuel Bard. At the end of its second academic year the school conferred the degree of Bachelor of Medicine upon Robert Tucker and Samuel Kissam. In 1770 and 1771 the same candidates respectively received doctorates in medicine, King's College thus being the first American school to confer an M.D. degree in course. A total of 18 degrees were given before the war.

At the first commencement held in Trinity Church on May 16, 1769, Dr. Samuel Bard

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Presented at the 148th Annual Meeting of the Medical Society of the State of New York, New York City, Session on History of Medicine, May 13, 1954.

delivered *A Discourse upon the Duties of a Physician with some Sentiments, on the Usefulness and Necessity of a Public Hospital.* This was published at New York in the same year, and although the ideas expressed are by no means original, this now rare little pamphlet has become a classic in American medicine and is considered our first book on medical ethics.

Dr. Bard, having urged "with great Pathos and Strength of Argument the Necessity of establishing a regular Hospital in this City for the Reception of the poor Sick," met with an immediate response to his appeal. At an entertainment in the College Hall which followed the commencement, the governor, Sir Henry Moore, opened a subscription for the hospital, and nearly a thousand pounds was raised before they adjourned. The next day a message was sent to the Assembly on the need for a hospital.

On March 9, 1770, Middleton, Jones, and Bard "having petitioned for a charter of incorporation for the proposed hospital were permitted by the provincial council to submit a draft of it for the board's approval." On May 29, 1771, a charter was granted to the Society of the Hospital in New York, and on June 13 King George III incorporated the Society. The charter was received from the King on July 24, and 500 copies were ordered printed.

The site for the hospital was located on the west side of Broadway between the present Duane and Worth Streets and extending through Church Street. It was part of Anthony Rutger's estate, Ranelagh. The first stone was laid September 3, 1773.

On October 25, 1774, the governors of the hospital appointed Peter Middleton, John Jones, and Samuel Bard physicians to "that truly charitable and benevolent foundation."

The hospital was nearly finished, and preparations were being made "for the speedy reception of patients" when on February 28, 1775, the New York Hospital was "almost totally destroyed by fire." The General Assembly immediately granted 4,000 pounds for rebuilding which was started at once. The outbreak of the Revolution prevented the opening of the building as a hospital. For a short time it was used as a hospital by the Continental Army. Dr. Solomon Drowne in 1776 performed the first surgical operation, amputation of an arm, at the New York Hospital. Following the evacuation of the city the hospital was used as a barracks for the British and Hessian troops. It was not opened for patients until February 1, 1791.

It has been said that the New York Hospital was the first institution of its kind to be established in New York. It is true that the Almshouse Hospital established in 1736 was spoken of by Dr. Middleton as " a public receptacle for poor Invalids— undeserving the Name of an Hospital." Nevertheless, the Almshouse was the first municipal hospital out of which grew the present Bellevue Hospital. Here the sick poor were looked after right up to the Revolution. After the war it became the first hospital in New York to give clinical instruction to medical students at a time when the New York Hospital stood "empty and useless."

The medical society, whose members were so influential, was established about 1750. Dr. John W. Francis wrote that "we find a convivial club of professional gentlemen in New York about 1750," and that "John Bard, Cadwallader Colden, Leonard Cutting and others were of the membership. Franklin occasionally honored them with his presence."

It should be mentioned in passing that the old medical society has no connection with the present County Medical Society which was established as an entirely independent organization in 1807 by Dr. Nicholas Romayne. That same year he founded the College of Physicians and Surgeons.

In 1775 there appeared a little book, printed in New York, entitled *Plain Concise Practical Remarks on the Treatment of Wounds and Fractures; to which is added, a short Appendix on Camp and Military Hospitals; principally designed for the Use of young Military Surgeons, in North America,* by John Jones, M.D., Professor of Surgery in King's College, New York. The Appendix contains a plan of the original New York Hospital. This was the first American book on surgery and military surgery.

Dr. John Jones was of Quaker descent and was born in Jamaica, Long Island, in 1729. He began the study of medicine at the age of eighteen under Dr. Cadwalader of Philadelphia. He completed his education in London under William Hunter and Percivall Pott. In Paris he studied under Petit and Le Dran and in Edinburgh under the elder Monro. He received his M.D. degree from Rheims University in 1751. Dr. Jones distinguished himself for his work as surgeon to the troops in the French and Indian War. He was the only member of the faculty of King's College

Medical School to remain loyal to the American cause. Dr. Jones went to Philadelphia where he helped to organize the medical department of the American Army. Washington was his patient, and he attended Franklin during his last illness. He died in Philadelphia in 1791.

Peter Middleton and Samuel Bard remained in New York City during the British occupation. Samuel Clossy remained in New York for a time but finally returned to Ireland.

Following the Battle of Long Island, Washington evacuated New York, and the British Army marched in. New York became an occupied city for seven years, and progress in medicine came to an end.

136 East 64th Street

Solving School Health Problems

To provide expert help for developing sound school health programs, the Joint Committee on Health Problems in Education of the American Medical Association and the National Education Association currently is preparing a manuscript to be entitled *Healthful School Living.* Scheduled for publication in 1957, this book will complete the series of three volumes covering various aspects of the school health field. Previous volumes were *Health Education,* published in 1948, and *School Health Services,* in 1953.

Healthful School Living will deal primarily with the physical and mental-emotional aspects of environmental control in schools. Subjects include building construction and equipment; influence of organizational factors on the student's health; heating, ventilating, water supply, and waste disposal; preventing hazards; rural school problems; administering a school health program. Charles C. Wilson, M.D., of Yale University, serves as editor although many leaders in medicine, education, and public health act as consultants.

Now completing its forty-third year, the Joint Committee—composed of five representatives from AMA and five from NEA—has published more than 40 pamphlets and booklets. Twenty of these are constantly revised to keep up with latest developments.

Health Legislation Publication Available

The importance of the working environment in the maintenance and improvement of health and safety has been increasingly recognized. As a result, interest has been intensified in legislation vesting authority in various state agencies for the correction of health and accident hazards and the promotion of improved working conditions.

In response to this need, the U.S. Public Health Service has prepared a compilation of citations and excerpts or digests of laws and regulations dealing with occupational health and safety. By briefing and making accessible under one cover widely scattered information, this publication enables a convenient checking and comparison of various state provisions.

While the limited supply lasts, single copies of the compilation can be made available by the Occupational Health Program, upon request, to persons and organizations concerned with worker health and safety problems. Copies may also be be procured from the Superintendent of Documents, Government Printing Office, Washington 25, D.C. for $1.25.

Woman's Auxiliary

to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

Special Programs

IN KEEPING with the National Auxiliary's program committee's theme for the year, "Be Informed! Serve Your Community in Health," the New York State and county auxiliaries, after careful and effective planning, are endeavoring to make a significant contribution to their communities by properly interpreting the vast amount of scientific knowledge that comes to the public today through the press, national and local publications, radio, and television.

The latest of many positive programs with which the auxiliary has concerned itself is "Child Safety." All county auxiliary program chairmen are on the mailing list of the National Safety Council.

At our annual Fall Conference held in Albany last October, one of the afternoon sessions was devoted to the problems of child safety. Mr Emory Towson of the New York State Division of Safety spoke to the group of presidents, presidents-elect, and State chairmen representing the 46 organized counties in New York State. Mr Towson's talk gave us a great deal of background concerning the needs leading up to the creation of the Governor's Safety Advisory Board of 1951, the results of the studies made by the Board's committee on Accident Information, and the things that still need to be done. We were told that most accidents today occur in the home and that we need to develop a respect for the things we use in the home. His talk was very stimulating and brought forth much discussion by the group who heard him.

Shortly after our Fall Conference, Mrs. Marjorie B. May of the Greater New York Safety Council, Inc., was contacted by our Kings County Auxiliary members to plan a Workshop on Child Safety for their members. This workshop was held in January under the chairmanship of Mrs. Sol S. Feinstein and was attended by 33 representatives of several other metropolitan auxiliaries. Mrs. May is also preparing a blueprint or working pattern for such workshops to be sent to all auxiliaries so that, wherever possible, it may be used as a basis for developing a positive and constructive Child Safety Program in local communities.

Recently our program chairman met with the heads of the New York State Division of Safety in an effort to learn more specific ways in which the auxiliaries can be of service to this department. There is need for further investigation into the causes of mechanical suffocation. The Safety Council has found a lack of vital statistics as to the causes of suffocation, accidents through home fires, and falls. It was hoped that at some time in the future, after further conferences with representatives of the Auxiliary and of the Medical Society, the county auxiliaries will be able to assist the Safety Council in the collection of data concerning the causes of child accidents through reference to medical records.

We are hopeful that we will be able to translate into action some of the valuable information that we have thus far been able to gather and that our efforts will lead to safer and healthier communities throughout New York State.

MRS. WILLIAM L. GOULD, *Chairman*
Program Committee

CORRESPONDENCE

Editor of Geriatrics Magazine

To the Editor:

In my article, "Medical Services in Aging and De-Aging," in the October 15, 1954, issue of the JOURNAL, I refer to the magazine, *Geriatrics,* naming as editor, Ancel Keys. This was an error. Ancel Keys is associate editor. The editor of *Geriatrics* is the distinguished and serviceable physician and writer, Walter C. Alvarez, M.D.

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For many years clinicians and surgeons have recognized the therapeutic value of the high protein dietary.

In more than normal amounts, protein is essential in the treatment of many diseases characterized by hypoproteinemia[1]—nephrosis,[2] sprue, pellagra, chronic colitis, certain liver afflictions,[3] anorexia of diverse etiologies. High protein intake helps to stabilize tissue protein in diseases in which protein catabolism is increased, such as hyperthyroidism and protracted high fever. Dietaries high in protein promote wound healing in the surgical patient and speed convalescence.[4] Sufficient protein ingestion constitutes a protective measure in the geriatric patient.[5] Large amounts of protein are required to satisfy the growth and other metabolic needs of the pediatric patient.

Meat provides large quantities of protein highly effective in the body economy—tissue growth and maintenance, formation of antibodies, enzymes, and protein hormones, and regulation of fluid balance. It also supplies valuable amounts of B vitamins and essential minerals including iron, phosphorus, and potassium. Appeal to the palate, easy digestibility, and its nutrient contribution make meat an important component of therapeutic diets.

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The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

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MEDICAL NEWS

American College of Physicians—The first in a series of postgraduate courses arranged by the American College of Physicians will be "Diseases of the Blood Vessels and Problems of Thromboembolism," to be held March 14 through 18 at the Cornell University Medical College and the New York Hospital in New York City. Further information may be obtained from E. R. Loveland, Executive Secretary, 4200 Pine Street, Philadelphia 4, Pennsylvania.

Postgraduate Course in Clinical Medicine—A postgraduate course in office proctology for general practitioners and internists will be given by Dr. Robert Turell and other staff members at the Mount Sinai Hospital, New York City, in affiliation with Columbia University. The course will be offered March 7 and 8 from 9 A.M. to 5 P.M. It is designed to acquaint the clinician with the important proctologic conditions that lend themselves to office diagnosis and treatment. The various diagnostic and simple therapeutic procedures will be demonstrated. For application forms address the Registrar for Postgraduate Medical Instruction, Mount Sinai Hospital, 11 East 100th Street, New York 29, New York.

International College of Surgeons—Through the Woman's Auxiliary of the United States and Canadian Sections of the International College of Surgeons, the College is offering a scholarship to a young Canadian or American surgeon who wishes to study abroad. This scholarship will be in the amount of $3,000 to pay for transportation and living expenses for a period of twelve months. This is not a traveling fellowship. The doctor selected will be expected to spend at least ten months of the year as a resident or fellow in a teaching center in one of the countries of Europe or South America. For more specific details concerning the qualifications of applicants, contact The Scholarship Committee, International College of Surgeons, 1516 Lake Shore Drive, Chicago 10, Illinois.

Medical Center Offers Course—The Memorial Center for Cancer and Allied Diseases Pediatric Department will offer a comprehensive three-day course April 27 through 29 for pediatricians, general practitioners, and health officers. Current developments and established methods in diagnosis, differential diagnosis, and management of benign and malignant tumors, Hodgkin's disease, leukemia and reticuloendothelioses in childhood are included. Members of the faculty will be twenty members of the attending staffs of Memorial Hospital and Sloan-Kettering Institute for Cancer Research. The class is limited to 15 physicians. For further information address Director, Pediatric Service, Memorial Center, 444 East 68th Street, New York City

Physicians' Television Symposium—More than 20,000 doctors "went to school" via television on February 24 when the physicians of Canada and the United States were linked in the largest closed-circuit television show ever staged. In 58 cities in the two countries doctors participated in the first international televised postgraduate medical educational program ever held. The symposium featured a discussion of the "Management of Streptococcal Infection and Its Complications." Among the members of the panel who delivered scientific papers was Dr. Gene H. Stollerman, director of Irvington House, Irvington-on-Hudson, who discussed "Prevention of Rheumatic Fever."

Clinical Pathology Course—A short intensive course on the laboratory diagnosis and pathology of parasitic infections will be presented August 15 through 27 at Louisiana State University School of Medicine in New Orleans.

The course is designed primarily for pathologists and technologists, but general practitioners, internists, pediatricians, gastroenterologists, and physicians engaged in the practice of public health and tropical medicine who are interested in the laboratory diagnosis of parasitic infections are welcome to attend. The course will include lectures, extensive demonstrations, films, and supervised individual laboratory study. Library facilities are available, and the medical school building is air-conditioned. Furthur information may be obtained from Dr. Clyde Swartzwelder, Department of Microbiology, Louisiana State University Schoool of Medicine, 1542 Tulane Avenue, New Orleans 12, Louisiana.

Medical Specialty Group—The American College of Angiology has announced its organization as a scientific body dedicated to the teaching, research, and dissemination of knowledge concerned with the science and practice of angiology. The first official annual meeting will be held at Atlantic City on June 4.

The president of the new College of Angiology is Dr. Saul S. Samuels, editor in chief of *Angiology*, the college's official journal; director of the Department of Angiology and Allied Vascular Diseases, Brooklyn Hebrew Hospital for the Aged, and consulting vascular surgeon, Long Beach Memorial Hospital. Other officers are vice-presidents:—Drs. David

[Continued on page 692]

THE THYROID AND COLDS

"...the conclusion is warranted that hypothyroidism ...does reduce resistance to colds. In these patients, administration of desiccated thyroid is as essential to freedom from colds as correction of any of the other multiple influences that make people susceptible to colds."

Cheney, M. C.: GP 10: 32 (July) 1954.

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*See MORRISON: Rev. of Gastroent., Oct. 1953.

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[Continued from page 690]

Kramer, Leo Loewe, Cortez F. Enloe, Jr.; executive secretary—Dr. Alfred Halpern; secretary—Dr. Hugh Murphy, and treasurer—Dr. Shepherd Shapiro. The college's headquarters are at 151 East 83rd Street, New York City.

Broome County Medical Society—Chairmen of special committees of the Broome County Medical Society, approved at a recent meeting of the Comitia Minora of that group are, from Binghamton—Dr. George J. Marvin, blood banks; Dr. J. C. Zillhardt, heart; Dr. Edward I. D'Orsogna, school health; Dr. Steven A. Mazar, advisory committee to welfare departments; Dr. Charles A. Mossew, alcoholism, and Dr. Ben L. Matthews, malpractice. From Johnson City they are Dr. Nicholas I. Klimow, civil defense; Dr. Alexander A. Kosinski, cancer, and Dr. Baird A. Jay, hospital and professional relations. On the advisory committee to blood banks at a local level are Dr. George J. Marvin, of Binghamton, and Dr. Alexander A. Kosinski, of Johnson City.

Brookhaven Hospital Medical Board—The medical board of Brookhaven Memorial Hospital has been appointed, according to Douglas E. Brown, president of the hospital association.

In Patchogue acceptances have been received from Drs. Paul V. Brinley, Jacob Dranitzke, David L. Jellinger, Edward Klane, Francis La Sorsa, P. Jerome Laviano, Jesse Mahoney, Louis Pellegrino, and Wilbur S. Stakes. Also accepting are Drs. David MacDonnell, Sr., and J. Joseph McCoy of Sayville; Dr. Lewis F. Foster of Center Moriches, Dr. Perry Horenstein of Bellport, and Dr. Samuel Gelband of Mastic.

Annual Congress on Medical Education and Licensure—The fifty-first annual congress on Medical Education and Licensure was held in Chicago February 5 through 8. Speakers in a symposium on "Educational Potential of Television in Postgraduate Medical Education" were Dr. Robert S. Warner, assistant medical director, American Heart Association, New York City, and Dr. Frank Warren, New York University Post-Graduate Medical School and chairman of the subcommittee on television, Albert Einstein School of Medicine. Dr. Warren was also the moderator in a discussion and demonstration of closed, open, and controlled open-circuit production.

A discussion of problems in residency training for graduates of medical schools outside the United States and Canada was opened by Dr. Stiles D. Ezell, secretary of the New York State Board of Medical Examiners. Dr. Ezell also spoke on the problem of foreign medical graduates, and the State Licensing Board, and he was moderator on a panel discussing the proposed program for the evaluation of graduates of foreign medical schools.

Dr. John Butler, director of medical education at St. Mary's Hospital in Rochester, and Dr. John O'Brien, director of medical education, Mercy Hospital in Buffalo, gave a preliminary report on an experiment in making the hospital a graduate medical center. The responsibility of licensing authorities to medical education was discussed by Dr. Donald G. Anderson, dean of the University of Rochester School of Medicine and Dentistry. Dr. Robert Boggs, dean of the New York University Post-Graduate Medical School, spoke on supplementary medical education for immigrant physicians.

Meetings—Past

American Polish Medical Alliance

The annual general meeting of the American Polish Medical Alliance was held on December 8, 1954, at the Olcott Hotel, New York City. Officers elected for 1955 were Dr. Joel Schweig, president; Dr. Cecile Wechsler, secretary, and Dr. Esther Fox, treasurer.

Eastern New York Eye, Ear, Nose and Throat Association

The 190th meeting of the Eastern New York Eye, Ear, Nose and Throat Association was held at the Mohawk Golf Club on January 6.

Eastern Education Conference

Approximately 250 educators, representing 16 medical schools, eight dental schools, 115 liberal arts colleges, and eight professional societies and educational foundations in the New England and Middle Atlantic States, attended the Conference on Premedical and Predental Education, held at the Biltmore Hotel in New York City on January 7 and 8. Sponsored by Alpha Epsilon Delta, the national premedical honor society, the conference was devoted to a discussion and evaluation of the findings and recommendations of the Severinghaus Committee on Preprofessional Education of the Survey of Medical Education, which were recently published as a report entitled "Preparation for Medical Education in the Liberal Arts College."

Albany County Medical Society

The Medical Society of the County of Albany met on January 25 at the Wolferts Roost Country Club. Dr. Bentley P. Colcock, member of the surgical staff of the Lahey Clinic, the New England Baptist Hospital, and the New England Deaconess Hospital, spoke on "The Surgical Treatment of Diverticulitis and Carcinoma of the Colon."

New York Academy of Sciences

A conference on "Bioflavonoids and the Capillary" was held on February 11 by the New York Academy of Sciences, Section on Biology, at the Barbizon-Plaza Hotel, New York City.

Nassau Pediatric Society

A scientific meeting of the Nassau Pediatric So-

[Continued on page 694]

A Summary of Recent Research*

Wine in Modern Medical Practice

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*"Uses of Wine in Medical Practice"

[Continued from page 692]

ciety was held on February 14 in Westbury. Guest speakers were Dr. Earle G. Brown, "Public Health Facilities"; Dr. Herbert S. Whiting, "Rehabilitation," and Dr. Alan A. Jaques, "Facilities for Retarded Children."

They discussed allied services available to the pediatrician in Nassau County.

Meetings—Future

New York Cancer Society

The New York Cancer Society will meet March 1 at the New York Academy of Medicine in New York City. A panel discussion will be held on "The Management of Cancer of the Thyroid." Dr. Lawrence Sloan, associate professor of clinical surgery at Columbia University, will be the moderator. Participants will be Dr. George Crile, Jr., surgical staff of the Cleveland Clinic in Ohio; Dr. John C. McClintock, assistant professor of surgery at Albany Medical College, and Dr. Rulon W. Rawson, chief, division of clinical investigations, Sloan-Kettering Institute for Cancer Research, New York City.

National Vitamin Foundation

The National Vitamin Foundation will present a symposium on "The Antimetabolites—Their Modes of Action and Therapeutic Implications," on March 1 at the Biltmore Hotel, Madison Avenue at 43rd Street in New York City.

Arthritis and Rheumatism Foundation

The State of New York Chapter of the Arthritis and Rheumatism Foundation will sponsor a conference on "Advances in Management of Arthritis Patients: Medical, Physical and Psychosocial," at the New York Academy of Medicine Building on March 3 at 8 P.M. Dr. Leonard J. Goldwater, professor of occupational medicine at the Columbia University School of Public Health, will be chairman of the conference.

New York Academy of Medicine

A combined meeting of the New York Academy of Medicine Section on Medicine and the Clinical Society of the New York Diabetes Association will be held March 15 at 8:30 P.M. at the New York Academy of Medicine Building, 2 East 103rd Street, New York City.

Association for the Advancement of Psychoanalysis

On March 23 the Association for the Advancement of Psychoanalysis will sponsor the third annual Karen Horney lecture at the New York Academy of Medicine at 8:30 P.M., to be preceded by a dinner in the President's Gallery of the New York Academy of Medicine. Dr. Kenneth E. Appel, professor of psychiatry, will speak on "Principles and Practices of Psychotherapy."

Gill Memorial Eye, Ear and Throat Hospital

The 28th Annual Spring Congress of the Gill Memorial Eye, Ear and Throat Hospital will be held April 4 to 9 in Roanoke, Virginia. Further information and registration blanks may be obtained from Dr. E. G. Gill, Box 1789, Roanoke, Virginia. Among the guests of honor will be Dr. R. Townley Paton, surgeon director of the Manhattan Eye, Ear and Throat Hospital and associate professor in ophthalmology at New York University, and Dr. Franklin M. Foote, executive director of the National Society for the Prevention of Blindness, New York City.

State University Alumni Association

The annual alumni day of the State University College of Medicine at New York City will take place on April 30. There will be a scientific session at Polhemus Clinical Hall in the morning followed by the annual business meeting. Luncheon will be served in the nurses' dining room at the Long Island College Hospital. In the evening there will be a dinner dance for the benefit of the research, scholarship, and student loan fund, at the Hotel Granada, 268 Ashland Place, Brooklyn, at 7 P.M.

Personalities

Appointed

Dr. Thomas H. Argue, Corning, named chief of staff, Dr. Fred E. Gorman, vice-chairman, and Dr. Steven Pieri, secretary-treasurer, of Corning Hospital. . .Dr. Mary M. Miller, New York City, as Research Fellow in Medicine at the Harvard Medical School. . .Dr. Saul S. Samuels, New York City, as consultant in vascular surgery to the Long Beach Memorial Hospital, Long Beach. . .Dr. Arnold A. Achillinger, chief of professional services at Montrose Veterans Administration Hospital, as manager of the VA Hospital at Northport. . .Dr. Lester Wartels, city physician, and Dr. Thomas P. Halky, assistant city physician, in New Rochelle.

Elected

Dr. George L. Branch, Catskill, president, Dr. Mahlon H. Atkinson, Catskill, vice-president; Dr, T. Earl McQuade, Coxsackie, secretary, of the medical staff of Greene County Memorial Hospital. . .Dr. Louis Dlugasch, New York City, re-elected president of the medical board of Beth David Hospital. . . Dr. Jacob Dranitzke, Patchogue, president, Dr.

[Continued on page 696]

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[Continued from page 694]

David L. Jellinger, vice-president, and Dr. P. Jerome Laviano, secretary, of the medical board of the Brookhaven Memorial Hospital. . .Dr. Francis J. Maher, president, Dr. Samuel L. Lieberman, vice-president, Dr. B. J. Galdys, treasurer, and Dr. Howard R. Barnett, secretary, of the medical staff of the DeGraff Memorial Hospital in North Tonawanda. . .Dr. F. A. Wilson, Hempstead, president, Dr. N. Steinberg, Rockville Centre, vice-president, Dr. F. C. Edmonds, Glen Cove, secretary-treasurer, and Dr. B. H. Budoff, Hempstead, assistant secretary-treasurer, of the Nassau Otolaryngological Society.

Speakers

Dr. Kenneth B. Olson, professor of oncology at Albany Medical College, on January 24 before the Cortland County Medical Society on "Historical Developments in the Treatment of Cancer". . .Dr. Adrian Ostfelt, research fellow in medicine at Cornell University Medical College and assistant physician, Department of Medicine, New York Hospital, on February 22 before the Jefferson County Medical Society in Watertown on "Varieties of Headache and Their Mechanisms". . .Dr. Eugene P. Pendergrass, professor of radiology at the University of Pennsylvania, on March 21 before the New York Roentgen Society at the New York Academy of Medicine on "Some Considerations Concerning the Roentgen Diagnosis of Silicosis and the Responsibility of the Radiologist". . .Dr. William H. Wehr, assistant director and head of the breast division of the Department of Surgery at Roswell Park Memorial Institute, Buffalo, on February 8 before the Ontario County Medical Society at the Geneva Country Club in Geneva, on "Philosophy and Facilities at Roswell Park" and "Breast Cancer."

Dr. Emil Granet, instructor in postgraduate medicine, Columbia University College of Physicians and Surgeons, before the Montgomery County Medical Society on Feburary 8, on "The Management of Common Anorectal Lesions," at the Elks Club in Amsterdam. . .Dr. Irwin Krakoff, assistant, Sloan-Kettering Institute, Cornell University Medical College, before the Jefferson County Medical Society on January 18 at the Black River Valley Club in Watertown, on "The Leukemias" . . . Dr. Adrian Lambert, associate in surgery, Columbia University College of Physicians and Surgeons before the Suffolk County Medical Society on January 26 at the Central Islip State Hospital in Long Island, on "Carcinoma of the Lung" . . . Dr. George T. Pack, New York City, at the Atlanta Graduate Medical Assembly, February 21 to 23 in Atlanta, Georgia, on "Surgical Management of Tumors of the Liver" and "The Principles of Treatment of Soft Part Sarcomas With End Results," and before the house officers association of the Boston City Hospital on March 1, on "Surgical Treatment of Tumors of the Liver" . . . Dr. Allan Stranahan, assistant professor of surgery, Albany Medical College, before the Fulton County Medical Society on February 17 at the Hotel Johnstown in Johnstown, on "The Management of the the Positive Chest Roentgenogram."

New Offices

Dr. David E. Block, president of the staff at the Northern Dutchess Health Center and a practicing physician in Tivoli since 1939, general practice in Red Hook. . .Dr. Edward Blumenkranz, physician at Binghamton State Hospital, as health officer in Conklin, replacing Dr. Eric Gordon. . .Dr. Donald R. Feeley, temporary general practice in Newfane with Dr. Mabel Carmer, while awaiting completion of his Olcott office. . .Dr. Ann Florsheim, formerly of Brooklyn, general practice in Cassadaga. . .Dr. Edward A. Friedman, Jr., practice of pediatrics in Yorktown. . .Dr. John H. Gohringer, general practice in Greece. . .Dr. Kenneth A. Kurtz, practice of surgery in Fulton. . .Dr. Charles C. Murphy, practice of surgery in Bay Shore. . .Dr. Samuel Myers, general practice in Jasper. . .Dr. Biagio Scialpi, general practice in Yonkers. . .Dr. Robert F. Wettingfeld of Bayside, general practice in Jamestown in association with Dr. J. M. Steele. . .Dr. James Whitford, general practice in Brockport in association with Dr. George Fuller.

Dr. Fred F. Graziano, general practice in association with Dr. Paul S. Ingrassia in Nanuet . . . Dr. S. B. Ross, retired house physician of the Hotel Roosevelt in New York City, general practice in Brewster.

Retired

Dr. N. Verne Peterson, as director of the eye, ear, nose, and throat department of the United Hospital, Port Chester.

Reopens Office

Dr. Louis H. Teitel, practice of otolaryngology and plastic surgery in White Plains.

Resigns

Dr. Paul J. Rutecki, as an Erie County medical examiner. . .Dr. Herbert B. Smith, Corning, as coroner of Steuben County.

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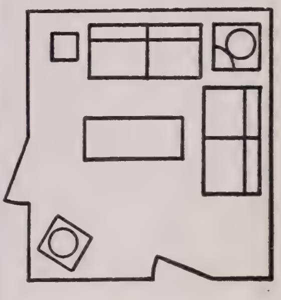

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NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Pulmonary Artery Study—The Department of Thoracic Surgery and the Pulmonary Function Laboratory, under the direction of Dr. Harvey Kausel, instructor in surgery, Dr. Allan Stranahan, assistant professor of surgery, Dr. Paul Formel, instructor in medicine, and Dr. Ralph Alley, instructor in surgery, will explore the changes occurring in the blood supply to the lungs during the course of chronic lung diseases under the $10,000 research grant awarded by the U.S. Public Health Service.

Medical Teaching Day—A Medical Teaching Day for physicians in northeastern New York State was held on January 13 at the College. Discussions during the morning sessions were given by Dr. John E. Kiley, assistant professor of medicine; Dr. Robert R. Wadlund, director of the Radioisotope Laboratory; Dr. John W. Runyan, instructor in medicine; Dr. Scott V. Covert, associate professor of bacteriology; Dr. John J. A. Lyons, associate professor of medicine; Dr. William L. Holt, Jr., professor of psychiatry, and Dr. Simon Propp, associate professor of medicine.

Afternoon discussions were presented by Dr. Gilbert Dalldorf, professor of pathology and bacteriology, and director, Division of Laboratories and Research for New York State; Dr. Reuben J. Erickson, associate professor of medicine; Dr. Frank C. Maxon, Jr., instructor in medicine, and Dr. Thomas F. Frawley, associate professor of medicine.

Grant for Respiratory Experiment—The United States Public Health Service has awarded a grant of $7,800 which will be used in the study of respiratory and circulatory responses to inhalation of various concentrations of carbon dioxide gas. The experiment will be under Dr. Charles Landmesser, associate professor of anesthesiology; Dr. J. Gerard Converse, professor of anesthesiology, and chairman, Department of Anesthesiology, and Dr. Franklin McKechnie, assistant professor of anesthesiology.

Bequest—The sum of $51,300 has been bequeathed to Albany Medical College for the study of arteriosclerosis and senile dementia from the estate of Grace E. Lyman. Expenditure will be under the supervision of Dr. Harold C. Wiggers and Dr. Richard T. Beebe, professor and chairman, Department of Medicine. Further study will be conducted by the Department of Psychiatry.

Third Annual Cardiovascular Day—The third annual cardiovascular day was held at the College on February 1. Sponsored by the Albany County Heart Association as well as the College, the teaching day is offered to physicians and surgeons from the 16 surrounding counties to keep them informed about recent discoveries and technics in the treatment of cardiovascular diseases.

Dr. Richard T. Beebe, professor of medicine and chairman, moderated; Dr. Irving Gordon, New York State Department of Health, discussed "The Bacteriologic and Epidemiologic Aspects of Acute Rheumatic Fever"; Dr. Benedict F. Massell, research director, House of Good Samaritan, Boston, "The Clinical Aspects of Acute Rheumatic Fever," and Dr. Edward F. Bland, associate clinical professor of medicine, Harvard Medical School, and chief, Cardiac Clinics and Laboratory, Massachusetts General Hospital, Boston, "The Prognosis and Natural Life History of Rheumatic Heart Disease" in the morning session.

Dr. Joseph T. Doyle, associate professor of medicine and director, Cardiovascular Health Center at the College, was chairman of the afternoon session, and taking part were Dr. Gene H. Stollerman, medical director, Irvington House for Children with Heart Disease, and instructor in medicine, New York University College of Medicine, "The Prevention of Acute Rheumatic Fever"; Dr. Herbert R. Morgan, professor of bacteriology and associate professor of medicine, University of Rochester School of Medicine and Dentistry, "Subacute Bacterial Endocarditis," and Dr. Louis A. Soloff, clinical professor of medicine, Temple University School of Medicine, and chief, Cardiac Clinic, Temple University Hospital, Philadelphia, "The Results of Mitral Commissurotomy."

New York University-Bellevue Medical Center College of Medicine

Appointments—Dr. John W. Hall has been promoted to a full professorship in the College's Department of Pathology.

Dr. Chandler A. Stetson, Jr., established investigator of the American Heart Association, has

[Continued on page 700]

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[Continued from page 698]

been named associate professor of pathology.

Dedication—Dr. Alfred Newton Richards, emeritus professor of pharmacology, University of Pennsylvania, gave the principal address at the dedication of the George B. Wallace Laboratories of Pharmacology in the Medical Science Building on January 12. Dr. Bernard D. Davis, professor and chairman, Department of Pharmacology, and Dr. Royal A. Schaaf, former president of New York University College of Medicine Alumni Association and member of the University Council, also took part in the dedication ceremonies.

House and Garden Tour—The second annual house and garden tour to benefit the Patients' Welfare Fund, Institute of Physical Medicine and Rehabilitation, will be held on May 26.

State University College of Medicine at New York City

Appointments—Dr. Robert Reynolds Macintosh, professor of anesthetics at the University of Oxford, has been appointed visiting professor of anesthesiology for the month of May, 1955.

Dr. Isamu Suda, professor of physiology at the Kobe Medical School, Kobe, Japan, has been named visiting professor of physiology for one year, effective September 1, 1955. While in this country, Dr. Suda will engage in neurophysiologic research involving intracellular and extracellular recording of neuronal activity in higher and lower centers of integration within the central nervous system.

Dr. Edward A. Eckert, instructor in bacteriology and research associate in the Department of Surgery at Duke University Medical School, has been appointed assistant professor of microbiology, effective July 1, 1955.

Annual Lectures—The annual Murray B. Gordon Lecture, established in 1947 by the Zeta Chapter of the Phi Delta Epsilon Fraternity, was held on February 8. Dr. Charles B. Ripstein, professor of surgery at the Albert Einstein Medical School, spoke on "The Physiologic Basis for Surgery of the Mitral Valve."

Dr. Peyton Rous, member emeritus of the Rockefeller Institute for Medical Research, delivered the third annual Jean Redman Oliver Lecture at the College on February 24. His subject was "Cancer Causation as Viewed Today."

Grants—Seven new research grants totaling $37,972 have been awarded to faculty members by the National Institutes of Health since January 1 for the following projects: Dr. Werner Straus, pathology—"Isolation and analysis of highly purified fractions from the pancreas and kidney of the rat with special reference to protein metabolism"; Dr. Irena Koprowska, pathology—"Effect of certain viruses on cells of mouse ascites tumor and induced early cervical cancer of mouse"; Dr. Albert Hirschman, anatomy—"Histologic and histochemical studies on in vitro calcification"; Dr. Arlene Seaman, anatomy—"A histochemical investigation of the normal and pathologic human prostate gland"; Dr. Dorothy Kraemer, anatomy—"Aging of the human aorta with histologic, chemical and histochemical studies"; Dr. Max Bovarnick, medicine—"Synthetic and natural antiviral agents in lysogenic microorganisms"; and Dr. Edward Muntwyler, biochemistry—"Renal glutaminase and carbonic anhydrase in adrenalectomized and in hypophysectomized rats."

Dr. Jack Gross, associate professor of anatomy, has been awarded $10,280 by the Atomic Energy Commission for a study of the use of thyroid hormone by cancerous tissues. Assisting Dr. Gross in this project will be Miss Karen Runback, formerly with the Radium Hemmet of the Karalinska Institute in Stockholm.

A grant of $7,427 has been awarded to Dr. Werner Straus, assistant professor of pathology, by the National Cancer Institute. The grant will be used to isolate and analyze fractions of the kidney and pancreas of the rat in order to study intracellular distribution of enzymes, especially in relation to protein metabolism.

State University College of Medicine at Syracuse

J. J. Levy Memorial Fund—The Jacobsen-Elsner Medical Society contributed $250 to the J. J. Levy Memorial Fund. The Levy Fund is a medical student loan fund.

Resign d—Patricia M. Brandt, instructor in public health and preventive medicine, resigned to become assistant administrator of Children's Hospital, St. Louis, Missouri.

Perseverance is more prevailing than violence; and many things which cannot be overcome when they are together, yield themselves up when taken little by little.—PLUTARCH

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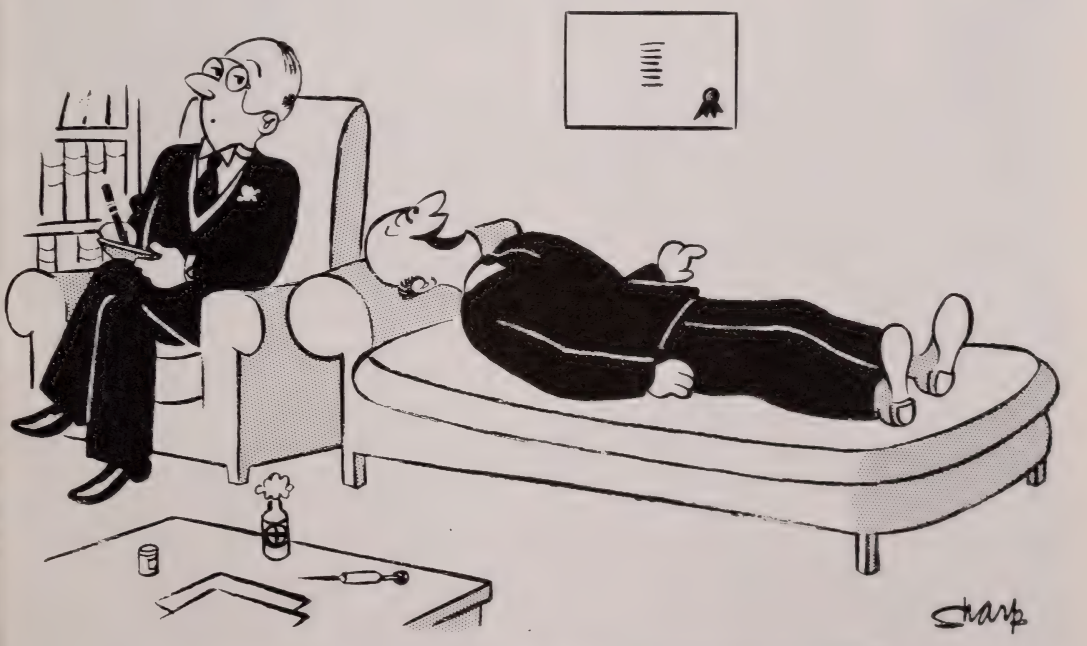

"Frankly, Doctor, I usually talk much more freely after a few martinis!"

NECROLOGY

John J. Beard, M.D., of Cobleskill, died on January 31 at the Veterans Administration Hospital in Albany at the age of seventy-nine. Dr. Beard was graduated from Albany Medical College in 1897 and had retired from practice.

Donald Weeks Bogart, M.D., of New York City, died on January 28 at his home, at the age of forty-nine. Dr. Bogart was graduated from the Cornell University Medical College in 1933 and interned at Lenox Hill Hospital. In 1940 Dr. Bogart was named instructor in surgery and ophthalmology of the graduate school at the New York Eye and Ear Infirmary, and served as an associate visiting ophthalmologist at Bellevue Hospital and assistant clinical professor of ophthalmology at New York University. He was a Diplomate of the American Board of Ophthalmology, a Fellow of the American College of Surgeons, and a member of the American Academy of Ophthalmology and Otolaryngology.

Donald Edmond Brace, M.D., of New York City and Long Island City, died on January 24 at his home at the age of sixty-three. Dr. Brace received his medical degree from the New York Homeopathic College in 1914. He was director of anesthesiology at the Flower and Fifth Avenue Hospitals and at Metropolitan Hospital. A Diplomate of the American Board of Anesthesiology and a Fellow of the American College of Anesthesiologists, Dr. Brace was a member of the American Society of Anesthesiologists, Inc., the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Stanford James Brumley, M.D., of Barker, died on January 17 at his home at the age of forty-three. Dr. Brumley graduated from the University of Buffalo Medical School in 1935 and interned at Buffalo General Hospital. Dr. Brumley entered the Army Air Corps in 1942 as a lieutenant and was discharged in 1946 as a major. He served for three and one-half years at Biloxi, Mississippi. A past president of the Lockport Academy of Medicine, Dr. Brumley was a member also of the Niagara County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Hayes J. Burnett, II, M.D., of Buffalo, died on January 8 in Millard Fillmore Hospital at the age of forty-nine. Dr. Burnett received his medical degree from Howard University Medical School in 1933. During World War II, he entered the Army Medical Corps, serving as a major in Italy. He was an attending physician at Our Lady of Victory Hospital in Lackawanna, and a member of the Erie County Medical Society and the Medical Society of the State of New York.

Raymond Clark, M.D., of Brooklyn, died on January 23 in Johns Hopkins Hospital in Baltimore at the age of eighty-five. Dr. Clark received his medical degree from the College of Physicians and Surgeons of Columbia University in 1895 and interned at Methodist Episcopal Hospital. During World War I, he served in the Army Medical Corps as a major. From 1901 to 1910 Dr. Clark was clinical professor of medicine and chief of the medical service at Long Island College Hospital, and from 1924 to 1932 he was head of the medical service at Beth-El Hospital. He was a consulting physician at Beth-El and Brooklyn Hospitals, a Fellow of the American College of Physicians, and a member of the New York Academy of Medicine, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Samuel James Cohen, M.D., of Brooklyn, died on January 30 at his home at the age of sixty-six. Dr. Cohen received his medical degree from the Long Island College Hospital Medical School in 1917 and interned at the Jewish Hospital of Brooklyn. He was a consulting physician at the Jewish Hospital of Brooklyn and the Jewish Sanitarium and Hospital for Chronic Diseases. Dr. Cohen was a Diplomate of the American Board of Internal Medicine, a Fellow of the American College of Physicians, and a member of the Brooklyn Society of Internal Medicine, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Raymond Claude Creasy, M.D., of New York City, died on January 25 in New York City at the age of sixty-nine. Dr. Creasy received his medical degree from the Medico-Chirurgical College of Philadelphia in 1910. He was an attending surgeon in ophthalmology and otology at Midtown Hospital. Dr. Creasy was a Diplomate of the American Board of Otolaryngology, a Fellow of the American Academy of Compensation Medicine, Inc., and a member of the American Academy of Ophthalmology and Otolaryngology, the New York County Medical Society, and the Medical Society of the State of New York.

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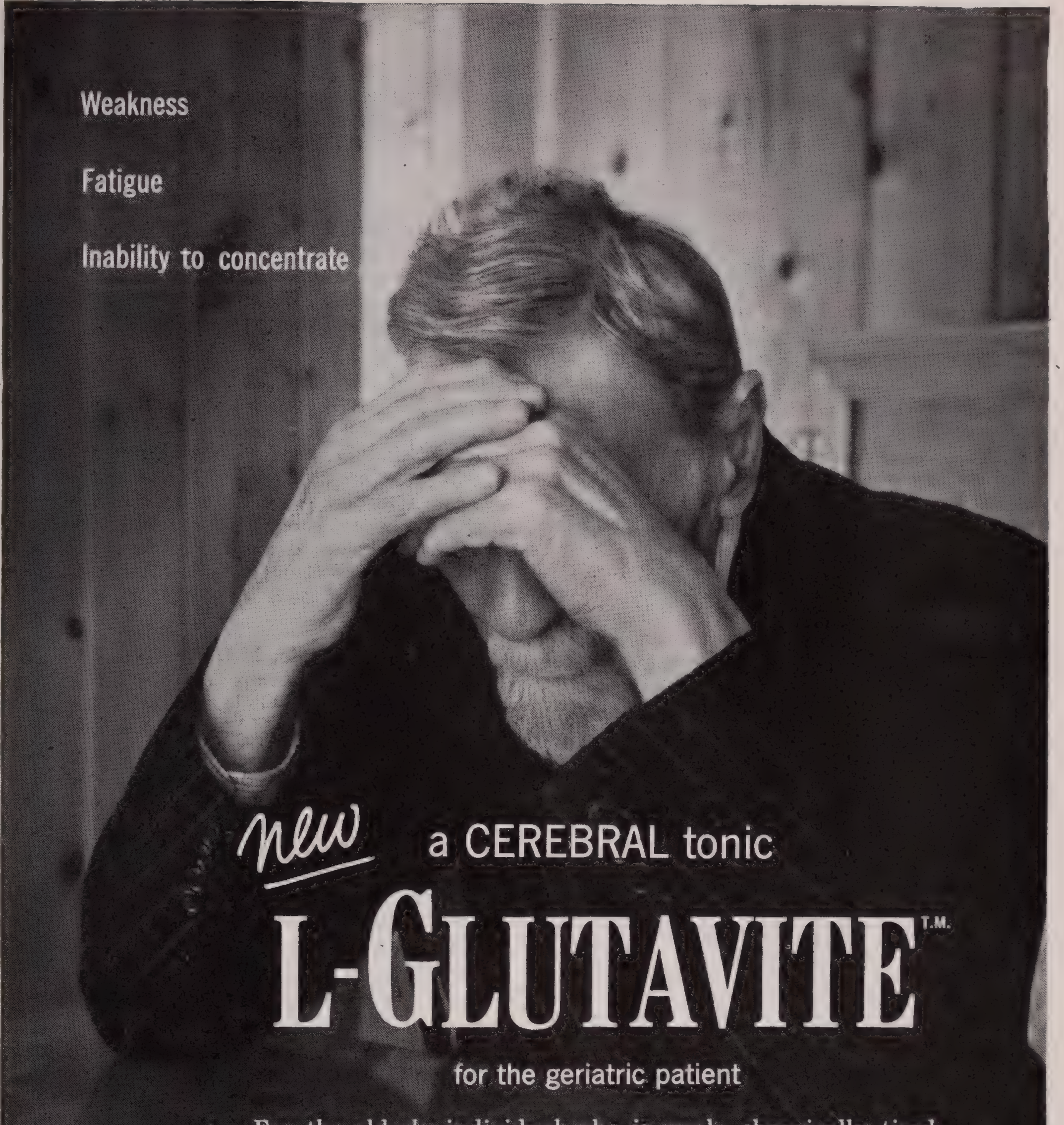

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*Himwich, H. E.: Paper presented at American Psychiatric Association Meeting, St. Louis, May, 1954.

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[Continued from page 702]

Joseph Felsen, M.D., of the Bronx, died on January 27 in Bronx Hospital at the age of sixty-two. Dr. Felsen received his medical degree from the College of Physicians and Surgeons, Columbia University, in 1915 and interned at Mount Sinai Hospital. In World War I he served as a captain in the Medical Corps, American Expeditionary Forces, and was director of laboratories in Base Hospital 47 in France. He was director of laboratories and research at Bronx Hospital. Dr. Felsen was a Diplomate of the American Board of Pathology, and a member of the American Society of Clinical Pathologists, the American Public Health Association, the American Gastro-Enterological Association, the Association of Military Surgeons of the United States, the New York Academy of Medicine, the New York Pathological Society, the New York Gastroenterological Society, the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Alexander M. Foshee, M.D., of New York City, died on January 21 at the Le Roy Hospital at the age of sixty-five. Dr. Foshee received his medical degree in 1911 from the Medical School of the University of Alabama. During World War I he served with the American Expeditionary Forces in the Army of Occupation in Germany. He was an associate attending anesthetist at City Hospital, and formerly had been visiting anesthetist at Beekman-Downtown Hospital, the New York Eye and Ear Infirmary and St. Luke's, Doctors, St. Clare's, Le Roy, and Regent Hospitals. Dr. Foshee belonged to the New York Academy of Medicine, the New York State Society of Anesthesiologists, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Harry Freund, M.D., of Brooklyn, died on January 9 at Montefiore Hospital at the age of forty-nine. Dr. Freund received his medical degree from the College of Physicians and Surgeons, Columbia University, in 1929 and interned at the Jewish Hospital of Brooklyn. Dr. Freund was attending physician at Cumberland Hospital and clinical assistant in diabetes at the Jewish Hospital Outpatient Department. He belonged to the Brooklyn Society of Internal Medicine, was a Diplomate of the American Board of Internal Medicine, and was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Meyer L. Greenstein, M.D., of the Bronx, died on January 20 in Montefiore Hospital at the age of fifty-seven. Dr. Greenstein received his medical degree from the College of Physicians and Surgeons of Columbia University in 1920 and interned at Beth Israel Hospital. He was assistant attending adjunct in pediatrics at Bronx Hospital, and senior clinical assistant in child hygiene at Bronx Hospital Outpatient Department. Dr. Greenstein was a member of the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

George Louis Gridley, M.D., of Skaneateles, died on January 14 in Auburn Memorial Hospital at the age of eighty-two. Dr. Gridley received his medical degree from the Homeopathic Medical Hospital of Cleveland in 1894. He had practiced in Syracuse until his retirement thirty years ago.

Joseph M. Grisanti, M.D., of Buffalo, died on December 27, 1954, at the age of forty-seven. Dr. Grisanti received his medical degree from the University of Buffalo School of Medicine in 1937. He was an attending physician at Mercy Hospital and associate attending physician and assistant surgeon at Our Lady of Victory Hospital in Lackawanna. Dr. Grisanti belonged to the Buffalo Academy of Medicine, the Erie County Medical Society, and the Medical Society of the State of New York.

Hubert Vivian Guile, M.D., of New York City, died on January 30 at Lenox Hill Hospital at the age of seventy-four. Dr. Guile received his medical degree from the College of Physicians and Surgeons, Columbia University, in 1907 and interned at Bellevue Hospital. In 1911 at Bellevue Hospital he established a cardiac clinic, which served as a model for similar clinics throughout the world. During World War I he served in the United States Army Medical Corps with the rank of captain. He was consulting physician at Bellevue and Misericordia Hospitals. Dr. Guile belonged to the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Hans Hirsch, M.D., of Cortland, died on January 10 at the Cortland County Hospital at the age of fifty-six. A native of Germany, Dr. Hirsch received his medical degree from the University of Freiburg in 1922. He was attending obstetrician at Cortland County Hospital, and was a member of the Cortland County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Frederick B. Laufer, M.D., of New York City, died on February 6 at the age of fifty-eight. Dr. Laufer received his medical degree from the University of Heidelberg in 1923. He was a senior clinical assistant in dermatology at Mount Sinai Hospital Outpatient Department. Dr. Laufer belonged to the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Harry T. Pessar, M.D., of the Bronx, died on January 4 at the age of sixty-seven. Dr. Pessar received his medical degree from the Long Island

[Continued on page 706]

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[Continued from page 704]

Hospital College of Medicine in 1916. He was a member of the American Trudeau Society, the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Vincent Fortune Rosati, M.D., of Brooklyn, died on January 10 at Caledonian Hospital at the age of fifty-five. Dr. Rosati received his medical degree from the Jefferson Medical School in Philadelphia in 1923. He was a member of the Morgagni Medical Society of New York, the Kings County Medical Society, and the Medical Society of the State of New York.

O. Robert Schoubye, M.D., of Brooklyn, died on February 2 at his home at the age of fifty-eight. Dr. Schoubye received his medical degree from Indiana University in 1925. He was an assistant attending obstetrician and gynecologist at the Methodist Hospital of Brooklyn. Dr. Schoubye was a member of the Kings County Medical Society and the Medical Society of the State of New York.

Norman Strauss, M.D., of the Bronx and Mount Vernon, died on February 6 at his home at the age of fifty-four. Dr. Strauss received his medical degree from the College of Physicians and Surgeons, Columbia University, in 1923. He was an associate attending physician at Morrisania Hospital, a consultant in gastroenterology at Mount Vernon Hospital, and former associate gastroenterologist at Jewish Memorial Hospital. Dr. Strauss was a Fellow of the American College of Physicians and a member of the National Gastroenterological Association, the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Jerome Wagner, M.D., of New York City, died on February 3 in the Stamford, Connecticut, Hospital at the age of sixty-eight. Dr. Wagner was graduated from the Cornell University Medical College in 1907 and interned at Lebanon Hospital. During World War I he was a captain in the U.S. Army Medical Corps in France. Dr. Wagner was an attending associate proctologist at Polyclinic Hospital. A Diplomate of the International Board of Surgery and a Fellow of the International College of Surgeons, he was a member of the American Proctologic Society, the New York Academy of Medicine, the New York Proctological Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

BOOKS REVIEWED

Studies in Schizophrenia. A Multidisciplinary Approach to Mind-Brain Relationships. By the Tulane Department of Psychiatry and Neurology. Reported by: Robert G. Heath, M.D., Chairman, and twenty-two associates. Octavo of 619 pages, illustrated. Cambridge, Massachusetts, Published for the Commonwealth Fund by Harvard University Press, 1954. Cloth, $8.50.

This volume is an excellent example of interdisciplinary teamwork which Dr. Robert G. Heath, Tulane University, Louisiana School of Medicine, assembled. Here the technics of psychiatry, psychology, physiology, neurology, biochemistry, and neurosurgery were capitalized in testing a new theory of schizophrenia, namely, "that certain pathways in the brain whose physiologic activity may be studied through electrical recordings constitute a hypothetical circuit that facilitates mental and bodily processes, while other pathways constitute a circuit that suppresses activity." Many outstanding scientists participated in the project which took the form of a series of invitational meetings held in New Orleans, June 11 to 13, 1952, to review, digest, and point up possible new therapeutic procedures evolving from the studies in schizophrenia.

Methodology first utilized animals by inserting in the brain fine electrodes which made possible detection and recording of wave-like electric impulses passing between various parts of the brain. Significant physiologic and biochemical changes were also observed. The team then tackled schizophrenic patients, which brought to light apparent physiologic abnormalities supporting the hypothesis of facilitory and inhibitory circuits. Some patients favorably responded to such stimulation. While the studies, as yet, are not conclusive, they do clarify brain functioning and the effect of functions upon other activities of the body. The individual as a whole is kept to the front, with the hope that in due time helpful clinical and therapeutic procedures will evolve.

This book, although technical, is well organized and will prove rewarding reading to the physician seeking a glimpse into current research studies in schizophrenia, which is the greatest challenge of the major psychoses today.—FREDERICK L. PATRY

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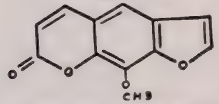

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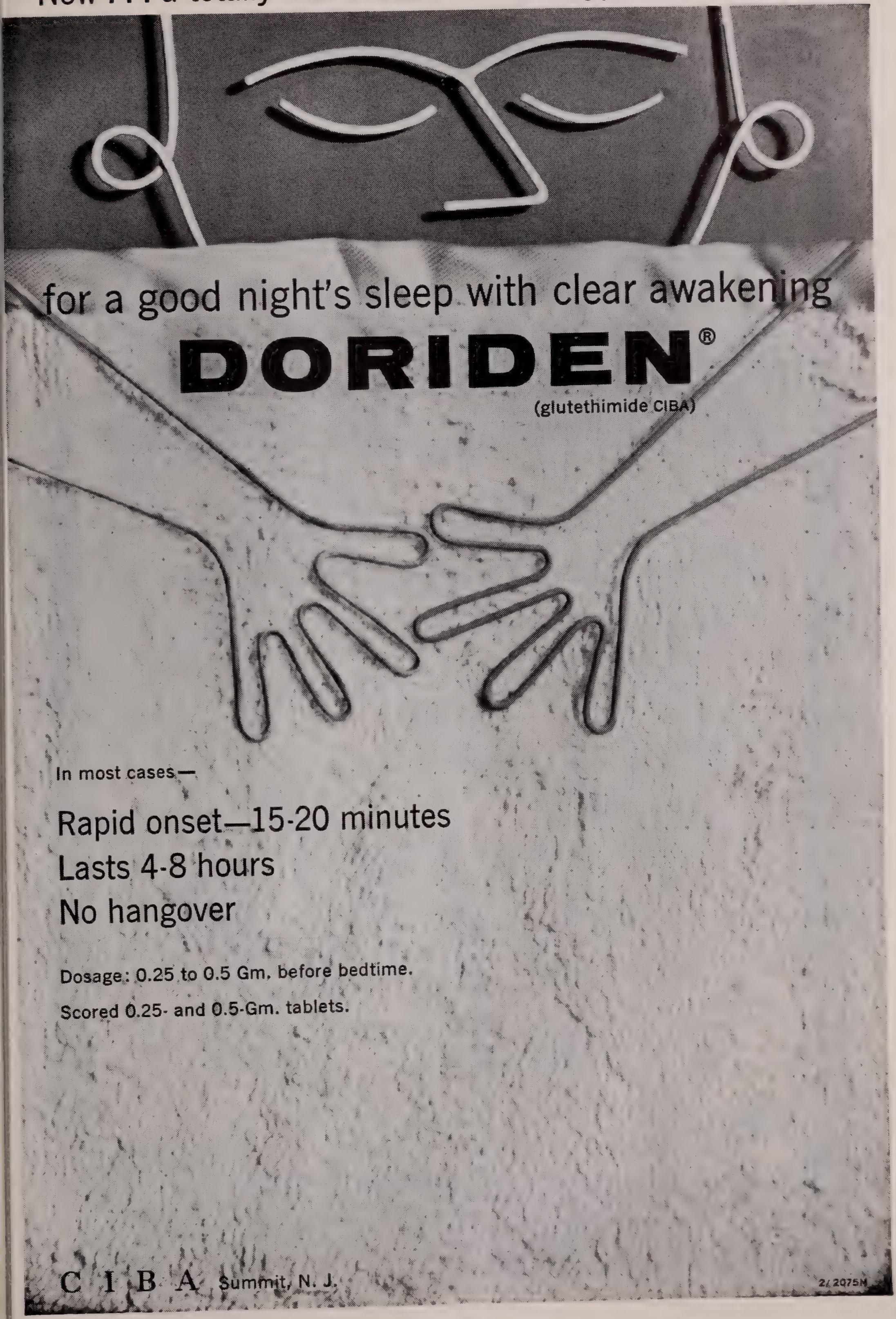

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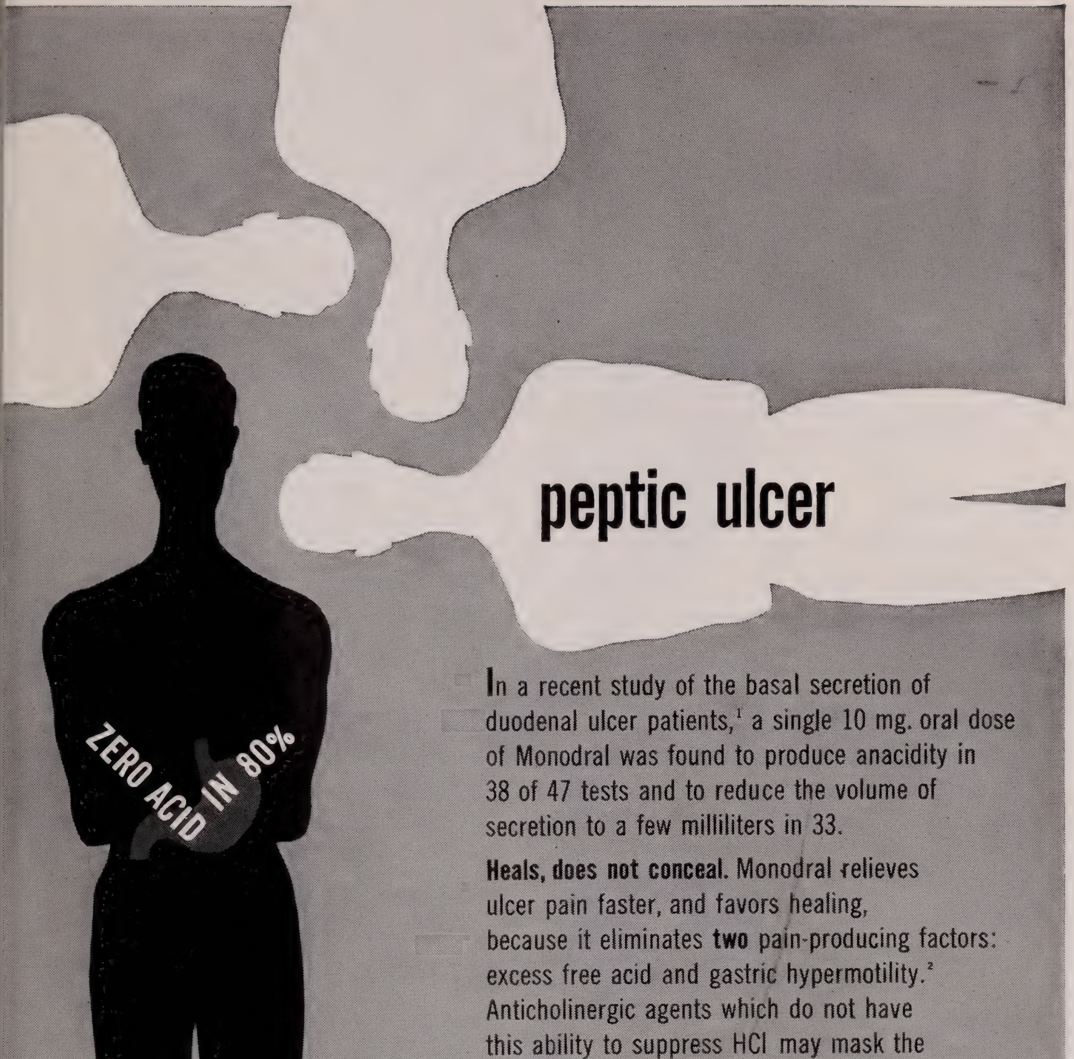

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1. McKenna, R.D.: Royal Victoria Hospital, Montreal, Canada: Personal communication.
2. Ingegno, A.P.; and Kertzner, Leonard: New York Jour. Med., 54:1185, Apr. 15, 1954.

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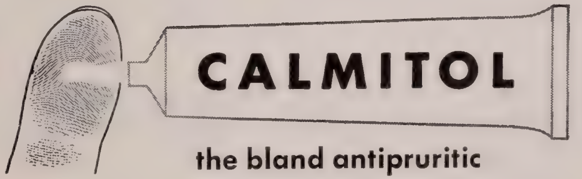

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1. Lubowe, I. I.: New York State J. Med. 50:1743, 1950.

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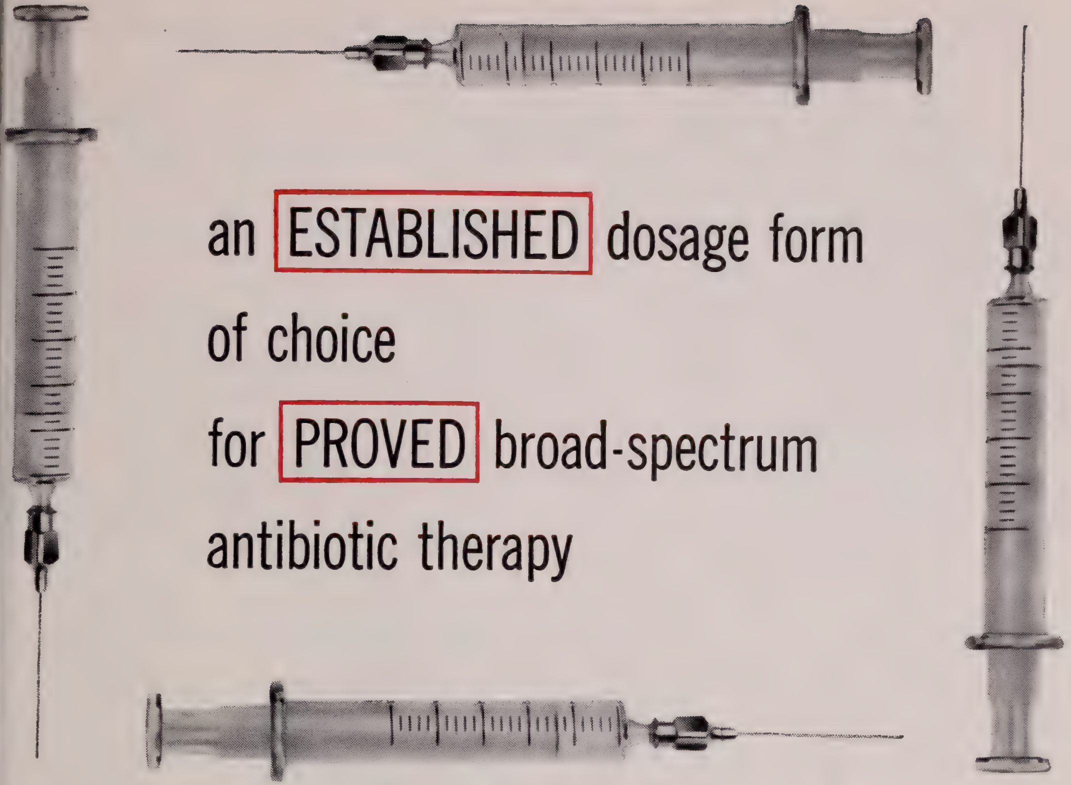

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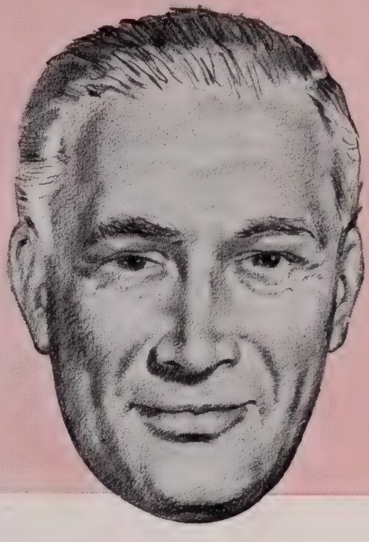

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*Bunim, J. J.: Research Activities in Rheumatic Diseases, Pub. Health Rep. *69*:437, 1954.

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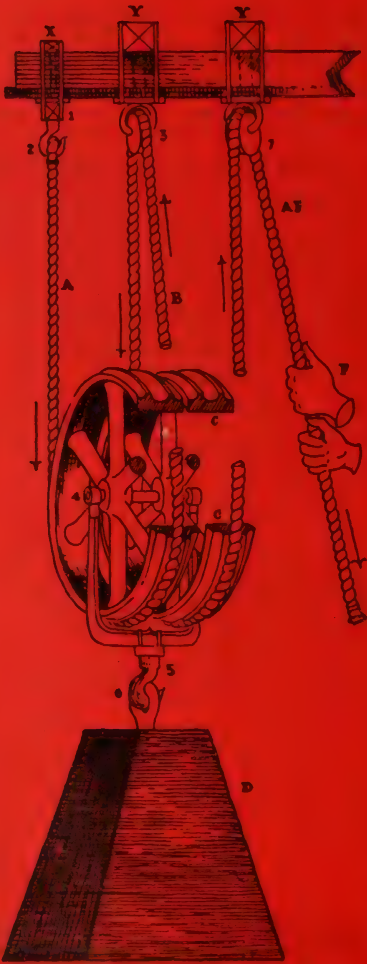

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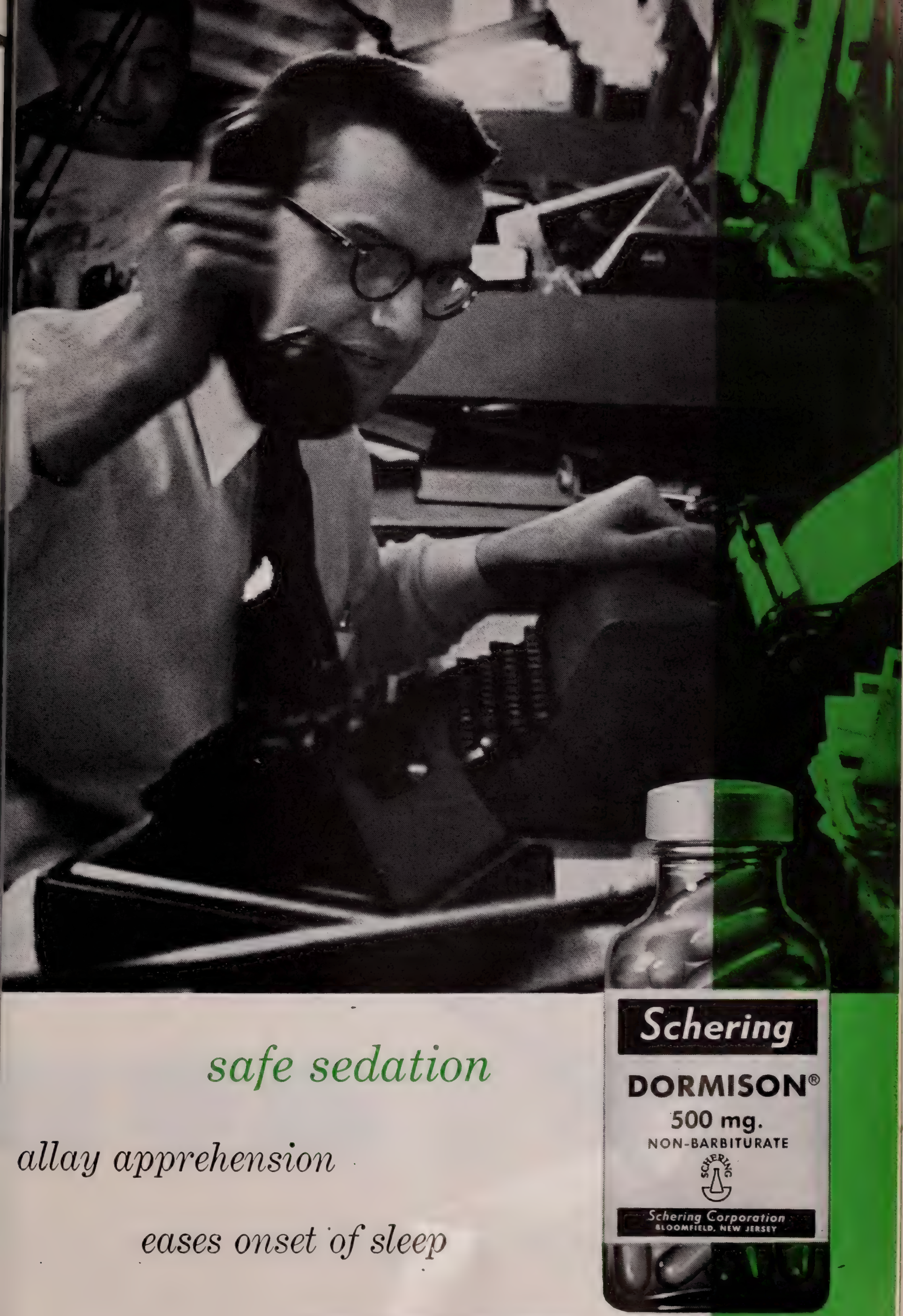
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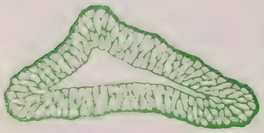

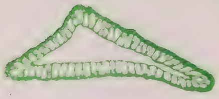

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1. Grayzel, H. G., Heimer, C. B., and Grayzel, R. W.: New York St. J. M. 53:2233, 1953.
2. Heimer, C. B., Grayzel, H. G., and Kramer, B.: Archives of Pediatrics 68:382, 1951.
3. Behrman, H. T., Combes, F. C., Bobroff, A., and Leviticus, R.: Ind. Med. & Surgery 18:512, 1949.
4. Turell, R.: New York St. J. M. 50:2282, 1950.

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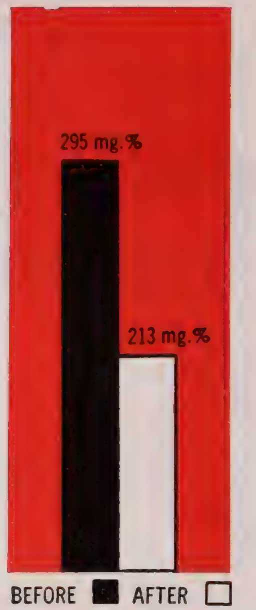

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1. *Albert, A., and Albert, M.: Texas State J. Med.* 50:814 (Dec.) 1954.
2. *Sherber, D.A., and Levites, M.M.: J.A.M.A.* 152:682 (June 20) 1953.

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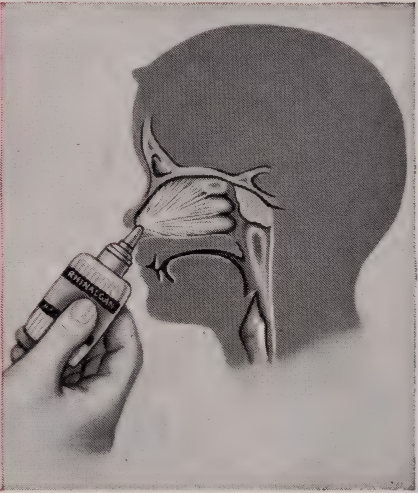

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Reference to RHINALGAN:

1. Van Alyea, O. E., and Donnelly, W. A.: E.E.N.&T. Monthly, 31, Nov. 1952.
2. Fox, S. L.: AMA Arch. Otolaryn., 53, 607-609, 1951.
3. Molomut, N., and Harber, A.: N.Y. Phvs., 34, 14-18, 1950.
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5. Hamilton, W. F., and Turnbull, F. M.: J. Amer. Pharm. Ass'n., 7, 378-382, 1950.
6. Browd, Victor L.: Rehabilitation of Hearing, 1950.
7. Kugelmass, I. Newton: Handbook of the Common Acute Infectious Diseases, 1949.

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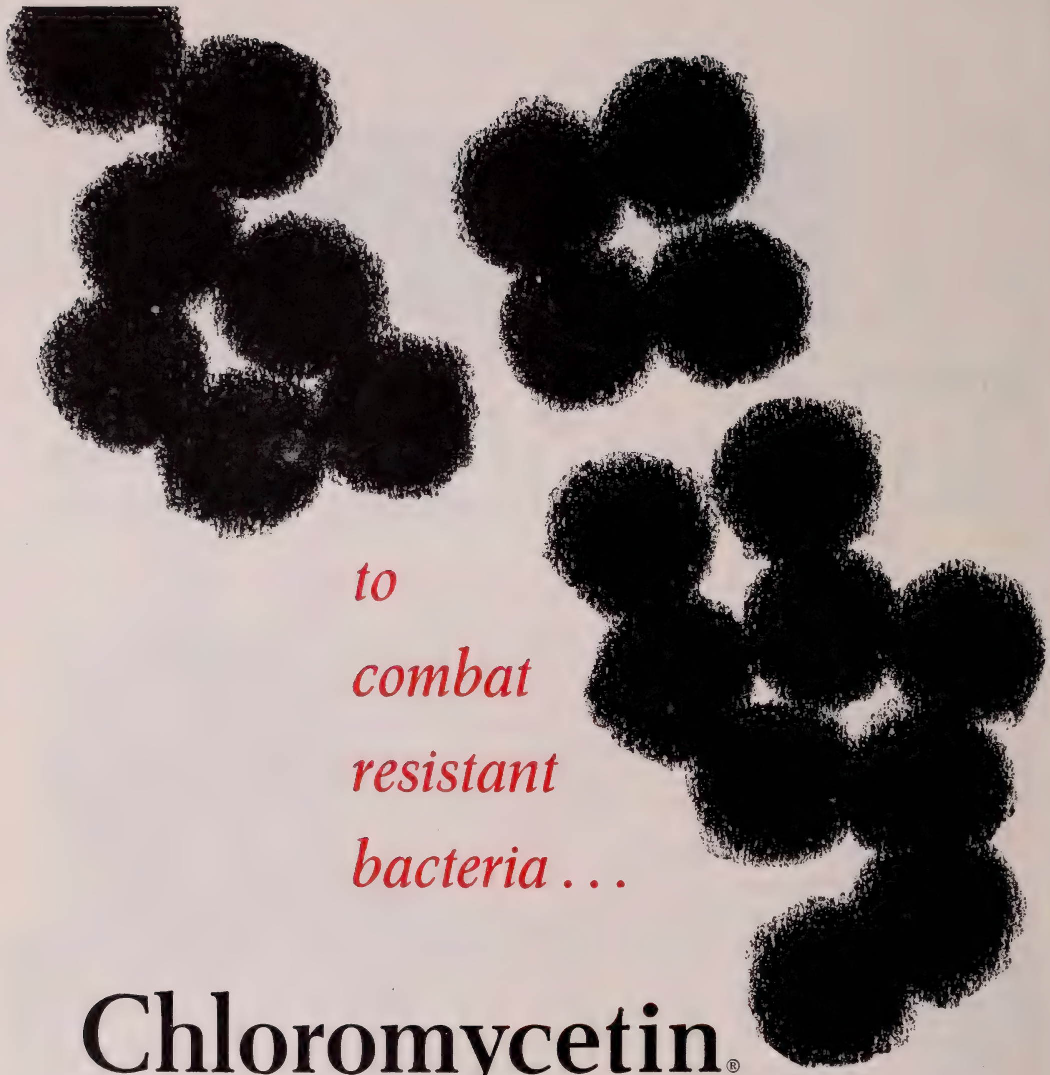

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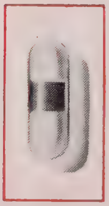

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"...An advantage of CHLOROMYCETIN appears to be its relatively low tendency to induce sensitization in the host or resistance among potential pathogens under clinical conditions."*

CHLOROMYCETIN is a potent therapeutic-agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

*Pratt, R., & Dufrenoy, J.: Texas Rep. Biol. & Med. *12*:145, 1954.

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PROTAMIDE®

PROMPTLY

for faster,
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In post-infection neuritis (following upper respiratory or virus infection), one ampul of Protamide daily for five days has been shown to produce complete recovery without relapse in 85% of patients when treatment was started during the *first week of symptoms.**

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The solution is straw colored with an adjusted pH of 5.9. It is virtually painless on administration and is used intramuscularly only.

Protamide is stable at room temperature and is packaged in 1.3 cc. ampuls in boxes of ten.

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*Smith, R. T., New York Med. 8:16, 1952.

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against staphylococci

This is an actual strain of *Staphylococcus aureus*, isolated from a five-week-old infant. Note extreme sensitivity of the organism to ERYTHROCIN—although it easily resists the four other antibiotics. This organism may be associated with *sinusitis . . . otitis media . . . tonsillitis . . . abscess . . . bronchopneumonia . . . empyema . . . carbuncle . . . pyoderma . . . bronchiectasis . . . furunculosis . . . pharyngitis . . . septicemia . . .* and *tracheobronchitis.*

for specific therapy against coccic infections . . .

Wide range activity against gram-positive pathogens—that's the story of ERYTHROCIN *Filmtab**. As you know, most bacterial respiratory infections are produced by staph-, strep- or pneumococci. *And that is the very range where* ERYTHROCIN *is most effective.* In fact, you'll find it more active against this group of organisms than many other antibiotics.

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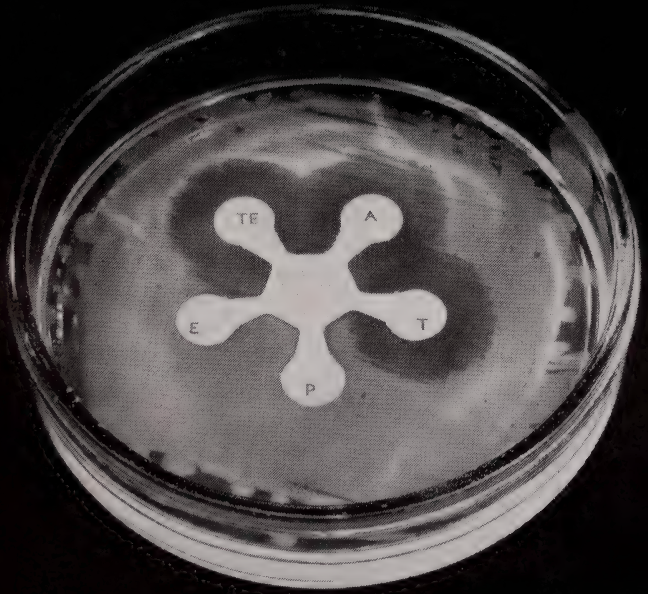
Erythrocin® STEARATE

(ERYTHROMYCIN STEARATE, ABBOTT)

against common intestinal flora



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. . . with little risk of serious side effects

One reason is because the drug acts specifically. It destroys coccic invaders, yet doesn't materially change the normal intestinal flora. Thus, side effects are rarely encountered with ERYTHROCIN. Nor does it cause the allergic reactions occasionally seen with penicillin. Abbott

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Nitranitol
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tandem action for safe, gradual, prolonged relief

Nitranitol for prompt relief of distressing symptoms... slower acting Rauwolfia for prolonged hypotensive and quieting action-- no lag in symptom relief. The combination means normal life sooner for your essential hypertensives... no jolting of the vasomotor reflexes... side effects are uncommon.

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for a more normal life sooner for your hypertensive patient

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Nitranitol

SIX DOSAGE FORMS

Nitranitol R.S.
for direct vasodilation plus the added central hypotensive and calming actions of Rauwolfia serpentina

Mannitol hexanitrate	32 mg.
Rauwolfia serpentina (alseroxylon fraction)	0.5 mg.

Nitranitol
for safe, gradual, prolonged vasodilation

Mannitol hexanitrate	32 mg.

Nitranitol with Phenobarbital
for the nervous hypertensive

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Nitranitol with Phenobarbital and Rutin*
for protection in capillary fragility

with Rutin	20 mg.

Nitranitol with Phenobarbital and Theophylline*
in threatened cardiac failure

with Theophylline	100 mg.

Nitranitol P.V.*
in refractory cases

with alkavervir (alkaloidal fraction of Veratrum viride, standardized for hypotensive activity)	1 mg.

DOSAGE: In blood pressures over 200 systolic, 2 tablets four times daily. In other cases, 1 or 2 tablets every four to six hours. Bottles of 100 and 1,000.

NOTE: Nitranitol is exceptionally stable, assuring uniform potency, so important in medication for your hypertensives.

*Each contains mannitol hexanitrate 32 mg. and phenobarbital 16 mg.

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In 50 patients with nausea and vomiting, Weinberg reports 88% good to excellent results.[1]

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Meclizine HCl	25 mg.
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Mild cases: One Bonadoxin tablet at bedtime.

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In bottles of 25, prescription only.

1. Weinberg, Arthur, and Werner, W. E. F: Bonadoxin, a New Effective Oral Therapy for Hyperemesis Gravidarum, New York Medical College and Rockaway Beach Hospital, 1954.
2. Personal communication.

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Ergotamine tartrate
1 mg.
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Average Dosage: 2 to 6 tablets
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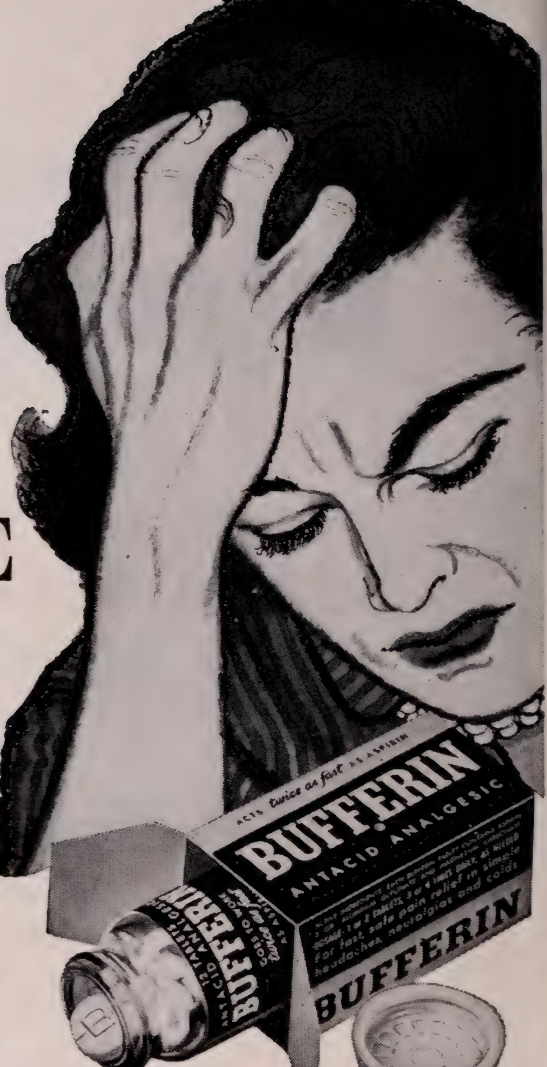

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References: 1. J. Am. Pharm. Assoc., Sc. Ed. 39:21 (Jan.) 1950. 2. Ind. Med. 20:480 (Oct.) 1951. 3. In Press. 4. J.A.M.A. 141:124 (Sept. 10) 1949.

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Suspension SULFOSE promotes the fullest response because it combines three potentiating sulfonamides in an alumina-gel base. Comparative studies show that this is the combination that induces "... both higher initial [and] more prolonged therapeutic levels."[1] Unlike single sulfonamides, Suspension SULFOSE couples threefold antibacterial action to multiple urinary solubility. For *effective* therapy with *maximal* renal safety.

Supplied: Suspension SULFOSE, bottles of 1 pint. Also available: Tablets SULFOSE, bottles of 100 and 1000.

1. Berkowitz, D.: Antibiot. & Chemo. *3*:618 (June) 1953

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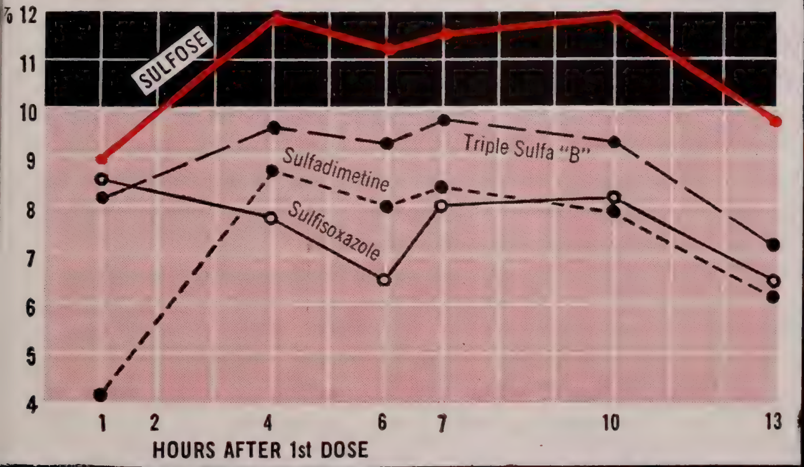

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The twofold antibacterial action of 'Sulfa-Neolin' is particularly effective in mixed infections. The combined action of penicillin and the sulfonamides is also of value in combating relatively resistant organisms. Since the mode of attack of penicillin differs from that of the sulfonamides, it is more difficult for an organism to develop resistance to the combination than to either drug used alone. The tasty chocolate-mint flavor of 'Sulfa-Neolin' quickly wins youngsters' approval. They'll like it!

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Dosage: Average dose is 1 teaspoonful four times a day. *Suspension 'Sulfa-Neolin' is supplied in 60-cc. bottles (M-120).*

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VOLUME 55 MARCH 15, 1955 NUMBER 6

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EDITORIALS

Poliomyelitis Vaccine Project

If the Salk polio vaccine proves of value and is licensed, the National Foundation for Infantile Paralysis will make it available for those of the 1,830,000 children in the 1954 field trial who participated as controls in accordance with its promise made last year. In addition, as a service to the public, the Foundation has bought an additional amount of vaccine, the total contract amounting to enough for nine million children. The conference of representatives of the American Medical Association, Academy of Pediatrics, and other organizations referred to on page 841 of this issue agreed that the vaccine purchased by the Foundation should be given to children in the first and second grades as that part of the population most at risk. Moreover, the first and second grade children are a clearly defined group and can be readily immunized within the brief space of time between licensure of the vaccine and the beginning of the poliomyelitis season in June.

The desirability of providing vaccine this year, if it is proved effective, and the necessity of awaiting the evaluation of last year's trial before vaccine can be licensed and distributed leave little time for immunization of the groups selected. The report of Dr. Thomas Francis, Jr., of the University of Michigan, is expected around April 1, and, if favorable, some time must be allowed for licensure by the National Institutes of Health. The three doses per child are to be given within a period of five weeks. Administration of vaccine in clinics held in school is the best way to make sure that immunization is offered to all those eligible for the vaccine purchased by the National Foundation for Infantile Paralysis and that immunization for those requesting it is actually completed before the poliomyelitis season begins. Since clinics will go on simultaneously all over the State, a large number of physician volunteers will be needed.

The need is even greater this year than last year. About 750,000 children will be eligible in the State this year in contrast to the 415,000 in the 1954 trial, of which many received neither vaccine nor placebo. The cooperation of county medical societies and of physicians last year was superb. In spite of difficulties arising from delays in the delivery of injection materials, 22.5 per cent of the national trial was conducted in New York State. The same spirit of cooperation is urgently needed this year so that these clinics can be brought to a successful conclusion. Physicians are again in a position to render an important public service.

Poliomyelitis vaccine, if licensed, will be available commercially this year in an amount equal to or perhaps larger than that purchased by the National Foundation for Infantile Paralysis for the use of private physicians for their patients. The National Foundation for Infantile Paralysis will not participate in the purchase or distribution of vaccine after the present contingent program is completed. It is expected that immunization against poliomyelitis will take its place among the immunizing procedures regularly offered by private physicians to their patients.

The Challenge of Cancer

According to reports recently released by the New York State Department of Health,[1] 21,235 new cancer cases among residents of New York State exclusive of New York City were reported by physicians, hospitals, tumor clinics, and laboratories in 1953. Based on the number of cases with stage indicated, 32.7 per cent were reported as "early." Distribution of these cases were as follows: females 10,734 (50.5 per cent); males 10,501 (49.5 per cent). In women 15.4 per cent and in men 9.1 per cent of the cases were under forty-five years of age. There were 227 cases of cancer reported in children under fifteen. The types of cancer which occurred most frequently are listed in Table I.

The common forms of cancer easiest to discover and to treat successfully—skin in men and breast, uterus, and skin in women—comprise about a third of total new cases. Because of the superficial location of most of these sites, it should be possible for most physicians, using only the ordinary and usual equipment to be found in any office, together with a high degree of suspicion, careful observation, and palpation, to detect many incipient cases of this disease.

If you're a woman, your chances of dying of cancer are 13 per cent lower than they were twenty years ago, the State Health Department reported. Making public the results of a survey in upstate New York, Dr. Herman E. Hilleboe, State Health Commissioner, said the cancer death rate among women in each age group over fifteen was 7 to 24 per cent lower in the years 1948–1950 than it was in 1931–1933. The greatest decrease, 24 per cent, occurred in women twenty-five to thirty-four years of age.

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[1] Bureau of Cancer Control, Dec. 1, 1954.

TABLE I.—Types of Cancer Occurring Most Frequently

Men			Women		
Site	Number	Per Cent	Site	Number	Per Cent
Skin	1,660	15.8	Breast	2,387	22.2
Lung and bronchus	1,214	11.6	Large intestine (excluding rectum and rectosigmoid)	1,075	10.0
Prostate	1,068	10.2	Skin	1,054	9.8
Large intestine (excluding rectum and rectosigmoid)	873	8.3	Cervix uteri	1,028	9.6
Stomach	802	7.6	Corpus uteri	655	6.1
Rectum	548	5.2	Ovary	529	4.9
Bladder	540	5.1	Stomach	444	4.1
All other sites	3,796	36.1	All other sites	3,562	33.2
Total	10,501	100.0	Total	10,734	100.0

TABLE II.—Age-Standardized Cancer Mortality Rates* Selected Sites by Sex, New York State Exclusive of New York City, 1931–1933 and 1948–1950

	Male			Female		
Site	Rate* 1931–1933	Rate* 1948–1950	Per Cent Change	Rate* 1931–1933	Rate* 1948–1950	Per Cent Change
Lip	1.20	0.51	−58	0.13	0.07	−46
Tongue	1.62	1.80	+11	0.33	0.39	+18
Mouth	0.85	0.68	−20	0.14	0.08	−43
Other buccal cavity	3.62	3.10	−14	0.96	1.12	+17
Lung and bronchus	4.68	22.80	+387	2.51	4.15	+65
Stomach and duodenum	30.12	19.12	−37	22.19	10.91	−51
Liver and biliary passages	8.82	4.65	−47	13.11	5.99	−54
Skin	3.61	2.64	−27	2.21	1.71	−23
Breast	. .	. .	. .	29.30	29.31	. .
Uterus	. .	. .	. .	31.08	20.58	−34
Ovary and fallopian tubes	. .	. .	. .	5.62	9.43	+68
All sites	114.96	135.53	+18	153.71	132.96	−13

* Rates per 100,000 population adjusted to 1940 census population for New York State.

If you're a man, however, the picture is not so bright since your chances of dying from cancer are 18 per cent higher today than in 1931–1933, Dr. Hilleboe noted. In figuring the rates among both men and women, allowance has been made for the increased proportion of older persons in the population. Dr. Hilleboe said the continued rise in cancer deaths among men is due chiefly to the marked increase in lung cancer among the male population. Since 1931–1933, lung cancer deaths have jumped by 387 per cent in men and only 65 per cent in women.

This information is here published at the request of the Council of the Medical Society of the State of New York in order to convey to the membership the gravity of the cancer problem in this State and the necessity for prompt and meticulous reporting. Since the superficial and easily accessible sites of so many cancers have been shown in the foregoing table, it should be apparent that with only ordinary equipment and observation many more "early" cases may be found if physicians are alerted to look for them at these sites.

The Journal publishes this statistical survey as an introduction to a series of articles now being prepared jointly by the Council Committee on Public Health and Education of this Society in conjunction with the American Cancer Society and the New York State Department of Health on the early treatment of cancer. These will appear in the columns of the Journal commencing about September 15. They will supplement a distinguished series of articles on cancer diagnosis with illustrations in color which appeared in the Journal in

[Continued on page 758]

FACTS ABOUT NUTRITION

Prepared by the School of Nutrition, Cornell University, Ithaca

NORMAN S. MOORE, M.D., *Editor*

The abuse of vitamin medication continues to grow. Is the medical profession doing all it can to enlighten the public of the waste resulting from the overuse of these metabolic essentials? The widespread misconception that good health can be made better by supplementary vitamin intake can be corrected only if practicing physicians take every opportunity to discourage this unnecessary and expensive self-medication by the public. Toward this goal Facts About Nutrition presents a review of the vitamin problem.

Putting the Vitamins in Their Place

When Funk propounded the "vitamine" hypothesis in 1912, he was drawing together the observations and conclusions of a multitude of investigators whose work extended over almost four centuries. But protracted as were the years of its conception, the hypothesis at once became the basis for widespread investigations which have continued until the present day. As a result some 20 substances have been classed as vitamins on the basis that each is a dietary requirement for some species, and the solutions to subsequent problems of chemical identification, synthesis, and the determination of biochemical function have been progressively and, in many instances, successfully sought. Over the past forty years, therefore, clinicians have been provided with a means both of preventing and of curing many hitherto distressing and ill-understood diseases. In these circumstances it is not surprising that the vitamins should have become imbued in the minds of many lay and medical men with far-reaching therapeutic qualities which they do not possess, and it is important that sight should not be lost of the nature of these substances and of their highly specific role in human nutrition.

A vitamin may be defined as an organic compound, distinct from the energy-yielding nutrients which must be present in the food in minute amounts to maintain normal bodily growth and health. Much work has been done to determine requirements of these substances for the various age groups and in circumstances of additional needs such as pregnancy and lactation. In the United States the most authoritative table of recommended dietary allowances is that of the Food and Nutrition Board of the National Research Council as revised in 1953.[1] These are intended to apply to "persons normally vigorous and living in a temperate climate" and provide a safety margin over the minimal level of each vitamin which will normally maintain health. Thus failure to meet the recommended dietary allowance requirements is not synonymous with a vitamin deficiency from a clinical standpoint. Many surveys of nutritional status have been made in the northeastern United States, and in general these encourage the belief that in this area serious deficiencies of intake are rare, and cases of frank vitamin deficiency syndromes not associated with other pathologic states must be rarer still. This is especially true in New York State.

Vitamins taken in excess of the finite amount utilized in the metabolic processes are valueless since they will have no substrate upon which to act. Excess water-soluble vitamins are excreted, mainly in the urine, and an excessive intake of fat-soluble vitamins will result in increased storage having no beneficial effect but rather, taken to extreme, producing actual toxicity. There is no reliable evidence that vitamin supplementation increases immunity in the otherwise well-nourished individual, nor will there be that extra surge of energy so confidently expected by some on taking a multivitamin capsule. While certain vitamin requirements may be increased by prolonged muscular exertion, if this is counterbalanced calorically by the consumption of a reasonably mixed diet, the extra vitamins will be automatically provided. The routine vitamin supplementation of the diet as a prophylactic measure is justified only in the growing child, in pregnancy and lactation, and possibly in the elderly.

It is a well-known fact that in the development of a deficiency state, purely subjective manifestations such as fatigue, lethargy, anorexia, and inability to concentrate may precede the appearance of a frank clinical syndrome. Such symptoms have been widely publicized as being due to "subclinical" vitamin deficiency, and the physician is therefore frequently faced by a patient who is convinced before he enters the office that he needs vitamins. The odds are long that he does not. It behooves the clinician in these circumstances to make a differential diagnosis with all the care that he would use in assessing the import of any other symptoms. The diagnosis of subclinical vitamin deficiency can be supported only by the demonstration of the circumstances in which such a deficiency could have developed, and unless this firm diagnosis can be made, vitamin supplementation of the diet is no more justified than would be the empiric prescription of ergotamine tartrate for all headaches.

Logically the first step is to take a careful dietary history to determine whether there could be a genuine deficiency of intake. Such is likely to be the case only in young children receiving no vitamin fortification, in marked faddism, in the elderly, or in the presence of such conditioning factors as chronic alcoholism or psychosis. Deficiency associated with an adequate intake may occur under certain other circumstances, evidence for which should be sought. Impaired absorption of the fat-soluble vitamins may be associated with the sprue syndrome or obstructive jaundice. Prolonged diarrhea or the surgical removal of substantial areas of the gastrointestinal tract may also impair absorption of all or any of the vitamins. The effects of the broad-spectrum antibiotics on the intestinal synthesis of vitamins of the B complex have been reported, and interference with utilization may also occur in the presence of marked hepatic dysfunction.

In the course of routine physical examination search should be made for objective evidence which might support the diagnosis of vitamin deficiency. It must be stressed, however, that many of the signs long accepted as pathognomonic have been shown to be unreliable,[2] and physicians of wide experience may vary considerably in their findings in this respect when presented with the same series of subjects. Furthermore, so-called positive findings frequently do not correlate with any other supporting evidence that a deficiency state really exists.[3] Laboratory investigations may be of value in some cases but are unlikely to be justified often, and in the final event diagnosis will usually depend on the history and examination alone. If, at this stage, vitamin deficiency can genuinely be suspected and is associated with an inadequate intake, therapy should consist of correction of the diet rather than the use of commercial vitamin preparations. Gomez and his coworkers[4] have found this measure to be completely effective in patients suffering from the results of prolonged and advanced malnutrition.

In the majority of cases no possible mechanism for vitamin deficiency will be discovered, and the symptoms must be explained on some other basis. Ruffin[5] has pointed out that "vague symptoms such as weakness, fatigability, insomnia, nervousness and irritability are more apt to be due to overwork, nervous tension, or to social, domestic or financial difficulty than to a vitamin deficiency." Certainly the diagnosis of anxiety state may be worthy of consideration. If such an etiology exists, the prescription of vitamins merely conceals the true diagnosis from physician and patient alike and thus prevents the institution of any treatment likely to succeed.

In dealing with patients suffering from known debilitating disease or recovering from situations of greatly increased stress such as major surgical procedures, the empiric use of vitamins cannot be criticized since little is known of the possible demands under such circumstances. Certainly the patient must not be denied every possible chance of regaining lost ground and attaining a good nutritional status. In such cases the use of suitably balanced multivitamin preparations seems entirely reasonable since deficiencies are more often multiple than single.

A vast sum of money is expended annually on vitamins. Many of these products, perhaps the major part, are bought without the specific advice of a physician, but it is important that a start should be made within the medical profession to put the vitamins in their place. Their place, clearly, is in the metabolic cycle where they can play an active role and not as inert substances undergoing transit through or storage in the body. The facts are plain. In the vast majority of otherwise well people all vitamin requirements can be met from the diet, the exceptions being in growing children, in some elderly people, and in pregnancy and lactation. The development in a patient of symptoms or signs suggesting subclinical vitamin deficiency warrants careful clinical assessment and not the empiric prescription of commercial vitamins. The points of view, "well, the vitamins are harmless" or "we might as well be on the safe side," are justified only in cases where known physical stresses exist. Applied in other circumstances these dicta distract both patient and physician from the true cause of any symptoms which may be present and also from the need to balance the normal diet so that the vitamins are obtained naturally. Vitamins prescribed in excess of requirements are no more likely to be effective than were the potions of fifty centuries ago, and it should be a part of the progress of medicine that no encouragement be given to practices based on a belief in and dependency upon substances having no biologic or pharmacologic function.—J. H. Fryer, M.B., B.S. (London)

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Editorials

[Continued from page 755]

1952–1953 under the auspices of the Council Committee on Public Health and Education with the cooperation of the American Cancer Society and the Bureau of Cancer Control of the New York State Department of Health.

It is hoped that this new series on early treatment of cancer will alert the membership to the possibility of exerting a favorable influence on both the morbidity and mortality statistics of this disease by the prompt use of now available modalities made possible by recent research.

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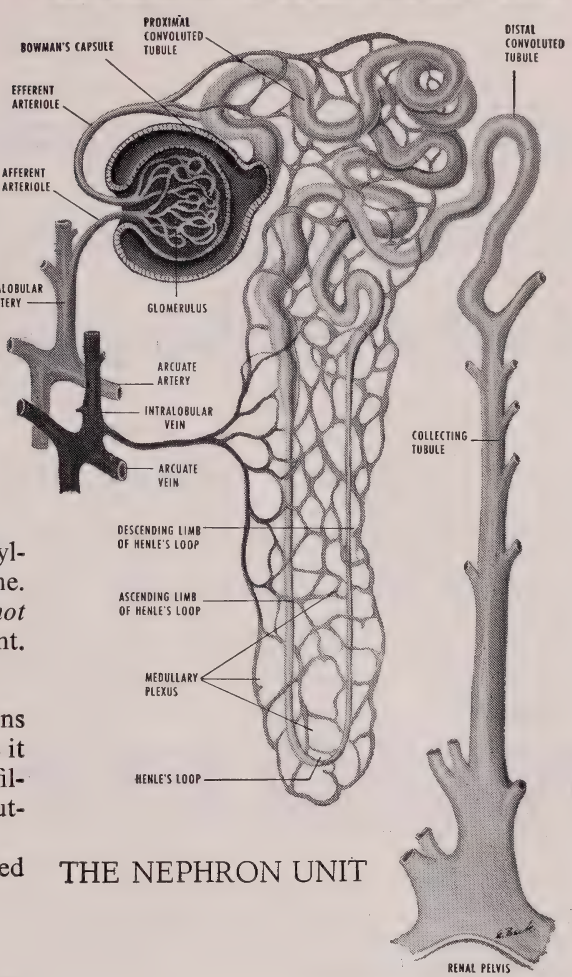
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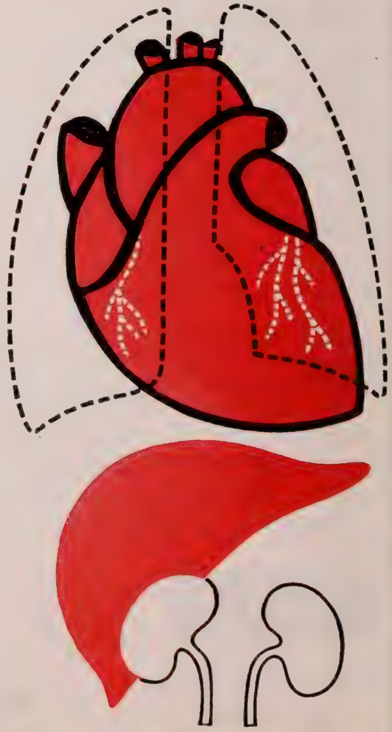

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SCIENTIFIC ARTICLES

round table discussion

TREATMENT OF BRONCHOGENIC CARCINOMA WITH SURGERY, X-RAY, AND CHEMOTHERAPY

WILLIAM DOCK, M.D., BROOKLYN, *Chairman*

Discussants

EDGAR MAYER, M.D., New York City, *Moderator,* Clinical Professor of Industrial Medicine, New York University Post-Graduate Medical School

GEORGE H. HUMPHREYS, II, M.D., New York City, Valentine Mott Professor of Surgery, College of Physicians and Surgeons of Columbia University

MAURICE LENZ, M.D., New York City, Professor of Clinical Radiology, College of Physicians and Surgeons of Columbia University; Radiotherapist, Francis Delafield Hospital

J. MAXWELL CHAMBERLAIN, M.D., New York City, Attending Thoracic Surgeon, Roosevelt Hospital

JAMES J. NICKSON, M.D., New York City, Attending Radiotherapist, Memorial Center for Cancer and Allied Diseases

DAVID A. KARNOFSKY, M.D., New York City, Associate Professor of Medicine, Cornell University Medical College; Associate Attending Physician, Chemotherapy Service, Memorial Center for Cancer and Allied Diseases

ARTHUR PURDY STOUT, M.D., New York City, Professor of Pathology, College of Physicians and Surgeons of Columbia University

DR. MAYER: I want to bid you all welcome tonight. We are anxious to have an audience participation in our discussion which will naturally bring up some very controversial points. There is a floor microphone, and if you address it for discussion or questions, will you please give your name and also the city from which you come.

We have here a panel of experts in the field of cancer. I am sure they need no introduction, and they have been eminently associated with this field for a large part of their medical careers. I will just point them out: Going from my extreme left, Drs. Lenz, Karnofsky, Nickson, Chamberlain, Stout, and Humphreys.

As moderator of the panel, I wish first to strike the keynote of this discussion by proposing that the panel first concern itself especially with the treatment of early lung cancer, with emphasis on the word "early." How such an early stage is to

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Presented at the 148th Annual Meeting of the Medical Society of the State of New York, New York City, May 10, 1954.

be defined will come out prominently in our discussion. You know that the treatment of lung cancer is not too encouraging. We all realize we are not diagnosing it early enough. Up to now we are almost confined to the treatment of advanced cancer, which proves the inadequacy of our present diagnostic methods and perhaps even our concept of what is true incipiency. Widespread x-ray surveys and attempts to alert physicians and to educate the public have not proved to be the solution. But two facts stand out that point to a brighter outlook: First, experience is indicating that lung cancer is often a far slower and a more chronic growth than was previously believed, and, second, the incipient phase in most cases has the longest duration. Because of this, one would believe that in most cases we should have ample time for diagnosis and treatment.

As pulmonary specialists, we believe the time has come to revise our concept of "early lung cancer." The fighting front must be pushed backward toward a new concept of "incipiency." In the discussion tonight we hope our pathologist will redefine the concept of incipiency, with its varieties and its criteria. We hope to have him guide us in establishing principles for evaluating histologic findings in cancer in situ and in Papanicolaou smears of sputa and bronchoscopic washings in the earliest phase of malignancy that actually precedes visible tumor growth.

Internists and roentgenologists too must steadfastly advance more closely to the true incipiency of lung cancer. Rigler and others have recently pioneered in this field with significant success. We hope to have our experts discuss these clinical, laboratory, and x-ray features that should lead us to treat cancer much earlier than has formerly been believed possible.

At the present time surgeons, radiotherapists, and chemotherapists all aim for the earliest management of these patients; yet the best results, as you know, are none too encouraging. With surgery, resection rates remain under 50 per cent, and the over-all five-year survival rate is less than 10 per cent. Nevertheless, it is true that up to now surgery has been the indicated and best available form of treatment.

Radiotherapy has recently made significant progress in attracting more of these patients, not only because of the large proportion of inoperable cases and their failures with surgery, but also because of marked advances in radiotherapy with new technics, such as supervoltage, etc. In the past radiotherapy was wholly a palliative treatment, but now sporadic claims are springing forth for its so-called "curative" effect, particularly with use of supervoltage.

Chemotherapy has never claimed more than palliative results. Its place in treatment we hope to have defined tonight by our chemotherapist.

Chiefly because of the low survival rate with surgery, a strong attitude now appears among many physicians against so-called unnecessary surgery. Especially emphatic has been the protest against the widespread use of "compassionately named but frequently treacherous palliative operations."

We believe the future treatment of lung cancer is more hopeful than the present somber picture indicates. We anticipate treating an ever-increasing proportion of cases in the truly incipient stage. For this reason it is my intention that this panel also should anticipate future trends and devote much of its discussion to the principles of the best treatment of early bronchogenic cancer rather than to confine itself to the endless problem of the treatment of advanced cancer which has proved so frustrating in the past.

Now, Dr. Stout, will you define bronchogenic cancer and differentiate it from the precancerous squamous metaplasia and cancer in situ?

Dr. Stout: In order to answer this question in an intelligent fashion, I must first say something about the different kinds of lung cancer and their modes of growth. Cancers of the lung are generally divided into three main groups: squamous cell carcinoma, adenocarcinoma, and undifferentiated carcinoma. The frequency of these types is variously reported.

The commonest variety is squamous cell carcinoma estimated as forming 50 to 70 per cent of the total number. The other two varieties share the remaining 30 per cent on approximately an equal basis. The vast majority of all these tumors arise from the bronchial mucosa, either from the surface cells or from the glands. It is a matter of debate whether there are any tumors that arise from alveolar lining cells. The squamous cell carcinomas which involve the surface cells in the beginning are probably desquamate cells from the beginning of growth. Theoretically, it should be possible to detect these cells in bronchoscopic washings as soon as they start to desquamate. The glandular carcinomas start from beneath the surface, and, theoretically, desquamation does not begin until the tumor reaches the surface. The cellular origin of the undifferentiated carcinomas is unknown, but they probably reach a bronchial surface fairly soon since they are peculiarly malignant tumors. The question is what are incipient carcinoma, squamous metaplasia, and carcinoma in situ and what relationship do they bear, one to the other.

Squamous metaplasia means the replacement of the normal bronchial ciliated epithelium by an epidermoid type of epithelium. Carcinoma in situ means replacement of the normal bronchial epithelium by a coat of anaplastic cells that are like cancer cells and are confined by a basement membrane. Both squamous metaplasia and carcinoma in situ may also replace the cells lining the bronchial glands. Squamous metaplasia may have some anaplastic cancer-like cells associated with the epidermoid cells. In neither case is there any invasive growth. The term incipient bronchial cancer might be applied to these two processes. I assume, however, that the intention is to apply it to limited invasive cancer.

Here we run into difficulties, for does the word "incipient" apply to time or distance? The two do not necessarily coincide. If it is applied to growth alone, I presume it means a tumor which has started to invade but which is not large enough to extend outside of the bronchial cartilages. But such a tumor may have already metastasized before it can be detected by x-rays. For the sake of argument, however, let this be a tentative definition of the incipient cancer. We are assuming in this discussion that both squamous metaplasia and carcinoma in situ are definite precancerous lesions. There is extremely little proof of this. I know of only one case report where there was widespread squamous metaplasia and in situ carcinoma of the right lower lobe, and two invasive carcinomas were found apparently developing in the affected areas. I have often looked for it myself and been thwarted in attempting to find evidence that invasive cancer came from this squamous metaplasia or carcinoma in situ. The second part of the question deals with the limitations of diagnosis. That's all I have to say in answer to that question.

Dr. Mayer: Dr. Stout, if you will please continue: What are the limitations of diagnosis of early cancer in the study of endobronchial aspirated material?

Dr. Stout: Unquestionably the diagnosis is difficult but not impossible. There are two case reports of the detection of carcinoma in situ by the finding of cancer cells both in the sputum and in bronchial washings. One was reported by Papanicolaou and an associate in 1951. The other by Umiker and Story in 1952. In both instances cancer cells were found first in the sputum, and in one of the cases there was also a bronchial biopsy showing in situ carcinoma, and the cells were found in the bronchial washings. It is not possible to differentiate these cancer cells from those derived from invasive cancer.

I can give you some idea of the difficulties of diagnosing early cancer on a practical basis. The first report on thoracic surgery dealing with lung cancer gives the finding of cancer cells in sputum and bronchial washings in from 85 to 90 per cent of lung cancer cases examined. In most places, however, operability is only 40 per cent or less, indicating a low percentage of early cancer. The Copenhagen thoracic hospital is a first-class institution with a large volume of cases. Last year Iveson reported a cytologic study of 173 patients, of whom 124 had primary lung cancer. Cytology was positive in only 46 per cent. Iveson suggests that the reason for this low detection rate is that probably a large number of these cases were seen earlier than usual, with operability at 75 per cent. This disheartening report suggests that we cannot expect too much from cytology in aiding the earlier diagnosis of lung cancer.

Dr. Mayer: Again, Dr. Stout (in a sense, you have answered this next question), if you were given a report of a negative x-ray but a grade V positive Papanicolaou finding and bronchoscopic findings of cancer in situ, would you diagnose the presence of progressive cancer?

Dr. Stout: I think it would be impossible to diagnose it.

Dr. Mayer: You feel definitely that this is not a progressive cancer, but is it one that you would advise a surgeon to resect?

Dr. Stout: Well, I think if you find definite cancer cells in the washings or in the sputum, the patient has a cancer, whether it is in situ or invasive. And I gather that, generally it is invasive.

Dr. Mayer: Last, would you tell us the practical aspects of the five grades of Papanicolaou rating?

Dr. Stout: The use of the five grades suggested by Papanicolaou for reporting cytologic examinations has been so often modified that there is no unanimity of procedure. I think it would be futile to discuss it in detail for the reason that if there is good cooperation between the surgeon and cytologist, each will understand the other's language. There will always be the two extremes of unequivocal positive and unequivocal negative. Whether there is value in reporting varying degrees of uncertainty between the two extremes is still a matter of debate. The very fact that it is necessary to express doubt in many cases is a commentary on the fallability of the method. And in replying specifically to the question of the finding of cancer cells in the presence of a negative x-ray, I can say this: The experienced cytologist should not have more than between 1 and 2 per cent false positive reports. He cannot, however, surely differentiate between in situ and invasive cancer so that the reliability of the finding must be modified by these two factors. In other words, if he finds cancer cells, there is probably between a 1 and 2 per cent error in diagnosis of a carcinoma either in situ or invasive.

DR. MAYER: Thank you Dr. Stout. Now, Dr. Humphreys, will you tell us whether with a negative x-ray you would explore a cancer in situ which was diagnosed through bronchoscopic findings and a grade V Papanicolaou report?

DR. HUMPHREYS: I think the decision to operate depends neither on pathologic findings, x-ray findings, clinical history, nor bronchoscopic findings alone. It depends on the combination of all. The surgeon must have a high degree of suspicion as to whether or not a cancer is present. Obviously, the finding of suspicious cells in the bronchial washings, an x-ray shadow, and evidence by bronchoscopic examination, such as fixation of a bronchus or evidence of external pressure, create such suspicion. All of these things are suspicious but not necessarily conclusive. In combination they would lead him to operate. But in addition to that he must have a reasonably certain target. He must have a suspicion not only that cancer is present but also *where* it is present. Obviously, if this patient has squamous metaplasia or carcinoma in situ, which may be on both sides, the surgeon will not wish to operate on the suspicion that he is dealing with something which is ultimately going to become a cancer in the right lung when, in point of fact, a cancer may be developing at the same time in the left lung. He must have, in other words, a localized lesion on which to operate. He may not be able to see it in the x-ray when he operates; he may not have positive cytologic washings, and he may not have a tumor visible by bronchoscopy. But he must have something to lead him towards one side or the other, and once in the chest, he must have something which he observes himself which makes him feel that resection is justifiable.

DR. MAYER: You don't feel that a bronchoscopic finding of cancer in situ on one side with a Papanicolaou grade V from the same side is sufficient? Dr. Papanicolaou tells me that if he examines enough specimens, he can tell on which side the lesion is.

DR. HUMPHREYS: If Dr. Stout or Dr. Papanicolaou can tell me that it is in the right lung, I will take out the right lung.

DR. MAYER: I am not talking about an invasive cancer. I am talking about a cancer in situ with Papanicolaou grade V cytologic findings and diagnosed by the bronchoscopist as unilateral.

DR. HUMPHREYS: I would certainly explore such a patient. And, I think that in most instances it would be possible to make the decision to resect or not with the chest open.

DR. MAYER: Dr. Chamberlain, do you agree with that? How much would you resect in a case like this?

DR. CHAMBERLAIN: Yes, if I did the bronchoscopy and took the biopsy. Or is this aspirational?

DR. MAYER: Aspirational, and you would also do the bronchoscopy and take a biopsy.

DR. CHAMBERLAIN: I might modify Dr. Humphreys' remarks in one way. If, on that same morning, there were other patients bronchoscoped and aspirated, I would want to be certain that the specimens could not have become mixed en route to the pathology laboratory; then if Dr. Stout told me there were carcinoma cells in the aspirated material, I certainly would explore the patient. The amount of lung that I would remove would depend in part on the source of the aspirated material; I would prefer that the bronchoscopic biopsy confirm the aspirated material so that I had a definite location as to lobe or stem bronchus. That would greatly influence how much lung I would remove. I would prefer in such a case to do a lobectomy at most, and it is conceivable that one might do even less. But probably if it were technically possible to get the cancer and do a lobectomy, that should be sufficient and necessary.

DR. MAYER: Now, having covered the earliest stage before positive x-ray changes are seen, we may refer to the earliest clinical manifestations and early x-ray lesions often missed in diagnosis. In this incipient phase clinical manifestations are notoriously scant or completely lacking. However, careful inquiry into the clinical history of many cases discovered by chance x-ray in this phase of growth reveal that more of them have symptoms than is generally appreciated. In the vast majority of cases these escape us because they are so elusive as to be ignored by patients, and even physicians at first fail to appreciate their clinical significance. So we must train ourselves to search for and overinterpret clinical symptoms and signs of elusive character in accordance with the clinical picture as a whole. Persistent cough, vague discomfort in the chest, localized changes in breath sounds, no matter how mild or trivial they may appear, should be evaluated according to the potentiality of cancer in the particular individual.

Some systemic manifestations of nonmetastatic origin are of special interest here because they are among the earliest to appear. Recent observations have included here not only pulmonary osteoarthropathy and clubbing of digits, but also arthralgia, peripheral neuropathy, and myopathy. From some of our recent experiences we are led to believe that these phenomena are often associated with recurrent sensations of burning, sweating, or subcutaneous swelling over large parts of the extremities or other parts of the body. These elusive symptoms may appear simultaneously or precede the manifest changes in the bones and digits.

X-ray changes of early bronchogenic carcinoma are often present but unfortunately not detected until the lapse of many months. These early x-ray abnormalities include (1) spheroidal shadows, (2) irregular infiltrates extending out into the periphery along blood vessels, (4) peripheral linear bandlike or streaked shadows of atelectasis, (5) localized areas of emphysema, especially visible in the expiratory phase, and (6) asymmetric or irregular hilar shadows. By planigram some of these early shadows are seen to be denser than they appear to be on conventional x-rays, and not infrequently they have a notching of the border. (*These x-ray lesions were demonstrated.*)

Now, Dr. Chamberlain, with these early but definite x-ray changes and a positive Papanicolaou finding, what is the least you would resect in order to avoid excessive surgery?

Dr. Chamberlain: I am of the school that is anxious to preserve the maximum amount of functioning lung. In other words, I believe in lobectomy whenever it is technically possible to remove the offending lesion. It is just as easy for me to do a nodal dissection in the mediastinum after lobectomy as it is after pneumonectomy. I think I can do as thorough a job. For some twenty years or more we have been resecting carcinomas of the lung, and I don't believe that those of us who have been in the field that long have had much of a problem with recurrence in the stump in doing lobectomies. Another school believes that all carcinoma should be treated by pneumonectomy. Those of us who were brought up the other way rarely have had recurrence in the stump. I have had a recurrence on one occasion which later led to pneumonectomy, but that is the only case that I am aware of. And so I think that within the surgeon's judgment a lobectomy is often feasible as well as technically possible.

The morbidity and mortality rates after lobectomy are considerably less, as has been proved by Churchill. His figures show that his best results after twenty years of surgical management occurred in the patients who had lobectomy. There are many additional factors that have to be considered when the surgeon does a lobectomy, and maybe these figures aren't as clear cut as they might seem to be. When Churchill started doing lobectomies for carcinoma in 1934, the mortality rate from pneumonectomy was around 50 per cent, while the mortality in Churchill's hands for lobectomy in bronchiectasis was 3.9 per cent. As to cancer he felt that more patients would die of poor anesthesia or poor surgery than would die of cancer. Over the twenty years his figures have borne out his thesis. So at the present time, until I have reason to change, I believe that the surgeon should resect the minimum amount of lung to cure his patient.

Dr. Mayer: Dr. Lenz, will you tell us about the present status of radiation therapy of cancer of the lung?

Dr. Lenz: At present there are two principal forms of external radiotherapy used for the treatment of cancer of the lungs. They are conventional x-ray therapy in the range of 200 to 250 kilovolts which is generally available; supervoltage radiotherapy with multimillion volt x-rays; or cobalt^{60} radiation, which may be had in a few hospitals. The site of the cancer may be irradiated through opposing entrance fields on the chest wall or by rotation therapy.

The rays produced with supervoltage are more penetrating, and absorption in the skin and other tissues between the surface and the tumor is less than when conventional voltage x-rays are used. We have thus delivered, through two opposing 10 by 10-cm. areas on the chest wall, a tumor dose of 6,000 r in six to seven weeks to a lung cancer 10 cm. below the skin with 2,000,000-volt x-rays and also with a 1,500-curie cobalt source. In both instances there followed only a moderate erythema and later tanning of the irradiated skin.

Delivery of the same tumor dose would be impractical with 200 to 250 kilovolts using only two opposing entrance fields with similar technical factors because of the severity of the resulting radiation reaction on the skin. When using conventional voltage x-rays, the tumor is, therefore, usually crossfired through more than two fields. This concentrates the radiation at the site of the cancer, reduces the amount of radiation which must be given through each area to satisfy the needs of the tumor, and consequently causes less radiation damage to tissues between the tumor and radiating source. The plan of multiple crossfiring beams may be extended to so-called rotational therapy. In this method a sort of continuous belt of entrance fields is arranged around the chest wall, by either rotating the patient in a stationary beam or rotating the beam around a stationary patient.

A number of other factors also influence the likelihood of a cure of lung cancer by irradiation. The effectiveness of radiotherapy in pulmonary cancer is strictly limited to the area exposed to adequate radiation dosage. Correct clinical and radiographic localization of the entire area and its inclusion in the volume which is adequately irradiated are prerequisites of successful radiotherapy. "Clinical recurrence" is the rule if even a tiny particle of cancer is left outside of the intensively irradiated area. Yet x-ray delineation of the gross limits of intrapulmonary and mediastinal invasion is notoriously inaccurate, and microscopic extensions remain unrecognized even after the chest is opened and the lungs and mediastinum exposed. Intensive irradiation of large volumes of normal lung and other tissues, in an effort to include silent extensions, is impractical because of the accompanying radiation damage of these normal tissues.

Tumor doses of 6,000 r in about six weeks are probably necessary to produce more permanent arrest of most pulmonary cancers. When this dosage is given to a volume of lung 10 or 12 cm. in diameter, it may result in radiation pneumonitis. The pneumonitis thus produced is not serious and eventually disappears. It causes slight elevation in temperature, cough, and increased density radiographically a few weeks after the end of treatment. Radiation pneumonitis from similar dosage occurs more frequently and may have a more serious significance if the radiated volume of lung is much larger than 10 or 12 cm. in diameter or if the period of treatment is shorter. Unfortunately, many patients with pulmonary cancer are not seen until their disease is so extensive that the lungs will not tolerate adequate dosage. Therefore, the tumor dose is reduced, and the effect of the treatment is, at best, temporary palliation.

The postradiation clinical course of patients with lung cancer whose disease has not been entirely included in the intensively irradiated area is influenced not only by local results of the radiotherapy but by the natural history of the nonirradiated or underradiated extensions and metastases. For instance, anaplastic or an oat cell pulmonary cancer is reputedly more radioresponsive than well-differentiated squamous cell epithelioma; yet the postradiation progress of an irradiated anaplastic carcinoma or oat cell carcinoma, not entirely included in the radiated area, is likely to be more rapid than that of a similarly extensive, yet slower and more cohesively growing, well-differentiated squamous cell epithelioma.

From January 1, 1950, to January 1, 1954, 63 patients with pulmonary cancer were irradiated with 2,000,000-volt x-ray or cobalt^{60} united at the Francis Delafield Hospital, New York. Microscopic classification, not always at Delafield Hospital, showed that there were 22 squamous cell, eight undifferentiated, four adenocarcinomas, two oat cell carcinomas, and 22 classified simply as carcinomas. Four of the 63 patients are now free from clinical evidence of pulmonary cancer, the longest survivor (seventeen months after treatment) having had an oat cell carcinoma. There is no assurance that even these few symptom-free survivors may not die within the next few months. Several of our patients died after being well for one to two years after treatment. Two of those now alive had supraclavicular nodes, close to the subclavian vein, and may develop bloodborne metastases. Only one of six patients who had pneumonectomy and postoperative x-ray therapy is still living; the other three living patients had only exploratory thoracotomy. These poor survival statistics are primarily due to the extensiveness of the disease when the patients were irradiated. In some patients failure may also have been due to inadequate tumor dosage. Dosage levels which would be tolerated by the patient when using our technical factors were not known when our first cases were treated, and it is only in the latter part of the period under discussion that our average tumor doses in these cases have been 6,000 r in six weeks.

This, of course, does not detract from the important palliative effect of supervoltage therapy. Relief of pain, cough, expectoration, hemoptysis, and temporary regression of the tumor have occurred often. Marked improvement in superior vena cava syndrome has been noted. These results were obtained more easily than with conventional irradiation with 200 or 250 kilovolts. A marked improvement in the five-year survival rate, however, cannot be expected unless there is a corresponding improvement in early diagnosis of this disease so that this local treatment is started while the cancer is still of limited extent and accessible to the higher tumor dose we can now give with greater facility.

Dr. Mayer: Dr. Nickson, do you believe that you could cure a very early cancer with x-ray?

Dr. Nickson: That is, I suppose, at the moment largely a philosophic question since our surgical colleagues at this time rarely send us cases which are early. One can approach this problem, I suppose, with some profit from a relatively general point of view. The sad fact today is that curative attempts, either radiologic or surgical, are by and large limited to accessible cancers. The cancers that we cure today still are the cancers, by and large, that we can see either on the skin or with the aid of a suitable device through an orifice or can palpate through the orifice or on the skin. The internally located cancers, in general, none of us cure. This is a fact which I think all of us ought to recognize and accept. Taking the bulk of the cases that come to us, or any other selected group, say the cases as they walk in the door, be they gastric or renal carcinoma, bladder carcinoma, or carcinoma of the bronchus, in general we do not cure them. Judging from the ability of either surgery or radiation to cure accessible cancer, I can see no a priori reason why, given a hypothetic case with no lymph node metastases, with an early lesion whose volume can be precisely defined, properly conducted radiation therapy could not cure that case just as properly conducted surgery could. Now, I am the first to admit that this is somewhat of an Alice-in-Wonderland statement in the sense that, unhappily, at the present time none of us see these cases except as a miracle, if you accept Enrico Fermi's definition of a miracle as an event with a less than 10 per cent probability of occurrence.

Dr. Mayer: Then do you feel that you would like to have a chance at these early lesions with x-ray therapy and deprive the surgeon of them?

Dr. Nickson: Far be it from me to deprive a surgeon of anything, but the answer is still yes.

Dr. Mayer: Now, Dr. Nickson, will you tell us about the electron beam and its ability to concentrate the radiation to a small area in the lung?

Dr. Nickson: Again, given our patient with a small lesion, one could set up a line of argument which could say that the electron beam was a more useful gadget to have than an x-ray beam by virtue of its physical properties, a finite range in the instance which interests us, that is to say, its beam being proportional to the energy will penetrate a certain distance and no further. This is quite different from an x-ray beam which loses its energy in a gradual fashion throughout tissue regardless of how thick the tissue is. The nearer the tissue is to the source of the beam, the greater the energy. Thus, the two situations are fundamentally different. If one could hypothecate, to return to our patient whose lesion could be accurately defined, and treat that patient with an electron beam, one would have greater ability to spare the surrounding normal tissues than would be possible with an x-ray beam. Again, the advantages of the management of carcinoma of the bronchus are more apparent than real. There are other situations which are not relevant to the discussion in which the electron beam deserves extended clinical trial. Its role in the management of carcinoma of the bronchus will be, I suspect, relatively limited, but I may be quite wrong in this.

Dr. Mayer: Dr. Nickson, is there something you wish to add?

Dr. Nickson: Yes. I do not want to be by extension put into a position that I would be the last to deny. I do not imply that I wish to fight with my surgical colleagues over the crumbs of the cases that come along that either of us might cure. The problem of management of carcinoma of the lung today is not one of worrying about whether someone's 25 figure is better than some one else's figure of 19.2 or a third party's 22.5; these are trivia and not relevant to the main problem, because they are dealing with a highly selected group of material. The problem today, unhappily, is the management of far-advanced carcinoma of the lung. If one looks at a wide variety of material, half of the cases coming to us are dead within five months of the time they first appear at our door. This is a problem of management of carcinoma of the lung. It is useless to quarrel, I submit, as to whether the far-advanced cases are better treated by radiation or surgery. Sloppy surgery is no more likely to cure the case than is sloppy radiation.

DR. MAYER: Now, Dr. Karnofsky, will you tell us the role of chemotherapy in these cases?

DR. KARNOFSKY: As to the present status of the specific chemotherapy of lung cancer, chemotherapeutic agents are of little value in the management. While there are some epithelial tumors, such as the carcinomas of the prostate and the breast, which often respond to hormonal control measures, such as castration and adrenalectomy or the administration of exogenous steroid hormones, no such favorable results have been obtained in carcinoma of the lung. Most of the carcinomas are highly resistant to any form of specific chemotherapy thus far devised. We have tried many agents in lung cancer which have had some favorable effect on other types of neoplastic disease in man or in transplanted tumors in animals. These agents have been singularly ineffective in lung cancer. They include the folic acid antagonists and antimetabolites, such as 6-mercaptopurine. The only agents that have been of some beneficial therapeutic value have been nitrogen mustard and some related compounds. The results usually have not been prolonged or highly satisfactory, but we can briefly describe our experience.

The most frequently used compound is nitrogen mustard or HN_2. The usual method is to give 0.4 mg. per Kg. in a single injection, since the patient tolerates the acute effects of a large dose just as well as a small one, and if a favorable response occurs, it will be prompt. HN_2 has produced prompt regression in the size of enlarged nodes, liver, and mediastinal masses; this may be due to some effect on the inflammatory reaction, but a definite injurious effect on the tumor cells has also been demonstrated. In our experience objective improvement occurs in about 40 per cent of the patients, and in 60 per cent there is evidence of subjective benefit in the relief of cough, dyspnea, and pain.

The response usually only lasts about three to six weeks, although in some cases it may be a little longer. Second courses may give some improvement, but the response becomes progressively less. Because of these brief, transient, and incomplete effects of nitrogen mustard, HN_2 is used entirely in patients who have inoperable lung cancer.

The following is a summary of our opinions as to the indications for HN_2:

1. Pretreatment of the superior vena cava syndrome: In patients with massive obstruction HN_2 usually produces prompt relief without the hazardous edematous reaction that may follow x-ray therapy. X-ray therapy is then initiated and is usually given within two weeks in order to obtain the maximum response and in order to minimize the period of medical treatment during the brief remission that may result.

2. In patients who have become refractory to x-ray therapy HN_2 may cause transient relief of symptoms.

3. In patients with widespread metastatic disease who cannot be expected to tolerate x-ray therapy to all the disease-bearing areas. I do not wish to suggest that HN_2 is of remarkable value in lung cancer, but it is unique in that it has occasionally caused marked improvement in the patient.

What is the relation between radiation and chemotherapy in the palliative treatment of lung cancer? Localized x-ray therapy is much more effective than HN_2 in damaging tumors, and when possible, x-rays should be used. We use nitrogen mustard preliminary to x-ray therapy in order to obtain rapid shrinkage of the disease without the edema which may sometimes follow the initiation of x-ray therapy. By this method we also believe that the course of x-ray therapy can be given more rapidly. When it is not feasible to continue x-ray therapy or the patient is not responding to it, HN_2 may be of transient value.

What is our experience with intrapleural HN_2? The technic for injecting HN_2 into the pleural space for recurrent effusion is very simple. Through a thoracentesis needle most of the fluid is removed, and then 0.4 mg. per Kg. of HN_2 is injected. The patient is then moved around to distribute the drug. Usually nausea and vomiting occur due to the absorption of the active drug, and sufficient HN_2 may be absorbed to cause leukopenia. The results are not consistent. In some patients recurrent effusions have been controlled after HN_2; in others little effect results. This may be related to the anatomic basis of the effusion. If it is due to tumor cells on the pleural surface, HN_2 may cause a pleuritis and perhaps destroy some tumor cells, and fluid formation is diminished. We have not been able to compare the effects of HN_2 and radioactive gold.

QUESTION FROM THE FLOOR: Are any of the other nitrogen mustard analogs useful in the treatment of lung cancer?

DR. KARNOFSKY: While there are a number of analogs of HN_2 in clinical use, including the ethylenamine analogs, they do not seem to offer any advantage over HN_2. We have had some experience with TEM, and although it has had a favorable effect in some cases, it has not been entirely satisfactory. This may be due to the fact that TEM is given orally, and it is given for a period of three to four weeks before an adequate dose is reached. Any improvement that occurs, therefore, would not be as striking as that following HN_2. If the tumor does respond to HN_2, however, it may be desirable to maintain the patient on oral TEM.

We should mention, of course, that other less specific chemotherapeutic agents, such as the antibiotics, are extremely important in treating secondary infections which develop in lung cancer. Cortisone also may sometimes cause symptomatic improvement in the far-advanced cases. This may be particularly true in patients with adrenal metastases who perhaps have some degree of adrenal cortical insufficiency.

The proponents of cancer chemotherapy have undertaken a very heavy responsibility since it is not likely that the present results of surgery can be greatly improved, certainly not beyond a 25 per cent cure rate. Also, as a method of palliation, x-ray therapy is reaching its maximum effectiveness. While x-rays may control intrathoracic disease in many patients, the chief problem is still to control the metastatic cells. This, then, is what chemotherapy is trying to achieve.

There are many avenues of approach to the chemotherapy of lung cancer under study, which include the following:

1. The screening of many chemicals in animals for antitumor activity and the trial of selected ones against lung cancer.
2. Studies on the blood supply to lung cancer with the idea of directing chemicals into the arterial supply to the tumor.
3. Combination of chemicals and x-rays to enhance the local effects of x-rays.
4. Attempts to develop necrotizing viruses which will localize specifically in cancer cells.
5. Studies in developing specific antibodies against lung cancer cells, by using the tumor as an antigen. By labeling the antibodies with radioactive material, it is hoped to deliver large doses to the tumor.

In this great and diversified effort, with perhaps newer approaches to be undertaken, one cannot predict when and which one will be successful. It is obvious and reassuring, however, that with so many people working on the problem, our chances of accomplishing something useful are far better than ever before.

Dr. Nickson may have some ideas about this.

DR. MAYER: Can you tell us, Dr. Nickson, your feeling about it?

DR. NICKSON: Dr. Seal of our department, as I recall it, has some 66 cases in which he injected radioactive gold into the pleural cavity. This is a procedure which should not be done by individuals not thoroughly familiar with the methods of adequate and safe handling of radioactive golds. The material can be a definite hazard to the personnel administering the material. From this point of view nitrogen mustard, I feel, has a clear and definite advantage over radioactive gold. Of these cases one tap was necessary postadministration. In 39 cases more than one tap was necessary, but the frequency was diminished in 18 cases with no apparent benefit that could be detected in nine of the cases. Thus, it would appear that it has roughly a probability of one in two of giving a dimunition of symptoms relating to the presence of fluid in the pleural cavity. It is my own personal opinion that nitrogen mustard probably, when the figures are available, will have a very similar rate because I suspect, as Dr. Karnofsky has also stated, that the kinds of pleural effusions we are helping are the ones which are active and agressive growing cells within the pleural cavity; the kind we do not help are those in which the block is distant to the site of action of either agent.

DR. MAYER: Dr. Karnofsky, what do you think of the future of specific chemotherapy?

Dr. Karnofsky: The real problem in lung cancer, as has been brought out, is not the control of the local disease but the metastatic disease. Almost all patients I think with lung cancer die with metastases and not because of the presence of the local process in the chest. And even though methods are devised for diagnosing the local tumor and for delivering x-ray with great precision to the chest, it is still true that most patients with lung cancer have metastases outside of that area, when the patient is first seen, which will prevent their cure. Therefore, the problem rests in the hands of the chemotherapists to find drugs and methods of controlling this type of widespread disease. Although I have mentioned the challenge to the chemotherapist, I certainly can't say at the present time that we are in any position to meet it. There are many avenues of approach to the chemotherapy of lung cancer that we can study, and I have briefly mentioned them.

There is a large program in process testing a tremendous number of chemicals and biologic substances for antitumor activity in animals, and if any of these compounds show any signs of activity, they are tested against cancer in man. In all the chemicals we test in our institution at Memorial Hospital, we try them in animals, and we try them in patients with lung cancer.

Second, there are studies in process to learn more about the distribution of the blood supply in cancer, which apparently comes from the bronchial artery, with the ultimate idea of trying to inject chemicals directly into the blood supply of the tumor. It may provide a better way of controlling the local disease than metastatic disease.

There are efforts being made to study chemicals for their ability to enhance the effect of local radiation, and Dr. Mitchell has been particularly prominent in using synthetic vitamin K prior to x-ray therapy in the management of lung cancer. The results have not been brilliant, but they indicate one of the directions of research.

Another area is the attempt to develop strains of necrotizing viruses which will localize the specific cancer cells in general. There is some evidence that this can be done in animal tumors, but so far some of these viruses have been tried in man, and there has been no evidence that anything useful has been accomplished.

Another approach is the study in developing specific antibodies to tumor cells, and lung tumor is one of the tumors used. Where suspensions of the tumor cells are injected into animals and antibodies are prepared, these are labeled with radioactive isotopes, such as iodine, and returned to the patient. The hope is to deliver specific radioactivity into the tumor the way one now delivers radioactive iodine in functioning thyroid cancers. If one can get the iodine in along with the radioactivity, one might get local damage. This great and diversified effort and perhaps newer approaches than the ones I have mentioned may come along. One cannot predict when and which one will be successful. I think it is obvious and reassuring that with so many people working on the problem, however, our chances of accomplishing something useful are far better than before.

Dr. Mayer: I see Dr. William V. Tenzel of Montefiore Hospital in the audience. I know you have been working with the cobalt bomb. Would you tell us briefly your experiences?

Dr. Tenzel: I have studied the treatment of cancer of the lung at the Montefiore Hospital for the past twenty years. The results with conventional radiation have been primarily palliative in 50 per cent of the patients. Although there has been an occasional case reported cured with conventional radiation, in general, the results are unpredictable. During the past year we have treated about 30 patients with lung cancer, and most of them have been far advanced. We have about seven patients in whom the tumors apparently shrank or considerably decreased in size, but I don't think we have a single case where the tumor completely disappeared. Of the 50-odd cases treated I think we have seven alive for anywhere from about five to ten months. They were treated with the cobalt bomb through several ports.

We find that rotation therapy is of no advantage in treating lung cancer. We use multiple ports, and the patients are treated through a plaster jacket. This is used in order to localize the radiation and to use a minimum volume in order to avoid pneumonitis. We believe that with cobalt therapy the incidence of pneumonitis is much less than it is with conventional therapy. We have treated a number of patients with grid, and although we have had some in whom the tumor disappeared and patients remained relatively asymptomatic for a few months, some of them for more than a year, invariably these patients developed pneumonitis which usually resulted in their exitus.

DR. MAYER: Thank you, Dr. Tenzel. Now just a few questions on dubious points I would like to have settled if possible. Dr. Humphreys, what are your criteria for having a total surgical eradication performed, and how accurately can you predict that you have a curative removal?

DR. HUMPHREYS: When I have removed a carcinoma of the lung, either by lobectomy or pneumonectomy, I can never be sure that I have cured the patient. If the specimen shows no extension beyond the primary site and at the time of operation there is no evidence of extension to the mediastinum or lymph nodes, I hope that the patient has been cured. However, there is always the possibility of bloodborne metastasis, and so there is always uncertainty regarding the outcome. When metastases are present in the specimen, one still may hope for a cure if those nodes nearest the hilum are negative, even though nodes closest to the tumor may show disease. I would disagree with Dr. Chamberlain's statement that he can do as good a job removing the tumor by "plucking the plums from the pudding" in the mediastinum. I think if one attempts to cure the patient, the tumor and regional lymph nodes must be removed en bloc. If this is not done, the procedure must be regarded as only palliative.

DR. MAYER: Do you wish to say something, Dr. Chamberlain?

DR. CHAMBERLAIN: That is an interesting point to me because all of us years ago timidly started plucking "raisins from the breast." (The last time I was on a panel this technic was referred to in this way.) We all became bolder some years ago when Brock of England and some others started doing a more radical mediastinal resection. We then all tried to mimic his diagrams and drawings, and I for one must admit that I can't do an en bloc dissection of the mediastinum. I have often started to do it but usually ended up with a few "raisins" and cobweb-like pieces of tissue dangling from what is supposedly the hilum of the lung. I simply can't do an en bloc dissection. I have repeatedly tried it, that is, if you think of en bloc dissection as you do of radical dissection of the axillary nodes in breast cancer.

The lung to me is like the ovary. It's an organ that is on a pedicle. It is in my way when I try to do the mediastinal dissection, and so I like to remove it first. The bloodborne metastases are carried by the pulmonary veins if the mediastinal dissection is done first. The lung is displaced downward through the upper part of the dissection and displaced backwards through the anterior part, displaced forward while cleaning the esophagus, and displaced upward from the diaphragm to do the lower part of the mediastinal dissection. After all this manipulation malignant emboli should certainly be dislodged into the pulmonary veins. I don't see how we can ever have anything but bloodborne metastases after four or five hours of this type of manipulation—hence, my reason for removing the lung first. The way to treat carcinoma of the lung is to go at the hilum of the lung and remove the pathology which was the original objective. If done as described above, sooner or later the anesthetist will say: "I am sorry, Doctor, your patient is in poor condition. You will have to stop the operation." Then the chest must be closed without attaining the primary objective.

DR. HUMPHREYS: I couldn't agree with Dr. Chamberlain more. I can't do an en bloc dissection of the mediastinum either. To do an en bloc dissection of the mediastinum, one would have to remove the trachea and the esophagus and the aorta.

DR. LENZ: If you fellows can't remove the metastases in the mediastinum, then why not irradiate these cases instead of trying to pick "plums out of the pudding" or "raisins out of the bread?"

DR. MAYER: I do not want to keep the audience too long, but with Dr. Stout here I would like to have a few points clarified. There is the question of the speed of growth of tumors, the question of what part this actually plays in the interpretation of our therapeutic results. We read the reports of 50 per cent salvage in localized silent bronchogenic cancer. Do you think this means that we have a real increase in salvage or just an apparent curability of the more slowly growing types of tumors?

DR. STOUT: I think this will require a good deal of explaining. It is necessary first to remark that morphologic appearances are no sure guide to biologic behavior. That statement is true of all tumors. Therefore, if I said that one biologic type of lung cancer grows faster or slower than another type, it might possibly be true of a large group but would mean nothing when applied to the individual case. It is generally believed that the uncommon form of adenocarcinoma, called pulmonary adenomatosis, may take years to develop and is definitely slower to metastasize than the other types. As for all of the other varieties, I have not been able to form any definite opinion because the symptomless period of growth is a completely unknown factor. Undoubtedly, some tumors can remain silent for a period of years judged by retrospective studies of a series of chest x-rays, but even in these cases there is no scientific proof that a tiny overlooked shadow which later increases in size and proves to be a cancer has indeed been a cancer all that time. It is assumed to be one, but we do not know it to be so. And so I cannot really say from my experience that the squamous cell cancers are surely slower in growth and slower to metastasize than the adenocarcinomas.

I have a feeling that there is no real unanimity in making the diagnosis of glandular carcinoma and squamous carcinoma among pathologists. I am sorry to say that they don't all agree as to what is what. That is the reason that you get reports from one clinic of 70 per cent squamous cell cancers and from other clinics of 50 per cent squamous cell cancers. Perhaps one explanation of that is that some squamous cancers have glandular areas, and some glandular carcinomas have squamous areas. I have adopted a plan when faced with that of calling the tumor by its dominant form. If it is mostly squamous and only a touch glandular, I call it squamous and vice versa. But sometimes it is very difficult to know exactly what kind of a tumor you are dealing with. So that I am confused and don't feel able to make definite statements about rates of growth.

Question from the floor: Mr. Chairman, may I ask Dr. Stout if he would not go along and say that the cases that he classified as undifferentiated or oat cell carcinomas grow more diffusely than those that he classifies either as squamous or adenocarcinomas?

Dr. Stout: More diffusely, yes. In this respect, as a class I would say. Every once in a while, an undifferentiated carcinoma will surprise one by becoming a surgical cure.

Dr. Lenz: I have one that is "radiotherapeutically" cured for fourteen years.

Dr. Stout: I should have added, "and also becomes a radiologic cure."

Dr. Mayer: I want to get another point clear for the internists. Dr. Chamberlain, what are your clinical criteria for deciding *not* to explore surgically?

Dr. Chamberlain: They would have to be divided into intrathoracic or local reasons, extrathoracic, and systemic reasons. The most important ones from my standpoint at the moment are to assume that the referring physician had taken care of the systemic and extrathoracic. From the thoracic surgeon's standpoint, the bronchoscopy showing invasion into the trachea or across the carina into the opposite stem bronchus would be an indication for not operating. The second reason would be evidence of invasion of the mediastinum causing venous congestion from superior vena cava involvement; broadening of the mediastinum on the x-ray; phrenic paralysis on the right and recurrent nerve paralysis on the left as the nerve turns around the arch of the aorta; sometimes invasion of the chest wall. Not all invasions of the chest wall contraindicate exploration because there are parts of the chest wall that we can resect safely and replace with stainless steel mesh or by some other plastic maneuver. But when the invasion is in the area of the brachial plexus or the sympathetic chain near the first and second ribs or high in the thoracic vault, then I have never been able to get a cure by excisional therapy. Those are the main factors.

A sufficient respiratory reserve in the emphysematous patient is necessary, of course. A history of a coronary attack, of one or two episodes, would not deter me from operating if I have the cooperation of a good cardiologist. I do not believe in ghosts, and so I wouldn't let a ghost deter me from operating on a patient who has cancer, a lethal disease, if I think there is a reasonable chance of its being cured. In the main those are the things that would prevent me from operating, and as far as extrinsic factors are concerned, perhaps involved cervical nodes in the neck, neurologic signs of cerebral metastasis, chronic glomerulonephritis, cirrhosis of the liver, and other systemic diseases could influence me not to operate.

Dr. Mayer: Dr. Nickson, we are hearing a lot about the value of the betatron in the treatment of the Pancoast tumor. In fact, Harvey and his group in Chicago have spoken of a possible cure in relation to the 23 million-volt betatron. How do you feel about that?

Dr. Nickson: I don't know how they can use the term "cure" when they have only had the betatron for less than five years if one is to accept the classic definition of five-year survival as being probable indication of cure.

For this reason I think that the statement is without meaning. The general problem of the betatron in relation to management of carcinoma of the lung is one that, so far as I am aware, has not received systematic evaluation with a large series of cases. Therefore, it would be only speculation if one were to attempt to assess its role.

Dr. Mayer: In summary, then, we've heard tonight the successful therapeutic measures, limited as they are, as well as the great problems still confronting us in the treatment of bronchogenic carcinoma. We have also aimed toward an approach to earliest possible diagnosis.

I want to thank the panelists for their presence tonight, and you for your kind listening. Meeting stands adjourned.

Unsupervised Lay Psychotherapy

Renewed attempts will shortly be made by an organized group of psychologists to secure state licensure which would enable them to diagnose and treat emotional and mental disorders without medical supervision. The arguments advanced by this group are reminiscent of those used by lay physic-therapists, x-ray and laboratory technicians (some of them with Ph.D. degrees) in order to encroach upon the practice of medicine, which by tradition and law has been entrusted to graduates of medical schools licensed to practice medicine. Attempts have also been made recently in the States of California and Florida by psychologists to secure legislation which read literally would in effect have made it illegal for psychiatrists to practice psychiatry.

The public is frequently confused by the terms psychologist and psychiatrist, and appear to be unaware that psychologists are individuals who have at the most a Ph.D. degree in a specialized field of biology, and whose studies may have been limited to the study of animal behavior. In contrast, psychiatrists are doctors of medicine, who after their internship have had years of postgraduate training in the diagnosis and treatment of mental and emotional disorders. The rapid advances made by psychiatrists have greatly enlarged the field of clinical psychology, and it is to be hoped that the number and caliber of clinical psychologists will continue to improve, just like the rapid advances in the skill and number of technicians, whose aid to physicians cannot be overestimated.

The ability to carry out correctly a biochemic or hematologic test does not necessarily imply the possession of the background and knowledge needed to interpret the findings. Similarly, in the field of psychiatry the ability to do a psychometric or Rorschach test does not necessarily imply the ability to diagnose or treat emotional or mental disorders. In their attempts to secure licensure to treat illness, psychologists have arrogantly attacked the capabilities of physicians and even made statements that a mental disease like schizophrenia implies only a social maladjustment, and is therefore not a medical problem. Evidently they are unaware of the achievements made with shock therapy, of the fact that organic disorders can often masquerade as functional ones and vice versa, and with the great strides made in the study and treatment of the effects of psyche upon soma and soma upon psyche.

In the spring of 1953 there was an unfortunate tragedy at Michigan State College. The young wife of one of the students killed her two children. After it was brought out that he had gone to the College Psychology Counseling Center seeking help, and, of course, the lay person or persons with whom she talked were not qualified and did not recognize the nature and seriousness of her disturbance. It is believed that qualified and trained professional help would in all probability have prevented this tragedy. The Attorney-General of the State of Michigan has therefore ruled that the practice of psychotherapy by persons without medical training constitutes a violation of the state act, and quotes as a precedent a New York decision, the case of People v. Mulford, 125 N. Y. S. 680 (1910).

It is not the purpose of this Committee to interfere with the work of those few capable lay psychoanalysts who function under medical supervision, or with the work of certain excellent social organizations which have been doing counseling and guidance work under medical supervision. Certainly by no stretch of the imagination will any Medical Practice Act, which concerns itself with the diagnosis and treatment of illness, ever be misconstrued to interfere with legitimate advice by a lawyer to his client, solace by a pastor to his flock, or teaching by an educator to his student, notwithstanding ridiculous propaganda to the contrary by an unscrupulous minority of psychologists. Our Committee feels that unsupervised lay psychotherapy constitutes a serious threat to the health and welfare of our people. We feel that the diagnosis and treatment of all conditions physical, mental, and emotional rest exclusively within the province of physicians licensed by the state.

Matthew Brody, M.D.,
Chairman, Subcommittee on Psychiatry,
Public Health Committee.—*Bulletin, Medical Society County of Kings, November, 1954*

Cardiovascular Health Center—II. First Year's Operation

A. General Observations and Hypertension

GEORGE JAMES, M.D., HERMAN E. HILLEBOE, M.D., JOHN F. FILIPPONE, M.D., AND JOSEPH T. DOYLE, M.D., ALBANY, NEW YORK

(*From the New York State Department of Health and the Albany Medical College*)

In a previous report[1] the objectives, plan, and development of the Cardiovascular Health Center have been presented in detail. Devised primarily as a core program for research in coronary heart disease and hypertension, the basic project consists of the periodic appraisal of the cardiovascular status of over 2,000 male State employes in the Albany area who are between the ages of forty and fifty-five. The testing procedures consist of a complete history, a physical examination, a 12-lead electrocardiogram and a Starr ballistocardiogram at rest and after a standard exercise test, posteroanterior and lateral x-ray films of the chest (14 by 17 inches), measurement of the blood cholesterol level, urinalysis, hemoglobin determination, and a serologic test for syphilis.

The main purpose of the study is the attempt to discover those signs which are indicative of preclinical coronary heart disease and hypertension. The periodic testing program of this group of "susceptibles" will give longitudinal observations on some individuals who eventually develop heart disease. It is hoped that a retrospective study of the clinical and laboratory findings of such persons will indicate certain data which can assist us to diagnose those with preclinical coronary heart disease and hypertension. The application of the proper measures early in the preclinical course of the disease may offer a practical method for the control or postponement of these degenerative diseases.

In addition, one of the basic objectives of the Center is the promotion of satellite short-term research projects, utilizing the core program as a basis. A preliminary report on one of these special projects will be presented in a later paper.[2] Others are being conducted in the measurement of blood lipoproteins, of total body water, and on the ventricular gradient. The New York State Health Department's Division of Laboratories and Research is also participating in this special research program.

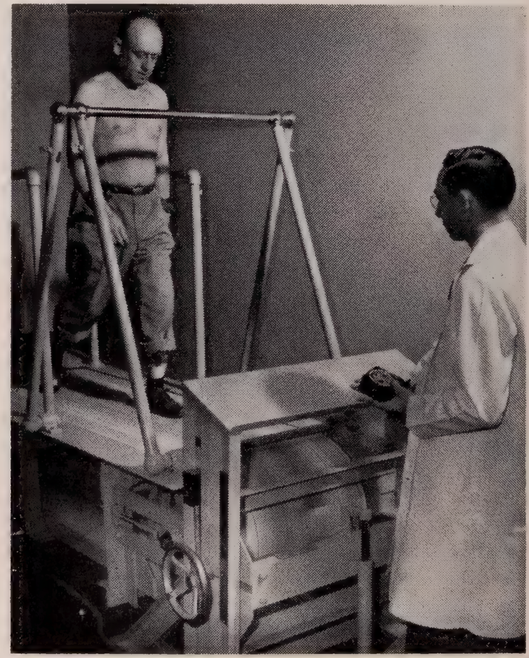

Fig. 1. Treadmill being used for exercise test at the Cardiovascular Health Center.

Notes on Testing Procedures

The testing procedures are described in the previous paper.[1] During most of the first year the Master double two-step exercise test was used, but for the final one third of the group the treadmill was available (Fig. 1). The treadmill, run at 3 miles per hour for ten minutes, at a 5 per cent grade, is said to be a more standard and reproducible form of physical stress.[3]

A Dock shin-model ballistocardiograph was used during the first two months of operation, after which all tracings were made with Starr high-frequency equipment Skinfold measure-

TABLE I.—Comparison by Age of Male State Employes in Albany* and Eligible CVHC Participants Through December 31, 1953

	State Employes		CVHC Participants	
Age	Number	Per Cent	Number	Per Cent
Total	2,172	100	1,012	100
40 to 44	842	39	383	38
45 to 49	759	35	360	36
50 to 54	571	26	269	27

* Estimated on a sample from 10 departments.

ment is the most recent addition to the testing armamentarium, and the sites tested include the mid-iliac, the biceps, tip of the scapula, and the triceps.

Results at End of First Year's Operation

Between January and December, 1953, a total of 1,072 persons, about half of the total participant group, were examined at the Cardiovascular Health Center. It is evident from Table I that the participants represent a true sample of male State employes. Only a few persons either younger or older than the eligible group are included in the tabulations.

The following data are presented to establish baseline measurements of the cardiovascular status of the group of men who will be followed for a long future period. The particular classifications of these data, which will eventually prove most meaningful, are not known at present. Hence, instead of attempting to draw significant conclusions at this time, the analysis will be limited to a description of some findings suggestive of relationships which will be tested by future observations and additional satellite research projects. This paper presents some of the general findings of the Cardiovascular Health Center, emphasizing those relating to hypertension. The data on coronary heart disease, the ballistocardiograms, and the measurement of ventricular hypertrophy will appear in the next paper.[2]

In Table II the role of the Cardiovascular Health Center in the initial diagnosis of heart disease is presented. The last column is headed "*Possible* Newly Diagnosed Cases" because the existence of the disease may have been known to a participant's physician or family, even if the patient himself did not indicate it to the examining staff. Among the cases of heart disease diagnosed at the Cardiovascular Health Center, one third of those with coronary heart disease, over one half of those with hypertension, all 45 with hypertensive heart disease, two thirds of those with cardiac murmurs, and one half of those with rheumatic heart disease were found to be possible newly diagnosed cases.

The arterial blood pressure is measured in both arms and in the sitting position, usually at the onset of the physical examination. The pressure in the right arm is coded for statistical purposes. We have arbitrarily considered a level of 160/100 mm. Hg or higher as evidence of hypertension. Table III shows the relationship of the blood pressure and age of the participants examined during 1953. There is a steady rise in blood pressure as age increases. If 100 or above is taken as the diastolic

TABLE II.—Certain Cardiac Conditions Reported on History, Final Diagnosis, or Both

Condition	Number Reported on History	Number on Final CVHC Diagnosis	Number Diagnosed and Also Reported on History	Number Positive on History Only	Possible Newly Diagnosed Cases
Congenital heart disease	1	2	1	0	1
Coronary heart disease	31	27	18	13	9
Hypertension	88	147	49	39	98
Hypertensive heart disease	0	45	0	0	45
Murmurs	83	78	25	58	53
Rheumatic fever or rheumatic heart disease	34	16	8	26	8

TABLE III.—Blood Pressure by Age

		Diastolic Blood Pressure 100 and over		Systolic Blood Pressure 160 and over	
Age	All Persons	Number	Per Cent	Number	Per Cent
Total	1,065	169	16	134	13
Under 40	13	1	8	0	0
40 to 44	383	42	11	29	8
45 to 49	360	52	14	40	11
50 to 54	269	63	23	53	20
55 and over	40	11	27	12	30

TABLE IV.—BLOOD PRESSURE BY EXTENT OF OBESITY

Extent of Obesity	All Persons	Diastolic blood pressure 100 and over Number	Per Cent	Systolic blood pressure 160 and over Number	Per Cent
Total	1,054	168	16	134	13
Underweight (10% or more below standard)	73	4	5	6	8
Normal weight (9% below to 9% above standard)	486	65	13	58	12
Moderately overweight (10% to 19% above standard)	262	42	16	31	12
Grossly overweight (20% or more above standard)	233	57	24	39	17

TABLE V.—BLOOD PRESSURE BY CHANGE IN WEIGHT FROM AGE 25

Change in weight from Age 25	All Persons	Diastolic blood pressure 100 and over Number	Per Cent	Systolic blood pressure 160 and over Number	Per Cent
Total	1,017	166	16	130	13
Loss in weight	60	5	8	5	8
Gain					
Less than 10%	380	45	12	41	11
10% to 19%	349	61	17	47	13
20% to 29%	157	34	22	21	13
30% and over	72	21	29	16	22

COMMENT.—Blood pressure tends to increase with the increase in per cent change in weight from age 25.

level of hypertension, then one tenth of those under age forty-five, one seventh of those forty-five to forty-nine, and one quarter of those fifty to fifty-four and over may be considered hypertensive.

Obesity has been considered to be a factor associated with hypertension.[4] A person is usually considered obese if his body weight is 20 per cent or more above ideal weight according to such height-weight tables as those established by the Metropolitan Life Insurance Company. Table IV shows that one fifth of the group studied was obese by these standards. Twenty-four per cent of this group had a diastolic blood pressure of 100 or over. Only 13.5 per cent of the nonobese group had diastolic pressures this high. The systolic blood pressure was 160 or over in 17 per cent of the obese group as compared with 11.6 per cent in the nonobese group. Table V, in which blood pressure is analyzed by gain or loss in weight since age twenty-five, also suggests that obesity may be a factor associated with hypertension. Here the grossly obese have almost two times the proportion of those with diastolic blood pressure over 100 than does the total.

Emotional stress has been considered a causative agent for degenerative cardiac diseases.[5,6] All of the participants were asked to grade themselves on their subjective job stress. The higher Civil Service grades in the professional categories indicated a greater degree of subjective stress compared to the lower salaried grades of workers (Table VI). When studied in connection with cardiac diagnosis, it is noted that hypertensives show essentially the same distribution of job stress as do those with no signs of degenerative heart disease (Table VII). The data for the coronary heart disease group are too few to permit of any analysis.

TABLE VI.—SUBJECTIVE JOB STRESS BY CIVIL SERVICE GRADE GROUPS

		Civil Service Grade					
		Subprofessional Grades		Low Professional Grades		High Professional Grades	
Subjective Job Stress	All Persons	Number	Per Cent	Number	Per Cent	Number	Per Cent
Total	993	253	100	460	100	280	100
Slight	454	167	66	210	46	77	28
Moderate	434	68	27	220	48	146	52
Severe	105	18	7	30	6	57	20

TABLE VII.—SUBJECTIVE JOB STRESS BY CARDIAC DIAGNOSIS

		Diagnosis					
		Normal for both Diseases		Hypertension*		Coronary Disease*	
Subjective Job Stress	All Persons	Number	Per Cent	Number	Per Cent	Number	Per Cent
Total	1,034	872	100	142	100	26	100
Slight	476	394	45	74	52	10	38
Moderate	449	384	44	55	39	13	50
Severe	109	94	11	13	9	3	12

* Six persons with both coronary disease and hypertension are included in both groups.

TABLE VIII.—Smoking, Amount by Duration and Cardiac Diagnosis*

Amount	Total	Less than 20 Years			20 Years and over		
		Coronary Heart Disease	Hyper-tension	Others	Coronary Heart Disease	Hyper-tension	Others
Total†	758	2	32	244	16	60	404
Slight (less than 15 cigarets a day)	129	0	5	60	2	7	55
Moderate (15 to 34 cigarets a day)	470	2	13	131	12	37	275
Excessive (35 or more cigarets per day)	159 (21%)	0 (0%)	14 (44%)	53 (22%)	2 (12%)	16 (27%)	74 (18%)

* The coronary heart disease group includes 6 persons with both coronary disease and hypertension.

† In addition, 7 persons with coronary heat disease, 26 persons with hypertension, and 180 of the others have never smoked, and in addition to these, 7 hypertensives and 50 of the others once smoked but no longer do.

TABLE IX.—Cholesterol Level by Age

Cholesterol Level (Mg. per 100 Ml.)	All Persons	Age: Less than 40 Number	Less than 40 Per Cent	40 to 44 Number	40 to 44 Per Cent	45 to 49 Number	45 to 49 Per Cent	50 to 54 Number	50 to 54 Per Cent	55 and over Number	55 and over Per Cent
Total	897	11	100	319	100	309	100	222	100	36	107
Less than 175	93	0	0	39	12	32	10	21	9	1	3
175 to 224	375	6	55	128	40	133	43	94	42	14	39
225 to 274	333	5	45	116	36	113	37	84	38	15	42
275 and over	96	0	0	36	11	31	10	23	10	6	10

The smoking of cigarets has recently been found to be associated with deaths from heart disease.[7] Retrospective smoking histories were elicited from all participants and are tabulated in Table VIII. The table is suggestive that the hypertensive group contains relatively more heavy smokers than does the normotensive. This is not presented to suggest a possible causative relationship between excessive smoking and hypertension. If the relationship persists throughout later studies, it may well be that compulsive smoking and hypertension are different manifestations of emotional tension. The data for coronary heart disease are too few to be analyzed.

Master has recently proposed that there is a normal age-specific increase in the arterial blood pressure.[8] He feels that the range of normal blood pressure should accordingly be revised upwards. We are interested primarily in establishing a baseline for future study and hope to learn whether a blood pressure in the higher ranges of "normal" portends the later development of hypertensive disease.

Blood cholesterol levels have been reported to be elevated in males with increased age[9] and in coronary heart disease[10] but to be essentially normal in hypertension uncomplicated by diabetes, coronary disease, or other condition specifically associated with a high serum cholesterol. The mean serum cholesterol for all participants tested was 225 mg. per 100 ml. (SD = ± 41) or about average for American males in these age groups. Table IX shows that the serum cholesterol levels are essentially similar at all the age groups studied. When compared with the change in weight since age twenty-five (Table X), there is a higher proportion of those with elevated serum cholesterols among the excessive weight gainers. Table XI presents the data on the serum cholesterol for the small group of cases of coronary heart disease among the participants so far examined. The numbers are small, and we are unable to show any differences in distribution with respect to the serum cholesterol between the cases of coronary heart disease and those without this condition. The absence of high serum cholesterol levels in the coronary group may be related to a regimen of dietary restriction by many of those with known heart disease.

Discussion and Summary

Of the relationships suggested by the data presented, only the association of subjective job stress and high professional grade is of an appreciable order of significance. Most of the associations are presented as possible hypotheses to stimulate additional lines of study. In this category are the effects of obesity and gain in weight since age twenty-five on the development of hypertension and the level of the serum cholesterol, the association of excessive smoking and hyperten-

TABLE X.—CHOLESTEROL LEVEL BY CHANGE IN WEIGHT FROM AGE 25

		Change in Weight from Age 25									
				Positive Change							
		Negative Change		Less than 10%		10% to 19%		20% to 29%		30% or more	
Cholesterol (Mg. per 100 Ml.)	Total	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Total	861	54	100	314	100	305	100	129	100	59	100
Less than 175	91	2	4	41	13	32	10	11	8	5	8
175 to 224	361	24	44	138	44	131	43	45	35	23	39
225 to 274	314	22	41	109	35	106	35	54	42	23	39
275 and over	95	6	11	26	8	36	12	19	15	8	14

TABLE XI.—CHOLESTEROL LEVEL IN PERSONS WITH AND WITHOUT CORONARY HEART DISEASE

		Coronary Heart Disease		No Coronary Heart Disease	
Cholesterol (Mg. per 100 Ml.)	All Persons	Number	Per Cent	Number	Per Cent
Total	899	21*	100	878*	100
Less than 175	93	1	5	92	10
175 to 224	377	12	57	365	42
225 to 274	333	6	29	327	37
275 and over	96	2	10	94	11

* Six persons with coronary heart disease and 167 persons without coronary heart disease had hemolyzed blood samples and are omitted from both groups.

sion, and of job stress and degenerative heart disease.

It is of interest to consider the large number of cardiac conditions presumably not previously known by the patient, which can be detected by thorough examination. Case-finding in the degenerative diseases, as in case-finding among communicable diseases, is the first step toward the application of the best available control measures. It is essential that such case-finding be pushed to the earliest possible stage of the disease if we are ever to be able to institute effective treatment in time to delay the development of irreversible degenerative changes.

The authors are indebted to Miss A. Sandra Heslin for biostatistical assistance with tabulations and conclusions.

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The Healer and the Scientist

Dr. Dana W. Atchley, professor of clinical medicine, Columbia University, and a member of the staff of New York's Presbyterian Hospital, wrote an article with the above title in the January 9, 1954, *Saturday Review*. In this work Dr. Atchley discusses the progress of medicine from the days of Hippocrates to the present. It is an interesting presentation and well worth the consideration of all physicians.

One of the points which he makes we wish to emphasize here, for it brings to the fore a weakness in the practice of too many of us in this hurried day. There is in all men a basic urge to heal and comfort his neighbor that comes from sharing pain and fear. This opens the door to many methods which are quite varied, invoking all the inner feelings from faith to superstition. Charlatans as well as true physicians take advantage of this situation.

The physician has the obligation to offer his patient reassurance built on a foundation of genuine interest and a desire to be helpful. A sensitive healer offers even more—he can give sympathy and compassion. Almost anyone can give sympathy but compassion is richer, for it is felt that its depth and integrity establish a mood that calms and reassures without vocal expression but with absolute conviction.

In this day and age of scientific medicine it is all too easy to pass by the gifts of the healer. These gifts are nonetheless more valuable today than they were in the years and ages past, and we owe it to ourselves, our profession, and our patients to cultivate them.

Compassion and understanding when placed in their rightful status will rearm us in our work so that we and our patients can better meet the physical difficulties which beset us.—*The Bulletin, Lancaster County Medical Society*

POSTGRADUATE LECTURES

Presented at the 148th Annual Meeting of the Medical Society of the State of New York, New York City, May 11 and 12, 1954

BERNARD J. PISANI, M.D., *Chairman*

DR. BERNARD J. PISANI: The session will come to order, and we will go on with the program. I would like to welcome all of you as members of the Society and guests on this, the second day of the postgraduate series of conferences.

The first will be a presentation on fetal anoxia and resuscitation by Dr. Robert S. Millen. Dr. Millen is the director of the Department of Obstetrics and Gynecology at North Country Community Hospital. He also has had a tremendous amount to do with developing an efficient resuscitator that has been used countrywide, and by its use the lives of many young infants have been saved.

Prevention of Neonatal Asphyxia

ROBERT S. MILLEN, M.D., WESTBURY, NEW YORK

(From the Department of Obstetrics and Gynecology of the North Country Community Hospital, Glen Cove)

I AM deeply appreciative of this opportunity to discuss a subject in which I have become particularly interested over the past ten years. A chance remark by Dr. Joshua Davies, of the Woman's Hospital of this city, that he had manually applied Eve's[1] method of rocking resuscitation to newborn premature that was not breathing led me to make an electrically operated bassinet[2] that could be converted by the mere flick of a switch to a rocking resuscitator.

Although the efficacy of Sanders'[3] cardiac bed to aid circulation and Wright's[4] rocking bed to combat respiratory paralysis of poliomyelitis have been well accepted, a constantly available rocking bassinet for overcoming new born asphyxia is so simple and nontraumatic and can be so readily operated without extra personnel that it hardly seems adequate to the individual who wants to rush at the baby with more active measures.

The combining of obstetrics and gynecology into a surgically oriented specialty, penicillin, blood banks, and x-ray pelvimetry, etc., have markedly improved maternal mortality and morbidity figures in the last decade. There has not been an equal improvement in neonatal figures. Although unavoidable congenital anomalies and other accidents of pregnancy discourage some investigators in this field, there has been considerable interest on the part of many others, particularly since it has become established that improper respiration is not only important in avoidable fetal loss but also in late neurologic sequelae in living babies. Rare as both of these conditions are, their unpredictability gives the subject of improper respiration at birth considerable significance.

Since this meeting is on a postgraduate level, I will avoid an academic approach and attempt to point out briefly a general picture of the subject and the specific steps we find so helpful.

Confusion exists over the actual definition of the word resuscitation. It is often impossible to be certain that a baby would not have lived or been all right without respiratory aid. A nihilistic attitude is exhibited by some who feel that nothing can be done other than careful attention to signs of fetal distress by meticulously checking the fetal heart with every pain once the patient is deliverable; others damn Bloxsom's[5] air lock by the faint praise, "You can't blow the lungs out or damage the trachea when the baby is locked up in a box."

Furthermore, the surgical anesthetist who uses endotracheal anesthesia so skillfully in adults urges endotracheal intubation[6] for babies which most pediatricians[7] regard as too traumatic to the narrow, vulnerable newborn larnyx. Physiologists admit that the Hering-Breuer[8] reflex, which is the important factor in mouth-to-mouth resuscitation and positive pressure machine, etc., does induce a strong reflex respiratory effect by stimulating the vagus nerve. However, they adamantly point out that it not only interferes with the blood flow through the lung capillaries but impedes venous return to the thoracic cavity by the large vessels. Unless one runs the risk of traumatizing the trachea by intubation, the air or gas may go into the stomach. The pathologists point out that all the alveoli do not dilate evenly, but each one goes to a maximum before another starts.[9] Thus certain good alveoli which the baby is in dire need of are blown out. Apgar[10] reported this to occur as often as one in 1,000 deliveries in 30,000 studied at Sloan Hospital. Since only five to ten babies per hundred need any aid in respiration, it is easy to see how dangerous this procedure is, even with the so-called safety device on the positive pressure machine.

The pathologist further points out that only in the premature are there areas of embryonal-like cells that lag behind in development to a state where they will normally open up at birth.[9] The paradox is that it is particularly important in these babies not to destroy their good alveoli.

Smith[11] has clearly established that the baby's own inspiratory efforts are far greater than the level of safety for positive pressure machines. He also states that the blood in the umbilical vein is the highest oxygenated in the baby. It is important to have this circulate to the vital centers as expediently as possible.

Since the most effective aid to respiration must help both circulation and ventilation and that ventilation has both an inspiration and expiration phase,[12] only Eve's rocking method of resuscitation will do all of this.[1,13] The back pressure-arm left mechanism of Nielsen[14] aids both phases of respiration, as do the iron lungs which include such equipment as the ingenious, electronic, patient-cycled Servo respirator described by Donald and Lord.[15] However, they require extra help and do not have a specific circulatory benefit. The respirators, being slow to get in effect, are limited chiefly to nurseries, etc. Phrenic stimulation as advocated by Sarnoff *et al.*[16,17] in this country and Cross[18] abroad, while physiologic, is uniphasic respiratory stimulation and requires special operators. Extrapulmonary oxygen[19,20] absorption through gastric gavage and into the skin by pressure in a Bloxsom[5] air lock is so slight that it does not compensate for the lack of aid to both respiration and circulation.

Four thousand consecutive deliveries of patients over thirty weeks gestation by another doctor and myself yielded a total uncorrected neonatal loss, including stillbirths, congenital anomalies, etc., of 34 or 8.8 per thousand. These figures would indicate the efficacy of the rocking method of resuscitation since no other method was used, no baby had its trachea intubated, and no baby that had any fetal heart activity at birth was lost through respiratory failure.

It is our opinion that although some of the methods previously mentioned will continue to be used, a constantly available bassinet that can be immediately converted to a rocking resuscitator is the most efficient and simplest to operate. It can be used both in the delivery room and the nursery. The x-rays show the difference in aeration and size of the lung fields in the different positions of rocking (Fig. 1).

Gruenwald[21] has emphasized that respiratory difficulty may occur (1) in utero, (2) in the delivery room, and (3) in the nursery.

Since most obstetricians today are surgically minded and well trained in anesthesia, little if any difficulty arises from improper analgesia, particularly if one uses paravertebral block as advocated by Reich[22] for prematures. It should be emphasized that respiratory difficulties do occur with spinal anesthesia (or saddle block). Meticulous attention to fetal heart irregularities, once the patient is deliverable, may save an occasional baby from being lost in the perineum. A wide episiotomy is employed for these patients.

Adequate glucose for long labors aids through anaerobic glycolysis.[23] Although the head should be delivered slowly to protect the birth canal,

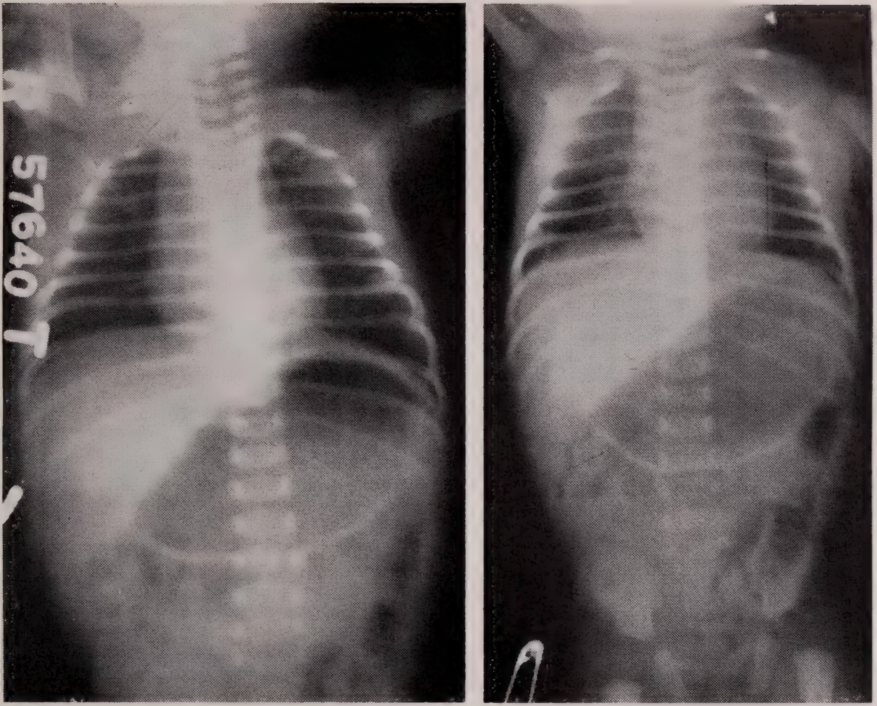

FIG. 1. Roentgenograms taken in two positions of rocking show increased aeration of lung when the baby is tipped with head upwards and feet lowered (*left*) as contrasted with the head tipped down and feet elevated (*right*).

the shoulders can be quickly and easily delivered by applying Wood's[24] rotation method to the posterior shoulder. Thus, without any pressure on the head or trauma the baby can be delivered, held up to let the mucus drain out of its mouth, have its cord clamped and cut, and be laid on its side to permit easy and proper further aspiration of the mouth and pharynx by a nontraumatic ear syringe, instead of attempting to do the upside-down aspiration while the baby's body is inside the vagina because of the theory that the vagina will keep the chest from expanding until the pharynx is cleared. The baby breathes by descent of its diaphragm into the abdomen.

Since the baby is not about to exert itself in a physical manner and there are more than enough red blood cells to maintain future hemoglobin replacement, Clement Smith[25] sees no advantage in delaying clamping of the cord. If the patient is under general anesthesia, delay means more unnecessary anesthesia to the baby. To turn off the anesthesia and flush the mother with oxygen is merely inviting the hazard of the mother vomiting.

Since most babies start breathing from the sensory stimulation to their skin, they are doing so by this time and can be examined and placed in the bassinet on their right side, If not, a small plastic airway is placed in the baby's mouth to hold its lungs down, the switch pressed by the nurse, the top put on the bassinet, and the oxygen started.

It is rare that a baby does not start breathing by this time. However, the few that do not start breathing remain free of cyanosis through the effect of the rocker. One such baby took eleven minutes to start breathing. The mother was delivered under pudendal block after receiving $1^{1}/_{2}$ grains of Seconal and $^{1}/_{150}$ grain of scopolamine as analgesia due to a short labor. The baby is fine five years later.

Originally babies were placed in the rocker only after they became cyanotic as in one baby delivered by another obstetrician who inadvertently ordered $^{1}/_{4}$ grain of morphine before a section. When the baby failed to breathe or respond to other methods of resuscitation and became cyanotic, it was placed in the rocker and soon pinked up, but it took forty-five minutes to assume normal respiration.

All premature babies are rocked for fifteen to twenty minutes regardless of their apparently adequate ventilation in an attempt to prevent late respiratory sequelae that occur occasionally in the nursery in these babies. Those that do show cyanosis late are placed in the rocker in the nursery. One such baby was kept in a satisfactory state of oxygenation in the rocker for approximately eight hours, during which time several attempts to keep his color satisfactory by means of air ventilation proved unsuccessful. After the eight hours it was fine.

One final word in prophylaxis which may seem elementary but is never mentioned in articles on breech delivery; for all such, it seems expedient to use a wide episiotomy before starting delivery and an extra pair of hands to hold the baby out of the way and provide an airway to the mouth by means of a Sims retractor, thereby permitting the head to be delivered easily and slowly by whatever method.

In closing I would like to mention that in recent reports in the literature Pedvis, Irwin, and Philpott[26] have described a manually operated rocker, Roberts[27] an oxygen-driven rocker, and Handley and Handley[28] an electric one.

Modifications of the original Millen-Davies rocker have been made by and proved satisfactory to Maher of North Tonawanda, New York; Finberg of Baltimore City Hospital; Scriver of Royal Victoria Hospital, Montreal, Canada; Hawk of Indianapolis, and Goodwin of Winnipeg, Manitoba, Canada. Lee of Philadelphia has found an oxygen-driven rocker inside of the Isolette incubator efficacious for premature babies with respiratory difficulties. Favorable reports on rocking as a means of preventing newborn asphyxia have come from Montgomery.[29]

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Dr. Pisani: Thank you, Dr. Millen, for your presentation. I now call upon Dr. Vincent Collins who will tell you of the place and purpose of recovery and anesthesia units in modern hospital practice. Dr. Collins is director of the Department of Anesthesiology of St. Vincent's Hospital. Dr. Collins.

The Recovery Room in the Care of the Surgical Patient

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One of the most significant advances in the management of the surgical patient is the recovery unit about which we will speak this morning. This particular unit illustrates one of the functions of the anesthesiologist and clearly points out his role as the internist in the operating room and as a medical consultant to the surgeon.

Definition and Function

Two types of recovery units may be recognized in hospital and surgical theaters. The postoperative recovery unit or ward is that unit which provides for the management of patients after operation to the time when they are no longer requiring any extraordinary measures in the way of medical or nursing care for their immediate continued existence. In this unit patients are retained for several days, depending on the type of surgery performed. Such postoperative wards were employed in many army hospitals during World War II.

On the other hand, the unit with which we are concerned is one in which the patient is observed and treated in the early hours following surgery. At this time all care and measures are provided which are designed to revivify the patient and to promote a maximum of vital physiologic function. It is a time when the patient is incapable of adequate spontaneous or rational self-care. He must be maintained under the vigilant observation of the anesthesiologist, of specially trained nurses, and of the surgeon. This is the PAR Unit or Post Anesthesia Recovery Unit.

During this time the patient is treated until he regains consciousness. His pulmonary and cardiocirculatory physiology are restored to a level of normal control. The period of observation ranges from one to twelve hours and in occasional instances longer. However, the time spent in a PAR Unit usually averages some two hours. For individual cases one may say that the time spent in recovery approximates the time spent in surgery.

Advantages

Inherent in the definition and requirements are to be found the advantages of the Unit. These are threefold: the prevention of morbidity, economy of time and personnel, and economy of equipment. As stated by Dr. Lundy,[1] the PAR Unit saves lives, time, and money.

The recovery unit is designed primarily for the welfare of patients. A high caliber of preoperative preparation, safe and competently administered anesthetics, and skilled surgery are available in every modern hospital. These can be negated by haphazard immediate postoperative care. Experience has shown that the greatest acute danger to which the surgical patient is exposed occurs during the first hour after anesthesia and operation.[2] During this time a variety of complications can occur which profoundly embarrass vital functions. Some of these complications will be enumerated later, but it is presently desired to indicate that the management of these frequently lethal problems is controlled in the PAR Unit under the expert and vigilant care of an expert team.

Morbidity is drastically limited by the early recognition and treatment of many well-known postoperative complications which unquestionably have their inception in the first few hours following surgery. Shock, hypotension, atelectasis, emboli, etc., are combated quickly and efficiently in a PAR Unit. Many conditions, which, if allowed to persist for only a few minutes, are capable of producing a fatality, are quickly recognized and corrected in the PAR. Respiratory obstruction of any type illustrates this point.

Since anesthesiologists and surgical personnel are always handy to a PAR Unit, professional skill and advice are available to the nursing staff immediately. This saves valuable time otherwise lost in telephone and paging calls. The PAR nursing personnel is also expertly trained and thoroughly cognizant and experienced in the recognition and management of problems peculiar to the surgical patient recovering from anesthesia. A few such nurses concentrated in a well-centered PAR Unit can provide more care to a larger number of patients per unit time than can several times their number when scattered through many hospital floors. A heavy and exacting burden is thus removed from floor nurses. Only a few years ago it was usual to leave surgical patients entrusted to incompletely trained and overburdened floor nursing personnel. The increased efficiency obtainable with concentrated trained personnel in the PAR Unit thus represents economy in personnel and savings to the hospital.

Last, the economy accruing from a concentration of expendable and nonexpendable supplies and from a concentration of items of equipment, such as resuscitators and oxygen therapy apparatus, is too obvious to require discussion. These items of economy also spell the saving of money for the patient, a most desirable desiderata in today's turmoil of rising costs. In the past many patients were obliged to have special duty nurses to tide them over emergence from anesthesia chiefly. This care is now automatically obviated.

Physical Organization

Number of Beds.—The basic requirements to be met in establishing a PAR Unit is that it adjoin the operating theater and that a sufficient number of beds be available. It should be located on the same floor as the operating rooms and preferably within the same suite. The question is often asked, "What shall the size of the unit be?" The size of the room must, of course, be determined by the space available, but in a new building program a proper and adequate size can be achieved. The adequate size is based on the number of beds desired or needed. One bed or stretcher space should be considered for each operating room. This rule is flexible, depending on circumstances, but one bed for each two rooms is considered an absolute minimum. In turn, each recovery bed should be accommodated in an area with sufficient surrounding working room. An area 8 by 6 feet meets this requirement.[3]

Size of Room.—An ideal plan is one in which two rows of beds are accommodated without the necessity of moving furniture or other beds when a patient is moved in or out. Thus, a 6-foot corridor between the rooms of beds is desirable. The over-all width of the room is thus determined as 18 or 20 feet. The length of the room is determined as one half the number of beds multiplied by 6 feet. Thus, if eight beds are needed the length of the room would be approximately 24 feet.

Room Conditions.—Air conditioning is desirable if at all possible. If operating rooms are air conditioned, it becomes mandatory for the recovery unit to be likewise, from the standpoint of avoiding disturbance in regulation of body temperature.

The room temperatures should be regulated at 72 to 75 F. The relative humidity should range between 50 to 60 per cent. Both factors are of great importance in the handling of children with their immature heat-regulating mechanism.

Equipment

Equipment necessary for the PAR Unit falls into four classes: (1) installed or permanent equipment, (2) mobile nonexpendable items, (3) supplies and prepared sets of short life or expendable nature, and (4) drugs. These are indicated in Table I, which obviously is only a suggested and partial list. A few comments on each class is in order.

TABLE I.—Equipment in the PAR Unit

Installed or permanent
  1. Wall suction
  2. Piped oxygen outlets
  3. Sinks; refrigerators
  4. Narcotic wall safe
  5. Cabinets
  6. Recessed wall shelves (at each bed)

Mobile and portable
  1. Beds or stretchers
  2. Bronchoscopic apparatus
  3. Airways (pharyngeal, endotracheal); laryngoscopes
  4. Resuscitation tray; defibrillator
  5. Nasogastric and drainage sets
  6. Electrocardiography unit
  7. Infusion stands: floor and portable
  8. Sphygmomanometer; stethoscopes
  9. Oxygen therapy equipment

Supplies—Short life or expendable
  1. Sterile sets: cutdown, block
  2. Infusion equipment
  3. Needles and cannulas
  4. Dressings, towels
  5. Records
  6. Catheters for tracheal suction

Drugs
  1. Pain control
  2. Circulatory aids, vasopressors
  3. Cardiac: digitoxin, ouabain, nitroglycerin
  4. Antagonists: opiates, Nalline
  5. Fluids: crystalloidal; expanders; blood
  6. Sedatives: barbiturates, Apomorphine

Regarding permanent equipment which is installed during construction, the item "suction" deserves special mention. This should be of the vacuum type preferably, and outlets should be provided in the wall at the head of each stretcher area. The suction bottle is best ensconced in a wall bracket about 1 foot from the floor. Bottles enclosed in a movable guard are easily upset and represent a personnel hazard.

At the head of each bed there should also be an oxygen outlet, preferably from a piping system. Like the suction outlet it should be recessed in the wall. A bag and anesthetic face mask should be handy to each outlet for artificial respiration.

Recessed wall shelves, two or three about 2 feet long, are desirable at the head of each stretcher space. Airways, bandage, adhesive, alcohol sponges, needles, and any number of the commonly used items should be made available.

A small refrigerator for blood and other drugs is a highly desirable convenience.

Concerning the specially designed stretcher for PAR use, two types are available. One is the cart and the other the bed. Since the cart is usually more mobile and slightly smaller, it is generally preferred, especially when elevators and doors do not permit easy movement of stretcher beds. Both of these stretchers possess six common features: mobility, braking device for wheels, folding rails and restraint straps, attachment for intravenous infusion, device for tilting, and shelf for suction bottles, chart, clothes, and other odds and ends.

A bronchoscopic set should be part of the PAR equipment. It should not be removed from the room nor lent to other services. Frequent inspection should indicate its availability and function. This set is provided for immediate use by the anesthesiologist in case of volume aspiration.

The portable direct-writing electrocardiographic unit is necessary to evaluate postanesthetic cardiac status and to enable the anesthesiologist to institute antiarrhythmia therapy when indicated. Similarly, a small chest set for cardiac resuscitation should be available; this consists merely of a scalpel and rib spreader. An electrical defibrillator should be available for cases of ventricular fibrillation.

Sphygmomanometers and stethoscopes are standard items. The mercury manometer is preferred. It is recommended that it be installed on the wall next to suction and oxygen outlets and suitably protected.

Oxygen therapy equipment should be provided for three types of administration: pharyngeal catheter, face mask, and positive pressure. There should be available a respirator of the pneumatic balance type and/or a Monohagan chest unit. A Drinker unit occupies excessive space.

Included in the supplies should be the following whose purpose is obvious: cutdown sets including an intraosseous set for marrow transfusions, sterile disposable recipient sets, and nerve block sets. A stock of fluids should include (1) electrolytic solutions, (2) dextrose solution, (3) amino acids, and (4) plasma expanders.

Personnel

The personnel of the PAR Unit are of three categories, namely, professional, nursing, and service. Over-all supervision is under the jurisdiction of the Department of Anesthesiology. To the anesthesiologist is entrusted the responsibility for instructing all personnel in the Unit in the art of resuscitation, in the care of the anesthetized patient, in the control of the awakening patient, and in the management of complications in the immediate postsurgical patient. The anesthesiologists themselves are in constant attendance. A resident anesthesiologist is assigned by daily rotation for duty to the Unit. He assists the special nurses, prescribes medications, administers parenteral fluids, performs cutdowns, corrects any problems, and orders oxygen or gas therapy. Whenever an unusual problem presents itself, the resident seeks consultation with the attending anesthesiologist. Since the latter is usually only a room or two away, advice is readily available. In fact, each anesthesiologist should be required to observe frequently the patients he has personally anesthetized. In this manner a more composite and accurate assessment of a patient's physiology and, particularly, recognition of any interval changes can be obtained.

The nursing personnel represents the keystone to PAR care. Nurses assigned to the Unit must have certain prerequisites and be specially trained by the anesthesiologists. The permanent group must be graduates of an approved school of nursing. They should be attracted to the problem of postanesthesia and postsurgical care and should be of a calm temperament. This attribute is most desirable since many emergency situations occur every day demanding decision and coolness. No other assignments should be made to these nurses by the chief nurse of the hospital.

As to the number of graduate nurses needed in a PAR Unit, experience has shown that there should be one graduate for every two beds. In small units one of these nurses should be placed in charge and given the rank of supervisor. In large units of ten or more beds the charge nurse should have only supervisory duties and should have equal status with nursing department heads.

Assisting the graduate nurse group should be a complement of student nurses. The number assigned should equal the number of graduates available. At any one time the number of students should not exceed the number of graduates. Such a situation always leads to confusion and interference in the Unit and inadequate training experience for the student.

The greatest asset of nursing personnel is the individual's awareness of her limitations. If the nurse is able to recognize situations beyond her control and immediately calls for more experienced help, she is indeed a gem. Under the careful guidance and constant training by the anesthesiologist this attribute can be inculcated into many of the personnel so that the diagnosis of impending danger is arrived at without hesitation and almost by intuition.

Last, a complement of orderly and technical people, preferably male, is required. They should be chiefly noted for their capacity and willingness to work. The number necessary is approximately one orderly for each four beds. Duties include transportation of patients, restraining of uncooperative patients, and securing and maintenance of supplies and equipment. These men should receive instructions from the physicians and nurses. Attention should be focused especially on the care of patients in transit; the dangers of improperly moving an anesthetized patient should be emphasized. It should be noted that orderly personnel should not be assigned general cleaning duties. These properly fall under the jurisdiction of the housekeeping service.

Operation of PAR Unit

Selection of Patients.—It is neither intended nor necessary to send all patients at the conclusion of surgery to the recovery unit. Each patient must be individualized as to his requirements. After most minor operations performed under carefully administered anesthesia, either the patient will be awake, or the regional anesthetic will have worn off. If the patient is simultaneously in good condition, he can be returned to his hospital floor.

The anesthesiologist who is cognizant of how well the anesthetic and the surgical intervention was tolerated can more expertly assess the need for observation and care in the immediate postoperative period. After due consultation with the surgeon it may or may not be recommended or considered necessary.

Certain criteria will be used to arrive at any decisions. These include the presence of an airway, the presence of cyanosis or pallor, the state of the circulation, type of anesthesia, and whether or not shock has occurred. At the conclusion of an operation a decision is made, and the standing operating procedure should be to note as the first item on the order sheet of the patient's chart, the direction "to floor" or "to PAR."

PAR Patient Management.—Immediately on admission to the Unit the time is noted, and a check of vital signs is made. These include blood pressure, pulse, and respiration, both rate and depth. Thereafter observations are made at least every five minutes for the first one-half hour or oftener if indicated.

As situations arise requiring specific medications, these are administered accordingly under the direction of the physician. These have been enumerated under equipment, and instances of their use will be cited under complications treated. Generally, the need for oxygen, sedation, analgesic, vasopressors, digitalis, and antiarrhythmic drugs (arrhythmias related to anesthesia) will be determined and ordered by the anesthesiologist.

Fluid therapy and blood replacement are continued or begun according to order sheet. Careful check is made to insure the flow of fluids in an intravenous system.

Patients are postured according to circumstances. A patient who is still well sedated or narcotized may be placed in the semilateral position as a prophylactic measure against aspiration. This is approximately the Sims position. The uppermost leg is flexed at right angles, and the upper arm is extended. The patient should lie on the arm in which intravenous fluids are administered in order that movements of the patient will be less likely to dislodge the needle. A small sheet roll should be placed under the arm pit and shoulder to avoid venous obstruction. Most important the head must be positioned to secure a free airway and to promote drainage from the mouth of mucus or vomitus.

The above position may be undesirable if the patient is actually vomiting. Experience indicates that more efficient pharyngeal suction can be performed in the supine position and bronchoscopy is facilitated. A small pillow placed under one or the other shoulders will allow the operator to turn the patient's head completely to the opposite side and yet provide more advantageous control of the respiratory passages. Furthermore, the semisupine position does not interfere with ventilation as occurs to some extent in lateral positions.

Transportation.—This is accomplished by means of the specially designed stretcher carts or by stretcher beds as described under equipment. Transferral from the operating rooms to the recovery unit is accomplished by the operating room personnel. Every patient assigned to PAR must be accompanied by a nurse and one physician. When any anesthetic or surgical complication has occurred or following prolonged or extensive surgery, the participating anesthetist must also accompany the patient. Restraint straps are employed.

Certain precautions must be observed. These include use of restraint straps, the placement of guard rails, proper positioning, and the use of the cart infusion bracket. The accompanying physician must be adequately instructed and experienced in the care of the patient's head and airway.

Return of recovered patients to their room is the responsibility of the Recovery Unit. The same special beds or carts are utilized, and the same standard precautions are observed. Since the patient is now conscious, he need not be accompanied by a physician. The PAR orderly with a student nurse is sufficient for management. An inflexible rule is that all female patients must be attended by a female aide or nurse.

Whenever a patient, unconscious or not, is moved, adequate help should be available so that the patient is not jarred or "bounced." This causes profound blood pressure changes which are not always appreciated. A minimum of four people is necessary. The anesthetist supports the head on his forearms, while his hands are placed under the shoulders for a bracing effect. Merely supporting the head is fraught with the danger of jerking or snapping the head and causing cervical vertebrae damage. A student nurse or female aide supports the legs. Two people on opposite sides of the patient firmly grasp the body draw sheet and "set" themselves for lifting. The anesthetist should now direct the procedure, and any prearranged signal system may be used. Besides minimizing physiologic disturbances in patients, the above recommendation will also prevent back and hip injuries in the nurses and doctors.

RECORDS.—Two types of records are necessary for the function of the PAR Unit. They are kept at the foot of the bed or at the head of the stretcher cart and should be readily available and visible to all personnel concerned:

1. Graphic Vital Sign Record—This is similar to the standard anesthesia record and provides a graph for the intermittent notation of blood pressure, pulse, and respiration. Further space is provided for remarks and for the noting of medications. Essentially then, this is a continuation of the record kept by the anesthesiologist during the operation.

2. Fluid Balance Sheet—Both intake and output of fluids should be carefully recorded. Errors may lead to overloading the circulation and cardiac failure, while insufficient volume may potentiate shock or cause an electrolyte imbalance.

CRITERIA FOR RECOVERY.—A patient is returned to his hospital room when certain criteria indicating recovery are met. First, a patient should be "reacted." This term designates the patient who responds to noxious stimuli. He must possess his gag or pharyngeal reflex, be capable of coughing on proper stimulation, and respond to painful stimuli. Briefly, this patient has recovered his protective reflexes. Second, the patient should be conscious. A conscious patient is one who responds to verbal commands such as "Open your eyes!"; he is also oriented to places and his condition. However, most patients may not recall any of their experiences in the PAR since the amnesic effect of the anesthetic drugs will have been operating.

Medical Management of Patients

The various problems and complications which occur in the patient recovering from anesthesia and surgery and are treated in the PAR fall into six categories: (1) control of pain, (2) correction of respiratory abnormalities, (3) correction of circulatory collapse, (4) management of cardiac dysfunction, (5) control of neuromuscular aberration, and (6) management of gastrointestinal problems.

CONTROL OF PAIN.—Pain is a complex sensation consisting of two elements. First, there is the primary sense modality involving the anatomic sensory pathways from the point of stimulation along nerve paths to the thalamus with its cortical radiations. This may be considered the peripheral or apperceptive element. Second, there is the psychic component comprising the ventral integrating element. Here occurs appreciation of the sense modality as to its pleasantness or unpleasantness and the determination of the pattern of reaction. It involves not only the perception of the stimulus but the play of emotional overtones. This concept was first recognized by Head[4] and enunciated by Sherrington[5] when he defined pain as the "psychic adjunct of an imperative protective reflex."

If these two elements of pain are recognized, two positive avenues for control of pain become available. The one dealing with the psychic aspect is the pharmacologic and utilizes the effects of analgesics, opiates, and other central blocking agents. These agents do raise the pain threshold, but more important they change the pattern reaction. The patient may perceive pain as a sensation, but it no longer bothers him. Specifically, morphine is the most commonly used agent, and it is needless to state that it is abused.

Too often postoperative orders dictate the automatic administration of an opiate to a patient on the assumption that pain must be present. This is fallacious. In the majority of instances the only actual need is to provide comfort. Simple measures such as fixing a pillow, proper positioning, or adjustment of a nasal tube will serve the purpose. Sometimes a sedative is all that is required. Beecher[6] has studied pain in traumatized patients and has dramatically established the validity of the above. On careful analysis of war wounded he found that only 25 per cent of injured men actually complained of pain and asked for relief. All others obtained relief or comfort by simple measures. Furthermore, it is of note that in the average adult male maximum pain relief is achieved by 8 to 10 mg. of morphine. Larger doses are accompanied by so little additional benefit that they represent a distinct hazard. One may say that all too frequently morphine and opiates have been administered routinely and have been prescribed for a situation rather than actual pain.

As an additional point, it has been demonstrated that simple distraction is capable of raising the pain threshold some 35 per cent, i.e., equivalent to a standard dose of morphine. The lesson to be learned is that for immediate postoperative care the following should be the order of procedure: provide comfort, provide sedation, and, last, provide analgesia with minimal doses.

In tense patients or those emotionally disturbed the use of central blocking agents has been found effective. The drug we have used is chlorpromazine in doses of 10 to 25 mg. This agent has been dramatic in tension and anxiety states and in alcoholics.

Other agents employed to achieve pain relief and comfort include intravenous drip procaine 1 per cent solution, especially useful in burn states. Intravenous alcohol is also an asset in certain conditions. In general, pain relief by pharmacologic means is achieved both by reducing the intensity of the perception of the pain sense modality and by altering the appreciation and the pattern of response.

The second mode for attacking pain is by blocking the conduction of the pain from the source or point of application of the stimulus to the central nervous system. In most instances nerve block is applied as a last measure if thought of at all. Specifically, it should be applied following major surgery when the administration of depressants may represent an excessive risk. Thus in the geriatric patient and in the patient with diaphragmatic irritation and splinting from bile peritonitis or gastric perforation, intercostal nerve blocks are preferentially indicated.

Correction of Respiratory Derangements.—Among the derangements encountered are respiratory depression, apnea, obstruction, bronchospasm, aspiration, and atelectasis. The goal in each instance is to correct the difficulty and provide oxygen as soon as possible. Thus, in apnea and respiratory depression from drugs one institutes artificial oxygenation immediately with bag and mask. The depression is combated with the narcotic antagonists such as normorphine or nordromoran. These dramatically terminate the effects of morphine, Demerol, and others in cases of overdose in a matter of two to three minutes. The dose varies from 1 to 5 mg., and the administrator should use fractional doses until the proper response is obtained. An excessive dose of normorphine will itself produce depression. Nordromoran may be mentioned as having the ability to abolish respiratory depression with small doses that do not abolish analgesia[7].

Obstruction is relieved by airways including endotracheal tubes. If mucus or vomitus with aspiration is the problem, two procedures are employed. The first is T.B.T. or tracheobronchial toilet. This utilizes a simple rubber catheter with a proper droop. It is inserted through a patient's nostril into the hypopharynx and with patient sticking his tongue out may then be further introduced into the trachea. The tussic squeezing by the patient at this point is more important than any actual suction of material by the catheter. Second, bronchoscopy is used by the anesthesiologist when large volumes of vomitus are regurgitated and aspirated. It is recommended under such circumstances that 5 to 10 cc. of normal saline be used to lavage the trachea. This is directed at diluting the acidity of the vomitus and allaying the occurrence of chemical pneumonitis.

A comment is necessary on the use of so-called analeptic drugs in drug depression. Such agents as Metrazol, caffeine, picrotoxin, and coramine are stimulants—not true antagonists. They increase oxygen needs and do more harm than good. Their status in treating drug depression has been carefully evaluated by the Council on Pharmacy and Chemistry[8] and has been found wanting. They are of no value when needed most in our experience and should be abandoned. Bronchospasm is relieved by atropine, ephedrine, or aminophylline.

Correction of Circulatory Collapse.—Shock and hypotension are presented daily in an active surgical theater. The first is treated by a combination of blood, fluids, expanders, oxygen, pain relief, and hydrocortisone. If, despite these measures, the systolic pressure remains at levels below 80 mm. Hg systolic, a vasopressor drug is cautiously given in extremely dilute solutions intravenously. Neo-Synephrine may be used, but norepinephrine, 4 microgram per ml., is preferred.

Hypotension, on the other hand, is to be distinguished from shock by the presence of a slow pulse. It may occur after spinal anesthesia and cyclopropane anesthesia. It is self-limited. In most instances little or no treatment is required for no serious after-effects have been determined. However, on the principle of maintaining an approximately normal physiologic state, a systolic tension of 100 mm. Hg is desired. To this end a deep solution of Neo-Synephrine in dilution of 1 : 100,000 or 5 mg. per 500 cc. is employed.

Control of Cardiac Dysfunction.—Three principle complications are encountered: those related to the patient with coronary artery disease, those associated with myocardial insufficiency, and the problem of arrhythmias.

Concerning coronary artery disease, it is recognized that there is a significantly enhanced risk and that the incidence of severe cardiac complications and mortality associated with the intraoperative and postoperative period is about ten times greater than in the patient without cardiac disease.[9] It is our routine to administer to anginal and coronary insufficiency patients a dose of nitroglycerine preoperatively. We recommend the same dose in the immediate postoperative period. Other recommended drugs are papaverine, tetraethyl nitrate, oxygen, and pain relief.

For patients who evidence myocardial insufficiency or failure, either during operation or in the PAR, we recommend ouabain or acetylstrophanthidin. If the urgency is not great, digitoxin is preferred. Ouabain is administered in two 0.5-mg. doses approximately thirty minutes apart. The onset of action is observable in about ten minutes with peak action in thirty minutes, while the effects last some two days.[10] Acetylstrophanthidin is administered in two doses of 0.6 mg. approximately fifteen minutes apart. The onset of action is about five minutes, and peak action occurs in fifteen minutes. The duration of effect is only four hours. This and other advantages have been discussed.[11]

TABLE II.—Complications Encountered and Types of Treatment Utilized

Complications	Number	Treatment	Number
Excitement	91	Airway maintenance	205
Emesis	82	Tracheobronchial suction	285
Respiratory obstruction	32	Analgesic therapy	128
Nausea and retching	14	Sedation	71
Excess mucus	19	Apomorphine for excitement	15
Hypotension	19	Chlorpromazine, intravenous	10
Shock	7	Vasopressor for hypotension	19
Apnea	3	Blood	35
Urticaria	2	Resuscitation	5
Arrhythmias	8	Morphine antagonists, intravenous	5
Myocardial infarction	2	Bronchoscopy	3
Anginal attack	2	Procaine, intravenous	7
Pulmonary edema	2	Quinidine, intravenous	1
Miscellaneous	16	Antihistaminics	3
		Ouabain	2

Control of Neuromuscular Aberrations.—We are interested here primarily in convulsions on the one hand and excitement on the other. The first are relatively rare, while emergence excitement is frequent and is seen in alcoholics and in tense, anxious patients. The use of chlorpromazine in this situation has already been mentioned. An additional drug useful in controlling disorientation, especially in older patients during recovery, is Apomorphine. This agent is properly a cortical sedative in doses of 1 to 2 mg. Larger doses produce emesis.

Control of Gastrointestinal Problems.—Vomiting is the bane of the postanesthetic period. Fortunately, with good anesthesia in experienced hands the incidence is low. Furthermore, a series of drugs are now available which minimize both the incidence and severity. The outstanding drug in this regard again is chlorpromazine.

Distention is a frequent intruder in the recovery period. Patients who swallow are particularly disturbing. Sometimes there can be enough gastric distention to cause vagal overactivity with cardiac manifestations. A Levine tube corrects the situation, but more important than treatment is the recognition of the problem.

Sample Experience.—Analysis of the complications encountered and types of treatment utilized in an average PAR Unit in which 1,000 consecutive surgical patients were observed are presented in Table II.

Summary

The physical and professional organization of the Post Anesthesia Recovery Unit has been presented. It is apparent from a review of the experience in a typical PAR Unit that the entire field of general medical care, especially its emergency aspects, is to be encountered in this adjunct to good surgical management. It is apparent also that the anesthesiologist is indeed the practitioner of internal medicine, and his role as the internist in the operating room is clearly defined.

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Dr. Pisani: Thank you, Dr. Collins. Add PAR and T.B.T. to the multiple sets of initials that we now know!

We are a little bit behind. The next paper will be on the present trends and treatment of breast cancer with combined surgery and x-ray. It is to be given by Dr. Sidney Rubenfeld, who is professor of clinical radiology of the New York University College of Medicine and director of the Department of Radiation Therapy of Bellevue Hospital.

Cancer of the Breast Treated by Simple Mastectomy Followed by Roentgen Ray Therapy: The McWhirter Technic

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The combination of a simple mastectomy followed by x-radiation according to the method of McWhirter is offered as a well-defined treatment policy in some forms of breast cancer to be added to but not replace the radical mastectomy.

Introduced in 1894 by Halstead and Willy Meyer, the operation of radical mastectomy, embracing the idea of dissection of the breast and axilla in continuity, has remained as the standard procedure for over fifty years and has accounted for the successful treatment of more patients with cancer of the breast than any other method. Recently, the acceptance of this standard surgical technic was shaken by two significant anatomic findings, which challenged the universal applicability of the radical mastectomy. Dahl-Iversen[1] found that in 33 per cent of patients with metastatic axillary nodes, there is similar invasion of the supraclavicular chain. Of equal importance were the contributions of Handley and Thackeray[2,3] who found 48 per cent positive cancer-bearing internal mammary nodes when the axillary nodes were metastatic. These discoveries made it clear that the Halstead-Willy Meyer operation is inadequate because it neglects the supraclavicular and internal mammary chains of node.

In the light of these developments new and more extensive surgical technics were devised which abandoned the principle of concentration on the axillary spread. Pack[4] advocates bilateral radical mastectomy. Urban[5] now performs the usual mastectomy with a bloc dissection of the internal mammary chain. Wangensteen[6] includes supraclavicular, internal mammary, and mediastinal node dissections in the usual breast and axilla dissection. Haagensen[7] established criteria of operability to emphasize the selected applicability of the radical mastectomy. The new technics, being more radical, obviously bring in their wake increased morbidity, mutilation, and edema of the arm.

Modifications were also made in roentgen therapy. Perhaps the most notable of these was the plan of Baclesse[8] who treated breast cancer with x-ray therapy alone. It is generally felt, however, that most types of breast cancer are not radiosensitive. An attempt to achieve permanent control by irradiation alone of such large volumes may lead to irreversible damage of skin, subcutaneous tissues, and lungs.

McWhirter,[9] a radiologist, and his surgical colleagues in Edinburgh reasoned for a combined effort. They felt that cancer is confined to the breast in only a minority of patients. Surgical removal of the tumor yields good results when the tumor is confined and, therefore, should be continued. In fact, radical mastectomy has its greatest success in patients where the pathologist is unable to find the axillary involvement for which the operation was performed. When the disease spreads beyond the breast, results from surgery are poor. There is a possibility, they felt, that the high incidence of distant metastases may be caused by dissection of the axilla which permits dissemination of malignant cells. Therefore, since radical mastectomy yields poor results when the axillary nodes are already involved and since the radical dissection is not entirely necessary when axillary nodes are not invaded, they established a treatment pattern which replaced the radical mastectomy by a simple local mastectomy followed by x-ray therapy.

There are five cardinal principles which form the basis of the McWhirter technic:

1. The axillary and supraclavicular lymph nodes must be treated as one continuous chain. There is adequate proof that some diseases, such as tuberculosis, spread in the lymph nodes from above downward. A notable example is shown in Fig. 1 which represents a case of calcification in tuberculous nodes of the deep cervical, supraclavicular, and axillary chains. Conversely, the appearance of metastatic lymph nodes in the cervical chain from breast cancer indeed occurs. It follows, therefore, that downward and upward spreads are reversible and that these lymph node chains must be considered as continuous.

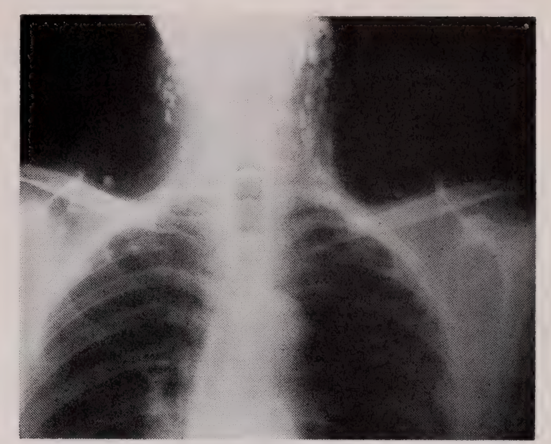

FIG. 1. Calcifications in tuberculous lymph nodes of the deep cervical, supraclavicular, subclavicular, and axillary chains. This process spread from above downwards. In breast cancer the reverse dissemination occurs. It is accepted that these groups of nodes are in continuous chains.

2. The internal mammary nodes must be treated in continuity with the chest wall. The total area requiring irradiation is thus divided into two sections—the one encompassing the nodes in the axilla and supraclavicular chains and the second including the chest wall and internal mammary chains of nodes on the homolateral side. A gap between these two sections must be avoided so that a pattern of irradiation in continuity is established.

3. Radiation of hard quality must be used. Rays generated at 100 or 140 kilovolts to avoid penetration are not used. Penetration is avoided by the technic of glancing. McWhirter favors 260 kilovolts with a heavy Thoraeus filter so that the half value layer is about 3.5 mm. of copper.

4. An adequate roentgen ray dosage should be administered. McWhirter has satisfied himself up to now with a tissue dose of 3,750 r delivered over an elapsed time of twenty-one days. This time-dose level is controversial. There has arisen doubt even as to the capabilities of x-radiation to destroy cancer cells in the breast and axillary nodes. This fact prompted Haagensen to abandon x-ray therapy after the report of Lenz[10] who found persistent cancer cells after doses of 4,500 r. It led to Haagensen's criteria of operability which limits radical mastectomy to a highly selected group of patients. On the other hand, there have been reliable reports, principally by Lumb,[11] indicating that tumor doses of 3,500 r and above have destroyed cancer cells. While accepting for the moment a time-dose of

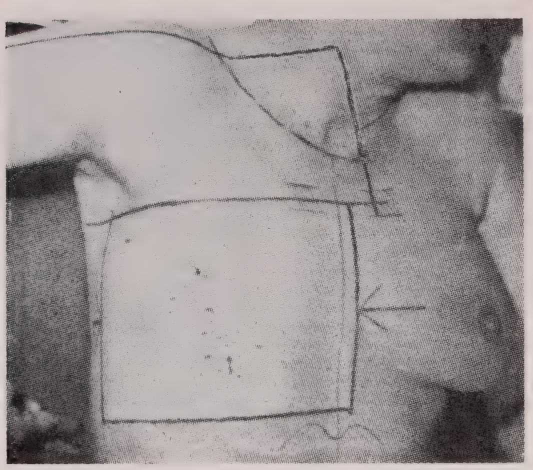

FIG. 2. Details of the treatment technic are illustrated: (1) The surgical incision to accomplish the simple mastectomy should not be extensive. (2) The two sections requiring irradiation are shown outlined without any gap between the sections. (3) The medial border of the axillary field extends beyond the sternomastoid insertion so as to strike the sentinel node. (4) The arm is held in a straight line to yield a rectangular field. (5) The medial border of the chest field is 2 cm. beyond the midline so as to assure striking the internal mammary chain on the homolateral side. (*Reproduced from McWhirter*)

3,750 r in twenty-one days, McWhirter is experimenting with other time-dose relationships. But, of greater import is the lesson that x-ray therapy aids, if not by destroying the cells in the axilla at least by preventing dissemination into the parasternal and supraclavicular nodes.

5. There is only one course of therapy to be administered. Repeated courses of treatments with ionizing radiations have proved too destructive to justify their use.

There are several details in the technic to which McWhirter[12] suggests strong adherence (Figs. 2 and 3). Iodine should not be used on the skin since it reduces skin tolerance to radiation. The skin incision and undermining of the skin flaps should be sharply limited so that the tissue spaces outside the irradiated area will not be contaminated with neoplastic cells. Excessive skin should not be removed because increased tension may retard healing, thus delaying the start of roentgen therapy. Skin grafts are a poor substitute because grafts do not tolerate treatment as well as normal skin. If the tumor is mobile, the pectoral fascia is not removed, thus avoiding excessive fibrosis. If the tumor is firmly adherent to the pectoralis major, then obviously the muscle should be removed. The axilla is not to be dissected. Adhesive is not used because, again, tolerance to x-radiation is reduced.

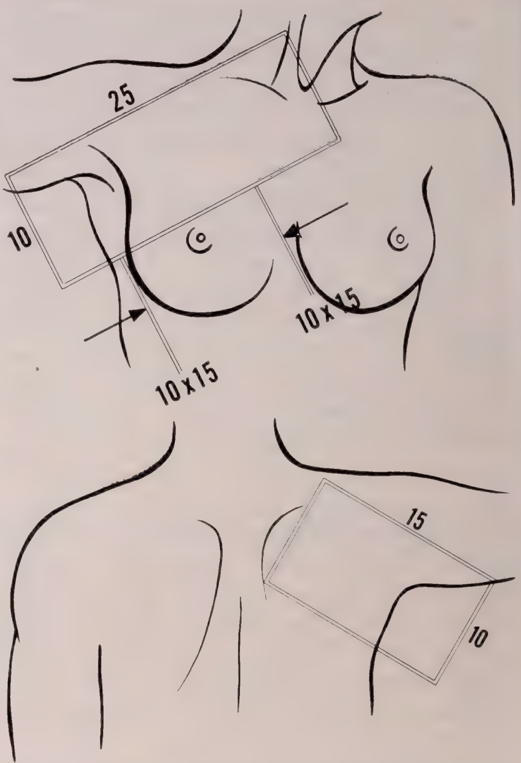

FIG. 3. Diagrams to outline the direction, size, and area of the anterior and posterior treatment portals. (*Copied from McWhirter*)

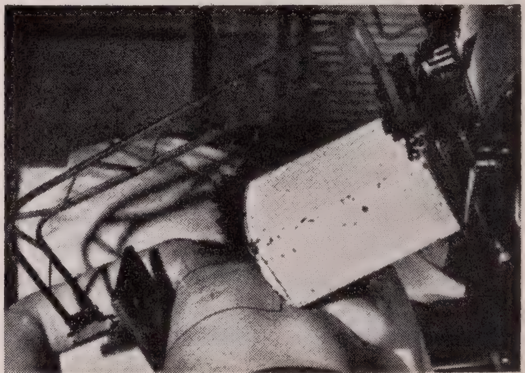

FIG. 4. Device employed at Edinburgh to facilitate glancing fields in treating the chest wall. (*Copied from McWhirter*)

X-ray therapy is started at the end of two weeks. The chest wall fields are made to glance tangentially to escape penetration into the deeper lungs. The medial glancing field is placed at least 2 cm. beyond the midline so that it will strike the internal mammary nodes which lie about 2 cm. deep on the affected side. Large

TABLE I.—INCREASE IN NUMBER OF PATIENTS BENEFITING FROM McWHIRTER TECHNIC

Classification	Per Cent Patients	Treatment	
No nodes	22	Limit of radical mastectomy (36%)	Simple mastectomy plus x-ray therapy (McWhirter technic)
Axillaries	14		
Axillaries, supraclaviculars, internal mammaries	20	Inoperable	
Locally advanced*	29	Inoperable	
Distant metastases	15	No active treatment	

* Locally advanced lesions are those lesions which show adherence to ribs, fixed nodes in the axilla, supraclavicular nodes, and cutaneous lymphatics.

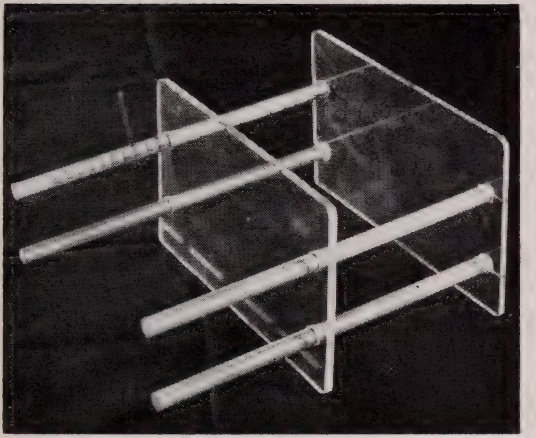

FIG. 5. A simple plastic device used by the author which permits varying sized fields. Bolus material is heaped between the two plastic walls. (This device was constructed at the Bronx Veterans Hospital.)

fields are used. Bolus bags are used for homogeneity (Figs. 4 and 5).

Without delving into survival statistics, which is so complex a problem in breast cancer because of wide variations in classifications and technics, both surgical and radiologic, it is worthy to note that McWhirter reports a 44 per cent survival rate at the end of five years in more than 1,300 patients who had breast cancer in all stages of the disease. These figures stand in sharp contrast to a 47 per cent survival rate reported by Haagensen in a rigidly selected group of patients.

The McWhirter technic offers a definitive treatment plan to a large group of patients in whom the radical mastectomy is not indicated. Thus, the over-all group of patients who can be benefited by surgery and x-ray therapy is greatly expanded. This is clearly illustrated in Table I.

Conclusions

1. The high incidence of tumor invasion from breast cancer into the supraclavicular and internal mammary lymph nodes challenges the adequacy of the Halstead-Willy Meyer operation which neglects these nodes.
2. The rationale for the McWhirter technic combining simple mastectomy with roentgen ray therapy is reviewed.
3. The cardinal principles of the combined method are outlined. The supraclavicular axillary and internal mammary chains of nodes along with the chest wall are irradiated in continuity after a simple mastectomy.
4. A 44 per cent survival rate reported by McWhirter in a large series of unselected patients is an encouraging figure that compares favorably with the best figures of surgery alone.
5. The principles of the combined procedure permit its application to a large number of patients who, by ordinary indications, would be deprived the benefit of a definite treatment plan.

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DR. PISANI: Thank you, Dr. Rubenfeld, for your very lucid presentation. We will proceed forthwith to our next presentation which is one on Hodgkin's disease. It will be given by Dr. Antonio Rottino, director of the Department of Laboratories and the Hodgkin's Disease Research Foundation at St. Vincent's Hospital. Dr. Rottino.

Hodgkin's Disease

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(*From the Dorothy H. and Lewis Rosenstiel-St. Vincent's Hospital Hodgkin's Disease Research Laboratory*)

I SHOULD like to discuss in very general terms the therapy of Hodgkin's disease. Two days ago a young intern who has Hodgkin's disease asked me what was the best treatment. I answered his question by telling him of three patients under my care. One came to me ten years ago with lymph nodes in the neck, was treated with x-ray, and now ten years later is free of any evidence of active Hodgkin's disease. Another of the three had enlarged lymph nodes in the neck which were removed surgically. Since he had no other detectable lymph nodes or evidence of the disease, we did nothing else for him. It is five years now, and he is free of any detectable signs of active disease. Four years ago, when triethylenemelamine came into being, I had a third patient with massive nodes in the neck, large nodes in both axillae, and enlargement of the mediastinum. To her I gave massive doses of TEM, almost to the point of producing aplastic anemia. The nodes disappeared completely in all these sites, and now, four years later, she is perfectly well and without any sign of recurrence. So here we have three different persons treated by three different methods, and the results seem to be equally good to date. So what is the answer as to what is the best method of treatment?

Now let us take some examples not so gratifying. A fourth patient with recently discovered Hodgkin's disease was given a course of nitrogen mustard, the usual course normally given to everyone so treated, and in three weeks she was dead. A fifth patient who had nodes in the neck and mediastinum had a radical operation of the neck and was subsequently treated with x-ray, nitrogen mustard, TEM, cortisone—everything that came along—to no effect; death occurred in two years. Which is the best method of treating a patient with Hodgkin's disease? The answer is that there isn't any best way. The important factor is the patient himself. Any mode of therapy must be tailored to the particular patient and not the patient to the therapy.

Persons with Hodgkin's disease fall into three categories:

1. Individuals who have had the undiagnosed disease in very mild form for a long period of time. When they finally need a doctor and diagnosis is made, all forms of therapy are tried in turn to no avail, and death occurs in one to six months. There is nothing wrong with the forms of therapy; it is simply that the patient cannot respond to them. Something has happened to that patient; he is different from those who do respond.

2. An individual has a few nodes in the neck. A diagnosis is made, and he is treated. He has a beautiful response, and he goes along five, ten, fifteen, twenty, even thirty-five years when he finally has another attack which carries him off. Unfortunately there are not too many individuals who fall into this category.

3. The majority of patients fall into this category. They have many exacerbations and many remissions induced by therapy. As time goes on, the exacerbations occur closer together, and the remissions last a shorter and shorter time until the end is reached.

The big question is why patients behave in these different ways—what is the answer? Frankly, none of us know. Inherent and important biologic factors are involved, but what those factors are we do not know. If we did, we would probably have the answer not only to the etiology but also to the nature of Hodgkin's disease, and then the door would be open to discovery of an eventual cure. There are, however, certain facts which we do know. One is the histogenesis of the disease. The histopathology follows a definite pattern in all cases. The tempo is different, but the end results of the histopathologic process are the same. Possibly an understanding and unraveling of this particular process may eventually give us an answer.

In the earliest phases of Hodgkin's disease a biopsied lymph node presents the following picture (*lantern slide shown*). The node is composed largely of small lymphocytes. Very often a diagnosis is difficult to make, and it is finally made only when those large cells which you see there in the center of the field and elsewhere are found. The nucleus is characteristically large, prominent, and dark-staining. This particular histologic picture is known as paragranuloma. When this type of lymph node is found, the patient responds very well to all forms of therapy —sometimes even to psychotherapy—and even shock therapy may produce a remission. The response is very good to x-ray, nitrogen mustard, TEM. Here is a phase microscopic picture of the prominent reticulum cell that I showed you (*slide*). The cell is very large and the nucleus extremely prominent. Cells such as these are pathognomonic of the disease. When the cell becomes more bizarre and the nucleus more pleomorphic, we then have the typical Sternberg-Reed cell which we know so well.

Now as time goes on, the lymph node begins to change. The lymphocytes gradually decrease in number, and the abnormal reticulum forms increase in number. Many of those forms become quite bizarre and hypochromatic, as you see in the center of the field (*slide*). Those large cells are the Sternberg-Reed cells. Eosinophils make their appearance, and fibrous tissue begins to increase. The process is slow in some individuals and very rapid in others, and finally we have in the node a picture such as this one, where all the lymphocytes are now gone (*slide*). Even the reticulum cells have disappeared to a large extent. Very prominent are the fibroblasts and collagen. In other words, this is one of the final steps in Hodgkin's disease, the ultimate result being destruction of a very important body system, the lymphoid system.

Here is a picture of a lymph node that presents the histologic changes I just showed you (*slide*). The nodes are large, they are fused, they are hard, and one has an idea that here is very active Hodgkin's disease, an idea which often results in the mistake of bombarding these nodes with x-ray and ever more x-ray. Nitrogen mustard is given, course after course. TEM is given, course after course. Patients are made toxic, and they are made worse. These nodes simply cannot respond; they are now fibrous, and there is no point in beating them with the various forms of therapy.

Another thing that can happen to the lymph node somewhere during the course of the disease is that the reticulum cells begin to proliferate in an uncontrollable manner and produce a growth such as this, which can be mistaken for a reticulum cell sarcoma (*slide*). In fact, the histology at this particular stage of the disease is no different from a reticulum cell sarcoma. This is very often called a Hodgkin's sarcoma, and the result is that some people speak of paragranulomatous type Hodgkin's and sarcoma type Hodgkin's so that one may get the mistaken idea that there are three types of Hodgkin's disease. Actually there is only one form. It has a beginning, and it progresses through the various forms which have received these names. The names are very useful to a pathologist because in one word he can designate the pleomorphic pathology, and it is unnecessary for him to describe a slide in detail. If he says "granuloma," immediately the picture of granuloma appears. So the terms are convenient but must not be permitted to cause confusion.

I should like to touch briefly upon the sort of decision which must be made in dealing with Hodgkin's disease. Here, for instance, is a young individual with a mass in the neck (*slide*). He has lymph nodes no place else in the body, and the treatment of choice would be x-ray. The nodes disappear very rapidly, and a patient such as this may enjoy a remission a long time—two years, three years, or even ten years. Here is another instance where the only evidence of disease was in the tibia (*slide*). Diagnosis of possible bone tumor was made, but biopsy of that area revealed Hodgkin's disease. The only treatment was x-ray to the area. It is now four years, and this patient has no symptoms of the disease. In other words, if the disease is localized, x-ray therapy is by far the best method of treatment; if the disease is generalized and nodes are found in many parts of the body, well then I personally prefer to use nitrogen mustard or triethylenemelamine; quite often I combine chemotherapy and x-ray therapy. It is difficult to say exactly how a given case should be treated; treatment must be tailored to the patient.

One common syndrome that occurs in Hodgkin's disease (and evidently there are many syndromes) is anemia. There are many different causes of and types of the anemia of Hodgkin's. Two forms lend themselves to treatment by specific methods. An illustration of one type of case is the individual with severe anemia and a normal spleen or a spleen barely palpable. You transfuse him with 500, 1,000, 2,000, or even 3,000 cc. of blood, and the count does not rise even half a million. In the meantime the spleen becomes palpable and gradually increases in size.

In other words, all the blood that is being pumped into him is going into his spleen. We have come to recognize such cases and now have the spleen removed surgically. Results in the two cases thus treated have been satisfactory. Then there is another type of anemia that is associated with splenic involvement, a hemolytic type. The patient destroys his own cells. He receives a number of transfusions; his blood count rises satisfactorily in proportion to the amount of blood given him, but within a week or two or three the blood count is down again, so obviously he is destroying his red cells. We have had several cases like that. One we treated with splenectomy, and as long as the patient lived—a year—he needed no further transfusion. Previously he had been getting 1,000 cc. of blood a week or every other week. So a splenectomy can be very beneficial.

Jaundice occurs during Hodgkin's disease, and it can be, at least it was to me in the beginning, a very disturbing symptom. But jaundice is amenable to treatment, providing you recognize what is happening and act accordingly. There are some patients with Hodgkin's disease whose jaundice is due to hepatitis, a Hodgkin's hepatitis or a virus hepatitis, in which case treatment is very difficult. Others have mild forms of jaundice due to hemolytic anemia, and these are the individuals who are possible candidates for splenectomy. Then there are instances where the jaundice is due to lymph nodes compressing the bile ducts (*slide*). Here is the pancreas extending across the screen; here are enlarged nodes on the superior border of the pancreas surrounding the bile duct. X-ray therapy to those nodes will very often produce a subsidence of the jaundice, providing of course the lymph nodes are not fibrous and are susceptible to the x-radiation.

Hodgkin's disease of the skin and subcutaneous tissue can be a very troublesome problem, and here is an example of Hodgkin's disease of the midline between the breasts (*slide*). Very often it is mistaken for an abscess or a carbuncle. Here is the same lesion broken down after the use of various experimental chemotherapeutic agents, the efficacy of which is very well illustrated (*slide*). So we used x-ray therapy, and there is the scar that remains. This patient subsequently developed another lesion between the breasts, seen here, and that also cleared up with x-ray therapy (*slide*). Here is Hodgkin's disease involving the skin of the face, which also cleared up very nicely with x-ray (*slide*). Thus, these superficial lesions, if treated properly with x-ray, do very well.

Hodgkin's disease affects the lung, and there are many forms it may take. I think that if they are recognized, one may get fairly good results in treating lesions in this region. Here is the pneumonic form—this solid grey area right here (*slide*). The usual form is such as you see here: diffuse, infiltrating, involving the peribronchial tissues, and following the bronchi toward the periphery (*slide*). There is one thing to be remembered about the treatment of Hodgkin's disease of the lung. If it is going to be amenable to x-ray therapy, it responds promptly; if it does not, there is no point in continuing the x-ray therapy because here is what will happen. This individual had Hodgkin's disease of the lung; they kept bombarding the lung with x-ray, and the patient wound up with a large abscess (*slide*). The Hodgkin's tissue broke down; the lung tissue broke down around it; rupture into the trachea and also into the esophagus occurred, and Hodgkin's material was vomited and coughed up.

Now and again a patient with Hodgkin's disease will have a pain in the epigastrium and will vomit blood. The usual cause of that is an ulcer of the stomach. Hodgkin's ulcers of the stomach are usually multiple and usually located elsewhere than on the lesser curvature, although occasionally they are found on the lesser curvature, as you see here, below the esophagus (*slide*). They should be treated as would be any ulcer of the stomach, plus whatever specific method can be used at that particular time.

Pruritus is an extremely common symptom in Hodgkin's disease, and the treatment is to treat the disease, which means treating whatever active focus can be found. If it is a local focus with large lymph nodes, treat those, and very often the pruritus will disappear. Or treat the condition with the various chemotherapeutic agents, and the pruritus will disappear. Occasionally these methods fail, and when they do, you may possibly get a dramatic result with muscle adenylic acid. Also, in a few instances we have had temporary results with Butazolidin, but even with all modes of treatment you still may get cases that drive you crazy as well as the patient.

The mustards are wonderful compounds. Sometimes the results are little short of miraculous, but they are not safe drugs. You must be most careful how and when you use them. If you use them improperly, as I did in the early days, this is what happens: You get diffuse purpura, purpura of the skin. Well, purpura of the skin isn't bad, but if you happen to get purpura of the dura, as happened in this case, the result as you see here is an autopsy (*slide*). And this is how severe the purpura can become with injudicious use of the chemotherapeutic agents. Here is a diffuse hemorrhage and numerous petechiae in the heart (*slide*). In fact, this patient bled from practically every capillary in the body. The skin was covered with small pinpoint hemorrhages, the peritoneum, the heart, the pleurae, the brain, everything. So the chemotherapeutic agents are not particularly safe. Be very judicious in how you use them.

Now this slide I show because cortisone has been used in Hodgkin's disease, and here is an individual in whom I expected to get a good result with chemotherapy and didn't (*slide*). Because of pressure from family and doctor, cortisone was administered, and shortly thereafter an autopsy was performed. As you can see, the lung is peppered with a myriad of tubercles, miliary tubercles and areas of caseous tuberculosis (*slide*). We undoubtedly caused a flareup of the tuberculosis with the cortisone. Cortisone is of minimal value in Hodgkin's disease; the number of people benefited by it is small. When you do use it, however, you have to watch out lest a tubercular focus is roused and the result I have just shown precipitated.

Finally I should like to show two slides illustrating results obtained with the use of Butazolidin, an extremely useful substance. I would say it is comparable in Hodgkin's disease with the salicylates in rheumatic fever. It controls temperature very nicely, and it controls pain very nicely. Here is an individual who had an up and down temperature, and in twenty-four hours after institution of medication his temperature was down to normal (*slide*). In this particular patient I repeated the experiment over and over again. The temperature may remain controlled for two or three weeks after discontinuance of medication, but usually once you start Butazolidin, you have to keep it up. I have had some patients under Butazolidin therapy for as long as two years. I have used up to 1,200-mg. a day, six 200-mg. tablets (in those days they made 200-mg. tablets). Here is the temperature chart of another patient showing the same sort of thing (*slide*). Now I have repeated this over and over again so I am quite sure this work will hold up.

DR. PISANI: We are fortunate and pleased to present at this time a discussion of preschool detection of deafness by doctors and parents by one of our elder statesmen—Dr. Edmund P. Fowler, Sr. Dr. Fowler is consulting otologist at the Manhattan Eye, Ear, Nose and Throat Hospital.

Preschool Detection of Deafness by Doctors and Parents

Its Importance in Prevention, Restoration, and Rehabilitation

EDMUND PRINCE FOWLER, M.D., NEW YORK CITY

(*From the Manhattan Eye, Ear, Nose and Throat Hospital and the Central Bureau of Research, American Otological Society*)

THE laws of the State of New York require the reporting of deafness to the Commissioner of Health. The laws imply but do not clearly specify that every case of deafness should be reported or how soon, how often, or what degrees of an auditory defect constitutes deafness under the law. How many of us have obeyed the law? I believe very few, and one reason is that the law is loosely drawn and has no teeth. It should be amended.

The Council Committee on Public Health and Education of the Medical Society of the State of New York has endorsed the recent recommendations of its Subcommittee on the Hard of Hearing and Deaf.* Also the Comitia Minora of the Medical Society of the County of New York has approved the resolutions concerning the early detection of deafness and the care of the deafened recommended by its Committee on Child Welfare† and have so informed the Commissioner of Health of the City of New York. Both the Commissioners of Health of the State and City of New York have promised wholehearted support for the program proposed. I shall not read the recommendations at this time. They have been published in both the February 15, 1954, issue of the NEW YORK STATE JOURNAL OF MEDICINE and in *New York Medicine* on January 20, 1954. All physicians are urged to read these recommendations of our committee in order that they may keep informed concerning the importance of and the means available for the early detection of disease and deafness. Only early detection, treatment, and follow-up will accomplish maximum benefits in prevention. Preschool detection of deafness is a major part of the proposed continuing program of education for doctors, parents, and teachers to keep them aware of the problems involved.

The two main reasons for the lag in establishing a proper program for the early detection of deafness are (1) failure to appropriate sufficient money to procure efficient personnel and (2) procrastination occasioned by the idea that to accomplish anything worth-while it is necessary to have a multitude of costly hearing and speech centers with elaborate machinery. Of course testing machines and centers are important but only in proportion to their availability, proper functioning, and use. The most important factors in the present lagging progress are lack of a continuing and sufficient interest, lack of information being provided to all parents, teachers, doctors, and health officers, and lack of furnishing and employing simple and ready means for the early detection and reporting of deafness, for obtaining a diagnosis, and proper treatment and management of the child with deficient hearing and speech.

When a child attends school, we can enlist the services of teachers and technicians for routine audiometric examinations. Unfortunately after the child is old enough to attend school, irreparable damage may have occurred, and then little or nothing can be done to restore or conserve the hearing. I wish to discuss here what we believe should and can be done now to detect ear disorders early and to discover deafness long before the child reaches school age.

Obviously it is impractical, even in the cities, to have all little children and babies examined by an otologist or in a hearing center. In the country districts it is still more impractical. Therefore, our reliance must be on the doctors and all those who are health minded. It is an obligation of every physician to alert his fellow practitioners and his patients to the importance of good hearing and to the possibility of unrecognized or neglected deafness. They themselves must test and instruct parents to check their child's hearing occasionally. A reminder to do this from time to time will, we believe, accomplish much.

In the first few weeks of life it is indeed sometimes difficult to tell whether or not a baby possesses good hearing. However, even in the first few weeks of life, and usually before the second month, most children, if they have good hearing, respond to sound by a startle reflex. They will blink their eyes or jump at unexpected sounds. If a child shows awareness of, is annoyed by, or is soothed by moderately loud sounds, it is probable that his hearing is fairly good in at least one ear. If after the first few weeks of life a baby regularly pays no attention to speech or other sounds emanating out of his sight, one should investigate and find out the cause of the lack of response. Even if the lack of response to sound appears to be due to a lack of alertness or to a habit of being intensely interested in what he is at the moment engaged in doing, such behavior in a child should not be long ignored; it frequently is a sign of deafness.

The doctor, the nurse, and the parent, especially the mother, should be educated to an awareness of the signs of deafness. It may be said that in the early detection of deafness the familiar adage, "Mother knows best," is true if the mother is properly instructed. The mother or nurse should be and, in fact, usually is more capable of detecting a change in a baby's hearing than anyone else and is thus more likely than anyone else to detect deafness. The child is accustomed to mother and nurse and conditioned to respond to various actions associated with simple sounds such as endearing words, baby talk, clapping of hands, shaking rattles, blowing whistles, ringing bells, striking clocks, sounding a tone on the piano, the radio, etc.

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For dependable results the baby should be tested surreptitiously or while out of sight of the source of the testing sound. The testing should be casual and made while playing with the child or should be made a game. In no other way will the child become conditioned to respond naturally. Elaborate or complicated procedures are useful only after long and tedious conditioning and even then are frequently misleading. The psychogalvanic skin moisture response to sound, as currently employed, is really only a refinement of the startle reflex. It too can be very misleading and frequently is useful more as a placebo for the emotionally disturbed parents to demonstrate to them that their child is not totally devoid of hearing than of any material benefit to the child.

If there is no early response to ordinary sounds or if the child does not become interested or alerted when the mother's footsteps "patter on the tufted floor," or even when the sounds of airplanes, automobiles, fire engines and ambulances, trucks, or hurdy-gurdies rend the air, take a careful look, and test the child's hearing carefully.

All physicians are urged to include in the family history a record of deafness in siblings and ancestors and, without alarming parents, to instruct them how to make simple observations for the detection of deafness.

Total deafness is easy to detect, but it is often not easy for the parent to acknowledge. Total deafness never recovers. To spend time and money looking for a miracle cure is futile. To spend time in placing the child under instruction in a good school for the deaf, in its kindergarten or higher classes, is surely the best educationally and the very best that you can do for the child as a human being. The totally deaf child should be at first placed in a part-time nursery school for the deaf and later in a resident school for the deaf. The totally deaf child requires no medical treatment for the deafness but does require constant management, rehabilitation and teaching of speech and lip reading, and above all active cooperation and understanding of parents and family—it requires love. The parents as well as their totally or partially deafened child need management and instruction. Parents should be taught to supplement the efforts of the teacher; they should regularly attend classes in their child's nursery school for the deaf. In this way they can obtain a much better understanding of their child and the methods used to teach speech and to understand speech and to educate him.

How often should a child's hearing be tested? If there have been no signs of hearing loss and no infectious disease, the pre-nursery school child should be checked casually and frequently and more carefully at least every three months or so. As a matter of course, a loving mother unconsciously does this. She tests her child's hearing almost every time she speaks to it, and when the mother or nurse is properly alerted, it is just such observations in the home that constitute our major hope for the early detection of deafness. If a child suffers from any infectious disease or ear trouble, the hearing should be checked at once and repeatedly every day or so. This cannot be done in hearing centers. The child cannot leave home to go to the center. Early detection is more important than early attempted audiometric measurements; also the early detection of ear disease is usually more important even than early diagnosis of the cause of deafness because there is little or no urge to obtain a diagnosis unless some signs of ear disease are noticed. If there is any doubt about the presence of deafness or any ear disorder, a competent otologist should be consulted, or the child should be examined in a properly functioning clinic or hearing center. The important thing is to insist that every case of ear disease and deafness, and every sickness that is prone to cause ear disorders, should be followed up and the hearing checked at first frequently, later at least twice a year, and still later at least once a year, even though the hearing, and the child, have apparently recovered and the ear disease has apparently been cured.

A word of caution. In your rightful enthusiasm for early discovery do not overstress the efficacy of early detection of deafness in school children. Even very early diagnosis and treatment may not be early enough, and if it is not early enough, it cannot restore hearing to normal. Exaggerated statements such as, "In school children found with defective hearing, in 60 to 70 per cent the hearing may be restored," are very misleading. The fact is that with few exceptions deafness in school children caused by other diseases of the ears than acute and subacute otitis media show little or no more response to medical and surgical treatment than do those receiving no treatment. In other words, there is a large factor of chronicity, and this fact should be preached from the housetops in order to stress the necessity for early preschool detection and treatment. Even though with early preschool detection and prophylactic and curative treatment, the prognosis frequently may be poor; it is certainly in the vast majority of instances far better than late detection and late treatment.

On the other hand, do not imagine that early examination and treatment are useful only in middle ear deafness. They can be useful in the teaching and rehabilitation of children suffering from other forms of deafness, both of neural and impedance origin.

I will say a word about the type of deafness commonly called "progressive" deafness. There are several types, but usually otosclerosis is known as progressive deafness, although frequently otosclerosis produces a deafness that may not be progressive for long periods of time and may be present without any deafness whatsoever. Otosclerosis has a definite hereditary background, but many siblings in otosclerotic families escape deafness. Even in identical twins one twin may develop it in adolescence and the other acquire it later in life or never acquire it. However, the lesion of otosclerosis has been known occasionally to begin in infancy and commonly after puberty, childbirth, and severe emotional episodes so that unless a positive family history is observed, no warning of any predisposition will be obtained and no measures will be taken to delay or prevent its activation. We cannot choose our ancestors, but we can often choose our environment. If we obtained better clinical histories, we would learn more as to etiology and more as to prevention in many diseases, including otosclerosis. Carefully taken clinical histories will not enable us to diagnose otosclerosis in little children because even though the lesion has been found in babies at autopsy, it rarely if ever reaches the stage in babies where it causes deafness. In other words, we are unable to diagnose otosclerosis in little children. However, we may, I believe, discover additional factors which tend to precipitate it later in life. If we learn these factors, we will have obtained valuable knowledge for use in early diagnosis and perhaps for preventive treatment. We have at present no means for curing otosclerosis, but our research is gradually giving us more and more information concerning its morphology and etiology.

Similar remarks could be made about the tendency in some families to develop a neural deafness, even severe or total neural deafness.

In closing I am tempted to say that if more money and energy was spent on the human machines, i.e., personnel, and less on the mechanical machines, without a great expenditure of money we could produce a far better program of prevention than at present exists. Properly inspired and instructed personnel is and always will be the crux of the problem and should have priority. Moreover, even the most elaborate and expensive mechanical devices are of questionable value unless operated by competent personnel. In more ways than one, deafness is a very personal problem, and production line technics are applicable only in limited areas. In our opinion early detection in school children belongs both in the school and in the home. In the infant early detection belongs wherever facilities are available and are intelligently and continually being utilized, but in the baby early detection unavoidably belongs primarily in the home.

140 East 54th Street

Dr. Pisani: Our next lecturer will speak on problems in adoption. Dr. Alfred J. Vignec is medical director of the New York Foundling Hospital, which all of us in the State of New York and especially in the City of New York know well. He is clinical professor of pediatrics at the New York University College of Medicine and is also a director of the Division of Pediatrics, St. Vincent's Hospital, City of New York. Dr. Vignec.

Problems in Adoption

ALFRED J. VIGNEC, M.D., NEW YORK CITY

(From the New York Foundling Hospital and the Departments of Pediatrics of the New York University College of Medicine and St. Vincent's Hospital)

When I first selected this topic to talk on today, I felt that I would be able to handle it very easily in a sort of ad lib way, which is, as a matter of fact, the way I am going to handle it. However, I began to think of the complexities and confusions and sometimes the almost impossible situations that I have frequently found myself in this adoption field, and I began to wonder if I should perhaps sit down and review the whole experience that I have had. I want to mention at the outset that I am not a lawyer and I am not a social worker, but I have picked up a little bit here and there, and I think that I have most of the problems involved in the more or less administrative angle of adoption fairly well in hand.

It is difficult to deal with the complex problem of adoption in the short period available to us today. Nonetheless, since it is a subject of such universal interest and, I might also add, a subject about which there are many misunderstandings, even a short discussion may help to clear the air.

The New York Foundling Hospital is probably one of the oldest institutions of its type in the country, and possibly the largest. It has always been a multifunctioning agency; that is to say, we have an adoptive division, a foster-home placement division, a shelter for unwed mothers, and a medical program to meet the needs occasioned by these various activities. These services have been organized first and foremost for the care of the dependent, abandoned, and neglected infant and child. While the institution was established in 1869, the first record we have of a placement for the specific purpose of adoption was in May, 1874. At the present time we consummate, on an average, 300 adoptions yearly; we supervise the care of about 2,700 infants and children in foster homes, and provide resident care for some 200 unmarried mothers and their infants every year. Social case work is supplied, in addition, to approximately 40 unmarried mothers in the community who do not reside in our shelter. We have a number of other divisions which time will not permit me to enumerate, but one of which, at least, I should call to your attention, namely, the Family and Child Care Division. This service is preventive in nature and attempts to avoid the disruption of homes and the subsequent placement of children for long-term foster care or institutionalization. It also attempts to guide out-of-wedlock mothers who are having serious inner conflicts over the disposition of their children. Whether to keep their children or to surrender them for adoption is a decision fraught with emotional content which is often too great for one individual.

We are concerned today chiefly with adoptions, but as you can readily see, there are many ramifications to that problem. I would first of all like to state, as emphatically as possible, that most of the misconceptions and misunderstandings that revolve about adoption are due to the fact that there are simply not enough babies available. Adoptive agencies have five to ten applicants for every baby awaiting placement. This disparity is responsible for some of the delay in processing applicants. We at the Foundling, as well as other agencies, I am sure, have a tremendous backlog of applications.

One of the most frequent complaints we hear at the Foundling goes something like this: "You have so many babies up there. Why can't we get one and why do we have to wait so long?" In fact, only last week I heard a news commentator bitterly attack the adoption laws which prevent so many institutionalized children from being adopted. The truth is, unfortunately, that 85 per cent of the infants at the Foundling are not there for adoptive purposes. They are there because their homes have been disrupted through illness, death, or antisocial behavior on the part of one or both parents. We have in residence at the institution approximately 250 to 280 infants and children under two years of age. Of these, about 40 are potentially adoptive; that is to say, they have been surrendered for adoption by their parent or, in the case of a small minority, have been abandoned. The vast majority (85 per cent) are there because one or both parents are ill, one parent or even both may have died and surviving relatives are at least temporarily unable to care for them, etc. These children are awaiting temporary placement in foster homes, and while it is true that this "temporary" may be another way of saying "years," still they are not legally available for adoptive purposes. Parenthetically I might say that the term "foster home" is a poor one. In a social service sense it is used to mean care other than adoptive, whereas in a legal sense "foster parents" means "adoptive parents." At any rate I hope that this one point is clear: most children in institutions are not adoptable, or they wouldn't be there. Agencies are anxious to consummate adoptions, not to hinder them.

This leaves us then with a constant supply of say 30 to 40 infants available for adoption at any one time. A small percentage of these will become ineligible because of physical or mental handicaps of a serious nature. However, it is indeed surprising how frequently successful adoption of handicapped children can be effected. We have had a number of children with serious visual handicaps adopted, and one child I remember with a congenital absence of four fingers of the right hand was successfully placed for adoption. We generally attempt to correct remediable defects before adoption, as, for example, birth marks, hernias, etc. Very often, though, the adoptive parents are anxious to accept this responsibility. Naturally, whenever these placements are effected, the entire problem is carefully explained and discussed with the prospective adoptive parents. Some adoptive infants are placed temporarily in foster homes while defects are being attended to or while awaiting adoptive clearance.

All of our infants must be cleared for adoption by our developmental clinic, and this service is frequently utilized for other children in our charge. The clinic is modeled after that of Gesell. In it are employed the only tests available for an estimate of an infant's mental competency. All of our infants, therefore, are carefully screened for adoption by qualified personnel, and we feel that this caution in making adoptive appraisals is absolutely essential, regardless of the time involved. We have had 25 infants returned to us before adoption was consummated in the past eight years, an incidence of 1.8 per cent. Sixteen were returned because of poor adjustments on the part of the child or parents, five for medical reasons on the part of the child which developed after placement, and four because of medical reasons on the part of the adoptive parents. The great majority of infants placed for adoption are under six months of age, although there are some adoptions in the older age groups; for example, last year there were 26 adoptions completed of children between the ages of two and five years, 11 between the ages of five and ten years, and four over ten years of age.

In a city as polygot as ours, there not infrequently arises the problem of the infant of mixed racial origin. These cases are difficult to manage, but we have placed a number of such children.

Many people feel that our requirements for adoptive parents are too rigid, particularly the one concerning age. Most social workers do not feel that parents over forty should adopt small infants. While it is true that the older parents may supply more economic stability, at the same time they may not be able to meet the emotional needs of a growing child. My own feeling about this matter is that you cannot generalize—there are exceptions.

Naturally we discourage therapeutic adoptions, and I include here those attempted in order to meet an emotional or even psychiatric problem, and particularly those intended to salvage precarious marriages. We do not encourage adoptions when the prospective mother intends to continue working. I will admit that there are successful families in which both parents have careers; however, you must remember that we have a large reservoir of applicants and the overwhelming majority of the wives are anxious to engage in full-time motherhood. Which type of mother would you select if you were a child?

In closing let me give you a word of caution. When approached by either side in an adoptive problem, refer it to a qualified agency. Backfires in nonagency and even agency adoptions do occur, and they make an awful noise.

Dr. Pisani: Thank you, Dr. Vignec. Four of our last essayists will remain to answer questions. We will proceed, therefore, to our final paper. This paper was requested by the committee because we are considering postgraduate material. We are particularly fortunate today in having Dr. James E. McCormack present this topic, current trends in postgraduate education. Dr. McCormack, who is the authority in this field in the United States, is associate dean and assistant professor of medicine at the College of Physicians and Surgeons at Columbia University and chairman of the Committee on Continuation Education of the Association of American Medical Colleges. Dr. McCormack.

Trends in Postgraduate Medical Education

JAMES E. McCORMACK, M.D., NEW YORK CITY

(From the Department of Medicine of the College of Physicians and Surgeons of Columbia University and the Committee on Continuation Education of the Association of American Medical Colleges)

In the ideal world, I suppose, every physician would have been so carefully selected before entering medical school and his training in medical school would be so well organized, comprehensive, and inspiring that there would be no need for continuation education. Each physician could be relied upon to keep abreast of the times by faithful review of medical literature and by the stimulus of daily discussions with his colleagues.

Unfortunately for this ideal concept there are realities which make it a dream unattainable. Progress in the various medical sciences has been so rapid in the last two decades that physicians in the large teaching centers cannot keep up with all the advances even in limited fields. The research tools of the atomic age have led to modification of so many basic concepts that virtually all of us except the most recent graduates feel deficient in the basic sciences.

It is discomforting to have to admit that a physician who does not avail himself of some opportunity to keep abreast soon acquires a label as a practitioner of the vintage of the year in which he graduated. It is extremely erroneous to think that all commodities which carry a vintage label improve with age.

If we agree that there is a persistent need for postgraduate educational opportunities, surely we must insist that they be the best available, but too often they are not. It behooves us, therefore, to consider the status of postgraduate medical education or "continuation education," which is currently the more popular term.

The first observation is a healthy tendency to self-examination with respect to the needs and the opportunities in continuation education. The Council on Medical Education and Hospitals of the American Medical Association has been carrying on a study of this field for over a year. More and more individuals and groups are becoming vocal, especially in the category referred to as the consumers as compared with the purveyors of education. This is recognition of a growing awareness within the profession that in order to keep in step something more is needed than subscription to a few journals. As often happens in such a state of ferment, a fair amount of confusion has been created, and we can identify certain trends: (1) a trend to get out of the hands of educational institutions, (2) a tendency to experimentation, and (3) a lack of balance between supply and demand.

Many organizations which are not primarily educational institutions have for a long time conducted postgraduate medical courses. One need only think of the annual Graduate Fortnight of the New York Academy of Medicine and the periodic course offerings of the American College of Physicians; the high quality of the offerings sponsored by each of these agencies is well known. There are also many other committees, councils, academies, institutes, hospitals, and state and district medical societies and health departments entering the field of postgraduate medical education.

To be sure, wherever possible, these organizations utilize the services of medical school teachers. Nevertheless, this increasing trend is not entirely without hazard. When the lecturers signed up for such activities are the most "available," there is some risk that there will be a high incidence of the type speaker who gives the same lecture he has been giving for ten or twenty years. To put across properly the clinical implications of the recent rapid advances in the basic or preclinical sciences requires special skill and adaptability, particularly when the audience includes physicians whose basic science training was obtained many years ago. Sometimes, when practitioners control the content of courses, there is a tendency to emphasize pragmatic therapeutic desiderata at the expense of scientific rationale. This road leads back to empiric medicine.

What is the reason for the increase in courses sponsored by organizations which are not primarily educational institutions? After the second world war there was an increase in demand for postgraduate courses, partly stimulated by the G.I. privileges and partly as a remedy for the hasty medical training received by many wartime medical students. Certain medical schools, particularly state-supported schools in the West and Midwest, were impelled to accept some responsibility for postgraduate training in their own states. However, the medical schools in general did not seize the initiative in this matter, and many organizations began to carry a torch. At the present time no more than one quarter of the physicians who take refresher courses do so under the auspices of medical schools (Table I). If the medical schools continue to yield the initiative in responsibility for continuation education it will be unseemly at some future date for the schools to complain that outside agencies are dictating educational standards. Some people feel that this is what has happened with respect to the specialty boards and graduate education.

There is a trend in recent years to experimentation in postgraduate education including the use of television and other media. Perhaps the most elaborate venture in television thus far is the effort which the American Cancer Society has been sponsoring during the current year, consisting of 30 weekly broadcasts in color from two of the larger medical centers in this city over closed circuits to seven major cities in the northeastern United States. These programs have been reaching an audience which often exceeds 1,000 and are hoped to have an especial appeal to general practitioners.

In the more sparsely populated Rocky Mountain area another adventure in this new medium provided a series of black and white television broadcasts for physicians in the early morning from 7 to 8 A.M. over an open circuit. The University of Utah College of Medicine, sponsored by the W. K. Kellogg Foundation, initiated these programs which reached 50 per cent of the 700 physicians in 43 towns and cities in Utah, Idaho, and Wyoming.

Television teaching can be expensive, and it has both the advantages and the disadvantages of novelty. A recent small experiment in California is of interest in this regard. The same lecture was given to two comparable groups; before one group the lecturer appeared in person and before the other by television. Each group was examined the next day on the subject matter of the lecture. They were also re-examined in ten days and again in one month. The results of the examinations indicated that there was a more rapid fadeout of the lesson learned by television than in the control group.

Many of us who have somewhat more difficulty than formerly in keeping up with the literature since we purchased a television set "to please the family" can appreciate how distracting a television set can be. Nevertheless, television is here to stay, and very soon it will be all colored. As Dr. Galdston has recently pointed out,[1] we never properly exploited the full use of radio as an educational medium, and it may be too much to expect that we shall do better with television. However, the potentialities are tremendous.

Incidentally by the use of kinescope it is possible to use a "program" over again for another audience perhaps in another part of the country. The appropriate echo to this thrifty thought is a warning that, if kept too long before being used again, the recording will enter the category of the old movies on the late, late show for sleepy audiences. Perhaps of greater value the kinescope recording permits the teachers to see themselves as others see them with the potential self-improvement that comes of that humbling experience in the same way that it is good although sometimes bitter medicine for a lecturer to hear a tape recording of his lecture.

Teaching technics are being examined critically. In undergraduate medical education, wherever possible, lectures have been replaced by bedside teaching and other small group exercises. However, most postgraduate teaching is still of the lecture type. The panel type discussion with audience participation is being exploited more and more in refresher courses with gratifying results. It is only fair to point out that there are still some lecturers who can be entertaining, instructive, and stimulating. Conversely there is some bedside teaching which can only be described as a poor lecture to a small audience which is compelled to stand through it rather than sit more comfortably on a bench.

During the years after World War II, as part of the upsurge in interest in continuation education, much thought was given in certain parts of the country to the question of how it might be possible to bring teaching into rural areas to accommodate physicians who could not or would not come to the larger cities for courses in the medical centers. In New York State this principle was recognized early, and the program now jointly financed by the State Medical Society and the State Department of Health has been in operation since 1925. This program brings lecturers from the medical schools to county society meetings in various parts of the State.

In less populous states, especially in the West and Midwest, where there are fewer medical schools and a lower ratio of physicians to population, the situation offers a greater challenge. Frequently in such a commonwealth the medical school is part of a state university, and the sense of obligation to the people of the state is so immediate as to make it easier to understand why the extramural programs of medical schools are more often encountered in that part of the country. Indeed, in many such areas individual teachers or groups of teachers from the university center conduct "teaching days" in remote areas of the state in what they often refer to as "circuit riding." This is not a happy designation since one thinks either of the circuit-riding parson who tried to bring religion to people who were often not especially interested in their own betterment or one thinks of the term "barnstorming." The "barnstormer," you recall, was a second-rate actor who performed for the "rubes." We don't like the term circuit-riding or circuit courses. Furthermore, this type of program very often consists of a lecture or, should I say, soliloquy.

This brings us to a brief diversion on the subject of terminology. Seminar and symposium are popular designations nowadays. Both are very meaningful. We all know the meaning of seminar since we have all disseminated knowledge at one time or another and have been inseminated with the germs of ideas from others. But did you know that the word symposium meant "a drinking together; a convivial feast or banquet?" Among the ancient Greeks the symposium followed the dinner and was stimulated by wine. Dare we say that the symposium is now more often associated with conventions!

TABLE I.—Postgraduate Statistics. Annual National Averages in 3-Year Periods*

Year	Course Offerings per Year	Attendance per Year
Prewar 1938–1941	171	44,504
Wartime 1942–1945	565	22,585
Postwar 1947–1950	1,538	80,502 (15,605 at medical schools)
Current 1950–1953	1,606	61,763 (15,961 at medical schools)

* The total annual figures for the nation, published at intervals by the American Medical Association, were assembled in the (as yet unpublished) preliminary report on Postgraduate Medical Education by the Council on Medical Education on Hospitals. For the last six years in the annual Medical Education Number of the *Journal of the American Medical Association*, there were published figures for the number of physicians enrolled in continuation courses for which the medical schools were responsible; from this source the figures in the third column were derived by the same technic as the figures in the first two columns were derived.

Seriously, however, a good teacher should hold an audience whether his presentation be in lecture form or panel discussion or in the more intimate and tutorial teaching at the bedside. In undergraduate medical education we have for some time been more concerned with learning than teaching, and this ought to be true of postgraduate education as well. When a course is given in the big city, it is not difficult at all to identify and separate those who have come primarily to catch up with the latest in scientific medicine from those who have come principally to catch up with the latest plays on Broadway.

Perhaps we have time to discuss one more trend, and this refers to what some consider a lack of balance between supply and demand in the field of postgraduate education. The American Medical Association, as you know, publishes each year statistics on the number of postgraduate courses offered throughout the country and statistics on the number of physicians enrolled each year in such courses. These statistics have been assembled for the years 1938–1953. In order to eliminate temporary variations we have selected three-year periods and derived average annual figures in each period (Table I). Thus we can get a more meaningful figure for a typical prewar year (1938–1941), a typical war year (1942–1945), a typical peak postwar year (1947–1950), and the current status (1950–1953). It is immediately apparent that when the peak attendance was passed, the number of course offerings did not decrease. It is also obvious that there is a continuing de-

TABLE II.—Comparison of Medical Facilities in New York State and Nation

	Nation	New York State	Per Cent
Population*	150,697,361	14,830,192	9.8
Undergraduate medical schools†	72	9	12.5
Medical students	27,135	3,455	12.7
Approved internships	11,006	1,503	13.6
Occupied internships	7,645	1,195	15.6
Hospitals approved for residencies	1,159	180	15.5
Total approved residencies**	23,007	3,467	15
Physicians in active practice	150,417	23,684	15.7

* U.S. Census 1950 (*World Almanac*).

† Four-year (degree granting). When the Alfred Einstein Medical School is in operation, this percentage will increase.

** These figures are derived by adding the totals in each specialty; the total of 23,007 is higher than the figure of 22,763 on page 311 of the reference,[3] and duplications must have introduced a comparable slight exaggeration into the New York total of 3,467, but the percentage should not be altered.

mand which is considerably higher than the prewar demand. Taken by themselves, these figures may not have very great value. However, there is evidence of further imbalance in local areas and in subject matter. It is important that those who are responsible for administering such programs frequently review their offerings in order to delete courses for which there is no real demand and, where the appropriate teaching talent exists, to establish new courses for which there is a demand. When there is flagrant duplication of course offerings in fields for which there is a limited demand, we encounter too frequently the unpleasant situation where a physician who has applied and been accepted for a course subsequently receives a notice that the course has been cancelled for lack of sufficient number of applicants. Since the physician may have already cancelled consultations and gone forward with plans to attend the course, the unfairness of this situation is all too obvious.

In all probability there is a relative excess of course offerings in limited aspects of certain specialties, particularly surgical specialties like ophthalmology. The day when a person can acquire specialization by a series of short courses has gone. We now have a generation of physicians who have had the opportunity of formal hospital residency training in the various specialties, and the demand for certain limited specialty courses is rapidly diminishing.

With respect to local situations—some of us may think of New York as the hub of the medical universe. According to the latest available statistics this State has 9.8 per cent of the national population; it also has 12.5 per cent of the undergraduate medical schools[2]; 12.7 per cent of the medical students[2]; 13.6 per cent of the approved internships[3]; 15.6 per cent of the occupied internships[3]; 15.5 per cent of the hospitals approved for residencies,[3] and 15 per cent of the approved residencies in the country[3] (Table II). It also had 15.7 per cent of the physicians in active practice and the highest ratio of physicians to population among the 48 states.[4] (The New York State ratio of 161 practitioners per 100,000 in 1949 was exceeded only by the District of Columbia.) In each of these statistics the upstate communities contribute a more or less proportionate share. However, in the offering of postgraduate courses, up until the last two years, there were very very few courses offered upstate, whereas for several years about 40 per cent of all the courses listed in *the Journal of the American Medical Association* have been in New York City; in the semiannual listings of such courses during the past several years from 37.5 to 46.5 per cent have been in New York City.

Because of the great variation in the circumstances under which physicians practice, there is a persistent need for a variety of patterns in continuation courses. For those who reside within a reasonable motoring or commuting distance from the large centers, part-time courses are feasible, for example, one or two afternoons a week for several weeks. In some areas three-day courses, frequently over a week-end, are very popular; indeed in one community (Minneapolis, Minnesota) the local university has built a hotel which is used for the accommodation of postgraduate students in various fields. For those who feel more generally out of touch, concentrated full-time courses lasting two to four weeks or longer are available.

The very variety of needs in the profession and the fluctuations in demand have led to much duplication of course offerings. In the New England area an office called the Post-Graduate

Medical Institute was established, at the behest of the Massachusetts Medical Society, and attempts to introduce some order locally into this situation. With the financial help of a well-known drug company, this institute sends each month to every physician practicing in New England a pamphlet describing courses, lectures, and meetings available (mainly in Massachusetts) for the succeeding month.

One final observation! Perhaps the most important new development in this field is the promise of tax relief for physicians who attend refresher courses.[5] It seems clear that so long as the course is not designed to qualify one as a specialist who was not previously so qualified, but rather participates of the nature of a refresher course to keep abreast of knowledge in one's field of practice, the costs of attending such a course are deductible from income, including cost of tuition, travel, board, and lodging. This ruling, obtained last year, as you know, by a lawyer who took a postgraduate course to keep up with the laws of taxation, will make it possible for more physicians to take substantial courses in the medical centers. There is no doubt that one can study more effectively when sufficiently far away from his practice and his office telephone that he will not be interrupted.

The philosophy behind this tax ruling is that attendance at such courses is an expense necessary to the earning of a physician's income, the same as subscription to professional journals. This being so, it follows that the physician should pay the full cost of such a course. The best courses are often, although not necessarily, the most expensive to conduct. The medical schools should not be expected to subsidize postgraduate education in the way that they have subsidized undergraduate education. There has been a tendency in recent years for the state governments to subsidize certain continuation courses using Federal money—the taxpayers' money. The justification of such expenditures requires closer scrutiny now.

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4. President's Commission on Health Needs of the Nation: Building America's Health, U.S. Government Printing Office, Washington, D.C., 1953, vol. 3, p. 142.
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Dr. Pisani: Are there any questions? Dr. Auwarter.

Dr. George F. Auwarter, Woodhaven: I came in late to the lectures, but I would like to ask Dr. Vignec if there is available to the medical profession places we could refer these people? I heard you say that you would recommend it be done through an agency. How could we obtain these agencies to facilitate adoption? Exactly what would we tell the patient?

Dr. Vignec: You can do it yourself or consult the Department of Welfare.

Dr. Pisani: Finally, are there any other questions in relation to Dr. McCormack's excellent presentation on "Trends in Postgraduate Education?

Dr. Amos: I would like to congratulate Dr. McCormack on having very excellently summarized a very big and a very difficult subject. I would like to make the suggestion too that his talk be made available to the 30,975 physicians who did not have the opportunity to hear it in this room. I would like also to ask him the question of what the trend is in encouraging continuation of education for the 75 per cent of physicians who are not keeping up to date at the present time.

Dr. McCormack: Dr. Amos, you know of the voluminous statistics that Dr. Vollan presented out at Chicago last February. Perhaps the most convincing answer was the increase in the number of states in which such opportunities are being offered now. I think there is some effort being made, probably not enough, right now to bring this training to the large number who do not take such courses.

Dr. Archibald S. Dean, Buffalo: I am Dr. Dean of the New York State Health Department in Buffalo and associate professor of preventive medicine and public health, part time, in the University of Buffalo. I enjoyed this talk of Dr. McCormack's very much too. I thought that he was recommending at first that universities and medical schools should carry on more of this program, but I am in doubt now as to just how some of the poorer schools financially, like Buffalo, are going to finance it if he is opposed at least to Federal funds. I wonder if he is also opposed to the use of State funds for those subsidies. He started out by mentioning the New York State Department of Health as pioneering in 1925 and assisting in supplying physicians to the county medical societies. I was a pioneer in that field as I was sent around for three months by the Division of Maternity and Child Health of the State Health Department to see the county medical society officers to induce them to arrange these courses in obstetrics and pediatrics at that time, and there were many courses given throughout the State during the year 1925–1926. That was sort of dropped, however, and as I understand, at least in western New York, there is very little postgraduate education being carried on now by the county medical societies. Apparently some other method is desirable and necessary, and at the University of Buffalo another method is being used and has been for the last three years or so by the State Health Department to the University of Buffalo School of Medicine. Some $24,500 a year is given so that the University can have a full-time assistant dean for postgraduate medical education and arrange courses in the smaller regional hospitals throughout that area or other courses where physicians come in from smaller hospitals to Buffalo, and we think that that is a good development. It does involve, however, some other State funds, as well as some tuition on the part of the physicians. I would like to know if there is any objection to that sort of financing? Or if there is, how are we going to finance it?

Dr. McCormack: This discussion does emphasize some of the things we would like to see emphasized. To carry on a good program is not cheap, and Buffalo has undertaken a good program. We all know that there are many methods of subsidy to all universities, including Columbia, through grants and other means of getting funds. What I had in mind particularly was the direct subsidy of the physician in some of the courses in cardiology and cancer and so on. I really think that with this new tax law physicians will be willing to pay their part.

It is commonly accepted now that the terms postgraduate and graduate are mutually exclusive, and graduate education refers to long-time training, internship, and residency or long courses such as are given at the University of Pennsylvania and New York University Post-Graduate. In an increasing number of institutions there are degrees attached to these programs now, but postgraduate refers only to the short continuation or refresher courses for which, to my knowledge, there is no university credit of any kind in any instance.

Voice from the floor: Why couldn't it be arranged that you could devote thirty hours there, forty hours here, and after you get so many hours, be eligible for some sort of a graduate degree?

Dr. McCormack: That is still a different subject; that is graduate education. What we are concerned with here is what I prefer to call "continuation" instead of "postgraduate"—just continuation education, and that is the subject we are talking about. The average physician in practice can't leave his office for a few months. Graduate education is an altogether different subject.

Dr. Pisani: Dr. McCormack's excellent paper and all these presentations will be published in the New York State Journal of Medicine, and that, of course, will reach about 20,000—you mentioned 30,000, but I do hope it will have much wider distribution because it is a distinct contribution as are all of these papers. Unless there are any more questions, we will call our postgraduate session adjourned. Thank you.

The Problem of Fetal Salvage

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WITH the remarkable reduction in maternal morbidity and mortality in our country in the past decade, doctors have directed their attention to the problem of fetal loss. Although the infant mortality has shown a dramatic decrease since 1953, the number of infant lives lost in connection with the reproductive mechanism constitutes more than 10 per cent of all the deaths in the United States each year. These same circumstances have been observed year after year and indicate the relative magnitude of the infant loss.

Fetal loss or wastage in broad terms means loss of life from many conditions including abortions, hydatidiform mole, ectopic gestation, prematurity, and congenital malformations as well as deaths during gestation and labor. The causes of fetal loss are many; by far the most frequent cause of death is from premature birth. A study which has been reported by Schoeneck[1] concerning 24,660 live births and 405 stillbirths in the years of 1949 to 1950 revealed that prematurity was a leading cause of fetal loss. A remarkably high incidence was associated with obstetric complications. Statistics in our study here showed that although 7.9 per cent of live births in Syracuse were premature, the mortality rate among them was so high that they contributed to nearly 60 per cent of all deaths the first month of life. It was also noted that 78 per cent of the prematures died in the first twenty-four hours of life and that 76 per cent of those whose birth weight ranged from 500 to 1,500 Gm. died soon after birth. Although the study showed that the major corrective aims in the past had been directed mostly to the premature care after birth, these facts revealed that the final solution of the problem could not be accomplished by improved pediatric care alone. It was apparent that the proper solution was the prevention of the occurrence of prematurity and abortion.

A second study[2] also established the fact that prevention seemed to be the logical approach to the problem. It was noted that 24.3 per cent of 5,000 patients accounted for 61.3 per cent of the total fetal and infant loss. This relationship between previous bad pregnancies and subsequent ones seemed to suggest the fact that there must be something fundamentally wrong with individuals in this category. Studies and therapy should be directed to these problems before subsequent conceptions are attempted.

Although the infant loss from all causes has been decreased markedly since 1935, deaths resulting from prematurity have not shown such a dramatic fall. In fact, since 1943 there has tended to be a leveling off in the fetal death rate due to prematurity. Among this group are those infants with congenital anomalies that seem to be ever present and constitute about 15 per cent of all fetal deaths. Abortion is another important cause of fetal wastage. Potter[3] has estimated that there are at least 350,000 spontaneous abortions that occur in the United States annually.

After a thorough study of these problems, we have decided to direct our attention particularly to the study of patients who have a history of repeated abortion, premature labor, and congenital malformations, not neglecting of course other conditions resulting in fetal death. We have felt that in these groups study and treatment prior to conception perhaps offers the greatest opportunity to reduce fetal loss. The Pregnancy Treatment Clinic was organized in an attempt to study these problems from all angles. The object of the clinic is to study couples who have had three or more spontaneous abortions, premature births, or congenitally malformed infants or any combinations of these three complications. These patients must be sent to the clinic by their own private physician or have been referred by the Health Department.

There are many factors in the background which may play a part in creating these conditions. It has been shown experimentally that the defective genes of the sperm in couples with similar defective genes of the egg are more prone

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to result in distinct abnormalities of the offspring.

Psychologic problems may have a direct bearing on the physiologic processes that go on in individuals daily. Certainly psychologic frustration and worry may influence some of the processes involved in reproduction. This can be borne out by the fact that individuals under strain may have changes in their menstrual cycles. It is particularly found in nurses and college students as examination time approaches. Many times the period of amenorrhea may extend for several months. However, in most instances the cycle is re-established after the psychologic factor has been removed.

There has been a great deal done in respect to nutrition in the process of fertilization and gestation and successful birth of a new individual. Nutritional studies conducted by our nutritionist show that about 70 per cent of the patients have dietary deficiencies in calcium, protein, iron, riboflavin, thiamine, niacin, vitamin C, or vitamin A. Vitamin E levels were estimated at the University of Rochester by Dr. Karl E. Mason and show a low level in only a comparatively few cases.

We have also attempted to survey the relationship of thyroid function to these conditions. To observe thyroid function we have used the basal metabolic rate together with the protein-bound iodine. This study has shown absolutely no correlation between the levels of basal metabolism and protein-bound iodine. In the male patients 38.5 per cent of the basal metabolic readings were below the standard normal, while only 9 per cent of the protein-bound iodine determinations were below the normal range. Of the basal metabolic readings in the females 29.5 per cent were below normal, while only 6.8 per cent of the protein-bound iodine determinations were below normal.

Although there were many causes of fetal death listed, the most frequent cause referred to irregularities in the placenta. Peculiarities in placental formation, abnormal location of implantation, and unusual placental-decidual relationship seemed to be the outstanding factors causing obstetric complications which resulted in fetal loss. So frequent were these notations in these reports that it seemed the real cause of fetal loss was related specifically to the proper formation and function of the placenta.

There are many factors involved which affect the proper development and function of the placenta. Poor germplasm may affect the formation of the trophoblast and, therefore, ultimately interfere with normal placental growth. The anatomic formation and development of the uterus itself may affect intrauterine growth and cause abortion, premature labor, or dystocias at the time of labor which may result in fetal loss. Such unusual conditions in some instances can be found on the usual careful plevic examination. However, in many cases minor abnormalities may be overlooked but can be determined by careful salpingohysterograms.

A third and most important cause of improper placental formation and development is the secretory function of the endometrium upon which the early blastocyst must implant and rely for its nourishment. The relationship established between the development of the early chorion and the satisfactory secretory ability of the endometrium influences the type of placenta which will be formed as gestation proceeds.

Methods of Improving Endometrial Function

There have been many methods described for the treatment of sterility and infertility which result from disturbed glandular and endometrial relationships. The results of many of these methods have been varied. Some years ago Hamblen[4] described the one-two cyclic gonadotropin therapy which consisted of using pituitary gonadotropins during the early portion of the cycle followed by chorionic gonadotropin after ovulation. Inasmuch as they have allergic propensities the pituitary gonadotropins were somewhat dangerous in this respect, and the patient had to be skin tested before this material could be used. Hamblen's method consisted of giving 500 units of this material from the fifth day of the cycle until ovulation time. This was followed by 500 units of chorionic gonadotropin for another ten days. Our results have been varied with this sort of therapy. We have noted however, that a definite luteotrophic effect occurs when chorionic gonadotropin is given over a considerable length of time. Such effect stimulates the endometrium so that it appeared as a pseudopregnancy when examined carefully under the microscope.

A second method of stimulating ovarian-pituitary function has been the use of stimulative doses of x-ray. Although we have not used this procedure many times, we have noted that the function of the endometrium has been improved in about 50 per cent of our cases. However, the series is very small, and no definite conclusions can be drawn at this time. The dose which we used was 75 r to the pituitary and the ovaries. This was given generally toward the first part of the cycle, and as a result of this stimulation the cycle started over again. It has been noted that stimulation of this kind will alter the regularity of the cycle.

We have obtained the best results by treating these problems with tiny doses of diethylstilbestrol alone or followed by progesterone. The treatment has consisted of giving 0.1 mg. of diethylstilbestrol for twelve successive days starting the day of the cessation of the menstrual flow. At first a much larger dose was given to these individuals, but in many cases it was found that diethylstilbestrol in large doses depressed the action of the pituitary and the ovaries, thereby holding back ovulation, and many times the patient went seventy to eighty days without menstrual bleeding. The dosage of diethylstilbestrol was finally set at 0.1 mg. Our routine is to biopsy the endometrium on the twenty-fourth to twenty-sixth day of the cycle for several months prior to treatment. This gives a baseline of quality of function of this tissue. If the tissue is not normal histologically or metabolically, the patient is given the diethylstilbestrol in dosages described above. The patient then is rebiopsied on the same day of the cycle and each month while the treatment is going on. The sections are compared with those obtained prior to treatment. The effect of these doses of diethylstilbestrol upon the endometrium is rather marked. It is noticed that there is a considerable increase in the vascularity in the tissue, particularly in the capillaries about the endometrial glands. There is also a rather marked change in the glands of the endometrium, and they may change from a nonsecretory to a secretory type.

If, however, the endometrium does not react to this type of medication, as noted by repeated biopsies, progesterone is added to the therapy. Twenty-five milligrams of this material are given every day for five days, starting the day that the diethylstilbestrol is stopped. The progesterone is given hypodermically. It is our impression that smaller doses of progesterone serve as a stimulative dose, while larger doses may actually have a depressive action upon the corpus luteum. In all cases the endometrial biopsies are repeated each month while the patient is under treatment. It is found that diethylstilbestrol either alone or in combination with progesterone has caused a marked increase in the secretory activity of the endometrium in 75 per cent of our cases.

A fourth method of stimulating the endometrium is by the use of dessicated thyroid extract. We are of the opinion that unless the patient showed definite signs of hypothyroidism, the use of the thyroid extract is of little avail. The basal metabolic reading in some instances perhaps does not give a true index of the thyroid status of the individual. However, it does not always mean that because a patient has a low metabolic rate, she is suffering from hypothyroidism. If, on the other hand, the basal metabolic rate together with the protein-bound iodine are both below normal and the patient exhibits signs and symptoms of hypothyroidism clinically, then the use of dessicated thyroid in adequate doses is indicated. The dosage generally ranged from 1 to 3 grains per day. We have had some results in patients who have exhibited these trends. However, in many instances it is better to use the small doses of diethylstilbestrol alone or with progesterone to get a more prompt action than to wait for the action of the thyroid which may require some months to take effect.

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The man who has not anything to boast of but his illustrious ancestors is like a potato—the only good belonging to him is underground.—Sir Thomas Overbury

Clinical Evaluation of a New and Superior Topical Vasoconstrictor, Tyzine

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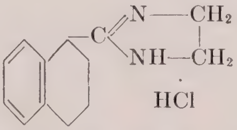
A NEW sympathomimetic agent, Tyzine,* which is designated chemically as 2-(1,2,3,4-tetrahydro-1-naphthyl) imidazoline hydrochloride, was used in 0.1 per cent aqueous solution as a nasal spray or as nose drops in the symptomatic treatment of 203 patients. In most cases the treatment was directed at relief of nasal congestion, but in a few instances the primary complaint was rhinorrhea manifested by clear postnasal drip. The results of this study indicate that Tyzine is more effective and better tolerated than other topical vasoconstrictors in current use.

The following is the structural formula of Tyzine:



It may be seen that Tyzine, like most other sympathomimetic agents,[1] consists of an aromatic nucleus and side radical containing an NH group (an NH_2 group in some compounds). Tyzine differs in that only one carbon atom, rather than two, separates the aromatic nucleus from the nitrogen in the side radical.

Like other such agents, Tyzine has a pressor effect when administered systemically. Topical application of 0.1 per cent aqueous solution to mucous membranes produces a local constriction of small blood vessels, which is the action responsible for the effectiveness of sympathomimetic agents in relieving the inflammatory hyperemia and edema of nasal congestion from various causes. In pharmacologic studies 0.1 per cent aqueous solution did not inhibit ciliary motion in tracheal rings of rats, thus indicating that the motion of nasal cilia should not be impaired by its use clinically.[2] The solution was found nonirritating on repeated application to rabbits' eyes. Determination of the intravenous LD_{50} in mice showed Tyzine to be about two-thirds as toxic as naphazoline (Privine) and only about one-eighth as toxic as phenylephrine (Neo-Synephrine). The absence of a central stimulatory action in mice (given Tyzine intravenously) indicates that the clinical use of Tyzine intranasally should not be attended with such effects as nervousness or insomnia, even if the drug were absorbed transmucosally. It was not absorbed in sufficient amounts to have a pressor effect, however, when 1 cc. of 1 per cent solution was instilled intranasally in dogs.

Materials and Methods

The preparation used in this clinical trial was an 0.1 per cent aqueous solution of Tyzine, which was odorless and tasteless and had a pH of 5.5 to 6.5. A total of 203 patients were treated: 93 males and 110 females ranging in age from eighteen months to eighty-one years and including 33 children aged eighteen months to twelve years. Treatment was given to relieve nasal congestion incident to the common cold (acute rhinitis) in 68 patients; for nasal congestion of allergic rhinitis in 55 patients; for nasal congestion of vasomotor rhinitis in 39 patients; for nasal congestion accompanying acute sinusitis in 20 patients (including 16 with ethmoiditis); for nasal congestion in two patients with chronic sinusitis and three patients with chronic rhinitis; for postoperative congestion following submucous resections in two patients; and for relief of eustachitis (congestive obstruction of the eustachian ostium) in 12 patients. In some patients, including two with atrophic rhinitis, the primary complaint was excessive discharge (postnasal drip) rather than nasal blocking.

The Tyzine solution was used as a nasal spray by 110 patients and as nose drops (3 to 5 drops in each nostril for both children and adults) by 93 patients. It is felt that a spray is superior to drops since the solution is thereby spread diffusely throughout the intranasal chambers, while nose drops usually flow along the floor of the nose and

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* Tyzine (brand of tetrahydrozoline) solution for intranasal use (0.1 per cent) was kindly supplied for this study by Dr. F. E. Bishop of Chas. Pfizer & Co., Inc., Brooklyn. Tyzine has been known in preliminary clinical studies as Compound S-8-61.

TABLE I.—Therapeutic Results in 203 Patients

Condition	Number of Cases	Results: Excellent	Fair	Poor
Acute rhinitis	68	64	4	. .
Allergic rhinitis	55	47	7	1
Vasomotor rhinitis	39	38	1	. .
Acute sinusitis	20	18	2	. .
Eustachitis	12	11	1	. .
Chronic rhinitis	3	3	. .	. .
Chronic sinusitis	2	2	. .	. .
Postoperative	2	2	. .	. .
Atrophic rhinitis	2	2	. .	. .
Totals	203	187	15	1

are then swallowed. Instillations were generally made four times a day (176 patients) but were made three times a day by nine patients, five times a day by 11, eight times a day by one, every two hours by two, and every three hours by three patients. One patient who was not benefited by an initial dose did not repeat. The duration of treatment in nearly all cases was four to seven days, but one patient continued treatment for ten days, one for twelve days, and six for fourteen days.

To determine the effect, if any, on blood pressure, readings were taken in 160 adult patients, including 20 with hypertension (systolic pressure over 150 mm. Hg, ranging from 160 to 200). These determinations were made before and after administration of the drug in the office and after a course of treatment at home.

Results

Table I shows the results obtained in this series. "Excellent" results indicate satisfactory relief, "fair" results indicate partial relief, and "poor" results indicate little or no relief.

Significant benefit was thus afforded in 99.5 per cent of the series, with 92 per cent obtaining excellent relief, 7.5 per cent partial relief, and only 0.5 per cent no relief. Excessive clear discharge with postnasal drip was relieved in all cases in which this symptom was primary.

Duration of Action.—Except for the one treatment failure, the vasoconstrictive response appeared immediately after instillation of the solution in all cases and lasted for two hours or longer. In the majority (162 patients) an instillation gave relief up to four hours, in five patients for two hours, in 30 patients up to three hours, and in five patients up to five hours. Following bedtime instillations relief was maintained through the night without a return of congestion entailing disturbance of sleep for remedication, as sometimes occurs with other preparations.

Continuous relief was possible by repetition of instillations at intervals as needed. The "fatigue" phenomenon, in which the nasal congestion no longer responds after frequent use of nose drops over a prolonged period, was not encountered with Tyzine solution, even in patients using it regularly for as long as two weeks.

Absence of Side-effects.—The particularly noteworthy feature of Tyzine solution was the absence of any untoward reactions. The principal shortcoming of earlier topical vasoconstrictors has been the fact that those without adverse reactions are generally lacking in effectiveness, while the more potent of them are attended with a fairly high incidence of unpleasant effects, both local and systemic. Locally, they may be irritating (with smarting and sneezing), especially with frequent and prolonged use, or they may occasion severe rhinorrhea as a consequence of their vasoconstrictive action, or after repeated use for more than a few days they may result in rebound congestion of the nasal mucosa and "habituation," so that recovery is delayed.[1] Despite the high effectiveness of Tyzine solution no instances of any of these effects occurred in this series, even in cases where treatment extended for as long as two weeks. The lack of odor and taste of Tyzine solution was an especially desirable quality.

Adverse systemic effects may be produced by the more potent agents when significant amounts are absorbed transnasally, thus resulting in cardiovascular and (with some agents) central stimulation. Frequent systemic reactions are palpitation, increased blood pressure, headache, dizziness, nausea and vomiting, nervousness, tremors, and insomnia.[1] Pressor effects are particularly undesirable in patients with hypertension and hyperthyroidism. Again, despite the high effectiveness of Tyzine no systemic effects of this kind were observed. The special study with respect to blood pressure revealed no pressor effect, even in hypertensive patients. The absence of insomnia following bedtime instillations is accountable for by the fact that relief lasts through the night, so that remedication before morning is not necessary, and by the fact that Tyzine is either not absorbed transnasally or has no central stimulatory action if so absorbed.

Tyzine solution, therefore, appears to be safe for use in patients who are unduly sensitive to other topical vasoconstrictors, as well as in hypertensive and hyperthyroid patients.

Summary and Conclusions

This report presents details of the use of a new sympathomimetic agent, Tyzine (0.1 per cent aqueous solution), as a topical nasal decongestant in 203 patients, including both children and adults. Of this series 68 patients had the acute rhinitis of the common cold, 94 had nasal allergies of various types, 12 had eustachitis, 22 had sinusitis, two had postoperative nasal congestion, and five had chronic rhinitis from various causes. The rhinopathic phenomena of all of these conditions, principally congestive swelling of the mucosa but also postnasal drip in some cases, were benefited by the use of this preparation. Tyzine solution gave excellent results in 92 per cent of the cases and fair results in 7.5 per cent and failed to provide relief in 0.5 per cent. The duration of relief after instillation of the solution was generally about four hours, and by repeated instillations as needed, relief was maintained continuously (for as long as two weeks in cases requiring treatment of such duration). The following observations drawn from this study indicate that Tyzine offers positive advantages over earlier topical vasoconstrictors:

1. The effectiveness of Tyzine (in terms of the promptness of action, degree of relief, and the percentage of patients benefited) was found equal or superior to that of the most potent agents in current use.
2. The decongestive action of Tyzine was found to be more prolonged so that continuous relief could be maintained by instillations at intervals of four hours in most cases, and, even more notably, bedtime instillations gave relief that lasted through the night. The appearance of refractoriness after frequent and prolonged use was not observed.
3. Despite the foregoing advantages, in terms of effectiveness and duration of action without "fatigue" of response, Tyzine was found entirely free of the adverse local and systemic reactions that frequently limit the usefulness of the more potent topical vasoconstrictors. The absence of rebound congestion, even with the use of Tyzine solution for as long as two weeks, was particularly noteworthy.

202 Weirfield Street

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HAROLD ABRAMSON, M.D., *Editor*

Factors in Infant Mortality as Revealed by the New York Academy of Medicine Study[*]

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In 1932 the Committee on Public Health Relations of the New York Academy of Medicine initiated a study of maternal mortality in the City of New York. When its results were published, it was noted that the mortality rate was approximately 60 per 10,000 births. This report revealed the need for a reduction in maternal deaths. One of the conclusions in the report was that two thirds of the deaths studied could have been prevented if the care of the woman had been proper in all respects. This conclusion has been justified, for ten years later the death rate was reduced to 20 per 10,000, and now with the improvement in the art and science of obstetrics and the discovery and use of antibiotics and chemotherapy, the maternal mortality rate has dropped to nine per 10,000 births.

However, it was not until 1947 that any interest was aroused for a study to determine whether a similar reduction in fetal and neonatal mortality was possible. The stimulus at this time was threefold:

1. Dr. Leona Baumgartner, then chief of the Bureau of Child Hygiene in the New York City Department of Health, laid before the committee a review of the infant and neonatal mortality rates in New York City from 1935 through 1946. This review showed that although the infant death rate had declined by 40 per cent, the reduction in neonatal mortality was only 24 per cent during this period of time. Therefore, she suggested to the committee that they undertake a study of neonatal mortality along the lines of the Maternal Mortality Study.
2. The Health Department of the City of New York undertook to revise Section 110 of the Sanitary Code to improve practice in hospitals offering maternity and infant care.[1]
3. A general study of the health needs of New York City was undertaken by the Committee of Public Health Relations of the New York Academy of Medicine in conjunction with the Health Council of Greater New York.

The Health Department enlisted the aid of the New York Academy of Medicine in suggesting changes for this revision of the Sanitary Code. A Subcommittee of the Committee of Public Health Relations, consisting of leading obstetricians and pediatricians was formed for this purpose. After many meetings, heated discussions, and differences of opinion among its members, the Committee submitted a report on the proposed minimum standards for newborn and maternity services in the City of New York. However, because of the many basic questions

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Presented at an open meeting of the Special Committee on Infant Mortality, Medical Society of the County of New York, December 8, 1952; Dr. Carl Goldmark, chairman, and Dr. Harold Abramson, secretary, 145 East 61st Street, New York 21.

[*] This paper is based in part on the first section of a study carried out under the auspices of the Infant Mortality Committee of the New York Academy of Medicine.

regarding policies and available facilities left unanswered, a need was indicated for an intensive study and survey to determine existing conditions and their effect on infant mortality. A field team consisting of an obstetrician, pediatrician, and public health nurse was organized to investigate the existing conditions in the various hospitals relative to the policies, practices, and facilities as applied to their maternity services. On the basis of the standards submitted to the Health Department for the proposed changes in Section 110 of the Sanitary Code, a questionnaire and inventory were prepared for use in evaluating the 107 hospitals having newborn and maternity services.

Scope of the Study

The City was divided into boroughs, and the hospitals in each borough were investigated in order of ease of location. A letter was sent to each institution about one week before the personal call was made, explaining the purpose of the study and what would be required for the investigators. The next procedure was for a member of the team to call in person, and after explaining to the administrator of the hospital the purpose of the visit and the survey, a convenient date would be made for the investigation of the institution. The antepartum clinics, labor and delivery rooms, the postpartum floor, nurseries and formula room, and a sample of the records were reviewed. The purpose of the visit was to obtain direct information relative to existing conditions. We were not interested in what the books theoretically said should be done, nor were we interested in passing judgment on the institution. We investigated actual processes by chart analysis and observations and compared the facts obtained with the proposed minimum standards and hoped that we might correlate these facts with known infant morbidity and mortality. A random examination was made of six stillborn and six neonatal deaths picked from the record room. In this way we were able, after visiting all the institutions, to tabulate certain facts and figures which form the basis of the report published by the New York Academy of Medicine and from which I will draw liberally for my material.[2]

Since practically all the maternity services in New York City were covered by this study, the reported results reveal the pattern of maternal and infant care in this community. One hundred and seven hospitals at the time of the survey offered maternity and newborn services. One hospital in the city maintains a prenatal clinic but refers its patients elsewhere for delivery. Since this survey, because of the inability or the unwillingness on the part of some institutions to meet existing standards, changes have taken place in the number of maternity services.

TABLE I.—Classification of Hospitals Visited

Type	Size of Institution Large	 Medium	 Small	 Total
Municipal	3	9	0	12
Voluntary	20	37	5	62
Proprietary	0	18	12	30
TOTAL	23	64	17	104

TABLE II.—Distribution of Maternity Services According to Boroughs

Borough	Per Cent of Maternity Services	Per Cent of Population
Manhattan	32	25
Bronx	14	18
Brooklyn	36	35
Queens	14	20
Richmond	4	2

TABLE III.—Distribution of Births

Borough	By Residence of Mother	By Location of Hospital
Manhattan	21.2	30.7
Bronx	18.8	14.0
Brooklyn	38.5	40.9
Queens	19.0	11.7
Richmond	2.5	2.7

Cooperation among most of the hospitals was excellent, and the task was made easier because of it. However, there were three private hospitals which refused to allow the investigation and thus failed to cooperate in the survey. Consequently, 104 institutions were visited and inspected to obtain our statistics. These consisted of 12 municipal, 62 voluntary, and 30 proprietary hospitals (Table I). In terms of size of service 23 were classified as large (50 or more maternity beds), 17 as small (less than 20 maternity beds), and the remaining 64 as medium.

The distribution of maternity services according to boroughs at the time of the survey is shown in Table II.

On the basis of this comparison, Brooklyn is the only borough in which the two figures come very close together; in Richmond and Manhattan the proportion of hospitals exceeds that of the population, while the reverse holds true in the remaining two boroughs.

A somewhat greater degree of imbalance

TABLE IV.—Distribution of Antepartum Clinics

Borough	Per Cent of Antepartum Clinics	Per Cent of Births
Manhattan	36	31
Bronx	9	14
Brooklyn	41	41
Queens	10	11
Richmond	4	3

appears when the distribution of births is compared by borough of mother's residence and by location of maternity service (Table III).

Here again, the number of births occurring on the maternity services in Manhattan greatly exceeds its proportion of resident births. In the Bronx and Queens the situation is reversed, while in Brooklyn and Richmond the percentages are fairly evenly balanced. The discrepancy is greater than it was in the previous comparison because Manhattan includes not only a relatively larger number of hospitals but also those with larger capacity maternity services. With the changes mentioned above, you can see that this discrepancy is going to be even greater in the future, but from the viewpoint of public health, the imbalance in this respect is probably of limited significance.

What are the scope and character of the various obstetric clinic practices in New York City, and how do they vary from one another in the quantitative and qualitative aspects of prevailing practices, facilities, and personnel? One must realize here that private prenatal care cannot be evaluated in the following figures. The quality of that care is contingent on the ability, training, and integrity of each individual physician—where the care is good, complications are less, and conversely where it is poor, more difficulties are encountered.

Two thirds of the maternity services in the city have antepartum clinics: 24 are in Manhattan, 28 in Brooklyn, six in the Bronx, seven in Queens, and three in Richmond. The percentage distribution of clinics by borough and the corresponding distribution of births by residence of mother are shown in Table IV.

This indicates a relative concentration of clinics in Manhattan, the expected proportion in Brooklyn, and relatively smaller proportions in the other boroughs.

Of the existing prenatal clinics 55 per cent conformed to the minimum standards of antepartum care as formulated by the New York Academy of Medicine. In the rest the deviations from the standards included insufficiency of the medical staff and inadequate procedures. In 30 per cent of the clinics the physical plant and available space and equipment fall far below standard.

Complications of pregnancy, such as toxemias, etc., may be overlooked because of the lack of close supervision in maternity clinics. In more than 40 per cent the parturient woman is not seen by a physician on each visit and on the first visit may be seen only by a registrar and social worker. In addition, laboratory reports are usually not available at each visit but are attached to the chart at a later date. If something of importance is carried in these records, it can easily be overlooked or not discovered until too late. Furthermore, 70 per cent of the clinics have no effective follow-up program for those patients who fail to keep their appointments. All this adds up to poor prenatal care.

Case 1.—A thirty-four-year-old gravida 2, para 1, was examined in the clinic on August 11. Last menstrual period was January 2, and expected date of confinement was October 9. Blood pressure was 160/100. Urine report, which was later added to the chart, showed 25 to 30 fine granular casts, 4 to 6 coarse granular casts, 4 plus albumin, 3 to 6 pus casts, 8 to 10 hyaline casts, and white blood cell clumps. No attempt was made to follow up this patient, and since the report was added to the chart after clinic hours were over, these facts were not discovered until about ten days later when the patient next presented herself at the hospital with vaginal bleeding and no fetal heart. A diagnosis of premature separation of the placenta was made for the cause of death after the stillborn delivery.

Evaluation of Maternal Care in Hospital

Let us now follow the inpatients department in obstretrics and see what conditions actually exist. We will discuss each unit in turn.

The Labor Unit.—The average maternity service of the city has four labor beds; one fourth have six to seven, and a similar proportion have only one to two. Six services have no labor rooms at all. In three out of every four services patients in labor are accepted in excess of capacity and placed in private rooms, in extra beds, added to present quarters, or in similar makeshift labor units including public hallways, side rooms, stretchers, or any other space where a bed or table can be accommodated.

In 33 per cent of the services proper equipment

TABLE V.—PERCENTAGE OF SERVICES LACKING ESSENTIAL DELIVERY UNIT EQUIPMENT

Equipment	Per Cent of Services Lacking
Incubator	13
Resuscitator	15
Anesthesia inhalator	16
Heated crib	23
Sink	34
Cutdown set	36
Baby conveyor	48
Tracheal intubation set	57

was lacking in the labor units, and in 28 per cent of the institutions the facilities of the labor unit failed to meet the proposed minimum standards. In terms of recommended standards the care provided for patients in labor has been found to be inadequate in many of the services.

THE DELIVERY UNIT—Like other units of the hospital maternity services, delivery units are generally overcrowded; two thirds of the services indicate that occasionally they are compelled to use labor unit beds, stretchers, and hallways in order to cope with admissions in excess of capacity. In one fifth the beds are either added to the existing delivery unit or set up in any other available space, while the remaining services make no provisions for such overflow. This is also reflected in the postpartum unit where because of overcrowding it was necessary to discharge patients on the third or fourth postpartum day.

The equipment of the delivery unit is the weakest element. Table V is a list of the essential items of equipment and the percentage of services lacking each.

As far as physical facilities are concerned, less than one sixth of the services met all of the recommended standards. Fully 85 per cent lacked some equipment, while 13 per cent showed major deficiencies. However, all but 6 per cent of the services met all the general standards in the procedure of delivery.

THE POSTPARTUM UNIT—In one half of the services the bed capacity ranges between 26 and 50; in 33 services it falls below 26, while in the remaining 19 institutions it varies from 51 to more than 100 beds. The total capacity in the city is approximately 4,550 beds. Overcrowding in the postpartum unit is present in 25 per cent of the hospitals where less than 50 square feet per patient is provided. This problem is met either by earlier discharge of the patient or the addition of extra beds to already overcrowded quarters. Hence, the facilities for combating infection and the prevention of its spread are lacking.

With the overcrowding of the postpartum unit, its facilities are also overtaxed, and especially today with early ambulation, it is not too uncommon to see ambulatory patients "queue up" to use toilet facilities.

In 5 per cent of the services patients are discharged on the fourth postpartum day and in 28 per cent on the fifth, while in 23 per cent this occurs on the eighth day or later. In the remaining services discharge is on the sixth or seventh day.

Evaluation of Infant Care in Hospital

Let us now follow the infant in the hospital and evaluate its care. The infant in the delivery room is the responsibility of the obstetrician, and it is usually he who takes charge of resuscitating the distressed baby. However, oftentimes, while the accoucheur is busy with the mother, this task falls to the lot of a nurse or intern, who in many instances knows very little of resuscitating the newborn. In 21 per cent of the institutions there was no provision for either a heated crib or incubator if needed, while in 15 per cent no resuscitator was found and in 57 per cent no tracheal intubation set was present in the delivery room. This means, as we shall see later, that some distressed newborns were lost because of lack of equipment and trained personnel.

Two basic elements of the nursery were considered in this survey: (1) the physical plant, comprising capacity, facilities, and equipment and (2) the administrative procedures, policies and practices, personnel, and job assignment.

According to present regulations or desires of the Health Department, the number of cribs or bassinets per nursery shall not exceed eight; yet only 15 per cent of the hospitals in this city have nurseries which meet this standard. Nurseries of excessive size with 20 or more cribs were found in 57 per cent of the hospitals, and one institution had 110 cribs in one nursery. An adequate amount of space per bassinet is necessary in order to prevent overcrowding and to safeguard the principle of individual technic in the care of the infant, thus avoiding the risk of cross infection. For this amount of floor space per crib, the standards formulated for this study recommend a minimum of 20 square feet. All nurseries have been studied with regard to this item of safe capacity. Since a hospital may have more than one nursery, in the 104 hospitals investigated there was a total of 225

TABLE VI.—COMPARISON BETWEEN BASSINETS AND BEDS

Comparison	Number of Hospitals
More bassinets than beds	51
More beds than bassinets	25
Same number of bassinets and beds	25
No information	3
TOTAL	104

nurseries. Only 28 per cent met the standard of 20 square feet per crib, while 70 per cent fell below it, and in the remaining 2 per cent the information was not adequate. The average nursery has 16.8 square feet per crib.

The present Sanitary Code of New York City requires a minimum of 6 inches between bassinets. In 29 per cent of the hospitals the observed distances was less than this requirement, and in four the cribs are aligned without any space whatsoever between them. Thus approximately one third of the hospitals violate the Sanitary Code in this respect. The usual arrangement is to place the cribs along the walls of the nursery, leaving the center of the room free and so allowing convenient access to each crib. Half of the nurseries follow this pattern. In one third the cribs are aligned in rows with aisles between them, while in the remaining 17 per cent the nurseries are practically filled with cribs without any regular arrangement. In some instances certain cribs could be reached only by moving those adjoining them. In one hospital it was found that cribs were attached to the wall, overhanging other cribs, double-decker fashion.

The annual load ranges from less than 30 to more than 70 annual births per crib; in one institution it was 113. The rate of turnover is obviously associated with the length of the mother's stay in the hospital. In some instances the reported length of stay was inaccurate as could be determined from the crib ratio. For example, one hospital stated that on the average it discharged mothers on the sixth day after birth, but this hospital had an annual ratio of 110 live births per crib which would limit each baby's stay to an average of 3.2 days unless doubling-up occurred. Overcrowding in the nursery may also be caused by the acceptance of maternity cases above the number of available bassinets. The figures in Table VI indicate the comparison between bassinets and beds in the maternity services of New York City.

Thus it is seen that in 25 hospitals the number of postpartum beds exceeds the number of bassinets in the regular nursery, making overcrowding a reality, especially if one takes into consideration multiple births and premature infants who remain in the hospital after the mother's discharge.

It has generally been recommended that an individual bassinet be supplied for each newborn infant and that all equipment for its care should be kept in the baby's own bassinet or bedside table. In 45 per cent of the hospitals individual cribs are used exclusively; in 10 per cent only racks of bassinets are used exclusively, and in the remaining 45 per cent both individual cribs and racks are found. In 16 hospitals newborn infants are taken from their bassinets to a central diapering and bathing table. The provision of individual bassinets for infants does not always mean that individual supplies and equipment or an individualized technic are used.

Newborn infants may exhibit respiratory difficulty from various causes. There is, therefore, a need to provide equipment for aspiration and resuscitation in the nursery. Equally important is the provision of personnel in the nursery skilled and experienced in these procedures. A total of 97 hospitals of the 104 maintain some type of aspirator in the nursery service, but only *seven* of the hospitals provide equipment necessary for neonatal resuscitation. This fact is of particular significance, because asphyxia is one of the important causes of neonatal mortality.

One of the basic principles in the care of the newborn infant, and particularly in the prevention of the spread of infection, is scrupulous handwashing by personnel between the handling of infants after diapering and before feeding them. In order to carry out this principle each nursery room should have its hot and cold running water, soap, and disposable towels. In this survey 73 per cent of the nurseries were found to have running water in each nursery room, 19 per cent no running water at all, and 8 per cent have facilities in some but not all nurseries. Thus, 27 per cent of the hospitals are in violation of this provision in the Sanitary Code. Furthermore, the availability of handwashing facilities within the nursery room does not necessarily mean that compulsory handwashing is practiced. In 67 per cent of the institutions this is not a routine performance after the diapering of infants. In 51 per cent of the hospitals sink faucets are hand controlled, the type most likely to lead to infection from contaminated hands.

Dry sweeping, also forbidden by the Sanitary Code of New York City, is practiced in 16 per cent of the nurseries, while the remaining 84 per cent adhere to the recognized damp mopping. In 22 per cent of the institutions nurses, rather than cleaning personnel, mop the floors.

After a baby's discharge from the hospital the equipment used by its successor is not sterilized in 11 per cent of the services, and in 6 per cent of the hospitals crib mattresses are neither sterilized nor washed. Thermometers, another possible vector of cross infection, are not individual in many institutions.

In 24 per cent of the hospitals where the nurses are responsible for bottle feeding, babies were found to be left alone with "propped bottles" at one time or another, a practice which occasionally causes accidental aspiration of milk. In only 7 per cent of the hospitals were all babies observed to be held or supported during all feedings; in the rest there is reason to believe that bottle-propping is practiced occasionally. In one institution, I can recall to mind, when this question of bottle-propping was asked, it was vigorously denied by the staff, but unfortunately, the venetian blind covering the picture window of the nursery was left up, and I could see the babies being fed by propped bottles.

The formula room is also a very important part of the newborn service. Two hospitals were found to patronize commercial formula services; otherwise all formulas were prepared within the hospital, either by a professional nurse in 75 per cent, a dietitian in 14 per cent, and an untrained person in the remaining 11 per cent of the institutions. Sterilization varied with the different hospitals, as did storage of the prepared formulas. In 16 per cent of the hospitals it was found that the milk was kept at temperatures higher than the recommended 50 F.

Two hospitals in the city have developed a rooming-in-care program for mother and baby, and to date the reports of the workability of the program have all been good.

Care of Premature Infants

The care of premature infants poses a special problem, and although the study in New York City is not complete, it is now known that very few institutions can cope with the problem. Because of this the City Health Department has developed centralized nurseries for premature care in an attempt to provide more adequate facilities and qualified personnel than might be found in the average maternity service. How this will work out remains to be seen.

It is generally accepted that there are four major considerations in the care of premature infants: (1) assistance to the infant in the maintenance of respiration, (2) provision of heat, (3) proper feeding, and (4) prevention of infection.

Of the 42 premature nursery units 80 per cent are located in the maternity division and 20 per cent in the pediatric section of the hospital.

Less than 30 per cent of the hospitals follow the recommended assignment of a maximum of eight babies per unit. Only one third have the recommended floor space of 30 square feet per crib. Sanitation facilities in the premature nurseries are generally better than they are in the average full-term nursery, but in many instances there is a lack of sinks, individual storage, separate examination facilities, and other equipment for individual care and isolation of the premature baby.

Since approximately 5 per cent of all liveborn infants in New York City are premature by birth weight, it might be expected that each hospital would provide an incubator or a heated crib for every 12 beds in the newborn service. However, fully one fourth of the hospitals fail to provide this ratio. Only 17 hospitals record the temperature of the incubator, and only 38 use the infant's temperature as a guide to control the heat provided. Incubators which have constant air-conditioning, high humidity, and sanitary working portholes are rarely seen in nurseries. It is a wonder that we do not see more "cooked babies." Oxygen is apparently available in over 95 per cent of the nurseries at all times.

It is generally recognized that great skill is required in the feeding of premature infants because of the occasional absence or weakness of the sucking and swallowing reflexes. Premature infants must be held or supported during feeding to prevent possible choking and aspiration. Yet in only 30 per cent of the hospitals was this policy maintained; in 6 per cent only difficult feeders were given this care; in 25 per cent the bottles were propped, and in the remainder any combination, depending on available personnel, was employed.

Gavage feeding, managed by a wide variety of personnel—physicians, nurses, and aides with or without training—was employed in 80 per cent

TABLE VII.—GENERAL RATINGS OF HOSPITAL

Scale Position	Evaluation	Number of Hospitals
90–100	Excellent, outstanding in all respects	2
75–89	Very good, meeting general standards	22
50–74	Average, meeting minimum standards	28
25–49	Fair, failing on some standards	31
0 –24	Poor to very poor, failing on most standards	19
Not rated		2
TOTAL		104

of the hospitals, while feeding with a dropper or Breck feeder was observed in 78 per cent of the hospitals.

Now that we have analyzed the hospitals in relation to physical plants, facilities, and equipment, we are left with two subjects yet to discuss before we can analyze the infant mortality: (1) the relation of the institution to the care of the mother and child and (2) professional personnel.

Relation of Institution to Care of Mother and Child

A general rating of each hospital was prepared in cooperation with members of the staff of the Health Department. The maternity services were rated on the degree of compliance with recommended standards. The evaluations varying from excellent to very poor were converted into a rating scale from 0 to 100, and the 104 services were thus placed in one of six categories (Table VII).

The voluntary and municipal hospitals had a higher average rating than the proprietary services. Of the former two groups approximately seven tenths were rated as average or better, while only 23 per cent of the proprietary hospitals were so rated. The municipal hospitals were rated slightly lower than the voluntary services. The maternity service of less than 20 beds appears generally inferior to those of larger capacity and is also more frequently overcrowded.

The total score on the inventory contributed another criterion for appraisal of the hospitals. It was based on 70 separate items, many of which incorporated more than one question. While any one of the items may be of limited significance and doubtful validity, the total number of questions representing the collective judgment of experienced obstetricians and pediatricians constitutes a test of the over-all quality of service. In the light of this assumption, it is possible to validate any single item by correlating it with the total score. The total score of the inventory represents the status of the institution with regard to more than one hundred questions of policy and procedure, personnel, facilities, and equipment. The actual scores of the 104 hospitals range from 52–103 with an average of 79; the potential range of score is from 0–140 (Table VIII).

TABLE VIII.—RESULTS OF INVENTORY APPRAISAL OF HOSPITALS

Score	Number of Hospitals
99–103	4
92–98	8
86–91	20
74–85	36
66–73	22
56–65	11
52–55	3

One of the essential aspects of obstetric services is the formulation of proper policies regarding qualifications of the visiting staff and the enforcement of such regulations. This item of information is not readily available but has been obtained in this study from a review of the formal statement by the hospital and from examination of actual case records. Instances of violation of the consultation policy were found in 30 per cent of the large services, 67 per cent of the medium, and 84 per cent of the small services. In fact only 19 small institutions had consultation policies which were well followed. None of the large services had frequent violations, while one third of the small services were found to have frequent violations. This problem will be discussed again under professional personnel.

Services with less than 20 maternity beds are generally inferior to those of larger hospitals. The factor of size, however, is more closely related to the adequacy of maternal care than to the adequacy of care in the newborn nursery. The type of service is interrelated with its size; no municipal service is small, that is, having less than 20 maternity beds. Of the 19 small services in the city two thirds are proprietary and one third in voluntary institutions. The lower status of the small services is to some extent attributable to the difference in type, since proprietary institutions have somewhat lower scores than the other two groups. Within each type and group, however, there is a positive relation between the size of the hospital and its general rating. Among voluntary hospitals the average general ratings increase from 38 for the small to 55 for the medium sized and up to 82 for the large size; the

TABLE IX.—Distribution of Hospitals According to Qualification of Physicians

Type	Size of Maternity Service			Total
	Under 20 Beds	20 to 49 Beds	50 Beds and Over	
OBSTETRIC SERVICE				
Municipal hospital				
Qualified obstetrician	0	8	4	12
Not qualified	0	0	0	0
Voluntary hospital				
Qualified obstetrician	3	35	18	56
Not qualified	2	4	0	6
Proprietary hospital				
Qualified obstetrician				
Active supervision	3	8	0	11
Nominal supervision	9	8	0	17
Not qualified	1	1	0	2
Total	18	64	22	104
NEWBORN NURSERY				
Municipal hospital				
Qualified pediatrician	0	8	3	11
Qualified pediatrician or obstetrician	0	0	1	1
Not qualified	0	0	0	0
Voluntary hospital				
Qualified pediatrician	4	37	17	58
Qualified obstetrician	0	1	0	1
Qualified pediatrician (partial supervision)	0	0	1	1
Not qualified pediatrician	1	0	0	1
No physician in charge	0	1	0	1
Proprietary hospital				
Qualified pediatrician				
Active supervision	4	9	0	13
Nominal supervision	8	6	0	14
Not qualified pediatrician	0	1	0	1
No physician in charge	1	1	0	2
Total	18	64	22	104

average ratings for the small and medium services are 19 and 40, respectively. Among the municipal institutions the averages of the medium and large are 39 and 51, respectively. Thus the factor of size appears to be positively related to quality of service in each of the three types of hospitals.

Professional Personnel

Two aspects of personnel were considered in this study: (1) the qualifications of the physicians practicing obstetrics and pediatrics and of physicians in charge of the obstetric service and newborn nursery and (2) the nature of the nursing staff, including the standards of nursing care, the quantity and quality of nursing staff, and the amount of supervision of nursing personnel.

Physicians.—Of the 104 hospitals investigated 75 per cent provided supervision of the obstetric service by a qualified obstetrician, while 25 per cent did not. The size of the hospital is significant in this respect. Of those having less than 20 maternity beds, only 33 per cent provided qualified supervision; of those having 20 to 49 beds, 80 per cent were under the supervision of qualified men. All of the large hospitals with 50 or more maternity beds have qualified supervision.

The type of the hospital is another determinant. In all of the municipal and in 90 per cent of the voluntary hospitals, the physician in charge was a qualified obstetrician; in the others he was unqualified in obstetrics. Among voluntary hospitals with less than 20 maternity beds, 40 per cent did not have qualified obstetricians in charge of the service. All of them with 50 or more beds have a qualified obstetrician in charge of and responsible for the conduct of the maternity service. In the proprietary services 28 hospitals reportedly have a qualified obstetrician in charge of the service; two did not. According to our study of the 28 hospitals having qualified obstetricians, in only 11 was the actual responsibility for the supervision of the maternity service so delegated. In the other 17 he was only a nominal appointee vested with little or no authority by the hospital.

Of the 104 hospitals 80 per cent provided a qualified pediatrician in active or continuous supervision of newborn services; the other 20 did not. As in the case of the obstetric service it is the small hospital which often fails to provide supervision of the newborn services by a qualified pediatrician.

Distribution of hospitals according to qualifications of physician in charge of obstetric service by type and size of service is shown in Table IX.

In order to clarify the term specialist some arbitrary standard must be set. The standard that we used was either a Diplomate of the American Board of Obstetrics and Gynecology, a Licentiate of the American Board of Pediatrics, those classified as a specialist by the county societies under the Workmen's Compensation Act, or where evidence is produced that a man has had special training and holds a responsible position, such as consultant, director, or attending, in a hospital recognized and approved either by the Council on Medical Education and Hospitals of the American Medical Association or by the American College of Surgeons.

Some institutions have men with various ratings in voluntary and municipal hospitals performing major obstetric procedures. These ratings vary from clinical assistant to full attending in the departments of medicine and its allied branches, pediatrics, urology, surgery, vascular surgery, orthopedic surgery, anesthesiology, dermatology, ear, nose and throat, radiology, pathology, proctology, ophthamalogy, physical medicine, gastroenterology, endocrinology, and also, medical inspectors for the Board of Health.

The list includes the following specialty ratings also:

SC	Traumatic Surgery
SA	General Surgery
SM	Anesthesia (6)
SM	Tuberculosis and Lung Diseases (2)
SCD	Traumatic Surgery, Radiology (1)
SCG	Traumatic Surgery, Genitourinary Diseases
SAC	General Surgery, Traumatic Surgery
SBM	Orthopedic Surgery, Physical Therapy (1)
SAG	General Surgery, Genitourinary Diseases

The diplomates are included in the following group:

L-P	Licentiate American Board of Pediatrics
D-S—SAC	Diplomate American Board of Surgery
D-S—SACM	Diplomate American Board of Surgery (16)
D-OS—SB	Diplomate American Board of Orthopedic Surgery
D-DS—SH	Diplomate American Board of Dermatology and Syphilology

In addition to the actual delivery being conducted by these men, the prenatal care also becomes inadequate, and hence, the incidence of complications in these patients is higher. While economic and other factors might be blamed for the high mortality rate, the situation, although seemingly uncontrollable, could be improved by trained obstetric care and control.

Nurses.—Two sources of information were available regarding the quantity and quality of the nursing staff caring for the maternity and newborn patients: (1) personal observations by the investigating team in conference with the administrator of nursing in the hospital and (2) a questionnaire filled out by the administrator at her convenience.

Current standards recommend that the care of maternity and newborn patients should be under the supervision of a graduate professional nurse trained in her specific branch. In addition to the supervisor and head nurses, one for each department—labor, delivery, postpartum, nursery, and formula room, there should be a ratio of one registered nurse to every ten maternity patients during the day and one to every 20 patients during the night. In the case of the newborn service, in addition to the supervisor, there should be at all times a minimum of one registered nurse to every eight babies during the day and one to every 16 during the night.

Of the 104 hospitals 56 provided a supervisor of nurses for the maternity service. In 41 of these she had the added responsibility of overseeing the newborn nursery service, while in 15 her responsibility was specifically limited to the maternity service. In 48 hospitals there was no supervisor.

Fifty-three of the 104 hospitals provided a supervisor of nursing for the newborn service alone, while in 41 she is also responsible for supervising the maternity service, and in one hospital she covered the pediatric service as well. Only 11 hospitals had a nursing supervisor assigned exclusively to the newborn nursery.

The quality and quantity of nursing care varies within the different institutions. A relatively large number of professional nurses are assigned to labor and delivery. In 34 of the 104 hospitals the nursing staff in these units consisted almost entirely of registered nurses; in 12 hospitals, however, less than one third of the nursing staff were registered nurses. Proportionately few professional nurses were assigned to the postpartum unit and newborn nurseries. Practicals, licensed and unlicensed, made up the deficit in pro-

TABLE X.—NEONATAL MORTALITY RATES IN HOSPITALS

Number of Hospitals	Mortality Rate Varied from
13	4.6 to 11.9
42	12.0 to 18.9
32	19.0 to 24.9
17	25.0 to 38.8*

* This includes some of the largest hospitals.

fessional nursing in these institutions, and where substandard nursing care is offered, it is reflected in the inadequate care of the patients.

One other point to be mentioned here in passing is the quality of anesthesia given in the delivery room. In 60 per cent of the services anesthetics are administered by an intern, house physician, nurse, or other person without qualifications as an anesthetist. It is a wonder more complications do not arise in this important phase in the delivery of the mother and baby.

Application of Statistics to Infant Mortality

But where does this all lead us, and what relation does this all have on infant mortality and morbidity? I will now show you some of the application of all these statistics. When the report of the Academy of Medicine is published on the second part of this study, the investigation of 1,000 stillborn and neonatal deaths, more of the answers will be put forth. The following is a small insight into the future.

While deaths of newborn infants are attributable to many factors outside of the hospitals, the conditions and facilities within these are of the utmost importance. Some of the hospitals, particularly small ones and those under proprietary auspices, have no facilities for caring for premature babies. Thus premature babies as well as those with birth injuries are transferred to other hospitals, either municipal or the large voluntary hospitals. For the city as a whole in 1947–1948 the neonatal mortality rate (deaths under one month per 1,000 live births) was 20. Among the 104 maternity services studied, the rate is shown in Table X.

For the voluntary hospitals there was found a negative correlation between the size and the rate of neonatal mortality. The average rate of the small services was 21.0, while the corresponding rate for the large services was only 17.5. Hospitals having fewer than seven babies per nurse had an average neonatal mortality rate of 17.6, while those with seven or more babies per nurse had an average neonatal mortality rate of 19.8 per 10,000 live births. Maternity services in which the period of hospitalization is less than a week have a neonatal rate of 21.3; those in which it is exactly seven days have a rate of 20.8, while those in which the period of hospitalization exceeds seven days have a neonatal mortality rate of only 16.3. There is, of course, no indication of a causative relationship. It merely shows that maternity services of larger capacity, which have adequate nursing staff and relatively longer periods of hospitalization, have also relatively lower rates of neonatal mortality.

During the visit to each hospital a record of the number and type of deliveries during a six-month period was abstracted; a random sampling of the records of neonatal and stillborn deaths was taken, and the rules and regulations of the obstetric service, as laid down by the individual medical boards of each hospital, were reviewed. By this means, differences between the stated privileges granted members of these hospitals and their enforcement showed wide variance. Here was found a great source of fetal death.

When one is licensed to practice medicine in the State of New York, he or she is licensed to practice obstetrics as well as medicine and surgery. Each hospital through its medical board usually restricts the privileges of each individual man depending upon his qualifications. The rigidity of these restrictions vary in different hospitals. Unfortunately obstetrics is bypassed as of little importance in most institutions, and very little restriction is made on the nonspecialist obstetrician. This was brought out in this study where in some hospitals, the number of major obstetric procedures performed by nonskilled and unqualified obstetricians reached high proportions.

In our check of these institutions we found 680 violations of consultation policies. These violations were of the regulations set forth by the medical board of the individual institution and were not those proposed in the minimum standards set forth by the committee investigating the hospitals. In checking a total of 575 major operative deliveries resulting in stillbirths and neonatal deaths, it was found that only 76 cases had been under the care of recognized obstetric specialists; the remaining 499 cases were all performed by physicians not qualified in major obstetrics. There were 207 breech deliveries in primiparas, 193 cesarean sections, 15 versions and breech ex-

TABLE XI.—CAUSES OF 575 STILLBORN AND NEONATAL DEATHS

Cause of Death	Number
Intracranial hemorrhage	52
Low forceps	15
Mid forceps	33
High forceps	4
Breech deliveries	23
Birth trauma	40
Adrenal hemorrhage	3
Impacted shoulders	3
Congenital anomalies	59
Prematurity	46
Cause undetermined	87
Cord around the neck	23
Vaginal bleeding antepartum	34
Asphyxia, atelectasis, and aspiration	93
Asphyxia	15
Atelectasis	61
Aspiration	17
Rh factor	19
Died after transfusion	1
Erythroblastosis fetalis	18
Poor pediatric care	17
Dehydration	3
Pneumonia	10
Diarrhea	2
Hemorrhage from umbilicus	2
Poor prenatal care	47
Toxemia	35
Lues	5
Diabetes	4
Thyrotoxicosis	3

tractions, three face presentations, eight high forceps, and one craniotomy.

Of the 499 cases of infant mortality only 59 had congenital anomalies incompatible with life, and 46 showed signs of prematurity. A total of 118 cases died secondary to birth trauma resulting from forceps deliveries with intracranial hemorrhages or from traumatic breech deliveries; 47 cases died because of inadequate or incomplete prenatal care; 15 died because of poor pediatric care and 103 from atelectasis or aspiration (some of the aspiration deaths were following aspiration of the formula associated in most instances with propped bottles). Thirty-four of the deaths were associated with vaginal bleeding in the antepartum period and 19 with one of the various forms of erythroblastosis fetalis. Cord around the neck was listed as the cause in 23 cases, and in 87 cases no apparent reason for the mortality could be found.

In our check among the practitioners who performed these procedures, 621 were classified as general practitioners, and the others were specialists and diplomates of various other boards, such as pediatrics (doing obstetrics), general surgery, orthopedic surgery, and dermatology and syphilology, but who nevertheless performed major obstetric operations. The blame for this condition must be laid directly to the medical boards of the individual institutions. While the private hospitals are the most lax in the enforcement of regulations, some of the voluntary hospitals afford privileges without keen awareness of the physician's obstetric training and abilities. For example, one voluntary hospital has an XAC, a general practitioner with major privileges in general surgery and minor privileges in traumatic surgery, as classified by the county medical society, as the director of obstetrics. Another voluntary hospital has only one man of the 33 afforded full obstetric privileges who is classified as a specialist and only two others with some special training in obstetrics.

In order to demonstrate more forcibly what really happens, I will cite a series of cases, resulting in mortalities, under the care of the nontrained obstetrician.

Birth Traumas and Intracranial Hemorrhage

CASE 2.—A thirty-five-year-old primipara had an unsuccessful Kielland rotation followed by axis traction, still with no descent. Finally, craniotomy and version and extraction were done.

CASE 3.—This primipara was admitted at 4:35 A.M. She was given 100 mg. of Demerol at 2:30 P.M. and delivered at 6:30 P.M. Low Elliot forceps slipped twice when applied; Kiellands were applied and slipped, and Elliots were reapplied and the head rotated from transverse to anterior. The baby was delivered with contusions of the right ear and left eyebrow and lacerations of the scalp. It expired six hours later after considerable twitching.

CASE 4.—A primipara, ten hours in labor, was delivered with mid high forceps. The stillborn infant showed right facial palsy, evidence of trauma to the head and face incident to forceps delivery, subconjunctival hemorrhage, laceration of the scalp, transverse fracture of left clavicle and possibly right clavicle.

CASE 5.—It was felt that this primipara, thirty-six hours in labor, had been fully dilated after twenty-four hours. An attempted forceps extraction with Simpson, axis traction, and Elliots forceps was unsuccessful, and attempts at delivery were discontinued because the blades slipped off the head. Four hours later a consultant reported as follows: "Large unmolded head overriding symphysis; cervix contracted to one finger and rigid. Fetus in right occiput posterior position and heart good. In view of cephalic pelvic disproportion, length of labor, failure to engage, and failure at attempted forceps, cesarean section is advised." At delivery there was some trauma of the head and neck of the infant incidental to forceps application. The infant expired from cerebral injury and intracranial bleeding.

Case 6.—A thirty-four-year-old primipara was delivered by difficult midforceps with axis traction and scanzoni rotation. Postmortem examination of the stillborn infant showed atelectasis, laceration of the scalp, fractured skull, cephalohematoma, and subdural hemorrhage.

Deliveries by Breech Extraction with Resulting Injuries

Case 7.—Following a breech extraction in a primipara, the feet and legs of the infant were bruised with flesh off the right foot, and the mandible was fractured; the vulva of the infant was also bruised.

Case 8.—A podalic version and breech extraction were performed after the vertex slipped out of the pelvis when an attempt was made to apply forceps. Autopsy report on the stillbirth indicated fracture of right parietal bone, hemorrhage into vein of Galen, laceration of superficial skin of right parietal region, subpleural hemorrhages, and aspiration of amniotic fluid.

Case 9.—Following breech delivery of a primipara, laceration of the lower lip of the infant necessitated suture repair of lip and to mandible from which it had been torn off.

Vaginal Bleeding Antepartum

Case 10.—A thirty-four-year-old gravida 6, para 3, at forty-two weeks gestation was seen at home at 12:15 A.M. because of bleeding. She was admitted to the hospital at 1:15 A.M. in active labor and losing large quantities of blood with each pain. Two units of plasma were given. At 2:20 A.M. patient was in shock; 1 pint of blood was given, but there was no response to oxygen or stimulants. The abdomen was opened to try to allay internal hemorrhage. The infant was stillborn (certificate says intrauterine asphyxia). The mother died from central placenta previa.

Case 11.—A primipara with expected date of confinement June 16 was admitted on February 2 for vaginal bleeding and pains every five minutes. The membranes had been ruptured for four days. Rectal examination showed no dilatation and fetal heart good. The patient was examined rectally on February 3 and 4; she was still bleeding. On February 4 a Voorhees bag was inserted at noon. First a 2-pound bag and then a 1-pound bag (weight) were added. These were expelled at 9 P.M. at which time the patient was four fingers dilated. She delivered a stillborn at 12:15 A.M. On February 5 manual removal of the placenta was attempted. There was profuse bleeding for which intravenous glucose, plasma, ergotrate, caffeine sodium benzoate, adrenalin, and coramine were given. Artificial respiration was also tried, but the patient expired at 2:35 A.M.

Asphyxia, Aspiration, and Atelectasis

Case 12.—A primipara was delivered normally on November 5 of an infant weighing over 4 pounds. The baby vomited its formula on November 7; breathing was poor, and there was cyanosis. Comment on autopsy was as follows: "Judging from histologic material, death was due to aspiration of formula."

Case 13.—A 6-pound, 8-ounce infant was delivered on November 5. At 6 A.M. on November 6 the child became episthotonic, cyanotic, and convulsed after propped feeding. This was second feeding of life.

Case 14.—A premature, 4-pound infant was fed by gavage. It turned purple after a small amount of feeding. The gavage tube was removed and baby turned upside down; some formula ran out. The baby was put in an incubator with oxygen but expired. Autopsy showed formula in lungs.

Bleeding from Umbilicus, Poor Pediatric Care

Case 15.—This infant treated with thromboplastin continued to bleed and expired before it could be transfused.

Poor Prenatal Care

Case 16.—This primipara, in labor for two days, was admitted on September 6 in labor. There was no progress, and x-ray was then ordered which showed a frank breech with extension of the head in the left hypogastrium. Cesarean section was performed for (1) breech presentation with extended head, (2) prolonged labor, and (3) failing fetal heart. Both mother and baby died. Only the following notes appear on the mother's chart: Five days after operation patient slightly disturbed; the next day Wangensteen was inserted; ten days later patient critical; next day the patient expired.

I could go on endlessly and quote cases to you emphasizing the errors in judgment and the mistakes in technic, and it would all add up to the same picture. Another point worth mentioning here is that the diagnosis on the death certificate is not always the diagnosis as revealed by the facts on the chart. This will be shown again and again in the report from the Academy, not yet published, which deals with neonatal and stillborn deaths.

Since I was the obstetric member of the team, my statistics concerning the caliber of medical care naturally emphasize the obstetric portion of the report. However, similar findings were noted on the pediatric services. These facts too will be enlarged upon in the forthcoming report of the Academy.

Summary

While great strides have been made in reducing infant mortality (deaths between one and twelve months) in New York City, limited reduction in neonatal mortality (death under one month) has been achieved. Even less progress has been shown in reducing mortality during the first week and first day of life. Fully half of all neonatal deaths occur during the first twenty-four hours of life, and the mortality rate during this critical day has shown no decrease during recent years.

Of all births in New York, 62 per cent take place in voluntary hospitals, 15 per cent in municipal institutions, and the remaining 23 per cent in proprietary institutions.

The most striking finding of this study is the fact that a considerable number of maternity services in this City do not meet minimum requirements for adequate care; they lack some essential facilities, are short in medical and nursing personnel, and have not formulated and implemented desirable consultation policies. While some of the services are of excellent caliber and nearly half may be rated as good, the remainder are rated as being either fair or poor.

A number of maternity services were found to be so wanting in necessary equipment and so faulty in their practices that they constitute a hazard to the parturient mothers and their babies. In those institutions the physical plant, the policies and administrative procedures, and the caliber of the personnel deviate consistently from acceptable standards.

There is a widespread shortage of hospital personnel; some institutions are lacking qualified obstetricians, pediatricians, and nurses. In several institutions supervision is nominally in the hands of qualified personnel, but closer scrutiny reveals instances in which appointments are only on paper, and the actual work is done by persons lacking proper qualifications. Particularly inadequate is the extent of pediatric supervision in the nursery.

Hospitals were found to vary greatly in the survival rate of the newborn. Whereas for the City as a whole the neonatal mortality rate per 1,000 live births is 20, there are several institutions in which it falls below ten and others in which it rises above 30 per 1,000.

In this review greater emphasis has been placed upon the weaknesses of the hospitals studied than upon their strength. Perhaps the impression has thus been created of inadequacy of the facilities for maternal and infant care in New York City. Since the primary purpose of the survey was the improvement of facilities, less attention was given to those features in which the existing hospitals excel. Nor should it be concluded that the hospitals in this City fall below those of other communities. Indeed, the rate of infant mortality in New York City is lower than the comparable rates in any of the cities of over one million population in the United States.

11 East 68th Street

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Wire Mesh Replaces Part of Abdominal Wall

A piece of fine wire mesh, made of rare tantalum metal, was used to replace an extensive section of abdominal wall removed by surgery, two physicians have reported.

The tissue around the mesh healed and grew into it like "the threads of a piece of tapestry," Drs. William Wickman, Miami, and Timothy A. Lamphier, Boston, said.

The tantalum mesh is nonirritating, flexible, easy to work with, and resists infection. The mesh creates strong support in place of missing tissue because the remaining tissue grows into it, they said in the November issue of the *Archives of Surgery*, published by the American Medical Association.

Tantalum, a rare metal element, has been used for plates or disks to replace skull defects caused by wounds. Drs. Wickman and Lamphier used the mesh in a patient from whom a tumor about the size of a grapefruit had been removed from the abdominal section. They said the technic could be particularly useful in surgery of tumors and cancerous growths where removal must be extensive to prevent recurrence but where strong support is needed to prevent hernia. Their patient was able to go back to work in six months with little aftereffect.

CLINICOPATHOLOGIC CONFERENCE

ST. JOSEPH'S HOSPITAL, ELMIRA, NEW YORK

Conducted by F. S. HASSETT, M.D. MAY 26, 1954

Discussed by ELMER MILCH, M.D., BUFFALO, NEW YORK

Case History

The patient was a fifty-five-year-old store owner who was admitted to the hospital because of bilateral inguinal hernias. The hernias had been found six years previously on a routine preemployment examination. Hernial swellings had first become noticeable three to four years before admission and had gradually increased in size and become painful. He also mentioned that he had some periodic epigastric distress which was relieved by warm milk and which seemed to be worse when his stomach was empty. There was no history of food intolerance.

The past and family histories were noncontributory except that the patient previously had been a heavy drinker.

Examination showed a well-developed and well-nourished man who was slightly obese. The examination was negative except for the abdomen. There was moderate epigastric tenderness, and there were large, orange-sized, bilateral inguinal hernias which were reducible. Temperature, pulse, and respirations were normal. Blood pressure was 130/70.

The urine showed a specific gravity of 1.030 with 1 plus sugar. The red blood count was 4,800,000 with 15 Gm. of hemoglobin. The white count and differential were normal. The fasting blood sugar was 220 mg. per cent. The gastrointestinal x-ray series was reported as normal.

The patient was given regular insulin according to his urine tests. The right inguinal hernia was repaired, and six days later the left inguinal hernia was repaired. The patient was discharged five days after the second operation on a diabetic diet with no insulin. His urine was negative for sugar.

SECOND ADMISSION (THIRTEEN MONTHS LATER).—About a month before the patient's readmission he had a severe emotional upset. During this period he noticed a marked increase in the epigastric and right upper abdominal pain He was treated with Banthine and Amphojel and given frequent feedings. At times he thought the pain was relieved by this treatment, and at other times he thought it was made worse. In the two weeks before admission the pain became more or less constant.

Examination again showed no abnormal findings except in the abdomen. There was tenderness in the right upper quadrant of the abdomen, and there was a question whether a vague mass could be palpated in this region. There was no rebound tenderness. Temperature, pulse, and respirations were normal. Blood pressure was 136/76.

The urine was negative. The hemoglobin was 15.2 Gm. or 97 per cent. The white count was 5,100 with a normal differential. A barium enema showed no pathology. A gastrointestinal series showed an esophageal diverticulum just below the arch of the aorta; otherwise the examination was negative. Gallbladder visualization showed cholelithiasis with a fair concentration of dye in the gallbladder.

On the fourth day after admission a cholecystectomy was done. During operation the liver was noted to be nodular and smaller than normal, and a biopsy of the liver showed early portal cirrhosis. A markedly indurated and inflamed area "low in the first part of the duodenum which extended over into the region of the junction of the cystic and common ducts" was also noted. This was believed to represent a duodenal ulcer.

After operation liver function studies were done. The prothrombin time was twenty-three seconds (control fifteen seconds). Icterus index and cephalin flocculation tests were normal. Bromsulfalein retention was 20 per cent. Serum cholesterol was 90 mg. per cent. The total proteins were 5.6 with a normal albumin-globulin ratio. He was given vitamin K, 75 mg., on four occasions, and four days later the prothrombin time was twenty seconds.

For the first eight days postoperatively the patient was ambulatory. He still complained of epigastric pain and was continued on his ulcer regime. On the eighth postoperative day the patient suddenly felt faint and perspired profusely. The blood pressure dropped to 68/42, and the pulse rose to 140. He complained of pain over the left chest and in the back. He vomited about a quart of coffee-ground vomitus. The red count was 2,900,000 with a hemoglobin of 58 per cent and a hematocrit of 24. He was given 3 units of whole blood.

The following day his red blood count was 2,300,000 with a hematocrit of 24. The blood pressure varied from 80 to 100 systolic, and his pulse remained about 130. He continued to have black vomitus and began passing frequent, tarry or bloody stools. He was given 4 units of whole blood.

On the third day be became confused and unresponsive. His red count was 2,800,000 with a hematocrit of 25. He was given 8 units of whole blood. The next day his red count was 2,500,000 with a hematocrit of 22. The patient was in coma. He was given 4 units of whole blood. The patient expired on this day, approximately seventy hours after the first evidence of bleeding.

Discussion

Dr. Elmer Milch: I would like to review a few of the essential features of this history and, while attempting to arrive at the right diagnosis, point out certain factors which are of importance to me. The protocol gives the story of a fifty-five-year-old man who had two admissions to this hospital. His first admission was for simple bilateral inguinal hernias, and the only things of interest on that admission are the following: He had periodic bouts of epigastric distress which were worse when his stomach was empty. To me, that is a pretty good history for peptic ulcer. How heavy a drinker he was is a little bit difficult to evaluate. I like to quote Mallory on the evaluation of the drinking history that one gets when taking it from a patient. Mallory says: "When a man tells you he drinks, you can usually multiply it by two; when a woman tells you she drinks, you can triple or quadruple it; and when a teetotaler tells you he does not drink, you can just disregard it completely." As far as the history of drinking is concerned, we usually like to get that history from the family. The rest of that first admission is of no consequence except that he was a moderate diabetic and seemed easy to control. Wisely, his bilateral herniorrhaphy was performed as two separate and distinct operations. He evidently made an uneventful recovery.

Then this man was apparently in excellent health for thirteen months. About one month before his last and fatal admission to the hospital he suffered a severe emotional upset, and evidently he had a reactivation of his ulcer. As you know, we know very little about the etiology of peptic ulcer. However, this one thing seems definite—individuals have a constitutional diathesis for the disease. It is a disease of civilization. Some individuals with this diathesis may develop hyperthyroidism. Some may develop hypertension. Others may manifest it as ulcerative colitis or other diseased states. And since this emotional upset continued, he failed to respond to accepted ulcer therapy. The pain became more or less constant and refractory to therapy. This makes me believe that his ulcer was penetrating at the time he was admitted to the hospital. The protocol mentions a vague mass in this region. To me, that is nothing definite. A mass is either there, or it is not there. It is the same as muscle spasm; that is something which is never questionable. Muscle spasm is either present, or it isn't present. If it is a voluntary or guarded type of muscle spasm, we can easily prove that by having the patient breathe deeply. I have eliminated from my thinking the consideration of a mass because if there had been a mass there, there would have been no question about its being vague.

Tenderness in the right upper quadrant is not unusual with a penetrating peptic ulcer, particularly one that is penetrating posteriorly into the head of the pancreas. The fact that there was no rebound tenderness points to the fact that there was no peritoneal irritation. That goes along very well with the normal temperature, pulse, and respiration. The laboratory work at that time was not important.

So we are faced with the problem of a man who had a penetrating peptic ulcer and who, incidentally, had a finding of gallstones on x-ray.

As I read over this protocol, there was nothing suggestive of acute gallbladder difficulty to account for this man's epigastric pain. The history, the radiation of pain, the abdominal findings, the systemic reaction were not what we would expect with an acute empyema of the gallbladder. As far as chronic cholecystitis is concerned, whether that does or does not give pain, and pain such as is described here, is problematic. From my own experience I do not think that it does. Were these gallstones then just an incidental finding, such as we may find in 15 or 20 per cent of the people who are walking the streets or who come to autopsy with no clinical manifestations of difficulty due to gallstones? I would like to go on record as thinking that these gallstones did not play any role in the patient's complaints for which he had his second admission to this hospital.

On the fourth day after admission the patient was subjected to laparotomy, and a cholecystectomy was performed. I assume that there were stones found and that there was nothing remarkable grossly about the gallbladder. But now we come to something definite and concrete, something which is the next best thing to an autopsy. We find that this man had definite evidence of cirrhosis of the liver. In addition, there is described an inflammatory lesion involving the first and second portions of the duodenum which was thought to be a penetrating peptic ulcer. These are concrete findings of pathology which back up our clinical impression.

Next we come to the postoperative period of this patient. During the postoperative period certain liver function tests were done. How long after the operation these tests were done, I do not know. I certainly do not think that they were done in an effort to arrive at a differential diagnosis because the diagnosis was made not only grossly but by the pathologist. Therefore, they must have been ordered in an attempt to measure hepatic reserve. Now, we know that liver function tests cannot be evaluated in the immediate postoperative period. After the administration of an anesthetic and the subjection of a patient to surgery, one does not get a true index of an individual's liver function. We must remember that the liver is a dynamic organ. We must remember that the liver has many functions and that these functions not only vary from week to week in the normal individual, but from day to day, and from hour to hour. We know that we can take a prothrombin time preoperatively and find it perfectly normal, and postoperatively, due to the anesthetic, the prothrombin time will be found to be elevated. We know that the liver is one of those paradoxic organs that has the process of regeneration and degeneration going on in it at the same time. We know that we can remove a great percentage of the liver with no disturbance in the liver function tests. As nearly as you can tell from an analysis of these tests, we would say that this individual has, as we also knew from the pathologic report, an intrahepatic type of liver disturbance, such as one sees with cirrhosis of the liver.

We come now to the last stages of this man's illness. He evidently made an uneventful postoperative recovery for the first eight days, with one exception; he still was complaining of pain, which I have interpreted as ulcer pain, and for which he needed ulcer therapy. We know that the removal of his gallbladder did not influence the course of his pain. On the eighth postoperative day, suddenly, like a bolt out of the blue, an acute major abdominal catastrophe struck this man. He went into shock and died of complications of hemorrhage. Essentially we are dealing with a case of massive postoperative gastrointestinal hemorrhage. The problem to me is not so much that of diagnosis as one of proper therapy. Hemorrhage is one of the tragedies that occur preoperatively or postoperatively, and often we do not have the time to make the proper diagnosis. The clinical judgment exercised in the treatment of these cases is much more important than the actual diagnosis. Our judgment must be decisive, and it must be unwavering because we don't have the time in this type of patient to dillydally.

Now the causes of massive postoperative hemorrhage can be divided into two groups. The first group I think we can easily dispose of in this case, namely, that of technical error. When bleeding occurs from a technical error, it occurs extraluminally into the free peritoneal cavity. The bleeding we see here occurred intraluminally, but there was no intestinal resection done at the time of surgery. So I think we can discard any thought of technical error in this case.

The second group of cases in which postoperative bleeding occurs are those in which there is known complicating disease or in which some complicating disease arises postoperatively which we had not anticipated; postoperative gastrointestinal ulceration is an example. With increasing frequency we are operating on patients with known complicating diseases. This is due to advances in anesthesia. It is due to advances in surgery. When I speak of surgery, I am not speaking of the technical aspects of surgery; I am speaking of the advances in the pre- and postoperative care and the cognizance on the part of both the internist and the surgeon of the alterations in normal physiology that disease causes. We know, for example, that we are operating more and more upon patients who have bad liver disease. We are attacking the problem of hemorrhage from esophageal varices. However, we fully realize that having hepatic disease leaves patients prone to develop unanticipated pathologic entities. Therefore, we say that in the treatment of these patients the question of management is much more important than the question of an accurate diagnosis.

For years the management of massive gastrointestinal hemorrhage has fluctuated between the two extremes of medical management alone and surgical management alone. The literature has become replete with reports emphasizing either that all should be treated medically or that all should be treated surgically. To me this cyclic fluctuation in therapy only implies dissatisfaction with concurrent mortality figures, as a result of no matter what form of therapy one institutes. For that reason in 1949 we advocated[1] the selective use of the "test of transfusion" as an indication of which patient was to be treated medically and which patient was to be treated surgically. Without wishing to oversimplify the problem at all, it seems to me that there are just two questions which have to be answered. The first question is, "Which patient will respond to medical therapy and stop his bleeding, and which patient needs surgery to control the bleeding?" If we decide the patient needs surgery, the second question is, "When is the best time to operate?" We think that the selective use of the "test of transfusion" answers these two questions.

What do we mean by "the test of transfusion?" Briefly, the patient showing the signs and symptoms of massive gastrointestinal hemorrhage, in addition to the usual supportive measures, is immediately given massive transfusions. We give as much as 2,500 to 3,000 cc. of blood within a period of an hour to an hour and a half. We usually administer it with hand pumps or any way that we can get the blood in. If the patient shows no response to this form of therapy in the first two or three hours, he is a candidate for immediate surgery. He is losing blood faster than we can give it to him. We are going to have a preventable mortality on our hands if he is not operated immediately. If the patient shows response to this form of intensive therapy at the end of three hours, transfusion is stopped. The patient is given conservative therapy, and we just go along with him and see how he does. If once again, as this patient did, he shows evidence of massive hemorrhage and goes into shock again, he is a candidate for surgery at that time. If we dilly-dally with these patients, the changes that are associated with shock, the immediate changes and the late sequelae, are going to give us an unexpected or an unanticipated mortality. There isn't any question but that some patients who are submitted to surgery are going to die as a result of the surgery. But at least they are given a chance. We feel that when they fail this "test of transfusion," they are not going to get well on medical treatment. That is the question that is paramount. If the patient maintains a satisfactory blood pressure and does not show any more evidence of shock, then the patient is studied in an attempt to arrive at the proper diagnosis as to the cause of his bleeding.

With that discussion let us look at the case presented here. I think that the important thing is surgical judgment. I think that this patient should have been operated, regardless of what the etiology was, at the second episode of hemorrhage when he failed the first test of transfusion.

As for my diagnosis, I would say that this man had an ulcer diathesis; that he had periods of exacerbations of his peptic ulcer; that subsequent to the stress and strain of a major surgical procedure the ulcer was reactivated, and that he had a massive gastrointestinal hemorrhage as a result of this ulcer.

Question: When this patient was operated upon with the findings as noted, would you have done a gastric resection, leaving the gallbladder alone?

Dr. Milch: That is a hard question to answer. I feel definitely from the history that his gallbladder played no role in this man's complaint. I might have done a gastric resection and might not, because once inside the peritoneal cavity, I would have known that he had cirrhosis of the liver, and cirrhotics do not do well. However, later, when this man was not responding to the massive intestinal hemorrhage, I certainly would have operated and would have done a resection.

Question: Do you favor gastric resection in slow bleeding from peptic ulcer—bleeding which continues over two or three days?

Dr. Milch: The trouble in the discussion of hemorrhage from peptic ulcer is always to get on common ground. A group of surgeons or internists will talk about hemorrhage, and they will talk about different phases of the same disease. I think that the first thing we must do is to define massive gastrointestinal hemorrhage. Now massive gastrointestinal hemorrhage is a state of total and complete collapse. It is the picture of air hunger, hypotension, dyspnea, decreased hematocrit, cold, clammy skin, no blood pressure, no pulse. That's our idea of hemorrhage. Anything else we are not interested in. Treatment is reduced purely and simply to a clinical evaluation of the patient. If the patient responds to the test of transfusion, stops his bleeding so that no longer is there a question of immediate surgical intervention, then we spend three to four weeks preparing that patient for surgery. If the patient still shows signs of massive hemorrhage, then that patient is operated upon immediately.

Question: Do you replace blood slowly in a slow bleeder? Are you worried about dislodging a clot?

Dr Milch: We don't think you can blow out a clot. We don't think you can give the blood too rapidly.

Diagnoses

Clinical.—*Bleeding duodenal ulcer; portal cirrhosis of the liver.*

Dr. Milch.—*Bleeding duodenal ulcer; portal cirrhosis of the liver.*

Anatomic.—*Duodenal ulcer with hemorrhage; portal cirrhosis of the liver.*

Pathologic Report

Dr. James A. Mitchell: At autopsy there was a marked pallor of the skin and mucous membranes. There was a healed operative incision in the upper right rectus muscle. The spleen was enlarged and weighed 200 Gm. There was a thickening of the capsule, and the pulp was deep red in color and firm in consistency. The liver was approximately normal in size, weighing 1,800 Gm. The surface was light brown in color and finely nodular; it cut with marked resistance. The gallbladder had been removed. The common duct was patent. On opening the stomach, duodenum, and small bowel, a large amount of clotted and fluid blood and tarry material was noted in the stomach and jejunum. Situated approximately 2.5 cm. below the pylorus on the posterior wall of the duodenum, there was a large irregular shaped ulcer measuring 3 cm. in diameter at its widest portion. The edges were slightly raised and indurated, and there was a gaping vessel in the midportion of the floor of the ulcer directly over the head of the pancreas. The lower portion of the esophagus showed no gross evidence of varices. The pancreas grossly showed some necrosis of the head just beneath the ulcer.

Microscopic examination showed a typical duodenal ulcer with the bleeding vessel in the base of the ulcer. There were necrotic pancreatic acini just beneath the base of the ulcer with some fatty replacement of the acini. Microscopic examination of the liver showed a still active cirrhosis characterized by lymphocytic infiltration in the fibrous bands. There was still a fair amount of good, functioning liver cord cells present. It is probable that a few years would have elapsed before he developed advanced atrophic cirrhosis with portal hypertension.

Summary

Dr. Milch: To me, the important feature of this case was not to diagnose correctly the cause of this man's bleeding. It might just as well have been due to a varix; it might just as well have been due to multiple, small, mucosal ulcerations of the stomach or the intestinal tract; it might just as well have been due to a thrombosis of the portal or stomach veins or to some other lesion of the vascular system. To me, the important point in this case is the management of the problem. We feel, on the basis of our experience, that the use of "the test of transfusion" answers the question. It tells us what patient is going to respond to conservative medical therapy and gives us time to make a diagnosis. It tells us what patient is not going to respond, what patient needs surgery, and also the proper time to do surgery. Patients, particularly cirrhotic patients or patients with other alterations of their normal physiology, just cannot take repeated bouts of massive hemorrhage without suffering the late sequelae of hemorrhage. These are the ones that give us a lot of, what I like to term, preventable deaths.

Reference

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CASE REPORT

Pigmented Hairy Tongue Resulting from a Combination of Two Antibiotics

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Black hairy tongue has been discussed in the literature for more than one hundred years, and its etiology has been attributed to a great variety of factors. Prinz and Greenbaum[1] discussed such causes as a yeast-forming organism, a parasite, hyperkeratosis of the papillae, "melanin-like" deposits, syphilis, congenital defects, neurotrophic changes, etc. Since the advent of antibiotics, cases have been reported following the use of penicillin,[2] aureomycin,[3] and Terramycin.[4] Freeman[5] has reported pigmented hairy tongue following the intake of penicillin and an iron-containing patent medicine.

A patient who was recently seen at this hospital had taken aureomycin and oral penicillin separately many times in the past without untoward effects, but when he took a combination of the two together, he developed a pigmented hairy tongue.

I have been unable to find this phenomenon reported in the available literature and feel that this case merits publication.

Case Report

The patient involved was a thirty-six-year-old white merchant seaman who was in charge of dispensing medication aboard his ship and, therefore, was familiar with various drugs and their dosages.

He was seen at the hospital complaining of a darkened tongue with hair on it of two days duration.

While at sea he developed a "sinus condition" and gave himself 250,000 units of oral penicillin four times a day for one day. Because he noted no relief, the next day and for four subsequent days he took the same dosage of oral penicillin and, in addition, 250 mg. of aureomycin four times a day. Two days after medication was stopped, he noted the appearance of the hair and discoloration on the tongue.

At the time of examination the entire dorsum of the tongue was deep yellowish-brown in color, and in the discolored area there were noted numerous black hair-like structures 2 to 3 mm. in length. The papillae in that area appeared to be hypertrophic. Past history revealed the patient had taken similar doses of oral penicillin and aureomycin independently on many occasions but had never noted the discoloration or presence of hair. There was no history of drug idiosyncrasy.

In view of the past history, it was decided to see if this phenomenon could be reproduced. The patient was kept off all medication for two weeks, and by that time the tongue had appeared normal for one week. He was then placed on penicillin tablets (250,000 units four times a day) for five days. At the end of this period of time the patient was observed for one week, and no changes were noted on the tongue. He was then administered one 250-mg. capsule of aureomycin four times a day for five days and observed for nine subsequent days after the medication was completed. Again, the tongue was apparently unchanged.

Last, he was given 250,000-unit tablets of penicillin and 250-mg. capsules of aureomycin both four times a day for five days. Two days after the course of medication was completed, he again developed discoloration of the tongue, the presence of small black hairs, and hypertrophy of the papillae in the same area where it had been observed previously.

Summary and Conclusion

A case is presented in which a patient developed pigmented hairy tongue following the oral ingestion of penicillin and aureomycin together but not separately.

It is felt that the changes in the tongue were due to a combination of the antibiotics, rather than the individual ones, because:

1. The patient had taken each drug separately in the past without any lingual changes.
2. On the two occasions when he took the combination, the tongue changes were evident two days after completion of the course.
3. When the penicillin and aureomycin were administered separately and the patient was observed, no changes occurred.

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* Formerly Captain, United States Army Reserve. The patient reported herein was seen at the United States Army Hospital, 8041st Army Unit, A.P.O. 27.

The Therapeutic Use of Resin and of Tar Water by Bishop George Berkeley and Cadwallader Colden

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Devotees of Ernest Hemingway are acquainted with his essay, "The Natural History of the Dead." This macabre contribution has received inadequate attention from morbid anatomists and should by no means be overlooked by historians.

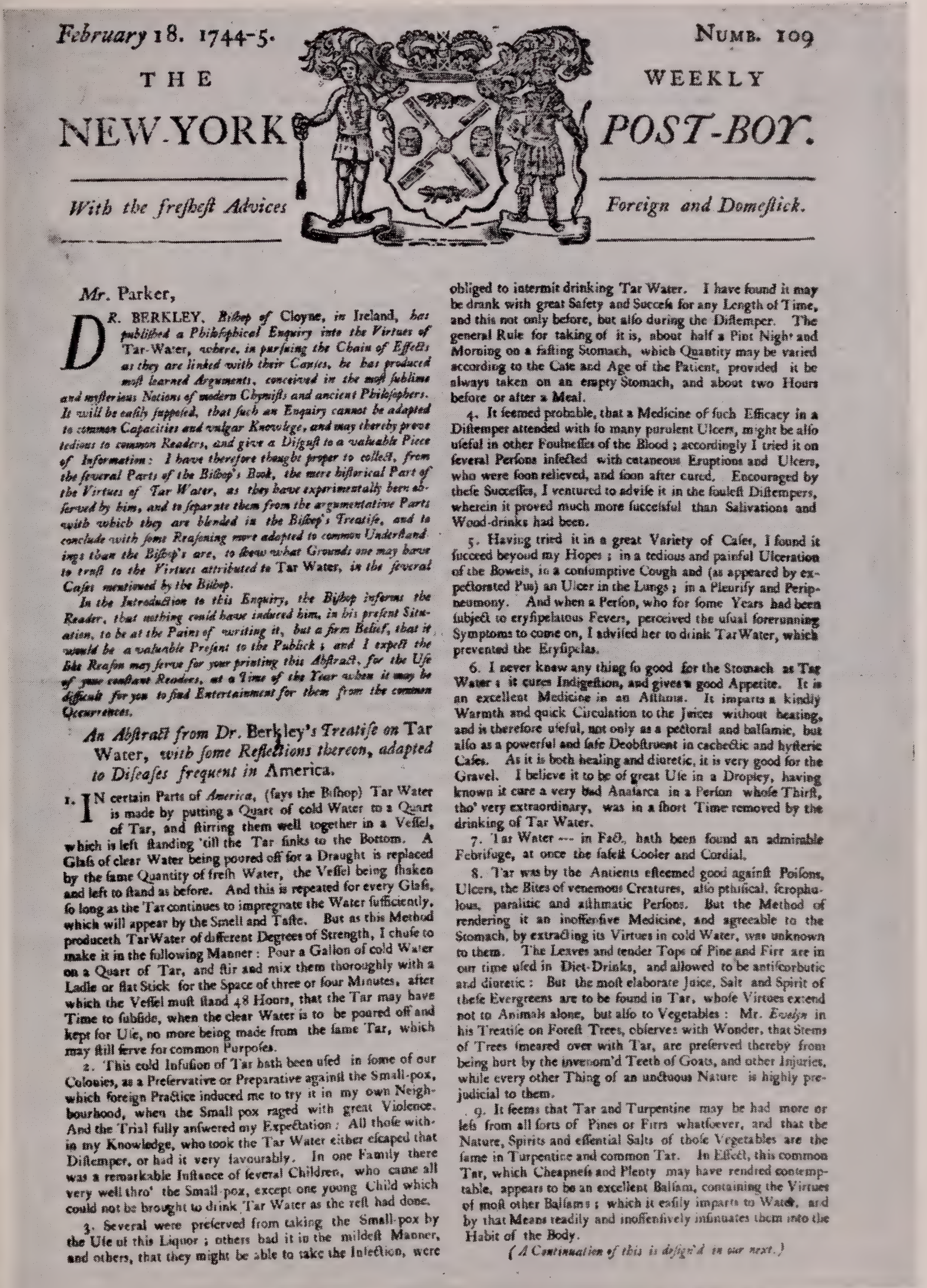
The dead necessarily are the principal dramatis personae on the stage which the historian sets up for his readers. The dead actors are not only dead men and dead empires but also dead issues and dead controversies. Often the historian succeeds in reanimating these, and sometimes they return to life spontaneously, either unchanged or in altered form. Such considerations apply to the subject matter of this investigation, which deals in part with a defunct therapeutic method that has recently been reanimated, with radical alteration.

The present study owes its origin to the recent rediscovery and identification of a series of articles which Cadwallader Colden (1688–1776), the distinguished colonial physician, savant, and government official, contributed anonymously to the New-York Weekly Post-Boy (nos. 109 to 114, February 18 to March 25, 1744/5) and which bears the title, "An Abstract from Dr. Berkley's Treatise on Tar Water, with some Reflections thereon, adapted to Diseases frequent in America" (Fig. 1). The assignment of this essay to Cadwallader Colden is based on allusions found in Colden's Letters and Papers [1–4] and is strongly fortified by the presence among the Colden manuscripts at the New-York Historical Society of an extensive but incomplete transcript written by an unknown hand.[5] The articles were reprinted in the form of an anonymous pamphlet, which is among the treasures of the New York Public Library (Fig. 2).[6]

Since Colden's essay starts with a long excerpt from Bishop Berkeley's treatise on tar water, logic requires that we also begin by considering the Bishop and his work. It is generally known that Bishop George Berkeley (1685–1753), the eminent Irish philosopher, mathematician, and humanitarian, sojourned in Rhode Island from 1729 to 1731. On returning to pastoral duty in Europe he found himself in a remote district in County Cork, where his impoverished and half-starved parishioners were repeatedly afflicted by waves of infection, especially epidemic bloody diarrhea, and respiratory diseases. No physician was available. Living in an era when priestly medicine was actively practiced, the Bishop assumed responsibility for the health of his flock and proceeded to look for some simple, inexpensive medicament which should prove helpful against the endlessly recurrent sicknesses of the people.[7–10] During this quest he hit upon tar water. Apparently he had learned of this substance in America, where it had been used as a preventive of smallpox.[11] His advocacy of tar water as a virtual panacea for infections and other diseases gained rapid renown, which ultimately deteriorated into ridicule, if not obloquy.

In re-examining Berkeley's writings, I have encountered a curious fact, which has received little if any attention from historians. *Before he embarked on his famous trials of tar water, Berkeley used resin for the treatment of diarrhea and found that it was effective.* Here is his original statement, which is found in a letter from Berkeley to his friend Thomas Prior, February 8, 1740/1.[12]

Presented at the 148th Annual Meeting of the Medical Society of the State of New York, New York City, Session on History of Medicine, May 13, 1954.



February 18. 1744-5.
NUMB. 109

THE WEEKLY
NEW-YORK POST-BOY.
With the freſheſt Advices Foreign and Domeſtick.

Mr. Parker,

DR. BERKLEY, *Biſhop of* Cloyne, *in* Ireland, *has publiſhed a Philoſophical Enquiry into the Virtues of* Tar-Water, *where, in purſuing the Chain of Effects as they are linked with their Cauſes, he has produced moſt learned Arguments, conceived in the moſt ſublime and myſterious Notions of modern Chymiſts and ancient Philoſophers. It will be eaſily ſuppoſed, that ſuch an Enquiry cannot be adapted to common Capacities and vulgar Knowlege, and may thereby prove tedious to common Readers, and give a Diſguſt to a valuable Piece of Information: I have therefore thought proper to collect, from the ſeveral Parts of the Biſhop's Book, the mere hiſtorical Part of the Virtues of Tar Water, as they have experimentally been obſerved by him, and to ſeparate them from the argumentative Parts with which they are blended in the Biſhop's Treatiſe, and to conclude with ſome Reaſoning more adapted to common Underſtandings than the Biſhop's are, to ſhew what Grounds one may have to truſt to the Virtues attributed to* Tar Water, *in the ſeveral Caſes mentioned by the Biſhop.*

In the Introduction to this Enquiry, the Biſhop informs the Reader, that nothing could have induced him, in his preſent Situation, to be at the Pains of writing it, but a firm Belief, that it would be a valuable Preſent to the Publick; and I expect the like Reaſon may ſerve for your printing this Abſtract, for the Uſe of your conſtant Readers, at a Time of the Year when it may be difficult for you to find Entertainment for them from the common Occurrences.

An Abſtract from Dr. Berkley's *Treatiſe on* Tar Water, *with ſome Reflections thereon, adapted to Diſeaſes frequent in* America.

1. IN certain Parts of *America*, (ſays the Biſhop) Tar Water is made by putting a Quart of cold Water to a Quart of Tar, and ſtirring them well together in a Veſſel, which is left ſtanding 'till the Tar ſinks to the Bottom. A Glaſs of clear Water being poured off for a Draught is replaced by the ſame Quantity of freſh Water, the Veſſel being ſhaken and left to ſtand as before. And this is repeated for every Glaſs, ſo long as the Tar continues to impregnate the Water ſufficiently, which will appear by the Smell and Taſte. But as this Method produceth TarWater of different Degrees of Strength, I chuſe to make it in the following Manner: Pour a Gallon of cold Water on a Quart of Tar, and ſtir and mix them thoroughly with a Ladle or flat Stick for the Space of three or four Minutes, after which the Veſſel muſt ſtand 48 Hours, that the Tar may have Time to ſubſide, when the clear Water is to be poured off and kept for Uſe, no more being made from the ſame Tar, which may ſtill ſerve for common Purpoſes.

2. This cold Infuſion of Tar hath been uſed in ſome of our Colonies, as a Preſervative or Preparative againſt the Small-pox, which foreign Practice induced me to try it in my own Neighbourhood, when the Small pox raged with great Violence. And the Trial fully anſwered my Expectation: All thoſe within my Knowledge, who took the Tar Water either eſcaped that Diſtemper, or had it very favourably. In one Family there was a remarkable Inſtance of ſeveral Children, who came all very well thro' the Small-pox, except one young Child which could not be brought to drink Tar Water as the reſt had done.

3. Several were preſerved from taking the Small-pox by the Uſe of this Liquor; others had it in the mildeſt Manner, and others, that they might be able to take the Infection, were obliged to intermit drinking Tar Water. I have found it may be drank with great Safety and Succeſs for any Length of Time, and this not only before, but alſo during the Diſtemper. The general Rule for taking of it is, about half a Pint Night and Morning on a faſting Stomach, which Quantity may be varied according to the Caſe and Age of the Patient, provided it be always taken on an empty Stomach, and about two Hours before or after a Meal.

4. It ſeemed probable, that a Medicine of ſuch Efficacy in a Diſtemper attended with ſo many purulent Ulcers, might be alſo uſeful in other Foulneſſes of the Blood; accordingly I tried it on ſeveral Perſons infected with cutaneous Eruptions and Ulcers, who were ſoon relieved, and ſoon after cured. Encouraged by theſe Succeſſes, I ventured to adviſe it in the fouleſt Diſtempers, wherein it proved much more ſucceſsful than Salivations and Wood-drinks had been.

5. Having tried it in a great Variety of Caſes, I found it ſucceed beyond my Hopes; in a tedious and painful Ulceration of the Bowels, in a conſumptive Cough and (as appeared by expectorated Pus) an Ulcer in the Lungs; in a Pleuriſy and Peripneumony. And when a Perſon, who for ſome Years had been ſubject to eryſipelatous Fevers, perceived the uſual forerunning Symptoms to come on, I adviſed her to drink TarWater, which prevented the Eryſipelas.

6. I never knew any thing ſo good for the Stomach as Tar Water: it cures Indigeſtion, and gives a good Appetite. It is an excellent Medicine in an Aſthma. It imparts a kindly Warmth and quick Circulation to the Juices without heating, and is therefore uſeful, not only as a pectoral and balſamic, but alſo as a powerful and ſafe Deobſtruent in cachectic and hyſteric Caſes. As it is both healing and diuretic, it is very good for the Gravel. I believe it to be of great Uſe in a Dropſey, having known it cure a very bad Anaſarca in a Perſon whoſe Thirſt, tho' very extraordinary, was in a ſhort Time removed by the drinking of Tar Water.

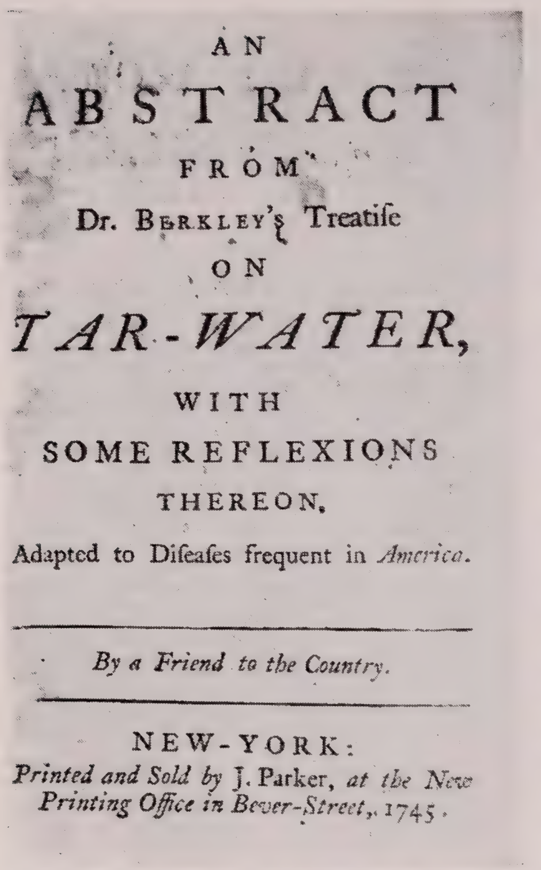
7. Tar Water --- in Fact, hath been found an admirable Febrifuge, at once the ſafeſt Cooler and Cordial.

8. Tar was by the Antients eſteemed good againſt Poiſons, Ulcers, the Bites of venemous Creatures, alſo pthiſical, ſcrophulous, paralitic and aſthmatic Perſons. But the Method of rendering it an inoffenſive Medicine, and agreeable to the Stomach, by extracting its Virtues in cold Water, was unknown to them. The Leaves and tender Tops of Pine and Firr are in our time uſed in Diet-Drinks, and allowed to be antiſcorbutic and diuretic: But the moſt elaborate Juice, Salt and Spirit of theſe Evergreens are to be found in Tar, whoſe Virtues extend not to Animals alone, but alſo to Vegetables: Mr. *Evelyn* in his Treatiſe on Foreſt Trees, obſerves with Wonder, that Stems of Trees ſmeared over with Tar, are preſerved thereby from being hurt by the invenom'd Teeth of Goats, and other Injuries, while every other Thing of an unctuous Nature is highly prejudicial to them.

9. It ſeems that Tar and Turpentine may be had more or leſs from all ſorts of Pines or Firrs whatſoever, and that the Nature, Spirits and eſſential Salts of thoſe Vegetables are the ſame in Turpentine and common Tar. In Effect, this common Tar, which Cheapneſs and Plenty may have rendred contemptable, appears to be an excellent Balſam, containing the Virtues of moſt other Balſams; which it eaſily imparts to Water, and by that Means readily and inoffenſively inſinuates them into the Habit of the Body.

(A Continuation of this is deſign'd in our next.)

FIG. 1 First installment of Colden's anonymous treatise on tar water. The publication of this essay in the weekly newspaper of New York reflects the scarcity of channels for medical publication, as well as the scarcity of news in the public press. (*Courtesy of New-York Historical Society*)



AN
ABSTRACT
FROM
Dr. BERKLEY's Treatiſe
ON
TAR-WATER,
WITH
SOME REFLEXIONS
THEREON,
Adapted to Diſeaſes frequent in *America.*

By a Friend to the Country.

NEW-YORK:
Printed and Sold by J. Parker, *at the New Printing Office in Bever-Street,* 1745.

FIG. 2. Title page of Colden's anonymous essay as reprinted in pamphlet form. (*Courtesy of New York Public Library*)

> Dear Tom,
>
> I should have complied with your desire sooner, but I was not so well able to say what method I thought best to take in this epidemical bloody flux, that distemper not having been rife in this town till very lately, though it had made a great progress in other parts of this country. But this week I have cured several by the following course; than which nothing is easier or cheaper. I give to grown people a heaped spoonful of rosin powdered fine, in a little broth; and this is repeated at the distance of six or eight hours till the blood is staunched. To children I give a bare spoonful not heaped. A farthing's worth of rosin (if I may judge by my own short experience) will never fail to stop the flux of blood, with a regular diet. . . .

Ten days later Berkeley again wrote to Prior.[12] He stated that the use of rosin had continued to give successful results, and he requested Prior to announce this fact to the public in the *Dublin Journal.* There appears to be no copy extant in Ireland, England, or America of the issue of the *Journal* in which the announcement was made.

The Bishop does not state why he chose rosin. Clearly its inexpensiveness recommended it for treatment of the poor. Presumably his use of rosin, like his subsequent use of tar, was suggested by his observations in America. The North American Indians are known to have used oleoresins and other products derived from cedar, fir, spruce, and pine, both internally and externally, in the treatment of a wide variety of ailments.[13] That the use of resins had broad distribution in the New World is further evident from the writings of Francisco Hernández,[14] who was sent to New Spain by Philip II to report on medicinal plants. Hernández describes such substances as balsam of Tolu and copal and the plants from which they are derived. Oviedo, the great historiographer of Spanish exploration, devotes an entire chapter to the balsam tree.[15] The Augustinian friar and physician, Farfan,[16] writing in Mexico in 1592, mentions the use of copal and "dragon's blood" for diarrhea. Even more significant is the remark of another early observer, Fray Bernardino de Sahagun (ca. 1499–1590),[17] who states that the Mexicans included in their pantheon a goddess who was credited with the discovery of an oil extracted from pine resin. These scattered pieces of evidence demonstrate sufficiently the widespread therapeutic use of resins and related substances by American peoples.

If we are ignorant of the specific historically antecedent events which led Berkeley to use resin in cases of diarrhea, we are equally ignorant of the motives which impelled him to abandon the drug after its use had proved successful. Perhaps a rapidly growing preoccupation with the virtues of tar water simply distracted the Bishop's attention and diverted him from continuing his tests of resin.

During the subsequent two hundred years the resins were occasionally studied by physicians and pharmacologists but achieved no position of prominence in medicine. In 1935 Adams and Holmes[18] prepared condensation products of polyhydric phenols and formaldehyde. The resultant amino resins were found to have pronounced absorptive properties for ions. In 1946 William Dock[19] successfully used ion exchange resins for the removal of sodium from the human body. Since that time the synthetic ion-exchange resins, which represent a great extension and metamorphosis of the term resin,[20] have become firmly entrenched in medical practice and are attaining importance in the treatment of diarrhea, edema, and other conditions,[21] while the probatory trials made by the Bishop remain buried in obscurity. Thus a dead idea has come to life, albeit in radically altered guise.

In 1742, having lost much of his interest in resin, Berkeley devoted his attention to tar. He soon found that a cold infusion of tar satisfied his requirement. It was inexpensive and easily available and would cure innumerable diseases. As his enthusiasm rapidly mounted, therapeutic miracles multiplied. In 1744 he published his extraordinary book, entitled *Philosophical Reflections and Inquiries Concerning the Virtues of Tar Water.*[22] This work enjoyed huge success. Within a few weeks Berkeley issued a second edition, entitled *Siris: A Chain of Philosophical Reflections and Inquiries Concerning the Virtues of Tar-Water, And Divers other Subjects connected together...*[23] This is not the place to discuss Berkeleian idealism or to cavil at the fantastic Jacob's ladder by which the Bishop ascended from tar to the Trinity. Idealism was almost entirely rejected by eighteenth-century America, but tar water gained wide acceptance, in America, in England, and on the European continent.

We must now consider a single consequence of Berkeley's book on tar water. I have already indicated, in an earlier paragraph of this essay, that in February and March, 1744/5, Parker's *New-York Weekly Post-Boy* carried a series of five anonymous articles on tar water and that these articles were also issued, anonymously, in the form of a pamphlet. I have also given the evidence which establishes the articles and pamphlet as the work of Dr. Cadwallader Colden of New York.

Colden's essay consists of 34 numbered paragraphs from Berkeley, followed by 27 paragraphs of original discussion and a brief postscript. The Berkeleian excerpts explain that a cold infusion of tar had been used in some of the American colonies as a preservative or preventive against smallpox. This had induced Berkeley to try tar in a violent outbreak of the disease in Ireland, with the result that all who had taken tar water either escaped the smallpox or had it very favorably. Encouraged by this result, Berkeley used tar water in other foulnesses of the blood, such as cutaneous eruptions and ulcers, and in "the foulest distempers," by which he clearly meant syphilis. He found that tar was beneficial also "in a tedious and painful ulceration of the bowels," in a consumptive cough, an ulcer of the lungs, in pleurisy and peripneumony. It prevented erysipelas. It was good for indigestion, asthma, cachectic and hysteric cases, gravel, and dropsy. It was an admirable febrifuge. It corrected the acrimony of the blood and hence was useful in the cure of gangrene. It cured all types of scurvy, acid, alkaline, and muriatic. In addition, it was an excellent preservative of the teeth and gums, and it cleared and strengthened the voice.

To disarm skeptics, Berkeley had added "From my representing Tar-Water good for so many things, some perhaps, may conclude it is good for Nothing; But Charity obligeth me to say what I know, and what I think, howsoever it may be taken: Men may censure and object as they please, but I appeal to Time and Experiment."

Colden felt that although one might suspect the Bishop of excessive partiality for tar water, he had made a valuable present to the public. Since tar water had not received attention from physicians, Colden proposed in his essay "to illustrate the Use of this Medicine, by some Observations and Reasonings, to shew how far it may be depended on in a general Cure of Diseases, and more particularly in Fevers...." As we shall see, Colden's comments contain a great deal of reasoning and a very small measure of observation. In this regard his essay is a typical product of its time.

He points out that physicians as yet have not obtained such knowledge of the materia medica as to determine scientifically the virtues of any plant or drug otherwise than by experience of its use. The most valuable medicines currently in use were discovered by the laity, and several of the greatest importance were learned from the Indians, e.g., Peruvian bark, guaiacum, ipecacuanha, Virginia snakeroot, and Seneca rattlesnake root. After a drug has been discovered by the laity, the skillful physician is required for further study of its properties. Colden's comment here reflects the continued influence of the discovery of the New World on pharmacy.

It seems more than probable, Colden continues, that the virtue of all balsams and resins resides in a volatile acid spirit which they contain. This spirit is lodged and preserved in the insoluble resin; a sufficient quantity may be obtained by extraction with water. For these statements he offers no proof.

According to Colden the use of large quantities of water in Bishop Berkeley's method had an additional advantage. If a large quantity of the active spirit is infused into a small quantity of vehicle and ingested, it operates with so much force in the first passages of the body that it causes intense perturbations there and is prevented from proceeding onward to the finest ramifications of the vessels, where the disease is usually located. On the other hand, if a small quantity of the powerful acid spirit is mixed with a great quantity of water, it is easily dispersed and carried into the smallest vessels. This explains why natural medicinal waters often do so much good, whereas the prescriptions of physicians often prove ineffectual. It also explains why dilute antimonial preparations sometimes prove effective in chronic distempers, whereas strong solutions or large doses of antimonials produce violent vomiting and purging and may hasten the death of the patient. Colden points out that "some simple and seemingly innocent Medicines, given in large diluting Quantities, have frequently performed a Cure, which the powerful and violent Medicines of the Chymists could not do." This comment is strikingly similar to the contentions of the nineteenth-century Thomsonian botanic physicians and also of the Hahnemannians.

Another idea underlying this section of Colden's essay has to do with the localization of febrile diseases in the human body. The concept is displayed in fuller detail in a letter which Colden wrote to Fothergill in 1753 on the subject of the so-called throat distemper.[24] The humors of the body are divided into three classes or stages. The first is that which circulates only in the larger veins and arteries and is properly called blood. The second is that which moves slowly in vessels too small to admit the red globules; from this fluid the secretions are made. The third fluid is lymph, which moves in still finer ramifications and is the principal instrument in the vital and vegetable functions of the animal and is also the substance concerned in nerve action. The so-called inflammatory fevers have their seat in the first category, i.e., the blood. The nervous fevers, which apparently include typhoid fever and other prolonged febrile affections, are located in the lymphatics.

In the present essay Colden contends that tar water, being dilute, can readily reach the lymphatics and thus exert its beneficial action at the proper place. He offers no evidence in support of this belief.

He further states, without evidence, that tar water might be generally valuable in all chronic diseases, but in acute diseases its use required a great deal of skill, care, and attention. He felt that it would be a dangerous drug in all inflammatory fevers unless copious venesection had been performed previously. It could be used safely in the decline of such a fever "to remove any stubborn Crudities which may remain in the smallest Branchings of the Blood Vessels. For the same Reason it ought to be cautiously used in all acute Diseases, which happen in the Spring of the Year, or to young People, or to those in the Vigour and Strength of their Constitution: But in Fevers which happen in the Fall of the Year, I think, it may be generally of Use, and in slow languid Fevers. For a like Reason, I suspect that it may be hurtful in Constitutions where the Cohaesion of the Humours is weak, and they abound in the most active volatile Parts: Such commonly are of a warm lively Imagination, have too great a Perspiration, and are of a thin Habit of Body." These statements are delivered as opinions, without evidence. Although not dogmatic in tone, they are unquestionably dogmatic in character.

Since Berkeley had stated that the major use of tar water was in cases of contagious fever contracted from noxious vapors and since fevers from noxious vapors are exceedingly common in America, Colden proceeds to explain his ideas about diseases of that kind. It gradually becomes evident in the course of the explanation that the diseases considered are (1) smallpox; (2) measles; (3) the so-called throat distemper—a term which embraced diphtheria, scarlet fever, and miscellaneous cases of severe pharyngitis; (4) yellow fever; (5) plague, and (6) the summer intermittents (probably malaria plus a part of the annual crop of typhoid fever). All these diseases are attributed somewhat vaguely to infection or a noxious atmosphere.

Colden's concept of the general mechanism of these diseases is interesting as an example of eighteenth-century medical thought. He says that the immediate effect of noxious vapors is exerted against those parts of the body to which the air can have immediate access, that is, upon the capillary vessels in the external or internal surface of the body and upon the animal juices contained in them. By the action of the vapors the juices become unfit for the animal functions or even destructive to life. This vicious character is transmitted like a leaven from those parts which are first affected to all the humors of the body till all are corrupted.

Noxious vapors at the outset cause an increase in the cohesion of the parts of the animal juices and thereby make them sizy, i.e., viscous or glutinous. Fermentation then occurs, and the viscous juices become acrimonious or even violently corrosive. This results in gangrene or hemorrhage. When noxious vapors are introduced into any part of the body, fever soon appears. This increases the velocity of the blood and prevents the diseased juices from entering the larger vessels. Consequently it is the duty of the physician to keep up the fever. At the same time he should keep the perspiration free and open, in order to force the diseased humors and noxious leaven out of the body and prevent admixture with healthy juices. He should also use such means as may dissolve the sizy or glutinous fluids and facilitate their evaporation by perspiration. Such dissolution of siziness takes time and terminates in a salutary crisis. The process may be facilitated and the time shortened by the use of proper medicines. Tar water answers all these purposes well.

During the treatment it is important to protect the patient against catching cold, since cold stops perspiration.[25] It is equally important that the patient be kept from too great a degree of heat, since this would dissipate the fluid parts of the blood before the viscid siziness or crudity can be dissolved. Tar water dissolves the crudity and at the same time supplies the fluid which has been lost because of fever.

The great error of therapeutics against which Colden issues emphatic warning is that of making large evacuations, whether by bleeding, purging, or vomiting. Such evacuations are dangerous because they draw the stagnating poison from the smallest branchings of the animal vessels, i.e., the lymphatics, into the blood vessels.

This rule admits of occasional exceptions. For example, it has sometimes happened that a large evacuation is curative, but this occurs only if the evacuation produces a sudden dissolution of humors; this consequence would be recognized if the evacuation were succeeded by a profuse sweat. But, in general, large evacuations are dangerous, especially in the more malignant fevers.

Some cases of summer intermittent fever turn into obstinate continued fevers. In such cases the best treatment is to give Peruvian bark during the first intermission, and no evacuation. When the fever becomes continuous, the best remedies are Tinctura Theriacalis, well diluted, and weak punch. Tar water might be useful in such cases. It is recommended as a preventive during the fever season. It is also valuable in hysteric and scorbutic cases and especially in scorbutic rheumatism.

I have not attempted a thoroughgoing search for the historical origins of these ideas. Colden has elsewhere indicated his indebtedness to Lancisi[26]; in the present treatise he mentions Bellini as an additional source. The influence of Santorio is also clearly evident. I think that if the search for origins is made, it will disclose that the concepts presented are at least in part an original system designed by the eminent New York philosopher in the effort, so typical of the era, to establish an inclusive and orderly set of hypotheses. It must be admitted that this set of hypotheses exhibits a very small amount of fact diluted in a large volume of supposition and is thus analogous to Berkeley's very dilute tar water. It must also be recognized that Colden leaned heavily on an assumption that the so-called inflammatory fevers, which he does not define, are inherently different in mechanism from contagious fevers contracted from infection or noxious vapors.

Colden's reasoning about the fevers and likwise his advocacy of tar water have little factual basis. This should not blind us to the true value of his essay, which is a brave and relatively lucid attempt to solve the physiologic and epidemiologic problems presented by the fevers at a time when individual clinical entities were not very clearly separable, when their anatomic traits had not yet been discovered, when the circulation of blood was known but was poorly understood, and when animal experimentation was still in its crudest beginnings. For the solution of the problems mentioned, Colden was at least able to furnish a set of hypotheses, and his effort is worthy of our sincere respect.

It was the satisfying practise of novelists of the eighteenth and nineteenth centuries to conclude their voluminous stories by describing the subsequent fortunes of the principal protagonists. We may accord similar treatment to tar water. This substance appeared in the literature infrequently after the time of Berkeley and Colden. In the remarkable pharmacopeia which was prepared for the French forces in the American Revolution and published at Newport in 1780,[27] tar water is designated as *aqua picea*. In the diary of Elizabeth Drinker[28] there is a letter dated 1791 in which tar water is suggested for a patient suffering from tuberculosis. Tar water is mentioned in Charles Dickens' *Great Expectations*,[29] and Dr. B. Chance has found the preparation on record in an American pharmacopeia of 1848.[30] The popularity of tar water seems to have lingered longest among the French, a sugared preparation having been used in the French Army in 1914.[31] Doubtless it is still in use somewhere in America or elsewhere, perhaps in folk medicine. After all, even the historian cannot claim to be omniscient.

145 Central Park West

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Notes and References

1. Letter from Cadwallader Colden to J. F. Gronovius, 1745. Colden states that he is sending Gronovius two brief essays, one of which was recently published in New York, the other at Philadelphia. One deals with tar water. The authorship is not mentioned. Letters and Papers of Cadwallader Colden (*cited hereinafter as Colden Letters and Papers*), New York, New-York Historical Society, 1918–1937, vol. 3, pp. 96–98.

2. James Alexander to Cadwallader Colden, New York, Feb. 10, 1744/5 (Colden Letters and Papers, vol. 3, pp. 102–103): "I read your reflections on Tar water twice over. . . & then sent for Parker the printer who agreed to print it according to your Directions. . . ."

3. James Alexander to Cadwallader Colden, New York, March 18, 1744/5 (Colden Letters and Papers, vol. 3, pp. 107–109): "Parker prints your piece on tar water differently from what your proposed. . . ."

4. Samuel Johnson to Cadwallader Colden, Stratford, June 26, 1745 (Colden Letters and Papers, vol. 3, pp. 120–122): "I see by parker's News paper that you, as I imagine, have indeed had Several Thoughts upon Tar-water. . . ."

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1955 POLIOMYELITIS VACCINE PROGRAM

Summary of National Planning Meeting on January 10, 1955

On invitation of the National Foundation for Infantile Paralysis, official representatives of the American Medical Association, the American Academy of Pediatrics, the Association of State and Territorial Health Officers, the American Public Health Association, and the U.S. Department of Health, Education, and Welfare met in New York City on January 10. The purpose of this meeting was to consider nation-wide administrative policies relative to the distribution and administration of the supply of poliomyelitis vaccine being purchased by the National Foundation for Infantile Paralysis for possible rapid application in the prevention of poliomyelitis in the spring of 1955. The deliberations of this group were predicated on the assumption that the evaluation of the 1954 poliomyelitis vaccine field trial, now being conducted by Dr. Thomas Francis, Jr., at the University of Michigan, would justify the licensure of this product by the National Institutes of Health, U.S. Public Health Service. Dr. Francis' report is expected to be issued about April 1, 1955.

The consensus of the meeting was as follows:

1. That if and when licensed by the National Institutes of Health, the vaccine will be supplied by the National Foundation to state health officers in amounts sufficient to provide for the vaccination of (*a*) children who participated in the vaccine field trial in 217 field trial areas in the United States in 1954, but who did not receive vaccine at that time, and (*b*) all children enrolled in the first and second primary grades of all public, private, and parochial schools in the continental United States, Alaska, and Hawaii in the spring term of 1955.

2. The plan of administration of the vaccine in any state or territory will be the administrative responsibility of the respective state or territorial health officer and will be worked out by him in cooperation with the state or territorial medical society and state or territorial education officials.

3. The 1955 vaccine program has been initiated by the National Foundation for the purpose of making possible early and widespread application of a newly established preventive measure against paralytic poliomyelitis; after completion of this program the National Foundation will not participate in the production, distribution, or administration of poliomyelitis vaccine.

4. The children in the first and second grades of primary schools were selected for the program because of high incidence of paralytic poliomyelitis in this group and their accessibility as organized units within the schools, keeping in mind the limitations on the amount of vaccine to be available for this program.

5. It is expected that additional vaccine, equivalent or greater in amount than that contracted for by the National Foundation, will be obtainable through usual commercial channels for the use of private physicians for their patients.

6. Vaccine for use in 1955 will be administered on the same dosage schedule as was followed in the 1954 field trial, namely, 1 cc. of vaccine in each of the three doses, given intramuscularly, the second inoculation one week after the first and the third inoculation four weeks after the second.

7. Administrative procedure for the giving of the vaccine will be as simple as possible and will not require extensive record-keeping. Except in those states which wish and are in a position to conduct follow-up studies, no extensive nation-wide evaluation, such as was done in the 1954 field trial, is contemplated.

8. Upon request from state health officers, the National Foundation will supply educational and other printed materials for use in the conduct of the vaccination program and will provide local cooperation and assistance through its chapters in all counties, as requested by local health authorities.

The official organizational representatives attending this meeting were the following:

American Medical Association.—Dr. Thomas Murdock and Dr. Julian Price.

American Academy of Pediatrics.—Dr. Harry Bakwin and Dr. Aims McGuinness.

Association of State and Territorial Health Officers.—Dr. D. G. Gill and Dr. Franklin D. Yoder.

American Public Health Association.—Dr. Herman E. Hilleboe, Dr. Reginald M. Atwater, and Dr. Granville W. Larimore.

U.S. Department of Health, Education, and Welfare.—Mr. Simon A. McNeely, Dr. Katherine Bain, Dr. Leroy E. Burney, and Dr. Roderick Murray.

National Foundation for Infantile Paralysis.—Dr. Hart E. Van Riper, Dr. G. Foard McGinnes, and Dr. Thomas D. Dublin.

NECROLOGY

Hugo Breit, M.D., of Binghamton, died on February 5 at Wilson Memorial Hospital at the age of fifty-six. Dr. Breit received his medical degree from the University of Munich in 1924. He was chief dermatologist at Wilson Memorial Hospital and industrial dermatologist for the Endicott Johnson Company. Dr. Breit was a member of the Broome County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Harold Dunn, M.D., of New York City, died on February 12 at his home at the age of fifty-six. Dr. Dunn received his medical degree from Harvard University in 1927. During World War II he served with the U.S. Army Medical Corps as a lieutenant colonel, in this country and in the Pacific, winning the Legion of Merit. He was also consultant psychiatrist at the Nuremberg war crimes trials. Dr. Dunn was associate professor of clinical psychiatry at Cornell University Medical College and associate attending psychiatrist at New York Hospital. He was a member of the American Psychiatric Association, the American Psychoanalytic Association, the Association for Psychoanalytic Medicine, the New York Psychoanalytic Society, the New York Society for Clinical Psychiatry, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Otto Gans, M.D., of Port Chester, died on February 9 at United Hospital at the age of fifty-six. A native of Germany, Dr. Gans received his medical degree from the University of Frankfurt in 1923 and came to the United States in 1934. He was a member of the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

John S. Parker, M.D., formerly of Earlville, died on January 22 in St. Petersburg, Florida, at the age of sixty-five. Dr. Parker was graduated from Albany Medical College of Union University in 1913 and interned at Ellis Hospital in Schenectady. He had practiced in Earlville for thirty years until his retirement five years ago when he moved to St. Petersburg. Dr. Parker had been a member of the Madison County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Richard Reens, M.D., of New York City, died on September 11, 1954, at the age of sixty-eight. Dr. Reens received his medical degree from the University of Amsterdam in 1932. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Norbert Bernard Schaefer, M.D., of Buffalo, died on January 30 at his home at the age of fifty-six. Dr. Schaefer was graduated from the University of Buffalo School of Medicine in 1925 and had practiced in Buffalo for almost thirty years. He was a member of the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Benjamin White Seaman, M.D., of Hempstead, died on February 11 at Nassau Hospital, Mineola, at the age of seventy. Dr. Seaman was graduated from the Cornell University Medical College in 1907.

During World War I he served with the U.S. Army Medical Corps as chief surgeon at Camp Dix, New Jersey. In 1923, when he was president of the Nassau County Medical Society, Dr. Seaman directed a survey by a committee whose report led to the establishment of the North Country Community Hospital, the Long Beach Memorial Hospital, and the South Nassau Communities Hospital.

Dr. Seaman was an honorary member of the staff of the Nassau Hospital, an emeritus member of the staff of the North Country Community Hospital, and honorary surgeon at the South Nassau Communities Hospital. A Diplomate of the American Board of Surgery and a Fellow of the American College of Surgeons, he was a member of the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Emil Steinreich, M.D., of New York City, died on October 6, 1954, at the age of seventy-four. Dr. Steinreich received his medical degree from the University of Giessen in 1908. He was clinical assistant physician at Sydenham Hospital and a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Joseph S. Thomas, M.D., of Flushing, died on February 16 at his home at the age of seventy-seven. Dr. Thomas was graduated from the Columbia University College of Physicians and Surgeons in 1904 and interned at Roosevelt Hospital. Former surgical director at Flushing Hospital, he was consulting surgeon at Queens General Hospital and Mary Immaculate Hospital and consulting surgeon emeritus at Flushing Hospital. A fellow of the American College of Surgeons, Dr. Thomas was a member of the New York Academy of Medicine, the Queensboro Surgical Society, the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Jacob Wachsman, M.D., of Brooklyn, died on February 9 in Adelphi Hospital at the age of seventy-seven. Dr. Wachsman was graduated from the Albany Medical College of Union University in 1901 and had practiced in Brooklyn since that time. He was a member of the Kings County Medical Society and the Medical Society of the State of New York.

Andrew Weill, M.D., of Woodside, died on October 12, 1954, at the age of forty-eight. Dr. Weill received his medical degree from the University of Pecs in 1939. He was clinical assistant in eye, nose, and throat at Lincoln Hospital and a member of the New York County Medical Society and the Medical Society of the State of New York.

Byron Stevens West, M.D., of Syracuse, died on February 8 in DeWitt at the age of fifty-two. Dr. West was graduated from the Syracuse University College of Medicine in 1926. He was assistant attending surgeon at the Crouse-Irving and University Hospitals, associate attending oral surgeon at the Memorial Hospital, and consultant in maxillofacial surgery at the General Hospital. Dr. West was a member of the Syracuse Academy of Medicine, the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

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for the annual convention,

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MEDICAL NEWS

Pediatrics Refresher Course—An intensive refresher course in pediatrics is being offered at the University of Buffalo School of Medicine under the sponsorship of the Medical Society of the State of New York and the Bureau of Maternal and Child Health, New York State Department of Health. This course, designed especially to meet the needs of general practitioners, will begin May 16 and extend through May 28. Among the subjects to be presented are minor dermatology, immunizations, common diseases of the eye, pediatric neurology and mental deficiency, management of epilepsy with emphasis on the use of the newer anticonvulsant drugs, allergic diseases, diseases of the heart, deficiencies in hearing, and cerebral palsy. Tuition for each physician enrolled in the course is paid by the State Department of Health.

Psychiatry Residency Program—The Veterans Administration Hospital, Lyons, New Jersey, has available residencies in psychiatry for a one-to-three-year period which are fully accredited by the American Board of Psychiatry and Neurology. The training program consists of lectures, conferences, and seminars under the direction of the Department of Psychiatry, New York Medical College, and offers intensive training, both intramurally and through rotation in special hospitals and clinics in the adjacent area. There is, in addition, a series of extensive guest lecturers as well as an annual institute at the hospital. Training may commence at any time.

Columbia University Expands Public Health—Columbia University has disclosed plans for broadening its teaching and research program in the New York City area. By action of the University trustees, the thirty-four-year old School of Public Health will, after June 30, be known as the School of Public Health and Administrative Medicine. This change will be effected by absorbing into the organizational structure of the school the five-year-old Institute of Administrative Medicine. The School of Public Health was founded in 1921 and today is the only graduate institution of its kind in the New York City area. It has established programs in hospital administration, industrial medicine, sanitary science, biostatistics, epidemiology, maternal and child hygiene, and public health practice.

Goldwater Vacancies Available—There are several vacancies available for the positions of residents and assistant residents on the Medical and Neurological Service and also for clinical assistant and assistant visiting physicians on the visiting staff of the Second Medical and Neurological Service of the Goldwater Memorial Hospital (a hospital for chronic disease with special facilities for the study of geriatric medicine.) Those interested may write for application forms to Dr. Benjamin Jablons, director, Second Medical Division, Goldwater Memorial Hospital, Welfare Island 17, New York.

Receiving Ward Planned—A receiving ward to handle accident and other emergency cases will be opened at Our Lady of Lourdes Hospital in Binghamton, it has been announced. At present, Lourdes is the only general hospital in the Triple Cities which does not maintain an emergency receiving ward. Except in unusual circumstances, Lourdes has confined itself to the care and treatment of the nonemergency medical and surgical cases and related types of work.

Rheumatic Fever Film—"Stop Rheumatic Fever," a new motion picture for the public, showing how this disease can be prevented by treatment of "strep" infections, is being released for nationwide use, Surgeon General Leonard A. Scheele of the Public Health Service, U.S. Department of Health, Education, and Welfare, has announced. The animated film will be used as part of the "Stop Rheumatic Fever" campaign being conducted by the National Heart Institute, Public Health Service, and the American Heart Association and its affiliates. Information on the film may be obtained from the Heart Information Center, National Heart Institute, Public Health Service, Bethesda 14, Maryland, or from the American Heart Association, 44 East 23rd Street, New York 10, New York.

Report on Allergies—According to a report given February 7 at the eleventh annual meeting of the American Academy of Allergy at the Statler Hotel in New York City, allergy symptoms in asthma and hay fever stem from inherited faults in the body's defenses against disease. Dr. William B. Sherman, associate professor of clinical medicine at the College of Physicians and Surgeons, Columbia University, discussed this concept at a day-long seminar on "Recent Advances in Hypersensitivity."

Physician Pilots—A national society of flying physicians is being organized by several physicians who have pilot's licenses. Purposes of this society are scientific, educational, and social. It is hoped to have a preliminary social fly-in before the AMA session in June. Interested physician pilots are asked to send their names to New York State chairmen, Dr. T. D. Kendrick, 230 Genesee Street, Utica, or Dr. Edwin W. O'Dowd, Tappan, New York.

Graduate Medical Faculty Formed—The organ-

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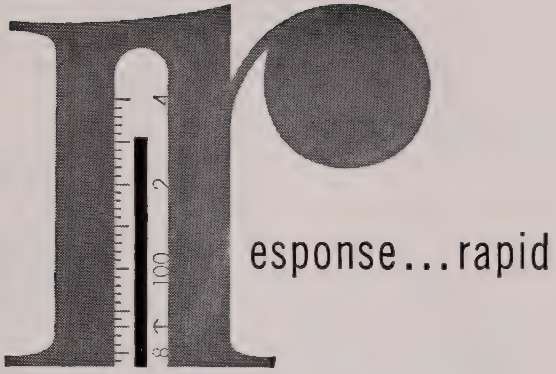

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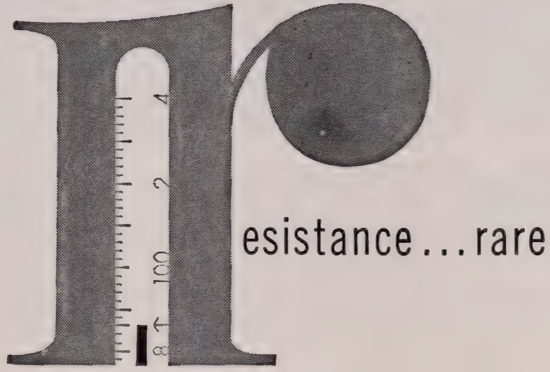

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[Continued from page 844]

ization of a graduate medical faculty to include representatives from the committee on medical information, the committee on medical education, the chairmen and the secretaries of the sections of the New York Academy of Medicine, and the chairman of the committee of sections, has been announced by Dr. Norton S. Brown, chairman of the committee of the FM program of the New York Academy of Medicine. The graduate medical faculty will select topics and speakers and each presentation will be specifically designed to meet the needs of the radio audience. The program will include direct presentations, round tables, conferences, discussions, and question and answer sessions. In content, the program will embrace medical reviews, new developments, practical suggestions, recommendations, and historical and cultural presentations.

New Journal Announced—Academic Press Inc., publishers, announce a new journal, *Virology,* for which Dr. George K. Hirst, Public Health Research Institute of the City of New York, Inc., has been named editor-in-chief. The purpose of *Virology* will be to publish articles on the biologic, biochemical, and biophysical aspects of the subject, stressing contributions of a fundamental rather than applied nature. It is planned to publish one volume per year. Volume 1, Number 1 is scheduled for release in May, 1955. Subscriptions for the Volume 1 should be sent to the publishers, Academic Press Inc., 125 East 23rd Street, New York 10, New York.

Medical Advisory Committee—The appointment of a Medical Advisory Committee, set up to give counsel to the Social Security Administration on medical aspects of administering the new "disability freeze" provision in the social security law, has been announced by Charles I. Schottland, commissioner of social security in the Department of Health, Education, and Welfare. The "disability freeze" provision is similar to the waiver of premium in commercial life insurance and permits a worker to keep his old-age and survivors insurance rights intact when he is totally disabled for work for an extended period. The determination as to whether a worker is totally disabled within the meaning of the law will be made by the vocational rehabilitation agency or other appropriate agency in the individual's own state under a voluntary agreement made by the state with the Secretary of Health, Education, and Welfare.

New York University Post-Graduate Medical School—A three-year scholarship in dermatology and syphilology has been announced by Dr. Marion B. Sulzberger, professor and chairman of the Department of Dermatology and Syphilology, of the New York University Post-Graduate Medical School. The scholarship pays $3,000 per annum, plus tuition, and is open to graduates of approved medical schools who have completed one year of acceptable internship. For further information address the Dean of the Post-Graduate Medical School, 550 First Avenue, New York 16, New York.

Bellevue Outpatient Department—The Outpatient Department of Bellevue Hospital in New York City, reconstructed at a cost of approximately $500,000, was formally opened on February 8 in the presence of Mayor Robert F. Wagner, Dr. Basil C. MacLean, commissioner of hospitals for New York City, members of the City Council and Board of Estimate, and representatives of Bellevue Hospital and New York University-Bellevue Medical Center, as well as 300 invited guests. Dr. Elaine P. Ralli, director of the Outpatient Services at Bellevue Hospital, and associate professor of medicine at NYU College of Medicine, was the principal speaker.

Meetings—Past

New York Academy Lectures

Alcoholism and narcotic addiction were reviewed in the 30th annual Hermann M. Biggs Memorial Lecture at the New York Academy of Medicine, February 3. The lecture was delivered at the regular monthly stated meeting of the Academy in Hosack Hall, under the auspices of the committee on public health relations.

Dr. Giorgio Lolli, director of the Silkworth Memorial Service at Knickerbocker Hospital in New York City, spoke on alcoholism as a medical problem. Dr. Lolli is also director of the Yale Plan Clinic at Yale University, and is consultant on professional services to the Connecticut Commission on Alcoholism. The second speaker, Dr. Harris Isbell, director of the Addiction Research Center at the U.S. Public Health Service Hospital, Lexington, Kentucky, lectured on the medical aspects of drug addiction.

State University of New York College of Medicine

The Research Society of the State University of New York College of Medicine at New York City held its fifth meeting February 9 at Kings County Hospital, Brooklyn.

New York Public Welfare Association

The annual midwinter meeting of the New York Public Welfare Association was held in Albany February 10 and 11. Among the speakers were Dr. Herman E. Hilleboe, State Health Commissioner; Raymond W. Houston, State Social Welfare Commissioner, and Henry L. McCarthy, Commissioner of the New York City Department of Welfare.

Society of Medical Jurisprudence

The 687th regular meeting of the Society of

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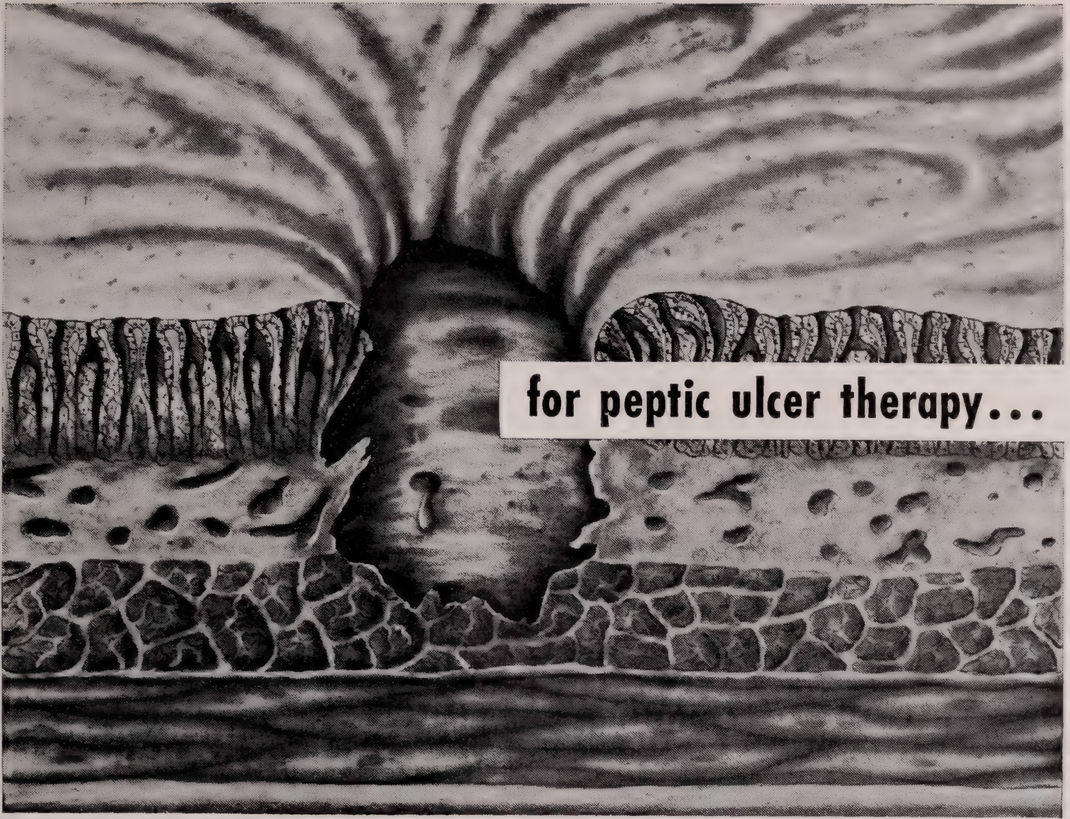

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[Continued from page 846]

Medical Jurisprudence was held at the New York Academy of Medicine building, on February 14. A panel discussion was held on "Problems Encountered in the Peacetime Use of Atomic Energy."

Medical Society of Jefferson County

The regular monthly meeting of the Medical Society of Jefferson County was held on February 15 at the Black River Valley Club. The scientific program was on "Different Hemoglobins and Their Relationship to Anemia," and the speaker was Dr. Anthony Ladd, Syracuse State University.

Nassau County Medical Society

The regular membership meeting of the Nassau County Medical Society was held on February 15 at the Cathedral House in Garden City. A panel discussion was held on "Hypertension." Discussants included Dr. William Goldring, associate professor of medicine at New York University College of Medicine and visiting physician at Bellevue Hospital; Dr. Edward Meilman, chief of medicine at Long Island Jewish Hospital and clinical associate professor at New York State Medical School; Dr. Robert S. Palmer, physician and chief of the Hypertension Clinic at Massachusetts General Hospital in Boston, and moderator, Dr. Harvey L. Myers, clinical associate at New York Medical College, consultant in vascular diseases at Queens General Hospital, and physician at Long Island Jewish Hospital.

American College of Surgeons

Dr. Charles W. Mueller, of Brooklyn, presided at a session on obstetrics and gynecology, February 22, at a meeting of the American College of Surgeons in Cleveland, Ohio.

American Academy of General Practice

An international closed-circuit television symposium on "Management of Streptococcal Infection and its Complications" was held on February 24 in 58 cities in the United States and Canada. Among the panel of physicians were Dr. Burtis B. Breese, assistant professor of pediatrics at the University of Rochester, and Dr. Gene H. Stollerman, medical director, Irvington House for Children with Heart Disease, Irvington. The program was sponsored by the American Academy of General Practice and Wyeth Laboratories.

Association for the Advancement of Psychotherapy

The 131st scientific meeting of the Association for the Advancement of Psychotherapy was held on February 25 at the New York Academy of Medicine building. The discussion was opened by Dr. Herman C. B. Denber, and Dr. Paul H. Hoch spoke on "New Drugs as Adjuncts to Psychotherapy."

Postgraduate Course in Allergy

A postgraduate course in allergy, sponsored by the University of Buffalo School of Medicine, was held March 2 and 3 at the Buffalo General Hospital and at the Children's Hospital in Buffalo.

Arthritis and Rheumatism Foundation

A conference on the "Advances in Management of Arthritis Patients: Medical, Physical, and Psychosocial," sponsored by the New York Chapter of the Arthritis and Rheumatism Foundation, was held at the New York Academy of Medicine building, on March 3. Under the chairmanship of Dr. Leonard J. Goldwater, professor of occupational medicine at Columbia University's School of Public Health, changing concepts in the management of arthritis patients were reported.

New York Heart Association

A joint meeting of the New York Heart Association, Inc. and the section on obstetrics and gynecology of the New York Academy of Medicine was held on March 8 at the New York Academy of Medicine building. A panel discussion on the "Management of Cardiovascular Problems in Pregnancy" was moderated by Dr. Edwin P. Maynard, Jr., State University College of Medicine at New York, Brooklyn Hospital. Panel members were Dr. Curtis L. Mendelson, Cornell University Medical College; Dr. James Metcalfe, Harvard Medical School; Dr. Alvin J. B. Tillman, College of Physicians and Surgeons, Columbia University, and Dr. Joseph B. Vander Veer, University of Pennsylvania School of Medicine.

Meetings—Future

National Society for the Prevention of Blindness

A 1955 sight-saving conference sponsored by the National Society for the Prevention of Blindness, will be held March 16, 17, and 18 at the Hotel Statler, New York City. A highlight of the conference will be a report on retrolental fibroplasia (RFL), the blinding eye disease that attacks premature babies. Reports will also be heard on progress against other blinding eye diseases, including glaucoma and uveitis. A session on industrial eye safety will include reports on methods to cut down the 300,000 eye injuries occurring every year in American industry. Other areas of sight conservation to be discussed include the education of partially seeing children, the school eye health program, and visual problems of older men and women. Exhibits on these and other aspects of the nationwide prevention of blindness campaign will be on display throughout the conference.

[Continued on page 850]

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[Continued from page 848]

Aero Medical Association

The 26th annual meeting of the Aero Medical Association will be held March 21 through 23 at the Hotel Statler in Washington, D.C.

International Academy of Proctology

The seventh annual meeting of the International Academy of Proctology will be held from March 23 through 26 at the Hotel Plaza in New York City. A paper by Dr. Hans Selye, director of the Institute of Experimental Medicine and Surgery, University of Montreal, will be read and panel discussions on cancer of the lower intestines and on ulcerative colitis will highlight the scientific sessions. A proctologist and a general practitioner will exchange ideas on proctology in general practice, especially in reference to the physical examination.

Society for the Prevention of Asphyxial Death

The Society for the Prevention of Asphyxial Death has called a meeting to be held March 24 at 8 P.M. at the New York Academy of Sciences to celebrate the completion of 100 courses in clinical hypoxia. The 900 students who have attended these courses are invited. An award consisting of "Assembled Case Records of Rescues" will be made to Dr. Paluel J. Flagg who organized and has directed the courses since their inception.

Kings County Medical Society

The Pediatric Section of the Kings County Medical Society will meet on March 28 at 8:45 P.M. at the Kings County Medical Society Auditorium, 1313 Bedford Avenue, Brooklyn. Dr. Carl H. Smith, professor of clinical pediatrics, Cornell University Medical College, and associate pediatrician at the New York Hospital, will speak on "Recent Concepts in the Diagnosis and Treatment of the Anemias of Infancy and Childhood."

New York Cancer Society

The seventh meeting of the New York Cancer Society will be held April 4 and 5 at the New York Academy of Medicine in New York City. The Society will be host to the sixth national Gastrointestinal Cancer Conference sponsored by the Gastrointestinal Cancer Committee of the National Advisory Cancer Council.

Institute in Psychiatry and Neurology

The fifth annual Institute in Psychiatry and Neurology, sponsored by the Veterans Administration Hospital, Lyons, New Jersey, the New Jersey Neuropsychiatric Association, and the New Jersey District Branch of A.P.A., will be held April 13 at the Veterans Administration Hospital, Lyons, New Jersey.

West Virginia Academy of General Practice

The West Virginia Academy of General Practice for Charleston, West Virginia, will hold a scientific assembly on the weekend of April 16 and 17, with physicians residing in nearby states cordially invited. Among the speakers will be Dr. Richard L. Day, professor and chairman of the Department of Pediatrics, State University of New York College of Medicine at New York City, on "Care of Premature Infants"; Dr. Edward W. Lowman, director of the Institute of Physical Medicine and Rehabilitation and professor of physical medicine and rehabilitation at New York University College of Medicine, on "The Chronic Rheumatoid Arthritic," and Dr. E. Hugh Luckey, dean and professor of medicine at Cornell University Medical College, New York City.

Stamford Heart Association

A symposium on "Treatment of Cardiovascular Disease" will be sponsored by the Stamford Heart Association on April 19 at the Connecticut Power Company, Stamford, Connecticut. Among the speakers will be Dr. Janet S. Baldwin, associate professor of pediatrics at NYU-Bellevue Medical Center, on "Diagnosis and Medical Management of Congenital Heart Disease"; Dr. Arthur C. DeGraff, professor of therapeutics, NYU-Bellevue Medical Center, on "Use of Digitalis and the Cardiac Glycosides"; Dr. Perrin H. Long, director of medical service, State University of New York College of Medicine at New York City, on "Treatment of Bacterial Endocarditis," and Dr. Arthur M. Fishberg, director of medicine, Beth Israel Hospital, New York City, on "Management of Hypertension."

Empire State Association of Medical Technologists

The Empire State Association of Medical Technologists will hold its 1955 New York State convention at the Hotel Ten Eyck in Albany on April 22 through 24.

American Goiter Association

The 1955 meeting of the American Goiter Association will be held in the Skirvin Hotel, Oklahoma City, Oklahoma, April 28 through 30. The program will consist of papers and discussions dealing with the physiology and diseases of the thyroid gland.

American College of Cardiology

The American College of Cardiology will hold its fourth annual convention at the Hotel Biltmore in New York City on May 18 to 20, 1955. Two scientific sessions will be devoted to a symposium on hypertension and hypertensive heart disease. Another scientific session will be devoted to advances in cardiac surgery and a fourth session to the heart and circulation in sports. There will be scientific exhibits on cardiovascular research and commercial exhibits outlining the latest advances in the field of cardiology. Dr. Ashton Graybiel, Pensacola, Florida, will preside. Any program information

[Continued on page 852]

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1. Suarez-Murias, E. L.: Internat. Rec. Med. *166:*475 (Nov.) 1953. 2. Rees, L.: J. Ment. Sc. *99:*62 (Jan.) 1953. 3. Morton, J. H., et al.: Am. J. Obst. & Gynec. *65:*1182 (June) 1953. 4. Morton, J. H.: Internat. Rec. Med. *166:*505 (Nov.) 1953.

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may be obtained from the secretary of the college, Dr. Philip Reichert, 140 West 57th Street, New York 19, New York.

Trudeau School of Tuberculosis

Despite the closing of the clinical facilities of the Trudeau Sanatorium, the forty-first session of the Trudeau School of Tuberculosis will begin June 1 and continue to June 29. The course will cover all aspects of pulmonary tuberculosis and also certain phases of other chronic chest diseases, including those of occupational origin. Applications and more detailed information may be obtained from: Secretary, Trudeau School of Tuberculosis, Box 200, Trudeau, New York.

International Society for the Study of Biological Rhythm

The fifth conference of the International Society for the Study of Biological Rhythm is to be held from September 15 to 17, 1955 at the Department of Anatomy at Karolinska Institutet in Stockholm. The principal themes are: rhythmical phenomena in the nervous system, cybernetics, and rhythm and industrial medicine. Applications for papers to be read should be submitted prior to March 15, 1955, to Professor Ture Petren, Karolinska Institutet, Stockholm 60, Sweden.

University of Illinois Otolaryngology Department

The Department of Otolaryngology, University of Illinois College of Medicine, will hold its annual assembly in otolaryngology from September 19 through October 1, 1955. The assembly will consist of two parts.

Part 1, September 19 through September 24, will be devoted to surgical anatomy of the head and neck, fundamental principles of neck surgery, and histopathology of the ear, nose and throat. Part 2, September 26 through October 1, will be devoted entirely to lectures and panel discussion of advancements in otolaryngology. Registration is optional for one or both weeks.

American Association of Blood Banks

The eighth annual meeting of the American Association of Blood Banks will be held at the Palmer House in Chicago on November 19 through 21. The program will include exhibits, a refresher course for technologists, round table and panel discussions led by national and international authorities. For further information write to American Association of Blood Banks, 725 Doctors Building, 3707 Gaston Avenue, Dallas 10, Texas.

Pan American Medical Association

The next and tenth Inter-American Congress of the Pan American Medical Association will be held in Mexico City, March 25 through 31, 1957. The Congress will be held in sections covering all branches of medicine and surgery. There will be medical moving pictures, panel discussions, and scientific and technical exhibits.

Personalities

Honored

Dr. Katharine Dodge Brownell, director of the Lower East Side Rheumatic Fever Project in the Department of Preventive Medicine of the New York University College of Medicine, and assistant professor of clinical pediatrics at New York University, for achievements in pediatric research and public health; Dr. Phyllis Greenacre, consultant psychiatrist of the Westchester County Department of Welfare, Cornell Medical School and New York Hospital, and an instructor in psychoanalysis at the New York Psychoanalytic Institute, for achievements in psychiatry, and Dr. Lilian Cook Warnshuis, medical officer of the Connecticut College for Women and former vice-principal and professor of medicine at the Vellore Medical School for Women in Vellore, India, for the teaching and practice of internal medicine in this country and in India, recipients of the Elizabeth Blackwell Citation, made annually since 1949 in honor of the late Dr. Elizabeth Blackwell, founder of the New York Infirmary.

Dr. Willard C. Rappleye, dean of the College of Physicians and Surgeons, at Columbia University, with a life-size portrait presented to the medical school. . .Dr. Howard A. Rusk, director of the Institute of Medicine and Rehabilitation at New York University-Bellevue Medical Center and associate editor of the *New York Times*, with the gold medal of the International Benjamin Franklin Society. . .Dr. Albert Szent-Gyorgyi, Hungarian born winner of the 1937 Nobel prize in medicine, for his contributions to humanity, by the New York Academy of Sciences.

Appointed

Dr. Alvin A. Bakst, as director of the Department of Cardio-Vascular and Thoracic Surgery at the Jewish Hospital of Brooklyn. . .Dr. Vincent Cremona, as director of otolaryngology at St. Agnes Hospital in White Plains. . .Dr. Charles H. Hochman, as acting deputy chief medical examiner in the Bronx. . .Drs. Edwin H. Kaufman and Noel H. Seicol, to the staff of United Hospital, Port Chester . . .Dr. Sol Kronenberg as attending gastroenterologist at Unity Hospital, Brooklyn. . .Dr. Ralph J. McMahon, chairman of the Broome County Medical Society workmen's compensation committee, succeeding Dr. Alvin R. Carpenter. . .Dr. John L. Norris, as associate medical director of Eastman Kodak Company, Rochester. . .Dr. Leon L. Rackow, as chief of professional services at Montrose V.A. Hospital. . .Dr. Glen Smith, chief of the urological

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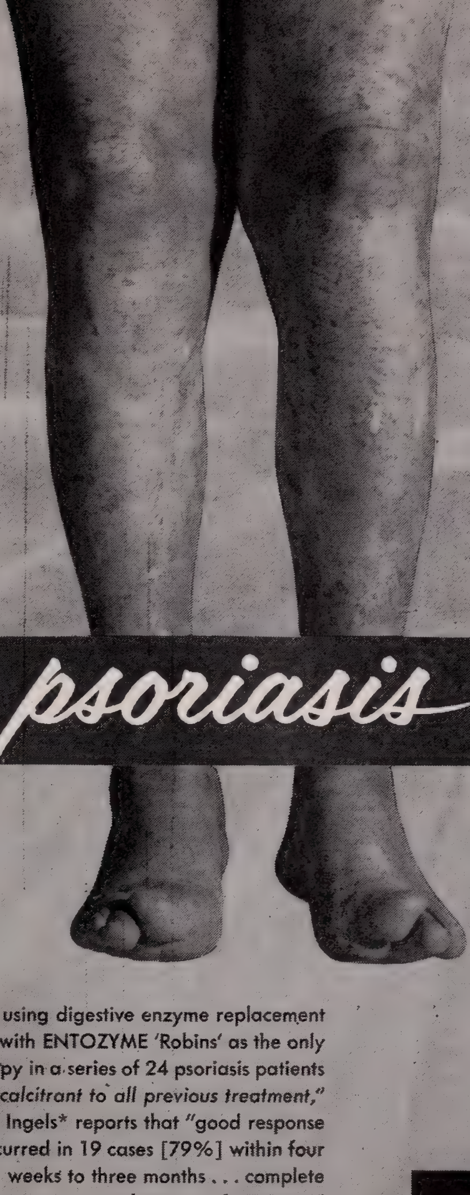

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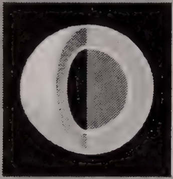

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*Ingels, A. H.: California Medicine 79:437, 1953.

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[Continued from page 852]

division at St. Clare's and Ellis Hospitals, as chairman of the medical board at St. Clare's Hospital in Schenectady. . .Dr. Louis J. Soffer, attending physician and head of endocrinology at Mount Sinai Hospital, as clinical professor of medicine at the State University College of Medicine in Brooklyn.

Elected

Dr. Robert S. Beekman, attending physician at St. Luke's Hospital, New York City, as president of the board of Greer, a children's community . . . Dr. Cyrus Davis, president, Dr. Mario Cuoco, vice-president, and Dr. Nicholas Esposito, treasurer-secretary of the medical board of Leonard Hospital . . .Dr. Fritz Landsberg, reelected president, Dr. Francis A. Ward, secretary, Dr. Milton J. Daus, chief of internal medicine, Dr. William Tague, obstetrics, Dr. J. Y. Roberts, anesthesia, and Dr. Paul Willworth, chief of surgery, of the Schuyler Hospital medical staff . . . Dr. G. Emerson Learn, president, Dr. LaVerne G. Wagner, vice-president, and Dr. C. Greenberg, secretary-treasurer, of the Medical Society of the County of Livingston for 1955 . . . Dr. Foster Murray, president, Dr. Edith M. Lincoln, first vice-president, Dr. Edward P. Eglee, second vice-president, and Dr. Anthony M. Lanza, treasurer of the New York Tuberculosis and Health Association.

Dr. J. Lawrence Pool, professor of neurological surgery at Columbia University and director of the service of neurological surgery at Columbia-Presbyterian Medical Center, as a trustee of the American Museum of Natural History . . . Dr. Joseph J. Russo, chairman, Dr. Thomas G. Fitzgerald, vice-chairman, and Dr. William E. Pickett, secretary-treasurer, of the staff at St. Peter's Hospital in Albany . . . Dr. Gregory Shwartzman, president of the medical board of Mount Sinai Hospital . . . Drs. Warren Weaver, Roger Adams, and C. P. Rhoads, to the board of trustees of the Sloan-Kettering Institute, research division of the Memorial Center for Cancer and Allied Diseases, New York City.

Speakers

Dr. Daniel C. Baker, Jr., and Dr. Charles A. Flood, New York City, on "Progress in Esophagology"; Dr. David W. Brewer, Syracuse, on "Psychosomatic Aspects of Otolaryngology"; Dr. Irving Goldman, New York City, on "New Technic for Corrective Surgery of the Nasal Septum"; Dr. R. C. Grove, New York City, on "Diagnosis of Nasal Allergy," and Dr. C. Stewart Nash, Rochester, on "Psychosomatic Aspects of Otolaryngology," before the American Medical Association convention to be held in Atlantic City June 6 through 10 . . . Dr. Robert Boggs, dean of New York University Post-Graduate Medical School, on February 8 before the fifty-first annual Congress on Medical Education and Licensure in Chicago, on "Post-Graduate Training of Foreign Physicians."

Dr. Earle Barnes Mahoney, associate professor of surgery and associate surgeon at Strong Memorial Hospital, chief surgeon at Genesee Hospital in Rochester and consultant in thoracic surgery at the Batavia Veterans Hospital, on February 2 before the Avon Rotary Club on "Modern Trends in Cardiac Surgery" . . . Dr. Mortimer Ostow, co-author of "The Need to Believe," on February 4 before the hospital staff of the Veterans Administration Hospital at Northport, L.I., on "Psychic Contents and Psychic Processes of the Brain" . . . Dr. George T. Pack, New York City, on March 25 before the seventh annual Midwest Cancer Conference in Wichita, Kansas, on "Tumors of the Parotid Gland, and Management of Primary and Metastatic Tumors of the Liver."

New Offices

Dr. Bernard F. Brophy, general practice in Clyde . . . Dr. Glen E. Cooley, private practice of general surgery in Schenectady, following his discharge from the Air Force . . . Dr. James E. Dunphy, general practice in Fishkill . . . Dr. Francis Marshall, practice of pediatrics in Williamsville . . . Dr. Arthur G. O'Leary, general practice in New Windsor . . . Dr. Richard Smigelsky, general practice in Endicott.

Reopens Office

Dr. Richard Wenger, general practice in Saugerties after Veterans' Administration Hospital service in North Dakota.

Retired

Dr. William A. Wardner, as Saranac Lake physician and former Franklin County coroner.

Infant Mortality Rate Lowered

The 4,060,000 babies born during 1954 set a new mark in their ability to survive the hazards of early life, statisticians of the Metropolitan Life Insurance Company report. Infant mortality for the year dropped to an all-time low rate of 26.7 per 1,000 live births. This represents a reduction of almost 5 per cent from the previous low recorded in 1953, and of one third from the rate of a decade ago.

The number of births was more than 2 per cent above the previous high established the year before and corresponded to a rate of 25.2 births per 1,000 population residing in the country, the staticians note.

The continuing boom in births has added more than 36,750,000 babies to the nation's population within the last ten years.

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Dosage: 2 cc. daily. Each 2 cc. provides:

Thiamine HCl (B_1)	10 mg.
Sodium Pantothenate	10 mg.
Niacinamide	50 mg.
Riboflavin (B_2)	10 mg.
Pyridoxine HCl (B_6)	5 mg.
Ascorbic Acid (C)	300 mg.
Vitamin B_{12}	15 micrograms
Folic Acid	3 mg.

FOLBESYN is also available in tablet form, ideal for supplementing the parenteral dose.

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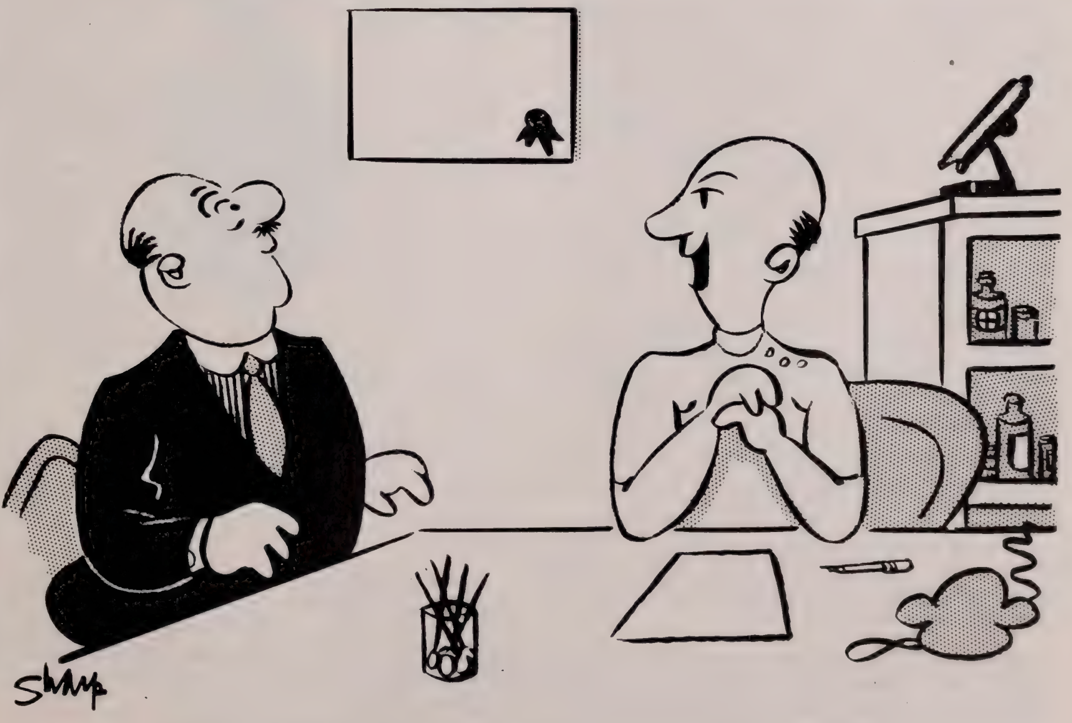


"I think you've got Korsakoff's syndrome . . . . . . and he's got yours!"

BOOKS RECEIVED

(The following books were received during the months of December, 1954, and January, 1955)

The Ciba Collection of Medical Illustrations. Vol. 2. A Compilation of Paintings on the Normal and Pathologic Anatomy of the Reproductive System. Prepared by Frank H. Netter, M.D. Edited by Ernst Oppenheimer, M.D. Folio of 286 pages, illustrated. Summit, N.J., Ciba Pharmaceutical Products, 1954. Cloth, $13.

Diagnostic Laboratory Hematology. By George E. Cartwright, M.D. Octavo of 104 pages, illustrated. New York, Grune & Stratton, 1954. Cloth, $3.00.

Textbook of Chiropody. By Margaret J. McKenzie Swanson. Second edition. Octavo of 268 pages. 160 illustrations. Baltimore, Williams & Wilkins Co., 1954. Cloth, $5.00.

Voluntary Prepayment Medical Benefit Plans. Octavo of 137 pages. Chicago, American Medical Association, 1954.

The City of Hope. By Samuel H. Golter. Octavo of 177 pages, illustrated. New York, G. P. Putnam's Sons, 1954. Cloth, $3.50.

Standard Values in Nutrition and Metabolism. Being the second fascicle of a Handbook of Biological Data. Edited by Errett C. Albritton, M.D. Prepared under the Direction of the Committee on the Handbook of Biological Data, American Institute of Biological Sciences, the National Research Council. Quarto of 380 pages, illustrated. Philadelphia, W. B. Saunders Co., 1954. Paper, $6.50.

Pediatric Diagnosis. By Morris Green, M.D., and Julius B. Richmond, M.D. Quarto of 436 pages, illustrated. Philadelphia, W. B. Saunders Co., 1954. Cloth, $10.

Diagnostic Advances in Gastrointestinal Roentgenology. Selected Methods, with Clinical Evaluation. By Arthur J. Bendick, M.D. Quarto of 131 pages, illustrated. New York, Grune & Stratton, 1954. Cloth, $6.00.

This Pace Is *Not* Killing Us. By J. I. Rodale. Duodecimo of 64 pages, illustrated. Emmaus, Pa. Rodale Books, 1954. Cloth, $1.00.

Physical Medicine and Rehabilitation. Edited by Basil Kiernander, D.Phys.Med. Octavo of 610 pages, illustrated. Springfield, Ill., Charles C Thomas, 1953. Cloth, $12.75.

Retropubic Prostatectomy. For Benign Enlargement of the Prostate Gland. By Francis A. Beneventi, M.D. Art Direction and 44 Original Drawings by William P. Didusch. Quarto of 227 pages, illustrated. Springfield, Ill., Charles C Thomas, 1954. Cloth, $11.

Congenital Syphilis. By David Nabarro, M.D. Octavo of 470 pages, illustrated. London, England. Edward Arnold (Baltimore, Williams & Wilkins), 1954. Cloth, $10.

The Skin. A Clinicopathologic Treatise. By Arthur C. Allen, M.D. Quarto of 1,048 pages. 495 full-page illustrations. St. Louis, C. V. Mosby Co., 1954. Cloth, $25.

The Health Insurance Story. Prepared by the Health Insurance Council. Octavo of 63 pages, illustrated. New York, Health Insurance Council, [1954]. Paper. Single copies, gratis; bulk orders, 50 cents each.

Saturday, Sunday and Everyday. The History of the United Hospital Fund of New York. By Joseph Hirsh with Beka Doherty. Octavo of 127 pages.

Handbook of Medical Treatment. Edited by Milton J. Chatton, M.D., Sheldon Margen, M.D., and Henry D. Brainerd, M.D. Fourth edition. Sextodecimo of 569 pages, illustrated. Los Altos, Calif., Lange Medical Publications, 1954. Paper, $3.00.

Human Limbs and Their Substitutes. Presenting Results of Engineering and Medical Studies of the Human Extremities and Application of the Data to the Design and Fitting of Artificial Limbs and to the Care and Training of Amputees. Prepared under the sponsorship of the Advisory Committee on Artificial Limbs, National Academy of Sciences, National Research Council. In summary and correlation of a research program for the Department of Medicine and Surgery, U.S. Veterans Administration, and for the Office of the Surgeon General, Department of the Army. By Paul E. Klopsteg, Sc.D., Philip D. Wilson, M.D., *et al.* Octavo of 844 pages, illustrated. New York, McGraw-Hill Book Co., 1954. Cloth, $12.

Sports Injuries. Prevention and Active Treatment. By Christopher Woodard, M.R.C.S. Duodecimo of 128 pages, illustrated. London, England, Max Parrish (Los Altos, Calif., Track & Field News, P.O. Box 296), 1954. Cloth, $3.00.

Needed Research in Health and Medical Care. A Biosocial Approach. By Cecil G. Sheps, M.D., and Eugene E. Taylor, M.D. Based on a Seminar held in Chapel Hill in September, 1952. Octavo of 216 pages. Chapel Hill, University of North Carolina Pr., 1954. Cloth, $5.00.

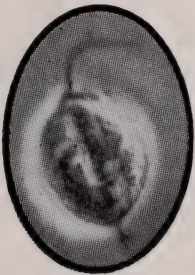
[Continued on page 858]

EXPLOSION–

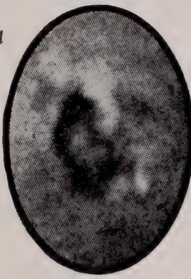
OF TRICHOMONADS WITHIN 15 SECONDS OF CONTACT WITH VAGISEC liquid

A NEW AGENT, Vagisec liquid, reaches deeply buried and surface trichomonads and explodes them within 15 seconds. No other trichomonacide has this effect.

The Davis technic. Vagisec liquid is the trichomonacide developed as "Carlendacide" by Dr. Carl Henry Davis, well-known gynecologist and author, and C. G. Grand, research physiologist. Over 100 leaders in obstetrics and gynecology tested this new agent and reported "better than 80 per cent of cures among non-pregnant patients with one course of treatment."[1]



1. *Microphotograph (phase-contrast microscope) of a trichomonad*



2. *Trichomonad "exploded" within 15 seconds of contact with Vagisec liquid, diluted as douche*

Synergistic action. Vagisec liquid combines a chelating agent to capture the calcium of the calcium proteinate, a wetting agent to remove lipid material and a detergent to denature the protein. Result, the trichomonad swells up and bursts.

Thorough penetration. Vagisec jelly and liquid penetrate the cellular debris and mucoid material lining the vaginal wall and buried between the rugae. They reach trichomonads, hidden and surface.

Course of treatment. Dr. Davis recommends office treatment and home treatment and the use of both Vagisec jelly and liquid. For "the small percentage of women who have an involvement of cervical, vestibular or urethral glands, other treatment will be required."[1]

Office treatment. Expose vagina with speculum. Wipe walls dry with cotton sponges and wash thoroughly for about three minutes with a 1:250 dilution of Vagisec liquid. Remove excess with cotton sponges. There is no discharge or staining. Six office treatments are recommended.

Home treatment. Prescribe both Vagisec jelly and Vagisec liquid for home treatment. Patient inserts Vagisec jelly each night and douches with Vagisec liquid (1 teaspoonful to a quart of warm water) each morning except on office treatment days. Treatment continues without interruption through two menstrual periods. Continued douching with Vagisec liquid two or three times a week helps to prevent re-infection.

Summary. Vagisec liquid reaches deeply buried trichomonads and explodes them in 15 seconds. The Davis technic is a triple attack—office treatment, home treatment with jelly at night, and home treatment with liquid in the morning. Vagisec jelly and liquid have been clinically tested and proved fast and effective. They are non-toxic.

---

[1] *Davis, C. H.: J.A.M.A. 157:126 (Jan. 8) 1955.*

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Active ingredients: Polyoxyethylene nonyl phenol, Sodium ethylene diamine tetra-acetate, Sodium dioctyl sulfosuccinate. In addition, Vagisec jelly contains Boric acid, Alcohol 5% by weight.

[Continued from page 856]

The Adolescent Exceptional Child, a Realistic Approach to Treatment and Training. Proceedings of the 1954 Spring Conference of the Child Research Clinic of the Woods Schools held in New Orleans, Louisiana, April 9 and 10, 1954, in Three Sessions. Octavo of 79 pages. [Langhorne, Pa., Woods Schools, 1954]. Paper, gratis.

Ciba Foundation Symposium on Hypertension. Humoral and Neurogenic Factors. G. E. W. Wolstenholme, M.B., and Margaret P. Cameron, M.A., Editors. Assisted by Joan Etherington. Octavo of 294 pages, 73 illustrations. Boston, Little, Brown & Co., 1954. Cloth, $6.75.

When Minds Go Wrong. By John Maurice Grimes, M.D. Revised edition. Octavo of 246 pages, illustrated. New York, Devin-Adair Co., 1954. Cloth, $3.50.

Papers Delivered Before The Society of Medical Jurisprudence, 1942–1950. Gustave J. Noback, Ph.D., Editor. Octavo of 279 pages. Chicago, February Publishers, 1954.

Ciba Foundation Symposium on the Kidney. Arranged jointly with the Renal Association. A. A. G. Lewis, M.D., Editor for the Renal Association. G. E. W. Wolstenholme, M.B., Editor for the Ciba Foundation. Assisted by Joan Etherington. 125 illustrations. Octavo of 327 pages. Boston, Little, Brown & Co., 1954. Cloth, $6.75.

How to Get Along with Children. A More Excellent Way for Parents, Teachers, Youth Counselors, and All Who Work with Young People. By Frank Howard Richardson, M.D. Octavo of 172 pages. Atlanta, Tupper & Love, 1954. Cloth, $2.95.

Pathogenesis of Cancer. Second edition. By John E. Gregory, M.D. Octavo of 202 pages, illustrated. Pasadena, Fremont Foundation, 1952. Cloth, $7.50.

Tissue Culture Technique in Pharmacology. C. M. Pomerat, Ph.D., and Elmer L. Sevringhaus, M.D. (Conference Chairmen). H. J. Baker, M.D., F. B. Bang, M.D., H. H. Benitez, J. J. Biesele, Ph.D., *et al.* Octavo of 356 pages, illustrated. New York, New York Academy of Sciences, 1954. Paper, $4.50. (*Annals of the New York Academy of Sciences*, v. 58, Art. 7, pp. 971–1326)

Paul Ehrlich Centennial. Robert J. Schnitzer, M.D., and E. Grunberg, Ph.D. (Conference Co-Chairmen). J. A. Aeschlimann, Ph.D., H. Bauer, Ph.D., C. H. Browning, M.D., H. Eagle, M.D., *et al.* Octavo of 136 pages, illustrated. New York, New York Academy of Sciences, 1954. Paper, $3.00. (*Annals of the New York Academy of Sciences*, v. 59, Art. 2, pp. 141–276)

Annual Report, 1953–1954. The Cancer Detection Center. An Educational and Service Project to Serve the Western New York Community. Sponsored by the American Cancer Society, New York State Division, in cooperation with the New York State Health Department Bureau of Cancer Control and the Edward J. Meyer Memorial Hospital, and with the approval of the Erie County Medical Society. Quarto of 33 pages, mimeographed. Buffalo, E. J. Meyer Memorial Hospital, [1954].

The President's Review. Reprinted from The Rockefeller Foundation Annual Report, 1953. Octavo of 61 pages. New York, [The Foundation], [1954].

Cardiac Anomalies. A Clinicopathologic Correlation. By Vincent Moragues, M.D., and Chester P. Lynxwiler, M.D. Quarto of 92 pages, illustrated. Baltimore, Williams & Wilkins Co., 1954. Cloth, $6.50.

Nontuberculous Diseases of the Chest. Sponsored by the American College of Chest Physicians. Editor, Andrew L. Banyai, M.D. Editorial Committee, Seymour M. Farber, M.D., Alvis E. Greer, M.D., Charles M. Hendricks, M.D., Minas Joannides, M.D., *et al.* Octavo of 1,139 pages, illustrated. Springfield, Charles C Thomas, 1954. Cloth, $18.75.

Sandoz Atlas of Haematology. Quarto of 91 pages, illustrated. Loose-leaf. Basle, Switzerland, Sandoz, Ltd., 1952. Cloth, $7.00.

Annual Report of the Public Health Research Institute of the City of New York, Inc. July 1, 1953–June 30, 1954. Octavo of 48 pages. [New York, The Institute, 1954].

1953–54 Annual Report of the John and Mary R. Markle Foundation. Octavo of 69 pages. [New York, The Foundation, 1954].

6-Mercaptopurine. George H. Hitchings, Ph.D., and C. P. Rhoads, M.D. (Conference Co-Chairmen). N. Alberstadt, F. J. de Asúa, J. Bernard, F. H. Bethell, M.D., *et al.* Octavo of 326 pages, illustrated. New York, New York Academy of Sciences, 1954. Paper, $4.50. (*Annals of the New York Academy of Sciences*, v. 60, Art. 2, pp. 183–508)

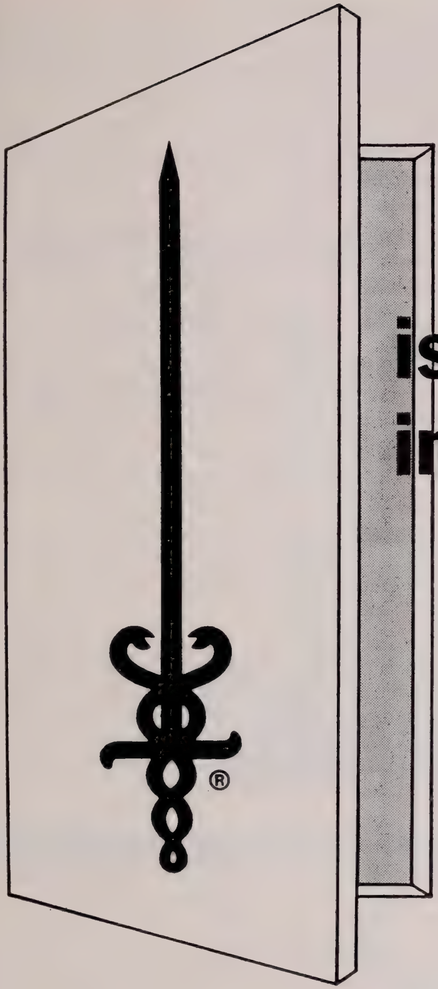
Speciation and Variation in Asexual Fungi. Kenneth B. Raper, Ph.D. (Conference Chairman). L. Anderson, E. J. Backus, Ph.D., M. P. Backus, Ph.D., R. G. Benedict, Ph.D., *et al.* Octavo of 183 pages, illustrated. New York, New York Academy of Sciences, 1954. Paper, $3.50. (*Annals of the New York Academy of Sciences*, v. 60, Art. 1, pp. 1–182)

Emotional Problems and What You Can Do About Them. First Aid to Wiser Living. By William B. Terhune, M.D. Octavo of 190 pages. New York, William Morrow & Co., 1955. Cloth, $3.00.

The History and Conquest of Common Diseases. Edited by Walter R. Bett. Octavo of 334 pages. Norman, University of Oklahoma Pr., 1954. Cloth, $4.00.

Genetica Medica. Ium Symposium Internationale Geneticae Medicae, 6–7 Septembris 1953. Octavo of 467 pages, illustrated. Rome, Edizioni dell' Instituto Gregorio Mendel, (Florence, Libreria

[Continued on page 860]



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The occasion for this brief salute is April, the Cancer Control Month. This year, 1955, marks the tenth anniversary of the reorganization of the American Cancer Society and the launching of the post-war attack on cancer. Much has been achieved—far more remains to be done.

We are grateful for your help in the past—and we rely on your continued support. We count heavily on the doctor in our house.

American Cancer Society

[Continued from page 858]

Commissionaria Sansoni), 1954. (*Analecta Genetica,* Collana di Monografie Diretta da Luigi Gedda)

Stuttering. A Psychodynamic Approach to Its Understanding and Treatment. By Dominick A. Barbara, M.D. Octavo of 304 pages. New York, Julian Press, 1954. Cloth, $5.00.

Annual Report, 1953. Workmen's Compensation Board, State of New York. Quarto of 45 pages. [1954].

Surgery of the Heart. By Charles P. Bailey, M.D. Octavo of 1,062 pages, 1,452 illustrations. Philadelphia, Lea & Febiger, 1955. Cloth, $25.

Genetics and the Inheritance of Integrated Neurological and Psychiatric Patterns. Res. Publ. Ass. Nerv. Ment. Dis. Vol. 33. Davenport Hooker, Ph.D., Chairman. Octavo of 425 pages, 77 illustrations. Baltimore, Williams & Wilkins Co., 1954. Cloth, $10.

The Physiological Basis of Medical Practice. A Text in Applied Physiology. By Charles Herbert Best, M.D., and Norman Burke Taylor, M.D. Sixth edition. Quarto of 1,355 pages, illustrated. Baltimore, Williams & Wilkins Co., 1955. Cloth, $12.

Doctors' Legacy. A Selection of Physicians' Letters, 1721–1954. Edited by Laurence Farmer, M.D. Octavo of 267 pages. New York, Harper & Bros., 1955. Cloth, $3.50.

Fat Metabolism. Report of the Eleventh M & R Pediatric Research Conference. Octavo of 73 pages, illustrated. Columbus, M & R Laboratories, 1954.

Public Relations in Medical Practice. By James E. Bryan. Octavo of 301 pages. Baltimore, Williams & Wilkins Co., 1954. Cloth, $5.00.

Planning Florida's Health Leadership. [Vol. 4]. Florida's Hospitals and Nurses. By John M. Maclachlan, Ph.D. Octavo of 122 pages. Gainesville, University of Florida Pr., 1954. Paper, $1.50.

Drugs in Current Use, 1955. Edited by Walter Modell, M.D. Octavo, n.p. New York, Springer Publishing Co., 1955. Paper, $2.00.

Annual Report, Department of Health, the City of New York for the Year 1953. Octavo of 67 pages, illustrated. [New York], Bureau of Public Health Education, [1954].

A Textbook of Neurology. By H. Houston Merritt, M.D. Octavo of 746 pages, 181 illustrations. Philadelphia, Lea & Febiger, 1955. Cloth, $12.50.

Handbook of Radiology. Editor, Russell H. Morgan, M.D. Associate Editor, Kenneth E. Corrigan, Ph.D. With fifteen collaborators. Duodecimo of 518 pages, illustrated. Chicago, Year Book Publishers, 1955. Cloth, $10.

Manual of Hand Injuries. By H. Minor Nichols, M.D. Octavo of 352 pages. Chicago, Year Book Publishers, 1955. Cloth, $9.50.

The Medical Clinics of North America. Chicago Number. January, 1955. Octavo. Illustrated. Philadelphia, W. B. Saunders Co., 1955. Cloth, $18 net; paper, $15 net.

The Principles and Practice of Medicine. A Textbook for Students and Doctors. By L.S.P. Davidson, M.D., and the Staff of the Department of Medicine, University of Edinburgh, and Associated Clinical Units. Second edition. Octavo of 1,036 pages, illustrated. Edinburgh, E. & S. Livingstone, (Baltimore, Williams & Wilkins Co.), 1954. Cloth, $7.00.

Tumours of Lymphoid Tissue. By George Lumb, M.D. Quarto of 204 pages, illustrated. Edinburgh, E. & S. Livingstone, (Baltimore, Williams & Wilkins Co.), 1954. Cloth, $8.00.

Practical Management of Disorders of the Liver, Pancreas, and Biliary Tract. By John Russell Twiss, M.D., and Elliot Oppenheim, M.D. Octavo of 653 pages, 143 illustrations. Philadelphia, Lea & Febiger, 1955. Cloth, $15.

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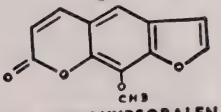

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BOOKS REVIEWED

Standard Methods of Clinical Chemistry. Vol. 1. By the American Association of Clinical Chemists. Editor-in-Chief: Miriam Reiner. Octavo of 142 pages, illustrated. New York, Academic Press, 1953. Cloth, $4.50.

The purpose of this book is to assemble detailed instructions for reliable clinical procedures for routine biochemical use, which could be regarded as more or less "official." For this purpose, methods were submitted for 20 constituents of biologic fluids by a number of well-known clinical chemists. The methods were then checked in other laboratories to test the clarity of the directions.

This book constitutes a most useful collection of tried and tested clinical biochemical methods which should be of especial value to newcomers in this field. In general, except for glucose, CO_2, and creatinine, a single method is given for each constituent. This is desirable so that most laboratories can standardize their routine procedures along the same lines. Procedures have been presented mainly for serum and plasma analysis although some applications are given for urine, and cerebrospinal fluid. In general the methods as selected do not require excessive time, unusual skill, or costly apparatus. General instructions for the collection of specimens, reporting results, use, and care of photometers, are described in an introductory chapter which could stand considerable expansion.

This book represents a definite advance in the standardization of methodology in the clinical chemistry. It is expected that future volumes will incorporate additional methods as well as improvements on the present ones as they become available.—Abraham Saifer

Rheumatic Diseases. Diagnosis and Treatment. By Eugene F. Traut, M.D. Quarto of 942 pages, illustrated. St. Louis, C. V. Mosby Co., 1952. Cloth, $20.

The recent interest in arthritis and rheumatic diseases has stimulated a flurry of new volumes on these diseases. Traut's book is excellently illustrated and contains much which might be of interest to the physician dealing with these diseases.

The sections on therapy, particularly therapy of rheumatoid arthritis, represent the viewpoint of only a small portion of physicians dealing with these diseases in this country. For instance, gold therapy is discarded in favor of vaccine therapy. However, if this book is read for its descriptive and illustrative passages alone, it is an excellent volume.—Charles M. Plotz

French's Index of Differential Diagnosis. Edited by Arthur H. Douthwaite, M.D. Seventh edition. Quarto of 1,046 pages, illustrated. Baltimore, Williams & Wilkins Co., 1954. Cloth, $20.

This alphabetic compendium has been a standard work for many years. Additions and revisions have been made in an attempt to bring the book up to date.

As can be expected in a work which attempts to list the major disorders, some choice must have been made by the author to eliminate obscure or less important diseases and conditions. The text portion consists of only 899 pages. It is evident, therefore, that the descriptive material must be very short or incomplete. These faults occur in equal amount.

The book is well laid out and printed on high gloss paper. It is questioned whether a book for the limited purpose of fairly complete index should be printed in such expensive form. However, within its field of limited use this book may well be useful in general practice.—Theodore M. Feinblatt

Peripheral Nerve Injuries. Principles of Diagnosis. By Webb Haymaker, M.D., and Barnes Woodhall, M.D. Second edition. Octavo of 333 pages, illustrated. Philadelphia, W. B. Saunders Co., 1953. Cloth, $7.00.

This is the second edition of a monograph which the authors have revised extensively, particularly as regards the fundamentals of diagnosis.

The text is divided into four sections, (1) the principles of innervation, (2) methods of examination of the patient, (3) the clinicopathologic classification of the various injuries, and (4) the clinical features of peripheral nerve injuries.

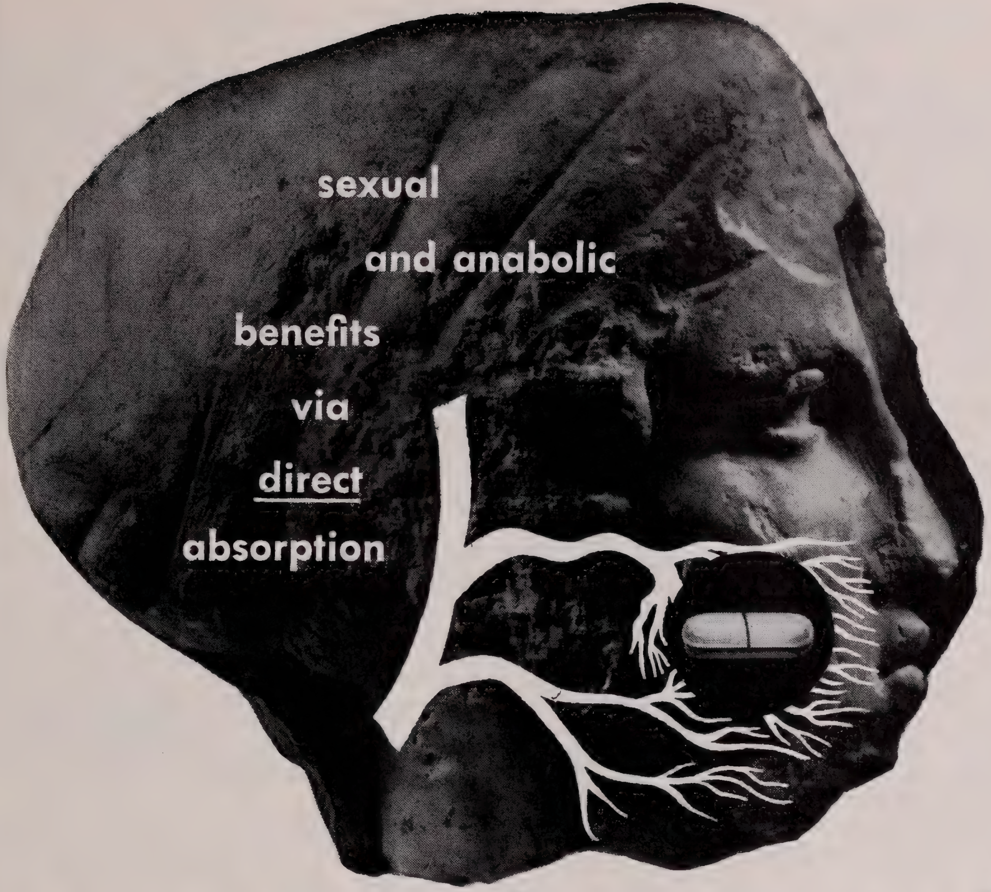
The primary objective has been to place before medical officers, graduate students, and civilian surgeons a condensed account of the present-day therapy for patients with various traumatic lesions of the peripheral nerves including a consideration of injuries of the plexuses.

Photographs, drawings, and diagrams are used freely and to great advantage. The treatise should be of value to all surgeons responsible for patients with injuries of the extremities.—Jefferson Browder

Nerve Impulse. Transactions of the Fourth Conference, March 4, 5 and 6, 1953, Princeton, N. J. Edited by David Nachmansohn, M.D. Octavo of 224 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1954. Cloth, $4.00.

The Fourth Conference on Nerve Impulse covered

[Continued on page 864]



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[Continued from page 862]

three subjects—the mechanism of vision, hearing, and sensory receptors. Even though the material presented is highly technical, it is, nevertheless, made lucid not only by the excellent presentations but also by the discussants' questions and remarks clarifying some of the more complex and difficult areas.

Certainly anyone interested in the special senses or the sensory system will find much to interest him in this small volume, as well as help him understand some of the newer physical and chemical concepts involved.—Arthur J. Lapovsky

The Superego. Unconscious Conscience—The Key to the Theory and Therapy of Neurosis. By Edmund Bergler, M.D. Octavo of 367 pages. New York, Grune & Stratton, 1952. Cloth, $6.75.

This volume like the author's previous book, *The Battle of the Conscience*, describes his theory of the dual nature of conscience in its conscious and unconscious aspects, and the tyranny of the unconscious conscience or superego against which the unconscious ego creates a defensive psychic masochism or pleasure-in-displeasure pattern of neurosis.

As to the etiology of neurosis, the author states that parents' mistakes can aggravate but never create the child's intrapsychic conflicts resulting more from inner than outer forces, and that the in-born amount (constitutional factor) of megalomania and aggression plays a greater role than is currently believed to be effective in the causes of neurotic behavior.—C. Milton Meeks

The Optometrist's Handbook of Eye Diseases. By Joseph I. Pascal, M.D., and Harold G. Noyes, M.D. Octavo of 300 pages. 155 illustrations and 3 color plates. St. Louis, C. V. Mosby Co., 1954. Cloth, $9.50.

The authors state that it is the purpose of the book to bring to the optometrist, student, and practitioner the salient facts regarding diseases of the eye. This objective is well accomplished in a text which is easily read and clearly compiled.

Emphasis is placed upon the recognition of a pathologic process without the necessity of a differential diagnosis. The latter, in the author's opinion, is concern for the physician. It is sufficient that the optometrist recognize the presence of a pathologic process and then refer the patient to a physician.

Excellent chapters, though brief, are devoted to ocular muscles, glaucoma, headaches, and visual aids.

The handbook should be of great aid as a ready reference to the optometrist who so frequently is the first contact of the patient. The conscientious application of the facts presented will prevent many instances of loss of vision.—Mortimer A. Lasky

The Medical Clinics of North America. New York Number. May, 1954. Octavo, illustrated. Philadelphia, W. B. Saunders Company. 1954. Published bimonthly (six numbers a year). Cloth, $18 net; paper, $15 net.

The New York issue of the *Medical Clinics of North America* is devoted to a symposium on the differential diagnosis of internal diseases. There are 19 clinics on a wide variety of subjects including backache, headache, convulsions, cough, chest pain, fever, jaundice, edema, and other commonly encountered conditions. The editor has done a good job of selection and most of the papers are well written and instructive.—Milton Plotz

Abraham Trembley of Geneva, Scientist and Philosopher, 1710–1784. By John R. Baker, D.Sc. Octavo of 259 pages, illustrated. London, Edward Arnold (New York, St. Martin's Press), 1952. Cloth, $7.50.

This fascinating book represents the ideal combination of an outstanding investigator in the early days of modern science and a most capable writer of today to tell the story.

The many interests of Trembley and the profound effect on scientific development which resulted from his study are presented in a most absorbing manner. The moral and religious aspects of the life of Trembley are nicely described and should afford inspiration to those readers who wish to correlate these virtues with modern science. The book is to be highly recommended for entertaining reading as well as for giving an unusual insight into the early development of modern research.—Jerome Weiss

From Fish to Philosopher. By Homer W. Smith, Sc.D. Quarto of 264 pages, illustrated. Boston, Little, Brown & Co., 1953. Cloth, $4.50.

Dr. Smith is known to many physicians as the professor of physiology at New York University College of Medicine and the author of several excellent technical treatises on the kidney. It is a great pleasure to discover that he writes on scientific subjects also for the general reader with rare skill and zest.

This volume presents in the broadest perspective the comparative evolution and function of the kidney from primitive fish to man. He includes an account of how some of the basic problems of geology, paleontology, and evolution have been solved.

The book is just as fascinating an interpretation of science for the physiologist as for the layman. Physicians interested in any branch of physiology will enjoy reading it and will learn much from it. An extensive bibliography is included.—Monroe Schneider

Handbook on Diseases of Children Including Dietetics & the Common Fevers. By Bruce Williamson, M.D. Seventh edition. Duodecimo of 467 pages, illustrated. Edinburgh, E. &. S. Livingstone (Baltimore, Williams & Wilkins Co.), 1953. Cloth, $5.00.

This compact volume reviews the diseases of the various systems of the body. The clinical symptoms are described relatively curtly, and therapy is considered all too briefly.

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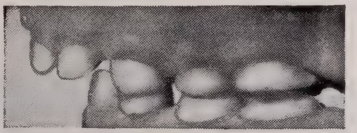

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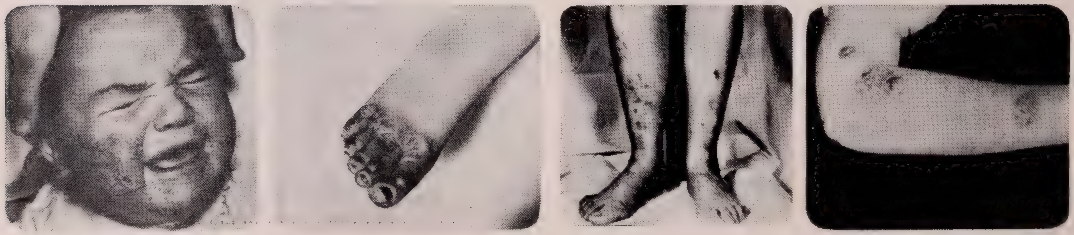

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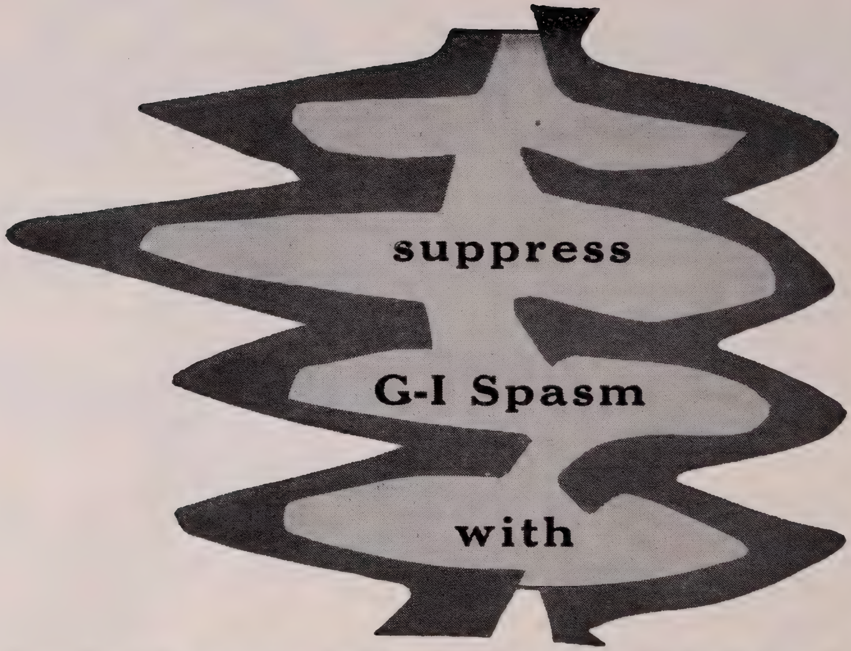

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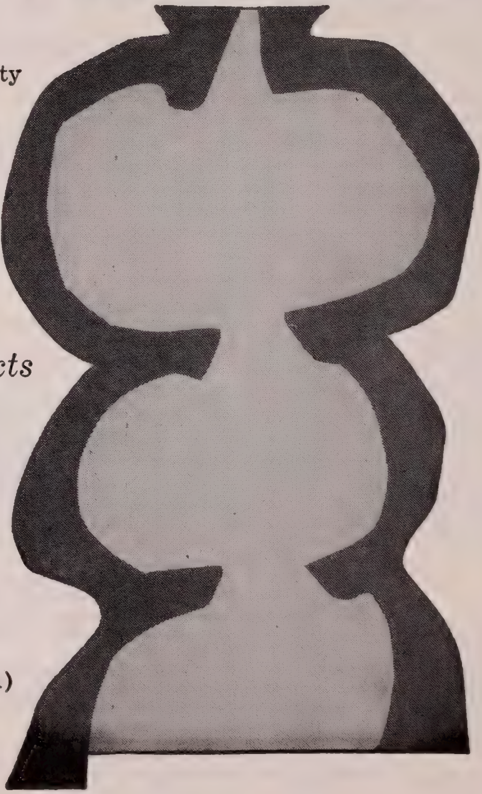

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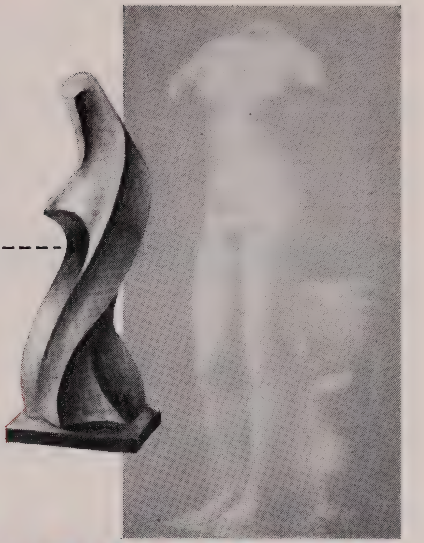

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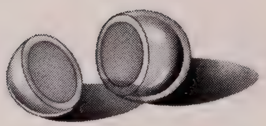

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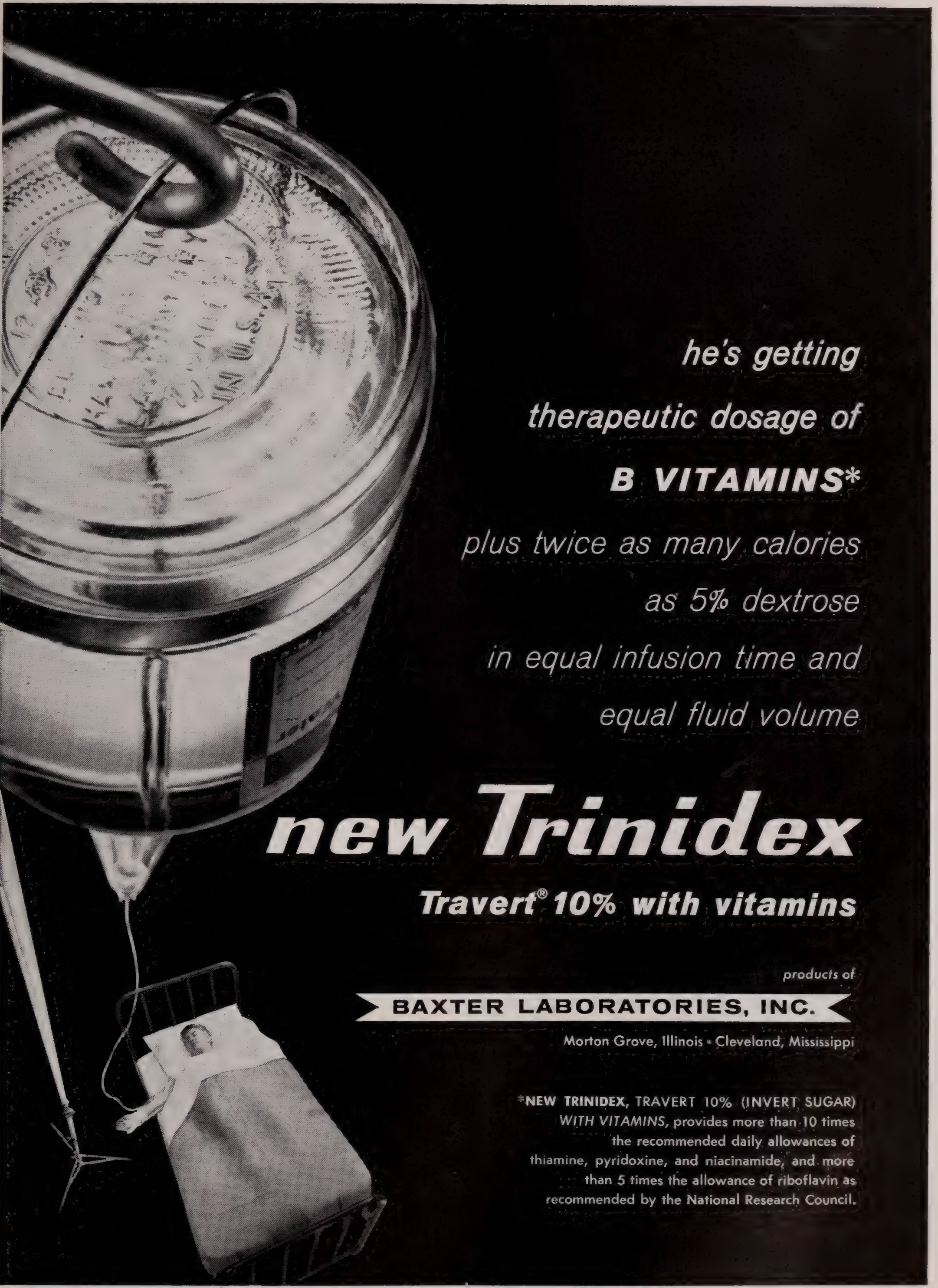

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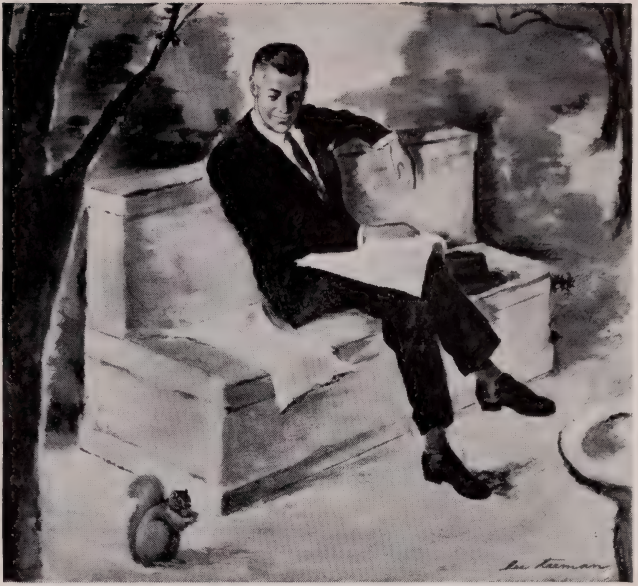

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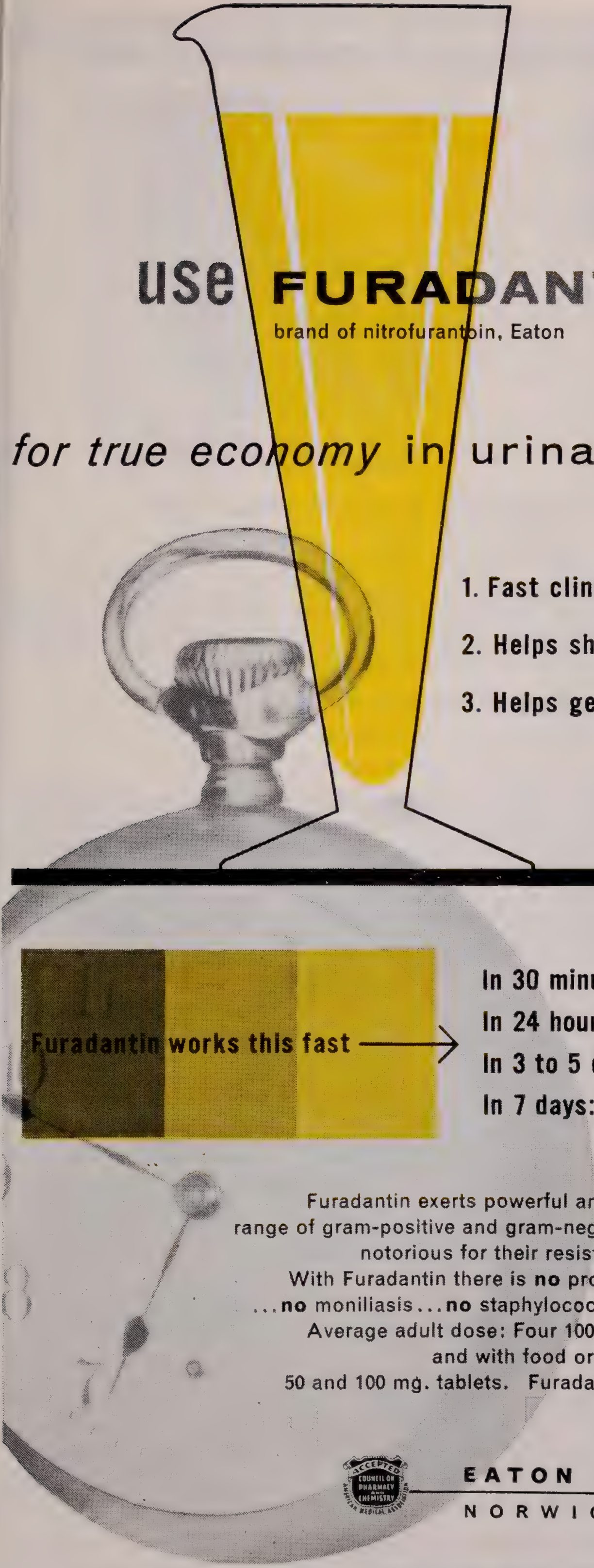

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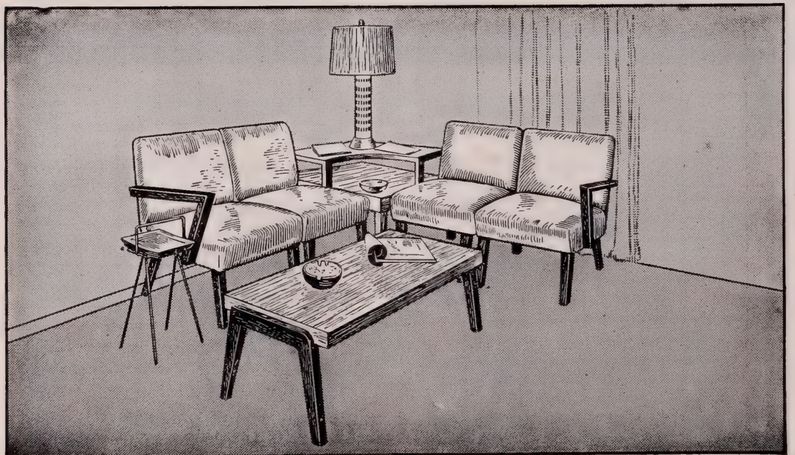

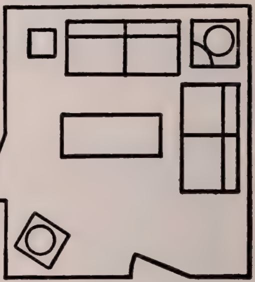

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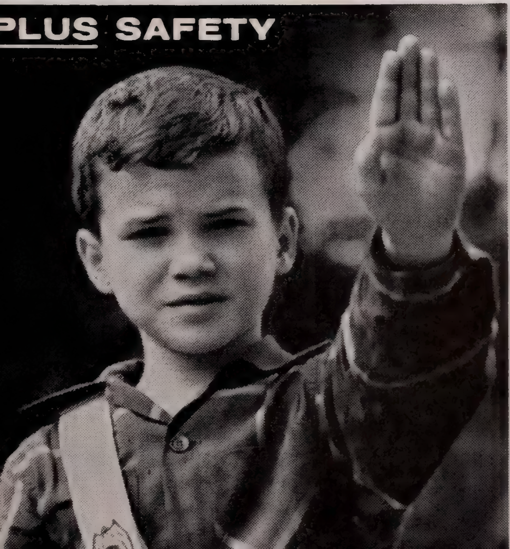

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LORZINEX®

A VAGINAL CLEANSING AGENT

that is different!
that is efficient!

LORZINEX solutions cleanse at the *acid pH of 4* (normal to the vagina) and efficiently disperse mucus debris[1]. Inclusion of a zinc salt in the formula promotes astringency. Lactose (a good nutrient for Doederlein bacilli) is added to further establish the physiological flora.

Contains: The newly discovered trichomonacidal synthetic wetting agent —*Sodium Lauryl Sulfate.*

For: EFFICIENT CLEANSING at Acid pH
DISPERSION OF MUCUS DEBRIS
TRICHOMONACIDAL ACTION
ANTIFUNGAL ACTION
ASTRINGENCY

LORZINEX is recommended (before administration of therapeutic agents) as an aid in—

MONILIASIS OF THE VAGINA
VAGINAL TRICHOMONIASIS

Highly Effective . . .
Unusually Economical

(1) Lawrence, E. D., W. J. Surg., Ob. & Gyn., 58, 236-7, 1950.

Samples and literature sent on request

Pharmaceutical Division
WALLACE & TIERNAN
BELLEVILLE 9, NEW JERSEY, U. S. A.
W&T

PL-4

Now you can do more f

Stress Fortified

The availability of such anti-infectives as Terramycin, Tetracyn and penicillin has not altered the wise admonition to "treat the patient as well as the disease." As the National Research Council[1] has emphasized, certain water-soluble vitamins (B-complex and C) and vitamin K are involved in body defense mechanisms as well as in tissue repair and are required in increased amounts during the stress of febrile infections. Yet there is often a considerable reduction in the normal supply of these important nutritional elements in acutely ill patients who are candidates for antibiotic therapy.

Unique new Stress Fortified Terramycin-SF, Tetracyn-SF and Pen-SF contain the stress vitamin formula recommended by the National Research Council[1] for therapeutic use during sickness or injury as a significant contribution to rapid recovery and convalescence. The patient is assured the maximum benefits of modern antibiotic therapy plus the needed vitamin support—without additional prescriptions, and at little additional cost.

---

[1] Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, Prepared with Collaboration of the Committee on Therapeutic Nutrition, Food and Nutrition Board, National Research Council, Baltimore, Waverly Press, 1952.

e patient with infection...

not only fight the infection,

but also Stress Fortify the patient

with a *single* prescription of

Terramycin®-SF

Brand of oxytetracycline with vitamins

CAPSULES (250 mg.)

Tetracyn®-SF

Brand of tetracycline with vitamins

CAPSULES (250 mg.) **ORAL SUSPENSION (fruit flavored)**
(125 mg. per 5 cc. teaspoonful)

CAPSULES (200,000 units) **Pen-SF***

Brand of penicillin G potassium with vitamins

The minimum daily dose of each antibiotic (1 Gm. of Terramycin or Tetracyn, or 600,000 units of penicillin) *Stress Fortifies the patient* with the stress vitamin formula *as recommended by the National Research Council...*

Ascorbic acid, U.S.P.	300 mg.
Thiamine mononitrate	10 mg.
Riboflavin	10 mg.
Niacinamide	100 mg.
Pyridoxine hydrochloride	2 mg.
Calcium pantothenate	20 mg.
Vitamin B_{12} activity	4 mcg.
Folic acid	1.5 mg.
Menadione (vitamin K analog)	2 mg.

for little more than the
cost of antibiotic therapy alone

*TRADEMARK

available
only
from Pfizer

PFIZER LABORATORIES, Brooklyn 6, N. Y.
Division, Chas. Pfizer & Co., Inc.

PLEASANT CHERRY FLAVOR!
125 MG. PER 5 CC. TEASPOONFUL! NO REFRIGERATION!
AQUEOUS—NO OIL.
ACHROMYCIN SYRUP
Lederle
ACHROMYCIN SYRUP

ACHROMYCIN*

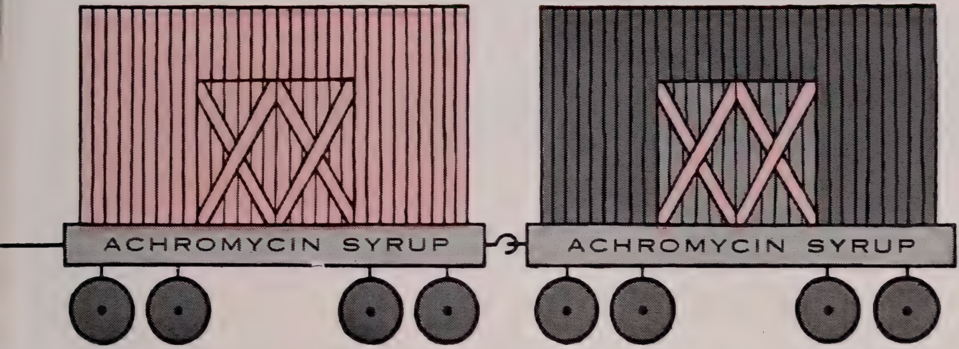
TETRACYCLINE *Lederle*

OTHER FORMS OF ACHROMYCIN FOR PEDIATRIC USE:

Pediatric Drops (Cherry Flavor): 100 mg. per cc. (approx. 5 mg. per drop)
Oral Suspension (Cherry Flavor): 250 mg. per teaspoonful (5 cc.)
SPERSOIDS* Dispersible Powder (Chocolate Flavor): 50 mg. per rounded teaspoonful (3 Gm.)

READY TO USE! IN 2 OZ. BOTTLES!

NO AFTERTASTE! MISCIBLE WITH WATER, MILK, SODA!



SYRUP

ACHROMYCIN broad-spectrum • rapid diffusion • prompt control of infection • well tolerated • effective against Gram-positive and Gram-negative bacteria, rickettsiae, spirochetes, and certain viruses and protozoa.

Today's foremost antibiotic, tested and accepted by foremost medical authorities, produced and marketed by Lederle.

Lederle

LEDERLE LABORATORIES DIVISION
AMERICAN Cyanamid COMPANY Pearl River, New York

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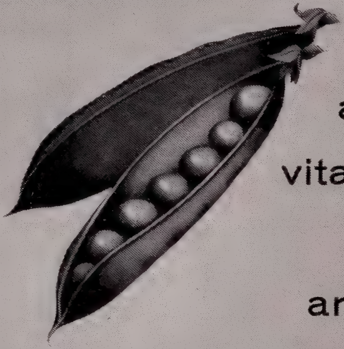

all
vitamin drop
products
are **not**
alike

vi-syneral vitamin drops

is "**naturally**" superior because . . .

natural vitamin A with all known and fully utilizable active isomers—as compared to synthetic vitamin A which affords only one isomer which requires conversion in the body before it can be utilized in the visual process.

natural vitamin D complex for superior protection against rickets as compared, unit for unit, with synthetic vitamin D.

aqueous vitamins A and D for far faster and more complete absorption and utilization as compared with oily solutions.

no fish oil, no fish taste, no regurgitation.

costs no more, so why not give the greater protection of Vi-Syneral Vitamin Drops (natural vitamins A and D, made aqueous, B complex factors, ascorbic acid).

bottles of 15 cc., 30 cc., and package of 45 cc.

SAMPLES from

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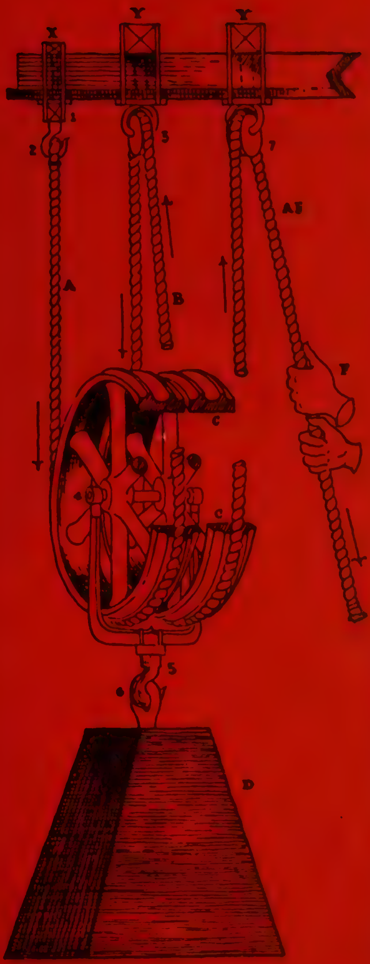
(Arlington-Funk Laboratories, division)
250 E. 43rd Street, New York 17, N. Y.

the
new
antiarthritic
with
multiple
advantages



Salicylates and cortisone have complementary action when combined . . .

Smaller doses of each are sufficient to produce a therapeutic response equivalent to massive cortisone therapy. With smaller doses, side effects are absent, thus permitting SALCORT therapy over a prolonged period. THERE ARE NO WITHDRAWAL PROBLEMS WITH SALCORT.

Salcort provides safe, dependable relief in arthritic affections. Early functional improvement and a sense of well being are significant in a large percentage of patients.

Each tablet contains:

Cortisone Acetate	2.5	mg.
Sodium Salicylate	0.3	Gm.
Aluminum Hydroxide Gel, dried	0.12	Gm.
Calcium Ascorbate (equivalent to 50 mg. ascorbic acid)	60	mg.
Calcium Carbonate	60	mg.

professional literature and sample
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THE S. E. MASSENGILL COMPANY
BRISTOL, TENNESSEE

SALCORT

Insomnia, headache, irritability, failing memory may be symptoms of estrogen deficiency due to declining ovarian function.

"Premarin"® (conjugated estrogens, equine) is a notably effective preparation for estrogen replacement therapy.

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Ayerst®

Ayerst Laboratories
New York, N. Y. • Montreal, Canada

5508

Upjohn

Ulcer protection that lasts all night:

Pamine*-Phenobarbital

BROMIDE

Tablets

Each FULL-STRENGTH tablet contains:

Phenobarbital	15.0 mg. (¼ gr.)
Methscopolamine bromide	2.5 mg.

Dosage:

One tablet one-half hour before meals, and 1 to 2 tablets at bedtime.

Each HALF-STRENGTH tablet contains:

Phenobarbital	8.0 mg. (⅛ gr.)
Methscopolamine bromide	1.25 mg.

Dosage:

While the dosage and indications are the same as for the full-strength tablets, this tablet allows greater flexibility in regulating the individual dose, and may be employed in less severe gastrointestinal conditions.

Supplied:

Both strengths in bottles of 100 tablets.

*REGISTERED TRADEMARK FOR THE UPJOHN BRAND OF METHSCOPOLAMINE

The Upjohn Company, Kalamazoo, Michigan

for seborrheic dermatitis patients

SELSUN®

. . . ***brings quick, sure relief.*** Just two or three SELSUN applications relieve itching, burning scalps. Four or five more completely clear scaling. Then each SELSUN application keeps the scalp free of scales *for one to four weeks.* And SELSUN completely controls 81-87% of all seborrheic dermatitis cases, 92-95% of dandruff cases.

. . . ***with no daily care or ointments.*** Your patients will find SELSUN remarkably easy to use. It is applied and rinsed out while washing the hair. Takes only about five minutes — no ointments or overnight applications. Leaves hair and scalp clean. In 4-fluidounce bottles, prescription only.

Abbott

®SELSUN *Sulfide Suspension/Selenium Sulfide, Abbott*

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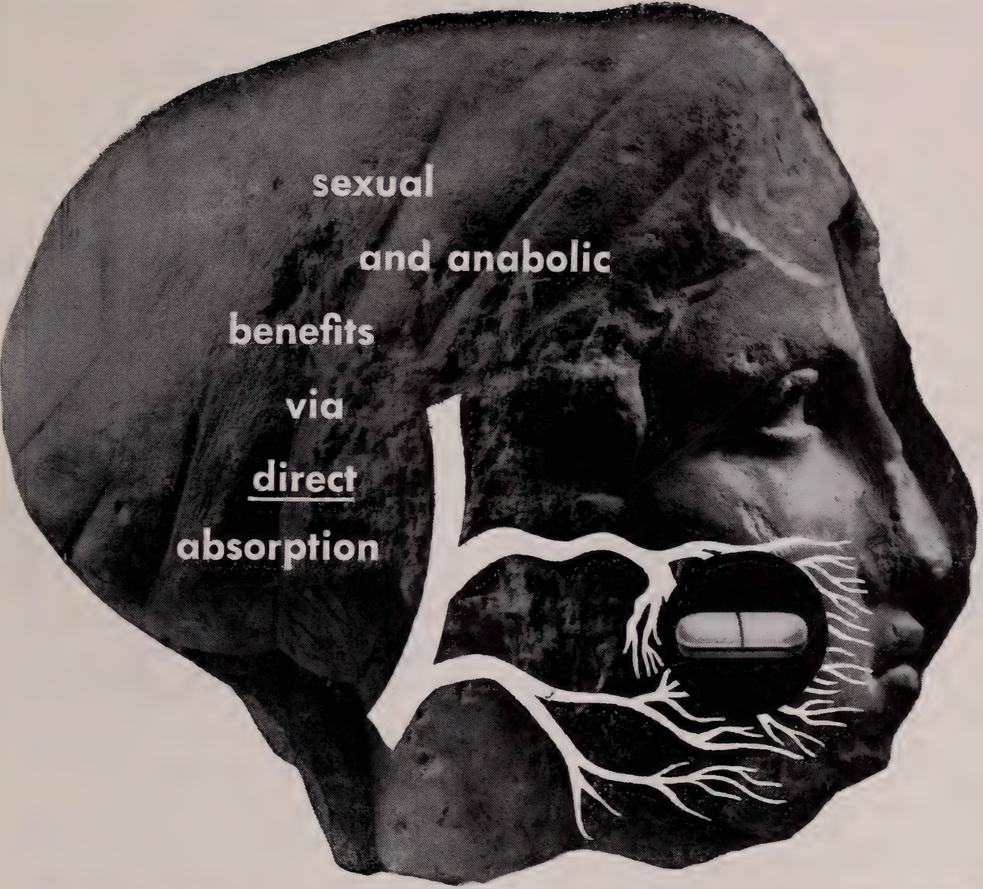


METANDREN® LINGUETS®

the most potent oral androgen

FEMANDREN® LINGUETS®

the most potent oral estrogen with the most potent oral androgen

Buccally or sublingually absorbed LINGUETS by-pass liver inactivation or gastric destruction—are virtually as potent as parenteral steroids—provide effective, convenient, low-cost hormone therapy.

Supply: Metandren Linguets, 5 mg. (white, scored) and 10 mg. (yellow, scored). Femandren Linguets (green, scored), each containing 0.02 mg. ethinyl estradiol and 5 mg. methyltestosterone.

Metandren® (methyltestosterone U.S.P. CIBA)
Femandren® (methyltestosterone with ethinyl estradiol CIBA)
Linguets® (tablets for mucosal absorption CIBA)

C I B A Summit, N. J.

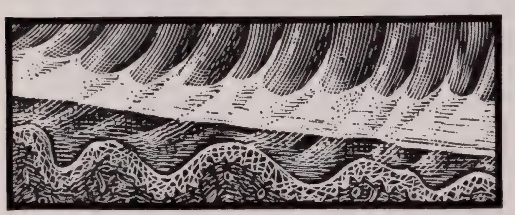
C/ 2079M

THOROUGH PENETRATION WITH VAGISEC COMBATS
JELLY AND LIQUID

FLARE-UPS

OF VAGINAL TRICHOMONIASIS

Vagisec liquid is the new trichomonacide that explodes trichomonads within 15 seconds. It is a unique combination of three surface-acting chemicals which penetrates to hidden trichomonads and eliminates failure of treatment and flare-ups due to lack of penetration.



Vagisec liquid penetrates to trichomonads buried among the vaginal rugae and imbedded in mucus and desquamated cells.

Hidden trichomonads. Trichomonads do not exist in the vaginal secretion alone. They are vigorously motile and burrow deeply into the surface of the vaginal mucosa where cellular debris and mucus cover them. Vagisec liquid lowers surface tension, penetrates the cellular debris and dissolves mucoid material[1,2] that lines the vaginal wall and lies buried among the rugae. It reaches and explodes hidden as well as surface trichomonads.

Unique synergistic action. Vagisec liquid combines a chelating agent to complex and remove the trichomonad's calcium, a wetting agent to remove its lipid material, and a detergent to denature its proteins. The trichomonad swells up and explodes. *No other agent or combination of agents kills the trichomonad in this specific fashion, or with this speed.*

Trichomonads explode within 15 seconds. "Motion pictures taken through a phase-contrast microscope at 24 frames per second show that individual trichomonads are destroyed within 10 to 14 seconds after contact with a 1:250 dilution."[3]

The Davis technic. The remarkable speed and unique synergistic action of this new trichomonacide are the result of the intensive research of its originators, Dr. Carl Henry Davis, well-known gynecologist and author and C. G. Grand, research physiologist, who introduced the agent as "Carlendacide" and had it clinically tested by over 100 leaders in obstetrics and gynecology. "Those who have followed the plan of treatment as closely as possible, have had better than 80 per cent of cures among non-pregnant patients with one course of treatment."[3] For "the small percentage of women who have an involvement of cervical, vestibular or urethral glands, other treatments will be required."[3]

Office treatment. Expose vagina with speculum. Wipe walls dry with cotton sponges and wash thoroughly for about three minutes with a 1:250 dilution of Vagisec liquid. Remove excess fluid with cotton sponges. Office treatments are an integral part of the Davis technic.

Home treatment. Prescribe both Vagisec jelly and Vagisec liquid for home treatment. Patient inserts Vagisec jelly each night and douches with Vagisec liquid (1 teaspoonful to a quart of warm water) each morning, except on office treatment days. (Standard douche bag holds 2 quarts.)

Summary. Vagisec liquid penetrates to hidden trichomonads and explodes them in 15 seconds. Vagisec jelly and liquid are non-toxic and non-irritating, leave no messy discharge or staining. The Davis technic is a triple combination of 1) Vagisec liquid in office treatment; 2) home treatment with Vagisec jelly at night and 3) douche with Vagisec liquid in the morning. Vagisec jelly and liquid have been clinically tested and proved a remarkably fast-acting, effective treatment for vaginal trichomoniasis. Because of greater penetration, this therapy results in fewer flare-ups.

1. Davis, C.H.: Am. J. Obst. & Gynec. *68*:559 (Aug.) 1954.
2. Davis, C.H.: West. Jour. Surg. *63*:53 (Feb.) 1955.
3. Davis, C.H.: J.A.M.A. *157*:126 (Jan. 8) 1955.

VAGISEC IS THE TRADE-MARK OF JULIUS SCHMID, INC., FOR PRODUCTS TO BE USED IN THE CONTROL OF VAGINAL TRICHOMONIASIS

JULIUS SCHMID, INC., *gynecological division*
423 West 55th Street, New York 19, N. Y.

Active Ingredients: Polyoxyethylene nonyl phenol, Sodium ethylene diamine tetra-acetate, Sodium dioctyl sulfosuccinate. In addition, Vagisec jelly contains Boric acid, alcohol 5% by weight.

Functional Disorders of
Menopause

Bellergal®

Stabilizer of the entire Autonomic Nervous System

Ergotamine tartrate	*0.3 mg.*
Bellafoline	*0.1 mg.*
Phenobarbital	*20.0 mg.*

Adult Dosage: 4 to 6 tablets daily.

SANDOZ
Sandoz
PHARMACEUTICALS
HANOVER, N. J.

Single Tablet Combination Therapy in Hypertension

GREATER EFFICACY FROM SMALLER DOSAGE

SIDE ACTIONS FEWER AND OF LESSENED INTENSITY

NO COMPLICATED DOSAGE SCHEDULES

SIMPLER PATIENT MANAGEMENT

RAUWILOID® + VERILOID®

Indicated in moderately severe hypertension and in cases not responding to Rauwolfia alone. The combination containing Rauwiloid 1 mg. and Veriloid 3 mg. permits better tolerated doses of Veriloid to exert full hypotensive effect and leads to rapid symptomatic relief, while the contained Rauwiloid provides a tranquil sense of well-being. Initial dose, 1 tablet t.i.d., p.c. In bottles of 100.

RAUWILOID® + HEXAMETHONIUM

When ganglionic blockade is called for in rapidly progressive, otherwise intractable hypertension, Rauwiloid + Hexamethonium (each tablet containing 1 mg. Rauwiloid and 250 mg. hexamethonium chloride dihydrate) serves with greater efficacy and greater safety. The combination provides smoother, less erratic response to hexamethonium and permits greatly reduced dosage of the latter drug (up to 50% less). Initial dose, ½ tablet q.i.d. In bottles of 100.

Riker LABORATORIES, INC., LOS ANGELES 48, CALIF.

for the 10 days each month that undermine the family way of life

PRE-MENS®

relieves PREMENSTRUAL TENSION *medically*

In 50% of menstruating women, *cyclic emotional symptoms* — depression, irritability, tension and anxiety[1,2] — most often have a physical basis that you can now treat successfully with the *Pre-mens* formula. These symptoms, coupled with such physical complaints as headache, edema, abdominal pain, weight gain and fatigue, respond to *Pre-mens.*

". . . the diuretic effect of ammonium chloride, the antispasmodic effect of the homatropine methylbromide, the mildly stimulating effect of caffeine, and the dual effect of vitamin B complex in increasing the breakdown of estrogens by the liver and by increasing the utilization of proteins," assures relief in 80 to 90 per cent of patients.[3,4]

Rx — 2 tablets t.i.d., p.c., for 10 days premenstrually. Recommend high-protein low salt diet.

Supplied: In bottles of 60 enteric coated tablets.

without the use of hormones barbiturates or narcotics

1. Suarez-Murias, E. L.: Internat. Rec. Med. *166:*475 (Nov.) 1953. 2. Rees, L.: J. Ment. Sc. *99:*62 (Jan.) 1953. 3. Morton, J. H., et al.: Am. J. Obst. & Gynec. *65:*1182 (June) 1953. 4. Morton, J. H.: Internat. Rec. Med. *166:*505 (Nov.) 1953.

A clinical trial supply of *Pre-mens,* packaged with helpful instructions and information for the patient, will be sent to you on request. Simply write the word *Pre-mens* on your prescription blank, and mail to . . .

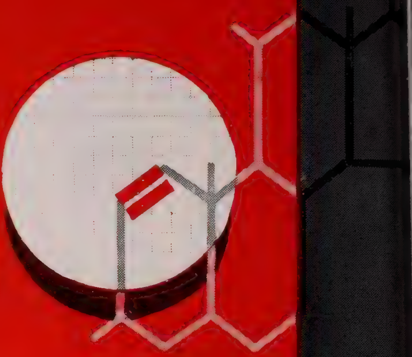
The Purdue Frederick Company

DEDICATED TO PHYSICIAN AND PATIENT SINCE 1892
135 CHRISTOPHER STREET, NEW YORK 14, N. Y.

announcing

a new era in

corticosteroid therapy



METICORTEN

METACORTANDRACIN SCHERING

two new crystalline
adrenocorticoids
first discovered and
introduced by Schering

In a planned search for more effective substances without undesirable actions, two new crystalline corticosteroids have been discovered in Schering's research laboratories.

Possessing three to five times the therapeutic effectiveness, milligram for milligram, of oral cortisone or hydrocortisone in rheumatoid arthritis, other so-called collagen diseases, intractable asthma and other allergies, and nephrosis, METICORTEN and METICORTELONE are strikingly devoid of undesirable side actions, particularly sodium retention and excessive potassium depletion. Patients treated with these new steroids do not exhibit fluid retention, and sedimentation rate is lowered even where cortisone or hydrocortisone ceases to be effective—"cortisone escape." These new compounds afford better relief of pain, swelling and tenderness, diminish joint stiffness and are effective in small dosage.

........*and* METICORTELONE

METACORTANDRALONE SCHERING

METICORTELONE, which resembles METICORTEN in clinical effect, is now being studied and will be available as soon as possible. The therapeutic properties of both drugs are being studied in other fields of therapy.

The first of these, METICORTEN, is being made available as 5 mg. tablets, bottles of 30. In the treatment of rheumatoid arthritis, dosage of METICORTEN begins with an average of 20 to 30 mg. (4 to 6 tablets) a day. This is gradually reduced by 2½ to 5 mg. until maintenance dosage of 5 to 20 mg. is reached. The total 24-hour dose should be divided into four parts and administered *after meals and at bedtime*. Patients may be transferred directly from hydrocortisone or cortisone to METICORTEN without difficulty.

METICORTEN,* brand of metacortandracin.
METICORTELONE,* brand of metacortandralone.

SCHERING CORPORATION • BLOOMFIELD, N. J.

*T.M.

Upjohn

Ulcer protection that lasts all night:

Pamine*-Phenobarbital Elixir

BROMIDE

Each 5 cc. (approx. 1 tsp.) contains:

Phenobarbital	8.0 mg. (1/8 gr.)
Methscopolamine bromide	1.25 mg.
Alcohol	20%

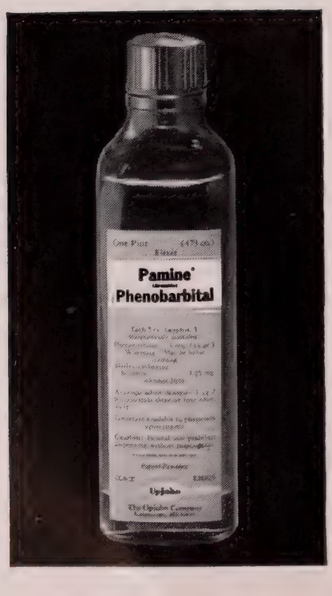
Dosage:

1 to 2 teaspoonfuls three or four times daily, depending upon requirements in the individual patient.

Supplied: Pint bottles.

*REGISTERED TRADEMARK FOR THE UPJOHN BRAND OF METHSCOPOLAMINE

The Upjohn Company, Kalamazoo, Michigan



unexcelled among sulfa drugs . . .

for Highest Potency • Wide Spectrum
Highest Blood, Plasma & Tissue Levels
Safety • Minimal Side Effects* • Economy

*Few therapeutic agents, and none of the other sulfas, can claim the same degree of freedom from toxic side effects offered by the Triple Sulfas. The use of only a fractional dosage of each component sulfa drug reduces the possibility of undesirable side effects to an absolute minimum. No case of agranulocytosis has been reported resulting from their use.

Because they are so well tolerated, because of their wide spectrum of effectiveness and their outstanding economy, the Council-accepted Triple Sulfas are now more widely used than any single sulfa drug.

Triple Sulfas, alone or in combination with certain other agents, are available from leading pharmaceutical manufacturers under their own brand names. This message is presented on their behalf.

SULFADIAZINE
SULFAMETHAZINE
SULFAMERAZINE

TRIPLE SULFAS

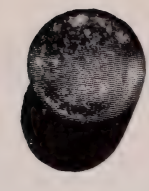
Meth-Dia-Mer Sulfonamides

All Sulfas are not Triple Sulfas!

ASK ANY MEDICAL REPRESENTATIVE ABOUT THE TRIPLE SULFA PRODUCTS HIS COMPANY OFFERS!

Cyanamid Fine Chemicals

AMERICAN *Cyanamid* COMPANY Fine Chemicals Division, 30 Rockefeller Plaza, New York 20, N. Y.



eliminate

intravenous

aminophylline!

TABLETS

AL·AMPHYLLINE

aminophylline-colloidal aluminum hydroxide-magnesium trisilicate compound

Intravenous Results With New Oral Compound—And Without Gastric Irritation.

AL-AMPHYLLINE, a new development of the Raymer Medical and Research Departments, presents aminophylline in a new oral dosage form that produces blood levels comparable to those attained with parenterally administered aminophylline, with the further advantage that these levels are sustained over many hours. In addition, AL-AMPHYLLINE does not cause gastric irritation.

The colloidal aluminum hydroxide and the exceptional purity of the aminophylline contained in AL-AMPHYLLINE Tablets are responsible for the fact that AL-AMPHYLLINE Tablets are so well tolerated. Magnesium trisilicate is also included in the formula, to prevent possible constipation.

Since AL-AMPHYLLINE Tablets are uncoated, aminophylline absorption is rapid, producing satisfactory blood levels within an hour (see table below).

Aminophylline Blood Levels — mg./100 cc. Plasma
(Aminophylline dosage was 0.5 Gm. in each case)

Aminophylline Preparation	1 hour	3 hours	6 hours
AL-AMPHYLLINE TABLETS (4)	1.78	1.65	1.35
AL-AMPHYLLINE TABLETS (4)	1.67	1.84	1.26
AL-AMPHYLLINE TABLETS (4)	1.18	1.54	1.19
AL-AMPHYLLINE TABLETS (4)	0.90	1.16	0.91
Intravenous Aminophylline (0.5 Gm.)	1.33	0.84	—
Intravenous Aminophylline (0.5 Gm.)[1]	1.60	1.30	0.70
Aminophylline Suppository (0.5 Gm.)	0.11	0.22	0.38
Aminophylline Suppository (0.5 Gm.)	0.26	0.51	1.09

[1] J. Pharmacol. Exper Therap., **100**:309, 1950.

For use in all conditions where aminophylline is indicated. *Dosage Range:* 1 to 4 tablets as required. *Supplied:* bottles of 100, 500 and 1,000 tablets. *Formula:* Aminophylline, 125 mg.; Colloidal Aluminum Hydroxide, 150 mg.; Magnesium Trisilicate, 250 mg. *Also available:* AL-AMPHYLLINE with Phenobarbital (15 mg. per yellow tablet), bottles of 100.

RAYMER

RAYMER PHARMACAL COMPANY
Jasper & Willard Streets
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serving the medical profession for a third of a century.

urticaria...
vomiting...
colic...
diarrhea...
eczema...

symptoms of cow's milk allergy call FIRST for Meyenberg Goat Milk

A *natural* milk, Meyenberg Evaporated Goat Milk is likely to give prompt control of cow's milk allergy. And...it provides a soft, readily-digestible curd, with none of the crude fibers which cause the diarrheas often associated with milk substitutes.

In addition, Meyenberg Evaporated Goat Milk is nutritionally equivalent to evaporated cow's milk in fat, protein, and carbohydrates; and is pleasantly similar in taste.

When you diagnose cow's milk allergy,

specify...

Meyenberg
BRAND
EVAPORATED
GOAT MILK
ACCEPTED
COUNCIL ON FOODS AND NUTRITION
AMERICAN MEDICAL ASSOCIATION

FIRST!

In economical, 14-oz. enamel-lined vacuum-packed cans. Write for literature.

JACKSON-MITCHELL Pharmaceuticals, Inc., Culver City, Calif.
Serving the Medical Profession Since 1934

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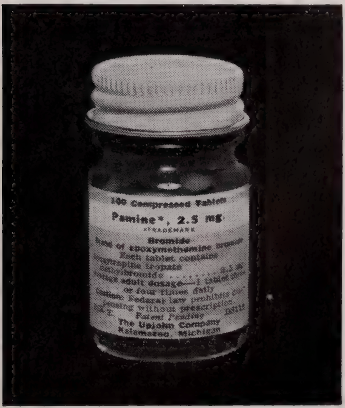
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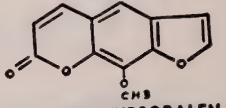

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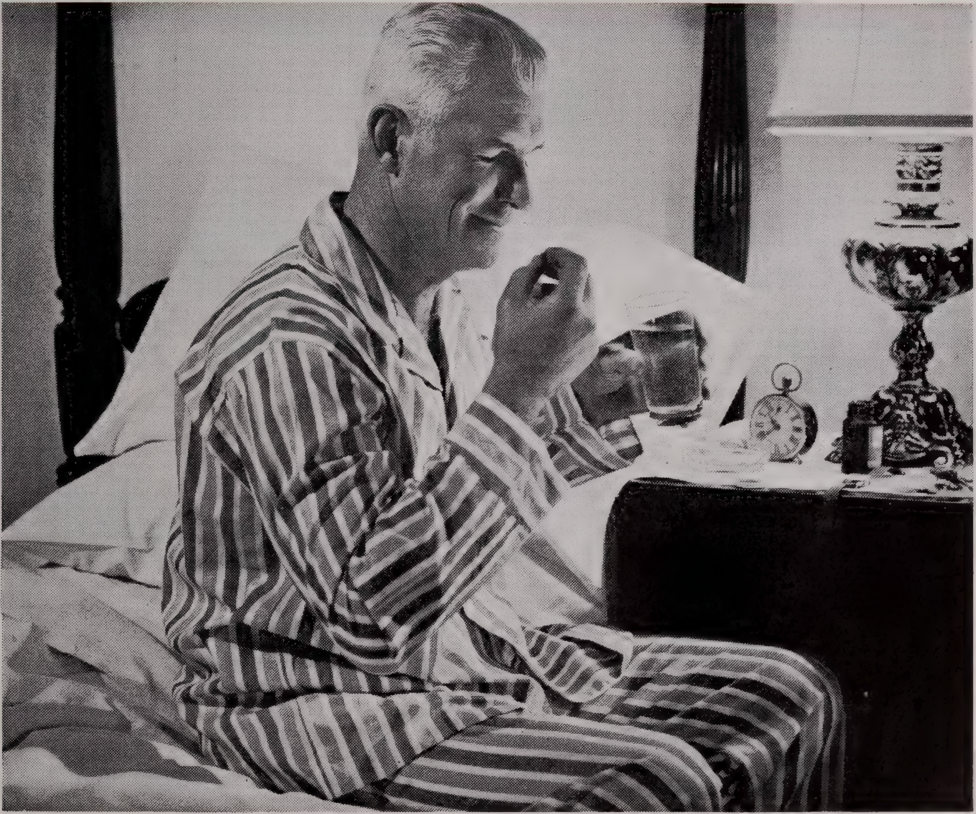

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References: 1. Mod. Med. 19:59, 1951. 2. West Virginia M. J. 49.292, 1953. 3. Pharmacology and Therapeutics, Phila., Lea & Febiger, 1954, p. 146. 4. Geriatrics 9:303, 1954.

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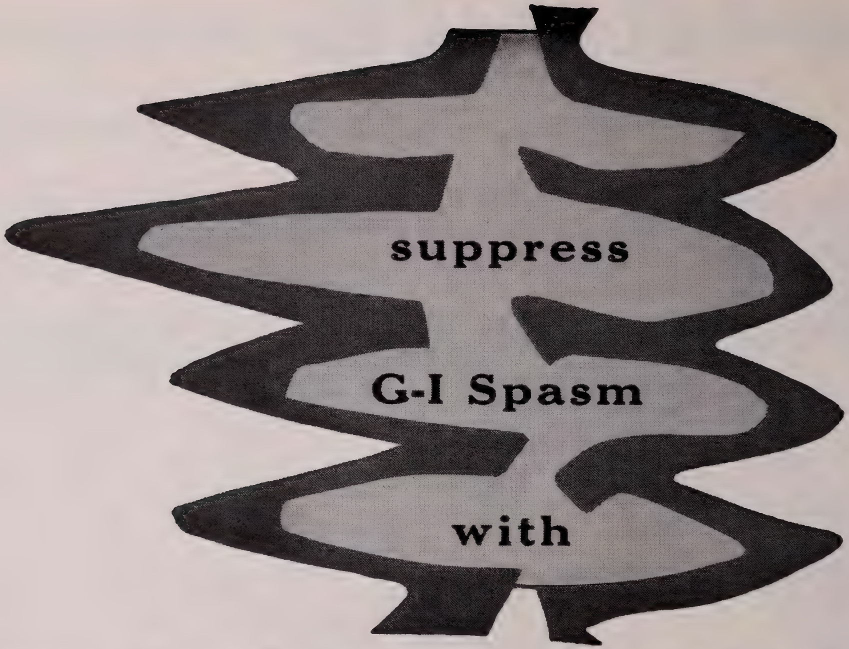

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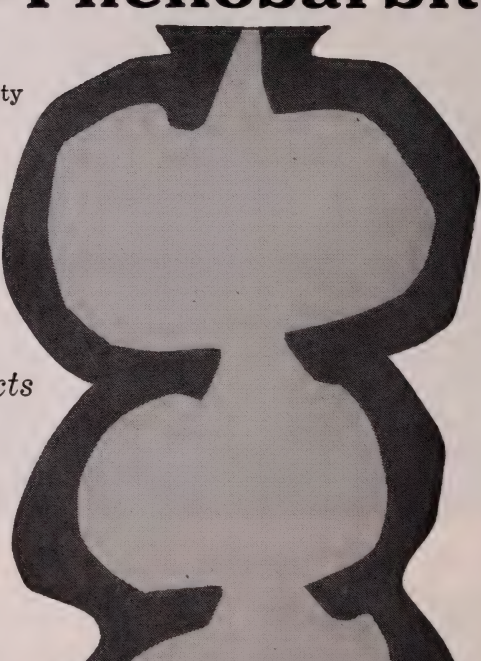

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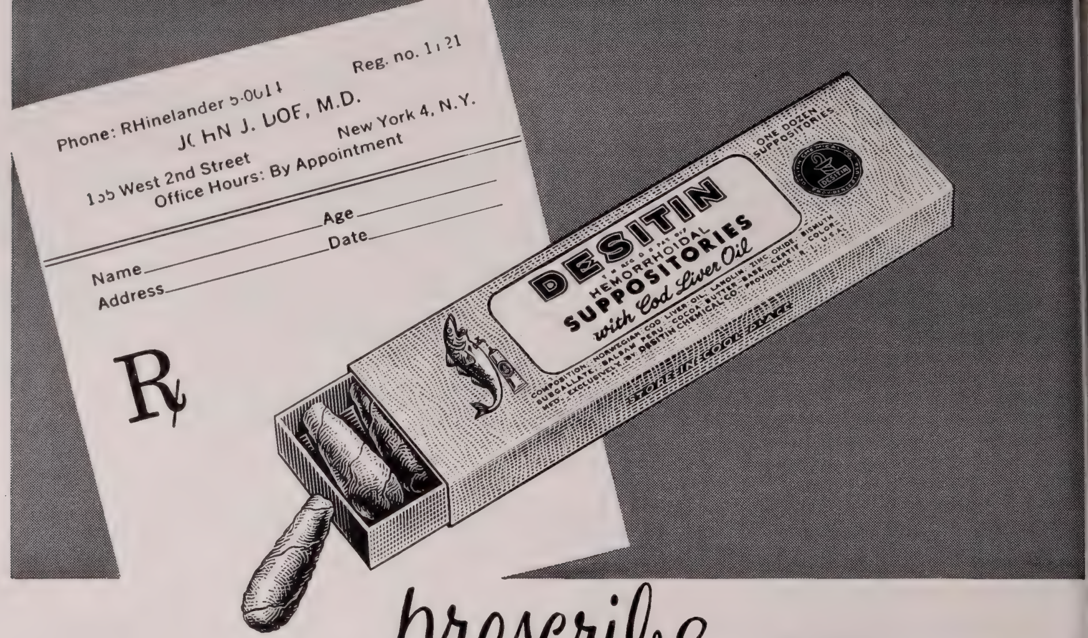
1. Boland, E. W., and Headley, N. E.: J.A.M.A. 148:981, Mar. 22, 1952.

*brand of oxytetracycline and hydrocortisone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Available in 250 mg. tablets and 500 mg. ampuls for intravenous use.

1. Merlis, S.: Diamox: A Carbonic Anhydrase Inhibitor—Its Use in Epilepsy. Neurology. 4:11, 863-866 November 1954.

2. Becker, B.: Decrease in Intraocular Pressure in Man by a Carbonic Anhydrase Inhibitor, Diamox. Am. J. Ophth. 37:1, 13-15 January 1954.

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EDITORIALS

Proposed Change of Annual Meeting Place

At the meeting of the Council held September 9, 1954, Dr. W. P. Anderton reported as follows: "Mr. President, in executive session the Council voted to recommend to the House that the Society meet in New York three consecutive years and in Buffalo the succeeding one year, *purely for economic reasons. . . .*"[1] The report was approved. In consequence, the House of Delegates in 1955 will debate this matter at the Buffalo meeting.

No other than economic necessity provokes consideration of this proposed change in the customs of the Society. The minutes of the same meeting of the Council showed that a "deficit of approximately $18,000" had resulted from the last annual meeting in 1953 held in Buffalo. This is a serious loss of net income to the Society that arises from the large expense of transporting necessary personnel and records from New York City to the other end of the State, definite limitation of available space for technical, revenue-producing exhibits, and relatively lower attendance by the membership. This latter factor is discouraging to exhibitors as is also the difficulty in arranging exhibitors' space. It is not feasible to hold the House of Delegates meeting and the technical exhibits on the same floor of the Statler Hotel in Buffalo.

---

[1] Minutes of the Council, Sept. 9, 1954, p. 12. (Italics ours—Editor)

The net loss of revenue has been a growing concern of the Council and the Trustees of the Society. As the membership has enlarged and costs of operation of the Society have unavoidably increased, it has been apparent that some action would have to be taken to reduce the net loss from the annual meeting in Buffalo.

The present proposal to meet three years in New York and the succeeding year in Buffalo seems to be a reasonable one in view of the circumstances. The Council and the Trustees are endeavoring to cut the costs of operation of the Society in every way that does not jeopardize essential services or normal growth. If the Buffalo annual meeting deficit can be eliminated except every fourth year by holding the three intervening meetings in New York City, the financial position of the Society will be materially improved.

The issue of the change in meeting places is discussed here at some length so that delegates can inform themselves of the facts. No consideration other than financial is involved. Let the proposal be discussed with this understanding when it arises.

Attention, Delegates

The Council of the Medical Society of the State of New York, acting upon the request of the Budget Committee on February 10, after exhaustive discussion voted to recommend to the House of Delegates an increase of $5.00 in the dues of the membership.

A study has been made of the financial affairs of the Society, and budgets have been adjusted in such a manner as to insure all reasonable economies in operation of the Society's several departments and projects. In spite of every effort within reason to cut expenditures, the Budget Committee was forced reluctantly to recommend the above action to maintain the solvency of the Society.

Members of the Society and delegates to the annual meeting in May of this year are urged to study carefully the annual reports in this and the April 15 issue of the JOURNAL in order to inform themselves as fully as possible about the financial affairs of the Society before the House of Delegates convenes. The question of raising the dues is a vital one. It deserves an informed debate on its merits.

Retrolental Fibroplasia

Retrolental fibroplasia appeared on the medical horizon as a new disease about twelve years ago. During this short space of time this disease of premature infants rapidly achieved its unenviable position as the most important cause of blindness in children. The first reported case of blindness from this disease came to the attention of the Commission for the Blind of the New York State Department of Social Welfare in 1943. The incidence of disease reached its peak in 1953 when 181 cases were reported to the Commission.

The association of retrolental fibroplasia with the size and maturity of the infant at birth had been recognized for many years. In the past year the evidence for its association with high oxygen administration to these immature infants has become highly convincing.

Crosse and Evans[1] of Birmingham, England, were among the first to point an accusing finger at the American practice of giving high concentrations of oxygen as routine supportive therapy to small premature infants over a period of weeks or longer. Gordon *et al.*,[2] Locke[3] at Lincoln and Presbyterian Hospitals in New York City, and Lanman *et al.*[4] at Bellevue Hospital have confirmed this relationship in controlled studies. The disease has been produced in newborn kittens by Ashton[5] and in other young animals whose retinal vessels were not fully developed at birth by Patz.[6]

At the September, 1954, meeting of the American Academy of Ophthalmology and Otolaryngology in New York City, Kinsey[7] gave a preliminary report on a cooperative study among 18 hospitals with random controls. Results of the first six months of the study showed that the administration of high oxygen concentrations for even short periods of time was intimately associated with a higher incidence of retrolental fibroplasia. All infants in the study weighed less than 1,500 Gm. Of 53 infants who received prolonged high oxygen concentration, 25 per cent developed cicatricial retrolental fibroplasia, contrasted to only 6 per cent of 245 infants in the curtailed oxygen group. Both in this study and in the other studies mentioned, there was no difference in mortality rate between groups receiving high oxygen routinely and groups in which the routine administration as well as the concentration of oxygen were curtailed.

"In announcing the views of all those participating in the September symposium," Reese[7] said, 'We feel that we can recommend with confidence a program of a more rational use of oxygen in the management of the premature infant and that we may anticipate a significant drop in the incidence of this disease. . . . The indications for oxygen administration are now considered to be fewer than they have been in the recent past. Cyanosis and respiratory distress are held to be bona fide symptoms requiring oxygen therapy. However, there is a growing conviction that irregular or periodic respirations unaccompanied by other signs of distress do not require oxygen administration. When oxygen is indicated, every effort is made to keep the concentration in the incubator below 40 per cent and to discontinue treatment as soon as respiratory distress is relieved.' "

Physicians responsible for the care of the premature infant will welcome this authoritative statement. They will wish to use oxygen as sparingly as possible and to keep close check on the oxygen content of incubators when oxygen is used. Modern air-conditioned incubators permit high concentrations of oxygen to be built up with relatively low oxygen flow. The use of tanks of 40 per cent oxygen is one simple method of insuring safety. Other methods also exist, such as the use of a venturi-tube oxygen-air mixing apparatus attached directly to the incubator and the adjustment of oxygen flow. All methods of control should be supplemented, where possible, by the use of oxygen analyzers from time to time to measure actual oxygen concentration.

The New York State Department of Health, in cooperation with the Subcommittee on Maternal and Child Welfare of the Council Committee on Public Health and Education of the State Medical Society, is planning to institute a program aimed at reducing the incidence of retrolental fibroplasia as rapidly as possible. The recent developments summarized in this editorial are being called directly to the attention of chiefs of hospital medical staffs and hospital administrators. The State Commission for the Blind will keep the State Health Department informed of reported cases of blindness among premature infants born after January 1, 1955. Health department personnel will then visit the hospitals in which the infants were born to review with the staff the usage of oxygen in the newborn nurseries. This service should be of greater assistance to the hospital staffs concerned since in many instances they may not have been aware of the subsequent development of blindness among discharged premature infants.—G. W. L.

---

[1] Crosse, V. M., and Evans, P. J.: Arch. Ophth. **48**: 83 (July) 1952.

[2] Gordon, H. H., Lubchenco, L., and Hix, I.: Bull. Johns Hopkins Hosp. **94**: 34 (Jan.) 1954.
[3] Locke, J. C.: Arch. Ophth. **51**: 73 (Jan.) 1954.
[4] Lanman, J. T., Guy, L. P., and Dancis, J.: J.A.M.A. **153**: 223 (May 15) 1954.
[5] Ashton, N., Ward, B., and Serpell, G.: Brit. J. Ophth. **37**: 513 (Sept.) 1953.
[6] Patz, A., Eastham, A., Higginbotham, D. H., and Kleh, T.: Am. J. Ophth. 35: 1511 (Nov.) 1953.
[7] Kinsey, V. E., Reese, A. B., *et al.*: Presented at the annual meeting of the American Academy of Ophthalmology and Otolaryngology, New York City, Sept. 22, 1954. (Reproduced through the courtesy of National Society for Prevention of Blindness.)

Editorial Comment

Public Relations in Medical Practice. One hears a good deal and has the opportunity of reading even more these days about the public relations of and for medicine. The latest volume to come to our attention is one by Mr. James E. Bryan, "Public Relations in Medical Practice," with a foreword by Dr. Louis H. Bauer, and published by Williams and Wilkins Company, Baltimore, Maryland.

Mr. Bryan, now administrator of the Medical-Surgical Plan of New Jersey, has a long and varied background of experience with doctors and medical organizations both on the county and state levels. From long observation Dr. Bauer can say in the foreword of the book, "There is no question that the public relations of the medical profession can stand much improvement." And Mr. Bryan has a tenable thesis in his preface, "The witnesses are many who proclaim that the doctor of medicine stands in need of better public relations. . .yet, even now. . . it is not easy for me to say, in short and simple words, why this should be so."

This book of ten interesting chapters, all well documented, covers the doctor in relation to his patient, his fee, his office and staff, his colleagues, his community, his medical society, prepaid medical care, his hospital, and, finally, himself. The volume is sympathetically conceived, well executed, and concludes "that public relations for the doctor may be summed up as a matter of attitude. . . .His knowledge of physic, his acumen, and skill in administering the marvelous scientific armamentarium that his forebears have bequeathed him, will profit him and his patient little indeed if his spirit is not made humble and his hand made gentle by human compassion."

Doctors will find much that is helpful in this book, much with which they can agree, and some little to which they may take exception. They will put it down, after reading, with much admiration for the sincerity of the author, but with no sure answer to Tom Brown's (1663–1704) quatrain:

I do not love thee Dr. Fell,
The reason why I cannot tell;
But, this alone I know full well
I do not love thee, Dr. Fell."

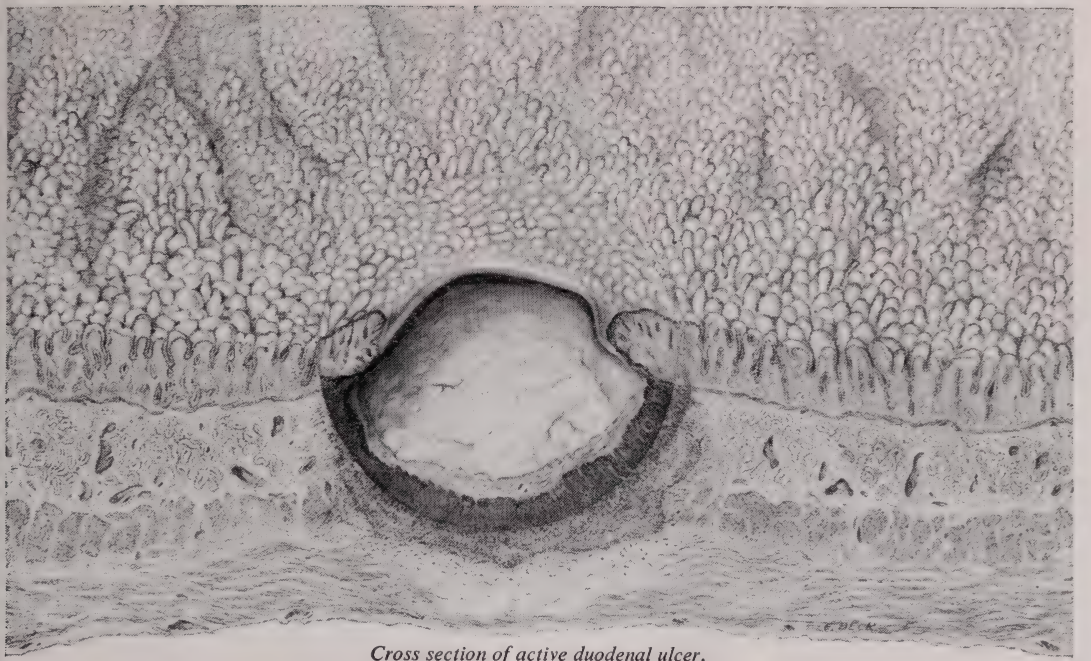
Public relations is not the whole answer to public misunderstanding of the doctor and the profession, but it is a procedural guide of great value.

What? ANNUAL CONVENTION
Medical Society of the State of New York

When? ***May 9 to 13, 1955***

Where? ***Hotel Statler, Buffalo***

PRO-BANTHĪNE® IN DUODENAL ULCER



Cross section of active duodenal ulcer.

Dramatic Remission of Ulcer Pain

Pain of ulcer is associated with hypermotility; the pain is relieved when abnormal motility is controlled by Pro-Banthīne.

"In studying[1] the mechanism of ulcer pain, it is obvious that there are at least two factors which must be considered: namely, hydrochloric acid and motility.

". . . our studies indicate that ulcer pain in the uncomplicated case is invariably associated with abnormal motility. . . .

"Prompt relief of ulcer pain by ganglionic blocking agents . . . coincided exactly with cessation of abnormal motility and relaxation of the stomach."

Pro-Banthīne Bromide (β-diisopropylaminoethyl xanthene-9-carboxylate methobromide, brand of propantheline bromide) is a new, improved, well tolerated anticholinergic agent which consistently reduces hypermotility of the stomach and intestinal tract. In peptic ulcer therapy[2] Pro-Banthine has brought about dramatic remissions, based on roentgenologic evidence. Concurrently there is a reduction of pain, or in many instances, the pain and discomfort disappear early in the program of therapy.

One of the typical cases cited by the authors[2] is that of a male patient who refused surgery despite the presence of a huge crater in the duodenal bulb.

"This ulcer crater was unusually large, yet on 30 mg. doses of Pro-Banthine [q.i.d.] his symptoms were relieved in 48 hours and a most dramatic diminution in the size of the crater was evident within 12 days."

Pro-Banthine is proving equally effective in the relief of hypermotility of the large and small bowel, certain forms of pylorospasm, pancreatitis and ureteral and bladder spasm. G. D. Searle & Co., Research in the Service of Medicine.

---

1. Ruffin, J. M.; Baylin, G. J.; Legerton, C. W., Jr., and Texter, E. C., Jr.: Mechanism of Pain in Peptic Ulcer, Gastroenterology *23*:252 (Feb.) 1953.

2. Schwartz, I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: A Clinical Evaluation of a New Anticholinergic Drug, Pro-Banthīne, Gastroenterology *25*:416 (Nov.) 1953.

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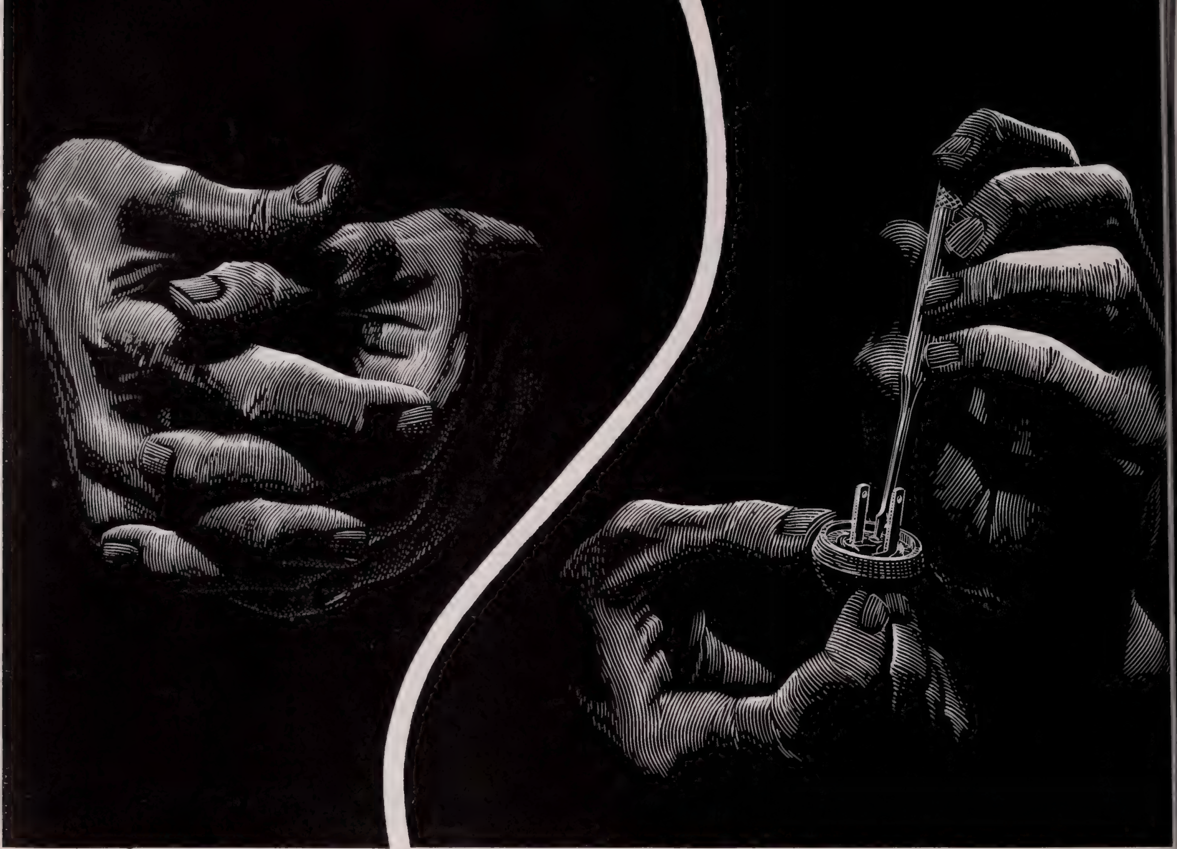

from pain to productivity

Acetycol brings quick and effective relief to the patient suffering from arthritis, osteoarthritis, acute or chronic gout, and related rheumatoid disorders. As Acetycol increases the range of pain-free movement, the patient is able to resume a more normal, satisfying and productive life.

The prompt, sustained effect of Acetycol is due to a synergism between aspirin and para-aminobenzoic acid. High salicylate blood levels are attained with relatively low dosage. The addition of salicylated colchicine extends the effectiveness of Acetycol to gout or cases of a gouty nature.

Acetycol contains three important vitamins often deficient in older and rheumatic patients: these are ascorbic acid for prevention of degenerative changes in connective tissues; and thiamine and niacin for carbohydrate utilization and relief of joint pain and edema.

Each Acetycol tablet contains:

Aspirin	325.0 mg.
Para-aminobenzoic acid	162.0 mg.
Colchicine, salicylated	0.25 mg.
Ascorbic acid	20.0 mg.
Thiamine hydrochloride	5.0 mg.
Niacin	15.0 mg.

Supplied: Bottles of 100 and 500.

Acetycol
TRADEMARK

to relieve rheumatic pain

WARNER-CHILCOTT

1955 ANNUAL CONVENTION

Medical Society of the State of New York

May 9 to 13—Hotel Statler, Buffalo

House of Delegates

The regular annual meeting of the House of Delegates of the Medical Society of the State of New York will be called to order at 10 A.M. on Monday, May 9, 1955, in the Ballroom, main floor of the Hotel Statler, Buffalo.

In accordance with Chapter II, Section 3 of the Bylaws, the House will assemble according to the following schedule:

Monday, May 9, 1955, 10 A.M.
Tuesday, May 10, 1955, 9 A.M. and 2 P.M.
Wednesday, May 11, 1955, 9 A.M.

At the last adjourned session (9 A.M., Wednesday, May 11) the election of officers, councillors, trustees, and delegates to the American Medical Association will occur in accordance with Chapter III, Section 1 of the Bylaws.

FREDERIC W. HOLCOMB, M.D., *Speaker*
W. P. ANDERTON, M.D., *Secretary*

149th Annual Meeting

The 149th Annual Meeting of the Medical Society of the State of New York will be held on Wednesday, May 11, at 7:30 P.M. in the Ballroom, main floor, Hotel Statler, Buffalo.

Calling the Society to order by the President.

Reading of the Minutes of the 148th Annual Meeting by the Secretary.

DAN MELLEN, M.D., *President*
W. P. ANDERTON, M.D., *Secretary*

Registration

Registration for delegates will be held in the foyer of the Ballroom, main floor of the Hotel Statler, May 9, after 9 A.M.; for members and guests on the 17th Floor, Monday, May 9, 8:30 A.M., and daily until Friday, May 13, 1 P.M.

Exhibits

Scientific Exhibits will be located on the mezzanine. Technical Exhibits will be located on the 17th Floor. Scientific Motion Pictures will be shown in the Grover Cleveland Room, mezzanine floor. Television program (in color) will be shown in the Assembly Room, 17th floor.

Television Program

A series of telecasts in color of operative and clinical procedures will be presented by the Medical Society of the State of New York, sponsored by Smith, Kline & French Laboratories. The program will be given in the Assembly Room, 17th floor, Monday, May 9, through Thursday, May 12, mornings only, starting at 9 A.M.

Scientific Program

GENERAL SESSIONS.—Every afternoon, Monday through Friday, May 9 to 13, 2 P.M.

SECTION AND SESSION MEETINGS.—Wednesday, Thursday, and Friday mornings, May 11, 12, and 13, 9 A.M.

ROUND TABLE DISCUSSIONS.—Tuesday and Wednesday mornings, May 10 and 11, 9:30 A.M.; Thursday evening, May 12, 8 P.M.

Annual Banquet

The Annual Banquet and dance will be held in the Ballroom, main floor, Wednesday, May 11, at 7:30 P.M., guest speakers to be announced.

Tickets will be available at the registration desk in the Ballroom and on the 17th floor.

The Woman's Auxiliary

See page 950 for program.

SCIENTIFIC PROGRAM

Alfred P. Ingegno, M.D., *Chairman*, Brooklyn

Julius E. Stolfi, M.D., *Associate Chairman for General Sessions*, Brooklyn

William F. Lipp, M.D., *Associate Chairman for Postgraduate Lectures*, Buffalo

M. Luther Musselman, M.D., *Associate Chairman for*
Round Table Discussions, Buffalo

AND

Chairmen of Sections and Sessions

GENERAL SESSIONS

Alfred P. Ingegno, M.D., *Chairman*

Julius E. Stolfi, M.D., *Associate Chairman*

The presentations at these Sessions will consist of half-hour lectures, without discussion. The meetings will start promptly at the hour specified. Members and guests are requested to be in their seats at least five minutes in advance of the meeting time.

Monday, May 9—2 P.M.

Assembly Room, 17th Floor

1. **Critical Evaluation of Drug Therapy of Hypertension: Experience with Reserpine, Apresoline, Hexamethonium, and Ansolysen**
   Marvin Moser, M.D., Scarsdale, Assistant Physician, Mount Sinai and Montefiore Hospitals

2. **Sympathectomy in the Treatment of Essential Hypertension**
   Frederick G. Stoesser, M.D., Buffalo, Associate Surgeon, Millard Fillmore Hospital

3. **Diagnostic and Surgical Aspects of the Shoulder Girdle Syndromes**
   Jere W. Lord, Jr., M.D., New York City, Associate Attending Surgeon, University Hospital; Professor of Clinical Surgery, New York University Post-Graduate Medical School

4. **Present Status of Retrolental Fibroplasia**
   Lewis M. Fraad, M.D., New York City, Assistant Pediatrician, New York Hospital; Assistant Professor of Clinical Pediatrics, Cornell University Medical College

Tuesday, May 10—2 P.M.

Assembly Room, 17th Floor

1. **Staphylococcic Enteritis as a Complication of Antibiotic Therapy**
   Robert Austrian, M.D., Brooklyn, Associate Professor of Medicine, State University of New York College of Medicine at New York City

2. **Allergic Reactions to Antibiotics**
   Sheppard Siegal, M.D., New York City, Adjunct Physician in Allergy, Mount Sinai Hospital

3. **Cutaneous Manifestations of Systemic Diseases**
   Maurice J. Costello, M.D., New York City, Associate Professor of Clinical Dermatology and Syphilology, New York University Post-Graduate Medical School

4. **Results of Poliomyelitis Vaccine Field Trial with Special Emphasis on New York State Experience**
   Robert F. Korns, M.D., Albany, Director, Bureau of Epidemiology and Communicable Disease Control, New York State Department of Health; Associate Professor of Preventive Medicine, Albany Medical College of Union University

Bacterial Sensitivity
Abraham S. Gordon, M.D., Brooklyn, Associate Physician, Kings County Hospital; Chief, Clinical Laboratory, Veterans Administration Hospital, Bronx

Wednesday, May 11—2 P.M.

Assembly Room, 17th Floor

Indications for Cardiac Surgery in Infancy
Edward C. Lambert, M.D., Buffalo, Director, Cardiac Clinic, Children's Hospital; Assistant Professor of Pediatrics, University of Buffalo School of Medicine

Criteria for and Results of Mitral Valve Surgery
Charles P. Bailey, M.D., Philadelphia, Pennsylvania, Professor of Thoracic Surgery, Hahnemann Medical College and Hospital—By invitation

The Use of Pressure Therapy in Various Pulmonary Disorders
Theodore H. Noehren, M.D., Buffalo, Assistant Professor of Medicine, University of Buffalo School of Medicine

The A. Walter Suiter Lecture—Treatment of Congestive Heart Failure
Harry Gold, M.D., New York City, Professor of Clinical Pharmacology, Cornell University Medical College

Thursday, May 12—2 P.M.

Assembly Room, 17th Floor

Why Is Your Patient Dizzy?
Gordon D. Hoople, M.D., Syracuse, Attending Otolaryngologist, University and Memorial Hospitals

Delay in Diagnosis of Carcinoma of the Colon
John H. Remington, M.D., Rochester, Chief Proctologic Surgeon, St. Mary's Hospital; Instructor in Surgery, University of Rochester School of Medicine and Dentistry

3. **Recent Trends in Radiation Therapy**
Walter T. Murphy, M.D., Buffalo, Director of Radiology, Roswell Park Memorial Institute

4. **Newer Knowledge of the Virus Diseases**
Gilbert Dalldorf, M.D., Albany, Director, Division of Laboratories and Research, New York State Department of Health

Friday, May 13—2 P.M.

Niagara Room, Lower Level

1. **The Food and Drug Administration—Our Mutual Responsibility**
Albert H. Holland, Jr., M.D., Washington, D.C., Medical Director, Federal Food and Drug Administration—By invitation

2. **Anesthesia by the General Practitioner**
Nicholas M. Greene, M.D., Rochester, Professor of Anesthesiology, University of Rochester School of Medicine and Dentistry

3. **Rehabilitation of the Patient with Rheumatoid Arthritis**
Robert L. Preston, M.D., New York City, Associate Clinical Professor of Orthopedic Surgery, New York University Post-Graduate Medical School

4. **The Role of Comprehensive Rehabilitation in the Care of the Geriatric Patient**
Theodore C. Krauss, M.D., Buffalo, Director, Geriatrics Clinic, Edward J. Meyer Memorial Hospital; Attending Physician, Jewish Old Folks Home

5. **Drug-induced Blood Dyscrasias**
Stuart L. Vaughan, M.D., Buffalo, Physician and Clinical Pathologist, Buffalo General Hospital; Associate Clinical Professor of Medicine and Head of Division of Clinical Pathology, University of Buffalo School of Medicine

SECTIONS

All papers read before the Society by members become the property of the Society. The original copy of each paper shall be left with the Secretary of the Section or Session.

Discussants should have their remarks typed and should hand them to the Secretary.

Time limits: Twenty minutes for each paper, five minutes for individual discussion.

Section and Session meetings shall begin promptly at the hour specified.

Executive Session—The first order of business, election of officers. "*To participate in the election of any Section, a member must be registered with such Section and must have recorded his name and address in the Section registry.*"—Bylaws, Chapter XII, Section 3.

Section on Allergy

Chairman.......CARL E. ARBESMAN, M.D., Buffalo
Vice-Chairman..................................
WILLIAM BOWEN SHERMAN, M.D., New York City
Secretary.......HARRY LEIBOWITZ, M.D., Brooklyn

Wednesday, May 11—9 A.M.

Boston Room, Mezzanine Floor

1. **Prophylaxis in Allergic Disease in the Newborn**
JEROME GLASER, M.D., Rochester, Assistant Professor of Pediatrics, University of Rochester School of Medicine and Dentistry; Pediatrician-in-Chief, Genesee Hospital
Discussion.—Mitchell I. Rubin, M.D., Buffalo, Professor and Head of Department of Pediatrics, University of Buffalo School of Medicine; Chief of Pediatrics, Children's Hospital
Joseph H. Fries, M.D., Brooklyn, Chief of Allergy, Lutheran Hospital; Associate Visiting Pediatrician and Allergist, Kings County Hospital

2. **Role of Infection in Asthma**
WILL COOK SPAIN, M.D., New York City, Attending Physician and Director of Allergy, Bellevue and University Hospitals; Professor of Clinical Medicine, New York University Post-Graduate Medical School
Discussion.—Victor L. Cohen, M.D., Buffalo, Chief of Allergy and Attending Physician, Children's Hospital
Murray M. Albert, M.D., Brooklyn, Chief Allergist, Greenpoint Hospital; Adjunct Attending in Allergy, Jewish Hospital

3. **Urticaria**
JOHN M. SHELDON, M.D., Ann Arbor, Michigan, Professor of Medicine and Chief of Allergy, University of Michigan School of Medicine—By invitation
Discussion.—Robert Chobot, M.D., New York City, Associate Attending Allergist, Roosevelt Hospital; Assistant Clinical Professor of Pediatrics, New York University Post-Graduate Medical School
Max Harten, M.D., Brooklyn, Adjunct Attending Allergist, Jewish Hospital

PANEL DISCUSSION

Therapy in Bronchial Asthma, Including Steroids

WILLIAM B. SHERMAN, M.D., New York City, *Moderator,* Attending Physician and Allergist, Roosevelt Hospital
STEARNS S. BULLEN, M.D., Rochester, Assistant Physician and Chief of Adult Allergy Clinic, Strong Memorial Hospital; Assistant Professor of Medicine, University of Rochester School of Medicine and Dentistry
HORACE S. BALDWIN, M.D., New York City, Associate Attending Physician and Chief of Allergy Clinic, New York Hospital; Associate Professor of Clinical Medicine, Cornell University Medical College
EMANUEL SCHWARTZ, M.D., Brooklyn, Chief of Allergy Clinic and Assistant Physician, Long Island College Hospital; Clinical Assistant Professor of Medicine, State University of New York College of Medicine at New York City
RICHARD D. WISEMAN, M.D., Syracuse, Assistant Physician, University and Memorial Hospitals; Clinical Instructor in Medicine, State University of New York College of Medicine at Syracuse

Section on Anesthesiology

Chairman.......E. DEAN BABBAGE, M.D., Buffalo

Vice-Chairman..................................
.....George A. Keating, M.D., New York City
Secretary.......Irving M. Pallin, M.D., Brooklyn

Thursday, May 12—9 A.M.

Buffalo Room, Mezzanine Floor

1. **Indications for Cooling in Pediatric Anesthesia**
   Richard N. Terry, M.D., Eggertsville, Attending Anesthesiologist, Children's Hospital; Clinical Professor of Anesthesiology, University of Buffalo School of Medicine
   Discussion.—Raphael Robertazzi, M.D., New York City, Associate Director of Anesthesia Service, University Hospital; Professor of Clinical Anesthesiology, New York University Post-Graduate Medical School

2. **Chlorpromazine as an Adjunct to Spinal Anesthesia**
   Barbara Lipton, M.D., New York City, Adjunct Anesthesiologist, Beth Israel Hospital
   Solomon G. Hershey, M.D., New York City, Director of Anesthesia, Beth Israel Hospital
   Discussion.—Erwin Lear, M.D., Brooklyn, Resident in Anesthesia, Jewish Hospital—By invitation

3. **Problems of Obesity in Anesthesia**
   Herman Schwartz, M.D., Bronx, Assistant Attending Anesthesiologist, Presbyterian Hospital; Assistant Professor of Anesthesiology, College of Physicians and Surgeons of Columbia University
   Emanuel M. Papper, M.D., New York City, Director of Anesthesia Service, Presbyterian Hospital; Professor of Anesthesiology, College of Physicians and Surgeons of Columbia University
   Discussion.—Barnett A. Greene, M.D., Brooklyn, Director of Anesthesia, Unity Hospital; Assistant Clinical Professor of Anesthesiology, State University of New York College of Medicine at New York City

4. **Practical Aspects of Carbon Dioxide Absorption**
   James O. Elam, M.D., Buffalo, Director, Department of Anesthesiology, Roswell Park Memorial Institute; Associate in Anesthesiology, University of Buffalo School of Medicine
   Discussion.—Louis R. Orkin, M.D., New York City, Attending Anesthesiologist, Bellevue Hospital; Assistant Professor of Anesthesia, New York University Post-Graduate Medical School

5. **The Dose-Response Relationship and Duration of Action of the Curariform Agent Ro 2-4557 in Anesthetized Man**
   Robert I. Schrier, M.D., New York City, Resident Anesthesiologist, New York Hospital; Assistant in Surgery, Cornell University Medical College—By invitation
   Joseph F. Artusio, Jr., M.D., New York City, Attending Anesthesiologist in Charge, New York Hospital; Associate Professor of Surgery (Anesthesiology), Cornell University Medical College
   Discussion.—Albert M. Betcher, M.D., New York City, Director of Anesthesiology, Hospital for Joint Diseases

6. **Mechanisms Involved in Anesthetic Deaths**
   Robert A. Hingson, M.D., Cleveland, Ohio, Director of Anesthesia, University Hospitals; Professor of Anesthesia, Western Reserve University School of Medicine—By invitation
   Discussion.—Charles F. Becker, M.D., Buffalo, Chief Pathologist, Sisters of Charity Hospital; Assistant Professor of Pathology, University of Buffalo School of Medicine

Section on
Chest Diseases

Chairman.......Clyde W. George, M.D., Buffalo
Secretary...Leonard C. Evander, M.D., Lockport

Thursday, May 12—9 A.M.

Niagara Room, Lower Level

1. **Chemotherapy in Tuberculosis**
   A. **In a Clinic of Nonhospitalized Patients**
      Ida Levine, M.D., Brooklyn, Associate Physician in Tuberculosis, Kings County Hospital; Associate Physician in Thoracic Disease, Beth-El Hospital
   B. **In a Clinic of Posthospitalized Patients**
      A. Arthur Grabau, M.D., Buffalo, Assistant Physician in Tuberculosis, Edward J. Meyer Memorial Hospital; Director of Tuberculosis Control, Erie County Department of Health
      Donald R. McKay, M.D., Buffalo, Consultant in Tuberculosis, Edward J. Meyer Memorial Hospital; Associate Professor of Clinical Medicine, University of Buffalo School of Medicine
   Discussion of Papers.—F. L. Armstrong, M.D., Mount Morris, Assistant Director, Mount Morris Tuberculosis Hospital
   Ezra R. Bridge, M.D., Batavia, Chief, Professional Service, Veterans Administration Hospital

2. **Lung Biopsy as a Diagnostic Aid**
   Francis W. O'Donnell, M.D., Buffalo, Attending in Thoracic Surgery, Millard Fillmore and Deaconess Hospitals; Instructor in Surgery, University of Buffalo School of Medicine

Discussion.—Edgar Mayer, M.D., New York City, Consulting Physician, New York City Infirmary and Municipal Sanitarium, Otisville; Assistant Attending Physician, University Hospital

3. **Current Surgical Therapy in Pulmonary Tuberculosis**

Murray N. Anderson, M.D., Buffalo, Chief Resident in Thoracic Surgery, Edward J. Meyer Memorial Hospital—By invitation

Richard J. Kenline, M.D., Kenmore, Attending in Tuberculosis, Edward J. Meyer Memorial Hospital

Discussion.—Charles Ross, M.D., Perrysburg, Principal Thoracic Surgeon, J. N. Adam Memorial Hospital—By invitation

4. **The Changing Spectrum of Autopsy Material in a Tuberculosis Hospital**

Leonard C. Evander, M.D., Lockport, Assistant Director, Niagara Sanatorium

Kornel Terplan, M.D., Buffalo, Pathologist, Buffalo General Hospital—By invitation

Discussion.—Ernst Mathias, M.D., Mount Morris, Pathologist, Mount Morris Tuberculosis Hospital—By invitation

Section on
Dermatology and Syphilology

Chairman.......John G. Copeland, M.D., Albany
Vice-Chairman.....Orlando Canizares, M.D., New York City
Secretary.....Joseph J. Hallett, M.D., Rochester

Thursday, May 12—9 A.M.

Empire State Room, Mezzanine Floor

1. **Lichen Sclerosus et Atrophicus in the Child**

John T. Crissey, M.D., Buffalo, Assistant Professor of Dermatology, University of Buffalo School of Medicine

Earl D. Osborne, M.D., Buffalo, Professor of Dermatology, University of Buffalo School of Medicine

James W. Jordon, M.D., Buffalo, Associate Professor of Dermatology, University of Buffalo School of Medicine

Discussion.—Francis J. Fagan, M.D., Troy, Dermatologist, St. Mary's Hospital

2. **The Present Status of the Use of Corticotropin and Cortisone in Dermatology**

Orlando Canizares, M.D., New York City, Associate Dermatologist and Syphilologist, Bellevue Hospital; Assistant Dermatologist and Syphilologist, Willard Parker Hospital

Discussion.—Leon H. Griggs, M.D., Syracuse, Attending Dermatologist, University and Syracuse Memorial Hospitals; Clinical Professor of Medicine (Dermatology), State University of New York College of Medicine at Syracuse

3. **Newer Knowledge of Melanin Pigmentation and the Treatment of Melanin Disturbances in the Skin**

Norman B. Kanof, M.D., New York City, Assistant Attending Dermatologist and Syphilologist, University Hospital; Instructor in Clinical Dermatology and Syphilology, New York University Post-Graduate Medical School

Discussion.—Robert D. Hubbard, M.D., Utica, Dermatologist, St. Luke's and Oneida County Hospitals

4. **Dermatitis of the Hands: Etiology, Treatment, and Prevention of Recurrence**

Herbert H. Bauckus, M.D., Buffalo, Attending Dermatologist, Millard Fillmore, Childrens, and Sisters of Charity Hospitals

John H. Gohringer, M.D., Rochester, Highland Hospital

Discussion.—William W. Wells, M.D., Schenectady, Assistant Attending Dermatologist, Ellis and St. Clare's Hospitals

5. **Heredity of Keloids: Review of Literature and Report of a Family with Multiple Keloids in Five Generations**

David Bloom, M.D., New York City, Associate Professor of Clinical Dermatology and Syphilology, New York University Post-Graduate Medical School

Discussion.—Albert R. McFarland, M.D., Rochester, Consulting Dermatologist, Rochester General and Strong Memorial Hospitals

6. **Cutaneous Amebiasis**

Elmer H. Tuttle, M.D., Rochester, Consultant Dermatologist, Veterans Administration Hospital, Bath; Instructor in Medicine (Dermatology), University of Rochester School of Medicine and Dentistry

Emil Alvermann, M.D., Bath, Physician, Veterans Administration Hospital

Discussion.—D. A. Berberian, M.D., Loudonville, Director of Research, Tropical Medicine and Parasitology, Sterling-Winthrop Research Institute, Rensselaer; Associate Professor of Medicine, Albany Medical College of Union University

Section on
Gastroenterology and Proctology

Chairman......Charles A. Flood, M.D., New York City
Vice-Chairman.....William F. Lipp, M.D., Buffalo
Secretary....Sydney D. Weston, M.D., Brooklyn

Thursday, May 12—9 A.M.

New York Room, Mezzanine Floor

1. **Recent Advances in Physiology of the Esophagus**
   Marvin H. Sleisenger, M.D., New York City, Chief, Gastrointestinal Clinic, New York Hospital; Assistant Professor of Clinical Medicine, Cornell University Medical College
   James H. Pert, M.D., New York City, Research Fellow in Medicine, Cornell University Medical College—By invitation
   Murray Davidson, M.D., New York City, Associate in Pediatrics, New York Hospital; Instructor in Pediatrics, Cornell University Medical College
   Thomas P. Almy, M.D., New York City, Director, Second Medical Division, Bellevue Hospital; Associate Professor of Medicine, Cornell University Medical College
   Herman Steinberg, M.D., New York City, Physician to Outpatients, New York Hospital; Research Fellow in Medicine, Cornell University Medical College

2. **Early Detection of Gastric Cancer**
   Harry L. Segal, M.D., Rochester, Assistant Physician, Strong Memorial Hospital; Assistant Clinical Professor of Medicine, University of Rochester School of Medicine and Dentistry
   Discussion.—A. H. Aaron, M.D., Buffalo, Clinical Professor of Medicine, University of Buffalo School of Medicine

3. **Studies of the Physiology of the Dumping Syndrome**
   Kathleen E. Roberts, M.D., New York City, Instructor in Medicine, Cornell University Medical College—By invitation
   Henry T. Randall, M.D., New York City, Professor of Surgery, Cornell University Medical College
   S. Allen Medwid, M.D., New York City, Fellow in Surgery, Cornell University Medical College—By invitation
   Morton K. Schwartz, Ph.D., New York City, Research Associate in Biochemistry, Cornell University Medical College—By invitation

4. **Problems of Management of Idiopathic Sprue**
   David Adlersberg, M.D., New York City, Associate Physician for Metabolic Disease, Mount Sinai Hospital; Assistant Clinical Professor of Medicine, College of Physicians and Surgeons of Columbia University

5. **Selection of Patients with Ulcerative Colitis for Surgery**
   Burrill B. Crohn, M.D., New York City, Consultant in Gastroenterology, Mount Sinai Hospital
   Discussion.—Elmer Milch, M.D., Buffalo, Attending Surgeon, Buffalo General Hospital; Assistant Clinical Professor of Surgery, University of Buffalo School of Medicine

6. **Management of Patients with Ileostomy**
   Sidney M. Fierst, M.D., Brooklyn, Clinical Assistant Professor of Medicine, State University of New York College of Medicine at New York City

Section on
General Practice

Chairman....Garra L. Lester, M.D., Chautauqua
Vice-Chairman....John J. Flynn, M.D., Brooklyn
Secretary...Seymour Fiske, M.D., New York City

Friday, May 13—9 A.M.

Assembly Room, 17th Floor

1. **Radical Surgery of the Lung in Advanced Cancer**
   Adrian Lambert, M.D., New York City, Associate Surgeon for Chest Diseases, Bellevue Hospital; Consulting Surgeon, New York Infirmary

2. **Bedside Considerations of Pituitary Disease**
   Thomas H. McGavack, M.D., New York City, Professor of Clinical Medicine, New York Medical College, Flower and Fifth Avenue Hospitals

3. **Fatigue—Its Differential Diagnosis and Treatment**
   E. A. Burkhardt, M.D., New York City, Associate Physician, Bellevue Hospital; Cardiologist, Willard Parker Hospital

ROUND TABLE DISCUSSION

Can the Cardiac Work?

Moderator—William A. Sawyer, M.D., Rochester, Medical Consultant, International Association of Machinists; Lecturer on Occupational Medicine, University of Rochester School of Medicine and Dentistry

When to Return the Cardiac to Work
Rufus B. Crain, M.D., Rochester, Lecturer on Occupational Medicine, University of Rochester School of Medicine and Dentistry

Actual Experience of Industry with 896 Cardiacs
S. Charles Franco, M.D., New York City, Medical Director, Consolidated Edison Company

Garment Workers with Coronaries Who Are Working
Leo Price, M.D., New York City, Medical Director, Union Health Center of the International Ladies' Garment Workers Union

Insurance Aspects
Harry E. Ungerleider, M.D., New York City, Director of Medical Research, Equitable Life Assurance Society

Section on

Industrial Medicine and Surgery

Chairman.....JAMES H. STERNER, M.D., Rochester
Vice-Chairman..................................
..........HARRY E. TEBROCK, M.D., Douglaston
Secretary.....JAMES H. McDONOUGH, M.D., Rome

Wednesday, May 11—9 A.M.

Buffalo Room, Mezzanine Floor

Practical Preventive Measures in Industry for Nonoccupational Diseases

1. **Respiratory Diseases**
   CLAYTON G. LOOSLI, M.D., Chicago, Illinois, Professor of Preventive Medicine, School of Medicine, University of Chicago—By invitation

2. **Cardiovascular Diseases**
   K. JEFFERSON THOMSON, M.D., New York City, Assistant Medical Director, Metropolitan Life Insurance Company

3. **Panel Discussion**
   CLAYTON G. LOOSLI, M.D., Chicago, Illinois, Professor of Preventive Medicine, School of Medicine, University of Chicago—By invitation
   K. JEFFERSON THOMSON, M.D., New York City, Assistant Medical Director, Metropolitan Life Insurance Company
   NORMAN PLUMMER, M.D., New York City, Medical Director, New York Telephone Company
   BEVERLY L. VOSBURGH, M.D., Schenectady, Medical Director, General Electric Company
   JAMES H. STERNER, M.D., Rochester, Medical Director, Eastman Kodak Company

Section on

Medicine

Chairman........EDWARD D. COOK, M.D., Buffalo
Vice-Chairman........E. J. MURPHY, M.D., Bronx
Secretary......THOMAS F. FRAWLEY, M.D., Albany

Thursday, May 12—9 A.M.

Washington Room, Mezzanine Floor

1. **The Use of Isotopes in Medical Practice**
   ROBERT CHODOS, M.D., Syracuse, Director, Radioisotope Unit, Veterans Administration Hospital; Assistant Professor of Medicine, State University of New York College of Medicine at Syracuse—By invitation
   Discussion.—Joe W. Howland, M.D., Rochester, Professor of Radiation Biology, University of Rochester School of Medicine and Dentistry
   George E. Moore, M.D., Director, Roswell Park Memorial Institute

2. **Diagnostic Significance of Plasma Protein Changes in the Rheumatic Diseases**
   RALPH F. JACOX, M.D., Rochester, Associate Professor of Medicine, University of Rochester School of Medicine and Dentistry
   Discussion.—Bernard M. Norcross, M.D., Buffalo, Assistant Physician, Buffalo General Hospital
   Kenneth Sterling, M.D., Syracuse

3. **Pulmonary Circulatory Dynamics in Acquired Heart Disease**
   PAUL N. YU, M.D., Rochester, Instructor in Medicine, University of Rochester School of Medicine and Dentistry
   Discussion.—Joseph T. Doyle, M.D., Albany, Director, Cardiovascular Health Center, Albany Medical College of Union University
   David G. Greene, M.D., Buffalo, Assistant Professor of Medicine, University of Buffalo School of Medicine

4. **Iatrogenic Fluid and Electrolyte Disorders**
   THOMAS F. FRAWLEY, M.D., Albany, Associate Professor of Medicine, Albany Medical College of Union University
   WILLIAM P. NELSON, III, M.D., Albany
   Discussion.—George F. Koepf, M.D., Buffalo, Consultant in Medicine, Mercy Hospital

Section on

Neurology and Psychiatry

Chairman....HOWARD FREEDMAN, M.D., Brooklyn
Secretary....HARRY ERNEST FAVER, M.D., Buffalo

Thursday, May 12—9 A.M.

Georgian Room, Mezzanine Floor

1. **Indications for Carotid Artery Ligations for Intracranial Aneurysm**
   WILLIAM F. BESWICK, M.D., Buffalo, President of Medical Staff and Chief of Neurosurgical Service, Millard Fillmore Hospital
   IRVING HYMAN, M.D., Buffalo, Associate Neuropsychiatrist, Millard Fillmore Hospital
   WILLIAM R. KINKEL, M.D., Buffalo, Resident in Neurosurgery, Millard Fillmore Hospital—By invitation
   Discussion.—Wallace Hamby, M.D., Buffalo, Chief of Neurosurgical Service, Buffalo General Hospital; Professor of Neurological Surgery, University of Buffalo School of Medicine

2. **Encephalomyelitis Accompanying Rubella Treated with Gamma Globulin**
   THOMAS M. DRISLANE, M.D., Albany, Instructor in Neurology, Albany Medical College of Union University
   FREDERICK H. HESSER, M.D., Albany, Associate Professor of Neurology, Albany Medical College of Union University

Robert W. Graves, M.D., Albany, Professor of Neurology, Albany Medical College of Union University

Discussion.—Irving Hyman, M.D., Buffalo, Associate Neuropsychiatrist, Millard Fillmore Hospital

Louis Odessky, M.D., Brooklyn

3. **Delirium, Cation Exchange Resins, and Liver Disease**

S. Mouchly Small, M.D., Buffalo, Director of Psychiatry, Edward J. Meyer Memorial Hospital; Professor and Head of the Department of Psychiatry, University of Buffalo School of Medicine

Jerome Maurizi, M.D., Buffalo, Assistant Resident in Medicine, Edward J. Meyer Memorial Hospital—By invitation

Discussion.—Oliver J. Bateman, Jr., M.D., Buffalo, Associate in Therapeutics and Instructor in Medicine, University of Buffalo School of Medicine

4. **Emotional Aspects of the Aging Process**

Harry A. Steckel, M.D., Syracuse, Emeritus Professor of Psychiatry, State University of New York College of Medicine at Syracuse

Discussion.—Robert W. Reifenstein, M.D., Syracuse, Clinical Instructor in Medicine, State University of New York College of Medicine at Syracuse

5. **Cerebral Venous Angioma as a Cause of Cerebral Birth Palsy: A Review of 22 Cases Proved by Craniotomy**

Samuel Rosner, M.D., Bronx, Assistant Attending Neurosurgeon, Goldwater Memorial Hospital, Welfare Island

Section on
Obstetrics and Gynecology

Chairman.......J. Edward Hall, M.D., Brooklyn
Vice-Chairman...Curtis J. Lund, M.D., Rochester
Secretary..
....Arthur V. Greeley, M.D., New York City

Friday, May 13—9 A.M.

Los Angeles Room, Mezzanine Floor

1. **Perinatal Mortality—A Study of the City of Buffalo**

Richard W. Baetz, M.D., Buffalo, Assistant Obstetrician and Gynecologist, Buffalo General Hospital

Discussion.—Edwin M. Gold, M.D., Brooklyn, Associate Obstetrician and Gynecologist, Jewish Hospital

2. **Prepregnancy Treatment and Fetal Salvage**

Albert W. Van Ness, M.D., Syracuse, Attending Obstetrician and Gynecologist, Memorial Hospital

Discussion.—Ralph W. Gause, M.D., New York City, Associate Obstetrician and Gynecologist, New York Hospital

3. **Does Toxemia of Pregnancy Produce Hypertension?**

Alvin J. B. Tillman, M.D., New York City, Associate Physician, Presbyterian Hospital

Discussion.—Eugene N. Scadron, M.D., New York City, Associate Obstetrician and Gynecologist, Bellevue Hospital

4. **Ectopic Pregnancy: A Ten-Year Study**

Schuyler G. Kohl, M.D., Brooklyn, Associate Professor of Obstetrics and Gynecology, State University of New York College of Medicine at New York City

Alvin M. Siegler, M.D., Brooklyn, Assistant Obstetrician and Gynecologist, Kings County Hospital

Vincent Tricomi, M.D., Brooklyn, Resident in Obstetrics and Gynecology, Kings County Hospital—By invitation

Discussion.—Bernard J. M. Pisani, M.D., New York City, Chief Attending Obstetrician and Gynecologist, St. Vincent's Hospital

Section on
Ophthalmology

Chairman.......John F. Gipner, M.D., Rochester
Vice-Chairman.................................
.....Frank D. Carroll, M.D., New York City
Secretary............James Farrell, M.D., Utica

Thursday, May 12—9 A.M.

Detroit Room, Mezzanine Floor

SYMPOSIUM

Management of Glaucoma in the Adult

Introductory Remarks

John F. Gipner, M.D., Rochester, Chief, Ophthalmology Department, Strong Memorial Hospital; Associate Professor of Ophthalmology, University of Rochester School of Medicine and Dentistry

1. **Tonography**

W. Morton Grant, M.D., Boston, Massachusetts, Assistant Professor of Ophthalmologic Research, Harvard Medical School—By invitation

2. **Management of Acute (Narrow Angle) Glaucoma and Glaucomatocyclitic Crisis**

Adolph Posner, M.D., New York City, Associate Attending Surgeon and Director, Glaucoma Clinic, Manhattan Eye, Ear and Throat Hospital

Discussion.—Myron B. Franks, M.D., Jamestown, Ophthalmologist, General and Woman's Christian Association Hospitals

3. **Medical Treatment of Chronic Glaucoma**

Robert E. Kennedy, M.D., Rochester, Chief Ophthalmologist, Highland Hospital; Instructor in Ophthalmology, University of Rochester School of Medicine and Dentistry

Discussion.—Dale B. Pritchard, M.D., Ithaca, Attending Ophthalmologist, Cornell University Infirmary and Tompkins County Memorial Hospital

4. **Anesthesia for Glaucoma Surgery**

Walter S. Atkinson, M.D., Watertown, Associate Clinical Professor of Ophthalmology, New York University Post-Graduate Medical School

Discussion.—Thaddeus Witka, M.D., Buffalo, Clinical Assistant in Ophthalmology, Buffalo General and Children's Hospitals

5. **Surgery of Chronic Glaucoma**

Harold H. Joy, M.D., Syracuse, Chief Ophthalmologist, Good Shepherd Hospital; Professor of Ophthalmology, State University of New York College of Medicine at Syracuse

Discussion.—Wilfred D. McCusker, M.D., Newark, Ophthalmologist, Doctor's Hospital and Clifton Springs Sanatorium

6. **Cyclodiathermy and Cycloelectrolysis**

Willis S. Knighton, M.D., New York City, Associate Attending Ophthalmologist, Presbyterian Hospital; Associate Clinical Professor of Ophthalmology, College of Physicians and Surgeons of Columbia University

Discussion.—Milton L. Berliner, M.D., New York City, Associate Attending Ophthalmologist and Chief of Clinic, New York Hospital; Assistant Professor of Ophthalmology, Cornell University Medical College

7. **Glaucoma and Cataract; Secondary Glaucoma**

Ivan J. Koenig, M.D., Buffalo, Chief Ophthalmologist, Buffalo General Hospital; Professor and Head of the Division of Ophthalmology, University of Buffalo School of Medicine

Discussion.—David F. Gillette, M.D., Syracuse, Ophthalmologist, Good Shepherd Hospital; Emeritus Professor of Ophthalmology, State University of New York College of Medicine at Syracuse

Section on
Orthopedic Surgery

Chairman.. ......William E. Gazeley, M.D., Schenectady
Secretary.......Emanuel B. Kaplan, M.D., Bronx

Wednesday, May 11—9 A.M.

St. Louis Room, Mezzanine Floor

1. **Vertebral Body Biopsy**

Frederick S. Craig, M.D., New York City, Attending Orthopedic Surgeon, Presbyterian Hospital; Instructor of Orthopedic Surgery, College of Physicians and Surgeons of Columbia University

Discussion.—Glen H. L k, M.D., Buffalo, Associate in Surgery, University of Buffalo School of Medicine

2. **Repair of Hernias Through Iliac Crest Defects**

David M. Bosworth, M.D., New York City, Attending Orthopedic Surgeon and Director of Orthopedic Service, St. Luke's Hospital; Professor and Director of Orthopedic Surgery, New York Polyclinic Medical School and Hospital

Discussion.—Frederick Lee Liebolt, M.D., New York City, Attending Surgeon in Charge of Orthopedics, New York Hospital; Associate Professor of Orthopedic Surgery, Cornell University Medical College

3. **The Surgical Management of Shoulder Lesions**

H. F. Moseley, M.D., Montreal, Canada, Associate Surgeon, Royal Victoria Hospital; Associate Professor of Surgery, McGill University Faculty of Medicine—By invitation

4. **The Conservative Management of Shoulder Conditions**

Arthur A. Michele, M.D., Brooklyn, Attending Orthopedic Surgeon, St. John's Episcopal Hospital; Associate Orthopedic Surgeon, Flower and Fifth Avenue Hospitals

Discussion.—Harrison L. McLaughlin, M.D., New York City, Chief of Fracture Service, Presbyterian Hospital; Professor of Clinical Orthopedic Surgery, College of Physicians and Surgeons of Columbia University

Robert Lee Patterson, Jr., M.D., New York City, Attending Orthopedic Surgeon, Hospital for Special Surgery; Assistant Clinical Professor of Orthopedics, Cornell University Medical College

5. **Primary Vertebral Osteophytosis**

Edgar M. Bick, M.D., New York City, Assistant Attending Orthopedic Surgeon, Mount Sinai Hospital

Discussion.—Frederick R. Thompson, M.D., New York City, Associate Orthopedic Surgeon, St. Luke's Hospital; Associate Clinical Professor of Orthopedic Surgery, New York Polyclinic Medical School and Hospital

Roscoe D. Severance, M.D., Syracuse, Professor and Chairman of the Department of Orthopedic Surgery, State University of New York College of Medicine at Syracuse

Section on
Otolaryngology

Chairman......Benjamin M. Volk, M.D., Albany

Vice-Chairman..
........R. CLARK GROVE, M.D., New York City
Secretary..
........STANLEY L. EDMUNDS, M.D., Glens Falls

Friday, May 13—9 A.M.

Georgian Room, Mezzanine Floor

1. **Advantages of Routine Endotracheal Anesthesia for Tonsillectomies in Children from the Cardiovascular Standpoint**
   VINCENT J. COLLINS, M.D., New York City, Director of Anesthesiology, St. Vincent's Hospital
   ALFRED F. GRANATELLI, M.D., Staten Island, Adjunct Physician, Staten Island Hospital
   Discussion.—Richard N. Terry, M.D., Eggertsville, Attending Anesthesiologist, Buffalo General Hospital

2. **Development of the Middle and External Ear (Film)**
   FRANZ ALTMANN, M.D., New York City, Associate Otolaryngologist, Presbyterian Hospital

3. **Allergy in Relation to Otolaryngology**
   MICHAEL H. BARONE, M.D., Buffalo, Assistant Otolaryngologist, Edward J. Meyer Memorial Hospital
   Discussion.—Samuel F. Kelley, M.D., New York City, Surgeon, Manhattan Eye, Ear and Throat Hospital

4. **Practical Considerations of Anesthesia in Bronchoesophagology**
   CLYDE A. HEATLY, M.D., Rochester, Attending Otolaryngologist, Strong Memorial Hospital; Associate Professor of Otolaryngology, University of Rochester School of Medicine and Dentistry
   Discussion.—Orrin E. Anderson, M.D., New York City, Assistant Otolaryngologist, St. Luke's Hospital

5. **Evaluation of Transtympanic Mobilization of the Stapes as a Treatment for Otosclerosis**
   ALAN AUSTIN SCHEER, M.D., New York City, Assistant Surgeon in Otolaryngology, Manhattan Eye, Ear and Throat Hospital
   Discussion.—Samuel Rosen, M.D., New York City, Associate Otolaryngologist, Mount Sinai Hospital

Section on Pathology and Clinical Pathology

Chairman...
......MILTON HELPERN, M.D., New York City
Vice-Chairman...
.........JOSEPH I. SCHLEIFSTEIN, M.D., Albany
Secretary.......M. J. FEIN, M. D., New York City

Friday, May 13—9 A.M.

Empire State Room, Mezzanine Floor

1. **Malignant Giant Cell Tumor of Bone**
   ARTHUR W. WRIGHT, M.D., Albany, Pathologist-in-Chief, Albany Hospital; Professor of Pathology and Bacteriology, Albany Medical College of Union University
   ARTHUR R. GREGORY, Albany—By invitation
   Discussion.—Crawford J. Campbell, M.D., Albany, Attending Orthopedic Surgeon, Albany Hospital; Associate Professor of Orthopedic Surgery, Albany Medical College of Union University

2. **Calcific Aortic Stenosis and Other Valvular Distortions Simulating Rheumatic Heart Disease**
   ALFRED ANGRIST, M.D., New York City, Professor of Pathology, Albert Einstein College of Medicine
   JACQUES B. WALLACH, M.D., Jamaica
   LESLIE I. LUKASH, M.D., Jamaica
   Discussion.—Samuel Sanes, M.D., Buffalo, Chief Pathologist, Edward J. Meyer Memorial Hospital; Associate Professor of Pathology, University of Buffalo School of Medicine

3. **The Histochemical Approach to Functional Pathology**
   MAX WACHSTEIN, M.D., Brooklyn, Pathologist, St. Catherine's Hospital
   Discussion.—Oliver P. Jones, Ph.D., Buffalo, Professor of Anatomy, University of Buffalo School of Medicine—By invitation

4. **Bacterial Endocarditis Complicated by Candida parapsilosis Infection: A Case Report**
   HERMAN J. DICK, M.D., Syracuse, Director of Laboratory, St. Joseph's Hospital; Assistant Professor of Pathology, State University of New York College of Medicine at Syracuse
   EDWARD W. MULLIN, M.D., Syracuse, Instructor in Medicine, State University of New York College of Medicine at Syracuse
   Discussion.—James W. Jordon, M.D., Buffalo, Associate Professor of Dermatology and Syphilology, University of Buffalo School of Medicine

Section on Pediatrics

Chairman...FREDERICK W. BUSH, M.D., Rochester
Vice-Chairman..
.......ALFRED J. VIGNEC, M.D., New York City
Secretary......WILLIAM O. KOPEL, M.D., Syracuse

Thursday, May 12—9:30 A.M.

Los Angeles Room, Mezzanine Floor

1. **Lower Urinary Tract Obstructions in Children**

Howard T. Thompson, M.D., Rochester, Associate Attending Urologist, Rochester General Hospital; Attending Urologist, Monroe County Infirmary

Discussion.—Edgar A. Slotkin, M.D., Buffalo, Consulting Urologist, State and U.S. Public Health Service Dispensary; Urologist, Edward J. Meyer Memorial and Children's Hospitals

2. **Emergency Surgery in the Newborn Period**

Lawrence K. Pickett, M.D., Syracuse, Associate in Pediatric Surgery, Memorial Hospital; Associate Clinical Professor of Surgery, State University of New York College of Medicine at Syracuse

Discussion.—Robert R. White, M.D., Rochester, Attending Surgeon and Surgical Consultant in Pediatrics, Rochester General Hospital; Instructor in Surgery, University of Rochester School of Medicine and Dentistry

3. **Laboratory Aids in the Diagnosis of Pediatric Problems**

Paul R. Patterson, M.D., Albany, Pediatrician-in-Chief, Albany Hospital; Professor of Pediatrics, Albany Medical College of Union University

Discussion.—Tyree C. Wyatt, M.D., Syracuse, Chief of Pediatrics, Memorial Hospital; Clinical Professor of Pediatrics, State University of New York College of Medicine at Syracuse

4. **Early Signs for Detection of Psychiatric Disturbances in Children**

Sherman Little, M.D., Buffalo, Pediatrician-Psychiatrist and Director, Child Guidance Clinic, Children's Hospital

Discussion.—Harry Bakwin, M.D., New York City, Professor of Pediatrics, New York University College of Medicine; President-Elect, American Academy of Pediatrics

Section on
Preventive Medicine and Public Health

Chairman.......................................
......Joseph H. Kinnaman, M.D., Garden City
Vice-Chairman..Joseph P. Garen, M.D., Rochester
Secretary.........Robert H. Broad, M.D., Ithaca

Wednesday, May 11—9 A.M.

Empire State Room, Mezzanine Floor

1. **Diarrhea of the Newborn: Recent Developments**

D. Crosby Greene, M.D., Albany, Consulting Pediatrician, Bureau of Maternal and Child Health, New York State Department of Health

Robert M. Albrecht, M.D., Albany, Director, Bureau of Epidemiology and Communicable Disease Control, New York State Department of Health

2. **The Future of Tuberculosis Control—New Problems Arising from an Expanding Program of Outpatient Treatment**

Frances S. Lansdown, M.D., Mount Vernon, Assistant Visiting Physician, Bellevue Hospital; Assistant in Department of Medicine, College of Physicians and Surgeons of Columbia University

Julia Mary Jones, M.D., New York City, Visiting Physician, Bellevue Hospital; Assistant Professor of Medicine, College of Physicians and Surgeons of Columbia University—By invitation

Discussion.—Richard Nauen, M.D., Perrysburg, Consultant, Gowanda State Hospital; Instructor in Medicine, University of Buffalo School of Medicine

3. **The Problem of the Obese Patient**

Norman S. Moore, M.D., Ithaca, Professor of Clinical Medicine, School of Nutrition, Cornell University

Discussion.—John H. Browe, M.D., Albany, Director, Bureau of Nutrition, New York State Department of Health; Associate in Biochemistry, Albany Medical College of Union University

4. **Radiologic Health and the Prevention of Human Tissue Damage from Stray Radiation**

Joe W. Howland, M.D., Rochester, Professor of Radiation Biology, University of Rochester School of Medicine and Dentistry

Discussion.—Irving R. Tabershaw, M.D., New York City, Associate Professor of Occupational Medicine, School of Public Health of Columbia University

Section on
Radiology

Chairman..Thomas N. Sickels, M.D., Watertown
Vice-Chairman.................................
..........John A. Evans, M.D., New York City
Secretary.......Norman Heilbrun, M.D., Buffalo

Friday, May 13—9 A.M.

Buffalo Room, Mezzanine Floor

1. **Arteriography in Bone Tumors**

Elliott C. Lasser, M.D., Buffalo, Chief of Diagnostic Radiology, Roswell Park Memorial Institute

Robert Schobinger Von Schowingen, M.D., Buffalo, Resident in Surgery, Roswell Park Memorial Institute—By invitation

Discussion.—Roscoe D. Severance, M.D., Syracuse, Professor and Chairman, Department of

Orthopedic Surgery, State University of New York College of Medicine at Syracuse

2. **Xeroradiography**
John F. Roach, M.D., Albany, Radiologist-in-Chief, Albany Hospital; Professor of Radiology, Albany Medical College of Union University
Discussion.—William J. MacFarland, M.D., Hornell, Roentgenologist, St. James and Bethesda Hospitals

3. **Radiation Treatment of Carcinoma of the Lung**
Robert J. Bloor, M.D., Rochester, Assistant Radiologist, Strong Memorial Hospital; Assistant Professor of Radiology, University of Rochester School of Medicine and Dentistry
Discussion.—Harry W. Burnett, M.D., New York City, Chief, Radiation Therapy Section, New York Hospital

4. **Small Air Replacement Pneumoencephalography**
Berten C. Bean, M.D., Buffalo, Assistant Radiologist, University of Buffalo School of Medicine
Discussion.—Stanley Batkin, M.D., Syracuse, Assistant Professor of Medicine (Neurology), State University of New York College of Medicine at Syracuse

5. **The Duodenal Loop**
Clayton H. Hale, M.D., Syracuse, Professor and Chairman, Department of Radiology, State University of New York College of Medicine at Syracuse
Discussion.—William F. Lipp, M.D., Buffalo, Assistant Clinical Professor of Medicine, University of Buffalo School of Medicine

6. **Rapid Intravenous Cholecystography and Cholangiography**
Richard C. Batt, M.D., Glens Falls, Radiologist, Glens Falls Hospital
Discussion.—John L. McClenahan, M.D., New York City, Assistant Professor of Clinical Radiology, Cornell University Medical College

Section on Surgery

Chairman............John Burke, M.D., Buffalo
Secretary....................................
....Jose M. Ferrer, Jr., M.D., New York City

Friday, May 13—9 A.M.

New York Room, Mezzanine Floor

SYMPOSIUM

Treatment of Burns

Introductory Remarks

John Burke, M.D., Buffalo, Attending Surgeon, Edward J. Meyer Memorial Hospital; Assistant Professor of Surgery, University of Buffalo School of Medicine

1. **Initial Treatment**
Worthington G. Schenck, Jr., M.D., Buffalo, Assistant Surgeon, Edward J. Meyer Memorial Hospital; Instructor in Surgery, University of Buffalo School of Medicine

2. **Parenteral Therapy**
J. Frederick Eagle, M.D., Buffalo, Attending Pediatrician, Edward J. Meyer Memorial Hospital; Assistant Professor of Pediatrics, University of Buffalo School of Medicine

3. **Definitive Treatment**
Harry W. Hale, Jr., M.D., Buffalo, Assistant Surgeon, Edward J. Meyer Memorial Hospital; Associate in Surgery, University of Buffalo School of Medicine

4. **Physical Restoration by Means of Physical and Occupational Therapy**
Henry V. Morelewicz, M.D., Buffalo, Chief, Physical Medicine, Edward J. Meyer Memorial Hospital; Assistant Professor of Physical Medicine and Rehabilitation, University of Buffalo School of Medicine

5. **Late Reconstructive Problems**
Leslie H. Backus, M.D., Buffalo, Attending Plastic Surgeon, Edward J. Meyer Memorial Hospital; Associate in Surgery, University of Buffalo School of Medicine

Section on Urology

Chairman.......................................
..Thomas A. Morrissey, M.D., New York City
Vice-Chairman................................
..........Oscar J. Oberkircher, M.D., Buffalo
Secretary..Dean Makowski, M.D., New York City

Friday, May 13—9 A.M.

Washington Room, Mezzanine Floor

1. **Atypical Symptoms with Underlying Urologic Disease**
Monroe E. Greenberger, M.D., New York City, Attending Urologist, Sea View and French Hospitals
Morris Turell, M.D., New York City, Urologist, Sea View Hospital

2. **Closed Cystolithotomy for Larger Vesical Calculi**
Seymour F. Wilhelm, M.D., New York City, Attending Urologic Surgeon, Beth Israel Hospital

Robert G. Marks, M.D., New York City, Assistant Adjunct Urologic Surgeon, Beth Israel Hospital

Discussion of Papers.—George E. Slotkin, M.D., Buffalo, Chief of Urology, Edward J. Meyer Memorial Hospital

3. **Indications for Surgery of the Adrenal Gland**

Frank C. Hamm, M.D., Brooklyn, Associate Professor and Chairman, Division of Urology, State University of New York College of Medicine at New York City

Sidney R. Weinberg, M.D., Brooklyn, Instructor, Division of Urology, State University of New York College of Medicine at New York City

4. **Carcinoma in Exstrophy of the Bladder**

William J. Staubitz, M.D., Buffalo, Principal Urologist, Roswell Park Memorial Institute; Assistant Clinical Professor of Urology, University of Buffalo School of Medicine

Oscar J. Oberkircher, M.D., Buffalo, Professor and Head of the Division of Urology, University of Buffalo School of Medicine

Melbourne H. Lent, M.D., Buffalo, Associate Urologist, Roswell Park Memorial Institute

5. **The Use and Abuse of Antibiotics in Urology**

J. Sydney Ritter, M.D., New York City, Director of Urology, Midtown Hospital; Professor and Director of Department of Urology, New York Polyclinic Medical School and Hospital

Alfred A. Johnson, M.D., New York City, Assistant Urologist, Morrisania City Hospital; Adjunct Professor of Urology, New York Polyclinic Medical School and Hospital

Discussion.—Francis S. Creighton, M.D., Elmira, Urologist, St. Joseph's and Arnot-Ogden Memorial Hospitals

SESSIONS

Session on
History of Medicine

Chairman... ....John R. Paine, M.D., Buffalo
Secretary...McIver Moody, M.D., New York City

Tuesday, May 10—8 P.M.

Washington Room, Mezzanine Floor

OPEN TO PUBLIC

1. **Influence of the Erie Canal on the Development and Spread of Medical Practice in Upstate New York**

Irving Wolfson, M.D., Buffalo, Proctologist, Emergency Hospital and St. Francis Hospital; Lecturer in History of Medicine, University of Buffalo School of Medicine

2. **Development of Medical Education in Upstate New York**

A. Albany Area

Emerson Crosby Kelly, M.D., Albany, Attending Surgeon, Albany Hospital; Associate Professor of Surgery, Albany Medical College of Union University

B. Syracuse Area

William R. Willard, M.D., Syracuse, Dean, State University of New York College of Medicine at Syracuse

C. Rochester Area

Betsy C. Corner, B.A., Baltimore, Maryland—By invitation

D. Buffalo Area

Eliott B. Hague, M.D., Buffalo, Attending Ophthalmologist, Millard Fillmore Hospital

Session on
Legal Medicine

Chairman.....Niels C. Klendshoj, M.D., Buffalo
Secretary ....
...Robert B. McGraw, M.D., New York City

Wednesday, May 11—9 A.M.

Washington Room, Mezzanine Floor

1. **Expert Testimony Is Clinical Medicine**

Leopold Brahdy, M.D., New York City

Discussion.—Theodore T. Jacobs, M.D., Buffalo, Clinical Assistant in Surgery, Buffalo General Hospital; Associate in Surgery, University of Buffalo School of Medicine

2. **Legal Aspects of Termination of Pregnancy on Psychiatric Grounds**

Robert B. McGraw, M.D., New York City, Chief of Clinic, Department of Psychiatry, Columbia-Presbyterian Medical Center; Clinical Professor of Psychiatry, College of Physicians and Surgeons of Columbia University

Discussion.—Harry G. LaForge, M.D., Buffalo, Attending Obstetrician and Gynecologist, Buffalo General Hospital; Assistant Clinical Professor of Obstetrics and Gynecology, University of Buffalo School of Medicine

3. **The Doctor as a Witness**
   PAUL D. WILLIAMS, LL.B., Buffalo, Lecturer, Schools of Law and Medicine; Instructor, School of Pharmacy, University of Buffalo—By invitation
   Discussion.—Stuart A. Good, M.D., Buffalo, Plant Physician, Westinghouse Electric Corporation
   Solon J. Stone, LL.B., Buffalo, Chairman of Workmen's Compensation Committee, Erie County Bar Association—By invitation

4. **Medical Legal Aspects of Head Injuries**
   WALLACE B. HAMBY, M.D., Buffalo, Attending Neurosurgeon, Buffalo General and Children's Hospitals; Professor of Neurological Surgery, University of Buffalo School of Medicine
   Discussion.—A. M. Rabiner, M.D., Brooklyn, Director of Neurology, Kings County Hospital; Professor of Neurology, State University of New York College of Medicine at New York City

Session on
Physical Medicine

Chairman...HENRY V. MORELEWICZ, M.D., Buffalo
Secretary..JEROME S. TOBIS, M.D., New York City

Wednesday, May 11—9 A.M.

Los Angeles Room, Mezzanine Floor

1. **Some Basic Problems in the Design of Bedside Therapeutic Apparatus**
   ARTHUR E. MACNEILL, M.D., Buffalo, Director of Laboratories, Chronic Disease Research Institute, University of Buffalo School of Medicine—By invitation
   Discussion.—David G. Greene, M.D., Buffalo, Assistant Professor of Medicine and Assistant in Physiology, University of Buffalo School of Medicine

2. **Pitfalls in Treatment of Athletic Injuries**
   THEODORE COFFEY, M.D., London, Canada, Consultant in Physical Medicine, Victoria Hospital—By invitation
   Discussion.—Bruce Young, M.D., London, Canada—By invitation

3. **Management of Dyspnea**
   HOWARD G. DAYMAN, M.D., Buffalo, Director, Respirator Center, Chronic Disease Research Institute; Assistant Professor of Medicine, University of Buffalo School of Medicine
   Discussion.—Elwyn S. Brown, M.D., Buffalo, Principal Cancer Research Scientist, Roswell Park Memorial Institute

4. **Care of Orthopedically Handicapped Children in Hospitals of New York City: Physical Medicine and Rehabilitation Aspects**
   JEROME S. TOBIS, M.D., New York City, Professor and Director, New York Medical College, Flower and Fifth Avenue Hospitals
   Discussion.—Joseph A. E. Syracuse, M.D., Buffalo, Director, Physical Medicine and Rehabilitation, Lafayette General Hospital

5. **Prevention Versus Cure in Crippling Diseases**
   LESLIE BLAU, M.D., Buffalo, Director, Department of Physical Medicine and Rehabilitation, Buffalo Mercy and Kenmore Mercy Hospitals; Associate in Physical Medicine and Rehabilitation, Department of Therapeutics, University of Buffalo School of Medicine
   Discussion.—Roy J. Phillip, M.D., Kenmore, Physician, Veterans Administration Hospital, Buffalo; Assistant in Medicine, University of Buffalo School of Medicine

Session on
Public Relations

Chairman.........JOHN D. NAPLES, M.D., Buffalo
Secretary......HENRY I. FINEBERG, M.D., Jamaica

Thursday, May 12—9 A.M.

Boston Room, Mezzanine Floor

1. **Bread, Stones, and Medicine**
   JOHN L. BACH, Chicago, Illinois, Director, Press Relations, American Medical Association—By invitation

2. **Special Public Relations Dividends from Office Personnel Courses**
   RAYMOND S. MCKEEBY, M.D., Binghamton, President, Broome County Medical Society

3. **Improving Relations with the Press: A Progress Report**
   JOHN C. MCCLINTOCK, M.D., Albany, Chairman, Subcommittee on Cooperation with Media of Information of the Council Committee on Public Relations

4. **Community Responsibilities of the Medical Profession**
   JAMES E. BRYAN, Summit, New Jersey, Consultant in Medical Public Relations—By invitation
   ROBERT D. POTTER, New York City, Executive Secretary, Medical Society of the County of New York—By invitation

Question Period

ROUND TABLE DISCUSSIONS

William F. Lipp, M.D., *Associate Chairman*, Buffalo
M. Luther Musselman, M.D., *Associate Chairman*, Buffalo

Tuesday, May 10—9:30 A.M.

Georgian Room, Mezzanine

Diagnosis and Treatment of Gastrointestinal Conditions

M. Luther Musselman, M.D., *Moderator*, Buffalo, Instructor in Medicine, University of Buffalo School of Medicine

A. H. Aaron, M.D., Buffalo, Clinical Professor of Medicine, University of Buffalo School of Medicine

Murray S. Howland, M.D., Buffalo, Associate in Medicine, University of Buffalo School of Medicine

Elmer Milch, M.D., Buffalo, Professor of Surgery, University of Buffalo School of Medicine

Alvah L. Lord, M.D., Hamburg, Assistant Surgeon, Our Lady of Victory Hospital, Lackawanna

Norman Heilbrun, M.D., Buffalo, Assistant Clinical Professor of Radiology, University of Buffalo School of Medicine

Wednesday, May 11—9:30 A.M.

Georgian Room, Mezzanine

Newer Advances in Treatment with Iatrogenic Implications

A. H. Aaron, M.D., *Moderator*, Buffalo, Clinical Professor of Medicine, University of Buffalo School of Medicine

William F. Lipp, M.D., Buffalo, Assistant Clinical Professor of Medicine, University of Buffalo School of Medicine

John H. Talbott, M.D., Buffalo, Chief, Medical Service, Buffalo General Hospital; Professor and Head of Department of Medicine, University of Buffalo School of Medicine

Frederick T. Schnatz, M.D., Buffalo, Assistant Professor of Medicine, University of Buffalo School of Medicine

John R. Paine, M.D., Buffalo, Chief, Surgical Service, Buffalo General Hospital; Professor and Head of Department of Surgery, University of Buffalo School of Medicine

Samuel Sanes, M.D., Buffalo, Associate Professor of Pathology, Professor and Head of Department of Legal Medicine, University of Buffalo School of Medicine

Ernest Witebsky, M.D., Buffalo, Professor and Head of Department of Bacteriology and Immunology, University of Buffalo School of Medicine

Thursday Evening, May 12—8 P.M.

Georgian Room, Mezzanine

Psychiatric Implications in Medical Problems

Harry A. Steckel, M.D., *Moderator*, Syracuse, Emeritus Professor of Psychiatry, State University of New York College of Medicine at Syracuse

The Role of Psychiatry in a General Hospital
Eugene Davidoff, M.D., Schenectady, Chief Psychiatrist, Ellis Hospital

The Role of a Mental Health Committee of a State Medical Society
Clifford D. Moore, M.D., Stamford, Connecticut, Director, Stamford Hall—By invitation

Mental Hygiene of the Aging
Robert W. Reifenstein, M.D., Syracuse, Clinical Instructor in Medicine, State University of New York College of Medicine at Syracuse

Mental Hygiene Education of the General Public
William L. Holt, Jr., M.D., Albany, Psychiatrist-in-Chief, Albany Hospital

SCIENTIFIC EXHIBITS

Hotel Statler, Buffalo, May 9 to 13, 1955

WILLIAM L. WATSON, M.D., *Chairman*, New York City
BEVERLY C. SMITH, M.D., *Cochairman*, New York City
JOHN J. CLEMMER, M.D., Albany
MAURICE J. COSTELLO, M.D., New York City
SHIRLEY C. FISK, M.D., New York City
J. G. FRED HISS, M.D., Syracuse
RAMSAY SPILLMAN, M.D., New York City
ERNEST WITEBSKY, M.D., Buffalo

Mezzanine

Booths 101 Through 125

Intermittent Positive Pressure Therapy Apparatus

Theodore H. Noehren, M.D.
Leo E. Manning, M.D.
Howard G. Dayman, M.D.
Casimir F. Pietraszek, M.D.
William D. Loeser, M.D.
Daniel Brittain (*By invitation*)
Marion Kerr (*By invitation*)
University of Buffalo School of Medicine
Buffalo

This exhibit will consist of a demonstration of the various types of apparatus used in intermittent positive pressure therapy, varying all the way from a hand pump nebulizer to the latest in chest respirators, IPPB machines, and tank respirators. (*Booth 101*)

Epidural Anesthesia for Cesarean Section

Frederic E. Grossman, M.D.
Irving M. Pallin, M.D.
Jacob Wachtel, M.D.
Jewish Hospital of Brooklyn
Brooklyn

Exhibit will show (1) the anatomy of the epidural space, (2) the physiology of the epidural space, (3) our technic of epidural anesthesia for cesarean section and a survey of 100 cases, and (4) the advantages and disadvantages of epidural anesthesia. A moulage demonstrating epidural technic will be at hand for visiting physicians to try the technic. (*Booth 102*)

A Vaginal Operation for Prolapse of the Uterus Especially in the Child-Bearing Age Group

Maurice G. DerBrucke, M.D.
Caledonian Hospital
Coney Island Hospital
Brooklyn

Although originally employed in women late in the child-bearing age group or beyond it, the method seems quite logically applicable in the younger patient. It holds some promise of reasonable success. The exhibit takes one, step by step, through the operation by means of transparencies, bas reliefs, and charts. (*Booth 103*)

Clinical Use of a Small and Effective Blood Dialyzer

Arthur E. MacNeill, M.D. (*By invitation*)
John E. Doyle, M.D. (*By invitation*)
Chronic Disease Research Institute
University of Buffalo School of Medicine
Buffalo

A clinical model of Dr. MacNeill's compact blood dialyzer will be shown set up and ready for use in the same form as it is now being used in clinical trials. Auxiliary equipment will be displayed. The results of clinical trials will be presented by charts, diagrams, and photographs. Current progress on the development of a special version of this dialyzer for pediatric use will be displayed, together with the results of laboratory and clinical trials that have been accomplished by the time of the exhibit. (*Booth 104*)

Uterine Cervix Radium Applicator

James P. Palmer, M.D.
Paul Zuckerman, B.S. (*By invitation*)
Roswell Park Memorial Institute
Buffalo

Life-sized moulages show the applicator in position, with certain variables to accommodate the individual differences of anatomy. X-ray films demonstrate the relationship of the cervix to the trigone of the bladder and the effect of vaginal packing on these relationships. Isodose charts show the influence of variable spreads of the lateral radium sources, the influence of the depth of the fornices, and the loading of variable amounts of radium in the applicator.

Preliminary report of results is also given. (*Booth 105*)

Electrotherapy for Psychiatric Illness in Poor Risk Patients

Lawrence H. Gahagan, M.D.
D. Jeanne Richardson, M.D.
William Hall Lewis, Jr., M.D.
Daniel Sheehan, M.D.
Doctors Hospital
New York City

This exhibit presents (1) the importance of the problem of cardiovascular strain in psychiatric electrotherapy, especially in the treatment of elderly patients and those with cardiovascular disease; (2) the manifestations of such strain in treatment as shown principally by continuous electrocardiography and frequent blood pressure determinations; (3) the technic for modifying electrotherapy by means of thiamylal (Surital), succinylcholine (Anectine), controlled respiration with 100 per cent oxygen; (4) the effects of atropine, quinidine, ephedrine, reserpine, and chlorpromazine (Thorazine) in alleviation of cardiovascular strain, and (5) the prevention of fracture and other traumatic complications through the use of this modifying technic. (*Booth 106*)

Audio-Digest Foundation

California Medical Association
Glendale, California

Audio-Digest Foundation, a nonprofit subsidiary of the California Medical Association, gives a busy physician an effortless tour through the best of current medical literature each week. This medical "newcast," compiled and reviewed by a professional board of editors, may be heard in the physician's automobile, home, or office. The Foundation, whose profits are distributed among the nation's medical schools, also offers tape-recorded medical lectures by nationally recognized authorities. (*Booth 107*)

Ambulatory Continuous Drip Therapy in the Treatment of Peptic Ulcer

Frederick Steigmann, M.D. (*By invitation*)
Edwin Goldberg, M.D. (*By invitation*)
Cook County Hospital
Chicago, Illinois

The importance of gastric acidity in the genesis and persistence of peptic ulcer will be presented, as well as the incomplete and short duration of the neutralization of the gastric acidity by presently used antacids. The value of the original Winkelstein drip method in more complete and prolonged neutralization of the gastric acidity in bed patients will be discussed, a new method of ambulatory continuous drip therapy demonstrated, and its clinical application presented. (*Booth 108*)

Inhibition of Experimental Venous Thrombosis and Clinical Applications

Irwin D. Stein, M.D.
Mount Vernon Hospital
Mount Vernon

Color microphotographs and charts will show (1) inflammatory reaction produced experimentally in veins of rabbits, comparing phenylbutazone-treated group with controls at frequent intervals, from three to forty-eight hours, including an exhibition of inflammation, size, and character of clot; (2) rapid subsidence of inflammation in various types of superficial phlebitis, e.g., in varicose veins due to chemicals or trauma; and (3) method and indications for use of phenylbutazone in superficial phlebitis. (*Booth 109*)

The Treatment of Gastric Cancer

George T. Pack, M.D.
Gordon P. McNeer, M.D.
Kathleen Roberts, M.D. (*By invitation*)
Douglas A. Sunderland, M.D.
L. Ortega, M.D.
Thomas Randall, M.D. (*By invitation*)
Memorial Center for Cancer and Allied Diseases
New York City

The exhibit covers three phases in the treatment of cancer of the stomach: (1) pathologic studies based on autopsy and investigation of specially cleared surgical specimens for lymph node distribution of metastasis, as a result of which, certain conclusions are drawn regarding surgical technics, (2) metabolic changes in humans after total gastrectomy, and (3) end results of treatment. (*Booth 110*)

Cancer of the Esophagus—Present Concepts

William L. Watson, M.D.
John L. Pool, M.D.
William G. Cahan, M.D.
Raymond K. J. Luomanen, M.D.
Alexander J. Conte, M.D.
John T. Goodner, M.D.
Sam Seal, M.D. (*By invitation*)
Memorial Center for Cancer and Allied Diseases
New York City

This exhibit is based on a critical study of 993 cases of esophageal cancer seen at Memorial Center, New York City. It represents the total hospital experience with proved esophageal cancer between 1932 and 1954. In this series there were 816 men and 177 women; 94 per cent were epidermoid carcinomas, and 5 per cent were adenocarcinomas. There were four leiomyosarcomas and one fibrosarcoma. (*Booth 111*)

Mondor's Disease

Joseph H. Farrow, M.D.
William H. Hall, Jr., M.D. (*By invitation*)
Memorial Center for Cancer and Allied Diseases
New York City

Mondor's disease is a thrombophlebitis which involves the superficial veins of the breast and anterior and lateral chest wall. It may appear spontaneously or following infection, trauma, or a breast operation. Only 58 cases have been reported in the literature. This exhibit summarizes 43 cases which have been seen at the Memorial Center during the past seven years. The diagnostic features and benign clinical course are demonstrated. (*Booth 112*)

Continuous Block of Paravertebral Sympathetic Ganglions

Albert M. Betcher, M.D.
Edgar H. Bachrach, M.D.
Alfred N. Godholm, M.D.
Hospital for Joint Diseases
New York City

This exhibit consists of charts outlining the indications for the use of continuous paravertebral sympathetic nerve block and its advantages. The technic of the procedure is demonstrated by anatomic drawings and a transparent life-sized model showing the needles and catheters in situ. The equipment required for performance of the nerve block is displayed. (*Booth 113*)

Circle Absorber Efficiency

James O. Elam, M.D.
Elwyn S. Brown, M.D.
Paul Zuckerman, B.S. (*By invitation*)
Roswell Park Memorial Institute
Buffalo

The accumulation of carbon dioxide and the resulting respiratory acidosis during anesthesia may result from inadequate removal of carbon dioxide in closed circle absorbers. The panel presents graphically the time efficiency of several commonly used circle absorbers. A reversible canister design which has a longer time efficiency and which affords a more complete exhaustion of the carbon dioxide absorbent has been developed and is compared with presently available designs. (*Booth 114*)

Behcet's Syndrome—Aphthosis

Helen Ollendorff Curth, M.D.
College of Physicians and Surgeons of Columbia University
New York City

An exhibit of charts, posters, and photographs will deal with the syndrome, a systemic disease characterized by recurrent attacks of oral and genital aphthous lesions and uveitis (iridocyclitis) with hypopyon. The ocular disease leads to blindness in both eyes. The three classic signs of the disorder, as well as other manifestations such as thrombophlebitis, nervous and cutaneous changes, and a characteristic cutaneous response to provocation, will be described. The etiology and treatment of the disorder and the differential diagnosis of diseases with ocular and cutaneous manifestations will be discussed. (*Booth 115*)

The Painful Foot Relieved Easily

Joseph C. Tedesco, M.D.
Melford D. Diedrick (*By invitation*)
Millard Fillmore Hospital
Buffalo

There are too many painful conditions of the foot that are neglected by the medical profession primarily because they are not understood. In most cases it is possible to relieve the pain completely without surgery, without hurting the patient either physically or financially, and without prolonged treatment. (*Booth 116*)

The Value of Radiographs of Feet in General Orthopedic and Medical Problems

Charles J. Sutro, M.D.
David E. Ehrlich, M.D.
Veterans Administration Regional Office
Brooklyn

The purpose of this exhibit is to illustrate that in many instances radiographs of the feet give additional help in the clinical interpretation of problems related to painful lower extremities. Radiographic examinations may show advanced static or structural changes or anomalies of the bones of the feet, which may not be suspected by physical examination. Likewise, these radiographic examinations may show changes in the bones of the toes or of the tarsal bones which suggest the presence of an unsuspected medical disorder such as sarcoid, gout psoriasis, rheumatoid arthritis, etc. (*Booth 117*)

A Clinical Study of Neuroblastoma

William J. Staubitz, M.D.
Oscar J. Oberkircher, M.D.
Fred J. Parmenter, M.D.
Paul Zuckerman, B.S. (*By invitation*)
Roswell Park Memorial Institute
Children's Hospital
Buffalo

Neuroblastoma is the most frequent retroperitoneal malignant tumor of infants and early childhood and one of the most difficult to diagnose early. The exhibit is based on a clinical study of 21 cases of neuroblastoma. Photographs, drawings, photomicrographs, and a three-dimensional model illustrate etiology, pathology, symptomatology, diagnosis, and therapy. Emphasis is placed on such technics as sternal bone marrow aspiration, blood smears, and roentgenograms for early diagnosis and as an index to response to therapy. (*Booth 118*)

Recent Advances in Local Anesthetics

F. Paul Ansbro, M.D.
Albert E. Blundell, M.D.
Joseph C. Sweeney, Jr., M.D.
St. Catherine's Hospital
Adelphi Hospital
Brooklyn

Many local anesthetics have been recently synthesized, among them Cyclaine, Xylocaine, 2-chloroprocaine, and dicyclonine (P-267). A comparison of their clinical effects as regards toxicity, potency, duration, diffusion, and speed of onset for each drug is demonstrated by graphs and drawings. A comparison is made of all of them to demonstrate the most useful drug clinically. *(Booth 119)*

Radiologic Health

James J. Quinlivan, M.D.
New York State Department of Health
Albany

The exhibit deals with the public health aspects of ionizing radiation. It points up the rapid increase of sources of exposure, the increased frequency of exposure, and the expected developments resulting from increased uses of radioactive material in industry and elsewhere. Attention is called to the reasons why ionizing radiation has become a public health problem and to the New York State Health Department's radiologic health program. *(Booth 120)*

New York State Medical Library

New York State Department of Education
Albany

A representative of the State medical library will be present to answer questions concerning services and facilities of the library. All members of the Medical Society of the State of New York are invited to use their library in the Education Building in Albany. There are over 65,000 volumes in the library, and over 600 medical periodicals are received currently. Books and journals are sent on request, or material on a desired subject will be selected. The only obligations imposed on the borrower are the prompt return of material borrowed and the payment of return postage. *(Booth 121)*

Medical Procedure in Workmen's Compensation

Willis M. Weeden, M.D.
New York State Workmen's Compensation Board
New York City

This exhibit is presented for the purpose of educating the medical profession in workmen's compensation procedures and, thus, bringing about better cooperation between those treating claimants and the Workmen's Compensation Board. This will result in benefits to both. Illuminated charts, pertinent points of the law, and photographs will be shown. *(Booth 122)*

Roentgen Abnormalities of the Large and Small Intestine Associated with Prolonged Cathartic Ingestion

Norman Heilbrun, M.D.
Charles Bernstein, M.D.
University of Buffalo School of Medicine
Buffalo

In a series of patients, each of whom had ingested irritant cathartics daily for at least twenty years, original film studies are presented revealing the stages of development and severity of the enterocolitis-like changes encountered in the large and small intestine. The significance of the absence of a clinical history of diarrhea, crampy or painful bowel movements, and melena is emphasized, particularly in the differential diagnosis from ulcerative colitis and the so-called irritable colon.

A theoretic basis for the roentgen findings and the relationships to the types of cathartics ingested are considered. *(Booth 123)*

Exhibit to Honor Albert Schweitzer, M.D., for His Eightieth Birthday

The Albert Schweitzer Hospital
Lambarene, Gabon, Equatorial French Africa

The exhibit consists of graphic and descriptive material. It features a bronze bust, an outstanding likeness of Dr. Schweitzer, executed by Evariste Jonchere, France's foremost sculptor, class of Rodin. No other examples of this work exist in the United States. *(Booth 124)*

Percutaneous Splenoportal Venography (Utilizing Rapid Serial Roentgenography)

John A. Evans, M.D.
Ward D. O'Sullivan, M.D.
New York Hospital-Cornell Medical Center
New York City

In the surgical management of bleeding esophageal varices, anastomoses between the portal venous system and the caval venous system have proved to be a most satisfactory treatment. Percutaneous splenoportal venography provides an excellent means of visualizing the portal venous system before the patient is positioned on the operating table and the incision made. By this simple, safe technic, therefore, the possibility of many hours of fruitless search for a nonexistent or thrombosed vein is eliminated. The most suitable vein is chosen before the skin incision is made, and it is directly and effectively approached. *(Booth 125)*

Focal Hemosiderosis in Rheumatic Heart Disease

John A. Evans, M.D.
Michael J. Esposito, M.D. *(By invitation)*
New York Hospital-Cornell Medical Center
New York City

A series of x-ray films depicting lung findings in cases of hemosiderosis, plus Kodachrome slides demonstrating the pathologic material in some of the cases, will be presented. *(Booth 125)*

17th Floor, Elevator Corridor

The Directory

Medical Society of the State of New York

The 1955 edition of the "Blue Book" will be in your hands shortly. The current *Directory* will have the biographic data for approximately 30,000 physicians now practicing in New York State. The publication of the *Directory* is only one of the many services provided by your State Society.

The New York State Journal of Medicine

Official Publication
of the
Medical Society of the State of New York

A member of the editorial staff will be in the booth to answer any questions you may have concerning the Journal. We will be glad to get your reaction to the various additions and improvements that have taken place, as well as to discuss with you any features that may be of special interest.

Improving Medical Public Relations in New York State

Public and Professional Relations Bureau
Medical Society of the State of New York

This exhibit presents, by means of various visual aids, some of the numerous activities carried on by the Bureau in its positive program of improving internal professional relations and promoting better external public relations between the medical profession and the people of New York State.

Voluntary Prepaid Blue Shield Medical Care Plans

Bureau of Medical Care Insurance
Medical Society of the State of New York

Two graphic exhibits will illustrate the growth in membership and benefits paid to members for the period 1940–1954. Descriptive material of seven plans in New York State and the Ninth Annual Progress Report of the plans' activities regarding membership, earned premium income, utilization, claims, administrative costs, surplus, etc., will be presented.

SCIENTIFIC MOTION PICTURES

Monday, May 9, through Friday, May 13

Grover Cleveland Room, Mezzanine

John H. Talbott, M.D., *Chairman*, Buffalo
Colgate Phillips, M.D., *Cochairman*, Bronxville
E. Dean Babbage, M.D., Buffalo
Lester L. Coleman, M.D., New York City
Samuel Zwerling, M.D., Brooklyn

Monday, May 9

Morning

9:00 Selected pictures of the Medical Film Guild, Ltd.
10:00 "Toxemia of Pregnancy"
10:32 "Operation Blood Bank"
10:50 "These Are Our Children"
11:12 "The Inner Ear"
Intermission

Afternoon

2:00 "Pitfalls in the Management of Congestive Heart Failure"
2:39 "Clinical Use of Hyaluronidase"
3:16 "Gastrointestinal Cancer—The Problem of Early Diagnosis"
3:53 "Protruded Cervical Intervertebral Disk"
4:00 Selected pictures of the Medical Film Guild, Ltd.

Tuesday, May 10

Morning

9:00 Selected pictures of the Medical Film Guild, Ltd.
10:00 "Ligation and Stripping Treatment of Varicose Veins"
10:26 "Portacaval Shunt"
10:54 "Gout and Gouty Arthritis"
11:16 "Oral Cancer—The Problem of Early Diagnosis"
Intermission

Afternoon

2:00 "Ventricular Control by an External Pacemaker for Seven Days with Recovery"
2:19 "Function of the Mitral Valve in Situ"
2:36 "Nephrosis in Children"
2:58 "Lung Cancer—The Problem of Early Diagnosis"
3:35 "Diagnosis and Office Management of the Arthritides"
4:03 Selected pictures of the Medical Film Guild, Ltd.

Wednesday, May 11

Morning

9:00 Selected pictures of the Medical Film Guild, Ltd.
10:00 "Obstetric Roentgenography"
10:20 "Patent Ductus Arteriosus"
10:49 "Gastrointestinal Cancer—The Problem of Early Diagnosis"
11:26 "Clinical Use of Hyaluronidase"
Intermission

Afternoon

2:00 "The Inner Ear"
2:34 "Gout and Gouty Arthritis"
2:56 "These Are Our Children"
3:18 "Oral Cancer—The Problem of Early Diagnosis"
3:55 "Protruded Cervical Intervertebral Disk"
4:02 Selected pictures of the Medical Film Guild, Ltd.

Thursday, May 12

Morning

9:00 Selected pictures of the Medical Film Guild, Ltd.
10:00 "Pitfalls in the Management of Congestive Heart Failure"
10:39 "Ligation and Stripping Treatment of Varicose Veins"

11:05 "Function of the Mitral Valve in Situ"
11:22 "Lung Cancer—The Problem of Early Diagnosis"
Intermission

Afternoon

2:00 "Patent Ductus Arteriosus"
2:29 "Diagnosis and Office Management of the Arthritides"
3:01 "Ventricular Control by External Pacemaker for Seven Days with Recovery"
3:20 "Nephrosis in Children"
3:42 "Protruded Cervical Intervertebral Disk"
3:53 "Gout and Gouty Arthritis"
4:11 Selected pictures of the Medical Film Guild, Ltd.

Friday, May 13

Morning

9:00 Selected pictures of the Medical Film Guild, Ltd.
10:00 "Toxemia of Pregnancy"
10:32 "Obstetric Roentgenography"
10:52 "Operation Blood Bank"
11:10 "Portacaval Shunt"
11:38 "Nephrosis in Children"
11:56 Selected pictures of the Medical Film Guild, Ltd.

Projection of the Motion Picture Program has been arranged through the courtesy of the Medical Film Guild, Ltd.

See Booklet Program *for revised listings*

TELEVISION PROGRAM

A series of telecasts will be held each morning, Monday through Thursday, May 9 through May 13, in the Assembly Room, 17th floor. The complete program will appear in the April 15 issue of the JOURNAL and in the convention booklet.

Woman's Auxiliary

to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

19th Annual Convention

Hotel Statler, Buffalo, May 8 to 12, 1955

Program

Sunday, May 8

5 P.M.—8 P.M.	Registration of Delegates, Alternates and Guests—*Foyer of New York Room, Mezzanine*
8 P.M.—10 P.M.	Reception for all Doctors and Wives—*New York Room*

Monday, May 9

8:30 A.M.—4:30 P.M.	Registration of Delegates, Alternates and Guests—*Foyer of New York Room, Mezzanine*
9:30 A.M.—11 A.M.	Board of Directors Meeting—*St. Louis Room*
9:30 A.M.—12 NOON	Workshop—*New York Room*
1:30 P.M.—5 P.M.	House of Delegates—*New York Room*
6:30 P.M.	Buffet Supper—*Georgian Room*

Tuesday, May 10

8:30 A.M.—5 P.M.	Registration of Delegates, Alternates, and Guests—*Foyer of New York Room, Mezzanine*
9:30 A.M.—12 NOON	House of Delegates—*New York Room*
1 P.M.	Annual Luncheon honoring Mrs. George Turner, President of Woman's Auxiliary to the American Medical Association—*Place to be Announced*

Wednesday, May 11

9 A.M.—10:30 A.M.	Registration of Delegates, Alternates, and Guests—*Foyer of New York Room, Mezzanine*
9:30 A.M.—12 NOON	House of Delegates—*New York Room*
1:30 P.M.—3 P.M.	House of Delegates—*New York Room*
4 P.M.—6 P.M.	Tea in honor of Past Presidents—*Saturn Club*
7:30 P.M.	Dinner Dance—*Ballroom*

Thursday, May 12

9:30 A.M.	Postconvention meeting of State Officers and Chairmen, County Presidents, and Presidents-Elect—*Hospitality Room*
10:30 A.M.	Board of Directors Meeting—*Hospitality Room*

Officers

President, Mrs. Arthur L. Bennett, Buffalo
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Cochairman, Mrs. John R. Hall, Buffalo
Cochairman, Mrs. Joseph A. Zavisca, Buffalo

WOMEN'S MEDICAL SOCIETY OF NEW YORK STATE

Annual Meeting

Sunday, May 8

5 P.M. Reception and Tea—*Home of Dr. Margaret Warwick Schley,* President, Women Physicians League of Buffalo

Monday, May 9—Hotel Statler

10 A.M. Business Meeting—*Detroit Room*
12:30 P.M. Luncheon—*Boston Room*
2 P.M. Scientific Meeting—*Detroit Room*

SYMPOSIUM: ATOMIC ENERGY IN MEDICINE

1. **Biologic Effects of Penetrating Radiation**
   THOMAS R. NOONAN, M.D., Rochester, Associate Professor of Radiation Biology, University of Rochester School of Medicine and Dentistry (Atomic Energy Project)
2. **Recent Trends in the Medical Applications of Radioactive Isotopes**
   MERRILL A. BENDER, M.D., Buffalo, Associate Chief, Department of Radiation Therapy, Roswell Park Memorial Institute

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Gertrude Felshin, M.D. (New York)
888 Park Ave., New York

Publicity

Elizabeth P. Olmsted, M.D. (Buffalo)
568 Lafayette Ave., Buffalo
Adelaide Romaine, M.D. (New York)
35 W. 9th St., New York

TECHNICAL EXHIBITS

An outstanding feature of the 149th Annual Meeting at the Hotel Statler in Buffalo will be the technical exhibits on the 17th floor. Staffed by experts in their fields who will at all times be ready to answer your questions concerning the latest developments in pharmaceuticals, surgical instruments, and equipment, the exhibiting firms feel that they have a great deal to offer you. In return they will appreciate your interest in their displays. It should be repeated here that the technical exhibitors, who are charged for their space, contribute largely toward paying the expenses of your meeting. They support us—let us in return support them by visiting the 17th floor. You will not regret the time spent there.

A list of the exhibitors and what they have to show you follows.

Abbott Laboratories, North Chicago, Illinois (Booth 46), will feature Nembutal a short-acting barbiturate with a wide range of uses. Nembutal can produce any desired degree of cerebral depression with only about one-half the dosage required with many other barbiturates. Among the Nembutal products to be displayed will be capsules, tablets, elixirs, suppositories, solutions, and sterile powder for solutions.

American Ferment Company, Inc., New York City (Booth 68). Representatives at the booth will welcome the opportunity to demonstrate the proteolytic and mucosolvent action of the enzyme, Caroid, and to discuss Caroid and Bile Salts Tablets and Alcaroid Antacid. Supligol, a whole bile-ketocholanic acid compound useful in the management of biliary dysfunction, will also be featured.

American Hospital Supply Corporation, Scientific Products Division, Flushing, New York (Booth 42), will exhibit the complete line of Baxter intravenous solutions including new Travert Solutions and their contribution to carbohydrate metabolism. Also featured will be new Plexitron sets for parenteral therapy and new blood pumps for rapid blood transfusions.

Ames Company, Inc., Elkhart, Indiana (Booth 73). Clinitest, for urine sugar analysis, is standardized. This assures uniformly reliable results whenever and wherever a test is performed: office, ward, clinic, or patient's home. Acetest for acetonuria, Bumintest for albuminuria, Hematest for occult blood, and Ictotest for bilirubin will also be on display.

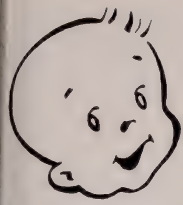
The Armour Laboratories, Kankakee, Illinois (Booths 70 and 71), exhibit features HP Acthar Gel, Tryptar, Crystamin, Armatinic Capsulettes and Armatinic Liquid, and Thyrar. Armour Laboratories' representatives will be glad to discuss the latest developments in these products with you.

Association of American University Presses, New Haven, Connecticut (Booth 8). Distinguished for authoritative content and excellence of editorial works, the books of University Presses claim an enviable rank among nonfiction and technical publications. The Association of American University Presses has arranged a cooperative exhibit for your convenience and enjoyment at this meeting. It also provides you with the opportunity to purchase some of these important titles for your library.

The Baker Laboratories, Inc., Cleveland, Ohio (Booth 9). You are invited to visit our booth where Baker's Modified Milk and Varamel, two successful products for infant feeding, are on display. Baker representatives will be glad to discuss the practical application of Grade A milk, adjusted fat composition, zero curd tension, synthetic vitamins, and other important factors which help to eliminate many of the problems in modern infant feeding.

Baxter Laboratories, Inc., Morton Grove, Illinois (Booth 42), will exhibit the complete line of Baxter intravenous solutions including new Travert Solutions and their contribution to carbohydrate metabolism. Also featured will be new Plexitron sets for parenteral therapy and new blood pumps for rapid blood transfusions.

Bilhuber-Knoll Corporation, Orange, New Jersey (Booth 43). Oral Metrazol can be of advantage to you for the aged patient where fatigue and mental confusion are present. Beneficial changes in behavior, alertness, appetite, and sleep pattern have been reported. Information on Metrazol, as well as on Dilaudid, a most potent and smooth cough sedative, Tensodin, and other prescription specialties will be available, and your discussion is invited.



Borcherdt Malt Extract Company, Chicago, Illinois (Booth 54), is featuring Malt Soup Extract, a gentle laxative modifier of milk to soften hard, dry stools of constipated babies. Clinical studies have also established its value as a nutrient malt laxative for thin, under-par, older patients. Malt Soup Extract in milk will be served to demonstrate its fine flavor.

The Borden Company, New York City (Booth 11). There's no better place to talk over the latest information on infant feeding than the Borden Prescription Products booth. On display is the complete line of Borden's infant formula products for every feeding purpose or preference. You can feed almost any baby Bremil, Mull-Soy (Liquid or Powdered), Dryco, or Biolac.

Brewer & Company, Worcester, Massachusetts (Booth 40). This exhibit consists of specialties centering around Thesodate, the original enteric-coated tablet of theobromine sodium acetate, and Luasmin, a combination of theophylline sodium acetate, phenobarbital, and ephedrine for the treatment of asthma. Also, Brewer capsules and ampuls, other specialties including Soduxin (sodium succinate, Brewer), and standard pharmaceuticals manufactured by Brewer & Company, Inc., including a complete line of vitamin preparations for internal use and injection. In addition, the company's representatives will feature Asteric, a special enteric-coated aspirin for massive dosages. Literature will be available on the new Brewer specialties: injectable quinidine hydrochloride and Sus-Phrine (aqueous suspension of epinephrine 1:200, Brewer).

Burroughs Wellcome & Company (U.S.A.) Inc., Tuckahoe, New York (Booth 28), will feature new Wellcome brand solution of Digoxin for injection. No dilution is required; for intramuscular or intravenous use. Digoxin is also available as tablets for oral digitalization. Also featured will be Neosporin, brand polymyxin B, bacitracin, neomycin antibiotic ointment for treatment of topical bacterial infections with minimal risk of sensitization, and Marezine Hydrochloride brand cyclizine hydrochloride, oral, for prevention and treatment of nausea and vomiting of pregnancy, motion sickness, and vertigo. Also available for injection in postoperative vomiting.

Cambridge Instrument Company, Inc., New York City (Booth 67). The new Cambridge Audio-Visual Heart Sound Recorder; the well-known Cambridge Simpli-Scribe Model Direct-Writing Portable Electrocardiograph, and the Cambridge Standard String Galvanometer Electrocardiograph, both in the "Simpli-Trol" Portable and the Mobile Model Electrocardiograph-Stethograph with Pulse Recorder, will be displayed at this booth. Also, other important Cambridge instruments, including the Operating Room Cardioscope, Educational Cardioscope, Multi-Channel Direct-Writing Recorder, Electrokymograph, Plethysmograph, and pH Meters. The Cambridge engineers in attendance will be glad to give you complete information on these instruments.

Ciba Pharmaceutical Products, Inc., Summit, New Jersey (Booth 56), will feature Serpasil, a pure crystalline alkaloid of Rauwolfia possessing the essential antihypertensive actions of the whole root. Serpasil offers mild, gradual, sustained lowering of blood pressure with a slowing of the heart rate, a tranquilizing effect beneficial in most cases of hypertension, and unvarying potency.

The Coca-Cola Company, Atlanta, Georgia (Booth 76). Ice cold Coca-Cola will be served through the courtesy and cooperation of the Coca-Cola Bottling Company of New York, Inc., and the Coca-Cola Company.

Coles Electronic Corporation, Philadelphia, Pennsylvania (Booth 51), will exhibit a full complement of surgical equipment of advanced design. Included are precision cutting instruments, both portable and floor models, which permit the use of varied electronic surgical methods to meet the exacting surgical needs of the general practitioner, gynecologist, or proctologist, including certain major surgery interventions. See the portable Coles' Scalpel and the new Coles' Radiotome Surgery Unit, a semihospital combination tube and gap-type cutting unit which employs a dual foot-pedal control and is amply powered to meet the requirements for a moderate sized operating room unit.

Davies, Rose & Company, Limited, Boston, Massachusetts (Booth 21), cordially invite members of the Society to visit our booth. Although most physicians need no introduction to our outstanding cardiac therapies, Pil. Digitalis and Tablets Quinidine Sulfate, Natural, our representative, Mr. Houghton V. Orne, will be on hand to greet you and to explain the dependability of this firm's productions.

Desitin Chemical Company, Providence, Rhode Island (Booth 62). Desitin Ointment is the pioneer in external cod liver oil therapy. Indications are diaper rash, slow-healing wounds, burns of all degrees, lacerations, hemorrhoids, and fissures. Desitin Powder is a unique, dainty medicinal powder saturated with cod liver oil. Desitin Hemorrhoidal Suppositories with Cod Liver Oil coat anorectal area with soothing, lubricating cod liver oil, give prompt relief of pain, and allay itching. Desitin Lotion, the original cod liver oil lotion, soothing, protective, mildly astringent, and healing is useful in nonspecific dermatitis, pruritis, poison ivy, etc.

Doho Chemical Corporation, New York City (Booths 19 and 20), exhibits Auralgan, the time-honored decongestant and pain reliever in otitis media, also for removal of cerumen; Rhinalgan, the equally safe nasal decongestant for infants and the aged; new Otosmosan, the fungicidal and bactericidal ear medication. Mallon Chemical Corporation, a subsidiary, features Rectalgan, the liquid topical anesthesia for relief of pain and discomfiture in hemorrhoids, pruritus, and perineal suturing.

Dome Chemicals Inc., New York City (Booth 29), presents its line of unique dermatologics: Acid Mantle Creme (pH 4.2) for the treatment of soap and alkali eczemas, the number one vehicle base for the incorporation of all specific drugs; Domeboro, the aluminum acetate solution of choice in all cases of acute cutaneous inflammation, regardless of cause.

Eaton Laboratories, Norwich, New York (Booth 60). For prompt results in urinary tract infections, Furadantin, is now available in the form of tablets and as Furadantin Oral Suspension N.N.R. Within thirty minutes after ingestion of this drug, the urine becomes strongly antibacterial. The latest dosage forms of the topical antibacterial agent, Furacin, include Furacin Soluble Powder and Furacin Urethral Suppositories.

C. B. Fleet Company, Inc., Lynchburg, Virginia (Booth 2). During the past fifty years Phospho-Soda (Fleet) has been a symbol of elegance in sodium phosphate medication. Fleet Enema Disposable Unit, an enema solution of Phospho-Soda (Fleet), is a worthy companion product. The single-use unit simplifies and assures satisfying preparation for proctoscopy, and as a routine enema it is a boon to the hospitalized patient.

E. Fougera & Company, Inc. and Division Varick Pharmacal Company, New York City (Booth 7), cordially invite physicians to discuss with professional service representatives new preparations of importance to their everyday practice. Descriptive literature and samples of all products will be available.

General Electric Company, X-Ray Department, Milwaukee, Wisconsin (Booth 44). Whatever your x-ray or electromedical needs, look to General Electric. A visit to the G.E. exhibit will bring you up to date on diagnostic and therapeutic x-ray apparatus, the Cardioscribe direct-writing electrocardiograph, the Inductotherm diathermy unit, and a complete line of supplies and accessories. Complete service, from planning your facilities to keeping them in tiptop condition, is yours at the G.E. x-ray office nearest you.

Holland-Rantos Company, Inc., New York City (Booth 10). Physicians interested in medical contraception are invited to discuss with H-R convention representatives latest information on clinical and laboratory data concerning efficacy of Koromex products.

Horlicks Corporation, Pharmaceutical Division, Racine, Wisconsin (Booth 30), introduces Nucalin, the nutrient antacid tablet formulated to dissolve slowly in the mouth, thus providing continuous anacidity in peptic ulcer therapy.

Ives-Cameron Company, Philadelphia, Pennsylvania (Booth 34). We are proud to exhibit Monichol, the first satisfactory medication for the normalization of elevated serum cholesterol levels associated with cardiovascular disease, diabetes, etc Ask our representatives for information on Duotinic, Oxsorbil, Pabasyl, and Mucara, other outstanding Ives-Cameron specialties.

Jeffrey-Fell Company, Buffalo, New York (Booth 69). As one of the oldest and largest suppliers to the medical profession, our buyers have carefully arranged to display the newest and finest medical and surgical supplies and equipment which, based upon their many years of selecting for our general stock, should be interesting to the busy physician or surgeon.

Keleket X-Ray Corporation, Covington, Kentucky (Booths 16 and 17). The Kelescope, a new full-wave, 100 milliamperes at 100 kilovolts, diagnostic x-ray combination unit, is here for your inspection. It features simplified technic and push-button operation. This popular priced equipment is designed specifically for daily use in the doctor's office and is economical in cost and requires minimum space. You are invited to see a demonstration of the exclusive features of this latest in x-ray equipment convenience and lowest priced self-contained x-ray equipment.

Lederle Laboratories Division, American Cyanamid Company, Pearl River, New York (Booth 37). You are cordially invited to visit our exhibit where you will find our representative prepared to give you the latest information on Lederle products.

Eli Lilly & Company, Indianapolis, Indiana (Booth 41). You are cordially invited to visit the Lilly exhibit. The display will contain information on recent therapeutic developments. Lilly salespeople will be in attendance. They welcome your questions about Lilly products.

M & R Laboratories, Columbus, Ohio (Booth 22). Your Similac representatives are happy to take part in this meeting. They are pleased to have the opportunity to discuss with you the role of Similac in infant feeding. They have for you the latest Pediatric Research Conference reports. Also available are current reprints of pediatric nutritional interest.

Maltbie Laboratories Division, Wallace & Tiernan Incorporated, Belleville, New Jersey (Booth 50).

MAYPO
OAT CEREAL

Maltex Company, Burlington, Vermont (Booth 32). Stop in to see Maltex Cereal and the new Maypo Oat Cereal, and linger a bit to enjoy our delicious bread and cookies. You'll also be interested in our helpful daily diet records, reducing diets, and height-weight charts.

Materna-Line, Inc., New York City (Booth 55), is the one firm devoted exclusively to the manufacture of maternity and nursing garments. They are designed to give the young mother-to-be style and comfort as well as scientific support. You are cordially invited to inspect our newest girdles which incorporate the criss-cross features of a famous girdle.

Mead Johnson & Company, Evansville, Indiana (Booth 24), invite you to see new displays of Liquid Lactum and Powdered Lactum, the infant formula products with balanced caloric distribution. Also featured in the Mead booth will be Liquid Sobee, a hypoallergenic (milk-free) soya formula; Natalins, the smaller prenatal vitamin-mineral capsules; Natalins-T, for the treatment of anemias of pregnancy plus protective nutritional support; and Sustagen, the complete food for tube or oral feeding.

Medco Products Company, Philadelphia, Pennsylvania (Booth 6). Six models from which to choose and completely automatic is our new Medcolator model "K." Model "G" adds the galvanic feature. The Medcolator is a compact, portable (15 pounds) low-volt generator used to (1) reduce pain, (2) reduce edema, (3) increase muscle strength, (4) re-establish muscle sense, and (5) increase range of joint motion.

Medical Film Guild, Ltd., New York City (Grover Cleveland Room and Booth A). The medium of motion pictures has become one of the most valuable aids in postgraduate education. Medical Film Guild, Ltd., in twenty-five years of operation has developed technics and acquired the skill and know-how to bring medical film-making to optimum perfection. Accurate scientific facts are correlated with clinical experience in each instance so that these films convey the aspects of practical application in conjunction with the related research and theory. Our "Medical Films That Teach" are produced with the active collaboration of some of our great medical societies and institutions. A wide variety of subjects are to be shown at this meeting: *The Pitfalls in the Treatment of Congestive Heart Failure; Rheumatoid Disorders; A Clinic on Premenstrual Tension; Ocular Bacteriology; Radioisotopes—Their Application to Humans; The Atomic Apothecary,* and *Occupational Health Problems.* Films produced by Medical Film Guild, Ltd., have reached, in one year, an audience of over 100,000 doctors and students at local meetings and medical conventions. These filmed postgraduate refresher courses deal with all phases of medical practice. Among our specialized subjects are *Arterial Insufficiency of the Extremities; Otitis Media in Pediatrics; Management of the Failing Heart,* and many others. "Medical Films That Teach" are the ideal medium for doctors who wish to broaden their teaching activities. By this means lectures, which normally are restricted to a limited audience, can be brought before the great mass of medical practitioners. Many of our films are available free of charge to program chairmen of hospital or medical society meetings. Inquiries from those who wish to show our films and from doctors who would like to investigate the possibilities of filmed presentations of their lectures are cordially invited.

The Wm. S. Merrell Company, Cincinnati, Ohio (Booth 45). Tace, the unique nonsteroid developed by Merrell, offers a new approach to the treatment of the menopause. Tace is temporarily stored in body fat and released over an extended period of time. One course of Tace therapy is generally all that is required to ease many patients into the symptom-free postmenopausal period. Symptom relief is excellent, and side-effects are virtually absent. Merrell professional service representatives will be present to answer any questions you may have concerning this new and distinctive estrogen. They will be happy to discuss other Merrell specialties as well.

National Drug Company, Philadelphia, Pennsylvania (Booth 31). You are cordially invited to visit this booth. The featured product will be Parenzyme Intramuscular Trypsin. Parenzyme Intramuscular Trypsin is a new, effective weapon against acute local inflammation. It restores local circulation with dramatic benefits in phlebitis (thrombophlebitis and phlebothrombosis); ocular inflammation (iritis, iridocyclitis, and chorioretinitis); traumatic wounds, and varicose and diabetic leg ulcers. Parenzyme Intramuscular Trypsin is based on an entirely new concept of biologic continuity in terms of clinical enzymology. In very small doses it initiates physiologic mechanisms and dramatically restores circulation, expedites repair of tissue, and prevents tissue necrosis.

Nepera Chemical Company, Inc., Yonkers, New York (Booth 5), will feature a new drug, Choledyl (choline theophyllinate), which represents a major advance in oral theophylline therapy. Whenever an oral xanthine is indicated, Choledyl assures higher theophylline blood levels, greater effectiveness, and superior patient tolerance. Also featured will be Biomydrin Nasal Spray for effective antibiotic activity, prolonged nasal decongestion, and antiallergic effect and Biomydrin Otic, for antibacterial, antifungal, and antipruritic action in otitis externa and media. Two other preparations will be exhibited: Mandelamine Hafgrams, a urinary antiseptic, and Neohetramine, an antihistaminic.

Ortho Pharmaceutical Corporation, Raritan, New Jersey (Booth 47), cordially invite you to visit their booth where the well-known line of obstetric and gynecologic pharmaceuticals will be on display. Particular emphasis will be placed on Ortho preparations for conception control. Ortho representatives will be on hand to offer pertinent information on their products.

Parke, Davis & Company, Detroit, Michigan (Booth 39). Medical service members of our staff will be in attendance at our exhibit for consultation and discussion of various products. Important specialties, such as Penicillin S-R, Benadryl, Ambodryl, Dilantin Suspension, vitamins, Oxycel, Milontin, Amphedase, Thrombin Topical, etc., will be featured. You are cordially invited to visit our exhibit.

Pet Milk Company, St. Louis, Missouri (Booth 38). We will be pleased to have you stop and discuss the variety of time-saving material available to busy physicians. Our representatives will be on hand to discuss the merits of Pet Evaporated Milk for infant feeding and Instant Pet Nonfat Dry Milk for special diets. A miniature can of Pet Evaporated Milk will be given to all visitors.

Pfizer Laboratories, Division of Chas. Pfizer & Company, Inc., Brooklyn, New York (Booth 48). You are invited to visit the Pfizer booth. Terramycin Intramuscular, Cortril, Bonamine, and Tyzine will be the highlights this year of a star-studded cast including the complete line of tested and proved Terramycin dosage forms and the Steraject line of injectable penicillin and combiotic preparations.

Picker X-Ray Corporation, White Plains, New York (Booths 57 and 58), cordially invite you to view their exhibit where technical representatives fully qualified to discuss your x-ray problems will be on duty.

IVORY
Soap
IVORY
IVORY

Procter & Gamble Company, Cincinnati, Ohio (Booth 4). Ivory Soap offers a series of time-saving leaflet pads for doctors, each pad containing 50 identical tear-out sheets. These sheets, which may be given to patients, contain routine instructions for care of acne, bathing a baby, bathing and caring for a bedfast patient, sick room precautions, and hygiene of pregnancy. There are also samples of other free, helpful material prepared especially for physicians. Mrs. Christyne Schwab will be in charge.

The Purdue Frederick Company, New York City (Booth 3), welcome you to their presentation of Pre-Mens for relief of entire complex syndrome of premenstrual tension; Colpotab, most effective antibiotic trichomonacidal vaginal insert tablet with fewest side-effects, and Cholorogiene Duchettes, esthetically acceptable hygienic douche and adjunctive therapy in vaginal infections. Recently published scientific reports and clinical trial supplies are offered.

Ritter Company, Inc., Rochester, New York (Booths 13 and 14). Hundreds of physicians are finding routine examinations and treatments in gynecology, proctology, urology, eye, ear, nose, and throat, and all other phases of medicine easier through using Ritter motor operated "Multi-Level" tables. Let us show you and explain the many benefits derived from this investment in a lifetime of convenience and comfort for both doctor and patient.

A. H. Robins Company, Inc., Richmond, Virginia (Booth 64). Physicians attending the meeting of the Medical Society of the State of New York are extended a cordial invitation to visit the exhibit of the products of the A. H. Robins Company. Experienced medical representatives will be in attendance to welcome you and answer inquiries relative to any of Robins' prescription specialties.

J. B. Roerig and Company, Chicago, Illinois (Booth 15). Physicians and their friends are cordially invited to visit the Roerig booth where there will be highlighted the company's preparations, several of which Roerig has pioneered and established for them a wide acceptance in the medical profession: Roetinic, the new one-a-day capsule hematinic; Bonadoxin, for the prevention of nausea and vomiting of pregnancy and postoperatively; ASF, Roerig's new antistress formula. Also available will be Viterra, Viterra Therapeutic, Amplus, Obron, Obron Hematinic, and Heptuna Plus. Samples and literature may be had on all products including adequate amounts for clinical trial.

Sanborn Company, Cambridge, Massachusetts (Booth 25), will feature a continuous demonstration of the new Sanborn Viso-Scope, a 5-inch cathode ray oscilloscope specially designed for use with the Sanborn direct-writing electrocardiographs, such as the famous Viso-Cardiette, as well as with more elaborate recording systems used in the research laboratory. The Viso-Cardiette itself will also be prominently displayed, as will the popular Sanborn Metabulator. In addition, full data will be available on Sanborn 1, 2, and 4-channel direct-writing recording systems, the Twin-Beam photographic recorder for simultaneous phonocardiography, the Electromanometer for physiologic pressure measurements, and other Sanborn equipment for cardiovascular diagnosis and research.

Sandoz Pharmaceuticals, Division of Sandoz Chemical Works, Inc., Hanover, New Jersey (Booth 49), cordially invite you to visit our display at the meeting of the Medical Society of the State of New York. We plan to feature new information on certain established products and complete data on Sandosten, the newest member in our family of ethical specialties: Sandosten, an antihistaminic with powerful antipermeability action useful in the treatment of itching, asthma, etc.; Fiorinal, a new approach to therapy of tension headaches and other head pain due to sinusitis and myalgia; Cafergot, available in oral and rectal form for effective control of head pain in migraine and other vascular headaches; Hydergine, a vasorelaxant with central and peripheral action useful in hypertension and peripheral vascular disorders and geriatric conditions. Any of our representatives in attendance will gladly answer questions about these and other Sandoz products.

Sanka Coffee, Product of General Foods Corporation, White Plains, New York (Booth 35). It is a pleasure to join you at your 149th annual meeting to serve Instant Sanka, 100 per cent pure coffee, 95 per cent caffeine-free. Won't you stop by for your morning cup? And come back for "seconds" any time between meetings? We shall look forward to seeing you, one and all. Be sure to register for a professional sample and product literature.

Saratoga Springs Authority, Saratoga Springs New York (Booth 27). This exhibit depicts the various components of a Spa regime and stresses the value of Saratoga natural mineral water baths in arthritis and rheumatism, hypertension, and coronary artery disease. It points out that a "health vacation" is good preventive medicine in this modern age of stress. Saratoga Spa literature will be dispensed by an attendant.

W. B. Saunders Company, Philadelphia, Pennsylvania (Booth 1). Among the newest of Saunders' line of interest to the practicing physician are: Cecil-Loeb, 9th edition, *Textbook of Medicine;* Deutschberger, *Fluoroscopy in Diagnostic Roentgenology;* Greenhill, 11th edition, *Obstetrics;* Ochsner and DeBakey, 7th edition, *Christopher's Minor Surgery.* Many more also will be on display at our booth.

Schering Corporation, Bloomfield, New Jersey (Booth 36). Members of the Medical Society of the State of New York and their guests are cordially invited to visit the Schering exhibit where new therapeutic developments will be featured. Schering representatives will be present to welcome you and to discuss with you these products of our manufacture.

G. D. Searle & Company, Chicago, Illinois (Booth 59). You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle products of research. Featured will be Vallestril, the new synthetic estrogen with extremely low incidence of side-reactions; Banthine and Pro-Banthine, the standards in anticholinergic therapy; and Dramamine, for the prevention and treatment of motion sickness and other nauseas.

Smith, Kline & French Laboratories, Philadelphia, Pennsylvania (Booth 75). Our feature product, Thorazine, has an amazingly wide scope of clinical applications, and S.K.F. representatives are ready with the latest information on the phases of most interest to you. We invite you to stop at our booth. We will be glad to discuss Thorazine and other S.K.F. specialties with you.

E. R. Squibb & Sons, Division of Olin Mathieson Chemical Corporation, New York City (Booths 52 and 53). New Squibb products and new brochures of useful interest to you on products already introduced will be featured at this booth. As in former years, your Squibb representative again cordially invites you to visit the Squibb booth.

R. J. Strasenburgh Company, Rochester, New York (Booth 18), will feature Kaprylex for treatment and prevention of intestinal moniliasis, Caprylium treatment for vaginitis, Maxitate w/Rauwolfia Comp for hypertension, Skopolate treatment for peptic ulcer in functional gastroenteralgia, Biphetacel for appetite control, and Strascogesic for routine pain problems.

The Stuart Company, Chicago, Illinois (Booth 63).

Swift & Company, Chicago, Illinois (Booth 74). The original all-meat baby foods, Swift's Meats for Babies and Juniors, will be featured at the Swift exhibit. You are cordially invited to discuss the use of these high-protein, body-building foods in the infant diet with the Swift representatives. Literature and information on clinical research will be available. Also available will be information about new Swift's Strained Chicken for Babies. Its pleasant, mild flavor will make a delicious, taste-tempting change for any baby's diet.

Universal Products Corporation, Norristown, Pennsylvania (Booth B). You've often wished to have a light at the end of your finger. The new "Surgeon's Fingalyte" is just that. Bulb on fingertip, it penetrates into all cavities, gives perfect cold transillumination, and saves the physician's time. Other features include a headlight (weighing only 2 ounces) and all of your diagnostic lighting needs contained in a small case. Also the surgeon's "X-L-Lyte" with a record of over 80,000 in use. The new Amplifying Electronic Stethoscope will be exhibited.

The Upjohn Company, Kalamazoo, Michigan (Booth 23). Members of the medical profession are invited to visit the Upjohn booth where members of the Upjohn Company professional detail staff are prepared to discuss subjects of mutual interest.

U. S. Vitamin Corporation, New York (Booth 72). See the "oil-in-water" demonstration of liposoluble vitamins A and D made completely water soluble, a vitamin technical achievement originated and developed by the U. S. Vitamin Corporation Research Laboratories. Three pharmaceutical firsts, Vi-Syneral Vitamin Drops, multivitamins in drops solution; Vi-Syneral Injectable, multivitamin parenteral solution; and now Vi-Aquamin, aqueous vitamins and minerals in a single capsule. We cordially invite you to our booth for detailed literature and professional samples.

Warner-Chilcott Laboratories, New York City (Booth 26). Two important cardiovascular agents will be featured at the Warner-Chilcott booth: Methium to lower blood pressure and relieve hypertensive symptoms and Peritrate to prevent attacks in angina pectoris. A new drug, Parsidol, for the efficient management of Parkinson's disease will also be exhibitied. Representatives and research personnel will welcome an opportunity to discuss these drugs with you.

Westwood Pharmaceuticals, Division of Foster-Milburn Company, Buffalo, New York (Booth 33), will display Gentia-Jel, the only effective gentian violet jelly you can prescribe for self-treatment by the patient at home. Eliminates messy office treatment which often stains your furniture and clothing. Lowila Cake, the only completely soapless skin cleanser, in cake form, available to your allergic or dermatitic patients whenever soap is contraindicated. Obtain a Lowila Cake from the Westwood booth for your own personal use.

White Laboratories, Inc., Kenilworth, New Jersey (Booth 12). White's Lactofort, unique milk fortifying supplement, combines 1-Lysine, vitamins, and minerals. Lysine, key amino acid, is essential for optimal protein utilization but is not adequately available in the diet of infancy and early childhood. Lactofort improves appetite, weight, nutrition, and muscle tone and promotes normal growth and development.

Winthrop-Stearns, Inc., New York City (Booths 65 and 66). Hypaque sodium 50 per cent sterile solution (ampuls of 30 cc.), new well-tolerated highly radiopaque medium for excretion urography, contains 59.87 per cent iodine. Produces excretory urograms of a clarity approaching that usually obtained by the retrograde method. Theominal R.S. (Theominal with Rauwolfia serpentina), an alliance of the classic and contemporary in antihypertensive compounds, combines the vasodilator and myocardial stimulant actions of theobromine and Luminal with the moderate, central hypotensive effect of Rauwolfia serpentina. Gentle sedation calms the patient, and a feeling of "relaxed well-being" is established. Headache and vertigo disappear as the blood pressure and pulse rate are reduced gradually.

The Yorke Publishing Company, Inc., New York City (Booth 61), cordially invite you to visit their booth to inspect the following publications. *The American Journal of Medicine,* often referred to as the "Green Journal," is currently presenting a series of seminars on hemolytic anemias. The symposium this May will be "New Aspects of Antibiotics." *The American Journal of Surgery* recently featured two symposia on "Bronchopulmonary Diseases." In addition, the *Journal* is offering the latest technics in surgical procedures. Also on display will be the new 6th edition of the *Modern Drug Encyclopedia and Therapeutic Index* and *The American Journal of Clinical Nutrition.*

F. E. Young & Company, Chicago, Illinois (Booth 77), will exhibit Young's Dilators, PSP Test Set, and Young's Albumin Test. Young's Dilators are used in the treatment and prevention of contracted anus, particularly following hemorrhoidectomy, constipation, congenital stricture, prolapse, dysmenorrhea, dyspareunia, perineal dissection, and repair following delivery.

ANNUAL REPORTS

of the

Officers, Council, Trustees, and Committees

of the

MEDICAL SOCIETY OF THE STATE OF NEW YORK

to the

HOUSE OF DELEGATES

149th Annual Meeting

May 9 to 13, 1955

Hotel Statler, Buffalo

1955 HOUSE OF DELEGATES—REFERENCE COMMITTEES

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Charles F. McCarty, *Chairman,* Kings
John H. Wadsworth, Third District Branch, Schoharie
Henry J. Barrow, Bronx
E. Gordon MacKenzie, Dutchess
George F. Nevin, Cortland

President's Report

Dwight V. Needham, *Chairman,* Onondaga
Meyeron Coe, Queens
John L. Edwards, Columbia
Philip D. Allen, New York
Philip M. Standish, Ontario

Reports of Secretary, Judicial Council, and District Branches

Frank A. Gagan, *Chairman,* Dutchess
Joseph G. Zimring, Nassau
Charles W. Frank, Bronx
Roland E. Stevens, Monroe
Aaron Kottler, Kings

Reports of Treasurer, Trustees, Budget Committee, and War Memorial

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John F. Mosher, Albany
John F. Rogers, Ninth District Branch, Dutchess
George Himler, New York
Stephen A. Graczyk, Erie

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John F. Kelley, Oneida
Benjamin M. Bernstein, Kings
Herbert Berger, Richmond

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Stanley B. Folts, Seneca

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Clyde L. Wilson, Chautauqua
John G. Masterson, Kings
Harry P. Smith, Section Delegate, New York
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Council—Part I

POSTGRADUATE EDUCATION
MEDICAL DEFENSE
INHALATION THERAPY

Adelaide Romaine, *Chairman,* New York
George Burgin, Herkimer
Anthony A. Mira, Queens
Olin J. Mowry, Oswego
Charles H. Loughran, Kings

Council—Part II

PUBLIC HEALTH ACTIVITIES A—MATERNAL AND CHILD WELFARE, SCHOOL HEALTH

R. Scott Howland, *Chairman,* Chemung
William J. Orr, Erie
Harold B. Davidson, New York
Waring Willis, Westchester
Thomas S. Cotton, Steuben

Council—Part III

PUBLIC HEALTH ACTIVITIES B—INDUSTRIAL HEALTH, RURAL MEDICAL SERVICE, GENERAL PRACTICE, PROBLEMS OF ALCOHOLISM

John M. Galbraith, *Chairman,* Nassau
Kenneth F. Bott, Greene
Abraham D. Segal, Kings
Norman C. Lyster, Chenango
Thomas R. Cummins, Essex

Council—Part IV

PUBLIC HEALTH ACTIVITIES C—CANCER, BLOOD BANKS, HEART DISEASE, MENTAL HYGIENE, FILM REVIEW

Samuel B. Burk, *Chairman,* New York
Alfred Angrist, Queens
Harry Golembe, Section Delegate, Sullivan
Alfred L. George, Genesee
Frederick A. Wurzbach, Bronx

Council—Part V

PUBLIC HEALTH ACTIVITIES D—PHYSICAL MEDICINE AND REHABILITATION, GERIATRICS, DIABETES, CEREBRAL PALSY, HARD OF HEARING AND THE DEAF

C. Stewart Wallace, *Chairman,* Tompkins
Herbert S. Ogden, New York
Donovan M. Jenkins, Monroe
Henry E. McGarvey, Westchester
Elton R. Dickson, Broome

Council—Part VI

ECONOMICS, PUBLIC MEDICAL CARE, MEDICAL LICENSURE AND MEDICAL SERVICE, HOSPITAL AND PROFESSIONAL RELATIONS, AD HOC COMMITTEE ON PRACTICE OF LABORATORY MEDICINE

Guy S. Philbrick, *Chairman,* Niagara
Robert Hewson, Orange
Robert F. Warren, Kings
Carl G. Merkel, Franklin
Sol Axelrad, Queens

Council—Part VII

MEDICAL CARE INSURANCE

William B. Rawls, *Chairman,* New York
Walter S. Bennett, Washington
Joseph A. Lane, Monroe
E. Kenneth Horton, Nassau
Walter Shifton, Orleans

Council—Part VIII

LIAISON WITH VETERANS ADMINISTRATION
AMERICAN MEDICAL EDUCATION FOUNDATION

Leonard J. Schiff, *Chairman,* Clinton
Richard P. Doody, Rensselaer
Sol Shlimbaum, Suffolk
Solomon Schussheim, Kings
Frank J. Borrelli, Section Delegate, New York

Council—Part IX

LEGISLATION

A. W. Martin Marino, *Chairman,* Kings
Thomas M. Watkins, St. Lawrence
Eugene F. Galvin, Ulster
Samuel Z. Freedman, New York
Sydney L. McLouth, Eighth District Branch, Genesee

Council—Part X

WORKMEN'S COMPENSATION

James A. Lynch, *Chairman,* Bronx
Harold W. Grosselfinger, Rockland
Gilbert M. Palen, Sixth District Branch, Delaware
John J. H. Keating, New York
John C. Brady, Erie

Council—Part XI

PUBLICATION, PUBLIC RELATIONS, HISTORY

Thomas F. McCarthy, *Chairman,* Bronx
Walter W. Street, Onondaga
John E. Lowry, Queens
Floyd C. Bratt, Section Delegate, Monroe
Orin Q. Flint, Delaware

Council—Part XII

CONVENTION, NURSING EDUCATION, WOMAN'S AUXILIARY, OFFICE ADMINISTRATION AND POLICIES, ETHICS, BELATED BILLS

E. Dean Babbage, *Chairman,* Erie
William T. Boland, Chemung
William E. Pelow, Onondaga
Kenneth M. Lewis, New York
Moses H. Krakow, Bronx

Miscellaneous Business A

George J. Lawrence, Jr., *Chairman,* Queens
Edward P. Flood, Bronx
Arthur F. Gaffney, Oneida
Charles A. Prudhon, Vice-President, Jefferson
Peter M. Murray, New York

Miscellaneous Business B

Walter T. Heldmann, *Chairman,* Richmond
Edward F. Shea, Ulster
George E. Anderson, Kings
Reid R. Heffner, Westchester
James H. Arseneau, Wayne

Résumé of Instructions of the 1954 House of Delegates and Actions Thereon by the Council, Board of Trustees, and Officers

Advertising for Blood Donors (Section 163).—This was referred to the Council who referred it to the Blood Banks Commission. The Commission reported to the Council in October, 1954:

> The supplementary report of the Blood Banks Commission to the 1954 House of Delegates states that the Commission accepts a resolution introduced in 1953 which recommends "that newspaper advertising be declared necessary and ethical and approved."
>
> The reference committee dealing with this report suggested replacing this statement by the words, "It is felt that under current conditions, newspaper advertising for blood bank donors may be necessary, and there is no intent to declare unethical, licensed physicians who are connected with organizations so advertising for donors."
>
> The Commission voted to accept the change suggested by the reference committee.

The Council voted to approve the above with one change, inserting the word "necessarily" before the word "unethical."

Establishment of Clinics and Legalizing Distribution for Narcotic Addicts (Section 165).—The House of Delegates referred to the Council the following matter:

> The resolution of Dr. Herbert Berger which was referred to the reference committee from the supplementary report of the Council Committee on Public Health and Education was considered. It was noted that the cause of crime in addiction resides in the illegal acquisition through the underworld. Further, addicts are patients with mental disturbance and should be treated by physicians, presenting a medical problem with very often the legal and criminal problem appearing secondarily. There was good reason to have existing mental health clinics or established narcotic clinics handle such patients with every prospect of a cure rate superior to what now is recorded. An equivalent resolution has been adopted in the states of California, Michigan, and Illinois.
>
> It was the considered opinion of your reference committee that there is distinct merit in the purpose, objectives, and recommendations included in the resolution and that this matter be referred to the Council for the establishment of a committee to make special recommendations for its formal endorsement and implementation.

The Council voted to refer this to the Committee on Public Health and Education and to our delegates to the American Medical Association.

The report of the board of trustees of the American Medical Association at the December meeting of their House of Delegates regarding the resolution introduced by Dr. Andrew A. Eggston in June, 1954, advocating clinic treatment for narcotic addicts, is as follows: "The Board considered the report of the Council on Pharmacy and Chemistry, as well as the pertinent material from the National Research Council and the Commissioner of Narcotics, and recommends that the resolution introduced by Dr. Eggston be not adopted. The Board, however, believes that the matter should be thoroughly explored and is referring the problem to the Subcommittee on Narcotic Addiction of the Council on Mental Health."

Standards for Inhalation Therapy (Section 96).—The following resolution was referred to the Council by the House of Delegates:

> *Resolved*, that the Medical Society of the State of New York appoint a committee to work jointly with a committee from the New York State Society of Anesthesiologists (1) to determine minimum standards of therapy, (2) to establish the essentials of acceptable schools of inhalation therapy (not to include administration of anesthetic agents), and (3) to formulate a basis for the certification of technicians.

It was voted to refer this to the Committee on Public Health and Education.

At the request of the chairman of the Committee on Public Health and Education, the following committee was appointed in December, 1954: Drs. Paul Wood, Moses Krakow, Vincent Collins, Irving M. Pallin, Hylan Bickerman, and Edwin Emma. (*See Annual Reports in this issue, Reports of Special Committees.*)

Investigation of Effect on New York State Medical Licensure of Changes in Modern Medical Practice (Section 149).—A resolution "that the Medical Society of the State of New York institute a comprehensive investigation of the entire effect of changes in modern medical practice on the license to practice medicine in New York State" was referred to the Council. The Council voted that this be referred to the Committee on Legislation, to be considered by them with the assistance of the Committee on Hospital and Professional Relations. The Committee on Legislation is studying this matter as part of its consideration of the Medical Practice Act. See "Medical Practice Act Revision (Section 157)."

Medical Practice Act Revision (Section 157).—The House adopted a reference committee report recommending caution in "a long-range study of the

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Sections referred to are from the Minutes of the House of Delegates of the 1954 Annual Meeting, as published in the NEW YORK STATE JOURNAL OF MEDICINE, September 1, 1954, Part II.

Medical Practice Act with a view to improving the same." In its report on page 996 of this issue the Committee on Legislation states that four problems disclosed by this study were referred by the Council in October to separate committees: (1) the Committee on Legislation, (2) the Special Committee on Unprofessional Conduct, (3) the Committee on Medical Licensure and Medical Service, and (4) the Committee on Hospital and Professional Relations in conjunction with the Subcommittee on Medical Expense Insurance.

Injunction Bill (Section 157).—The House adopted a reference committee recommendation that this bill "be again introduced and fostered by the State Committee on Legislation and its executive officer." In its report on page 996 of this issue, the committee states, "The same bill which was introduced last year, Senate Intro. 1654, will be reintroduced."

Free Choice of Physician and Free Choice of Plan (Section 157).—The House adopted a reference committee recommendation that the Condon Bill and the Bauer-Panken Bill "be again introduced and fostered by the State Committee on Legislation and its executive officer." See report of the Committee on Legislation on page 996 of this issue.

Workmen's Compensation Law Amendments: Medical Practice Committee; Place of Arbitration (Section 157).—The House adopted a recommendation that legislation be introduced on these subjects. See report of the Committee on Legislation, page 996 of this issue.

Restriction of Sale of Proprietary Medicines (Section 160).—The House approved in principle a resolution that our Society "express itself as opposed to any legislation which would expose the public to harm through the sale of potentially dangerous drugs, even though masquerading under a trade name, by stores other than those registered by the New York State Board of Pharmacy." The Committee on Legislation will oppose any relaxation in the supervision of the sale of drugs. See report, page 996 of this issue.

Autopsy Regulations (Sections 157 and 158).—The House adopted a reference committee report stating, "Your committee stands in approval of the desired change in the present autopsy law and asks for your approval of these resolutions." It also adopted a resolution calling for "the creation of a commission . . . to review existing laws . . . and submit a report with recommendations for the needed changes . . . to clarify the present ambiguities and promote a sound legal procedure for the regulation of death certification and the autopsy." The report of the Committee on Legislation, page 996 of this issue, contains a progress report of activities undertaken with this end in view.

Malpractice Insurance for Residents and Interns (Section 152).—In adopting report of Reference Committee on Report of Council—Part VI (Economics), the House of Delegates resolved, "that the Medical Society of the State of New York strongly urge that hospitals provide adequate prepaid malpractice insurance for their residents and interns and that the Society confer with such hospitals to effectuate the intent of the resolution."

It was voted that this be referred to the Committee on Hospital and Professional Relations for discussion or action as they see fit. (*See Annual Reports in this issue, Council—Part VI.*)

Malpractice Liability of Interns and Residents in Municipal Hospitals (Section 157).—The House adopted a reference committee recommendation calling for action on this question by the Committee on Legislation and the executive officer. The committee reports on page 996 of this issue that a subcommittee, in conference with the Commissioner of Health and Commissioner of Hospitals of New York City, was "assured that no attempt will be made this year to cancel Section 50D of the General Municipal Law, and there is some hope that opposition to the bill of last year, S pr. 2962, by New York City authorities will be withdrawn."

Hospital Practice of Medicine (Section 153).—A resolution introduced by Dr. Aaron Kottler of Kings advocated that the State Society institute legal action challenging the right of a hospital to practice medicine. The reference committee recommended disapproval pending completion of the work of the Special Committee to Study Hospital and Professional Relations (Dr. Louis H. Bauer, chairman). However, the House voted to refer this matter to the Council. The Council referred this to the Special Committee to Study Hospital and Professional Relations. (*See Annual Report of the Special Committee to Study Hospital and Professional Relations.*)

Voluntary Health Insurance Coverage During Periods of Unemployment (Section 103).—The House referred to the Council for "further study" a resolution that "the Medical Society of the State of New York appoint a committee to study a means of prepayment whereby voluntary health insurance coverage could be continued in the event the insured became unemployed." The Council voted to refer this to the Committee on Economics. (*See Annual Reports in this issue, Council—Part VI.*)

Greetings to Former Officers (Section 40).—In accordance with instructions of the House of Delegates, greetings were sent by the secretary from the House to six former presidents.

Fiscal Year (Section 122).—Among important actions in the House of Delegates was a change in the bylaws making our fiscal year from July 1 to June 30. This change was put into effect by closing the books on June 30, 1954, obtaining an audit for the period January 1 to June 30, 1954, and adopting a budget for the year July 1, 1954, to June 30, 1955.

Contribution to American Medical Education Foundation (Section 88).—The House of Delegates adopted a resolution that a contribution similar to that made in 1953, $25,000, be made to the American Medical Education Foundation for the year 1954. On account of large expenditures for other tems and on account of the individual donations made by members of this Society, as requested on dues bills, the Trustees omitted this item from the budget.

War Memorial Fund (Section 108).—A reference committee report adopted by the House of Delegates suggested that the children of Korean War veterans be included among the beneficiaries. In October, 1954, the Trustees received an actuarial report estimating the income and expenditures from this fund through June 30, 1974. At their February meeting the Trustees authorized the War Memorial Committee to conduct a survey to determine the number of children surviving to members of this Society who died as a result of service in the Korean conflict.

Appeal of Dr. Landess (Section 142).—The appeal of Dr. Ben Landess to the Judicial Council of the American Medical Association from the decision of our House of Delegates was heard at Miami, Florida, December 2, 1954. The findings were announced February 15, 1955, to the effect that Dr. Landess had not acted contrary to the ethic entitled "Advertising" in Chapter 1, Section 4 of the Principles of Medical Ethics of the American Medical Association. This reversed the decision of the Medical Society of the County of Queens, the Board of Censors and the House of Delegates of the Medical Society of the State of New York.

Establishment of General Practice Departments in Voluntary Hospitals (Section 148).—A resolution of the House of Delegates reaffirming "approval of the establishment of general practice departments in voluntary hospitals," directing "that every voluntary hospital in this State be notified of this resolution and strongly urged to take prompt action towards establishing such a department at the earliest possible date," and requiring presentation of a report at its 1956 annual meeting "with the data obtained from a hospital survey concerning the integration of the general practitioner into the hospitals" was sent by the secretary to the directors of voluntary hospitals in the State. Replies received from the hospitals were referred to the Committee on Public Health and Education. The General Practice Subcommittee of that committee has sent questionnaires to the hospitals relative to the establishment of general practice departments. The subcommittee reports plans for assisting in carrying out the substance of the resolution and for preparation of the report to be presented next year.

Clarification of Admission Policies of the Physicians' Home (Section 131).—See article on page 2491, Part I of the September 1, 1954, issue of the New York State Journal of Medicine.

Development of Recommendations of the New York State Health Preparedness Commission (Section 95).—In accordance with the instructions of the House of Delegates, copies of a resolution approving the recommendations of the New York State Health Preparedness Commission and urging their immediate development were sent to the following people: the Governor, the Lieutenant Governor, the president of the Senate, the speaker of the Assembly, Senator Thomas Desmond, the executive director and members of the New York State Joint Hospital Survey and Planning Commission, the members of the State Advisory Council to that Commission, the officers of the Regional Hospital Planning Councils, the presidents and secretaries of component county medical societies of this Society, the president of the New York State Hospital Association, and the executive director of the Hospital Council of Greater New York.

County Society Annual Meetings (Section 157).—Secretaries of county medical societies were informed of the adoption by the House of a reference committee report expressing the opinion that "new county chairmen of legislation who shall be appointed or elected in October, November, December, or January are handicapped in consummating the legislative program" and recommending that constituent societies "change their constitution or bylaws so that their annual meetings and election of officers are held at the succeeding meeting after the State convention." The medical societies of the counties of Albany, Chemung, Delaware, Otsego, and Westchester have informed us that the dates of their annual meetings have been changed in conformity with this suggestion.

Illegal Collection of Fees for Workmen's Compensation Cases in Hospitals (Section 150).—Miss Mary Donlon, chairman of the Workmen's Compensation Board, and Mr. Archie O. Dawson, Moreland Act Commissioner, were informed of the House of Delegates' resolution regarding the disclosure by the Moreland Commission investigation of "widespread illegal collection of fees for workmen's compensation cases in hospitals." The resolution reaffirms the position "that the practices disclosed are illegal and should be discontinued," commends Mr. Dawson and Miss Donlon for their action, and pledges "continuing cooperation in the enforcement of workmen's compensation laws of the State of New York."

Commendation of the Important Educational and Public Relations Program of United Medical Service (Section 109).—Dr. Louis H. Bauer, president of United Medical Service, Inc., has been notified of the resolution of the House of Delegates commending their public relations program and expressing gratitude for their "current newspaper announcements."

Bureau of Industrial Health (Section 97).—The House adopted the recommendations of the Committee on Industrial Health and of the Board of Trustees that an Industrial Health Bureau be combined with the Workmen's Compensation Bureau. At its meeting in November, 1954, the Council voted that Dr. Kaliski be retained as director of the combined bureaus and that a part-time physician be employed to assist him. A budget providing for the expense of this new activity was approved and referred to the Board of Trustees. The Trustees adopted the plan and the budget.

A.M.A. Resolutions.—In accordance with instructions of the House of Delegates, Dr. W. P. Anderton, on behalf of the New York State delegation, introduced three resolutions in the House of Delegates of the American Medical Association at its meeting in June, 1954.

The resolution requiring representation of non-university-affiliated hospitals on the American Medical Association Council on Medical Education and Hospitals (Section 117) was forwarded to the secretaries of state medical societies on June 9, 1954, with a covering letter expressing the hope that the delegates from those societies would support it. Upon introduction in the House of Delegates of the American Medical Association, it was referred to the Reference Committee on Medical Education and Hospitals. This committee reported adversely, and the House rejected the resolution.

The resolution regarding retirement benefits for physicians in the armed service (Section 89) was referred to the Reference Committee on Military Affairs, which did not approve on account of the complexity of the subject, present world conditions, and the unlikelihood of such proposed legislation being passed by the Congress. The House upheld its committee.

The New York resolution regarding principles of medical ethics of the American Medical Association (section 143), after study by the Reference Committee on Miscellaneous Business, was referred to the Judicial Council, and a report requested for the House at Miami, Florida, in November. This report was not presented at the Interim Session of the A.M.A. at Miami but is expected at the annual meeting in June, 1955.

Disapproval of "Tennessee Plan" (Section 87).—The House adopted a resolution urging the delegates of this Society to vote against the "Tennessee Plan" when introduced in the American Medical Association House of Delegates. The Tennessee resolution was defeated at the June, 1954, meeting of the American Medical Association.

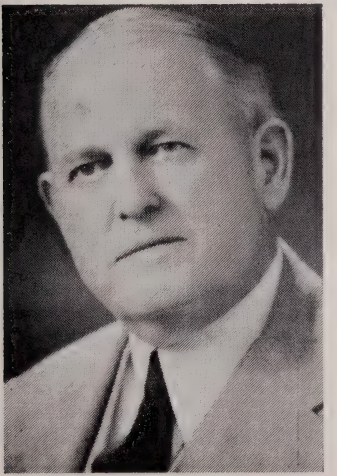
Status of Osteopaths (Section 144).—The House of Delegates instructed the New York State delegation regarding the attitude to be taken on each of three questions proposed by the House of Delegates of the American Medical Association in 1953. At the June, 1954, meeting of the American Medical Association, final action on these questions was deferred to December, 1954, and at the December meeting the committee investigating this matter was allowed until the June, 1955, meeting to report.

Annual Reports

Medical Society of the State of New York

1954–1955

Report of the President



To the House of Delegates, Gentlemen:

Each year at this time the president of the Medical Society of the State of New York is obligated by the Society's Constitution to give an account of his stewardship. In presenting this report, however, I feel that I am not merely discharging a duty. I am reporting to you on one of the most interesting and profitable periods in my life. During the past twelve months I have learned at first hand not only the tremendous problems facing our profession, but I also have met and talked with the numerous conscientious members of our profession who are doing all in their power to solve our momentous problems.

In my remarks to this House as president-elect, a year ago, I pointed out the great importance to our Society of the numerous committees, the Council, and the Board of Trustees. After a year's experience as the head of this Society, I realize more than ever the true worth of these men; for without their invaluable assistance, I could not report, as I do at this time, that your Society has had a most successful year and has continued its march of progress.

One of the most rewarding experiences of my term of office was the visiting of several district branch meetings. In this connection I want to express my thanks to all those who assisted in making these affairs successful and profitable. I particularly wish to thank Dr. W. P. Anderton, our amiable secretary, for his countless deeds of help and Dr. Renato J. Azzari, president-elect, who shortly will take over as president, for the numerous sacrifices he made in order to bring our State Society's views to several district branch meetings. Through his cooperation my burdens were lightened considerably.

In spite of discussions heard now and then about the feasibility of continuing the district branch meetings, I found during my term of office and visits to the various meetings that the members took a lively interest in these gatherings. This was especially true in upstate New York areas. As a result of my attendance at the district branch meetings, I am more convinced than ever that they should be continued. As I pointed out to the members during my visits, the district branch meetings serve many purposes. They not only cement the bond between the State Medical Society and the local societies, they also allow county medical societies to exchange ideas and to discuss mutual problems as well as encourage individual members to mingle with fellow practitioners in other counties of the State. In some instances the membership of State Medical Society committees is linked intimately with the district branches. This is true, for example, in the case of the Council Committee on Public Relations, the Planning Committee for Medical Policies, and the Nominating Committee.

In my opinion, moreover, the Woman's Auxiliary can do much to revitalize district branch meetings. On occasion during my term of office, the Woman's Auxiliary added much to the success of district branch meetings by holding social affairs, such as fashion shows. This type of activity can do much to develop interest. It is a known fact that if the women will go to these meetings, they will have a great deal of influence on bringing their husbands.

To those who would advocate discontinuance of the district branch meetings, I should like to say a word of caution. My experience has been that we should not sell the district branches short. Remember that it may be easy to discontinue the district branch meetings, but it may be impossible to reactivate them once they have been disorganized.

Passing from the problem of the district branches, I should like to comment briefly on what is being done in some of the important areas in which our Society is constantly at work. Although conscious of the multitudinous activities being sponsored by our numerous committees, I must, because of time limitations, restrict my remarks to those areas which at the time of this report appear worthy of particular attention. I do, however, express my heartfelt thanks to every member of every committee for his self-sacrificing devotion to the furtherance of the objectives of our State Medical Society.

Malpractice Insurance.—Very much in the limelight during the year 1954 was the subject of malpractice insurance. Following the discussion of this matter at the May session of the House, county medical societies throughout the State showed a renewed and active interest in the subject.

As a result, the Malpractice Insurance and Defense Board, led by Dr. John F. Kelley, and assisted by Col. Harry F. Wanvig, secretary, was called upon to handle many difficult situations, which they did with thoroughness and competence.

Due to the revision of the classification of medical procedures for insurance purposes, which was put into effect on September 1, 1954, a great deal of the Board's time during the past year was devoted to lengthy studies of the problems involved. This was followed by a study of the changes required in the policy contract to make it fit the new classification system and a further review of many procedures, both from a medical and an insurance standpoint, which required reclassification. This work was in addition to the normal heavy schedule of the Board.

The Board examined with legal counsel over 500 new suits and claims reported, as well as approximately 400 cases closed during the year. The cases or special applications of 66 members of the Society were considered and appropriate action taken. Four members attended a meeting of the Board to present their side of personal matters under consideration.

Early in the year two meetings were held with Mr. Joseph Linder to examine with him his audit of the group plan and the rate changes made necessary by the increased cost of losses and the new classification system. Members of the Board met with two county medical societies to outline and assist in establishing new advisory committees on malpractice insurance and defense and with other committees already established and under way. In addition, subcommittees met with a number of individual members, the continuation of whose insurance was in question, and submitted their recommendations to the Board.

Workmen's Compensation.—One of the most active groups in our Society was the Workmen's Compensation Bureau, operating under the supervision of our Council Committee. The many informative reports of the Bureau were sound evidence of the progressive work being done in compensation matters for both the public and the medical profession.

In addition to helping individual physicians and county medical societies during 1954, the Bureau cooperated with the Moreland Act Commission in it investigation of the so-called high cost of compensation coverage in the State. It brought to the attention of the Commission the need for certain amendments to the workmen's compensation law in order to assure the New York worker the status of a semiprivate patient, that is, not a ward or charity case. The Bureau succeeded in stressing the improper and unethical practices of certain hospitals in relation to fees for medical services as a result of which new regulations to abate these abuses were accepted by the hospitals. The question of billing for medical services rendered by interns and residents with or without active supervision by attending physicians was fully discussed and clarified.

Working in close cooperation with the Workmen's Compensation Board, the Bureau brought to the attention of the Board's chairman the need for a revision of the workmen's compensation fee schedule to bring it in line with present-day fees in private practice as well as the need for a modern method of nomenclature of medical items in the schedule.

Among the many other activities in which the Bureau participated were the presentation of testimony before the Joint Legislative Committee on Industrial and Labor conditions on the rehabilitation of compensation claimants, the examination of all bills introduced into the State Legislature concerning workmen's compensation, and recommendations for the introduction of others.

To Dr. Gerald Dorman, committee chairman, and Dr. David J. Kaliski, Bureau director, we owe thanks for a job well done.

Industrial Medicine.—All of us are aware of the growing importance of industrial medicine in this State. This fact was brought home to me strongly some months ago when I was asked to discuss the much-publicized problem of air pollution. At the invitation of a joint committee of the New York State Legislature, I expressed the views of the State Medical Society on this matter. On that occasion I was very much impressed with the interest shown not only by men of science and the medical profession but particularly by individuals associated with interests outside of medicine, such as the representatives of industry and commerce.

It is timely, therefore, that in accordance with the action of the 1954 House of Delegates, the Council has taken steps to establish a Bureau of Industrial Health within the framework of our Society. For the sake of efficiency and economy the Council decided to combine the new bureau with the existing Workmen's Compensation Bureau. While the new combined arrangement will be carried on under the direction of Dr. David J. Kaliski, the Workmen's Compensation Committee and the Industrial Health Committee will be two separate and autonomous entities with separate chairmen and committees. We have high hopes that when the new arrangement actually goes into effect, much will be accomplished for the betterment of industrial medicine and the health of the workers in the Empire State.

Legislation.—While there are certain constant factors which we usually must face each year, such as the proposals to license cultists, our difficulties in the field of legislation change from year to year. It is for this reason that over the years we have tried to avail ourselves of the best advisory talent. Last year, perhaps more than ever before, our efforts were crowned with success since we have the able assistance of our Legislation Committee, Dr. James Greenough, chairman, and our executive officer, Dr. Harold B. Smith. A brief review of their activities clearly shows many reasons why they deserve our deepest gratitude.

Acting in accordance with the desires of this House, the committee and executive officer worked diligently on nine resolutions referred to them. As part of their program, nine regional meetings were held throughout the State with county medical society legislation committee chairmen. In addition to discussing the State Society's program, they encouraged suggestions regarding local matters.

Supplementing these meetings, the group also sent questionnaires to all county chairmen to find out the opinions of members on the importance of certain legislative subjects. Answers were received from 38 counties, representing over 20,000 members.

While the attendance at the meetings and the replies to the questionnaires were helpful to the committee in formulating its policies, they show that there is room for improvement. If our State Medical Society's legislative program is to be truly representative of our members, we should have a 100 per cent response to invitations to attend meetings and answer inquiries concerning the program.

After considering the various legislative proposals, the committee decided that the bills concerning free choice of insurance plan and free choice of physician in any insurance plan should be given top priority among proposed laws scheduled for introduction in the State Legislature. In addition to other actions, the group also voted to work vigorously for the passage of the so-called injunction bill. Another objective of the committee was the abolition of the Medical Practice Committee in the field of workmen's compensation.

The executive officer made an exhaustive study of the Medical Practice Act, as mandated by this House. As a result, several problems were enunciated. Each problem was assigned by the Council to one of its committees for further study.

Much attention was given to the recodification of the laws relating to the disposition of dead bodies. Subcommittees were appointed to study problems decided upon by a group of interested parties called together by the chairman with permission of the Council. As in the past, the committee was ever ready to swing into action against any bill providing for the licensure of cultists.

Physicians' Home.—In spite of the many pressing matters of business which has engaged its attention, your Society was not unmindful of the fact that some of its less fortunate members stood in need of economic assistance. The Society continued to cooperate with the Physicians' Home, which quietly but efficiently provides for such members by asking for voluntary contributions. As in the past our members responded to this appeal to assist Dr. Beverly Chew Smith, president, in his humanitarian enterprise.

State Journal.—During the period January, 1954, to the time of this report, the New York State Journal of Medicine appeared on time twice a month with improved typography, cover design, and format, while the table of contents was placed, in part, on the cover. A number of new associate editors were appointed, all of whom worked with the editor to improve the quality of the scientific contents.

The volume of medical news has increased, and the material for clinicopathologic conferences from all parts of the State has grown so that it is now possible to publish one of these popular features in each issue. The President's Pages covered the activities and administration of the Society and major policy decisions throughout the year.

Beginning July 1, 1954, the editor, Dr. Laurance D. Redway, was placed on a full-time schedule. This permitted him to cover the State and its medical institutions by personal contact and to bring the Journal to the attention of teaching personnel as a desirable medium for the publication of scientific material and conferences, as well as many articles of practical value to the general practitioners of the State.

The inclusion of cartoons in the advertising pages of the Journal may also be mentioned as a new feature recently commenced as an experiment to increase reader interest and to benefit the advertisers.

Reference to the annual report of the Publication Committee will show in detail the year's growth of the Journal both in content and advertising. A pilot experiment with the use of color in the text of the articles on Civil Defense has worked out well and is continuing. Negotiations for material for 1955 in the fields of nutrition, public health, and education, as well as the treatment of cancer, have been conducted.

Personally, I wish to express my appreciation to Dr. Redway for the assistance he has rendered to me in so many ways. On behalf of the Society I want to thank him and his staff for their continuing efforts in making the Journal more appealing to a greater number of physicians.

Planning Committee.—Every progressive organization should have a group of men who try objectively to keep a bird's-eye view of all its activities for the purpose of improving its future operations. In the State Society we are fortunate to have such a group in our Planning Committee for Medical Policies.

In the current year the committee concentrated on several major projects. Among these were two separate studies. The first study covered the integration of county, State, and A.M.A. dues and classes of membership. The second was an investigation and report on the Society's various committees. The purpose of this study was to obtain an over-all picture of the number of committees, their purposes, size of the groups, duplication of work, expense involved, and related factors. Although final reports were not available at the time this report was made, progress in both studies was being made.

In addition, the committee studied the feasibility of integrating the Bureau of Medical Care Insurance, Workmen's Compensation Bureau, and the new Bureau of Industrial Health. The committee recommended to the Council, which requested the study, that the Workmen's Compensation Bureau and the Industrial Health Bureau be combined, and the Council approved.

Another important activity was the study of increasing membership through contact with county medical societies. Progress also was made in this project.

The committee also had referred to it a study of the constitution and bylaws of the joint commission in New York State for the improvement of care of the patient. The finding of the committee was that it was not the policy of the State Medical Society to approve or disapprove the constitution and bylaws of any group other than our own county medical societies and district branches. It also reported, however, that we can approve in principle and cooperate in any way possible.

The permanent headquarters subcommittee, led by my hard-working predecessor, Dr. Andrew A. Eggston, continued its efforts to find a suitable location and building that will bring honor to our profession and afford ideal working conditions for our staff.

It is obvious that the Planning Committee, with its subcommittee, has done an excellent job for which we are grateful to Dr. Peter J. Di Natale and his conscientious associates.

Woman's Auxiliary.—The distaff side of our Society has continued to play its role of a strong right arm to the medical profession. Under the egis of Dr. Andrew A. Eggston, my predecessor, and its lovely and charming president, Mrs. Arthur L. Bennett of Buffalo, the Auxiliary has been most militant in its efforts to help alleviate the shortage of nurses, both professional and practical, through its scholarship, nurse recruitment, and high school future nurses' clubs campaigns. The Third Annual Health Poster Contest, the aim of which is to teach school children that they are the primary guardians of their health and physical well-being, also attracted State-wide attention.

The State Fair exhibit demonstrated our profession's interest in group health problems. I would be amiss if I did not pay tribute to our ladies for their ever-ready willingness to assist with our legislative and public relations programs at a moment's notice.

Three new Auxiliary activities worthy of commendation are its preliminary conferences on ways and means of cooperating at the community level in the promotion of child safety campaigns, the establishment of a committee on mental health, and its work towards the formation of the Women's Division of the Blood Banks Association of New York State in the metropolitan area.

Medical Economics.—The rapid expansion of medical care insurance on both the State and national level makes it of paramount importance for the State Medical Society to keep an ever-watchful eye on all hospital and doctor plans. The renewal of President Eisenhower's reinsurance proposal emphasizes this fact. Needless to say, all of our activities in this field should be carried on from the physicians' viewpoint, while at the same time giving due consideration to the welfare of the patient so that he may derive maximum benefits.

We are fortunate that during 1954 our Economics Committee, headed by our president-elect, Dr. Renato J. Azzari, performed most satisfactorily in this field. Under the direction of its Subcommittee on Medical Expense Insurance, headed by Dr. Carlton E. Wertz, the Bureau of Medical Care Insurance, Mr. George P. Farrell, director, continued to protect the interests of our members as well as the individual citizen.

During the past year the director of the Bureau made his services available to the Society in other ways. In one instance, Brotherhood of Railroad employes, representing approximately 75,000 in New York State, requested broader coverage. In order that local plans might retain the business, many problems had to be resolved. One of these was whether the National Blue Cross-Blue Shield Insurance Companies would write the insurance or whether it would be done through a syndicated arrangement of plans. Many conferences were necessary with all parties and the State of New York Insurance Department.

Requests for advice were received from several county medical societies regarding plans submitted to them for life and sickness and accident coverage. The Bureau cooperated with these societies by sending them the desired information.

The Bureau also had several conferences with the State of New York Insurance Department regarding resolutions, which had been referred by the House to the Subcommittee on Medical Expense Insurance. A standard nomenclature to be used by proper committees of the State Society and New York State departments in evaluating schedules of allowances was prepared and presented to the State Department of Health, State Department of Social Welfare, and the Department of Education's Division of Rehabilitation. The Bureau also prepared quarterly and annual progress reports of Blue Shield Plans in New York State and reports to the Council, Blue Shield executives, and the State of New York Insurance Department. At present extended health benefit coverage is being studied by the Bureau for plan consideration to offset the Federal reinsurance health plan.

Public Health and Education.—Through the activities of our Committee on Public Health and Education, our Society attempted to fulfill its fundamental purposes of serving both our physician-members and the people of the State. Numerous postgraduate lectures were given for the benefit of doctors throughout the State under the auspices of the committee. As you know, there are more than a dozen subcommittees delegated to work on problems of public health. Obviously, therefore it is impossible for me in this report to comment on all their activities. I would, however, like to direct your attention to a few highlights.

One of the more important accomplishments of the committee has been the arrangement by the Subcommittee on Cancer for publication in the NEW YORK STATE JOURNAL OF MEDICINE of a series of articles on cancer therapy by prominent medical authorities. The Diabetes Subcommittee again urged, more vigorously than ever, the participation of all county medical societies in the annual detection drive sponsored by the American Diabetes Association. A painstaking analysis is being made by the General Practice Subcommittee of the hospital questionnaire sent out last spring for the purpose, among other things, of eventually holding a conference with hospital administrators showing willingness to establish general practice departments.

Since the last annual report the Subcommittee on the Hard of Hearing and the Deaf has concentrated on preparing "alerts" for the education of general practitioners and through them, parents, as to the necessity of early detection of a child's hearing defects in the home rather than later after the child has entered school. The Subcommittee on Heart Disease has been working on a panel discussion on "The Cardiac in Industry" for the annual meeting in Buffalo in May. This will lead, it is hoped, to active cooperation and planning with industrial and labor authorities, the New York Heart Assembly, and other interested organizations for concerted action in meeting the problems posed by this type of disability. The Subcommittee on Maternal and Child Welfare has been working with the State Health Department's Bureau of Child and Maternal Health relative to the best approach in the use of statistics on neonatal deaths, cesarean sections, and related matters.

Upon recommendation by the Subcommittee on Mental Hygiene, the Council approved sending a letter to all county medical societies calling attention to the provisions of the new Community Mental Health Services Law and making certain suggestions. Among these was the suggestion that the Mental Health Boards, authorized by the law, be autonomous and not responsible to any pre-existing health organization. The principal interest of the Subcommittee on Rehabilitation and Physical Medicine at present is to press for the amendment of the State licensing laws in order to relieve the shortage of trained personnel in all areas of rehabilitative work. Upon recommendation by the Subcommittee on School Health, our Society has urged the State Education Department to effect an organizational change which would establish a separate and distinct Division of School Health, instead of a bureau in the Division of Pupil Personnel Services, under the direction of a qualified and licensed practitioner of medicine.

Throughout the work of the various subcommittees of the Public Health and Education Committee runs a thread of constant cooperation and interest on the part of the State Health Department. Perhaps the most dramatic example of mutual assistance was the establishing by the Department, with the assistance of the Advisory Committee on Poliomyelitis Prevention of our State Society, of the Salk vaccine field trials. Through the excellent cooperation of the county medical societies, the State's physicians did yeoman service in giving these injections and in otherwise assisting the Department.

These numerous and varied projects were under the direction of our very able committee chairman, Dr. Theodore J. Curphey. To him, his numerous fellow-workers, and his staff, we pay our compliments for a difficult assignment satisfactorily performed.

Nursing Education.—For a number of years the subject of nursing shortage has been a matter of grave concern to the medical profession. In an attempt to solve this difficulty, our Committee on Nursing Education, Dr. Raymond S. McKeeby, chairman, has been working with Dr. Stiles D. Ezell, secretary, New York State Board of Medical Examiners, and with the Regents of the New York State Education Department. It is hoped that by such cooperative efforts concrete steps will be forthcoming to alleviate the shortage in the near future.

In its work the committee found that three types of individuals are needed: the graduate nurse, the practical nurse, and the attendants, aides, and orderlies. The group also pointed out that a better and more permanent type of hospital worker will result if the right approach is made to them so that they will feel the importance of their jobs. In this regard I strongly indorse the committee's recommendation that a great deal can be done by hospital administrators and physicians in building up the morale of all hospital workers. We certainly will help ourselves and the public by encouraging nurses and other hospital workers not to leave their posts for jobs in other fields.

Although the committee reports that it will be close to 1960 before the increase in the birth rate of the war years may yield more potential nursing students, we should take steps now to find out what can be done. Perhaps we should investigate whether requirements for nursing can be eased without changing the high standards. Our committee reports that one suggestion has been made to revise the curriculum so that, in part, first- and second-year students could live at home and would not be required to pay tuition. What specific steps should be taken I am not in a position at present to suggest. I do, however, urge that our Society act in this matter without delay.

Public Relations.—Someone has briefly defined public relations as "performance plus recognition." Implicit in this definition is the idea that public relations is not merely publicity nor a mere whitewash of poor deeds. It explicitly states that there must first be good deeds which are then communicated to the people so that they may be fully aware of their existence.

Conscious of this basic principle, our Council Committee on Public Relations concentrated on two areas during the past year. Through its Bureau of Public and Professional Relations, emphasis was placed on both internal relations with members of our Society and external relations with the public.

In the field of internal public relations the Bureau continued to help county medical societies and their members build good relations with the public by encouraging them to improve existing public services such as emergency medical care systems and mediation committees and to set up such services where none existed. It is worthy to note that as of the date of this report there were 60 emergency call systems and 56 mediation committees in this State. In addition, the boards of censors acted as mediation committees in three counties. This is an excellent record and worthy of commendation. Through its field representatives a survey of county medical society activities was conducted to ascertain the present status of basic public relations projects and to inspire activity in new areas of public relations.

By means of its monthly *Newsletter* the latest developments in public relations and special messages from committee chairmen of our Society were brought to our members. Special brochures on speakers' bureaus, radio and TV materials, facilities available in county areas, and other subjects were prepared and sent to county medical society public relations chairmen for their guidance. Emphasis also was placed on the value of county medical societies conducting courses for medical personnel in public relations activities. In this connection special literature was prepared and presented to county medical society officials.

Close liaison was maintained with various committees of our Society and the American Medical Association, and assistance was rendered to these groups whenever requested. This was particularly true in the field of legislation and public health and education in this State. Help also was given to the Woman's Auxiliary in carrying out their numerous projects. One of the most important public relations activities of the year was the conference of county medical society public relations chairmen, held in New York City in early October.

A concrete example of internal public relations designed to help each member of the House was a new service in the form of a report on "Highlights of the Proceedings of the House of Delegates," May, 1954. This digest was made available to each delegate shortly after the session ended. I know I express your feelings when I say that this was very much appreciated.

Turning to external public relations, which involves the gaining of recognition of our performances from the public, the Bureau was most active in this field. In addition to maintaining its information center for the press and public by means of sending out press releases and answering inquiries, much attention was given to the new "Guide for Cooperation" between the medical profession and the various media of public information, such as the press, radio, and TV. This Guide was approved by the House at its last session. Printed copies were mailed to every member of our State Society; representatives of the press, radio, TV, and photographer groups; hospital associations; state medical societies; the A.M.A., and others. Machinery has been set up to handle requests for help from writers who have sought assistance following the publication of the Guide. Judging from the number of requests for help and congratulatory messages received, I feel that this Guide eventually will bring about better articles and publicity for the medical profession in the local press and in national publications.

Incidentally, if this Guide is to achieve its objective of building better relations between the medical profession and the various media of public information, our own members must know that the Guide exists and what it contains. Each of us, therefore, should assume a personal responsibility of doing an internal public relations job by stressing the importance of the Guide at every opportunity, particularly at our own county society meetings. This liberal interpretation of our ethical principles should be familiar not only to physicians who meet the press but to every practicing doctor. It is hoped that in due time this Guide will be responsible for eliminating the often-heard criticism of a physician justifiably in the public limelight, "Doctor, why didn't you mention your office hours!"

Pamphlets published by the Bureau continued to gain favor with the public. Some 2,000 requests were received for "Telephone Cues for Medical Personnel" from various parts of the country. Figures revealed after the final shipment of the 12-pamphlet medical-economic series showed that 37 county medical societies had purchased, at half cost price, 1,122,000 pamphlets.

The Bureau also pursued its many routine activities, which are too numerous to detail. In brief, the staff encouraged the use of radio, TV, and films, erected exhibits, conducted a speakers' bureau, attended district branch meetings, maintained a press room at our annual meeting, and worked with such outside organizations as the State Health Department and the State Chamber of Commerce.

Allow me to thank Dr. Floyd S. Winslow, committee chairman, the members of his committee and subcommittee on the Guide for Cooperation, Mr. Frederick W. Miebach, Bureau director, and his staff for their continuing services to our members and to the public and for their cooperation with me during my term of office.

Veterans Administration.—In 1946, under the auspices of our State Society, the Veterans Medical Service Plan was incorporated. Since that time our members have made a generous contribution to the care of veterans' service-connected disabilities. At present, care by participating physicians is authorized only for ambulant patients when attendance at a Veterans Administration facility would cause hardship for a veteran. Through the efforts of our Committee on Liaison with the Veterans Administration, our Society has kept abreast of the problems in this important field. We are grateful to Dr. Herbert H. Bauckus, chairman, and the members of his committee for their labors on behalf of the physicians and veterans of this State.

The Directory.—Although our *Directory* is a valuable asset to our members, it is a very costly operation. We suffer a loss of approximately $50,000 a year on this publication. Various factors have contributed to the constantly growing costs. Among these are the increased number of physicians listed, normal rising costs of living, and the decrease in the amount of advertising. As a result of this annual deficit, the approximate $120,000 raised by our increase in dues was reduced to about $70,000. It is obvious that this is a serious situation which should be investigated promptly. I strongly recommend that we study this matter to find out if this deficit can be reduced or possibly eliminated entirely.

Blood Banks Association.—I should like to refer briefly to the Blood Banks Association which has been organized under auspices of our Society and largely financed by it. The initiative for our action, as you know, stems from two successive mandates of the House and thorough study by the Blood Banks Commission.

The Blood Banks Association now has more than 400 members, including over 100 blood banks which utilize 350,000 of the 500,000 units of blood required annually for civilian medical practice in our State.

The association has a State-wide clearinghouse where 32 member blood banks report their inventory daily. More than 2,500 units of blood have been exchanged through the clearinghouse during the past eleven months, including many on an emergency basis when lives were at stake.

In cooperation with seven county medical societies—Genesee, Orange, Queens, Kings, Richmond, Bronx, and New York—the association has introduced the Blood Assurance Program. This plan is a simple insurance system where the premium is based upon an advance deposit of blood. In Genesee County, where the Blood Assurance Program has been functioning over a year, its public appeal is so great that the county medical society has gone on record as stating that the program is an excellent and positive form of public relations.

It is hoped that the Blood Banks Association of New York State will eventually become self-sustaining. Careful organization of its activities are not conducive to short-term results, but it is the best guarantee of success. We commend the Blood Banks Commission and the Blood Banks Association on what already has been accomplished, and we wish them success in their future endeavors.

Conclusion.—Before concluding this report evaluating our accomplishments of the past year, I believe that we should project ourselves, for a moment, into the future. From what we have seen of last years' activities and know of the preceding year's deeds, we should be well aware of the fact that the medical profession in this State has reached a very high peak in its efforts to serve its members and the people. We cannot retreat from this position without losing the high respect of our fellow physicians and the patients we serve. We must, therefore, in our future plans continue our proved activities, perhaps modify or even abandon some projects, but above all seek ways and means for improving our services and achieving greater heights.

As an incentive for developing future activities, it will profit us to devote much time and effort to celebrating our 150th anniversary in 1957. On that auspicious occasion we should remind our 24,000 members of the tremendous strides made in medicine since 1807 as well as tell the story of our remarkable progress to the public. Now is the time to plan for the holding of a celebration that will do complete justice to this historical event. For this purpose, I have appointed a special committee, headed by Dr. A. H. Aaron, to plan and coordinate activities. Once again, through you as delegates, I should like to invite each of the 61 county medical societies to take an active part in making our birthday truly reflective of every part of the State and of every individual member. If all cooperate, I am certain that our celebration, whatever form it may take, will add new honor to the glorious history of our Society.

I have spoken much about the past and a little about the future. In concluding this report of my stewardship as your president, I wish to utter these few personal words—thank you for the honor you have bestowed upon me, and may God bless your future efforts!

Respectfully submitted,
Dan Mellen, M.D., *President*

Report of the Judicial Council

To the House of Delegates, Gentlemen:

The Judicial Council has not met during the Society year 1954–1955, the first year of its existence.

The chairman was elected by mail vote. A meeting is scheduled "immediately at the close of the Annual Meeting of the Medical Society of the State of New York," May 11, 1955, in accordance with the Bylaws, Chapter VI, Section 1.

The chairman attended the hearing before the Judicial Council of the A.M.A. in Miami on December 2, 1954, when attorneys from Queens County and H.I.P. argued the appeal of H.I.P. from the decision of the State Society in the Ben Landess case.

The members of the Judicial Council are Christopher Wood, M.D., White Plains; John F. Kelley, M.D., Utica; Norton S. Brown, M.D., New York City; Charles H. Loughran, M.D., Brooklyn; W. P. Anderton, M.D., New York City, ex officio, and myself.

There will probably be a supplementary report.

Respectfully submitted,
Edward T. Wentworth, M.D., *Chairman*

Secretary's Report

To the House of Delegates, Gentlemen:

General Statement.—It is a pleasure to report to you another successful year. In 1954–1955 the work of the Medical Society of the State of New York has proceeded apace. As directed by you, a new endeavor has been launched, the Blood Banks Association of New York State. The Allergy Section which you established last year is meeting on Wednesday, May 11, 1955.

Council.—Except in July and August, the Council has met monthly. At its May meeting, directly after the House of Delegates adjourned, Dr. Renato J. Azzari, Bronx, who had been elected president-elect, resigned as councillor. Dr. Henry I. Fineberg, Jamaica, was elected to serve until May, 1956.

Officers and committee chairmen have reported regularly. Their accomplishments are in various parts of the Council's annual reports.

All meetings, except the one in May, have been held at the Manhattan Club, Madison Square, New York City.

Trustees.—The Board of Trustees has conscientiously conducted the financial affairs of our Society. They have scanned the budget, developed by the Budget Committee and submitted to the Trustees by the Council. All expenditures, including loans to the Blood Banks Association of New York State, Inc., have been carefully scrutinized. Income and investments have been studied. The War Memorial Fund has been well managed, assisting 15 children of veteran members who died during World War II or as a result of service-connected illness.

A.M.A.—Satisfactory liaison with the American Medical Association has been maintained and has entailed contacts by your Public and Professional Relations Bureau, membership department, secretary's office, Committee on Industrial Health, Rural Medical Service Subcommittee, Committee on Liaison with the Veterans Administration, Legislation Committee, and others.

Your 17 delegates to the American Medical Association, under chairmanship of Dr. Floyd S. Winslow, Rochester, ably represented your society. In 1955 the number will be 18. The American Medical Association counted 17,157 members from New York State on December 31, 1954. We are allowed one delegate for each 1,000 members or part thereof.

District Branches.—These nine divisions of your Society each held a meeting during the past year. All except the First met last fall. Attendance at meetings and active interest of members vary. The Fifth District Branch will advocate this year the dissolution of district branches. Some other district branches disagree with this desire. Under the kindly stimulus of President-Elect Azzari, your secretary has commenced a study of attendance at county society and district branch meetings, as well as at the annual State Society meeting.

Secretaries Meeting.—This annual gathering of county society secretaries was again held at the Sheraton-Ten Eyck Hotel, Albany, November 17, 1954. It was well attended. The interesting program received many favorable comments.

Representatives.—Since your last convention, as usual, representatives have attended the annual meetings of four medical societies in adjacent states: Drs. Walter W. Mott, White Plains, and W. P. Anderton, New York City, visited Connecticut; Drs. Renato J. Azzari, Bronx, and Denver M. Vickers, Cambridge, went to Vermont, which met in conjunction with New Hampshire; Dr. W. P. Anderton also represented you in Pennsylvania, and Drs. Dan Mellen, Rome, and J. Stanley Kenney, New York City, are scheduled to represent the State Society at the Medical Society of New Jersey. Furthermore, President Mellen was our representative at the annual meeting of the World Medical Association in Rome, Italy, last September, and Dr. Stiles D. Ezell, secretary of the New York State Board of Medical Examiners, Albany, was also present.

Blood Banks Association.—Last summer the pilot program advocated by this House of Delegates was commenced in Genesee County by the Blood Banks Association of New York State. It was highly successful. As this is written, introduction of its blood assurance program is planned for New York City. The clearinghouse has been managing its blood exchange program and has gained much praise. The board of directors, officers, Mr. A. Carl Messinger, director, the employes, volunteers, and the Woman's Auxiliary all deserve much approbation for their diligent endeavors and accomplishments which have been reported to the Council though the Blood Banks Commission of the State Society.

Placement Service.—Dr. John H. Iselin, Jr., assistant to the secretary, has conducted this endeavor well. We have obtained enthusiastic cooperation from the American Medical Association and county society secretaries. On January 18, 1955, there were 37 areas in New York State requesting assistance in obtaining general practitioners and one area wishing an eye, ear, nose, and throat specialist. During 1954 we helped approximately 52 physicians to find locations; we received 313 inquiries from physicians and 28 from communities.

Publications.—Due to the energetic and able management of Dr. Laurance D. Redway, his assistant editors, able associate editorial board, and interested Publication Committee, the NEW YORK STATE JOURNAL OF MEDICINE has thrived. The use of color in some illustrations has seemed quite effective. And the introduction of a few cartoons is being attempted on an experimental basis.

It is hoped that the 1955 *Medical Directory of New York State* will have been issued before our annual meeting. The enormously detailed task of compilation has been effectively accomplished by Miss Janet Loy and her conscientious assistants.

Office.—Your departments on the 19th and 6th floors at 386 Fourth Avenue, New York City, have been well conducted under the office management of Mr. Thomas E. Alexander. The Albany and Forest Hills offices have also functioned smoothly.

The annual office outing was held again at Bear Mountain Park on June 29, 1954, and the Christmas party was held at the Statler Hotel, New York City, December 22, 1954. Both occasions were much enjoyed by our loyal staff.

Miss Elizabeth Wheeler resigned as secretary to Dr. David J. Kaliski, Bureau of Workmen's Compensation, on December 31, 1954, after thirty-two years with the State Society. Dr. Kaliski delivered a laudatory oration about Miss Wheeler before the headquarters staff on December 30 when a gift was presented to her by her fellow employes. The Board of Trustees have voted Miss Elizabeth Wheeler a pension. A diligent example of an intelligent and conscientious worker, her gentle personality is missed.

Official Contacts.—The Liaison Committee with the Veterans Administration, Dr. Herbert H. Bauckus, chairman, has worked in close cooperation with the Veterans Medical Service Plan of New York, Inc.

Through your Public Health and Education Committee, Dr. Theodore J. Curphey, chairman, a number of fruitful meetings were held with State Commissioner of Health Herman E. Hilleboe and several of his subordinates. It has been a matter of great satisfaction to his many friends in our profession that Dr. Hilleboe was reappointed by Governor Averell W. Harriman.

Your Public Medical Care Subcommittee of the Economics Committee has cooperated with the New York State Department of Social Welfare where Dr. I. Jay Brightman is Assistant Commissioner for Welfare Medical Services.

During the past year the Board of Regents appointed Dr. Christopher Parnall, Jr., Rochester, to be a member of the Nurse Advisory Council in the Education Department. They appointed Dr. Thomas M. d'Angelo, Jackson Heights, and Dr. William E. Pickett, Albany, to the Advisory Board in Ophthalmic Dispensing. They are in the process of selecting a new member for their Medical Grievance Committee.

With the helpful advice of the component county medical societies and their secretaries, several medical advisors to Selective Service Boards have been recommended to Colonel W. H. Boughton, New York State Selective Service Director.

Deaths.—Several outstanding members of our Society passed to their final rest during the past year. Dr. Nathan B. Van Etten, former president of our Society and former president of the American Medical Association, died in July, as did Dr. George W. Kosmak, another member of this House for many years. Dr. Kosmak was a past treasurer and trustee of our Society and editor emeritus of the New York State Journal of Medicine.

Dr. John R. MacElroy, of Saratoga County, the first of our distinguished fifty-year practitioners, died in August. Dr. William Rapp, of Greene County, also renowned as a delegate of the Medical Society of the County of Greene where he had been secretary of the county society for many years, passed away in November.

American Medical Education Foundation.—Your Society received a citation from the American Medical Education Foundation last spring on account of contributions to medical education. This year again our bill for dues includes an item for voluntary subscription to this worth-while endeavor. On account of other expenses, the Trustees did not include a donation to this foundation in the 1954–1955 budget.

New Endeavors.—Your State Society has taken interest in two new organizations during the past years. The New York State Conference of Professional Organizations met first in July. Architects, certified public accountants, dentists, engineers, physicians, and lawyers formed the nucleus of a body which has found considerable common interests in legislation and ethics.

The Joint Commission for the Improvement of Care of the Patient of New York State is an outgrowth of the Coordinating Council on Nursing Education. On it are represented the State Medical Society, public health officials, hospital administrators, nurse organizations, and nurse educators.

Principles of Professional Conduct.—At its October meeting the Council voted that because the changes in the *Principles of Professional Conduct*, as voted by this House last May, "have given rise to numerous questions by members of our profession in this State and because many of our members consider them to be ambiguous," it recommended to the county societies that said changes "be not activated until the next meeting of the House of Delegates." These changes were published in Section 49 of the House of Delegates minutes, in Part II of the September 1, 1954, issue of the New York State Journal of Medicine, pages 51 and 52.

Annual Meeting Place.—Last September the Council voted to recommend to the House of Delegates "for purely economic reasons" that our annual meeting be held in New York City for three consecutive years and in Buffalo every fourth year.

Landess Appeal.—Dr. Ben E. Landess, of Queens, who was found guilty of unethical conduct by the House of Delegates when it confirmed the previous findings of the Queens County Medical Society and the State Society's Board of Censors, appealed to the Judicial Council of the American Medical Association. A hearing was held at Miami, Florida, December, 2, 1954. In February the Judicial Council reversed the New York State and Queens County Medical Societies decisions.

Comments.—Each time the Council met, your secretary and general manager reported, describing his work and the progress of the society. He welcomes this opportunity to register appreciation and thanks for the considerate cooperation and kindly friendship he has received from the officers, councillors, trustees, members, and fellow workers.

President Mellen has always given cheerful and helpful advice. Whoever works with him is indeed fortunate. It has been a great pleasure to work with Treasurer Maurice J. Dattelbaum and Dr. Herbert H. Bauckus, chairman of the Board of Trustees. Dr. Bauckus has been a living reminder of the thoughtful consideration evinced when he was president in 1944–1945. To William F. Martin, Esq., our legal counsel, and his staff are due my expression of gratitude for their ever-willing and friendly cooperation. Dr. John H. Iselin, Jr., has been a reliable and trustworthy assistant. Miss Doris K. Dougherty, executive assistant to the secretary, has been constantly helpful, as has Miss Eileen T. Buckley, Mrs. Beatrice Macaura, Miss Mollie Pesikoff, Miss Mary McMahon, and Miss Janet Loy. The other members of our staff deserve praise for their conscientious work during the past year. Mr. Thomas E. Alexander, business manager for the JOURNAL and *Directory*, office manager, and accountant, has labored assiduously. The directors of the bureaus have kept me informed of their activities, and all deserve commendation for their cooperation. Your secretary deems himself very fortunate for his many enjoyable experiences during the past year. He thanks you heartily for the confidence displayed when you elected him.

Membership.—Membership records show the following:

1953—Membership	23,145	
1954—Members reinstated	501	
1954—New members	979	
		24,625
1954—Deaths	335	
1954—Resignations	330	
1954—Licenses revoked	3	
1954—Licenses suspended	2	
1954—Suspended from membership by county medical society	1	
		671
		23,954
1954—Delinquent members		409
1954—TOTAL MEMBERSHIP		23,545

Honor counties (all of whose members' 1954 dues were received by the State Society in 1954) include Allegany, Chemung, Clinton, Columbia, Cortland, Genesee, Greene, Lewis, Livingston, Madison, Montgomery, Niagara, Orleans, Otsego, Putnam, St. Lawrence, Schenectady, Schuyler, Seneca, Sullivan, Tompkins, Warren, Washington, Wayne, Wyoming, and Yates.

Comparative totals of membership since 1943 follow:

1943	18,652	1949	21,489
1944	18,941	1950	21,861
1945	19,234	1951	22,124
1946	20,524	1952	22,637
1947	21,303	1953	23,145
1948	21,171	1954	23,545

Remissions of 1954 dues were voted for illness or service in the armed forces as follows:

COUNTY	ILLNESS	SERVICE	TOTAL
Albany	2	8	10
Bronx	6	20 (1 rescinded)	26
Broome	...	7 (1 rescinded)	7
Cattaraugus	...	1	1
Chautauqua	...	1	1
Chemung	...	2	2
Chenango	...	3	3
Clinton	2	...	2
Columbia	...	1	1
Dutchess	...	3	3
Erie	2	24 (1 rescinded)	26
Franklin	1	1	2
Genesee	...	2	2
Herkimer	1	1	2
Jefferson	1	1	2
Kings	32	68 (1 rescinded)	100
Madison	...	1	1
Monroe	2	24	26
Nassau	9	28	37
New York	48	96	144
Niagara	2	2	4
Oneida	1	2	3
Onondaga	3	5	8
Ontario	...	3	3
Orange	1	3	4
Otsego	...	2	2
Queens	14	25 (1 rescinded)	39
Rensselaer	...	2	2
Richmond	5	3	8
Rockland	...	2	2
St. Lawrence	2	2	4
Saratoga	1	...	1
Schenectady	...	7	7
Schoharie	...	1	1
Steuben	...	1	1
Suffolk	...	15 (1 rescinded)	15
Tompkins	1	...	1
Ulster	2	2	4
Westchester	9	23	32
TOTAL	147	392	539
Rescinded	...	6	6
	147	386	533

Respectfully submitted,
W. P. ANDERTON, M.D., *Secretary*

Report of the Council

To the House of Delegates, Gentlemen:

Your Council has the honor to report on the executive and administrative affairs of the Society in the period following your last meeting, May 10 to 14, 1954. The various matters that came before it, actions thereon, and recommendations are here presented.

Committee on Constitution and Bylaws

The Council Committee on Constitution and Bylaws has the following membership:

Frederick W. Williams, M.D., *Chairman*	Bronx
Norman C. Lyster, M.D.	Chenango
Homer L. Nelms, M.D.	Albany
James R. Reuling, M.D., *Adviser*	Queens

Your committee has reviewed and approved revisions or amendments of the constitutions or bylaws, or both, of the Medical Societies of the Counties of Albany, Franklin, Genesee, Otsego, and Wayne.

These amendments and revisions were reviewed by the secretary and by legal counsel as well as by each member of the committee before being presented to the Council. All of the changes received the approval of the Council, and in each case the county medical society affected by the proposed change was notified of its approval.

Amendments to their constitutions and bylaws have also been submitted by the Broome County Medical Society and the Medical Society of the County of Steuben. Legal counsel has not yet commented on these proposed changes.

The chairman wishes to express his gratitude for the painstaking work of the committee members, the Society secretary, and Mr. John R. Burns, of counsel.

PART I

Postgraduate Medical Education

The Council Committee on Public Health and Education has as its members:

Theodore J. Curphey, M.D., *Chairman*	Garden City
A. H. Aaron, M.D.	Buffalo
Charles D. Post, M.D.	Syracuse

Advisers

Herman E. Hilleboe, M.D., Commissioner, New York State Department of Health, Albany

Leona Baumgartner, M.D., Commissioner of Health, City of New York

The functions of the committee are as follows:

1. To arrange postgraduate medical instruction for the members of the Society.

2. To act as liaison between the Society and the State Department of Health for the purpose of coordinating the efforts of both groups in those fields of medical interest in which there is already common agreement and for resolving differences of opinion, leading to ultimate common action in matters that initially provide room for divergent viewpoints.

3. To coordinate the work of its various subcommittees with that of the Society as a whole and to present to the Council and the House of Delegates the recommendations of these committees regarding matters of policy and contemplated action in their respective fields of interest. Following upon this, future action and policy are determined solely by action of the Council or the House of Delegates.

To stimulate greater participation in committee work by the members of the Society and to assist the president in his choice of men who are interested and have had experience in certain phases of the work of the Society at the county level, a letter was sent to the secretaries of the county medical societies. It was attended by a generous response which will form the basis of choice for appointing members to serve on the subcommittees of the parent Council committee.

The Council committee once more takes pleasure in acknowledging its debt and its sincere appreciation of the assistance of Dr. W. P. Anderton, secretary of the State Society; to Miss Doris K. Dougherty, his executive assistant; to Mr. Frederick W. Miebach of the Public and Professional Relations Bureau and his staff; to Mr. George Farrell of the Bureau of Medical Care Insurance; to Mr. "Bill" Bonzer for his cooperation in our mimeographing, and to Miss Sue Baker, our loyal and energetic executive assistant, whose responsibilities and range of activities increase with each succeeding year.

Sincere thanks also go to the Medical Society of the County of Queens for the continuing facilities and cooperation we receive at the hands of the officers and staff of that society.

Since submitting its annual report for 1953–1954, the committee has arranged, as of February, 1955, postgraduate instruction, presented as lecture series, symposia, or single lectures for 40 groups. A total of 179 speakers participated in these meetings, as compared with 125 in 1951–1952 and 185 in 1953–1954.

Of the following list of postgraduate sessions, 21 were arranged by the Postgraduate Education Department of the State University of New York College of Medicine at Syracuse, in cooperation with our committee.

COUNTY	ORGANIZATION	NUMBER OF LECTURES
Albany		6
Broome	Medical Society	1
	Binghamton Academy of Medicine	5
	Binghamton Academy of General Practice	1
	Binghamton City Hospital Staff	1

Chemung	Medical Society	1
	Academy of General Practice	2
Chenango	Medical Society	3*
	Arranged by Syracuse	9
Cortland	Medical Society	7
Delaware	Medical Society	4*
Dutchess	Medical Society	3*
Franklin	Medical Society	1
Fulton	Medical Society	7
	Academy of General Practice	5
Herkimer	Medical Society	1
Jefferson	Medical Society	5
	Arranged by Syracuse	2
Livingston	Medical Society	3
Monroe	Rochester General Hospital (Symposium)	2
Montgomery	Medical Society	3*
Nassau	Medical Society (3 Symposia)	9
	Medical Society and Cancer Society (Symposium)	2
Oneida	Utica Academy of Medicine	5*
Onondaga	Medical Society	5
Ontario	Medical Society	5
	Geneva Academy of Medicine	11*
Orange	Medical Society	1
	Cornwall Hospital Staff (Symposium)	2
Rensselaer	Medical Society	7*
Richmond	Medical Society	1
St. Lawrence	Arranged by Syracuse	10
Steuben	Medical Society	3
Suffolk	Medical Society	
	Regular meetings	4
	Saturday morning series	10
Sullivan	Medical Society	10
Tompkins	Medical Society	3
Ulster	Medical Society	1
Wayne	E. J. Barber Hospital Staff, Lyons	6

Again this year several medical organizations not identified with a particular county or city made use of the committee's services. Lectures were arranged for the Mohawk Valley Obstetrical and Gynecological Society (five), a Regional Trauma Committee of the American College of Surgeons, and the Queensboro Tuberculosis and Health Association (two). Also, the Kingston Laboratory celebrated its twentieth anniversary in May, 1954, with an extensive, day-long program with many prominent speakers. Our committee helped defray travel expenses of three of the participants, while the State Health Department provided honoraria. The committee has also provided a speaker on "Living with High Blood Pressure and Heart Trouble" for one of the sessions of the Cornell University Farm and Home Week in Ithaca. These 12 speakers are included in the total figure already noted above.

Regional Meetings and Teaching Days.—For regional meetings (consisting of only one session of postgraduate instruction) and for regional teaching days, invitations are sent to the members of the medical societies in counties adjacent to that in which the instruction is given. The committee arranges for the speakers and for printing and distribution of programs to county medical societies, medical schools, and the NEW YORK STATE JOURNAL OF MEDICINE; the Bureau of Public and Professional Relations of the State Society stimulates publication in local newspapers.

Following is a list of counties where regional meetings or teaching days have been held this year or will be held in the near future (these 30 lectures are not included in the figures already given):

County	Region	Subject	Number of Lectures
Albany*	Columbia, Fulton Greene, Montgomery, Rensselaer, Saratoga, Schoharie, Warren, Washington	Cancer	7
Broome	Chemung, Chenango, Cortland, Delaware, Otsego, Schuyler, Tioga, Tompkins	Gastroenterology	4
Broome	Not regional	Cardiovascular Disease	4
Cayuga	Chemung, Cortland, Onondaga, Oswego, Wayne	Cancer	4
Jefferson (with Northern New York Academy of General Practice)		Gastrointestinal Diseases	4
Oneida (with Utica Academy of Medicine)	Herkimer, Madison	Cancer	5
Otsego* (Tumor Clinic at Mary Imogene Bassett Hospital)	Delaware, Herkimer, Schoharie	Cancer	2

Round Table Discussions at Annual Meeting, 1955.—The Subcommittee on Heart Disease has been allotted a generous portion of the General Practice Section's meeting time to present a program on "The Cardiac in Industry." This will lead, it is hoped, to active cooperation and planning with industrial and labor authorities, the New York Heart Assembly, and other interested organizations, with a view to concerted action in meeting the problems posed by this type of disability.

A second round table discussion will be devoted to "Psychiatric Implications in Medical Problems." The program has been arranged by the chairman of the Subcommittee on Mental Hygiene, Dr. Curtis T. Prout, and Dr. Harry A. Steckel, a member of the subcommittee, who will act as moderator of the discussion. It is hoped to point out the role of the physician in dealing with mental health problems, especially in relation to the new Community Mental Health Services Law passed by the State Legislature last spring.

Revision of Course Outline Book.—The *Course Outline Book* was revised for the year 1954–1955. Copies were mailed to all county medical society officers and program chairmen, officers and committees of the State Society, as well as to numerous representatives of health organizations.

With the interest of the Subcommittee on General Practice in mind and in an attempt to meet their postgraduate education needs, the present edition includes a series of panels directed toward the problems of the general practitioner. The major advantage of this type of exercise is its value from the point of view of audience participation. Included in the series are "Pediatric Problems in General Practice," "Common Dermatologic Diseases," "Modern Management of Heart Disease," "The Problems of Diagnosis and Treatment of Common Obstetric and Gynecologic Conditions," and "Problems Concerning the Early Diagnosis and Treatment of the Common and More Accessible Types of Cancer."

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* Includes symposia by two or three participants.

* Arranged by State Health Department. Committee provided only stamped, addressed envelopes for programs.

Joint Meetings with State Department of Health.—During 1954 the Council Committee on Public Health and Education has met with Dr. Hilleboe, Commissioner of Health of New York State, and his staff to discuss various problems concerning which the State Health Department and the Medical Society of the State of New York have a joint interest. The past year has shown further evidence of the now well-established confidence that each group enjoys in its reception of advice and action of the other in matters of common or even of unilateral concern.

The committee has been particularly impressed with the objectivity of the Commissioner and his staff when problems involving divergent viewpoints of private and governmental medical practice are discussed. Agreement has invariably been reached after full elaboration and frank discussion, with the result that the final opinion is expressed in terms of the best interests of the health and welfare of the people, to the exclusion of any special interest of either the Department of Health or the Medical Society of the State of New York. Perhaps the most recent example of this objectivity can be seen from a study of the report of the Ad Hoc Committee on the Practice of Laboratory Medicine (*see page 988*). The final adoption of this report by the two groups might be used as a fair example of what can be achieved in a controversial area when sufficient effort is spent beforehand in gathering pertinent data dealing with the problem, followed by impartial discussion. Your committee is of the firm opinion that the main reason for the impasse, which frequently develops when controversial medical views are debated, is dependent on the fact that neither side is fully familiar with the factual evidence necessary to evaluate the problem objectively, with the attendant result that frequently one side or the other resorts to the device of arbitrarily defending a stand rather than of evaluating the problem in the light of adequate available information. It is hoped that as time goes on, many more of the remaining divergent views between private and governmental medical practice will lend themselves to solution by this approach.

In this connection if real progress is to be made so as to extend through the entire medical structure to the daily working level at the grass roots, it is vitally necessary that information, concerning the matters at issue and the ways and means by which they have been resolved, be channeled to the component county units by the parent organizations involved. With due regard to the importance of the autonomy of the local unit, be it the district or county health department or the county medical society, it is likely that more solutions of these problems would be forthcoming if the local groups were better acquainted with the thinking governing the actions of the parent bodies at the State level than has hitherto been the case. To this end the various committee chairmen of the county medical societies involved in local problems of public health are urged to communicate with the Committee on Public Health and Education to determine whether any existing joint policy of the State Health Department and the Medical Society of the State of New York covers the particular local problem. In instances where such policy does not exist and where the matter appears to be of sufficient importance to warrant, the Council Committee will deem it a duty to present the matter for discussion with the Commissioner of Health and his staff at one of the joint meetings.

Agenda for Joint Meetings.—Since the 1954 annual meeting of the State Society, there have been three joint meetings. The following items, among others, have been discussed:

1. Problems of ionizing radiation—its standardization and disposal.
2. Health conditions in migrant labor camps.
3. School health services.
4. Inspection problem of "sick and diseased" poultry offered for sale in New York State.
5. Enabling legislation to establish a commission to survey the problem of continuation medical education in the State. Such a commission would be empowered (*a*) to make an inventory of existing opportunities for continuation medical education; (*b*) to determine the need for additional facilities; (*c*) within the appropriations therefor to construct and operate additional physical facilities, including a continuation medical education center; (*d*) to coordinate and supplement but not replace or supplant existing opportunities for continuation medical education, and (*e*) within the appropriations therefor to enter into contracts with private institutions or agencies.

Letters were written to certain key men in the State Society and to the deans of the medical schools in the State, requesting their opinions of a draft of the plan for possible legislation of the above type. The committee also consulted with the American Medical Association and one or two other organizations interested in postgraduate medical education. On February 9, 1955, a meeting was attended by several deans and representatives of the Academy of General Practice, as well as Dr. Greenough, chairman of the Committee on Legislation. The following recommendations were made and were subsequently approved by the Council at its February 10 meeting: (*a*) that the need is recognized for a survey of the existing and potential postgraduate educational facilities, with the view to their over-all integration; (*b*) that the matter of enabling legislation in this regard be tabled until the next legislative session; (*c*) that such a survey would preferably be made under the auspices of the Medical Society of the State of New York; (*d*) that financial support for such a survey preferably be sought from one of the foundations.

6. State aid for premature infant care program.
7. Proposed survey by Subcommittee on Maternal and Child Welfare.

8. Polio vaccine project for 1955 season. Dr. Larimore of the State Health Department supplied the committee with a copy of the statement of the plans developed at the recent Poliomyelitis Vaccine Conference held in New York City. Commissioner Hilleboe was one of the two representatives of the American Public Health Association. The conference was held at the invitation of the National Foundation for Infantile Paralysis to consider administrative policies relative to the distribution and administration of the supply of vaccine purchased by the Foundation. Dr. Larimore pointed out that the results of the 1954 tests will probably be available around the middle of April. If and when the vaccine is licensed by the National Institutes of Health, it will be supplied by the National Foundation to State health officers in amounts sufficient to provide for the vaccination of (*a*) children who took part in the 1954 field trial but who did not receive vaccine and (*b*) children enrolled in the first and second grades of all public, private, and parochial schools in the spring term of 1955.

It is expected that the 1955 vaccine will be ready for distribution in early May. The Polio Foundation has spent nine million dollars in preparing the vaccine for distribution. The producing pharmaceutical houses have invested a like amount of money for private sale and distribution of the vaccine. The American Medical Association has pledged its cooperation, and the State Health Department is asking the State and county medical societies for continuation of the fine and enthusiastic support that it received last year in the field trials. There are approximately 850,000 children in the State to be immunized this season. The committee agreed to inform the physicians of the forthcoming program through the existing channels of publicity of the State Society.

9. Retrolental fibroplasia. Evidence has accumulated to show that this condition in premature infants can be attributed to exposure to high oxygen concentrations at a time when the eye structures are immature. The State Health Department proposes to write a letter dealing with this matter to be distributed to the hospitals of the State, subject to the approval of the Council.

New York State Citizens' Health Council.—Your chairman attended the third annual meeting of the Citizens' Health Council at Geneva, New York, June 17 to 19, 1954, which was part of the Tenth Annual Institute of Community Leadership sponsored by the New York State Citizens' Council. Represented at the meeting, in addition to the State Society, were the State Charities Aid Association, the Dental Society of the State of New York, the State Labor Department, Education Department, and Health Department. Past activities were reviewed, and a plan for future projects was proposed, including a second Rural Health Conference in conjunction with Cornell University.

The meeting on December 14, 1954, of the Executive Committee of the Citizens' Health Council was spent in discussion of the problems faced by the town of Massena as a result of the increased influx of labor in connection with the construction of the St. Lawrence Seaway. Plans were considered whereby a program to meet the health needs of the community could be established, for which the Citizens' Health Council would act as an advisory group.

Academy of General Practice.—As in previous years we received from the New York State Chapter of the American Academy of General Practice a request for financial assistance in the program of their annual scientific assembly, held October 11 to 13, 1954, in Syracuse. Again we reimbursed three of the speakers for a portion of their travel expenses and arranged with the State Department of Health for honoraria.

Speaking Engagement of Chairman.—In September, 1954, your chairman had the pleasure of addressing the Tompkins County Medical Society on "The Investigation and Determination of the Cause of Sudden, Suspicious and Violent Deaths."

PART II

Public Health Activities A

Maternal and Child Welfare.—The Subcommittee on Maternal and Child Welfare has the following membership:

Charles A. Gordon, M.D., *Chairman*	Brooklyn
Ralph L. Barrett, M.D.	New York City
Eugene R. Duggan, M.D.	Rochester
Thurman B. Givan, M.D.	Brooklyn
Edward C. Hughes, M.D.	Syracuse
Joseph Loder, M.D.	Rochester
Michael F. Mogavero, M.D.	Buffalo
William J. Orr, M.D.	Buffalo
James K. Quigley, M.D.	Rochester
Frederick H. Wilke, M.D.	New York City

At the time of submitting this report there have been no meetings of the subcommittee this Society year, due to the efforts necessary in organizing an approach for the development of a State-wide study of maternal and perinatal deaths and types of delivery, with a contemplated analysis of cesarean section in the hospitals of the State. The chairman and Dr. Alfred Yankauer of the State Health Department have been in frequent conference aimed at preparing this material before calling the members of the subcommittee and the regional chairmen in obstetrics and pediatrics to a meeting, probably early in April.

The chairman and Dr. Givan attended a joint meeting of the Council Committee with Commissioner Hilleboe and other representatives of the State Health Department on January 28, 1955. Two vital problems ot concern to the Health Department were discussed, recent outbreaks of diarrhea in newborn nurseries and retrolental fibroplasia. The Health Department submitted for consideration a proposed revision of Regulation 35, Chapter II, of the New York State Sanitary Code, dealing with precautions to be observed for the control of diarrhea of the newborn. This outlines the duties of the administrators, proprietors, and governing bodies of the hospitals and those of the health officers. The revision is an attempt to provide more complete regulations for this condition and at the same time to aid in reducing current infractions of the existing regulations. The revision was recommended to the Council at its meeting on February 10, 1955, and the Council approved.

At the joint meeting it was also reported that evidence has accumulated to show that retrolental fibroplasia in premature infants can be attributed to exposure to high oxygen concentrations at a time when the eye structures are immature. The State Health Department proposes to write a letter dealing with this matter to be distributed to the hospitals of the State, subject to the approval of the Council.

The chairman has been asked for advice and has given assistance on several occasions to local physicians on matters of hospital standards and the formation of committees. In some instances the inquiries have been referred to the regional chairman concerned.

A supplementary report of this subcommittee's activities will be made at the annual meeting of the House of Delegates.

School Health.—The Subcommittee on School Health has the following membership:

William E. Ayling, M.D., *Chairman*	Syracuse
Paul Beaven, M.D.	Rochester
James Bennett, M.D.	Baldwinsville
C. Adele Brown, M.D.	Oswego
Thomas S. Bumbalo, M.D.	Buffalo
Joseph A. Geis, M.D.	Loudonville
Jean Pakter, M.D.	New York City
Alfred Yankauer, Jr., M.D.	Albany

There have been two meetings of the subcommittee this year—October 12, 1954, in Buffalo and January 28, 1955, in Syracuse.

As a result of the deliberations of the first meeting a resolution from the New York State Association of School Physicians received the approval of the Council at its meeting November 11, 1954. The resolution follows:

> WHEREAS, we deem that the health of all school children is of paramount importance to the general health, welfare, defense, and economic interest of the nation; and
>
> WHEREAS, we consider that the supervision and the implementation of all health services of school children is best provided by competent practitioners of medicine; and
>
> WHEREAS, the Department of Education has seen fit to designate Health, Physical Education and Recreation as a distinct division of the Department of Education; and
>
> WHEREAS, the health services of all other phases of our society such as industry, government service, and similar establishments have been entrusted to the care and supervision of competent doctors of medicine; therefore, be it
>
> *Resolved*, that the New York State Department of Education establish and maintain a separate and distinct Division of School Health; and be it further
>
> *Resolved*, that such division be manned by competent medical, dental, nursing, and other allied personnel and that the director of the division be a duly qualified and licensed practitioner of medicine in the State of New York; and be it further
>
> *Resolved*, that this resolution be sent at once to the Council of the New York State Medical Society, the New York State Academy of General Practice, the district chairmen of the American Academy of Pediatrics, the New York State Dental Society, the New York State Association of School Nurse-Teachers, the New York State Association of Dental Hygienists, the Commissioner of Education, the Commissioner of Health, the individual members of the Board of Regents, and to the Honorable Thomas E. Dewey, Governor of the State of New York.

Long afternoon and evening sessions on January 28 were devoted to study of a revision of the "Manual on Administration and Supervision of School Health" submitted to the committee by the State Education Department. The arduous and detailed task is still incomplete at this writing but is being continued individually by the members of the committee, who will submit their suggestions to the chairman for transmittal to the Education Department.

On January 20, 1955, the chairman attended a meeting in Albany called by Dr. Forst, chief of the Bureau of Health Service in the State Education Department, for the purpose of conferring on standards and qualifications for the office of part-time school physician. Several recommendations were made, and these are being formally set up by the Education Department.

PART III

Public Health Activities B

Rural Medical Service.—The Subcommittee on Rural Medical Service of the Council Committee on Medical Licensure and Medical Service is composed of the following:

Denver M. Vickers, M.D., *Chairman*	Cambridge
Richard P. Bellaire, M.D.	Saranac Lake
Glenn C. Hatch, M.D.	Penn Yan
Leonard J. Schiff, M.D.	Plattsburg
Thomas M. Watkins, M.D.	Potsdam
Granville W. Larimore, M.D., Adviser	Albany

The Subcommittee on Rural Medical Service has had an important part in the Medical Society of the State of New York for a long time. "New York" may sound metropolitan to the visitor, but rural New York has good fishing and hunting, and agriculture is the important industry over wide areas.

It is obvious that the trend of population is toward the rural areas, and the big housing projects of the last few years have been in the open country between the cities and towns. As the people go, so must medical care follow. We expect, therefore, that more and more physicians will find themselves in rural practice, or at least in suburban practice, and fewer in the urban centers.

The American Medical Association has recognized this trend and has a Council on Rural Health devoted to the problems of medicine in the country.

This council, in addition to its routine work through the year, holds an annual meeting, this year in February in Milwaukee, with sessions open to doctors and also to educators, laymen from community groups, etc., who are interested in the economic problems of public and private health. The unofficial motto of the council is "Helping the Community to Help Itself to Better Health."

Cornell University has a Department of Rural Sociology and has devoted some time to the layman's view of medical problems.

The New York State Academy of General Practice has a Committee on Rural Health. This is another avenue to reach the doctor in the rural areas.

The sessions held by these organizations are surprisingly well attended and give an index of the interest in the subject. Other states have detailed their difficulties in inducing young doctors to practice in the rural areas and have adopted some very interesting schemes to help them along. Your chairman has been present at several of these meetings and is impressed by the enthusiasm of the people attending, both professional and laymen.

The problems of medical care in the country largely are concerned with availability of the ancillary services, and any community that wishes to procure or keep medical coverage must satisfactorily solve this problem. If the doctor can easily obtain satisfactory coverage in x-ray, laboratory, nursing, hospital care, and the like, he will tend to prefer to live in rural surroundings. But any well-trained doctor tends to go where he can use his training and skill to the best advantage, and modern medicine requires these supplemental aids.

It has been found that small hospitals are not economical to operate, but small hospitals may be necessary for good medical care in the community. Clinics, nursing homes, and small health centers may take some of the pressure off this side of the picture, and with the improvement in roads throughout the State, transportation to a good hospital of the patient and the doctor has become more easily effected. New York State has had a number of new hospitals built in the last few years with help from Hill-Burton funds.

It is interesting to hear of the hospitals, clinics, doctors' offices, or laboratories that have been set up or encouraged by an interested group of citizens in some of the smaller communities in an effort to attract suitable medical coverage. Old doctors' offices have been rebuilt, doctors' homes renovated and then rented or sold to a new doctor. Laboratories have been attracted or subsidized, often with the assistance of the State Department of Health, and x-ray coverage has been arranged.

Your genial secretary, Dr. W. P. Anderton, for a number of years has maintained a directory in his office of the communities requesting physicians and also of doctors requesting information about a location in which to practice. It is probable that there are now very few communities in the State that are more than an hour's ride from a doctor or more than a few hours' ride from a hospital, but there are wide variations in different sections.

Many doctors live in the country and practice in the city, just as many men commute daily to their work in the metropolitan areas. These men can see for themselves the advantages of country living and can appreciate the factors that will enable a doctor to give good medical coverage to their patients in the rural areas.

The physicians in the rural areas are perhaps more individualistic even than their city brothers. Farmers are noted for this tendency, and their doctors partake of the same mental habits. They are hard to organize and difficult to fit into any organized scheme. But it is more and more obvious that one of the problems of rural medicine is to obtain coverage when one doctor is away, for a day or a week or a month, on pleasure trips or for postgraduate studies. The cities and some of the smaller towns have organized panels for medical care at all hours of the day and over week ends and holidays. Some such scheme must be set up by the rural doctors so that the public may be assured of adequate medical coverage at all times. The doctors should learn to see each other's patients during the emergency and then return them to the care of the original physician when the emergency is over. This has not always been possible in the rural areas.

Farmers are accident prone. Farming is a hazardous occupation. This has been proved by the studies of Creevey in Washington County and Powers in Cooperstown, as published in the NEW YORK STATE JOURNAL OF MEDICINE. Farmers do not generally carry compensation insurance or liability insurance, and if they do, the rates are high.

It would seem very possible that a campaign should be put on, perhaps in conjunction with the State Department of Health, to increase the awareness of the farmer to the dangers of his job and to encourage him to protect the open gears of corn cutters, ensilage cutters, circular saws, and the like to reduce this considerable toll in the morbidity, mortality, and loss of income during the period affected.

Your committee feels, too, that Blue Cross and Blue Shield coverage is not widely spread among the farmers, and that some provision should be made to attract groups of these individuals to the recognized plans sponsored by the Medical Society, which have done so well in industry and in the urban areas.

The rural doctors need more postgraduate medical education. Granted that there are a wide variety of lectures at the medical schools and that the Society-sponsored project of supplying speakers for medical meetings has done a great deal, there is still a gap. The men must be induced to attend these meetings, or the meetings must be brought to them. Perhaps the new programs in television may gradually be expanded to cover this field.

The problems of rural medicine, both as they affect the patients and the doctors, are, in general, those of medicine in the cities with a few added difficulties. The proportion of rural doctors in our Society is high and probably will increase percentagewise over the next few years. This group must be considered in planning the programs of our Society. Their overlapping problems of economics, welfare medicine, compensation, and the like will be handled by the appropriate committee of the Medical Society, and the Subcommittee on Rural Medical Service appreciates this overlapping coverage, especially during the last few years.

Your committee knows of no great controversial issues to be considered at this meeting of the House of Delegates. This report is in the nature of a "progress report" for information of the members of the House on the continuing work of the Subcommittee on Rural Medical Service. The people in the rural areas of New York deserve good medical care, and it is the duty of our Society to see that it is obtained.

General Practice.—The Subcommittee on General Practice has the following membership:

Floyd C. Bratt, M.D., *Chairman*	Rochester
Louis Bush, M.D.	Baldwin
Du Mont F. Elmendorf, M.D.	New York City
Seymour Fiske, M.D.	New York City
Gregory A. Galvin, M.D.	Ithaca
Leon F. Roper, M.D.	Belmont
Garra L. Lester, M.D.	Chautauqua

This year's activities of the subcommittee have been increased in the following areas: (1) hospital relations, (2) cooperation with various groups of organized medicine, (3) continued educational opportunities, (4) support of public health programs, (5) health examinations and cancer detection, and (6) public relations and community affairs.

There has been an increasing interest in the formation of general practice departments in hospitals during the past year. Two members of this subcommittee, Drs. Fiske and Bratt, attended a northeastern regional meeting of state chapter chairmen of hospital committees of the American Academy of General Practice at Northampton, Massachusetts, on September 19, 1954. Valuable information was obtained concerning the functioning of these departments and the comparative hospital privileges enjoyed by physicians in this area. At the December 12, 1954, meeting of the subcommittee additional replies to the hospital questionnaire circulated among the hospitals of this State last spring were analyzed by Dr. Fiske. Thirty-four hospitals of 100 already had these departments, and 38 stated their willingness to establish them. However, Dr. Fiske commented that there was a demonstrated lack of understanding concerning the manner in which a general practice department operates in a hospital. Certain members of the committee are at present conferring with administrators in various hospitals to clarify the details of organization of such departments.

At the meeting in December, the establishment by county medical societies of a hospital and professional relations committee, with major representation on the part of general practitioners, was discussed. It was the opinion of the subcommittee that well-informed general physicians working through their county societies and with medical boards of individual hospitals could accomplish much in the improvement of medical care by all physicians, especially in the hospitals.

This subcommittee has continued to cooperate with various groups, including committees and subcommittees of the Medical Society of the State of New York, the New York State Department of Health, the American Cancer Society, and the New York State Academy of General Practice. Local groups are urged to avail themselves of postgraduate medical education facilities offered by the Council Committee on Public Health and Education through its *Course Outline Book*. Planned programs should always be cleared through county medical societies.

A health examination form to facilitate comprehensive physical examinations and to assist in cancer detection has been mailed to every physician in upstate New York, and arrangements are being made to mail it to all metropolitan area physicians. There have been many requests for additional copies not only from groups within our Society but also from several other state societies throughout the country. Continued and widespread use of this form will result in improved medical care to citizens of this State.

A summary of the work and accomplishments of the Subcommittee on General Practice from the time it was originally founded in December, 1950, to date was prepared and submitted to Dr. Peter J. Di Natale, chairman of the Planning Committee for Medical Policies, in connection with a study of the committees of the Medical Society of the State of New York.

PART IV

Public Health Activities C

Cancer.—The Subcommittee on Cancer has the following membership:

Irwin E. Siris, M.D., *Chairman*	New York City
John S. Fitzgerald, M.D.	Utica
Victor C. Jacobsen, M.D.	Troy
John G. Masterson, M.D.	Franklin Square
Dwight V. Needham, M.D.	Syracuse
James Craig Potter, M.D.	Rochester
Samuel Sanes, M.D.	Eggertsville
William L. Watson, M.D.	New York City
Charles S. Cameron, M.D., American Cancer Society	New York City
Paul R. Gerhardt, M.D., Bureau of Cancer Control, New York State Department of Health	Albany
Theodore Rosenthal, M.D., Assistant Commissioner, Department of Health, City of New York	New York City

A meeting of the subcommittee was held in New York on October 26, 1954. The next meeting is to be held on March 2, 1955, at the Roswell Park Memorial Institute in Buffalo at the invitation of Commissioner of Health Herman E. Hilleboe. A number of informal meetings have been held with Dr. Theodore J. Curphey, chairman of the Council Committee on Public Health and Education; Dr. Paul Gerhardt, director of the Bureau of Cancer

Control of the Department of Health of the State of New York; Dr. Abraham Oppenheim, director of Cancer Control of the Health Department of the City of New York, and Dr. Laurance D. Redway, editor of the NEW YORK STATE JOURNAL OF MEDICINE.

The meeting of October 26 was highlighted by the increasing cooperation not only of the State Department of Health, which has always been cognizant of the efforts of the State Medical Society, but also by the same spirit of coordination of effort upon the part of the Health Department of the City of New York. Dr. Theodore Rosenthal, Assistant Commissioner of the Department, was present as a member of the subcommittee.

Dr. Rosenthal and Dr. Oppenheim presented an outline of a tentative program for cancer control for the City of New York. The active participation of the Health Departments of the City and the State of New York and of the American Cancer Society should enhance the efforts of the committee in evolving a uniform and progressive program in dealing with the cancer problem.

Health Examination Forms.—The committee wishes to report that the New York State Division of the American Cancer Society graciously defrayed the cost of the envelopes and postage of sample health examination forms printed by the State Health Department, which were sent to the physicians of the 54 upstate counties. This was a project of the Subcommittee on General Practice in which Dr. George C. Adie, former chairman of the committee, actively participated with the Bureau of Cancer Control of the State. Its purpose is to interest the general practitioner in providing in his office comprehensive health examinations, particularly with respect to detection of early cancer. We are indebted to the American Cancer Society (New York State Division) and especially to Dr. Gerhardt, its chairman, for presenting this vitally interesting program to the attention of the Educational and Executive Committees of that society.

Symposium on Treatment of Cancer.—Dr. Gerhardt reported on the excellent response of the general practitioners to the articles on "Diagnosis of Cancer" in the NEW YORK STATE JOURNAL OF MEDICINE under the auspices of this committee with the cooperation of the American Cancer Society and the Bureau of Cancer Control of the State Department of Health. Dr. Gerhardt proposed, and it was unanimously approved, that a similar series of articles on the treatment of cancer be published. This has been approved by the Council of the Medical Society. Recognized authorities in the State have been asked to contribute these papers. The committee voices here its appreciation for their gracious cooperation.

Mortality and Incidence of Cancer.—The significant drop in mortality rates as compared with incidence rate of cancer upstate was reported. It was recommended that an editorial be written in the JOURNAL summarizing the observations which Dr. Gerhardt reported. This was approved by the Council and submitted to Dr. Laurance D. Redway, editor.

Tumor Clinics.—Members of the subcommittee have frequently voiced their approval of the increasing number of tumor clinics as an integral part of the hospitals throughout the State. Many of these clinics are cancer diagnostic centers and, in addition, are increasing their facilities for all forms of modern methods of therapy.

Weekly and monthly clinical and pathologic conferences, including discussions in therapy, nursing, and rehabilitation problems relating to the cancer patient, afford education and experience to the local physician.

The significant achievement of these tumor clinics is to bring into relief for the physician the convergence of viewpoints in a coordinated effort in diagnosis and in the utilization of the contributions of recent research in controversial methods of treatment of cancer.

Cancer Detection Clinics.—The committee has repeatedly stressed that the vital center of the campaign for early diagnosis of cancer is the *doctor's office.* The publicity and educational campaigns directed to the laity for *periodic health examination* by the family physician have produced tangible results and should be continued relentlessly.

Statistical studies indicate that the time factor for the busy physician has been greatly reduced in his search for cancer by routine radiographic examination of the lungs, examination of the breast, cervix, skin, thyroid, and digital examination by rectum, further investigation being indicated by bleeding from any of the external orifices or unexplainable vague symptoms.

There are 35 cancer detection centers in the entire State of New York other than physicians' offices. Publicity and education have directed many people to these centers. The statistical data derived have been of scientific interest in emphasizing the incidence of precancerous conditions and of cancer in asymptomatic patients. The incidence of detection even though costly, the opportunity for training physicians, and the educational significance of these statistics for the profession and the community justify their continuation.

At the March meeting in Buffalo the committee proposed to discuss a questionnaire which might be used annually in surveying the cancer detection clinics. The questionnaire will be a joint project of the cancer subcommittee and the Bureaus of Cancer Control of the Health Departments of the State and City of New York. Pertinent facts about these clinics will relate not only to all their clinical activities but also to their method of support.

Heart Disease.—The Subcommittee on Heart Disease has the following membership:

George M. Wheatley, M.D., *Chairman*	New York City
John J. Finigan, M.D.	Rochester
J. G. Fred Hiss, M.D.	Syracuse
Frederick L. Landau, Jr., M.D.	Bronxville

The subcommittee met on November 17, 1954, with representatives of the Industrial Health and Workmen's Compensation Committees to consider the implementation of the action of the House of Delegates in May, 1954, when it voted that "the problems arising from the employment of persons with cardiac impairments. . . be referred to the Cardiac Committee of the Public Health and Education Committee." There was detailed discussion of the broad aspects of the problem, including the need for standards of work classification, work history of different types of heart disease, increase or decrease in occurrence of heart disease among workers, relationship of hard work to development of heart disease, effect on retirement programs in industry, and education of the general physician and the public.

It was decided that an attempt would be made to collect pertinent information on the aspects of the problem; that a statement of these problems would be developed for eventual presentation to representatives of interested organizations (industry, labor, casualty and other insurance companies, Workmen's Compensation Board, New York State Academy of General Practice, New York Heart Assembly, etc.); that a program would be developed on "The Cardiac in Industry" for the annual meeting in May, 1955. It was also planned to publish an article on this subject in the NEW YORK STATE JOURNAL OF MEDICINE to stimulate interest of physicians of the State and to encourage attendance at the session in May.

Mental Hygiene.—The Subcommittee on Mental Hygiene has the following membership:

Curtis T. Prout, M.D., *Chairman*	White Plains
George R. Lavine, M.D.	Rochester
Margaret T. Ross, M.D.	New York City
Edward F. Shea, M.D.	Kingston
Harry A. Steckel, M.D.	Syracuse

There has been one meeting of the subcommittee since the last annual report, on October 25, 1954. Dr. Edward F. Shea, representing the chairman, attended a conference in Chicago, September 17 and 18, sponsored by the Council on Mental Health of the American Medical Association for chairmen of mental health committees of state medical associations. In reporting on this meeting Dr. Shea emphasized that group's concern over the apathy of the general physician in matters of mental health.

The committee discussed the newly enacted Community Mental Health Services Law and saw in it a means of educating the doctors of the State on the subject. They recommended to the Council "that the facts of the new Community Mental Health Services Law be brought forcibly to the attention of each county medical society, with the recommendation that (*a*) on the Mental Health Board the two physician members actually represent the views of the county medical society; (*b*) that the Mental Health Board be autonomous, i.e., responsible to the county executive office rather than to any other health association; (*c*) that the medical profession, as represented by the county medical society, lead in the medical policy-making of such community health projects; (*d*) that the Community Health Board can serve as a center from which education of the general physician in the recognition and management of incipient mental disease may be conducted.

The Council approved this at its November 11 meeting, and a letter embodying the recommendations was sent by the secretary of the State Society to the constituent county medical societies. Dr. Robert Hunt, Assistant Commissioner of Mental Hygiene of the State of New York, spoke on the new law at this Council meeting. Information as to these recommendations also appeared in the *Newsletter*.

In a further effort to stress the importance of participation by the physician in solving the problems of the mentally ill, the subcommittee has arranged a round table discussion at the annual meeting in Buffalo in May, 1955, on the role of the medical profession in the field of mental health.

Medical Film Review.—The Subcommittee on Medical Film Review has the following membership:

John L. Norris, M.D., *Chairman*	Rochester
Kenneth B. Olson, M.D.	Albany
Beverly C. Smith, M.D.	New York City
James J. Quinlivan, M.D., Director, Office of Public Health Education, New York State Department of Health	Albany

The film review subcommittee reviewed 26 films during 1954. Eleven of these were considered of sufficient value to add to our film library; it was felt unwise to purchase 15 of them.

Most of this work was done by Dr. Kenneth B. Olson and his associates. The chairman would like to thank Dr. Olson for carrying most of the burden of the work this year.

PART V

Public Health Activities D

Physical Medicine and Rehabilitation.—The Subcommittee on Physical Medicine and Rehabilitation has the following membership:

Willis M. Weeden, M.D., *Chairman*	New York City
Arthur S. Abramson, M.D.	Bronx
John W. Ghormley, M.D.	Albany
Alfred L. Lane, M.D.	Rochester
Donald G. MacElroy, M.D.	Schenectady
George M. Raus, M.D.	Syracuse
William B. Snow, M.D.	New York City

There have been no meetings of the Subcommittee on Physical Medicine and Rehabilitation during the past year.

The principal interest of the subcommittee remains the amelioration of the shortage of trained personnel in all areas of rehabilitative work. On numerous occasions the chairman has brought the subject before the Committee on Rehabilitation of the State Interdepartmental Health Council. Last spring the Legislature amended the State Education Law to provide for the provisional, supervised employment of applicants for physiotherapy licensure in hospital, clinic, or office of licensed physician or physiotherapist or in civil service, for not more than six months pending granting or denial of State license. This legislation had been supported by the State Society upon recommendation of the subcommittee, but further action is now necessary to provide adequate relief of the situation, namely, temporary provisional appointments of physical therapists admitted to the licensing examination should be extended to twelve months.

The chairman is still awaiting definite word from the secretary of the Board of Regents relative to clarification of the State Education Department's present interpretation of the law in such a way as to require a physical therapy school to maintain a four-year curriculum and an individual to receive all training in one school. This makes it prohibitive for the New York Medical College to set up a one or two-year course, as it desires to do.

The matter of a workmen's compensation fee schedule for specialists in physical medicine and rehabilitation, advocated by Dr. Howard Rusk and other leaders in the field and recommended by the subcommittee for study by the Workmen's Compensation Committee in consultation with our subcommittee, is still in abeyance. Following preliminary conferences in May, 1954, with all interested State agencies, Mr. George Farrell of the Medical Care Insurance Bureau of the State Society has undertaken an extensive detailed comparison of all medical and rehabilitation fee schedules utilized by the various departments of the State government, i.e., Health Department, Division of Medical Services; Education Department, Division of Vocational Rehabilitation; Department of Social Welfare, Welfare Medical Services; Department of Labor, Workmen's Compensation Board. It is a monumental task with the ultimate aim of arriving at a standard nomenclature and of bringing the various fee schedules into closer alignment.

Geriatrics.—The Subcommittee on Geriatrics has the following membership:

Frederic D. Zeman, M.D., *Chairman*	New York City
C. Ward Crampton, M.D.	New York City
John L. Edwards, M.D.	Hudson
Stephen A. Graczyk, M.D.	Buffalo
Vrooman S. Higby, M.D.	Bath
Nathan A. Schwalbe, M.D.	Clifton Springs
Herman E. Wirth, M.D., Director, Bureau of Chronic Disease and Geriatrics, Division of Medical Services, New York State Department of Health, *Adviser*	Albany

There have been no meetings of this subcommittee during the past year.

Diabetes.—The Subcommittee on Diabetes has the following membership:

Leonard J. Schiff, M.D. *Chairman*	Plattsburg
Edwin W. Gates, M.D.	Niagara Falls
Charles B. F. Gibbs, M.D.	Rochester
Henry E. Marks, M.D.	New York City
Frederick W. Williams, M.D.	Bronx

The subcommittee held one meeting at the State Society offices in New York on September 7, 1954.

The chief function of this subcommittee is to promote diabetes detection and education programs throughout New York State. This is accomplished by encouraging the county medical societies to establish committees on diabetes. The county committees receive materials for their work from the American Diabetes Association, which sponsors a nationwide diabetes detection drive each November. At our meeting it was brought out that professional education was fully as important as lay education. Ways and means of securing better coverage throughout New York State were discussed.

The following program was carried out in 1954:

1. A letter was sent to the chairmen of all county society diabetes committees. This letter congratulated the chairmen for their past activities and urged further activity in 1954.
2. A personal letter was sent to the president of every county society which did not have a diabetes committee. An effort was made to persuade these societies to form committees.
3. Members of the subcommittee made personal contacts with physicians in the various areas of the State in an attempt to stimulate local interest in diabetes detection and education.
4. A letter has been written to the Woman's Auxiliary suggesting that an exhibit on diabetes be included in their program at the State Fair in Syracuse this year.
5. Through the cooperation of the editor of the JOURNAL and the Public and Professional Relations Bureau, news items concerning diabetes week were carried in the JOURNAL and in the *Newsletter*.
6. A considerable amount of personal correspondence was carried on with various persons including county society presidents, secretaries, and chairmen of diabetes committees and with the office of the American Diabetes Association, in order to coordinate their activities.

Definite conclusions as to the results of such a program are difficult to reach on the basis of present reports, but there is an inescapable conclusion that progress is very slow. One very encouraging note is that nine counties which had no diabetes committees in 1953 did appoint such a committee in 1954. Two counties which had diabetes committees in 1953 did not have one in 1954. There is a net gain, therefore, of seven counties. Forty-seven county medical societies now have diabetes committees.

The New York State Department of Health has recently shown an active interest in diabetes detection and education. Several conferences have been held with Dr. Herman E. Wirth, who is director of chronic disease and geriatric programs in the Division of Medical Services.

In the immediate future we will continue our present efforts, concentrating chiefly on those counties which still have no program. We look forward to continued conference and planning with the American Diabetes Association and the New York State Department of Health in order to produce a coordinated program. This program should make the best use of the efforts of all concerned without infringing on their respective fields of interest, and particularly upon those of the doctor. This, we feel, will be our most useful service to the Medical Society of the State of New York.

Cerebral Palsy.—The Subcommittee on Cerebral Palsy has the following membership:

George G. Deaver, M.D.,
Chairman....................New York City
Austin J. Canning, M.D.......West Haverstraw
Russell P. Schwartz, M.D.............Rochester

There have been no meetings of the Subcommittee on Cerebral Palsy during the year.

Hard of Hearing and the Deaf.—The Subcommittee on the Hard of Hearing and the Deaf has the following membership:

Edmund P. Fowler, Sr., M.D.
Chairman....................New York City
Charles A. Anderson, M.D............Brooklyn
Greydon G. Boyd, M.D.........New York City
Earl W. Gruppe, M.D....................Utica
Gordon D. Hoople, M.D...............Syracuse
C. Stewart Nash, M.D...............Rochester

Advisers

Clarence D. O'Connor, Ph.D.,
Lexington School for the Deaf..New York City
Mrs. Eleanor C. Ronnei, New
York League for Hard of
Hearing....................New York City

During the past year the subcommittee has had several informal meetings, taking advantage of the members' attendance at meetings of the special otolaryngologic societies in different parts of the country. The only regular meeting was held in New York on February 17, 1955, at which time each member reported upon the progress in his area of the committee's plan to educate not only the physicians but the teachers and parents of children with hearing defects.

The greatest problem seems to concern the child with comparatively little hearing loss who lives beyond convenient reach of the speech centers. Once he is fitted with a hearing aid, there is no follow-up with conservation of hearing instruction. However, Mrs. Ronnei pointed out that if proper teachers are available, State financial aid can be secured under the Home Teaching Act to defray 50 per cent of the cost. The local board of education will supply the remainder. Because of personnel shortage, however, probably it would be necessary in the rural areas for several schools to utilize jointly the services of one specially trained teacher.

Interest was evinced in the "Parents Group" which the League for Hard of Hearing has formed and which meets once a month. The upstate members of the committee will seek to activate similar groups and will collaborate with Mrs. Ronnei in the preparation of informational pamphlets for parents and teachers.

The subcommittee believes that more could be accomplished by early detection in the home than by later detection after the child has entered school. Simple methods for home detection without the use of any complicated apparatus have been described. The medical societies in the counties upstate and in metropolitan New York have cooperated by publishing our "alerts." The Departments of Health of the State and of the City of New York have also published parts or all of our releases in their publications.

It was brought out at the meeting that there exist certain inequities and disparities in the implementation of the new State law for the provision of hearing aids to indigent children. An attempt will be made to bring to the attention of the proper authorities the necessity for correcting the situation.

The committee reiterated its belief that the position of Commissioner of the Deaf should be created by the State.

PART VI

Economics

The Council Committee on Economics has the following membership:

Renato J. Azzari, M.D., *Chairman*........Bronx
Arthur H. Diedrick, M.D...........Port Chester
Gerald B. Manley, M.D................Geneseo

Since the last report of your Council Committee on Economics to the House of Delegates there have been several bills considered by the Federal government which will have direct effects on the economics of medicine.

Perhaps the outstanding legislation introduced was H.R. 8356, S. 3114, 83rd Congress, embodying President Eisenhower's Federal health reinsurance account.

The bill was to be administered by the Secretary of Health, Education and Welfare. The Federal government would set aside 25 million dollars to help finance the so-called Reinsurance Fund. The purpose of the fund was to extend greater insurance benefits to the American people for what we commonly know as major medical expense insurance or extended health benefits. All reliable insurance companies would be eligible to cooperate with the Federal government in this project. The fund would not underwrite all the carrier's benefits but only that part in excess of the carrier's basic coverage, known as the reinsured deficit—in other words, major medical expense insurance benefits which would be agreed upon by the carrier and the Federal government. Major medical expense insurance benefits and the premiums necessary would have to be approved by the Federal government, and in the event a loss was sustained on this reinsurance portion of the business, the Federal government would reimburse the carrier to a limit of 75 per cent of the sustained loss and up to seven eighths of the necessary administrative expense. In other words, the insurance company per se would have to assume 25 per cent of the loss in the event the premium fixed by the Secretary was not sufficient to sustain the losses and one eighth of the administrative costs.

Major medical expense insurance benefit programs have been in operation for the past several years, underwritten by both nonprofit and commercial companies. At present there are over 30 commercial plans offering major medical expense insurance. Some plans offer group coverage only, some individual coverage only, while others offer both group and individual coverage. Practically all plans have a varying deductible amount from $300 to $500 and a 25 per cent coinsurance clause, while providing a maximum benefit of $5,000 to $7,500.

Premiums vary according to benefits offered by individual plans and also according to age and sex.

There are 12 Blue Shield plans offering major medical expense insurance. Some two million people are now protected against the cost of major medical expense under all plans. The success of major medical expense insurance in regard to both increased enrollment and ultimate premium cost will depend to a large degree on what doctor and hospital charges are for services rendered to insured patients.

Many outstanding organizations were well represented at the hearings on the bill and, in most instances, were in accord with the stated purpose, which was to promote the best possible medical care on reasonable terms. Representatives of both commercial and Blue Shield (nonprofit) companies feel at this time that it would be inadvisable to enter into a program whereby they would be subsidized by the Federal government. It was pointed out that reinsurance can never be a panacea for the country's health insurance needs, and it cannot make an uninsurable risk insurable, nor can it provide funds to purchase health insurance for persons who cannot afford to do so.

On January 11, 1955, President Eisenhower, in a special message, outlined a revised health insurance plan for Federal employes and now is proposing a three-way option. The workers would have the choice of participating in (1) a new standard, nation-wide plan, (2) existing plans sponsored by their own national employe organizations, or (3) local plans offered in their community or through local employe unions or other agencies. The standard plan would offer catastrophic or major medical care insurance.

The annual cost of the United States contribution is estimated at 55 million dollars. The U.S. would pay up to one third of the premium costs, with a limit of $1.50 per month for employe without dependents and $4 per month for employes with dependents. If the employe chooses the standard national coverage, the cost to him would be $3.00 per month if he has no dependents and $8.00 per month if he has dependents. On other types of coverage the employe's payments would vary with the premiums, but the U.S. contribution would not exceed the above figures.

The Civil Service Commission would be responsible for the administration of the entire program but would contract with a single insurance company to operate the national standard plan. The standard plan will not become operative unless 600,000 of the 1,800,000 eligible government workers agree to participate in it. Each employe has the right to pass up the standard plan and participate instead in a commission-approved community plan conducted by Blue Cross, Blue Shield, or group practice plan serving a "significant proportion" of the community. The head of the Federal agency could authorize an insurance company to offer a group health insurance plan to any group of employes under his jurisdiction, providing 75 per cent of them accept the program.

Jenkins-Keogh Bills (H.R. 9 and 10) have been introduced in the 83rd Congress and are similar to H.R. 10 and 11 of the last Congress. This legislation would allow self-employed persons to deduct 10 per cent of their earned net income or $7,500 (whichever is the lesser) but not to exceed $150,000 in a lifetime. These funds would have to be paid to a restricted retirement fund on an annuity contract.

The House of Delegates of the Medical Society of the State of New York approved this type of legislation in May, 1953, and such legislation was also approved by the House of Delegates of the American Medical Association in December of the same year. The A.M.A. has consistently supported this legislation.

Most successful business firms, educational and scientific organizations, as well as nonprofit tax-exempt institutions, have provided a guaranteed retirement income plan for their employes. With such assurance, an employe would have a sense of security which would make for better employer-employe relationship and also attract a more efficient type of employe to the Society.

Public Medical Care.—The Subcommittee on Public Medical Care of the Council Committee on Economics is composed of the following:

Scott Lord Smith, M.D., *Chairman*	Poughkeepsie
William G. Childress, M.D.	Valhalla
William E. Gazeley, M.D.	Schenectady
Charles D. Post, M.D.	Syracuse
Roswell L. Schmidt, M.D.	Middletown

During the year your subcommittee has continued steadily in the chief purpose for which it was formed, i.e., maintaining close contact with the Department of Social Welfare of New York State. This has been a particularly good year for negotiations in that the Welfare Department is currently completing its new Manual for Social Welfare (vol. 5).

There have been three meetings: the first in New York City on April 1, the second in Albany on November 30, and the third in New York City on December 16 practically devoted to the above subject and attended by various members of the subcommittee, by Dr. I. Jay Brightman and members of his consultant staff, and Dr. W. P. Anderton ex officio.

At the first meeting attention centered on an explanation and elaboration of sections of the new manual (vol. 5). Next was the request of Onondaga

County Medical Society for a ruling on payment of physicians furnishing care to welfare patients on hospital services with organized resident and intern staffs. It has been the custom of the Welfare Department not to remunerate the attending doctors under such conditions. A prolonged discussion of this question of fees for all physicians caring for the welfare patient regardless of hospital staff organization indicated that the meeting was reluctant to take any action on this subject but that it should be discussed with the State Medical Society, being a medical rather than a welfare problem.

It was brought out at the meeting that the Welfare Department was acceding to the request of the State Society for an over-all increase in the rates paid to doctors furnishing professional care to welfare patients. Such rates will approximate $66^1/_2$ per cent of the rate granted by the Workmen's Compensation Board. This was obtained, not by a percentage increase, but by a flat addition to each physician's call of 50 cents whether such service was at house or office. Such increase would attain the same desired result.

There was further discussion of the increasing cost of drugs and medicine and the practicability of the standard drug list. It was the sense of the meeting that such regulation should be left with the individual medical consultants.

The second meeting held in Albany on November 30, with approximately the same group present, discussed again the changes and additions being considered at the present time in the Welfare manual (vol. 5). Among many other subjects were the following:

1. Regulations authorizing rehabilitation (this proposal was approved by the committee).
2. Fees for assistant surgeon (discussion indicated that payments should be continued at present level).
3. Proposal for medical audit, which may be made by the State Welfare Department staff.
4. Services are available by State Welfare Department pharmacists when and where needed for listing drugs.
5. Present status of the program of "Aid to Disabled" was reported.
6. Consideration of adequate medical records indicated its need.

The third meeting, held in New York City on December 16, with Dr. Charles D. Post presiding took up at once further discussion and interpretation of sections of the State Welfare Department manual. In most cases this was merely rediscussion.

A member of the subcommittee, Dr. Charles D. Post, attended the Northeastern Regional Conference of the American Public Health Association. Here he met representatives from 11 states, Canada, and the Virgin Islands. The subjects dealt with research investigations largely, except one section devoted to rehabilitation from a social and psychologic viewpoint.

Medical Licensure and Medical Service

The Council Committee on Medical Licensure and Medical Service consists of the following members:

Leo E. Gibson, M.D., *Chairman*	Syracuse
Robert J. Calihan, M.D.	Rochester
John N. Dill, M.D.	Yonkers
Stiles D. Ezell, M.D., *Adviser*	Albany

General Practitioner's Award.—The committee considered the names of the candidates submitted for the General Practitioner's award. The following names were submitted: Dr. Elizabeth Van R. Gillette, Schenectady County; Dr. Austin T. Stillson, Broome County; Dr. C. W. Chapin, Chenango County; Dr. Conrad O. Stumpf, Queens County; Dr. Leander A. Newman, Nassau County, and Dr. Antonio Pisani, New York County.

The committee decided to offer the name of Dr. Antonio Pisani, New York City, as the candidate for the General Practitioner's award. Dr. Pisani died the morning of the committee's report, and it was decided to confer the award posthumously, and that Dr. Mary J. Ross be again nominated to the American Medical Association.

Statutes of Licensure in New York State.—At the only meeting of the Committee on Medical Licensure and Medical Service, it was decided to procure and present some information in regard to the statutes of licensure in New York State. Through the kindness and cooperation of Dr. Stiles Ezell, we have obtained the following information.

A license to practice medicine in New York may be obtained in any one of the following procedures:

1. Successfully passing the licensing examination of the Board of Medical Examiners.
2. Presentation of a satisfactory National Board certificate by graduates of registered medical schools. Graduates of unregistered foreign schools are not eligible for endorsement of a National Board certificate.
3. Endorsement of a license from another state where the examination is considered equivalent to the New York examination.
4. Endorsement by the Board of Regents. In this group are included diplomates of specialty boards with licenses from states not administratively acceptable, holders of the Dominion Council license from Canada, and foreign licenses issued prior to December 31, 1914.

Graduates of registered medical schools are admitted to the examinations administratively. Graduates of recognized American and Canadian schools admitted in recent years have made up only a small part of the group taking the examinations since most American graduates have taken the National Board examinations.

The admission of graduates of foreign medical schools has undergone considerable change since the war. Applicants from some schools generally recognized as being satisfactory prior to 1939 are still admitted upon presenting proper evidence of medical study. Those unable to present satisfactory credentials are required to submit a petitition to the Regents. All continental European medical education after 1939 is considered unapproved, and all graduates who completed their education after the fall of 1939 must submit petitions to the Regents. After July 1, 1950, certain European schools were placed upon an approved list by the Regents. Roughly, this list corresponds to the American Medical Association listing, except for variations in Italy, France, and Belgium. Graduates of all the approved schools are admitted only after their records have been inspected and approved by the Regents and after they have met additional educational requirements which may vary from a rotating internship to formal medical study. Each applicant is considered individually.

Applicants whose records involve unapproved medical study are all required to petition the Regents. These records are carefully worked up with the primary objectives of determining acceptability of basic medical education, the relative equivalency of this education to what is required in our own medical schools, and what supplementary education is required to render it equivalent. Only those records which show evidence of following sound educational principles are favorably considered.

Supplementary education has been an added factor since the 1951–1952 academic year. Because of the effects of war in many of the areas and because of the low quality of medical education in other areas not physically affected by war, the concept of requiring additional formal training was a major step insuring reasonable competence in persons admitted to the examinations. Two plans are now in operation: (1) a one-year comprehensive course designed to review both basic medical sciences and (2) a two-year course involving a full academic year in basic medical science and a full year in clinical training. With the one-year program two years of approved hospital training are also required and, with the two-year course, a year of approved rotating internship.

Both in terms of licensure examination results and the close contact with medical faculties cooperating in the supplementary courses of formal study, it is now clear that there will be a continuous need for this type of training. Those who have taken the courses admit that the experience has given them good medical training for the first time in their career, and they are acutely aware of the vast difference between what American medical education represents compared to the concepts of other countries.

It is a costly and time-consuming process to evaluate the credentials of the large number of foreign graduates who apply in New York State each year. During the year from July 1, 1953, to July 1, 1954, the Regents acted upon 492 cases involving unapproved medical study. Of this total more than 30 per cent were rejected outright, and practically all of the remainder were required to do additional training to qualify for admission to the examination. A large number of cases, varying from 200 to 300, is constantly pending.

Of the total of 1,545 physicians licensed last year, 454 passed the examinations, 877 represent National Board certificates endorsed, 175 represent licenses from other states endorsed, and 39 represent endorsements by Regents' action. The average failure rate for foreign graduates was 65 per cent.

Licensure authorities have a unique position in being able to evaluate medical education from all parts of the world. Greater utilization of the experience acquired in New York State is being made possible by present plans to develop a national plan of evaluating and screening foreign graduates. It may even be possible to make a contribution to the improvement of medical education if, in the process of careful and complete evaluation, the weak areas of medical education are revealed in such a way as to stimulate self-improvement at the international level. From the standpoint of licensure the great need is for a mutual and common philosophy in the purposes, methods, and actual technics in teaching students which must develop in undisturbed political freedom.

For purposes of national consideration the licensing authority has an obligation to keep itself abreast of programs in medical education and to conduct its examinations and endorsement policies on a comparable level. The difficulties in endorsement procedures between various states reflect to a great degree extraneous factors, not primarily concerned with licensure, which are used to prohibit the movement of a physician from one state to another. The development of new technics in examining must be evaluated critically, and Boards of Examiners must be careful to retain control of such procedures to the extent that the examination result represents the inquiry and judgment of physicians rather than that of technicians and experimental psychologists. Finally, it is highly desirable that licensure authorities have access to the advice and counsel of organized medicine and medical educators.

Licensure in New York State is not encumbered by any extra requirements such as passing a premedical basic science examination or by full citizenship. Foreign graduates are admitted with first citizenship papers and have ten years to obtain full citizenship.

Disciplinary procedures brought against licensed physicians usually involve charges of fraud and deceit in the practice of medicine, narcotics violations, performing abortions, and income tax evasion. All applicants must submit satisfactory evidence of good moral character.

On the whole the predominant consideration in licensure is the maintenance of high standards in medical education and professional competence. About one third of all foreign applicants are denied admission to the examinations, and those who are admitted have to meet additional educational qualifications in the majority of instances. The primary consideration is always the basic medical education involved. The Regents make a sharp distinction between ordinary hospital experience and approved formal study under competent educators. Until the level of medical education is raised to an acceptable plane throughout the world, that unapproved medical education must be supplemented by further study is an essential concept.

Ad Hoc Committee on the Practice of Laboratory Medicine.—This committee has the following members:

John J. Clemmer, M.D., *Chairman*.......Albany
Gilbert Dalldorf, M.D...................Albany
Victor Tompkins, M.D..................Albany
Maurice Richter, M.D...........New York City

This committee was authorized by the Council at its February 12, 1953, meeting. At that time it was composed of Dr. Harry P. Smith, chairman, professor of pathology at Columbia University College of Physicians and Surgeons; Dr. John J. Clemmer, director of the Bender Laboratory in Albany; Dr. Gilbert Dalldorf and Dr. Victor Tompkins, director and assistant director of the Division of Laboratories and Research of the State Health Department. In December, 1953, Dr. Smith resigned, Dr. Clemmer became chairman, and Dr. Maurice Richter, director of pathology at University Hospital (New York University-Bellevue Medical Center) was appointed to fill the vacancy on January 14, 1954.

The Ad Hoc Committee met on December 21, 1954, and prepared a report which it discussed with a joint meeting of the Council Committee and the State Health Department representatives the same day. The report was adopted by the group and referred to the Council at its meeting on January 13, 1955. The text is as follows:

> "Since the February, 1954, meeting of the Ad Hoc Committee with the joint meeting of the Public Health Committee and the Department of Health of the State of New York, the investigation proposed for the State as a whole has not been made. The Commissioner's recommendation proposing an independent investigation at a cost of from $20,000 to $30,000 was not acted upon, because the committee was informed that certain information bearing on this problem in upstate New York was available in the Division of Laboratories. Study of this information provided the basis for the present report.
>
> "State aid for local public health laboratories in New York State has been provided to encourage the development of public health laboratory services at the local level. Originally, this plan resulted in the establishment of many local laboratories, which might otherwise not have been founded.
>
> "In recent years the growth of non-State-aided laboratories has been greater than that of State-aided laboratories. Also, the function of State-aided laboratories and non-State-aided laboratories has not been clearly delineated. Frequently, a major part of the activities of State-aided laboratories has been in the fields of medical laboratory services which were not closely related to or a part of public health services. Also, many non-State-aided laboratories have provided public health laboratory services. In such instances these non-State-aided laboratories may have received no reimbursement from government funds for this public health laboratory service, or if government funds were provided, they were secured entirely from local government. In the event that no government funds have been provided, the expense of this type of service has been defrayed from private sources, usually the collection of fees from patients.
>
> "The assessment of fees by State-aided laboratories has been at the discretion of local boards of laboratory managers. The income derived from such fees has been used to defray the expenses of these laboratories. As a result the income from fees charged for clinical pathology, hematology, chemistry, and similar tests at times has been almost sufficient to meet the total expenses of the laboratory. Under these circumstances the public health laboratory has required little State aid or local governmental financial support, and the private patient has paid the expense of the public health laboratory service.
>
> "Boards of laboratory managers of other State-aided laboratories have decided to provide complete laboratory services, including the usual public health laboratory procedures as well as various types of clinical pathology, completely without fee. In such localities the amount of State aid and local governmental financial support has necessarily been considerable. This has resulted in a very inequitable distribution of State funds.
>
> "Reports of present medical laboratory practice in both State-aided and non-State-aided laboratories show a leveling off for the past several years and, in some cases, even a decrease in laboratory procedures which are directly referable to the control of communicable disease and environmental sanitation. At the same time there has been a continuous increase in clinical pathology, hematology, chemistry, and other types of diagnostic medical laboratory procedures not obviously related to public health. This has been accompanied by an increasing interest in clinical pathology and a lessening interest in the public health laboratory procedures, particularly methods concerned with environmental sanitation, serology, and microbiology, often to the extent that these services have not received the expert attention which they deserve.
>
> "The committee believes that these defects should be corrected by a more equitable distribution of State aid to local laboratories and by restricting this State aid to public health procedures only. This would necessitate a clear delineation of the public health laboratory field, admitting that at present there is controversy and difference of opinion as to what should be the exact limits of public health laboratory services.
>
> "In the absence of a clear-cut and generally accepted definition of public health laboratory services, it is recommended that such services should include tests necessary for the control of communicable disease. Such tests are named and described under the title, 'Methods for the Examination of Specimens for Evidence of Certain of the Communicable Diseases', form LR 18 8-11-52-400. Tests for control of environmental sanitation also should be provided. These are specifically described under the title, 'Methods for Examinations Concerned with Sanitation', form LR 18-a 10-20-53-400 (3-OMO-859). The committee agrees that the medical laboratory pro-

cedures referred to in these New York State bulletins are definitely in the realm of the public health laboratory.

"In conclusion, it appears that a reappraisal of the New York State program of State aid to local laboratories is in order. Government units, both local and State, in conjunction with their public health departments should provide public health laboratory services without fee. Such services might satisfactorily be supplied by contract with well-qualified local medical laboratories. The use of government funds limited in this way should provide a more uniform and efficient public health laboratory service thoughout the State. This should also promote the return of the practice of clinical pathology to its proper relationship with the other specialties in the practice of medicine. We recommend that a gradual reapportionment of State funds to local approved laboratories be inaugurated in line with the above principles. We further recommend that the Council of the Society designate a committee to advise local boards of managers regarding these policies.

"Adopted by motion at the joint meeting of the Public Health Committee and the Department of Health of the State of New York, December 16, 1954, in New York City."

The Council approved the report and voted "that a committee be appointed to meet with the local board of managers in trying to channel this to the grass roots."

PART VII

Medical Care Insurance

The Subcommittee on Medical Expense Insurance is composed of the following members:

Carlton E. Wertz, M.D., *Chairman*	Buffalo
Leo E. Gibson, M.D.	Syracuse
Matthew E. Fairbank, M.D.	Rochester
John J. H. Keating, M.D.	New York City
C. Otto Lindbeck, M.D.	Jamestown
William J. McAuliffe, M.D.	Cortland
Fred M. Miller, Jr., M.D.	Utica
Lyle A. Sutton, M.D.	Albany
Mr. George P. Farrell, *Adviser*	New York City
Mrs. Louis Harris, Liaison with Woman's Auxiliary	Brooklyn

The subcommittee has held two meetings, July 15, 1954, and January 27, 1955. The July 15, 1954, meeting was in two parts: the morning session devoted to matters to be brought before the subcommittee and the afternoon session a joint meeting of the Subcommittee on Medical Expense Insurance and Blue Shield plan presidents and executive directors.

Dr. Wertz reported on the present status of Medical Indemnity of America, Inc., and Health Service, Inc., regarding the joint underwriting of national and State-wide groups. He expressed deep concern that because Medical Indemnity of America, Inc., was not licensed in New York State, it was unable to cede back to local Blue Shield plans that part of the coverage which the local plan would normally be able to underwrite and retain present members. He pointed out that when groups were underwritten by Health Service, Inc., local Blue Shield plans were unable to assume any of the coverage at local benefits and rates. It was his understanding that Health Service, Inc., would turn back to Medical Indemnity of America, Inc., all business which it had underwritten when Medical Indemnity obtained licensure in New York State, and it, in turn, could cede back to local plans that part of the business which they would be willing to accept.

Dr. Wertz pointed out at the joint meeting that one of the most pressing problems confronting Blue Shield plans was to get Medical Indemnity of America licensed in New York State so that some program would be available for writing State and national groups. During the course of discussion it was pointed out that M.I.A. had been started about four years ago, and the only alternative, if it did not soon obtain licensure in New York State, would be that commercial companies take the business.

At the January 27, 1955, meeting it was learned that M.I.A. had applied for licensure, and it was anticipated that a certificate would be issued about March 1, 1955.

Dr. Wertz expressed concern about having to go to outside sources to cover industry State-wide in New York and reviewed the work done by the subcommittee on a State-wide contract with ultimate adoption of an indemnity contract because of the stand taken by two plans against a service contract. He was of the opinion that Blue Shield was diverging from its original philosophy in not offering a service type contract and that they would lose out to commercial companies if nothing was done to solve the problem.

The subcommittee, therefore, recommends and endorses a more uniform State-wide service contract because over 70 per cent of the plans are on a service basis, both from a State and national level. State and national groups are requesting benefits on a uniform service basis from both labor and management point of view, and experience indicates there is an increasing demand for this type of coverage.

Several types of plans are in effect in the State of New York, some of which are service and indemnity and some indemnity alone; therefore, there is no unanimity of opinion as to the best type of coverage. To date no proposition has been submitted which meets the approval of all Plans. It is the opinion of the subcommittee that no service plan will be acceptable to all areas unless it can be demonstrated that a plan can be written which will increase benefits to both the assured and the physician. One possible method of accomplishing this objective is to write a service type contract with ceilings and premiums high enough to assure this coverage. By vigorously supporting a more uniform service contract physicians could implement and extend, on a State and national level, greater benefits which would be to the mutual interest of both physician and patient.

At the July 15, 1954, meeting the subcommittee considered the resolution, introduced in the House of Delegates by Dr. W. Alex Newlands of Westchester County and referred to the subcommittee by the Council at its June, 1954, meeting for further study, to consider a means of prepayment whereby voluntary medical service could be continued in the event an insured became unemployed. The subcommittee recommended that it would be necessary to have consultations with the State of New York Insurance Department for its advice and guidance and that the Bureau of Medical Care Insurance write all Blue Shield plans in New York State for their opinion on this matter.

It was reported at the January 27, 1955, meeting that all Blue Shield plans in New York State had been contacted regarding this resolution and that due to administrative difficulties, no plan was in favor of the resolution. A motion was carried that the subcommittee agreed with the philosophy and principle of the resolution but that it lies in the field of social legislation; therefore, there is no modus operandi for Blue Shield. Mr. James B. Haley, supervisory examiner, State of New York Insurance Department, agreed with the opinions expressed and advised that if the plans should consider this matter further, it be well studied in advance.

At the July 15, 1954, meeting the subcommittee considered a resolution by the Medical Society of the County of Schenectady, requesting that the Northeastern New York Medical Service, Inc., Albany, amend its bylaws whereby the participating physicians would be relieved of the responsibility of rendering full service benefits to a subscriber in the Plan who was within the income limits, provided he is indemnified for surgical expense from another company. It was recommended by the subcommittee that the Bureau of Medical Care Insurance present this problem to the State of New York Insurance Department as to whether or not it would permit a provision of this kind to be included in a Blue Shield contract and also that the Bureau contact other Blue Shield plans to learn if they had been permitted to incorporate in their contract this type of exclusion.

At the January 27, 1955, meeting the Bureau reported that the only plan contacted which contained such a provision was the Connecticut Medical Service of New Haven, Connecticut. It was the feeling of the subcommittee that a person has the right to purchase all the insurance he wishes and that if he lives up to the terms of his contract with Blue Shield, he is entitled to its benefits, even though he may have additional insurance. It was also felt by the subcommittee that Blue Shield plans have a basic philosophy which is not true of commercial insurance companies, and that is the rendering of medical service on a prepayment schedule of allowances promulgated by the doctors for full benefits within certain income limits. Blue Shield has built upon this philosophy and has proved so successful that any deviation from these principles would tend to bring about poor public relations.

Mr. Haley of the Insurance Department felt very doubtful that an amendment to the bylaws of a Blue Shield plan nullifying service benefits for a member who had dual coverage would be permitted and, also, that such was the general feeling of Mr. Charles Dubar, Chief Actuary of the Department.

It was recommended by the subcommittee that a letter be sent to the Medical Society of the County of Schenectady regarding the subcommittee's findings.

It was brought to the attention of the chairman of the subcommittee in April, 1954, that some county medical societies had been approached by certain insurance agencies providing medical/surgical services to insured groups, asking the cooperation of the Society and the participation of its members. Under this plan the doctor is required to provide full service benefits regardless of the insured's income, according to a schedule of allowances promulgated by the agency and/or the insurance company. Upon investigation it was found that the agency stated certain county medical societies had approved this program; however, this was irrefutably denied by the societies. A letter was immediately sent to all the secretaries of New York State county medical societies giving them this information.

It was also brought to the chairman's attention that two brochures were circulated to certain members of county medical societies: one provided benefits for life insurance and the other for extended sickness and accident benefits. Both brochures contained a statement to the effect that "membership in the Medical Society of the State of New York entitles you to these extra benefits." It was immediately called to the attention of the agency which issued these brochures that the use of the quotes was without the approval or knowledge of the Medical Society of the State of New York, and a letter was immediately addressed to the New York State county medical societies giving them this information.

It was called to the attention of the subcommittee at its January 27, 1955, meeting that Blue Shield plans have been approached by the New York State Podiatry Society regarding the rendering of service to its subscribers by podiatrists and calling to their attention that it is now permissible under Article 9-c of the Insurance Law to pay for these services. Dr. Wertz pointed out that after the Blue Shield plans learned that the law might be amended, a strong protest was sent by the Blue Shield plans to representatives in the Legislature and chairman of the Insurance Committee. It was the concensus of opinion that if payment for these services were made, it would increase the cost of medical care in the Blue Shield plans and that this item was not considered in the present premium rate structure.

The subcommittee also considered the necessity of Blue Shield plans giving serious thought to experience rating contracts in order to retain their old business and compete for new business in large State and national groups because commercial insurance companies do offer this type of contract, and both employe groups and management are requesting this type of coverage. Mr. James Coleman, president of United Medical Service, spoke on the subject and related the experience of United Medical Service.

Mr. Coleman pointed out that in considering the idea of experience rating contracts as compared to private insurance companies, there is a conflict of basic ideas, the basic difference being that under Blue Shield there is a third factor involved, namely, the doctor who underwrites the plan; thereby all risks are in one pool. He stated that the contract is with the employer or union and not an individual; however, each subscriber gets a certificate and identification card. He also felt very strongly that Blue Cross and Blue Shield are entitled to use every mechanism possible in order to make Blue Shield and Blue Cross more effective as well as free and voluntary.

Your subcommittee wishes to report in regard to uniform claim forms that through the cooperation of the Council on Medical Service of the A.M.A. and the Division of the Bureau of Accident and Health Underwriters, uniform claim forms have been agreed upon in practically all instances, and as soon as final agreement is reached, these forms will be presented to the subcommittee for its information.

Your subcommittee considered a brochure prepared by the Joint Blue Cross-Blue Shield Commission in regard to extended health benefits. This brochure will be considered by all Blue Shield plans in New York State at a joint meeting of Districts II and III on February 17, 1955. This matter was discussed and action taken at the Annual Conference of Blue Shield plans in Chicago March 20 to 24, 1955.

The subcommittee reviewed a poster developed by United Medical Service which was to be used in organizations where groups of subscribers have been enrolled. The poster invites the subscriber to discuss frankly with the doctor any questions regarding his services or fees. The subcommittee recommended the use of the State Society name on this poster to the Council which was approved, and the Council also voted to allow reproduction of the seal of the Medical Society of the State of New York on the lower right corner of said poster.

Your subcommittee, through the Council Committee on Economics, recommends that the Medical Society of the State of New York extend its approval for the ensuing Society year to the following Blue Shield Plans: United Medical Service, Inc., New York City; Western New York Medical Plan, Inc., Buffalo; Genesee Valley Medical Care, Inc., Rochester; Central New York Medical Plan, Inc., Syracuse; Medical and Surgical Care, Inc., Utica; Northeastern New York Medical Service, Inc., Albany, and Chautauqua Region Medical Service, Inc., Jamestown.

Your subcommittee is most appreciative of the cooperation of the State of New York Insurance Department in sending a representative to its meetings.

Your subcommittee wishes to express its thanks to the officers of the State Society and to Dr. Renato J. Azzari, chairman of the Council Committee on Economics, for their interest and attendance at meetings.

Mr. George P. Farrell, director of the Bureau of Medical Care Insurance and advisor to your subcommittee, has been of great assistance to the subcommittee in matters brought before it for consideration.

Bureau of Medical Care Insurance.—The Bureau of Medical Care Insurance, Mr. George P. Farrell, director, reports as follows:

The activities of the Bureau are under the direction of the Council Committee on Economics and its Subcommittee on Medical Expense Insurance.

At the February 11, 1954, meeting of the Council of the Medical Society of the State of New York, your director reported on testimony given before the House Interstate and Foreign Commerce Committee on the Federal Health Reinsurance Bill as follows:

Dr. Charles G. Hayden, director of Massachusetts Medical Service and representing Blue Shield Medical Care Plans, pointed out in part that there are two basic methods of compensating physicians for their services under the medical care plan. These are fee for service, salary and capitation, or both.

Under the fee-for-service method for payment the physician receives a predetermined fee for each service rendered; thus he is compensated directly in proportion to the amount and type of service he does. This is the traditional method used both by Blue Shield plans and private insurance plans.

He pointed out that the chief defect of salary and capitation is that they subject the physicians to unlimited services for limited predetermined compensation. By so doing they undermine initiative and, therefore, tend to lower the quality of medical care. Where there is unlimited access to certain aspects of medical care, it is not an insurable risk.

Dr. Hayden assured the committee that Blue Shield plans are content to take the practice of medicine as they find it, knowing full well that, within the confines of their own financial resources, they can adapt themselves readily to any pattern of practice that their sponsoring physicians may see fit to evolve.

From the standpoint of the public the most important characteristics of any medical plan are its scope of benefits and its costs. Also, within the scope of comprehensive benefits there are services subject to serious abuses which must be taken into account. Blue Shield plans operate within the confines of accepted insurance principles; therefore, certain services could not be covered completely because they are subject to abuses by patients and physicians, or both, and they are certain to occur because they are of minor economic consequence.

Mr. Frank E. Smith, director of Blue Shield Medical Care Plans, Inc., also testified before the committee, and it was his opinion that the pioneering spirit of Blue Shield will make every legitimate effort to meet this ever-increasing problem to provide coverage for long-term illness, and in so doing, it is incumbent upon Blue Shield plans to remain solvent to meet their already established obligations to more than 28 million people.

Mr. E. A. Van Steenwyk of Philadelphia, speaking for the Blue Cross Commission, said that it would be difficult to see how a reinsurance corporation under government auspices would be of much help. However, it might be a good idea to set up a corporation on a limited experimental basis. Working with voluntary plans, it might inquire into such as (1) accepting local responsibility for the hospital needs of the aged, (2) providing hospital care for subscribers during unemployment, and (3) granting, extended coverage in catastrophic medical insurance.

Your director attended the 1954 Annual Conference of Blue Shield Plans, April 4 to 8, 1954, at the Waldorf-Astoria Hotel, New York City. One of the highlights of the conference was the decision taken by Blue Shield Plans regarding the administration's reinsurance bills (H.R. 8356 and S. 3114).

The conference endorsed the basic objectives of the President's message to Congress on health insurance matters and also believes in the encouragement of experimentation and expansion in the field of voluntary health insurance.

With these premises the Blue Shield plans gave careful consideration to the Administration's reinsurance proposal and arrived at the conclusion that it may be unnecessary, particularly with respect to Blue Shield plans, for the following reasons:

1. An outstanding characteristic of Blue Shield plans is that they have experimented and pioneered in a totally new concept of medical protection and have demonstrated their ability to stand financially.

2. Since their inception Blue Shield plans have been underwritten and hence, in fact, reinsured by the physicians who sponsor them. Customarily there is either a written or implied agreement that sponsoring physicians will accept a pro rata reduction in fees paid by the plan, should it become necessary for them to do so. Several of the most successful Blue Shield plans in operation today were subsidized in this manner by their sponsoring physicians during early days of experimentation in an unexplored field.

3. In a few years Blue Shield plans have made remarkable progress in both extension of enrollment and extension of benefits. At present Blue Shield plans have an enrollment of over 29 million people. Having come through the early critical period, there is no reason to expect that they will now need to rely upon anything other than their own resources as they continue to expand their operations in accordance with the reasonable expectations of the public.

On invitation of Dr. James Greenough, chairman of the Legislation Committee, your director attended a meeting February 12, 1954.

On March 10, 1954, your director consulted with the Dutchess County Medical Society regarding a proposition by a certain insurance agency whereby members of the Society were asked to participate in a plan providing medical/surgical services to insured groups for full service benefits regardless of the insured's income according to a schedule of allowances promulgated by the agency and/or the insurance company.

Your director attended the 148th Annual Meeting of the State Society at the Statler Hotel, New York City. The Bureau displayed charts showing progress of New York State Blue Shield Plans over a period of ten years. Descriptive literature on the plans was available, as well as the Bureau's eighth annual progress report. The exhibit was demonstrated by a Bureau representative, and interest was shown by many doctors and laymen.

On May 21, 1954, your director conferred with the officers of the Northeastern New York Medical Service Plan in Albany.

Through a request to the Council Committee on Economics by Dr. Theodore J. Curphey, chairman of the Council Committee on Public Health and Education, your director conferred with officials of the State Department of Health, State Department of Social Welfare, and State Department of Education (Division of Rehabilitation) in reference to the development of a standard nomenclature for comparative purposes in the evaluation of fees by the State departments and representatives of the Medical Society. The Bureau developed a standard nomenclature which was approved by the committee chairmen of the Council Committees on Economics, Public Health and Education, Compensation, and Subcommittee on Public Medical Care of the State Society. The Bureau has presented the standard nomenclature to the above State departments for completion of their present schedules of allowances for medical care. Upon return of these forms, the Bureau will compile a comparative schedule of these fees with the workmen's compensation fee schedule, Veterans Medical Service plan of New York, and New York State Blue Shield plans. This will be valuable as a guide for the information of the proper committees of the Medical Society of the State of New York and State Department officials.

Your director attended the annual meeting of the American Medical Association in San Francisco, June 19 to 24, 1954, and was present at the Medical Civil Defense Conference and the Conference of Presidents at the Palace Hotel on June 20, the annual meeting of the Medical Society Executives Conference at the Fairmont Hotel on June 20, the sessions of the House of Delegates, and several reference committee meetings. He also attended, on invitation, the meetings of the New York State delegation.

Your director had an interview with Mr. Walter Brooks, Deputy Superintendent of Insurance, on August 25, 1954, in Albany relative to matters discussed at the subcommittee meeting on medical expense insurance July 15, 1954.

During the months of September and October your director was present at all district branch meetings. Through the courtesy of the district branch presidents, the Bureau displayed literature and graphic material on the New York State Blue Shield plans. Opportunity was given your director to speak about certain county medical societies which were approached to participate in providing medical/surgical services to certain insured groups whereby the doctor would be required to provide full service benefits, regardless of the insured's income, under a schedule of allowances promulgated by the agency and/or the insurance company.

October 9, 1954, your director attended the Public

Relations Conference of the Medical Society of the State of New York at the Biltmore Hotel in New York.

During the past year your director spoke before the Woman's Auxiliary to the Medical Society of the County of Kings, February 9, 1954, and the Woman's Auxiliary to the Medical Society of the County of Columbia on February 16, 1954. His topic at both meetings was "The Different Philosophy of Medical Care Plans Operating Under Article 9-c of the Insurance Law." The Bureau wishes to thank the Auxiliary members for their outstanding efforts during the past year in bringing to the attention of the public the value of voluntary Blue Shield coverage by their exhibit at the State Fair in Syracuse and other media. The Auxiliary efforts have been greatly appreciated.

On November 17, 1954, he attended the 1954 Conference of Secretaries of County Medical Societies at the Sheraton-Ten Eyck Hotel, Albany, and presented a paper on "Terminology and Fees in New York State in Different Departments of Government."

As advisor to the Subcommittee on Medical Expense Insurance, your director has attended its meetings held July 15, 1954, and January 27, 1955.

On October 28 and 29, 1954, your director met with Dr. Carlton E. Wertz concerning Blue Shield coverage nationally for Federal employes through the Civil Service Commission; also the offering of Blue Shield coverage to the Brotherhood of Railroad employes with a membership of approximately 75,000 in New York State, who are requesting complete medical care, polio and catastrophic medical coverage, and, in addition, workmen's compensation coverage. This program was to be written through a syndicate arrangement of plans.

On November 16, 1954, Dr. Carlton E. Wertz and your director conferred with Mr. William C. Gould, State of New York Insurance Department, to discuss rates which would apply to national groups where employes are enrolled in New York State plans through a so-called syndicate arrangement.

Your director attended the Blue Shield Commission meeting November 28, 1954, held at the Everglades Hotel, Miami, Florida; also the Eighth Clinical Session of the American Medical Association, November 29 to December 2, 1954, in Miami, and meetings of different reference committees.

On November 29, 1954, at the Everglades Hotel, Miami, your director was present at the Medical Society Executives Conference.

December 29, 1954, on invitation of Dr. J. Stanley Kenney, president of the Blood Banks Association of New York State, your director attended a joint meeting of representatives of the Blood Banks Association and the Greater New York Hospital Association.

December 30, 1954, your director attended a meeting of the Policy and Planning Committee of the Blood Banks Association, on invitation of Dr. Jacob Geiger, chairman, at the Society office.

Quarterly progress reports on the Blue Shield Plans approved by the Medical Society of the State of New York have been presented to the Council. These reports have been mailed to plan presidents, executive directors, secretaries of component county medical societies, and others interested in medical care insurance. Reports in part have been printed in the NEW YORK STATE JOURNAL OF MEDICINE.

The Bureau also compiled the Eighth Annual Progress Report for 1953, showing detailed analysis of each plan in regard to membership, incurred and paid claims, claim incidence, operating expenses, premium rates, reserves, cancellation studies, distribution of earned premium income, etc., for the information of the House of Delegates and members of the Medical Society of the State of New York. These reports were included in the material for distribution at the Bureau's exhibit at the 1954 annual meeting.

Progress of the Blue Shield Plans in New York State shows that at December 31, 1954, total membership (subscribers and dependents) was 4,865,169, an increase of 554,705.

The following is a statement of membership in Blue Shield medical care plans and Blue Cross hospital plans, showing comparative increases for 1954:

	Membership		Increase	
Location	Medical	Hospital	Medical	Hospital
New York	3,479,483	5,758,757	421,684	348,258
Buffalo	487,785	689,796	36,833	11,805
Rochester	341,326	455,443	32,162	26,925
Syracuse	141,148	370,888	38,631	9,925
Utica	182,809	201,153	6,039	2,072
Albany	215,295	322,413	14,878	−6,166
Jamestown	17,323	48,580	3,478	3,550
Watertown	....	23,744	....	329
TOTAL	4,865,169	7,870,774	553,705	396,698

NOTE: Utica Plan serves Watertown area for Blue Shield members.

The Blue Shield Medical Care Plans had an earned premium income during 1954 of $49,214,497 as compared to $42,923,738 in 1953, an increase of $6,290,759.

Incurred claims during 1954 amounted to $35,093,877 as compared to $30,454,277 during 1953, an increase of $4,639,600. Incurred claims were 71.31 per cent of earned premium income in 1954, as compared to 70.95 per cent in 1953.

Both the annual and quarterly progress reports are of great value to each plan because they analyze each plan's experience and indicate trends in utilization. It is recommended that they be reviewed carefully by those who are responsible for a plan's operation. The basic information in these reports is published for the information of members in the NEW YORK STATE JOURNAL OF MEDICINE.

The Ninth Annual Progress Report for 1954 will be available for the House of Delegates and members of the Society at the 1955 Annual Meeting.

Your director extends thanks to Dr. Renato J. Azzari, chairman of the Council Committee on Economics, to Dr. Carlton E. Wertz, chairman, and members of the Subcommittee on Medical Expense Insurance for their thoughtful support and cooperation.

Your director wishes to express appreciation to Mrs. Alice Arana for her loyal and efficient services to the Bureau.

PART VIII

Liaison Committee with Veterans Administration

The Council Committee on Liaison with the Veterans Administration consists of the following:

Herbert H. Bauckus, M.D., *Chairman*	Buffalo
Walter P. Anderton, M.D., *Secretary*	New York City
Francis O. Harbach, M.D.	Syracuse
James R. Reuling, M.D.	Bayside
Frederick S. Wetherell, M.D.	Syracuse
Harry Golembe, M.D.	Liberty
George A. Burgin, M.D.	Little Falls

The directors of the Veterans Medical Service Plan of New York, Inc., are as follows:

Herbert H. Bauckus, M.D., *President*	Buffalo
Joseph P. Henry, M.D., *Vice-President*	Rochester
Walter P. Anderton, M.D., *Secretary*	New York City
James R. Reuling, M.D., *Treasurer*	Bayside
J. Stanley Kenney, M.D.	New York City
Dan Mellen, M.D.	Rome
Edward R. Cunniffe, M.D.	Bronx
Arthur H. Stein, M.D.	Albany
Thomas A. McGoldrick, M.D.	Brooklyn

The work of the Liaison Committee and the Veterans Medical Service Plan of New York, Inc., does not come under a definite department of the State Society. Dr. Anderton, with all the demands made upon his attention and time, yet has been able to care for the secretarial needs. Miss Dougherty has been of great help, and Mrs. Arana of the Bureau of Medical Care Insurance most graciously cares for the minutes and records of our committee meetings. We wish to acknowledge with many thanks the help of the various members of the office personnel.

The Veterans Medical Care Plan of New York, Inc., has been in operation since August 7, 1946. On that date an agreement was signed by General Omar Bradley, then administrator of the Veterans Administration and by the president of our Plan, whereby private practicing physicians of New York State contracted with the Federal government to provide medical care on a fee basis to veterans with service-connected disease and disability.

It should be clearly understood that the Plan applies only to service-connected cases and, except in an emergency, solely for services authorized in each case by the Veterans Administration.

The contract was renewed yearly, and the present contract extends to June 30, 1955. The conditions for renewal require a decision to be made by June 1, 1955. In the working of the system the Medical Society of the State of New York is largely represented in the work by the board of directors of the Plan, which is a separate corporate body. There is a Veterans Liaison Committee appointed by the president and the Council. The active supervisory work is done by a coordinator in the New York, Albany, Syracuse, and Buffalo branches.

This report includes a compilation of statistical data, which will give some idea of the great activity of the first few years of the Plan and a progressive diminution from that time on (Tables I to IV). Because of the difficulty of procuring figures from the Veterans Administration which would deal with the money paid directly to physicians as a special item, the data must be regarded as approximate. For example, dental services; service in contract clinics; the work of osteopaths, physiotherapists, chiropodists; hospitalization other than fee basis, and nursing care do not come under our Plan. Pension pur-

TABLE I.—PAYMENT TO FEE-BASIS PHYSICIANS FOR HOMETOWN MEDICAL CARE IN NEW YORK AREA

From Report of the Coordinator, George H. O'Kane, M.D.

Year	Number of Authorizations	Amount
1947	. . .	$645,872
1948	6,863	217,280
1949	9,282	222,341
1950	8,175	134,275
1951	9,039	146,425
1952	10,119	139,116
1953	9,223	116,349
1954	9,238	103,513
TOTAL	. . .	$1,725,171

NOTE.—1952 payments to contract clinics, New York Regional Office, $349,419. Neuropsychiatric treatments on average of twice a week at $10 per fifty minutes or more per treatment session (contract clinic). 1951 neuropsychiatric contract paid in $387,231; 1954 contract paid in about $180,000. Contract clinics not supervised or included in our Plan.

TABLE II.—PAYMENT TO FEE-BASIS PHYSICIANS FOR HOMETOWN MEDICAL CARE IN ALBANY AREA

From Report of the Coordinators, Thomas Fitzgerald, M.D., and Arthur Rupert, M.D.

Year	Amount*
1949	$170,000 (7 months)
1950	112,315
1951	145,827
1952	146,010
1953	122,646
1954	98,000
TOTAL	$794,798

* Authorized by VA and cleared by coordinator.

TABLE III.—PAYMENT TO FEE-BASIS PHYSICIANS FOR HOMETOWN MEDICAL CARE IN SYRACUSE AREA

From Report of the Coordinator, Paul T. Crosby, M.D.

	Authorized by VA		Cleared by Coordinator	
Year	Number of Authorizations	Amount	Number of Authorizations	Amount
1948	. . .*	$ . . .	26,068	$400,699
1949	. . .*	. . .	18,445	251,034
1950	18,420	230,087	15,921	209,658
1951	15,302	215,328	12,450	167,326
1952	16,236	259,206	13,699	194,941
1953	18,995	256,583	13,789	183,684
1954	19,363	244,684	14,286	170,937
TOTAL				$1,578,279

* Figures not available.

NOTE.—In five years, 1948–1952, Syracuse grand total examinations and treatments: 94,065 authorizations with dollar value of $1,215,132. Treatment alone in this period $687,431.

TABLE IV.—PAYMENT OF FEE-BASIS PHYSICIANS FOR HOMETOWN MEDICAL CARE IN WESTERN NEW YORK AREA

From Report of the Coordinator, Frederick H. Petters, M.D.

	Authorized by VA		Cleared by Coordinator	
Year	Number of Authorizations	Amount	Number of Authorizations	Amount
1947	...	$ ...	84,095	$1,145,902
1948	33,585	540,521	32,380	437,152
1949	28,629	444,272	26,882	380,359
1950	18,639	290,137	17,864	235,397
1951	15,142	192,412	14,175	168,138
1952	12,474	156,431	10,004	109,173
1953	11,071	117,782	9,360	91,377
1954	7,874	80,195	7,053	60,601
TOTAL				$2,628,000

pose examinations, rating board examinations, and compensation examinations are largely made other than by physicians on a fee basis.

One explanation for this difficulty is that the decision of the finance officer to approve a bill for medical services depends upon the approval by the Veterans Administration Medical Service and not by our coordinator. In actual practice the coordinator receives most of these reports, and when he approves, they are also likely to be approved by the VA medical officer. The coordinator may call attention to the medical officer of the VA that a report and bill are not in order, but the Auditing and Finance Departments of the VA are not under any obligation to us.

It may be well to review some of the reasons for the reduction in activity in this work in New York State. I shall briefly present them without a detailed explanation, which may be found in a careful review of our records the past seven years.

Since the beginning of the Plan in 1946, there has, of course, been a great reduction in the number of veterans who were in need of our medical care. After the first few years of our service the Veterans Administration was able to assemble its physicians and clinical facilities to take care of the medical need of the veteran better. As the services that could be rendered were necessarily first authorized by the Veterans Administration, our activity was dependent upon such authorization.

The Veterans Administration chose to render its obligated medical care with its own VA facilities and personnel. Legislation provided that all medical services should be rendered in government facilities as long as these were present in numbers to suffice. However, the Veterans Administration also chose constantly to enlarge all its facilities so that we had Veterans Administration treatment clinics in the larger cities.

The Veterans Administration chose to send much of its medical work, especially psychotherapy, on contract, which provided medical care other than on the fee-basis system and without the supervision or responsibility of our Plan. This practice began shortly after the high load was diminishing, and I viewed it as not conforming to our original agreement. This contract method did not allow to the patient the free choice of physician, and we have made objection to it.

When the VA refused authorization to many veterans already on fee basis and forced them either to go to the VA clinic or pay a physician themselves, many veterans continued under their own private care, although afflicted with service-connected illness.

There were various other reasons, such as the difficulties in physicians trying to care for veterans when authorization was too infrequent or delayed for good medical practice.

At present most of the fee-basis work is done for patients in rural areas where the "hardship" of leaving their work and the expense of travel would make a visit to government facilities undesirable. It appears that many in this situation have sought their medical care in private sources. The fee-basis care is also used largely for home call service, and where this is necessary, the veteran in the rural area usually seeks out his own physician.

The medical profession is quite aware of the principles established by the American Medical Association in dealing with the medical care of veterans with both service-connected and nonservice-connected illness. The Medical Society of New York State has supported these views in its representations to the House of Delegates of the American Medical Association. The chairman of the Liaison Committee and the secretary of the State Society attended a meeting called by the American Medical Association in Chicago February 19 to discuss veteran medical and hospital care. There has been objection by members of the American Legion to the A.M.A. policies because they feel veterans are unduly deprived of VA care. In relation to this I would like to say that I believe veterans lost far more in medical care, hospital care, and general principle as they became deprived of free choice of physician when the hometown care plan was largely discarded.

PART IX

Legislation

The Council Committee on Legislation consists of the following members:

James Greenough, M.D., *Chairman*	Oneonta
James A. Lynch, M.D., *Vice-Chairman*	Bronx
Jurgens H. Bauer, M.D.	Syracuse
John C. Brady, M.D.	Buffalo
E. Yale Clarke, M.D.	Glens Falls
Elton R. Dickson, M.D.	Binghamton
Bertran W. Gifford, M.D.	Saugerties
George A. Howley, M.D.	Bronx
Henry W. Kaessler, M.D.	Bronxville
J. Stanley Kenney, M.D.	New York City
Aaron Kottler, M.D.	Brooklyn
George J. Lawrence, Jr., M.D.	Flushing
Jacob L. Lochner, Jr., M.D.	Albany
Herbert Pollack, M.D.	New York City
Herman B. Snow, M.D.	Ogdensburg
Edwin McD. Stanton, M.D.	Schenectady
Theodore B. Steinhausen, M.D.	Rochester
Joseph G. Zimring, M.D.	Long Beach

The Council Committee on Legislation received from the House of Delegates through the Council the following resolutions:

1. "That the Medical Society of the State of New York institute a comprehensive investigation of the entire effect of changes of modern medical practice on the license to practice medicine in New York State."

2, 3, and 4. "That the injunction bill, the Condon Bill requiring free choice of plan, and the Panken Bill requiring free choice of physician be again introduced and fostered by the State Committee on Legislation and its executive officer."

5. "That suitable action be taken by the State committee and State officer pursuant to their appreciation of the situation as it exists," regarding legislation, "requiring municipalities to protect interns and residents in municipal hospitals from malpractice liabilities."

6 and 7. That legislation be initiated "to restore to the metropolitan counties the functions which they exercised prior to 1944 by abolition of the Medical Practice Committee and the second to require arbitration proceedings under the compensation law to be held in the county in which the physician resides."

8. "That the Medical Society of the State of New York express itself as opposed to any legislation which would expose the public to harm through the sale of potentially dangerous drugs, even though masquerading under a trade name, by stores other than those registered by the New York State Board of Pharmacy."

9. "The (reference) committee approved the Autopsy Law as written in the minutes of the April 1 issue of the NEW YORK STATE JOURNAL OF MEDICINE with certain modifications which should be transmitted to the Council for its final disposition" (the Wisconsin law).

During August and September nine regional meetings were held throughout the State. These areas did not follow district branch boundaries but covered two or more State senatorial districts so that one senator would not be representing two areas. At each meeting the executive officer and the chairman of the committee sat down with one or more members of the State committee and the county society chairmen in the area and held a full discussion of the program of the State committee. Suggestions were encouraged, and opinions of county chairmen were requested, not only concerning our program but also in regard to any local problems.

About half the county legislative chairmen attended these meetings. They very definitely strengthened the ties between the State and county committees. This is the second year that these meetings have been held. I believe that their value is increasing each year.

Also during the summer questionnaires were sent to all county chairmen in an effort to ascertain the opinion of the membership of the State Society as to the importance of the various legislative subjects referred to the committee. Answers were received from 38 of our 61 counties, representing over 20,000 members of the Society. Summarizing, these answers gave the committee definite information as to priorities and thus enabled it to plan its work for the year.

At a meeting of the committee, December 8, 1954, the various resolutions referred by the House of Delegates and the Council were reviewed, with particular attention to the opinions expressed in the regional meetings and the questionnaires.

A motion was made, seconded, and unanimously passed, instructing the Legislative Bureau and the executive officer that the bills concerning free choice of insurance plan and free choice of physician in any insurance plan be reintroduced in the Legislature this year and vigorously supported. To this end the executive committee or a special committee were instructed to work with the executive officer and the legislative counsel in order to attain the objective. These two bills were to have the highest priority.

The executive committee discussed these bills at length at a meeting January 13, 1955. The same bills are to be introduced as soon as the committee assignments in the Legislature have been completed. Free choice of physician (Senate Intro. 772, Assembly Intro. 731 last year) and free choice of plan (Senate Intro. 1254, Assembly Intro. 2027) will not be changed. The executive officer and our counsel will determine when and by whom they will be introduced.

Copies of the material used last year in appearing before the Assembly insurance committees will be mimeographed and sent to the Governor, members of the Senate and Assembly, hospital associations, dentists, pharmacists, various groups who are now insured without free choice, members of State and county legislative committees, and members of the Auxiliary legislation committee.

County legislation chairmen and Auxiliary legislation chairmen will be requested to see their senators and assemblymen personally to discuss these bills. All groups who are dissatisfied with their lack of free choice will be urged to make this fact known to the legislators. The transit authority and other groups are exploring the insurance plans which offer free choice of physician. This will be encouraged.

There will be a meeting of the Subcommittee on Medical Expense Insurance on January 27. These bills will be discussed there in an effort to promote "free choice" plans.

The Civil Service Employees Association is exploring the possibility of medical indemnity plans. The advantages of free choice will be presented to them.

Further efforts will be made to persuade the Mayor of New York City to advocate free choice. If State employes are to be subsidized in procuring medical indemnity insurance, the Bureau will make every effort to have free choice embodied in any of this legislation.

The committee also voted to work vigorously for the passage of the so-called injunction bill. The same bill which was introduced last year, Senate Intro. 1654, will be reintroduced.

A report of the investigation of the present Medical Practice Act, as called for by the House of Delegates, was made. The executive officer has made an exhaustive study of the present law. Four main problems present themselves, and at a meeting of the Council, October 14, each problem was assigned to a Council committee for further study. These problems and the progress on each are detailed below:

1. Enforcement of the law with respect to unlicensed persons: This includes action against quacks, cultists, and corporations practicing illegally. This problem was referred back to the Committee on Legislation and by the Committee of the Whole to the executive committee which is studying the matter. The executive committee has requested the executive officer, after careful study, to propose a tentative plan for such law enforcement.

2. Regulation and control of licensed physicians: This matter was referred to the Council committee which is collaborating with the Board of Regents in defining "unprofessional conduct" as a cause for discipline by the Board of Regents.

3. Examination and licensing of physicians, particularly with respect to foreign graduates, and unlicensed interns and residents: These subjects have been referred to the Council Committee on Medical Licensure and Medical Service. I understand that Dr. Leo E. Gibson, chairman of this committee, is taking the matter up with Dr. Stiles D. Ezell, secretary of the Board of Medical Examiners.

4. Corporations and other lay associations practicing medicine through physicians retained by them: This problem was referred to the Council Committee on Hospital and Professional Relations. Dr. Harold Brown, chairman of this committee, has reported that he is awaiting the result of the meetings of the Special Committee to Study Hospital and Professional Relations with the representatives of the Hospital Association (first meeting held December 9, 1954).

The committee directed the chairman to appoint a subcommittee to confer with the Commissioner of Health and Commissioners of Hospitals of New York City in an effort to pass the bill protecting interns and residents in municipal hospitals from malpractice suits. Drs. Kottler, Lawrence, and Lynch were so appointed. The subcommittee reported that they have been assured that no attempt will be made this year to cancel Section 50D of the General Municipal Law, and there is some hope that opposition to the bill of last year, S pr. 2962, by New York City authorities will be withdrawn.

Dr. David J. Kaliski, director of the Workmen's Compensation Bureau, appeared as a guest before the committee at its meeting December 8. He reviewed the disadvantages of the Medical Practice Committee in the metropolitan area and the inconvenience of arbitrating medical bills where the patient resided instead of where the physician practiced. It seemed possible with the change in administration in Albany that it might be possible to abolish the Medical Practice Committee, and it was moved, seconded, and passed to make every effort toward this end, assigning a priority second only to that of the "free choice" bills to this legislation. One member of the committee reported that arbitration hearings were held neither in the county where the patient resided, nor where the doctor practiced, but for reasons of economy it was usual to hold several hearings in a city in an area at one time. If, on investigation, this was found to be true, it was felt that the Medical Society should go along with the effort to economize.

The committee voted to oppose any relaxation in the supervision of the sale of drugs as directed by the House of Delegates. One legislator requested the attitude of the Society on this question and, if it were opposed, requested the reasons. The executive officer was directed to refer the legislator to Section 47, page 51, and Section 160, page 142, of the NEW YORK STATE JOURNAL OF MEDICINE, September 1, 1954, Part II, where the resolution and action will be found.

In regard to the recodification of the laws relating to the disposition of dead bodies, it was noted that in addition to approving the reintroduction of an amendment to the Autopsy Law similar to that in effect in Wisconsin and now in New Jersey, the reference committee approved in principle, and this was concurred in by the House, of a resolution to request the Governor to create a commission to recodify the laws. The chairman of the Legislation Committee, therefore, requested permission from the Council to call together a meeting of interested parties to discuss these laws. This request was granted. On December 9, 1954, a dinner meeting was held. Those present were Dr. W. P. Anderton, secretary, Medical Society of the State of New York; Dr. Alfred Angrist, pathologist, staff of the Albert Einstein College of Medicine; Dr. I. Jay Brightman, Assistant Commissioner (Health) for Welfare Medical Services, Department of Social Welfare, State of New York; Dr. Theodore J. Curphey, medical examiner, County of Nassau; Dr. H. O. Elftman, associate professor anatomy, Columbia University College of Physicians and Surgeons; Dr. Maxwell J. Fein, secretary-treasurer, New York State Society of Pathologists; Dr. George Goodstein, counsel, New York State Funeral Directors Association; Dr. James Greenough, chairman, Council Committee on Legislation, Medical Society of the State of New York; Mr. Emanuel Hayt, counsel, Hospital Association of New York State; Dr. Milton Helpern, chief medical examiner, New York City; Dr. John K. Miller, associate director of Division of Laboratories, New York State Department of Health; Mr. Marcus H. Millspaugh, vice-president, New York State Funeral Directors Association; Dr. Harold B. Smith, executive officer, Legislative Bureau, Medical Society of the State of New York; Dr. Harry P. Smith, executive officer, Department of Pathology, Columbia University College of Physicians and Surgeons, and Mr. William M. Weigand, funeral director, 49 Hillside Avenue, Williston Park, Long Island, New York.

After four hours of discussion many points were cleared up. The main problems left appeared to be (1) permission for and scope of autopsies, (2) availability of cadavers, and (3) administrative rules concerning what cases belong to the medical examiner and the adequacy of personnel available for medical examiner's autopsies. Subcommittees were appointed to study each of these subjects and to report back to a committee meeting in the near future.

Other matters have appeared to be of considerable importance in the field of legislation this year, prior to the opening of the legislative session, which have not been specifically referred to the committee.

The foremost of these had to do with the licensure of cultists. While no directive was sent to the Committee on Legislation this year, it appears to have been an oversight on the part of the House of Delegates, and the committee stands prepared to oppose any such bills as they are introduced.

The committee was apprised by the Department of Education that certification or licensure of psychologists would be asked for in the 1955 session. In order to be prepared for such action, your chairman requested the appointment of a subcommittee of psychiatrists prepared to discuss such legislation with the Departments of Education and Mental Hygiene and representative psychologists. Dr. Mellen, with the concurrence of the Council, appointed Drs. Harold R. Merwarth, Curtis T. Prout, and Irving J. Sands as such a subcommittee. They have agreed to serve, and we are, therefore, prepared on this matter.

The Medical Society of the County of Erie has brought to the committee's attention the risk physicians may run of being sued for assault if they draw blood from suspected drunken drivers at the request of the police to determine alcoholic content. Their officers and counsel introduced a bill last year to protect physicians from this danger. The bill was defeated. Your executive officer is working with the counsel of the Erie County Society in an effort to introduce a bill which would protect physicians and would stand a good chance of passage. The Bureau will endeavor to pass such legislation.

Your executive officer and Dr. Lochner of the committee have met with the professional engineers who are working on legislation which would limit or prohibit the corporate practice of the profession of engineering. Since their problem is somewhat parallel to ours, the committee feels that we should be fully cognizant of this development.

The executive officer, several members of the committee, and several county legislative chairmen attended one of two meetings with Dr. Frank E. Wilson, director of the American Medical Association, Washington Office, to discuss the national situation. Dr. Wilson expressed his appreciation for our cooperation, and those who attended profited from the experience.

Mrs. Charles M. Brane, chairman of the Legislation Committee of the Woman's Auxiliary, has been most helpful in organizing her members to assist the Medical Society in every way possible at the present session.

At this time (January 15, 1955), as can be seen from the foregoing report, the committee has prepared itself to carry out the directives of the Council and the House of Delegates. The committee will continue to work diligently in an effort to achieve success in its program.

PART X

Workmen's Compensation

The following is the report of the Council Committee on Workmen's Compensation for the past Society year. The committee consists of the following members:

Gerald D. Dorman, M.D., *Chairman*	New York City
Stanley E. Alderson, M.D.	Albany
Herbert M. Bergamini, M.D.	Lake Placid
Arthur E. Corwith, M.D.	Bridgehampton
Irving L. Ershler, M.D.	Syracuse
George C. Ferguson, M.D.	Amsterdam
Joseph P. Henry, M.D.	Rochester
A. W. Martin Marino, M.D.	Brooklyn
Robert W. O'Connor, M.D.	Buffalo
George H. O'Kane, M.D.	New York City
Guy S. Philbrick, M.D.	Niagara Falls
Charles D. Squires, M.D.	Binghamton
Earl C. Waterbury, M.D.	Newburgh
Joseph A. Wintermantel, M.D.	Olean
David J. Kaliski, M.D., *Director*	New York City

The Moreland Commission.—Mr. Archie O. Dawson was appointed Moreland Commissioner on September 17, 1953, by Governor Thomas E. Dewey under Section 6 of the Executive Law of New York State. The purpose was to look into the belief that the high cost of workmen's compensation insurance in this State was a serious problem for business and employment. The rates in New York were alleged to be higher than in any other state. Less than 40 cents of every dollar paid for workmen's compensation reaches the injured workman, the remaining 60 cents being spent on administration, insurance company charges, hospital and medical fees, lawyers fees, and other costs. The Governor believed that both labor and management had an equal stake in the matter. The chairman of the Workmen's Compensation Board, the Commissioner of Commerce, and the Superintendent of Insurance were in agreement as to the necessity of an investigation and agreed to sponsor the study. In this investigation our Bureau cooperated to the fullest extent and had numerous meetings with the counsel of the commission.

A preliminary study convinced the commissioner that costs were higher in New York State than elsewhere and that no isolated cause could be held responsible for this disparity. While costs should not be the sole criterion as to proper administration, the objectives of the Workmen's Compensation Law, to provide indemnity and medical benefits, should not be lost sight of, and these rights should not be reduced in order to save money. The commissioner's investigation embraced (1) costs which arise because of the present method of administering the Workmen's Compensation Law in New York State, (2) insurance costs, and (3) medical costs.

Certain changes in administrative procedure were put into effect on April 1, 1954, which we reported in detail to the Council in June and September of 1954 and published in the NEW YORK STATE JOURNAL OF MEDICINE on August 1, 1954. On March 31, 1954, it was reported that as a result of his study the commissioner reached the conclusion that, as a general proposition, hearings were necessary when only one of the following situations occurred:

1. When the employe is receiving neither wages nor proper compensation. This includes the case which is controverted either initially or subsequently.
2. When the employe claims a need for further treatment and the carrier or employer refuses to authorize same.
3. When a question of schedule loss or facial disfigurement is involved and in death cases, silicosis cases, the illegal employment of minors, no insurance cases, and reopened and second injury cases.

The commissioner and his staff proposed certain changes in the hearing procedure of the Board and in the forms used by the Board. We have already published these details in full.

We are particularly interested in the notice (C-8.1) where an employer or insurance carrier believes that compensation or medical treatments should be suspended, changed, or reduced. The new procedure provides for adequate hearings and medical examinations by qualified experts to decide promptly and without delay or postponement the questions involved.

We have in previous years recommended the more general use of panels of medical experts in the employ of the Industrial Commissioner or of the Workmen's Compensation Board rather than single experts to settle controverted claims or disputes over medical care. Governor Lehman's commission of physicians in 1933 made such recommendations, but although the law provided for the appointment of the panels, they were never set up owing to the fear of the expense involved. A panel of three physician experts in silicosis and dust diseases has been working satisfactorily for many years.

The proposed changes in procedure recommended by Mr. Dawson were unanimously approved by the Workmen's Compensation Advisory Committee on March 30, 1954. We participated in this meeting. The new procedure was believed to be the greatest advance made in workmen's compensation in this State in twenty-five years. The change was made largely through the cooperation of the chairman of the Workmen's Compensation Board, Miss Mary Donlon, and her staff. This was a herculean task for which great credit is due the staff. In the preliminary report no further allusion to the cost of medical care or to the quality of medical care in this State was made.

Mr. Archie O. Dawson, with whom it was a pleasure to work and to cooperate, was elevated to the Federal Bench by President Eisenhower and was succeeded by Mr. Charles S. Hamilton, Jr., as commissioner on June 9, 1954.

A report was made to Governor Dewey on December 30, 1954. It consisted of two parts: Part 1 included the administration of workmen's compensation, claims and hearing procedures as well as medical and related problems. Part 2 was devoted to the insurance aspects of workmen's compensation.

In connection with hospital activities, which was part of the study, attention was drawn to the practices of hospitals in the processing and treatment of workmen's compensation cases. Investigation by the commission disclosed activities on the part of some hospitals and certain members of their medical staffs which appeared to be contrary to law and in violation of the rights of claimants. Commissioner Dawson called a conference of representatives of the private and voluntary hospital associations, the State and county medical societies, and the Commissioner of Hospitals in New York on April 26, 1954, to advise them of the result of his investigation and to urge the adoption of necessary corrective measures. We attended these hearings and were impressed by the high purpose, fairness, and judicial quality of the commissioner. We have alluded in another section of this report to certain remarks of Commissioner Dawson concerning certain practices in hospitals. Most of these practices have been brought to the attention of the commissioner or his staff by members of the profession and officials of the Society in their numerous conferences. We quote in full.

> The Commission found that in some New York City hospitals the chiefs of service were collecting for all treatment rendered on their service, without necessarily participating in the treatment; that bills were submitted at specialist rates for services performed by residents, interns, and nonspecialists, and that some city hospitals were accepting nonemergency compensation cases. In certain voluntary hospitals, compensation cases were handled on an outpatient basis, after emergency treatment, by referring claimants to a private treatment area operated as a clinic by the staff physicians who pooled their fees in apparent violation of the Workmen's Compensation Law and the Education Law. It was also revealed that physicians with general ratings rendered treatment in these private treatment areas, while the bills were submitted in the names of physicians who held specialist ratings. These private treatment areas were not licensed as medical bureaus as required by the Workmen's Compensation Law but were conducted as such in violation of law. In some voluntary hospitals it was found that claimants were deprived of their free choice of physician by being assigned to ward service where their own doctors were not permitted to treat. The claimant's physician would not jeopardize his hospital affiliation by complaining of this practice, and the patients, in most instances, were unaware of their rights.
>
> At the conference above referred to, the hospital representatives were advised to take remedial action within sixty days. Thereafter, the Commissioner of Hospitals of the City of New York issued a new general order requiring strict compliance with the provisions of the Workmen's Compensation Law and directing the cessation of the unlawful practices disclosed by this commission.
>
> After a reasonable period of time had elaspsed, the commission in a recheck of hospital practices found that the illegal practices appeared to have been eliminated.

In the interim report an entire paragraph is devoted to the subject of rehabilitation.

Rehabilitation.—We agree that, "Although the value and desirability of an effective rehabilitation program for injured workers is unquestioned, it remains a field about which much has been written but in which relatively little has been done." He further states that, "Social and humanitarian considerations alone would justify the universal interest in rehabilitation because of the splendid results achieved in individual cases; and viewed from a cost standpoint, however, the development of an adequate and effective program becomes almost mandatory."

It is stated by Commissioner Hamilton that the "Workmen's Compensation Law in New York fails to place the responsibility for the development of an adequate rehabilitation program on any one person or agency, except that it makes the employer responsible for unlimited medical care and treatment of the injured worker." The commissioner then states that the law assures to the claimant his free choice of physician and provides a penalty for anyone who improperly influences the medical opinion of any physician.

We quote, although we disagree with, the conclusion that, "The Statute not only prevents carriers from participating in the treatment of an injured worker but in addition imposes upon them the risk of double payment for medical care in the event of an unauthorized transfer from the attending physician to a physician of the carrier's choice. Certain carriers take the position that these provisions of the Workmen's Compensation Law make it impossible for them as a practical matter to utilize rehabilitation services effectively, except where both the patient and his attending physician consent." We shall show that this is not the case and that the law in no way prohibits or discourages the participation of the employer or carrier in this so-called "third phase of medical practice."

The report states that from a professional point of view the primary responsibility for rehabilitation rests upon the claimant's attending physician, but unfortunately, it is claimed, many medical practitioners have failed to keep abreast of the rapid developments in this field. The suspicion of overtreatment and prolonged treatment is not missing, and unfortunately, it is stated, "such practices encourage claims of continuing disability which render rehabilitation more difficult and add to the cost of workmen's compensation."

The report makes reference to the December, 1950, initiation by the Workmen's Compensation Board of a Pilot Study of Rehabilitation. Up to November 1, 1954, a total of 2,420 claimants had been referred to this special unit. The study demonstrated that excellent results could be achieved in many cases which previously were considered to be total or high partial disability. The results were encouraging but not so satisfactory as might be desired, the report states, "because of the difficulty experienced in obtaining an early referral of cases, a difficulty in large measure due to current attitudes and the legal deterrents discussed. . . .It is significant to note that no case was submitted for evaluation until at least three months had elapsed since the date of the accident with the great majority of referrals coming at a much later date." There is no agreement among experts on the most favorable time to refer patients for rehabilitation; however, it is agreed that in any particular case requiring it, the referral shall not be delayed unduly. The Moreland commissioner recommended that a program be developed which would assure the workers of this State improved rehabilitation services at the earliest possible time directed toward "(1) encouraging *early* referrals by claimants' physicians to rehabilitation specialists for diagnosis and advice without fear of losing the patient; (2) modifying those provisions of law which prevent active participation by carriers in the medical treatment of injured employes, thereby enabling employers' and carriers' physicians to consult with claimants' physicians on the proper course of treatment to be rendered to claimants, without impairing the right of free choice of physician; (3) vesting in the Workmen's Compensation Board the authority to direct the use of rehabilitation services in cases in which a conflict of opinion exists between the claimant's physician and the carrier's physician."

The commissioner recommends that a public hearing be held on this subject. As a matter of fact, the hearing before the New York State Joint Legislative Committee on Industrial and Labor Conditions in December, 1954, was such a hearing.

The statement made by Miss Mary Donlon, chairman of the Workmen's Compensation Board to the Joint Legislative Committee, of which Assemblyman John L. Ostrander was chairman, is very pertinent and much more realistic than the conclusions and recommendations of the Moreland Commission.

Miss Donlon stated that "proponents of new legislation profess the view that workmen's compensation, and in particular the Workmen's Compensation Law of New York State, is a roadblock in the way of rehabilitation of the industrially disabled." The experience of the Medical Society and the Pilot Study under the Workmen's Compensation Board initiated by Miss Donlon, alluded to above, prove the contrary.

We shall point out that the present Workmen's Compensation Law in no way discourages employers and carriers from complete cooperation if there is a genuine desire on their part to initiate and pay for rehabilitative procedures.

Miss Donlon correctly states, in our opinion, that both those who advocate State facilities for rehabilitation and those who propose grandiose schemes under private auspices "choose to ignore, or are unaware of, the untried rehabilitation opportunities that are already available in the present law." "What is needed," she states, "is not some new and experimental legislation, but a right-about-face in the attitude of employers and carriers with respect to their medical care obligations in workmen's compensation cases. If they will not use the program for rehabilitation they now could use if they would, it seems idle to hope that Utopia will be reached through State-operated rehabilitation centers without any assurances as to their utilization, or by the transfer of a duty the employers and carriers now have to the doctors who attend claimants. Why not give a fair trial to what we have before concluding it is not enough?" In this statement we fully concur.

As early as 1940 the State Medical Society Committee on Workmen's Compensation, realizing the trend towards and advisability of early rehabilitation in workmen's compensation injuries, invited the attention of insurance carriers to the value of and opportunities for such treatment, especially in those with so-called minor disabilities, and we bespoke the cooperation of the employers and carriers in this new field. Aside from one or two large insurance carriers who recognized its value, very few insurance carriers became alert to the opportunities of rehabilitation, and most do not yet cooperate with physicians even when requested to do so.

Much has been written about rehabilitation as a medical speciality. Dr. Howard Rusk, one of the great national leaders in this field, has in a personal communication outlined the scope of rehabilitation and the role of the general practitioner in it:

> Rehabilitation for the severely disabled has become generally accepted by the medical profession, industry, labor, and the public. One of the important principles in rehabilitation is that it should be started early and should be a continuous process designed to meet the total needs of the individual—physical, emotional, and vocational.
>
> As in all medical programs, the physician is the first line of defense in rehabilitation. Many of the simpler technics can be done efficiently and adequately in the physician's own office. However, as in other branches of medicine, if consultative services are used early and wisely, many injuries or disabilities can be minimized so that long-term and often permanent disability is avoided. This applies especially to back injuries, injuries of the hand, and fractures requiring long mobilization. It is important that these patients be referred at the earliest possible time with emphasis on a return to the job as soon as possible. A rehabilitation program is a service program to the physician. He does not and should not lose control of his patient but continues to be responsible for the patient's definitive care and well-being while rehabilitation, treatment, and training are being affected. It is only by such a teamwork approach that the goals of rehabilitation may be effected.

Rehabilitation, nevertheless, implies more than medical or surgical treatment. The term evokes different ideas to different people. The term includes medical, surgical, and other specialist care, vocational training and rehabilitation, safety regulations and education, instructions in daily living and habits; it includes social work, job placement; indeed it embraces the needs of the "whole man" to get back to as useful and productive a life as consistent with the disability suffered. There is no question about the value of early rehabilitation in the fullest sense, which implies, as we have shown, more than needed medical care, especially in the case of the severely injured and disabled worker. There is no full agreement as to whether rehabilitation should be carried out by the attending physician or specialist or promptly referred to a specialist in physical medicine. The remarks of Dr. Rusk are indicative of one concept. There is no question, however, that the free choice principle of the law should prevail to obtain the full cooperation of the injured worker and so that his own physician may, if the patient so wishes, remain in contact with the patient and in control of the case throughout.

This brings up the question of how to encourage cooperation between the attending physician, specialist, insurance carrier, and self-insurer. As we have pointed out on numerous occasions and as Miss Donlon stresses in her report to the Joint Legislative Committee, the insurance carriers have by no means availed themselves of their opportunity and right to set up proper medical facilities for prompt examination of the disabled injured workers. Were this done, they would be in a position to suggest, if medically indicated, to the practioner such early consultation or referral as would achieve the end sought. The Medical Society for many years has pointed out the advisability of carriers appointing high class, well-trained medical examiners with whom the attending physician would gladly confer on all medical questions, and this would result in a meeting of the minds in the vast majority of cases should there be any disputes over medical problems. Where there is unresolved disagreement, which is quite possible in medical practice, the Medical Society has recommended that panels of experts employed by the State be utilized to decide any questions that may arise as to indications for treatment, degree of disability, necessity for further medical care, etc. Here we would have the means of bringing about proper contact between the medical profession and employers and insurance carriers which would result in a modus vivendi that would assure, among other things, proper rehabilitation at the earliest possible moment in every case requiring it. Unfortunately, such panels have never been set up, individual specialists being utilized instead as "impartial specialists."

Loss of Hearing.—The Moreland commission report alludes to the Court of Appeals decision in 1948 which held that a drop forge worker was entitled to a scheduled award for an occupational hearing impairment, even though he had lost no time from work and had suffered no loss of wages. The chairman of the Workmen's Compensation Board appointed a committee of expert consultants in 1952 which reported in December, 1953, but complete and satisfactory answers to the problems involved in loss of hearing cases have not been found. It was recommended by the committee that no finding of permanent hearing loss should be made until the claimant had been separated from the noise exposure for a minimum period of six months. This is a matter of great concern, especially since the costs in certain employments will be enormous. It may be necessary to introduce legislation to provide that loss of hearing shall not be treated as an injury but shall be compensated as an occupational disease and only after the employe sustains an actual loss of time and wages as a result thereof.

The commissioner alluded to the subject of serious facial disfigurement. The law provides payments not exceeding $3,500 for serious facial disfigurement. In the year 1952 total awards for facial disfigurement amounted to $2,888,331. Awards are being made for many facial scars described as permanent, no matter how insignificant. It is the opinion of the commissioner that the law was not intended to provide compensation for every minor permanent disfigurement sustained by a claimant irrespective of its seriousness or potential effect upon future earnings, compensation, or employability. There should be a judicial construction of the statutory language, it was stated.

New Hearing Procedures.—The Moreland commission report indicated that the new hearing procedures have already reduced substantially the work load of the State Medical Examining Department resulting in a noticeable improvement in the quality of medical reports rendered by examining physicians. The commissioner recommends that the scope and function of the Medical Department of the Workmen's Compensation Board should be further studied and evaluated. In our opinion, the makeup of the panels of impartial specialists and method of selection as well as their outside affiliations also merit further study and critical analysis.

We again recommend that individual impartial specialists be supplanted by panels of specialists in the major specialties as recommended to the Legislature by Governor Lehman as a result of the work of the medical commission appointed by him in 1933 and 1934.

Part 2, which we briefly touch on, concerns the cost of workmen's compensation to the employers of the State of New York. In 1953 total cost was given as in excess of 292 million dollars, of which $13,300,000 was incurred by self-insurers and the balance covered by premiums paid to insurance carriers. Of this amount 41 per cent was paid or reserved for future payments to injured workmen or their dependents as cash benefits, 14 per cent was paid or reserved for medical care for injured employes, and the remaining 45 per cent was absorbed by expenses as previously alluded to. This subject was carefully investigated by the commission. As a result many new rates became effective on July 1, 1954, indicating reductions resulting in premium savings to employers amounting to $42,500,000. The report indicated that approximately 25 per cent of the premiums in the State of New York are written by the State Insurance Fund. There are 30 mutual insurance companies writing workmen's compensation in New York State, and in 1953 they wrote about 36 per cent of all compensation premiums. The stock companies wrote 37 per cent, while participating companies wrote only 2 per cent.

The report goes into great detail as to the method of developing compensation insurance rates. We are not competent to comment on the subject of premium charges and the function of the New York Compensation Insurance Rating Board in ratemaking. These have a most significant effect on the cost of workmen's compensation. Although criticisms were leveled at the modus operandi of ratemaking and certain revisions recommended, this is so highly technical that we must refrain from comment.

With the exception of the few references to alleged irregularities in billing for treatment rendered in certain hospitals, there was no criticism of the medical profession on the type of medical care rendered (or its cost) in this State.

Fees.—The last general revision of the workmen's compensation medical fee schedule occurred on September 1, 1948. Certain increased fees for general practitioners had been in effect since June 1, 1947. On May 1, 1949, a supplement to the fee schedule was issued applicable to medical care rendered after that date, provided the case arose or was reopened on or after September 1, 1948. Effective May 1, 1951, on new cases arising or old cases reopened, the schedule of fees was increased by 8 per cent. There has been no change in the fee schedule since May 1, 1951.

It is of historical interest to note that the original fee schedule promulgated by the Industrial Commissioner applied to the metropolitan area alone and became effective May 1, 1936. This schedule, without any alteration, was announced on May 15, 1938, as applying to the entire State.

Under our system of permitting the worker free choice of any authorized and qualified physician to treat him, he may select a specialist. The latter is entitled to fees for services which are greater than those paid to general practitioners, so long as the service rendered is for a condition falling within the range of the specialist's practice.* Otherwise, the specialist receives ordinary general practitioner fees for ordinary visits.

In the September 1, 1948, schedule, set up by a committee advisory to the chairman of the Workmen's Compensation Board, a fee of $5.00 was approved for subsequent visits to specialists. In the May 1, 1949, schedule (in which the Medical Society was not represented officially on the advisory committee), the fee was reduced to $3.00 and has been the subject of justifiable complaint ever since. The chairman of the Workmen's Compensation Board has not seen fit to take into consideration numerous requests made by us through the president of the Medical Society of the State of New York for an upward revision of the fee schedule to make it conform to fees now paid to physicians and specialists by persons of a like standard of living in private practice. The fees of general practitioners should be increased. The entire schedule should be modern-

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* On February 2, 1955, in response to a request for a ruling on the question of the right of a specialist to be paid a specialist's fee for services, even of a minor nature but within his specialty, the following communication was received from the Workmen's Compensation Board:

> In reply to your letter of January 22, 1955, I wish to advise that a physician holding a specialist's rating is entitled to specialists' fees when he treats a condition within the scope of his specialty. The extent of the injury is not the factor which determines the fees to be paid and if the condition is one which comes within the scope of the doctor's specialization, then he is entitled to specialists' rates.
>
> I wish to further advise that line 9A of the Medical Fee Schedule is only applicable when a physician holding a specialists' rating treats a condition which is outside of the physician's field of specialization.
>
> A copy of this letter is being sent to the . . . . . Insurance Company in order that they may take proper action with respect to your bill.
>
> Very truly yours,
> Medical Registration Office
> Catherine C. Hafele, *Executive Secretary*

ized and the "standard" nomenclature adopted. Errors in the schedule should be corrected, omissions included, and the entire format changed so as to make it readily available for reference by physicians, employers, and carriers.

The procedure adopted in 1935–1936 of agreeing, by conferences with the employers and carriers, on specific fees and then submitting a definitive schedule to the chairman of the Workmen's Compensation Board for hearings and for final disposition would be more satisfactory than the procedure adopted in 1946–1947–1948 by the chairman of the Workmen's Compensation Board. We recommend this procedure to the chairman of the Workmen's Compensation Board.

We recommend that consideration be given to legislative changes to permit physicians to charge their regular fees, in third party cases, and not be required to submit bills in accordance with the minimum fee schedule (with such safeguards as are essential to avoid overcharge) where substantial recovery in excess of compensation payments and medical care costs are obtained either by suit or settlement. We also believe that if a patient, having suffered a compensable condition, fails to acquaint the physician with the fact or conceals the occupational origin of the condition, and elects to be treated as a private patient, and subsequently makes a claim under the Workmen's Compensation Law, such patient shall not be entitled to reimbursement for such medical services as were rendered and paid for before a claim was made, and the physician who treated the patient in good faith as a private patient, not knowing of the possible coverage of the injury under the Workmen's Compensation Law, shall not be required to reimburse the claimant such fees as were incurred or paid during this period.

We also recommend that the Board define the circumstances under which physicians are entitled to fees for assistance at operations where the hospital fails to provide an intern or resident as an assistant. We also recommend that the fee for assistance at prolonged operations be more realistic and in proper proportion to the operative fee or on a time basis.

Hospital Status of Compensation Patients.— The chairman of the Workmen's Compensation Board claims authority to fix the fee to be paid hospitals for room, board, and ordinary nursing care of workmen's compensation claimants. The New York State Hospital Association, on the other hand, is of the opinion that the law does not give authority to the chairman to fix hospital fees. The chairman of the Board promulgated certain fees for hospital care and for "anesthesia, pathologic, physiotherapeutic, laboratory and x-ray services to the extent that the hospital is permitted or authorized under the provisions of the Workmen's Compensation Law to render such services."

We have always maintained, and we believe correctly so, that with the exception of x-ray service in voluntary hospitals licensed to conduct x-ray bureaus, hospitals have no authority under the Workmen's Compensation Law to charge for anesthesia, pathology, physiotherapeutic, or laboratory services rendered by physicians. We consider these to be medical services.*

We also maintain that the workmen's compensation claimant should be considered a private patient and entitled to at least semiprivate accommodations when hospitalized, and if semiprivate accommodations are not available or if in an emergency the patient is placed in a ward, the patient should be considered a private patient entitled to select his own physician within the limitations prescribed by the particular hospital with reference to members of its medical staff, but in any event the patient should have the right to select a member of the closed staff to treat him and not be assigned as a service case. Municipal hospitals in New York City do not have private or semiprivate beds. Injured workers when hospitalized in an emergency may be retained in such hospitals only so long as the emergency exists according to the attending physician and must then be transferred to private or voluntary hospitals for further hospitalization.

We have outlined our opinion more fully in the October, 1954, report to the Council of the State Medical Society. We maintain that a compensation claimant is not under any circumstance to be considered a ward or service case or a subject of charity or philanthropy. We agree fully with the views expressed by Mr. Archie O. Dawson, Moreland Act Commissioner, on this subject, in an address before the American Academy of Compensation Medicine, on April 28, 1954: "The Workmen's Compensation Law is based upon the premise than an injured workman is entitled to the care of a private physician and the same type of hospital care that a patient would receive if he were being treated by a private physician. It is not intended that workmen's compensation claimant should receive clinic care or ward care. . . . Nevertheless, in a number of hospitals, we find that the patient has been receiving the equivalent of ward care but was being charged for as though he were not a ward patient. We have found that instead of receiving the care of a private physician, he was treated by anybody who happened to be on call and that the fees for medical services went not to the particular physician who rendered the services but to a chief of service who may never have seen the patient and who used these funds either for his own use or for the use of the hospital as a whole. This is a direct violation of the Education Law and the Workmen's Compensation Law. In other hospitals we have found that workmen's compensation cases were sent to a private treatment area where the patients were treated by whatever physician happened to be available, and all the fees from this private treatment area were pooled and distributed among the physicians with no relation to the services performed. This is also a violation of the Education Law and the Workmen's Compensation Law." Mr. Dawson then goes on to discuss the conference held between representatives of hospitals and the medical profession, including representatives of the county medical societies and the State Society, at which a modus vivendi was agreed upon insofar as the payment of physicians fees is concerned.

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* Rule 19 of "Rules and Procedure Relative to Medical and Surgical Care and Treatment" is incorrect except as it applies to x-ray services under the amended law of 1947, Section 13-c 2.

In a report dated December 30, 1954, to Governor Dewey, Mr. Charles S. Hamilton, Jr., Moreland commissioner who succeeded Mr. Dawson, stated: "After a reasonable period of time had elapsed, the commission in a recheck of hospital practices found that the illegal practices appeared to have been eliminated."

While the question of the authority of the chairman of the Workmen's Compensation Board to set hospital fees is being tested in the courts, we feel strongly that unless the present law permits the chairman to fix fees adequate for the semiprivate hospitalization of compensation claimants or unless it is agreed to fix a fee by consent for semiprivate care, the law should be amended to assure workmen's compensation claimants hospitalization as private patients of semiprivate status. In an emergency or where a hospital does not provide special semiprivate beds, the patient should have the right of free choice of physician and the status of a semiprivate patient so far as all other hospital privileges are concerned.

In a statement before a meeting of the hospitals and the hospital authorities, the Moreland commissioner stated that if present fees paid for the hospitalization of compensation claimants are not adequate to assure semiprivate care, then the fees should be made adequate for such care. The Workmen's Compensation Law, Section 13-(*a*) states: "All fees and other charges for such treatment and services shall be limited to such charges as prevail in the same community for similar treatment of injured persons of a like standard of living."

Since hospitalization is an essential part of medical care, it would seem that the chairman of the Workmen's Compensation Board would have the right to set fees for hospitalization as she has the right to set fees for medical care so as to assure proper medical care of hospitalized patients, including selection of the doctors to treat them.

There is a provision for the arbitration of disputed hospital bills as there is for the arbitration of disputed medical bills. Some standard of fees is necessary as a yardstick in the consideration of the value of hospital and medical services subject to arbitration for the guidance of the arbitration committee. The hospitals claim that the law does not fix the type of accommodations to be provided to claimants or the rates to be paid for such services, but there is a voluntary agreement between the hospitals and insurance carriers with regard to rates. However, some of the hospitals now claim that if service in straight semiprivate or private rooms is deemed necessary or demanded by the patient or his doctor, such service would come under the classification of "authorization and arrangement" and must be accompanied by authorization directly from the carrier; *otherwise any difference in the rates should be assumed by the patient.* Thus, the hospitals are now attempting to collect a fee above the agreed upon $14 a day payable for patients in hospitals with 50 beds or more for the semiprivate hospitalization of compensation claimants. The hospitals in their argument claim the right to charge a compensation claimant a fee, while physicians are not permitted to charge but must look to the employer or carrier for payment of bills for medical service.

We regret that the legal issue cannot be resolved before the Legislature adjourns in March. We feel, however, that the House should make definitive recommendations concerning the hospitalization of compensation claimants and their status in the hospital, so as to make certain that compensation claimants are not required to pay fees in excess of those agreed upon with the hospitals by employers or insurance carriers and, furthermore, to assure the semiprivate status of the compensation patient when hospitalized.

Legislation.—Almost every year since the inception of the Bureau, recommendations for amendments to the Workmen's Compensation Law have been suggested by our committee, and certain medical bills have been introduced annually to improve the administration of the law. For a number of years the House of Delegates has recommended the introduction of legislation to restore to the county medical societies having a population of one million or more certain functions, of which they were deprived in 1944 as a result of the then Moreland Act investigation. These functions were taken over by the Medical Practice Committee consisting of three salaried physicians appointed by the chairman of the Workmen's Compensation Board. The medical profession in the four New York counties is in agreement that the Medical Practice Committee has functioned poorly and inefficiently and has not added anything constructive to the administration of the Workmen's Compensation Law since the committee was brought into being in 1944. Almost daily complaints are received from physicians and occasionally from the societies as to the functioning of the Medical Practice Committee, especially in the adjustment of medical bills. Complaints too have been voiced by representatives of insurance carriers and employers from time to time.

The functions placed upon the county societies under Section 13 of the Workmen's Compensation Law are now being carried out satisfactorily throughout the rest of the State by the county medical societies and without any expense to the State. The Medical Practice Committee and its administrative personnel, while serving no useful purpose in our opinion, are unquestionably a source of great expense, which money could easily be saved while improving administrative efficiency by restoring functions to the county medical societies. We again urge vigorous action on the part of the House and of physicians throughout the State, as well as of the county medical societies, with the help of other interested parties to obtain legislation to restore to the county societies having a population of over one million the duties they so successfully carried out prior to 1944.

We believe legislation should be introduced again to amend Section 13-g (2) to change the place of arbitration of medical bills to the county in which the medical service is rendered rather than in the county in which the claimant resides. This bill was vetoed by the Governor for reasons unknown to us after passing both houses. There are many instances where residents of the metropolitan area or other large cities work in vacation resorts and return to their homes. When bills for medical services to these claimants are rendered, if the employer or carrier objects to same for any reason, arbitration must be held in the city in which the claimant resides, not in which the service was rendered. It goes without saying that this affords an opportunity for carriers to get quick and easy settlements, especially in small bills, since few physicians can or will travel a great distance to support their claims.

We believe consideration should be given to amending Section 13 (d) to require the chairman of the Workmen's Compensation Board to set up panels of specialists in such fields of medicine as he deems essential in order to ascertain the diagnosis and causal relationship between the alleged injury and subsequent disability, the type of medical care, and operative procedure requisite in particular cases where such matters are not readily determinable by the legally employed medical examiners of the Board. These panels were recommended by the Pool Commission of physicians which recommended the amendment to the Workmen's Compensation Law of 1935, operative today. Consultation panels should now be brought into being by the chairman of the Workmen's Compensation Board with the advice and cooperation of the president of the Medical Society of the State of New York in the selection of personnel. Medical appointments should not be made by lay officials without competent medical advice. Provisions were made some years ago for the establishment of these panels of experts, but no appropriation was made for same. They should be appointed on a full or part-time basis and should provide for restriction of workmen's compensation practice as under Section 19-b.

We further believe that discretion should not lie solely in the chairman of the Workmen's Compensation Board in the appointment of individual physicians of "outstanding qualification" as provided in Section 13 (d). No lay person should be solely responsible for the selection of impartial medical specialists to serve under the Workmen's Compensation Law and for the appointment of panels of impartial specialists. Such authority should be shared with professional groups best able to evaluate the qualifications of applicants.

Since the president of the State Medical Society is specifically mentioned with respect to the recommendations of adequate fees to be paid to physicians for the treatment of workmen's compensation claimants, we believe the president of the Medical Society alone or with the advice and assistance of local county medical society officials, if necessary, should be called upon.

We draw attention to the provisions of Section 13-c 2 which has reference to claims for services in connection with x-ray examinations. This section was amended in 1944 on recommendation of the then Moreland Act Commissioner as a result of an investigation which disclosed fee-splitting between certain laboratories and physicians. As the section now stands, no physician except a specialist in roentgenology may be paid for any x-ray service in a workmen's compensation case. Perhaps more than three fourths of all x-ray examinations are made by general practitioners who treat the bulk of compensation injuries and specialists, such as surgeons, orthopedists, urologists, internists, and other specialists, who in the course of their work are required to take and interpret x-ray examinations, especially in emergencies. The law permits a physician to use x-rays in examining claimants within the limitations of the physician's qualifications as a general practitioner or a specialist. It is presumed that a specialist is competent to interpret x-rays within his specialty, and the general practitioner is presumed to be competent to take and interpret x-rays within a restricted field. To deprive all these of the right to bill for services within the range of their qualifications is wrong, and the law should be amended since it is unenforceable and serves no useful purpose in its present form.

The Medical Appeals Unit was originally provided for by Section 10-a of the Labor Law. It was a part of the Industrial Council. Three medical members of the Industrial Council constituted the Medical Appeals Unit of the Industrial Council which council consisted of three representatives of employers, employes, and the medical profession. The three physician members comprising the Medical Appeals Unit were removed, by an amendment in 1954, from the jurisdiction of the Industrial Council to that of the Workmen's Compensation Board. The Medical Appeals Unit of three physicians functions now as a part of the Workmen's Compensation Board, but the chairman and two other members of the Medical Appeals Unit are appointed by the Governor. Under provisions of the Workmen's Compensation Law the recommendations of the Medical Appeals Unit on an appeal are now only advisory to the chairman of the Workmen's Compensation Board. When originally appointed, the decision of the Medical Appeals Unit was final and binding upon the chairman.

Since most of the appeals are from actions by the chairman or the Medical Practice Committee, the members of which are appointed by the chairman of the Board and whose actions are advisory to her and must be put into effect by her, it is unrealistic to expect that an appeal to the Medical Appeals Unit would be more than a mere formality. We believe that the Medical Appeals Unit should have real appellate jurisdiction and power. Its decisions should be final and binding upon the parties.

Certain Functions of County Medical Society Workmen's Compensation Committees.—County medical societies throughout the State have appointed so-called mediation committees to hear and investigate claims of overcharging by physicians and other alleged acts of misfeasance or malfeasance in medical practice. These committees have been an important factor in improving relations with the public. They provide a means of satisfying the patient if he believes he has a grievance; at least his grievance is given full and unprejudiced consideration before a decision is reached. In compensation practice it is rarely the patient who complains. The insurance carrier's representatives and employers and their representatives, both lay and professional, often feel they have a grievance which they feel disinclined to bring before the Workmen's Compensation Board, but which could, with profit to all concerned, be investigated and adjudicated by the 61 workmen's compensation committees throughout the State. How to activate these committees and encourage a closer relationship with those who pay the bills for medical care under workmen's compensation is our problem.

Free choice of doctor is lauded by most interested parties as the most satisfactory means of satisfying an injured worker and giving him his pick of the best available physician in any community. It was supposed to raise the quality of medical care. Free choice is criticized on the ground that it is too expensive, because some physicians take advantage of the third party who pays medical bills by overtreating (especially the continued use of physical therapy), overcharging, and prolonging the case, and occasionally, we hear a physician criticized for treating conditions beyond his competence or failing to call for consultation or transfer of the patient requiring more specialized care.

In setting up compensation committees in each county, which the Legislature in 1935 clothed with extraordinary power to recommend discipline of any physician not complying with either the letter or the spirit of the Workmen's Compensation Law, it was hoped we would have the means to control all unethical or illegal practices, to raise the quality of medical care, and to give the carriers and employers an opportunity to air their grievances formally or informally and, if they proved valid, to cause evils and abuses, through the intervention of the medical society committee, to be abated.

Let us say at once that even our strongest critics agree that the vast majority of physicians are able, honest, and cooperative in workmen's compensation cases. They base their claims against free choice and the fee schedule on the failure of the medical societies or the chairman of the Workmen's Compensation Board to control certain practices of that minority in the profession who, in their opinion, raise the cost of medical care and compensation inordinately.

Our Council Committee on Workmen's Compensation was enlarged to encompass every part of the State. It was hoped that each committee man would keep in touch with the local county society workmen's compensation committee and keep the Workmen's Compensation Bureau in touch with the thinking and activities of the local committees. In this way the Bureau would truly represent the profession of the State and have a means of direct access to it and the profession to the Bureau in all phases of workmen's compensation practice.

We now urge a greater activity on the part of the county society committees in cooperating with the employers and insurance carriers locally to end any abuses that may exist. We also urge the representatives of insurance carriers, employers, labor, and the public interested in workmen's compensation matters to bring their problems and grievances to the local societies for discussion and action. The local workmen's compensation committees have the necessary power, under the law, to take definitive action, should persuasion be insufficient to abate any proved evil or abuse attributable to the profession, such as those mentioned above.* We hope the representatives of the Council Committee on Workmen's Compensation in each district may have an opportunity to appear on the program of the district branches with reference to workmen's compensation matters. The general practitioners individually and through their organization should be stimulated to take a greater interest in the treatment of workmen's compensation patients, in complying with the rules and regulations of the Workmen's Compensation Laws, especially with respect to adequate reporting, and finally in carrying out a modern rehabilitation program designed to effect maximum restoration of function to the injured workers by early institution of rehabilitation procedures.

Workmen's Compensation Board Report.—The latest report of the Workmen's Compensation Board (Miss Mary Donlon, chairman) is for the year 1953 and was issued January 30, 1954, the fortieth anniversary of workmen's compensation in New York State. This is the last report to be issued by Miss Mary Donlon and is well worth reading. Miss Donlon refers to the expansion of workmen's compensation within the past forty years with special reference to the impact of medical research and medical knowledge. We quote from Miss Donlon's report:

> It would be difficult to measure in dollar terms the expansion of workmen's compensation within the past forty years that is attributable to the developments during that period in medical research and medical knowledge. It is conservative to say that it is considerable. Few need look beyond their own personal experience or that of their families, even in a lifetime less than forty years, to gauge how great the contribution of medical science has been. Certain it is that life expectancy has been extended. It follows that, by prolonging the life span, medical science has considerably increased workmen's compensation, both indemnity and medical benefits.
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> The sharpening of diagnosis and the readier identification of disease with work exposure, often in conditions not hitherto susceptible of diagnosis or of having that relation, have substantially enlarged the scope of workmen's compensation. Illustrations of this fact are all about us. Until the United States Navy had done considerable research in the medical problems of submarine operation during and after World War II, it had not been clearly established that long bone disease, or caisson disease as it has come to be called, is caused by work under compressed air, which is

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* It is not too much to expect that the medical societies will devote increasingly more time to questions of professional qualifications and competence, to raising the quality of medical care to injured workers. Proved advances in medical science should be utilized in actual practice in an attempt further to reduce disability and restore function to the fullest extent.

a hazard of those who build tunnels as well as those who man the submarines. All the effects of radiation exposure are not yet known, although the atomic program has spurred medical research. Chemical agents known to have a relation to certain of the carcinomas are known, but are there others? The effects of strain and stress as the cause of cardiac insufficiency in persons with certain underlying pathology are better known than they used to be, and these conditions create problems not only in workmen's compensation but also in rehabilitation and placement of those with heart injury.

We have already alluded to Miss Donlon's solicitude over the failure of the severely injured worker with respect to total rehabilitation. We share this solicitude and hope to broaden the interest of the medical profession on this subject.

It is interesting to point out that in 1914 the average weekly wage paid in manufacturing in New York State was $12, while in 1953 it had increased over 500 per cent to $71.12. Occupational disability benefits have been increased to $36 in disability cases and $40 in death cases. Medical fees have not increased proportionately.

We have in previous reports alluded at length to the cost of workmen's compensation in this State as opposed to the costs in other states. We again refer to this in our report of the recent Moreland investigation on this phase of workmen's compensation at the direction of Governor Dewey.

For the year 1953, 841,005 accidents were reported; 221,071 new cases were indexed and old cases reopened, and over 204,000 were new cases. In 1953 there were 576,171 referee hearings and a total of 507,468 referee decisions. The regular examiners of the Workmen's Compensation Board made 162,104 medical examinations in the course of the year. The panel of three expert consultants in dust diseases examined 161 patients. During the year 1953 only 829 impartial specialists were called upon to examine and report on difficult cases.

The Pilot Study on Rehabilitation in the New York territory which was initiated in 1950 continued to make progress in 1953. During the year there was a caseload of 1,045 patients. Of these 482 were referred for rehabilitation treatment, and 163 were rehabilitated in treatment programs that closed during 1953. Sixty-one cases were closed because rehabilitation evaluation indicated that treatment was not necessary due to a variety of reasons, namely, that the patient was not psychologically suitable for rehabilitation, that there were other complicating physical conditions, that surgery was necessary, that the claimant had gone back to work, that claimant had been referred back to his attending physician to carry out the recommended physical rehabilitation procedures, etc. To quote Miss Donlon: "This rehabilitation program has finally achieved substantial support from the insurance carriers, attending physicians, and attorneys who specialize in workmen's compensation cases, because a large number of cases previously regarded as having very poor prospects of rehabilitation have demonstrated substantial progress."

During the year 1953 the county medical societies made 583 recommendations for authorization to render medical care. The Osteopathic Society recommended six physicians; during the year the Medical Practice Committee received 766 applications, of which 533 were recommended and authorized, 35 were not recommended and denied. A total of 408 employers medical bureaus were licensed; 13 physicians medical bureaus and 51 voluntary hospitals obtained x-ray bureau licenses. During the year the county medical societies conducted 158 hearings on disputed medical bills and disposed of 126 bills aggregating $16,298.50 on which awards were $9,584.32. In New York City the Medical Practice Committee during 1953 received 11,912 objections to medical bills. The amount of money in dispute is not mentioned, but $121,729.53 was awarded in fees. We have commented on the work of the Medical Practice Committee in another section. The disproportionately high number of bills objected to in the four New York counties is significant.

During 1953 the chairman of the Workmen's Compensation Board received requests from injured workers for assistance in collecting fees they had paid to their physicians and on which the physicians had failed to make refunds on request. Refunds totaling $31,819.47 were obtained for 289 claimants. Sixty-six of these physicians had hearings before the Medical Practice Committee.

In the course of the year 341 podiatrists were authorized under the law to treat workmen's compensation claimants, and 127 applications were awaiting approval. The Medical Appeals Unit made 27 recommendations to the chairman after hearings. We do not know the number of investigations into alleged misconduct of physicians which were made by the Medical Practice Committee, but during the year only one such hearing was held by the Medical Appeals Unit.

The chairman of the Workmen's Compensation Board in 1954 provided for the filing of a new report by surgeons to be known as C-24—Attending Surgeon's Post-Operative Report on Hernia Case. This report must be completed and sent directly to (1) the employer or carrier if known and (2) the chairman of the Workmen's Compensation Board in the district in which the accident occurred immediately following postoperative examination of the injured person eight weeks after operation in the case of a single hernia or twelve weeks after operation in the case of bilateral hernias. This report must be signed personally by the operating surgeon. A fee of $10 is payable for each such report signed by the operating surgeon.

Workmen's Compensation Bureau.—During the year 1954–1955 the routine work of the Workmen's Compensation Bureau has continued apace. The collection or settlement of medical bills, involving many thousands of dollars, by direct contact with insurance carriers has resulted in few formal arbitration proceedings. Misunderstandings and disputes over routine matters between doctors throughout the State and insurance carriers have been, for the most part, settled amicably due to the forbearance and understanding of the parties and their desire to cooperate. The Bureau has served, as in the past, as a means of settling such matters either on direct solicitation of the doctor, insurance carrier, or employer or at the request of a county society committee or official.

We wish here to acknowledge the cooperation of the insurance carriers in these matters; it is our pleasant belief that such cooperation has been extended in greater degree as the years have passed, and we have been better able to understand each other's difficulties and problems. We hope we have been able to convince the carriers and employers of the State that one of our principal aims in conducting the Workmen's Compensation Bureau is to assist both the medical profession and the other parties towards an honest, trouble-free administration of the Workmen's Compensation Law to the end that the injured worker may receive high quality medical care at as reasonable a cost as is consistent with the benefits conferred on the claimant by our Workmen's Compensation Law.

The staffs of the Workmen's Compensation Board here in New York City and throughout the State have cooperated with us to the fullest extent, and to them we extend our thanks. We hope to continue to be of assistance to the Workmen's Compensation Board and to Miss Angela Parisi, the recently appointed chairman, in all matters affecting the medical profession. We extend to her the assurance of our complete cooperation with her and her staff within the limits of our ability. We have numerous matters to lay before her and await a promised opportunity to meet her.

To Mr. Henry Sayer and Mr. Irving Sofferman of the Compensation Insurance Rating Board, we again extend our thanks for many acts of kindness and cooperation in the course of the year. To Mr. Sofferman we are especially indebted for his continued cooperation and assistance in carrying out State-wide arbitrations of medical bills in an effective and equitable manner.

On December 31, 1954, Miss Elizabeth Wheeler completed twenty years of faithful, conscientious service as secretary to your director and clerical assistant in the Bureau. During this entire period and almost without a day's absence, Miss Wheeler has carried the burden of fulfilling her duties in an efficient and exemplary fashion. In the early days of the Bureau, she was largely responsible for the prompt and economical carrying out by the State and county societies of their multiple and complex functions which so suddenly devolved upon them in 1935 under the new Workmen's Compensation Law. Without her understanding and complete cooperation, with little or no regard for her personal comfort, we could not have set up within a few months the apparatus by which we have fulfilled our functions.

We are pleased to report that the Council and Board of Trustees have voted an adequate life pension for Miss Wheeler. Miss Alice Wheeler, her niece, succeeds her as secretary, and to her our thanks also for twenty years of faithful and efficient service to the Society.

PART XI

Publication

The Publication Committee for the current year was composed as follows:

John J. Masterson, M.D., *Chairman*	Brooklyn
Maurice J. Dattelbaum, M.D.	Brooklyn
Laurance D. Redway, M.D.	Ossining
Norman S. Moore, M.D.	Ithaca
Walter P. Anderton, M.D.	New York City
George W. Kosmak, M.D.	New York City

The composition of the committee is in accordance with the resolution of the House of Delegates and includes the editor, the assistant editor, the secretary, the treasurer, and a member of the board of trustees. It included also the editor emeritus until his decease on July 10, 1954.

Meetings of the Publication Committee have been held monthly throughout the year except in August. At many of the meetings the president and the president-elect have been in attendance, ex officio. In accordance with the report of the reference committee of the House of Delegates on the report of the Council, Part XI—Publications (Section 112, Part II, September 1, 1954, NEW YORK STATE JOURNAL OF MEDICINE, pages 95 and 96), arrangements were concluded with the editor to continue his work on a full-time status. The associate editorial board was increased to 24 members with the objective of improving the critical review of submitted scientific papers for publication in the JOURNAL. The members of the board have exercised their judgment with great care and promptness. As a result, and with the unfailing cooperation of our authors, the quality of the published articles in 1954 has noticeably improved; excess verbiage has diminished, and the work of the editor has been facilitated.

Intensive study of the JOURNAL from 1952 to 1954 revealed the necessity for better typography and an improved appearance. The Publication Committee had already accomplished this in the early months of 1954, but the improved physical appearance was deemed to be only a first step. The expanded associate editorial board and the placement of the table of contents on the front cover, insofar as this was possible, followed. It should be apparent that the task of producing the JOURNAL must be the work of many people: authors; editorial critics; the JOURNAL editorial staff in charge of production; the advertising department; the business manager; the printer, the addressing department which prepares the wrappers in which the JOURNAL is mailed; the secretary's office from which all official matter, such as Council meeting minutes, notices, changes of address, new members, proceedings of the House of Delegates, for example, must come. All material, both raw and processed copy, must come to a focus in the office of the editor, as well as all advertising copy and correspondence with authors and associate editors; he must assign certain responsibilities to the assistant editor, must direct the work of the associate editors as, for instance, the promotion of more clinicopathologic conference material, the obtaining of a certain scientific article or series of articles, and carry on the follow-up necessary to secure fulfillment of incurred obligations and promote early publication of timely scientific material.

All this necessitates the organization and coordination of a staff of some ten people exclusive of the printer and the mailing room, the maintenance of a continuous intraining program by the editor, the writing of editorials, and a continuous liaison with the Publication Committee and the business office. Only in this way can continuous production of the JOURNAL be assured. Such an organization and coordination of various departments have now been established with the assistance of the Publication Committee, the Council, and the Board of Trustees. However, much remains to be done.

Upgrading of published material carries with it the corollary of diminishing copy. Consequently a campaign is necessitated to solicit good material from sources in the State not hitherto closely associated with the JOURNAL. Reliance upon purely adventitious submitted material—good, bad, or indifferent—no longer suffices. A promotional effort by the editor and his associates to secure good scientific articles has already been initiated and will have to be increasingly pushed during the next few years

Numerous problems affecting the publication and contents of the JOURNAL and the *Directory* have been discussed in addition to those outlined above. It seems probable that the next issue of the *Directory* will be delivered sometime in May, 1955.

The Publication Committee finally decided in September, 1954, after a long and complete study by the business manager, to adopt the AAAA standard colors for advertising in the JOURNAL; to raise the advertising rates commencing January 1, 1955, on new contracts; also to raise the agency commission in 1956 to 15 per cent of the gross. It is not anticipated that this will affect JOURNAL advertising adversely since our rates have been low in comparison with those state journals of comparable quality and circulation.

The location for the past year of the JOURNAL editorial and advertising staffs on the sixth floor has worked to the advantage of all concerned. Keeping the door to the corridor always closed, for reasons of security, poses a problem of ventilation for that floor, since no other means than opening the windows can change the air in the editorial offices. In the winter this procedure creates drafts and in summer lets in noxious fumes from the street and so much noise from trucks, taxis, buses, and other vehicles that it is often nearly impossible to hear ordinary speech or telephone conversation. The location on the 6th floor of these offices intensifies the volume of street noises as compared with the 19th floor because of reflections and reverberations from the New York Life Insurance Company's building opposite on 27th Street. And the loading platforms just below the JOURNAL offices on the south side of the street create a traffic jam when large trucks are backing in or coming out with racing engines. Installation of suitable air conditioners in the windows would solve both the noise and the ventilation problem for the summer months and thus improve the efficiency of the JOURNAL staff. It is during these months that the greatest work load in preparation of copy for the JOURNAL, annual meeting manuscripts, and the House of Delegates minutes occurs. Investigation of the cost of obtaining and operating such equipment is suggested.

During the annual meeting of 1954 much valuable material for the JOURNAL was salvaged by tape recording and has been published. The method works well, but the cost of transcription proved to be very high. The study was undertaken because of the failure of so many lecturers or presenters of scientific material in the Sections and Sessions to produce written papers as required by the "Rules for Sections and Sessions." It is probable that in view of the facts presented to the scientific section of the Convention Committee, more stress will be applied by the various chairmen in this and succeeding years to secure, at the time of the meeting, written papers of a character suitable for publication in the JOURNAL. In 1954 a total of 132 individual papers, four panel discussions, and one round table were presented. After the meeting only 101 actual manuscripts were turned over to the editorial office. And 21 of these were not final papers for publication. Between May 18 and the middle of June, 42 letters were written and some 107 telephone calls were made by the JOURNAL editorial office to authors in the metroplitan area to ascertain whether or not the manuscripts were complete and final copy. From this check it was discovered that 27 additional papers were incomplete and had to be returned to the authors for final revision making a total of 48 manuscripts inadequate for publication out of the 101 submitted. This does not include one round table and four panel discussions tape-recorded and subsequently transcribed. These would have been totally lost for publication in 1954 but for the recordings made experimentally by the editor.

The JOURNAL goes again this year to some 600 senior medical students in the nine medical schools of the State as a gesture of good will by the Society. It is recommended by the Publication Committee that this practice be continued during the next succeeding academic year.

The Subcommittee on the History of the Medical Society of the State of New York, Dr. Frederic Zeman, chairman, reports progress in the preparation of the history.

The Publication Committee highly commends the editorial, advertising, and production staffs of the JOURNAL and the *Directory* for their loyal and unfailing interest and cooperation. It is recommended that the Publication Committee be continued as at present constituted.

The committee commends highly the excellent technical and accounting assistance rendered by Mr. Thomas E. Alexander, business manager, and his staff who have at all times cooperated with the work of the Committee and assisted the editor of the JOURNAL in solving personnel and equipment problems.

The New York State Journal of Medicine.—The Journal has appeared uninterruptedly in 24 issues throughout the year including a supplement, Part II of the issue of September 1, 1954, containing the minutes of the House of Delegates. The large increase in the published clinicopathologic conferences over the preceding year has been gratifying, and efforts by the associated editorial board will continue to obtain more of these popular conferences in the hope that eventually it will be possible to publish one in each issue.

The experimental use of color in the civil defense articles continues with the valuable cooperation of the New York State Department of Health. This has been accomplished with no additional cost to the Journal since the cuts and layout have been furnished gratis and no additional color run has been necessitated by reason of the careful management of this feature by the Journal production staff. It is *not recommended* that the use of color in the text be extended to other sections of the Journal at this time.

A study made by the members of the editorial staff at the time of the annual meeting in 1954 conducted at the Journal exhibit yielded much valuable information from the membership at large on the relative values to readers of the various features of the Journal. Some 350 doctors were interviewed. The table of contents on the cover was of great help, in the opinion of most members. The clinicopathologic conferences were of interest to 100 per cent of those queried. Most said they read the editorials if they had time for nothing else since these reflected the thinking of the Society. The survey has been a welcome guide to the editor and his associates.

The President's Pages have dealt with the functioning of the Society, its structure, and communications, as well as the benefits accruing to the membership from professional organization in dealing with other agencies—social, economic, and governmental. The president's direct messages reach the frontline practitioners all over the State, and thus he has available a means of communicating personally with everyone in the Society as frequently as he can find time in a busy schedule to produce the written word.

The section of the Journal on the History of Medicine in New York State has elicited the interest of a growing number of readers. Under the editorial supervision of Dr. Frederic Zeman, much valuable historical material is being published from time to time. In view of the forthcoming sesquicentennial of the Society in 1957, it is the hope of the editors that this section of the Journal may be privileged to publish more material relating to the important contributions to the progress of medicine and surgery made in this State by individual doctors, groups of doctors, and manufacturers between 1807 and the present day. It would appear that the departments of the history of medicine of the two medical schools of the State University of New York could be important contributors to this section of the Journal, as well as the hospitals, research institutions, medical libraries, and the manufacturers of medical and surgical supplies and equipment.

The editor can report that the intraining program is progressing well insofar as the editorial, advertising, and production staffs are concerned. This program is important to the continuity of publication. Its success depends on maintaining as far as possible a low turnover among the specialized employes of the several departments of the Journal so that instructor's time and salary investment in the trainee are conserved. During the last two years it has been necessary to replace only one employe on the Journal staff.

Changes have been made in the Associate Editorial Board during the year. Three new associates have been added who have proved to be interested, hardworking, and active partcipants in the constructive program of attempted improvement of the Journal during an extended observation period. A large share of the credit for the improved appearance of the Journal, the better presented scientific content, the successful use of color in the text, improved illustrations and text material from new authors, more clinicopathologic conferences is due to their unremitting labors on behalf of the Journal and their high standards of values. The associate editorial board constitutes a large part of the small army of some 50 people, professional and nonprofessional, some part and some full-time workers whose judgment, skill, and conscientious work produces the official Journal of the Society. Add to this the editorial and mechanical staff of the printer, together with some 500 authors, and the figure becomes truly impressive. A "small army" is no exaggerated figure of speech, and even this figure does not include the advertisers and the staffs of their agencies who prepare and deliver on time the copy and plates to meet 24 exacting Journal deadlines. All of this picture implies a degree of coordination of direction, of resources, and production facilities not ordinarily apparent to the member who looks at his copy of the current issue of the Journal as an accomplished fact and is not particularly concerned as to how it got that way.

The Journal staff has cooperated well with other departments of the Society in many particulars. The Bureau of Public and Professional Relations is closely allied with the Journal. For example, this bureau distributes to various media of public information releases prepared by the Journal editorial staff and based on scientific articles in the Journal. The Journal staff also handles a daily traffic in telephone calls and personal visits that increases from year to year. This traffic is with authors, the printer, and other agencies having to do with the production of the Journal and has recently included many inquiries concerning articles published in the Journal in past years and with individuals and bureaus connected with the Society. This telephone traffic is in addition to the usual detailed routine editorial work and processing of reprint orders.

Miss Alvina Rich Lewis, assistant to the editor, has performed her work most satisfactorily. She is in charge of the daily intraining program of her three assistants; the integration of the work of the advertising and editorial departments; liaison with the printer; manuscript traffic coming in, referrals to the editor of new manuscripts, and the routing of edited manuscripts from editor to consultants; schedules of future issues; makeup; dummying of the current issues; filing of manuscripts; carrying on such correspondence as does not need the personal attention of the editor, and referring to him such items as must be passed upon by him. By reason of her college training in basic journalism and long service with the JOURNAL, initiated during the editorship of Dr. Kosmak and instructed by him, she is particularly well equipped to carry out the responsibilities assigned to her. Miss Frances E. Casey is of the greatest assistance to Miss Lewis. Coming to the JOURNAL after service with the Navy, she has adapted herself to the requirements and responsibilities of her job and has proved to be an able assistant to Miss Lewis. Mrs. Anne G. Colahan, who rejoined the editorial staff a year ago, is assigned to manuscript editing where she utilizes her special editorial ability and knowledge of JOURNAL style and procedure. Newest member of the editorial staff is Miss Joan Vitrano, a June graduate of the Syracuse University School of Journalism, who replaced Miss Margaret Blocher in November. All four members of the group, Miss Lewis and her three assistants, are college graduates with special training in publication work.

Miss Grace I. West, in charge of advertising production, has carried out her work well with the able assistance of Miss Camille M. Marra, secretary to the advertising representatives. These men, Mr. Charles L. Baldwin, Mr. James M. Kelly, and Mr. Joseph Mullaney, in the New York office, and Mr. John A. Bassett, Pacific Coast representative, deserve the highest commendation for their work in maintaining the JOURNAL advertising income.

With these editorial and advertising staffs, an efficient working team has now been developed which functions smoothly, a fact attested to by the relatively error-free issues of the JOURNAL which come out on schedule.

During the sessions of the House of Delegates at the annual meetings of the Society, Miss Lewis continues to do invaluable work in editing resolutions and reports of reference committees with special attention to resolutions being prepared for the annual convention of the American Medical Association. In this work at the annual meeting she is "on loan" from the JOURNAL to the chairman of delegates, Dr. Floyd S. Winslow, and works under his direction at the sessions of the House.

The editor notes with sadness the demise on July 10, 1954, of Dr. George W. Kosmak, editor emeritus of the JOURNAL, after a long illness.

STATISTICAL REPORT, 1954

In 1954 there were 24 issues and 1 supplement published, totaling 3,620 pages.

1952	*1953*	*1954*	
3,200	3,080	3,620	Total pages for year

The 1954 issues were divided as follows:

9 issues of 128 pages
9 issues of 144 pages
5 issues of 160 pages
1 issue of 224 pages (April 1, Convention)
1 supplement, 148 pages

During 1954 a total of 482 articles were submitted, of which 96, or 19 per cent, were rejected. This compares with the two previous years as follows:

	1952	*1953*	*1954*
Number submitted	440	449	482
Number rejected	53	70	96
Per cent rejected	12	16	19

It should be pointed out that several manuscripts rejected for publication were revised and rewritten by the authors according to the suggestions of the editor and were subsequently accepted for publication.

Of the 482 papers submitted during 1954, 127 were annual meeting papers. This year a new system of publishing the annual meeting papers was instituted: Instead of publishing all the papers from one section or session in one issue, one paper from each of several sections or sessions was included in each issue so that every issue of the JOURNAL had a variety of annual meeting papers.

There were 465 authors represented in the 364 articles published in 1954. These 364 break down as follows:

229 scientific articles
 73 case reports
 17 special articles
  4 Cornell Conferences on Therapy
  8 clinicopathologic conferences
 14 articles on history of medicine in New York State
  7 civil defense articles
  2 medical conferences
  1 public relations conference
  1 forum
  1 article containing 2 speeches from dinner of Society of Medical Jurisprudence
  2 selected reprints

Comparative statistics on page breakdowns follow:

	1952	*1953*	*1954*
Total number of pages	3,200	3,080	3,620
Text pages	1,966	2,026	2,355
Advertising pages (not including inserts and covers)	1,106	1,054	1,117
Number articles submitted	440	449	482
Number articles published	423	349	364
Number authors represented	667	568	571
Scientific text, pages	1,299	1,301	1,552
Features, pages	428	362	458
Editorials, pages	107	143	92
Minutes and reports, pages	136	220	253
House of Delegates minutes, pages	128	128	148

An analysis of the text pages for 1954 follows:

Scientific Articles	1,076
Case Reports	154
Special Articles	60
Cornell Conferences	33

Clinicopathologic Conferences	73
History of Medicine	65
Civil Defense	18
Medical Conferences	8
PR Conference	14
Forum	14
Medical Jurisprudence	6
Selected Reprints	15
Editorials	55
Editorial Comment	19
President's Pages	17
Cancer Diagnosis	2
Diabetes Mellitus	15
Medical Care Insurance	14
Correspondence	27
Malpractice	1
Medical News	107
Necrology	45
Books	50
Woman's Auxiliary	11
Council Minutes	91
Annual Meeting reports, etc	162
Indexes	23
District Branches	8
Society Officers	72
County Society Officers	5
Table of Contents	48
Month in Washington	9
Medical School News	10
Blood Banks	3
Workmen's Compensation	5
Physicians' Home	3
Film Reviews	6
Directory Errata	1
Opportunities for Physicians	3
Licenses Cancelled	1

FINANCIAL STATEMENT

Income		
Advertising	$226,832	
Cash subscriptions	3,099	
Other	5,677	
		$235,608
Expenditures		
Printing	$146,266	
Advertising	65,464	
Editorial	42,863	
Sundry	18,249	
		$272,842
Loss before dues allocation		$ 37,234
Dues allocation		59,246
FINAL NET INCOME		$ 22,012

A temporary library is maintained at the JOURNAL editorial office, where approximately 150 scientific journals are received, kept available for three months, and then turned over to the Kings County Medical Society Library. All books received for review are listed and then also sent to Kings County.

For each issue 54 sets of page proofs of the editorial section are distributed to editors of medical journals and selected newspapers. A new procedure in 1954 was the development of the use of press releases on JOURNAL articles. These are written by members of the editorial staff and distributed by the Public Relations Bureau.

To provide an opportunity for the members of the Associate Editorial Board and Publication Committee to meet the members of the staff, a Christmas buffet luncheon was held in the office on December 16, attended by 11 members of the board and the 10 members of the editorial and advertising staffs.

A complete reorganization of the JOURNAL files was accomplished during the year so that all material is accurately arranged and can be located easily. The records go back to 1946; unfortunately there were no records of manuscripts or files kept prior to that date. (At least they cannot be found anywhere.)

LIBRARY.—We are also appending a report of the Medical Library of the Medical Society of the County of Kings, for your information.

The relationship between the Library of the Medical Society of the County of Kings and the NEW YORK STATE JOURNAL OF MEDICINE began in 1906 with the amalgamation of the Medical Society of the State of New York and the New York State Medical Association. At that time the Medical Society of the State of New York was issuing its annual *Transactions*, the New York State Medical Association was publishing the NEW YORK STATE JOURNAL OF MEDICINE, and the Medical Society of the County of Kings had its own publication, the *Brooklyn Medical Journal*. The Medical Society of the County of Kings and the New York State Medical Association both had libraries, the Medical Society of the County of Kings having recently moved into a new and completely fireproof building.

It was decided that a consolidation of libraries and publications would serve the best interests of the medical profession. In this consolidation the Medical Society of the County of Kings received the Library of the New York State Medical Association and kept whatever material it needed. The duplicates were distributed to other county societies in the State having libraries.

The Medical Society of the State of New York ceased to publish its *Transactions* and became owner of the NEW YORK STATE JOURNAL OF MEDICINE, which was in its sixth volume and was a comparatively new and struggling periodical in a rather large field of medical literature. To make certain that this publishing venture would succeed, the Medical Society of the County of Kings ceased to publish the *Brooklyn Medical Journal* and gave its full support to the STATE JOURNAL. The *Brooklyn Medical Journal* was then in its twentieth volume and was highly regarded by the medical profession. It had an excellent book review department due to its large staff of skilled book reviewers. It also had an extensive list of exchanges, both of which were used as a means to build up the library without excessive financial outlay. This was made possible through the unselfishness of the reviewers. It is customary for reviewers to keep the books they review, but this group were especially interested in the library and gladly returned them where they could be used by the whole medical profession rather than collecting dust in a private physician's library.

Under the agreement drawn up at that time it is therefore natural that the reviewing of books should have remained under control of the library. This agreement is still in effect. The Library receives books and exchanges sent to the NEW YORK STATE JOURNAL OF MEDICINE and in turn lends publications to the members of the State Society.

This arrangement has worked out well. The Library is now one of the largest medical libraries of the country containing more than 185,000 volumes, and receiving over 2,000 current periodicals. Although located in Brooklyn, the area it serves extends far beyond the confines of its city and reaches even beyond the borders of its State. Interlibrary loans are an important library activity and are sent to all parts of the country. There are several reasons for this. The Library was established over one hundred years ago and has an excellent collection of older material. It also has a unique collection built up throughout the years largely through exchanges which come to the Library from all parts of the world even in the out-of-the-way places and wherever medical literature is published. Its collection is further enhanced by a policy of keeping at least one copy of all publications received regardless of value. Although some seemingly worthless material is kept, it is a type that quickly goes out of print, is soon unobtainable anywhere at any price, and is often invaluable to the research worker and historian.

During 1954 the Library continued its normal growth and activity. A total of 8,172 readers consulted 46,276 books in the reading room and took out 10,893 for home use. Through interlibrary loans outside of Greater New York, almost a thousand volumes were mailed to 70 different libraries, over 600 being sent to 34 libraries in New York State outside of Brooklyn. It is assumed that a large number of the books loaned to these libraries in New York State were used by members of the State Society, in addition to those members outside of Brooklyn who borrowed material directly from the Library.

Another Library activity which is extremely difficult to evaluate is its telephone information service. Although no record of telephone calls is kept, an increasing number of requests for all types of information comes to the Library, especially from metropolitan New York and Long Island. With congested city traffic and parking problems the Library provides a real service to its clientele in this way.

The Library usually adds over 1,300 book and monographic publications per year. Most of these are purchased; others come to the Library by donation or through review. During the last year 243 were received from review in the NEW YORK STATE JOURNAL OF MEDICINE.

At present about 2,000 current periodical publications are received regularly. These come to the Library by paid subscriptions, by complimentary subscriptions, and through exchange. Friends of the Library, both organizations and individuals, provide a large part of the paid subscriptions. In addition to the material received from the publication office of the STATE JOURNAL, there are 17 exchanges which come directly to the Library from the publishers. The Library pays the State Society the cost of sending the NEW YORK STATE JOURNAL OF MEDICINE to these exchanges.

Periodical publications form the most important part of medical literature. They also require more work to care for and must be bound for preservation and future use. During 1954 there were 1,725 volumes bound at a total cost of $5,463.35.

From its inception the Library has been built up around the idea that its facilities should be available without charge to all who need to consult medical literature. At the same time the founding fathers expected to receive voluntary contributions for its upkeep and growth. Throughout the years this policy has been followed rather closely. Use of the Library is free to all, but only members of the Medical Society of the State of New York, or regularly established libraries through interlibrary loans, may withdraw material from the Library. Members of the State Society have the same library privileges as members of the Medical Society of the County of Kings and are subject to the same library rules regarding length of loan, fines for overdue books, and the replacement of lost or damaged material. Members residing in New York City come to the Library and show their county membership card whenever they wish to withdraw books or, if unable to come in person, send a messenger with a signed request for the publications desired. Members living outside Greater New York may have their material mailed to them and are required to pay postage and insurance charges both to and from the Library. The Library does not have a large enough staff to compile bibliographies or to make an extensive search of the literature and can supply only requests for specific publications.

Although the Library receives a considerable amount of material through exchange and by reviewing books and also receives financial aid from gifts of friends and various organizations, its chief support is derived from dues of members of the Medical Society of the County of Kings. At present about 38 per cent of the amount members pay annually in dues is used for library expense, an average of $14 per member.

In 1903 a group of 12 physicians, who were especially interested in the Library and who realized that Society dues alone did not provide sufficient funds for its upkeep and growth, organized a friends of the library auxiliary, the Medical Library Association of Brooklyn, Inc. Membership is open to anyone interested in building up the Library. Dues are $5.00 per year, and those wishing to join merely send their check for this amount to the treasurer of the Association at 1313 Bedford Ave., Brooklyn 16, New York. All money contributed is used exclusively for the purchase of books, periodical subscriptions, and binding. The Association is incorporated in New York State, and all contributions are deductible from income tax returns. This organization provides an excellent medium for those who wish to aid the Library this way. Gifts in any amount are always welcome, especially from those in other counties who use the Library.

The Library also needs additional book reviewers in some fields of medicine. Those willing to help in this way should contact the librarian, stating the field in which they are interested.

More than one hundred years have passed since the Library was first organized. Since then it has had a rather stormy career, but in spite of many obstacles and difficulties it has continued to grow until it has a collection of medical literature of which the whole society has a just right to be proud.

In 1916 a committee appointed to study the condition of the Library reported that "the ideal form of organization to carry on a large medical library is an absolutely independent incorporated body in which membership should be voluntary." The committee recommended the forming of such an organization to "free our own County Medical Society from the financial burden entailed in carrying on a great medical library such as the growing population of this community demands."

Such an organization was never formed, and the Library still secures its chief support from the Medical Society of the County of Kings. For additional support the Library depends upon contributions from various organizations and from friends of the Library. Many make annual gifts of small amounts; others contribute large sums, and some remember the Library in their wills. Whether small or large, all is used to aid the Library in providing the best possible service to the medical profession of the State.—HAROLD R. MERWARTH, M.D., *Directing Librarian*, and WESLEY DRAPER, *Librarian*

Directory.—As of December 31, 1954, a total of 1,690 copies of the 1953 *Directory* had been sold to individual purchasers. Work is practically completed on the 1955 *Directory*, and it is hoped that it will be delivered from the printer between May 15 and June 1. Distribution will begin immediately following delivery.

A brief review of the financial status follows:

Income		
Advertising	$15,768	
Subscriptions	24,584	
TOTAL INCOME		$ 40,352
Expenses		
Printing and distribution	$61,122	
Advertising	7,623	
Editorial	78,929	
Sundry	9,015	
TOTAL EXPENDITURES		$156,689

The appreciation of the committee is extended to Miss Janet Loy, Miss Eileen Carmody, Mrs. Evelyn De Marco, and other members of the *Directory* staff for their helpful assistance.

Comment.—We would be ungrateful if we failed to express our thanks and deep appreciation to our editor, Dr. Laurance D. Redway. He has given of his all in carrying on the responsibility of his position. His loyalty and personal efforts to improve the JOURNAL have greatly lessened the work of our committee. The esprit-de-corps which he has developed in the editoral staff, headed by Miss Alvina Rich Lewis, assistant to the editor, has been most helpful.

Dr. Walter P. Anderton, our secretary, has been most cooperative, and his wise counsel has been at all times very helpful to the committee.

Public Relations

The Council Committee on Public Relations for the current year consists of the following:

Floyd S. Winslow, M.D., *Chairman*	Rochester
Joseph H. Cornell, M.D.	Schenectady
Henry I. Fineberg, M.D.	Jamaica
John M. Galbraith, M.D.	Glen Cove
Reid R. Heffner, M.D.	New Rochelle
John W. Latcher, M.D.	Oneonta
Arthur M. Master, M.D.	New York City
John C. McClintock, M.D.	Albany
John D. Naples, M.D	Buffalo
Kenneth T. Rowe, M.D.	Hornell
Edward Siegel, M.D.	Plattsburg

Public and Professional Relations Bureau.—During the year the Public and Professional Relations Bureau carried on its routine activities under the supervision of Mr. Frederick W. Miebach, director. After Mr. A. Carl Messinger resigned from the staff to become executive director of the Blood Banks Association of New York State, Mr. John Schuyler was engaged to replace him. Mr. Schuyler was assigned to cover the Fifth, Seventh, and Eighth District Branches. Mr. Martin J. Tracey, continued to cover the Second and Fourth, while Mr. Thomas E. Walsh was delegated to consult the county medical societies in the Third and Ninth District Branches. Besides their field work the field representatives undertook special projects. Mr. Schuyler was assigned to research work and related matter. Mr. Tracey edited the *Newsletter* and prepared special reports, while Mr. Walsh was made liaison representative with the Woman's Auxiliary and directed the work of the Speakers' Service.

General Public Relations Program.—Since 1952 when the danger of the enactment of socialized medicine legislation appeared to be on the wane, the committee through its Bureau has emphasized positive public relations rather than defensive measures. Although conscious that the issue of socialized medicine is still alive, the Bureau devoted itself to building constructive projects to create better public relations for the medical profession. For the past several years, therefore, and particularly the last year, the Bureau has concentrated on four main positive objectives: (1) gaining the good will of the people, thereby creating a favorable attitude toward the individual doctor, his county and State medical societies; (2) cementing and improving the doctor-patient relationship in its numerous facets; (3) inspiring and assisting county medical societies in the development of effective basic and supplemental public relations programs, and (4) encouraging individual physicians and their county medical societies to cooperate with voluntary prepayment health insurance plans.

In keeping with these purposes the Bureau carried on its activities in two general fields, namely, internal professional relations, involving the individual physician and his county medical society, and external public relations, concerning the public, the press, radio, TV, and other media. Among the activities sponsored in these fields were the maintaining of a publicity and information service; a speakers' service; promoting public service projects, such as emergencymedical care plan services, mediation committees, and medical economics bureaus; publishing of pamphlets and brochures; liaison with other committees of the State Society, the A.M.A., and other groups, and assisting the Woman's Auxiliary.

Field Program.—The principal instrument in the promotion of internal professional relations with individual physicians and county medical societies was the work of the field representatives. The field program was designed specifically to handle internal as well as external situations. One of the primary objectives of the field representatives was to provide information to county medical societies about the basic and supplemental programs proposed by the committee through its Bureau. The representatives also aided county medical societies in carrying out these programs and implementing them.

Among the major supplemental projects upon which the field staff concentrated were the promotion of health forums and courses for physicians' office personnel. As a result many societies actually conducted, or plan to hold, forums cosponsored by a local newspaper on medical topics of interest to the public and lectures on the public relations aspect of medical practice for doctors' office assistants.

A "Survey of County Medical Society Public Relations Activities" also was undertaken. The purpose of this survey, which is made periodically, was to remind county medical society public relations chairmen of the projects that should be in operation as well as to give the Bureau an up-to-date view of current activities.

Public Relations Conference.—The annual conference of county medical society public relations chairmen was held at the Hotel Biltmore in New York City on Saturday, October 9. There were 60 persons in attendance, including a representative of the Public Relations Department of the Medical Society of the State of Pennsylvania. The participants in the conference heard 11 speakers discuss six timely public relations topics. Following the usual custom, a "Public Relations Kit for County Medical Societies" was distributed to each person present. The kit contained 17 specially selected articles of interest to people engaged in public relations work.

A new feature of the 1954 conference was an exhibit, entitled "Here's Your PR Tool Chest," which displayed public relations material put out by the Bureau and available without cost to public relations chairmen throughout the State.

After the conference, a digest of the proceedings was sent to the participants, public relations chairmen who could not attend, and others. At the time of this report, plans call for the publication of the digest of the proceedings in a future issue of the NEW YORK STATE JOURNAL OF MEDICINE. Your committee is indebted to Dr. Laurance D. Redway, JOURNAL editor, who supervised the recording of the proceedings.

Public Service Projects.—Since most county medical societies had established public service projects in the form of emergency medical service plans and mediation committees, work in this field was devoted to preserving and improving these activities. As part of this work, a revised chart, showing the current status of these projects, was distributed in the fall.

According to the revised chart 60 county medical societies were given credit for conducting emergency medical services. This represented an increase of two over last year's report and meant that only one county medical society in the State had failed to provide emergency services. Although highly pleased with this record, your committee, through the Bureau, continuously emphasized the need for effective medical emergency service systems and warned that a mere "paper organization" could result in poor public relations.

Progress also was made in mediation committee activities. The new map revealed that 56 county medical societies actually had set up such groups. The map for the previous year listed two less, or 54 committees. In addition, the latest figures indicated that three counties are now classified as groups which handle complaints through a comitia minora, board of censors, or similar bodies. Previously, there were two such groups. A continuing problem in this area of activities was the reluctance on the part of some societies to publicize the existence of a mediation committee. The field staff attempted to overcome this difficulty in their visits to local societies which they urged to give publicity to existing mediation committees.

Interest continued to grow in the establishment of medical economic bureaus. While no new bureaus were set up, several societies were actively investigating the possibility of forming such organizations. The Bureau cooperated with these societies and gave assistance to them whenever requested.

Annual Meeting.—A record-breaking number of reporters covered the 148th annual meeting of the State Society in New York City, when 59 individuals registered in the press room, staffed by the Bureau's field representatives and clerical staff under the direction of Mr. Miebach. This number, believed to be the largest in the State Society's history, included representatives of the Associated Press, *New York Times*, *Herald Tribune*, *Medical Economics*, and other publications. For the purpose of making available to the press resolutions suitable for publication, the Bureau's representatives attended sessions of the House of Delegates. As a result of providing these services, the annual convention received extensive coverage in the press, not only in New York City, but in other parts of the State.

Prior to the meeting numerous newspaper releases, invitations, and notices to various groups were sent out. Following the custom of previous years, digests in the form of newspaper releases were made of 18 of the scientific papers presented during the convention. These digests were written by Mr. Tracey and Mr. Walsh. They were reviewed, before being released, by Dr. Henry I. Fineberg, a member of your committee, to whom a vote of thanks is due for his cooperation. These releases were made available at the annual meeting through the press room to newsmen, who expressed appreciation for this service.

Immediately after the House of Delegates adjourned, the Bureau prepared a digest on the principal activities of the House. As a result a brief résumé was made available within a short time after the convention terminated. This 11-page digest was mailed to members of the House of Delegates, county medical society secretaries, and executive secretaries.

An interesting sidelight to the activities at the annual meeting were expressions of appreciation sent into the Bureau as the result of its distribution of more than 100 certificates to doctors in practice fifty years. Typical of the many comments were such as these: "I shall always hold in esteem the work of the Society," and "It was a great honor for me and touched me very much."

Exhibits.—During the year the Bureau increased its publicity activities in the field of exhibits and was responsible for the creation of several displays.

As in the past an exhibit was designed for, and erected at, both the annual meeting and the Hall of Springs, Saratoga Spa. The former featured "Promoting Better Relations Between the Doctor and the Public," and the latter stressed "A Six-Point Public Service Program—For You The People!" The Saratoga exhibit was implemented by a pamphlet rack which made available to the public the Bureau's 12-pamphlet series on medical economic subjects. According to the Spa authorities, 94,487 persons visited the Hall of Springs while the above exhibit was on display during the summer months.

Assistance also was given in the preparation of an exhibit displayed by the Woman's Auxiliary at the annual State Fair in Syracuse. A staff member also helped to service this exhibit in the upstate city.

An innovation was the preparation of a special exhibit which was shown at the annual conference of county medical society public relations chairmen. Entitled "Here's Your PR Tool Chest! Use These Tools To Build Better Public Relations In Your Community," the display called attention to the Bureau's original publications, which are available without charge to interested medical public relations workers.

News Releases.—As part of its function as an information center, the Bureau sent to various newspapers throughout the State approximately 200 news releases. Working in close cooperation with the staff of the NEW YORK STATE JOURNAL OF MEDICINE, the Bureau undertook a new activity when it distributed copies of special releases on articles appearing in the JOURNAL prepared by the latter's staff. These releases were sent to a special list of science writers prepared by the Bureau.

Other releases dealt with the district branch meetings, the annual meeting, postgraduate lectures, diabetes detection drives, committee appointments, election of officers, A.M.A. delegates, year's outstanding general practitioner, and fifty-year doctors.

It is significant to note that more than 5,000 clippings were gathered from newspapers in this State. Many of the stories were the result of the Bureau's news releases, while others reflect the efforts of county medical society officials and others. In any event this sizable number of newspaper items indicate that the medical profession's activities received favorable coverage during the past year.

District Branch Meetings.—Well in advance of the district branch meetings many releases were mailed to newspapers throughout the State. These releases publicized the scientific programs at the various branch meetings as well as speeches given by Dr. Mellen, as president of the State Society, and Dr. Azzari, as president-elect.

Continuing the policy established a few years ago, representatives of the Bureau were in attendance at each branch meeting. Acting under the direction of Dr. Anderton, the field men took charge of registering the physicians and guests. In addition, the Bureau's director was present at each of the meetings for the purpose of handling relations with the local press.

Guide for Cooperation.—Working in close harmony with the Subcommittee on Cooperation with Information Media, the Bureau's staff devoted much time to the "Guide for Cooperation" between the medical profession and the various media of public information.

Prior to the adoption of the Guide by the House, the Bureau helped the subcommittee in many ways. Principal among the activities was the setting up of conferences and the transcribing of the minutes, recorded by Dr. Laurance D. Redway, whose assistance was very much appreciated.

After the final version had been approved, the Bureau managed the printing and distribution of the pamphlet. Copies were sent to all members of the State Society, except those in Erie County, where distribution was handled by the local society at its own request. To implement the membership mailing, Dr. Dan Mellen sent a special letter to every county medical society expressing the hope that the Guide would improve relations with radio, press, and television in local areas.

The Guide also was given wide distribution outside the membership. Copies were sent to newspaper editors, radio and TV stations, the Hospital Association of New York State, the Greater New York Hospital Association, the Association of Private Hospitals, Inc., Magazine Writers of America, county medical society executive secretaries, other state medical society executive secretaries, where such existed, and many others. Carrying out the House's instructions, a copy also was sent, with a special letter, to Dr. George Lull, A.M.A. Secretary and General Manager.

Following the initial distribution, the field staff and the *Newsletter* were utilized to emphasize two important points. The first was that county medical societies should sit down with local people to discuss the Guide's application to their problems. The second was that every physician should carefully study the Guide so that he might be aware of the liberal interpretation of ethical principles regarding publicity, which it contains.

Numerous requests for copies were received from various parts of the nation. Included were those from Fitzsimmons Army Hospital, Denver, Colorado; the State Medical Societies of Michigan, North Carolina, South Carolina, Tennessee, Texas, and Connecticut; the American Hospital Association; the National Tuberculosis Association. Outside of requests received from the medical profession and related agencies, there were many from such groups as advertising agencies and public relations firms.

Many favorable comments also followed publication of the Guide. Typical of these was one which said that if the Guide is successful and "a greater quantity of valuable medical data and information intelligible to the public becomes available, the Medical Society of the State of New York will have done a great favor to its membership and, more important, to the general public in this State." The Guide received additional publicity when the November issue of the A.M.A.'s *PR Doctor*, which is sent to key medical public relations people throughout the country, devoted almost an entire page to a discussion of the pamphlet and included a copy of the Guide in its exchange section.

Advisory Service to Press, Radio, and TV.—Although an advisory service to the press, radio, and TV has been an important phase of the Bureau's operations for many years, this aspect assumed unusual importance as a result of the publication of the Guide for Cooperation. Communications from writers made it necessary to set up new machinery to handle two types of inquiries.

The first type of question concerned information sought by writers who were preparing articles and wanted to discuss problems with an expert before writing their copy. To meet this situation, Mr. Miebach, the Bureau's director, conferred with Dr. Theodore J. Curphey, chairman, the Council Committee on Public Health and Education, who agreed to name two physicians who are specialists in the field under inquiry and who might be willing to answer questions asked by writer. The field staff of the Bureau contacted these authorities and made arrangements for them to confer with the representatives of the media of public information who had made the inquiries. These representatives expressed their appreciation for this help.

The second type of inquiry was of a more difficult nature. In this classification were writers who asked for a review of the accuracy of the medical facts in completed articles which were ready for submission to publishers. A free-lance writer, for example, submitted an article on hernia because a prospective publisher requested that he obtain the State Medical Society's approval as a result of the Guide's publication. Through the cooperation of Dr. Henry I. Fineberg, who is a member of the subcommittee which drew up the Guide, the Coordinating Council of the five New York City medical societies appointed a panel of surgeons to review this particular article. After reviewing it, the panel ruled that it was not acceptable. The writer was advised of this ruling and in spite of its adverse nature expressed his appreciation for the fact that the panel had considered his article and made suggestions concerning it.

Your committee is much indebted to the physicians referred to above and expresses the hope that these doctors will continue to carry on this new but most important work of meeting members of the press at first hand and helping them whenever possible as a positive step toward building better public relations.

Speakers' Service.—Requests for speakers on medical economics reflected the interest of the public in Federal legislation on this subject. With the introduction of the Administration's reinsurance bill, a greater number of organizations requested speakers from county societies.

As a service to the doctors who fulfilled these requests, the Bureau maintained a special file of research and press commentaries on the subject.

The service also has cooperated with the Committee on Public Health and Education in obtaining qualified physicians to discuss the matter before county medical societies.

The service also encouraged physician-speakers to make use of health films when appearing before civic or other organizations. As a special effort to keep medicine's positive story before radio and TV audiences, the Bureau prepared a leaflet, "An Outlet of Materials Available to Local Station Managers," containing the latest information regarding radio transcriptions, TV programs, and films that public relations chairmen may secure for use by local station managers.

Radio.—Although interest in radio programs in large cities was not so great as in past years, the requests from the rural areas for materials have increased. The number of radio stations that used the platters of the A.M.A.'s Bureau of Health Education as part of their public service and sustaining programs has increased twofold. This may be attributed to the practice of sending a letter to every county public relations chairman advising him of each new platter series as it is released from the A.M.A.

Health Films.—Requests for assistance in obtaining specific health films were definitely on the increase. In many instances a program chairman or physician-speaker requested assistance in securing a film depicting the subject of his talk. Use of the film index compiled during the past years made it possible for the Bureau to assist all inquirers with a maximum of efficiency and minimum of delay.

TV Films.—The Bureau conducted special drives to acquaint the program directors of the State's 24 TV stations with the many excellent TV films the

A.M.A. has prepared for distribution through the county medical societies. Emphasis also was placed on the showing of the films, "Your Doctor" and "Operation Herbert," before high schools and other organizations.

The Bureau also made a special effort to keep doctors advised of any TV programs of special interest to them through special mailings and announcements in the *Newsletter*.

Woman's Auxiliary.—As reported elsewhere, the Bureau continued to assist the Auxiliary, particularly in its efforts to coordinate its public relations and legislative programs with those of the State Society. Assistance also was given to the State and county Auxiliary officers and chairmen in preparation of reports, articles, and programs. The Bureau likewise cooperated with the Auxiliary in carrying on its scholarship, nurse recruitment and high school future nurses campaigns, health poster contest, and in preparing and servicing its State Fair exhibit.

New projects stimulated included home and child safety, mental health, and blood banks.

Mr. Walsh continued to act as coordinator in State and county Auxiliary activities and to provide clerical and related assistance whenever indicated or requested.

Headquarters Foyer.—In cooperation with the secretary and office manager, the Bureau prepared and executed a plan for the improvement of the appearance of the headquarter's foyer. This plan consisted of affixing two large peg-board displays to the front and side walls. Both boards were attractively painted and are designed so that removable exhibits can be attached to them. On the front wall display board was placed the exhibit which was presented at Saratoga. On the side wall board, there was attached an exhibit consisting of such items as copies of the *Newsletter*, newspaper clippings showing the annual general practitioner award winners, copies of the Guide for Cooperation, and other items which can be changed from time to time. The purpose of both of these exhibits is to give visitors to headquarters an idea of the purposes of the Society and current activities.

Publications.—Statistics compiled following the final shipment of the 12-pamphlet series on medical economic subjects revealed that the project had been an outstanding success. A total of 1,122,000 pamphlets were supplied at half the cost price to 37 county medical societies in the State. The remaining 78,000 copies of the original order of 1,200,000 were distributed by fulfilling requests from the A.M.A., state medical societies, and numerous other groups from all parts of the country. Supplies also were made available at public meeting places, such as the State Fair in Syracuse.

The series received a great deal of favorable publicity. Among the publications which devoted space to the pamphlets were *Medical Economics*, the *American Professional Pharmacist*, and A.M.A.'s *PR Doctor*, which contained copies for the information of selected public relations personnel in different parts of the nation. Further evidence of interest was a request from the Baltimore City Medical Society for information concerning the cost of the pamphlet series.

"Telephone Cues for Medical Personnel," an original Bureau publication, continued to attract much attention also. As a result of an article in *Nurses Notes*, published by Squibb, the Bureau received requests for more than 2,000 copies from individuals in this country and Canada. An additional 2,000 copies have been ordered to replenish the dwindling supply.

Another Bureau original creation, "You and the Medical Society of the State of New York," which describes the State Medical Society's activities, was revised so as to bring it up to date. An order also was placed for a supply of this publication in the amount of 2,000 copies, which will be distributed to new members upon their admission to the State Society. As reported elsewhere, the Bureau also published the "Guide for Cooperation" of which the first run amounted to more than 30,000 copies.

Several new brochures were published by the Bureau and distributed throughout the year. Among these were "Medical Facilities in XXXXX-XXXXX County," a suggested format for publicizing local agencies, and "An Outline of Materials Available to Local Station Managers," a summary of materials available from the A.M.A. and other sources. In the process of preparation is a new brochure tentatively entitled, "Procedure for Organizing and Arranging Courses for Physicians' Office Personnel," containing helpful suggestions regarding public relations technics for workers in doctors' offices.

Newsletter.—For the third successive year, the *Newsletter* was sent to every member of the State Society. As in past years copies also were mailed to a select list of people in various sections of the country.

There was much evidence of the growing popularity and usefulness of the *Newsletter*. As the result of articles on items of particular interest, not only physicians in this State but groups outside wrote to the Bureau for information. One such item was a sample form designed to facilitate comprehensive physical examinations, which was requested by members of the Society as well as persons in North Carolina, Connecticut, and Rhode Island.

The publication continued to be used for publicizing not only the numerous public relations projects discussed in this report but the varied activities of the Society as a whole, whenever advisable. Much space was given, for example, to the annual meeting, the district branch meetings, the Woman's Auxiliary, the secretaries conference, the pamphlet series, the Guide for Cooperation, and other subjects.

Special messages from the chairmen of various Society committees also were published. These included a request from the Speaker of the House for early filing of resolutions, an article on the Community Mental Health Services Act by the Public Health and Education Committee chairman, and a statement on the "free choice" laws by the chairman of the Committee on Legislation.

Public service projects and activities of allied groups also were covered. Among these were the State Department of Health's plans for the distribution of gamma globulin, the Salk polio vaccine field trials, and the diabetes detection drives.

Notices also were carried concerning the A.M.A.'s new closed-circuit TV program entitled "Videclinic."

In an attempt to improve the *Newsletter* and make it more appealing, new ideas were used from time to time. "Words for Thought" presented brief statements on timely medical economics topics by important physicians, while "Keep Up With the Press" gave thumbnail descriptions of current popular magazine articles of interest to physicians.

Each copy of the *Newsletter* was reviewed and approved by Dr. Arthur M. Master, a member of this committee, before publication. For this important contribution your committee expresses its grateful appreciation to Dr. Master.

Public Relations Session.—Following the public relations session during the 1954 annual meeting, the Bureau, at the request of its chairman, Dr. John D. Naples, transcribed the minutes, which had been recorded by Dr. Laurance D. Redway, whose cooperation, once again, is very much appreciated. The mimeographed transcriptions were sent not only to the 70 participants but to other interested persons.

Assistance also has been given to Dr. Naples, at his request, in the preparation for the public relations session to be held during the 1955 annual meeting.

Special Mailings.—One of the devices employed to keep county medical society public relations chairmen and other interested parties in touch with latest developments in the field of public relations was the mailing to them of specially selected materials. Among these were publications from both this State and groups outside the area. An example of the former was the "Information Booklet" published by the Medical Society of the County of New York, describing its many services to members and "What *You* Should Know About *Your* Mediation Committee of the County of Erie," which tells about the Buffalo group's complaint committee. Typical of the latter were "Guide to Membership," presenting the activities of the Hartford County Medical Society, in Connecticut, and "The Public Relations of County Medical Societies," prepared by the Illinois State Medical Society. Besides these materials, reprints of newspaper articles, such as "How to Pick A Doctor," which appeared in the Long Island Press, as well as advance notice of the A.M.A.'s "County Medical Public Relations Manual," were mailed to interested persons.

Liaison With A.M.A.—Relations with the A.M.A. continued to be most cordial, and activities in this area increased. Appearances at meetings, personal contacts by the field staff, and special mailings were among these activities.

Your chairman headed a panel discussion, "How Professional Management and Professional Business Bureaus Can Help a Doctor's Public Relations," at the A.M.A.'s Seventh Annual Medical Public Relations Conference, in Miami, Florida, on November 28. Mr. Miebach also was present at this conference. Earlier in the year, Mr. Miebach attended the Eastern Regional Legislative Conference conducted by the A.M.A. in New York City, February 13.

On two occasions special assistance was rendered. At the request of the A.M.A.'s Department of Public Relations, the Bureau cooperated in a nation-wide program to educate senior medical students in the practical aspects of medical practice. The A.M.A. had made available to the deans of medical schools a volume entitled "A PR Pattern for a Successful Practice." Following a suggestion made by Mr. Leo Brown, A.M.A. public relations director, the Bureau ordered 1,000 copies of the volume which were sent, upon request, to the deans of medical schools in this State. On another occasion the field men delivered in person, when possible, to county medical society public relations chairmen, the A.M.A.'s publication on the subject, "County Medical PR Manual," as specifically requested by the A.M.A.'s Public Relations Department.

Continuing the practice of previous years, in early September Mr. Miebach and the field staff attended the annual Public Relations Institute conducted by the A.M.A. in Chicago. The Institute, third of its kind and designed for lay medical public relations personnel, provided a forum for the interchange of public relations technics.

On the other hand, the A.M.A. gave much attention to your committee's activities. The *PR Doctor* carried lengthy stories about the 12-pamphlet medical economic series and the Guide for Cooperation as well as sample copies. Reprints of the New York State Journal of Medicine's article on the annual public relations conference also was carried in the same publication.

Liaison with Society Committees and Other Groups.—Expanded activity in the work of cooperating with other committees of the Society as well as outside groups was noted during the past year.

Particular attention was given to such groups as the Committee on Legislation, headed by Dr. James Greenough, and the Public Health and Education Committee, the chairman of which is Dr. Theodore J. Curphey. On occasion representatives of the Bureau attended meetings of other groups upon request. Mr. Miebach, for example, represented the Bureau at the annual Conference of County Medical Society Secretaries in Albany on November 17. He spoke briefly on the "Guide for Cooperation" and how the county societies could cooperate in making it effective.

Concerning outside groups, the Bureau was represented at numerous meetings. Among these were the Public Relations Session of the American Blood Banks Association, the National Association of Science Writers, the State Health Department's Annual Health Conference, and the Rural Health Conference. The Bureau's director also attended a special press conference called by the Coordinating Council of the five Greater New York county medical societies regarding the principles of professional conduct.

Friendly working relations were continued with such organizations as the Chamber of Commerce of the State of New York, the Health Insurance Council, and other groups. As in the past the Bureau and the New York State Department of Health worked together on many occasions to promote the welfare of the citizens of this State.

Public Relations Program for 1955.—The public relations program for 1955 will be carried on as in the past, but the following subjects will be given major consideration: (1) encouraging county medical societies to conduct courses for medical personnel; (2) operating an information center and publicity service on a State-wide basis; (3) continuing efforts to have county medical societies cosponsor medical forums with the press; (4) carrying out and implementing the Guide for Cooperation; (5) preserving and improving existing public service projects and instituting new ones; (6) promoting patient education through pamphlets and other devices; (7) improving liaison with Society committees, the Woman's Auxiliary, and other groups; (8) widening speakers' services as well as radio, press, and TV activities; (9) advocating continuance of committee's public relations projects and adoption of suggested supplemental projects; (10) intensifying the field program.

As a conclusion to this report, your chairman, on behalf of his fellow committee members, desires to express the group's deep appreciation for the cooperation given by the State Society's officers, committees, members, and employes, as well as the officials of the 61 component county medical societies. Without their help your committee's efforts would not have resulted in the many accomplishments described in this report. The acceptance of our efforts has served, and will continue to serve, as an inspiration for your committee to strive to attain greater accomplishments.

Cooperation with the Media of Information

The Subcommittee on Cooperation with Media of Information of the Council Committee on Public Relations, appointed by the president to draw up a code of cooperation between the medical profession, the press, radio, TV, and photographers, consists of the following:

John C. McClintock, M.D., *Chairman*	Albany
Henry I. Fineberg, M.D.	Jamaica
John D. Naples, M.D.	Buffalo

In accordance with instructions of the House of Delegates the subcommittee prepared and submitted a "Guide for Cooperation" between the medical profession and the various media of public information. After approval by the House the subcommittee made a wide distribution of the Guide through the facilities of the Public and Professional Relations Bureau.

Subsequent to the distribution of this booklet, the group has been engaged in answering inquiries and interpreting the Guide with the Bureau's help.

Since the last session of the House the subcommittee also took two actions which were approved by the Council. The first concerned a slight change in the Guide suggested by the Hospital Association of New York State. This change consisted of adding the words "in the discretion of the administration" to Section B2 so that the new text reads: "When newspapers request the photographing of a patient in the hospital, such permission shall be given, in the discretion of the administration. . . ." The second action involved a letter written by your subcommittee's chairman to the chairman of the board of censors of the Herkimer County Medical Society. The letter urged that the board approve the request of a physician that he be authorized to permit his photograph to be taken for publication in a national weekly magazine in connection with an article including excerpts from a paper he had had published in an out-of-state medical journal.

At the time this report is being prepared, the subcommittee has scheduled a meeting in March with members of the press, radio, TV, and photographers. The purpose of this meeting will be to review the Guide, as promised in the original issue, to ascertain whether any changes should be made. In the event that any major changes are decided upon, it may be necessary to present a supplementary report to the House.

PART XII
MISCELLANEOUS

Nursing Education

The committee on Nursing Education has the following membership:

Raymond S. McKeeby, M.D., *Chairman*	Binghamton
Elton R. Dickson, M.D.	Binghamton
Louis M. Rousselot, M.D.	New York City

Members of the Committee on Nursing Education attended a meeting at the request of Dr. Stiles D. Ezell, secretary of the New York State Board of Medical Examiners, in the name of the Regents of the New York State Education Department. This meeting was the "Regents Committee on the Shortage of Professional Nurses" held in New York City, July 22, 1954.

The subject of the nursing shortage has held the spotlight for the past several years. Much has been written and discussed in regard to it. The fact remains that it will be close to 1960 before the increase in the birth rate of the war years will be felt in the greater number of potential students. It is also generally accepted that the nursing personnel situation is more favorable in rural communities than in the metropolitan areas. We also recognize the increase in hospital census due to the widening use of voluntary hospital insurance plans.

How then can the present shortage of nurses be best met? Three general types of individuals are needed. These include (1) the graduate nurse who must be encouraged, on the basis of interest and ability, to enroll in courses designed to supplement their basic nursing education so that they will be able to supervise auxiliary workers; (2) the practical nurse who has had at least one year of training in a school approved for practical nurse education and whose value should be recognized to the point where position receives the dignity which it deserves; (3) the attendants, aides, and orderlies who, although they must be carefully chosen for character and adaptability, have had no previous approved training. If the right approach to these people is made, so that they will feel the importance and acceptability of their jobs and also by being made a part of a team, a better and more permanent type of individual hospital worker will result.

A great deal can be done, not only in a local area but also in the individual hospitals, by the administrators and physicians to build up morale among all workers. All staff members should consider this to be a part of their service to the hospital. The results of the two-year training courses are being watched with interest.

It was suggested by Regent Maurillo that in a metropolitan area there could be a revision of a nursing school curriculum to provide first and second year's tuition free. Students would live at home and attend school from 9 A.M. to 5 P.M. with classroom instruction in the morning and laboratory, including ward practice, in the afternoon. The third year would be as an internship in the hospital as a staff nurse with salary, at the end of which time she would receive an Associate in Applied Science degree.

It is only through the continuation of programs already under way and by the thoughtful suggestions and cooperation of all concerned that the problem will be solved.

Office Administration and Policies

The Committee on Office Administration and Policies consists of the following:

John J. Masterson, M.D., *Chairman*	Brooklyn
W. P. Anderton, M.D.	New York City
Renato J. Azzari, M.D.	Bronx
Maurice J. Dattelbaum, M.D.	Brooklyn
Raymond S. McKeeby, M.D.	Binghamton
Dan Mellen, M.D., ex officio	Rome
Thomas E. Alexander, *Adviser*	New York City

Your committee met regularly each month during the past year with the exception of the summer. Almost without exception all members were present.

As has been pointed out in past years, this committee is made up of a member of the Board of Trustees, the Treasurer, the Secretary, the President-Elect, a Councillor, the President ex officio, and the office manager, as adviser. It is worth noting that its composition is that of "top management." The office manager is required to attend each meeting and prepare a report to keep the group informed.

We are concerned primarily with the general operations of the office. In this capacity our business includes the setting-up and maintaining of office procedures consistent with present-day methods, the approval of all matters relating to personnel from the time an employe is hired, through salary increases, promotions, and separations. This year part of our business included the study and recommendation of a pension for a loyal and devoted employe who had been with us many years, Miss Elizabeth Wheeler.

One of the problems with which this committee had to cope was the supplying of space and various office services to the Blood Banks Association. In addition to space, the Society's personnel has been available for accounting, purchasing, mailroom and mimeographing, and telephone services. While a comparatively modest charge was made for these services, every effort has been put forth to cooperate fully so that every possible advantage might be accorded this new effort. The Association's additional space requirements eventually made it impossible for us to be able to fulfill them, and our staff spent much time and work to enable the organization to move to another floor in the building.

The committee found it necessary during the year to give its attention to the problem of absenteeism. After study, it was decided to limit the amount of absenteeism for which the Society would pay the employe, giving the office manager discretionary powers as the need arises.

The handling of American Medical Association dues continues to be an expense to the Society, over and above the amount received from A.M.A. for the work done. In order to save money the committee approved the purchase of a photographic copying machine. This enables us to photograph the numerous lists of names received from county societies which must be transmitted to Chicago with dues monies. Previously such lists were prepared by a typist.

With the able assistance of the Public and Professional Relations Bureau, the reception area of the office has been improved in appearance. Display boards have been installed and at the present time present a story of the activities of the State Society.

The annual outing to Bear Mountain for the staff was held last June. Shortly before Christmas, a party for the staff was held at the Hotel Statler in New York City. The committee believes these functions add greatly to the morale of the office.

It is with deep emotion that the committee mentions in this report the retirement of Miss Elizabeth Wheeler. Many of Miss Wheeler's years were spent working in the office of the State Society and related activities. When she retired last December 31, a modest pension was granted. The office staff contributed to a purse to be used for the purchase of a chair for her home. We must note that the amount contributed by Miss Wheeler's fellow employes was in our memory the largest ever collected. To be so loved and respected by fellow workers is indeed a tribute. The committee adds its best wishes for many years of health, happiness, and a well-deserved rest and a very humble "thank you" for such loyalty and devotion.

The efforts and work of our staff members is commended by the committee. It wishes to give particular recognition and express its appreciation to each and every member of the staff. We are happy especially to commend Miss Mary McMahon, supervisor of the membership department, Mr. William Bonzer, mailroom supervisor, and Mr. Frank Grassi, accounting department supervisor.

The committee could not render a complete report without giving due weight to the advice and counsel which our genial secretary and general manager, Dr. Walter P. Anderton, contributes to the facilitating of the work which confronts us month after month.

Our office manager, Mr. Thomas E. Alexander, attends all our meetings and acts as secretary to the committee. His cooperation, suggestions, and advice have been most valuable to us.

It is recommended that a committee of similar composition be appointed for the succeeding year.

Woman's Auxiliary

The Council Advisory Committee to the Woman's Auxiliary consists of the following:

Andrew A. Eggston, M.D., *Chairman*	New York City
Thomas M. d'Angelo, M.D.	Jackson Heights
Harry I. Norton, M.D.	Rochester

The Woman's Auxiliary to the Medical Society of the State of New York began its new year with the Fall Conference of County Auxiliary Presidents and Presidents-Elect in Albany. The 1954–1955 program of auxiliary activities, edited by Mrs. Arthur L. Bennett, president, made its appearance at this conference. In accordance with usual practice the Auxiliary members heard distinguished authorities in the fields of public relations, legislation, voluntary medical care plans, nurse scholarship and recruitment, civil defense, and child safety and later discussed ways and means of implementing these programs in the manner that would identify them as an extension of the medical profession's established programs.

In the field of public relations the Auxiliary stressed the value of doctors' wives participating in community affairs. In the field of legislation the Auxiliary stressed the value of background information on pending legislation and laid the groundwork for a program that will enable Auxiliary members to participate in the Society's legislative program with the minimum of prior preparation and delay.

The charming president, Mrs. Arthur L. Bennett, traveled extensively among the counties and during her talks stressed the importance of the doctor's wife in her community. She pointed out that although other organizations draw help and membership from friends in other fields, the auxiliaries are dependent solely upon doctors' wives for the strength and continuance of their program.

The Auxiliary continued its sponsorship of three State-wide activities: nurse scholarship, recruitment, and Future Nurses Clubs; the exhibit at the State Fair, and the health poster contest.

During the past year the Auxiliary has also established committees on mental health, American Medical Education Foundation, and blood banks.

The ladies, furthermore, made special efforts to assist the Blood Banks Association of New York State in the formation of a Women's Division and to determine how the Auxiliary could help in the formation of community programs designed to promote home and child safety. Many members have devoted considerable time and energy to the advancement of both these projects.

The Auxiliary's publication, *The Distaff*, continues to grow both in size and influence. Under the leadership and inspiration of its new editor, Mrs. John N. Dill, a new format and several new topics have been introduced. Like her predecessor, Mrs. Adolph H. Emerson, Mrs. Dill is indebted for the continued support the Society provides.

The individual county auxiliaries also accomplished much in supplementing the public relations programs of their respective medical societies, and almost all are eager to do more if they are asked.

Every county society president, public relations chairman, and legislation chairman is urged to make greater use of its auxiliary. Auxiliary members are conscious of the urgent need for the development of a better understanding between the general public and medicine and are anxious to do all within their power to foster better relationships.

At present the county auxiliaries number 46, leaving 16 unorganized counties. It is difficult for your chairman to understand this; therefore, he appeals personally to the 16 county presidents and other officers of these 16 county societies to cooperate with the State Auxiliary organization chairman in organizing a county auxiliary as soon as possible. Time so invested will be well spent.

The Auxiliary wishes to thank our president, Dr. Dan Mellen, our gracious secretary, Dr. Walter P. Anderton, the Council, the House of Delegates, and each member of the county and State societies for their support. It is also appreciative of the cooperation extended by the chairmen of the county and State societies' many committees, and is indebted to the Public and Professional Relations Bureau and its staff, to Mr. Frederick W. Miebach, Mr. Thomas E. Walsh, and Mrs. Rose Tavormina for their continued interest and assistance.

Your committee wishes to express its appreciation to Mrs. Arthur L. Bennett, State Auxiliary president, to each of her officers and committee chairmen, and to every auxiliary member for the time and energy they devote to the cause of medicine.

The chairman wishes to express his personal regrets that because of the pressure of untimely illness and other duties, he was unable to attend some of the Auxiliary functions, but his presence at other Auxiliary meetings, such as that held in Westchester County, proved that all Auxiliary programs are designed first to advance the art and science of medicine and then to promote the Auxiliary's interests The chairman also wishes to express personal appreciation for the kind consideration the Auxiliary showed him during his illness.

We believe that the Auxiliary deserves a vote of thanks for the good will it promotes for the medical profession wherever it is active in New York State.

Ethics

The Council Committee on Ethics consists of the following members:

Thurman B. Givan, M.D., *Chairman*	Brooklyn
Frank LaGattuta, M.D.	Bronx
Ezra A. Wolff, M.D.	Forest Hills

Very few matters have been referred to the committee during the year of 1954–1955.

Obviously most of the questions dealt with interpretations of the *Principles of Professional Conduct.* For instance, Dr. Leonard Goldwater asked for information and guidance for members who are associated in occupational medicine. One question had to do with freedom of a patient to choose his own physician in industrial medicine. It was pointed out that it is not the intent or the meaning of the clarifications of the code of ethics that types of industrial practice now considered acceptable shall be constructed as unethical. It was further pointed out, in answer to the inquiry of who was to decide whether there was deterioration in the quality of medical service rendered, that unethical features of, or substandard care resulting from, a given contract to provide medical care would render that contract unethical. Furthermore, that the board of censors of the local county medical society would logically be the body to make a specific determination in each case as it arises.

A query as to the propriety of a physician attempting to get in touch with a patient who has not returned for needed treatment was answered by saying that, "a physician may ethically and should make a reasonable effort to follow up a patient for the purpose of administering needed treatment, if the patient (or in the case of a minor, or an incompetent, those responsible for him) is not cognizant of facts in the physician's possession which render the treatment necessary for the patient's best interests," etc.

Other, more or less minor matters referred to the committee were published in the proceedings of the Council in the JOURNAL.

Belated Bills

These bills are submitted to the House of Delegates because they were received in the office of the State Society more than ninety days after the expenses were incurred.

1. Telephone calls made by Dr. C. S. Wallace, treasurer of the Sixth District Branch, in connection with the annual meeting of the branch:

June 14	Syracuse	$1.10
June 28	Binghamton	0.40
June 30	Syracuse	0.45
July 8	Margaretville	1.45
July 8	Syracuse	1.70
July 15	Oneonta	1.35
July 21	New York	2.10
July 21	Syracuse	0.65
July 21	Syracuse	0.65
TOTAL		$9.85

2. Bill presented by Dr. Moses H. Krakow, treasurer of the First District Branch, covering the following expenses of the branch:

7 monthly meetings at $10 (room service)	$ 70.00
May meeting at the Statler (press conference)	63.67
Clerical help	50.00
Printing	30.90
TOTAL	$214.57

Convention

The Convention Committee consists of the following:

Thomas M. d'Angelo, M.D., *Chairman*	Jackson Heights
W. P. Anderton, M.D.	New York City
Maurice J. Dattelbaum, M.D.	Brooklyn
Thomas E. Alexander	New York City

The 148th Annual Convention of the Medical Society of the State of New York was held at the Hotel Statler in New York City, from May 10 through 14, 1954.

Registration.—Again, the registration figures totaled well above the 6,000 mark. The detailed figures follow:

Physicians	3,901
Guests (medical students, interns, dentists, nurses, technicians, etc.)	1,421
Technical exhibitors	1,093
TOTAL	6,415

House of Delegates.—The House of Delegates met during the first three days of the convention. Due to the amount of business, a long evening session was held on Tuesday. Forty-five resolutions were acted upon.

A new section was established, the Section on Allergy, which will hold its first scientific meeting at the 1955 convention. The Section on Ophthalmology and Otolaryngology was divided into the Section on Ophthalmology and the Section on Otolaryngology. They will have individual meetings at the 1955 convention.

Scientific Program.—The arrangements of the 1953 scientific program were found to be successful and were repeated this year. Questionnaires, asking for the opinion of the doctors on the type of meetings, were distributed and collected at all scientific meetings. Although not many were returned, the consensus was that the new type of program should be continued. The program contained approximately 100 scientific dissertations.

The Session on Legal Medicine, new this year, had an interesting and well-attended meeting.

Attendance figures for scientific meetings follow:

Sections	
Anesthesiology	125
Chest Diseases	100
Dermatology and Syphilology	106
Gastroenterology and Proctology	63

General Practice	150
Industrial Medicine and Surgery	50
Medicine	58
Neurology and Psychiatry	40
Obstetrics and Gynecology	80
Ophthalmology and Otolaryngology	110
Orthopedic Surgery	140
Pathology and Clinical Pathology	60
Pediatrics	50
Preventive Medicine and Public Health	55
Radiology	100
Surgery	44
Urology	70
Sessions	
History of Medicine	40
Legal Medicine	62
Physical Medicine	85
Public Relations	60
General Sessions	
Monday	100
Tuesday	200
Wednesday	300
Thursday	400
Friday	150
Postgraduate Lectures	
Tuesday	110
Wednesday	125
Round Table Discussion	150
Blood Banks Association of New York	125

Scientific Exhibits.—A new scientific exhibit application form proved of great help to the chairman, Dr. William L. Watson, and the cochairman, Dr. Beverly C. Smith, in selecting 80 exhibits and facilitated the supplying of electricity and other needs for the exhibitors.

The Scientific Awards Committee selected the following exhibits for recognition, and the House of Delegates voted them awards. Certificates of award were sent to the winners.

CLINICAL RESEARCH

First Award: "Preventive Ophthalmology," Isadore Givner, M.D., and Bernard Kronenberg, M.D., New York University-Bellevue Medical Center and New York Eye and Ear Infirmary, New York City.

Second Award: "Pulmonary Complications of ACTH and Cortisone: Roentgen Observations," Israel Steinberg, M.D., John A. Evans, M.D., and N. Finby, M.D., New York Hospital, New York City

Honorable Mention: "Recent Advances in the Treatment of Lung Cancer," William L. Watson, M.D., David A. Karnofsky, M.D., John L. Pool, M.D., Raymond K. J. Luomanen, M.D., Alexander J. Conte, M.D., Sam Seal, M.D., and William G. Cahan, M.D., Memorial Center for Cancer and Allied Diseases, New York City

Honorable Mention: "Carcinoma of the Lung," Adrian Lambert, M.D., Roosevelt and Knickerbocker Hospitals, New York City

SCIENTIFIC RESEARCH

First Award: "Dermatoses and Malignant Internal Tumors," Helen Ollendorff Curth, M.D., College of Physicians and Surgeons of Columbia University, New York City

Second Award: "The 'Protein Profile' in Multiple Sclerosis," Bruno W. Volk, M.D., Abraham M. Rabiner, M.D., Abraham Saifer, M.S., Ch.E., and Irwin Oreskes, B.S., Jewish Sanitarium and Hospital for Chronic Diseases, Brooklyn

Scientific Motion Pictures.—The motion picture exhibit was planned by the chairman of the Subcommittee on Scientific Motion Pictures, Dr. Colgate Phillips, and presented by the Medical Film Guild, Ltd. The chairman submitted a report of his activities to the convention chairman, with suggestions for the use of future chairmen.

Technical Exhibits.—Mr. Charles L. Baldwin, in charge of technical exhibits, reported 146 exhibits were accepted. The technical exhibitors expressed their appreciation of the attendance by the doctors at their booths.

Annual Meeting and Dinner Dance.—The annual meeting and dinner dance was held on Wednesday evening of convention week. Dr. J. Stanley Kenney, chairman, Dinner and Dance Committee, arranged for an excellent dance band and entertainment. The speakers were Drs. Eggston, Mellen, Reuling; the toastmaster, Dr. Louis H. Bauer; the guest of honor, Mr. Arthur H. Motley, president, Parade Publication, Inc., who spoke on "The Medical Press and the Public."

Woman's Auxiliary.—The Woman's Auxiliary to the Medical Society of the State of New York had their convention simultaneously with the State Society.

An efficient corps of hostesses was organized to help the convention committee direct doctors to meeting rooms and take attendance and distribute and collect questionnaires. Their work was much appreciated.

Miscellaneous.—For the first time a convention service was engaged to provide professional assistance to members and guests in making their stay in New York more enjoyable—the Languild Convention Service. They obtained theater and sporting events tickets, made train and plane reservations, assisted with shopping and sightseeing, and in other ways were helpful. They submitted a detailed report of their activities to the convention chairman.

The committee feels that this service was of considerable help. However, if it is decided to use this service in the future, it should be publicized far in advance, so that more members can take advantage of it. We also feel that such a service is not necessary for the Buffalo convention.

A card of thanks was sent to each participant in the scientific program and to members of the Woman's Auxiliary Hostess Committee.

1955 Convention.—A meeting of the Convention Committee was held on October 30, 1954, at the Hotel Statler in Buffalo to activate the plans for the 1955 convention. The scientific program was tentatively arranged. Dr. d'Angelo submitted a plan to encourage the Reception Committee. This would entail having each member of the committee act as host to an out-of-State guest.

The technical and scientific exhibits will open on Monday, since the hotel will allow the decorators to build the booths and backdrops for the exhibits on the preceding Thursday and Friday. This will eliminate the excessive costs of working on Saturday and Sunday in order to have the exhibits ready for Monday morning. The exhibitors will be permitted to arrange the exhibits in their booths on Saturday and Sunday.

The Medical Exhibitors Association was approached for the possibility of allowing the technical exhibits to remain open for one evening during the convention. This was discussed at a meeting of the association at which Dr. Anderton and Mr. Baldwin were present.

The consensus of the association was that this is not feasible.

Report of the Special Committee on American Medical Education Foundation

To the House of Delegates, Gentlemen:

The Special Committee on American Medical Education Foundation has the following membership:

William C. Rausch, M.D., *Chairman*	Albany
Daniel S. Cunning, M.D.	New York City
John L. Edwards, M.D.	Hudson
William J. Orr, M.D.	Buffalo
William E. Pelow, M.D.	Syracuse
Edwin P. Russell, M.D.	Oneida

The first portion of this report will consist of statistics which are very pertinent to every practicing physician's future economic status. It is the sincere wish of this committee that this condensed report be read and digested by every physician in the State of New York.

In 1900, 160 medical schools in the United States, only one third of which were accepted, graduated 5,606 students. During the period of 1900–1910, the Council on Medical Education and Hospitals of the A.M.A. attempted changes in the chaotic status of medical education. In 1910, 66 schools out of 131 were eligible for approval and had 12,530 enrolled students, and in 1954 there were 80 approved schools with 28,227 enrolled students which graduated 6,861 physicians. It is expected that 85 to 87 approved schools will be in operation by 1960, with a production of 7,400 new physicians yearly. It is interesting to note that in 1947, 18,829 applicants filed 56,277 applications, of which 6,487 were accepted, a ratio of 1:27; that in 1949, 24,434 applicants filed 88,224 applications, of which 7,042 were accepted, a ratio of 1:34; in 1954, 14,678 applicants filed 48,556 applications, 7,449 were admitted, a ratio of 1:97. Some alumni fathers will be surprised to learn that premedical qualifications of the entering class of 1954 were rated as follows, "A" 21 per cent, "B" 69 per cent, and "C" 10 per cent.

These data, obtained from Dr. Edward L. Turner, secretary of the Foundation, shows that enrollment in approved schools since the turn of the century has increased 125.28 per cent, and the physicians graduated has increased 114.6 per cent. This is much greater growth than that of the population of these United States. With 204,995 physicians registered, we have more than any other country except Israel. With an estimated population of 160 million the ratio is 1:800. The problem of proper allocation of physicians is yet to be solved.

The cost of medical education continues to rise, and the schools are still in the red. In order to keep our schools free from Federal aid and interdiction, the American Medical Association in 1950–1951 created the American Medical Education Foundation through which physicians and their friends could help their schools financially. The National Fund for Medical Education, Inc., purposes to raise from private sources, dispense, and administer funds for medical education.

The report of condition as of December 31, 1954, follows: The National Fund distributed to medical schools, January 1, 1951, to date, $6,941,057.58; the total income for National Fund, January 1, 1954, to December 31, 1954, was $2,688,418.51; contributions to National Fund January 1 to December 31, 1954, amounted to $1,586,840.20; grants distributed to medical schools July, 1954, $2,176,904.71; balance: National Fund and available for distribution soon, $763,377.24. The A.M.E.F. raised and transferred to the National Fund, January 1, 1951, to date, $3,563,883.09; the total raised from January 1, to December 31, 1954, was $1,182,627.08; balance: funds available for distribution, $360,386.78. The combined total from both sources is $7,964,820.60, of which $6,941,057.58 has been distributed to the schools, leaving a balance available for distribution of $1,024,764.02. Of all the physicians in the U.S., 22,195 donated $507,881.57; New York's 2,974 donors gave $39,009.31. Illinois led with $185,095.68, California was second with $124,949.63, Indiana third, with $40,323.74, and the biggest and best state was fourth. Illinois has 13,211 doctors, California 18,039, Indiana but 4,398 and our State has 31,484. Of this number only 9.45 per cent donated to the A.M.E.F. in 1954. Is it not about time that the Empire State, with nine wonderful medical schools, takes its proper place in the ranking of state donations to this necessary and worthy cause? The brighter side of this picture is that New York State leads all others in direct donations to our medical schools. The alumni gifts in 1954 amounted to almost $700,000 (an estimated figure from the deans' reports to this committee).

Your chairman attended the fourth annual meeting of state chairmen of the American Medical Education Foundation held at the Sheraton Hotel in Chicago on Sunday, January 23, 1955. In the absence of Dr. Louis H. Bauer, president of the Foundation, Dr. Edwin S. Hamilton, member of the board of directors of the Foundation and trustee of the A.M.A., opened the meeting. He recognized the need for physicians to increase their contributions to meet the necessary reduction of $400,000 from the A.M.A. grant of $500,000 presented to the A.M.E.F. annually since 1951. He announced that unless the physicians demonstrate that they can raise the necessary fund themselves, the Federal government would step in to fulfill this need. He was enthusiastic about the Illinois Plan of per capita tax and stated that unless the other states followed through to raise additional funds, it would be necessary for the A.M.A. to raise their annual dues and furnish the means to aid medical education.

These remarks were commended by Dr. Walter B. Martin, president of the American Medical Association, and bring to mind the suggestion of a State assessment made by this committee in last year's report. Dr. Martin also discussed the cost of medical education, still stressing the need of ten million dollars each year through direct gifts from alumni, scholarship, and loan funds. He feels that the government current pressure, that the A.M.A. is limiting the number of doctors, is misdirected. He also stated that it would be almost impossible to accept a Federal grant without some impairment of our freedom of thought and operation of the medical schools. To prevent this interference he stated that it is only proper that physicians should pay their debt to society since a sizeable portion of their education was financed with outside assistance.

Mrs. Frank Gastineau, national chairman to the A.M.E.F. Committee, Woman's Auxiliary to the A.M.A., informed us that they had raised $50,000 for the Fund in 1954 and that the component bodies would be informed so as to bring this to $100,000 in 1955. Dr. D. W. Heusinkveld, president-elect of the Ohio State Medical Association, reporting for Ohio, backing the remarks of Dr. Martin, pointed out that "no graduate from a medical school has anywhere nearly paid the cost of his medical education, and while there is no legal obligation for him to repay it, there is a moral obligation for him to help take care of the education of the oncoming generation of physicians."

Mr. Hiram W. Jones, executive secretary of the Foundation, thanked the state chairmen for their efforts in behalf of the medical schools, and told of new methods of procedure in 1955. One of the newer ideas is an insurance plan. Briefly, to assure a more permanent income to meet the ten million dollars needed annually for medical education, that each House of Delegates consider the issuance of a $1,000, twenty-year endowment policy on each member, on a group basis, with no evidence of insurability requirements. Participation would include active dues-paying members up to, and including, age sixty-five. Assuming a block of 100,000 accepted this plan, it would immediately provide a 100 million-dollar endowment fund. Your chairman argued against this plan as presented at this time. It was learned that state assessments did not lower alumni giving, which increased about 6 per cent in 1954.

The 80 schools spend 132 million dollars a year, receive about 20 million dollars in tuition and nearly 40 million dollars in research grants. The National Fund grants to New York State schools in 1954 totaled $236,879.50, and the grand total since 1951 is $792,407.60. These grants are given to the deans with no strings attached and are to be used as they find fit. With only 10 per cent of the State physicians donating but $39,000 of the money returned, we are still far from the quota of $250,000 expected by the American Medical Education Fund.

Respectfully submitted,
WILLIAM C. RAUSCH, M.D., *Chairman*

(*This report is referred to the Reference Committee on Report of the Council, Part VIII*)

Report of the Special Joint Committee on Inhalation Therapy

To the House of Delegates, Gentlemen:

The Special Joint Committee on Inhalation Therapy, which was established in conjunction with the New York State Society of Anesthesiologists as a result of your May 11, 1954, resolution, consists of the following:

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Edwin Emma, M.D., *Cochairman*	New York City
Hylan A. Bickerman, M.D.	New York City
Irving M. Pallin, M.D.	Brooklyn

NEW YORK STATE SOCIETY OF ANESTHESIOLOGISTS

Vincent J. Collins, M.D., *Chairman*	New York City
Moses H. Krakow, M.D.	Bronx
Paul M. Wood, M.D.	New York City

At our single meeting January 28, 1955, Dr. Vincent J. Collins, New York City, was elected chairman and Dr. Edwin Emma, New York City, cochairman. The objectives of the committee, as specified in your resolution, were discussed. Drs. Hylan A. Bickerman and Irving M. Pallin were constituted a subcommittee to review and determine the minimum standards of inhalation therapy; Drs. Edwin Emma and Vincent J. Collins are a subcommittee to study essentials for a school of inhalation therapy technicians, and Drs. Moses Krakow and Paul M. Wood will take under consideration methods of certification of technicians. These subcommittees will report at the next meeting.

Respectfully submitted,
VINCENT J. COLLINS, M.D., *Chairman*

(*This Report is referred to the Reference Committee on Report of the Council, Part I*)

Report of War Memorial Committee

To the House of Delegates, Gentlemen:

The War Memorial Committee consists of the following members of the Board of Trustees:

Edward R. Cunniffe, M.D., *Chairman*	Bronx
Walter W. Mott, M.D.	White Plains
Leo F. Schiff, M.D.	Plattsburg
Maurice J. Dattelbaum, M.D.	Brooklyn

The War Memorial Committee is continuing its seventh year of service in carrying out the mandate of the 1948 House of Delegates which established the War Memorial Fund. Appreciative letters from the students and mothers affirm the good judgment of the members of the State Society in creating the fund. It has given the opportunity of college education to some children who otherwise might not have been able to attend. The committee keeps in touch with the students and, when the opportunity arises, tries to stimulate and advise them in their efforts to attain their goals.

Last year's report stated that there were 19 beneficiaries who had received aid, 13 for the 1953–1954 academic year. One student received $600 after the report was submitted, which alters the figure to a total of 20 who had received aid, 14 during that academic year.

To date, 23 students have already availed themselves of aid through the fund. Three students have become eligible to receive benefits for the 1954–1955 academic year; one discontinued, making 16 students currently receiving benefits.

Students currently receiving benefits are attending the following schools: University of California at Los Angeles, University of Chicago School of Medicine, Colby College, Connecticut College, Cornell University, D'Youville College, Hamilton College, Hobart College, McGill University School of Medicine, Mount Holyoke College, New York University College of Medicine, Queens College, University of Southern California School of Medicine, Syracuse University, Vanderbilt University School of Medicine, and Yale University.

Students who have received benefits in the past attended the following: D'Youville College, Elmira College, Harvard University School of Law, Hobart College, University of Miami, University of Michigan, New York University, and Pennsylvania Military College.

Your committee has spent much time in the study of problems and questions which have come before it. In some instances the entire Board of Trustees has been asked for advice and approval, as the situation required.

The Board of Trustees gave consideration to one point which, under the present rules of the War Memorial Fund, might result in some injustice. At present a rule of the fund states that benefits cease when a beneficiary reaches the age of twenty-five. It seems likely that in the future some of our young men will spend time in the armed services before they are twenty-five. It seems to the Board the fair thing to do in such a case would be to allow the student who serves in the U.S. armed forces the right to receive benefits beyond the age of twenty-five, for a period of time equal to that spent in service. The Board of Trustees recommends that this procedure be approved by the House of Delegates.

The 1954 House of Delegates suggested to the War Memorial Committee that it consider the possibility of including in our list of beneficiaries children of members who died in action or as a result of wounds or disease connected with their service in the Korean conflict. In this connection, last September, the Board of Trustees requested the office to prepare some kind of estimate which would give the Board an approximation of the status of the War Memorial Fund in 1974. At present it appears that that would be the latest date on which any beneficiaries could receive benefits.

The schedule is appended herewith (Table I). Obviously the projected balance on June 30, 1974, of $95,984 can be only an estimate. It has been estimated that up through 1974 we will earn $2^1/_8$ per cent interest on our securities. It has also been estimated that not all of the possible beneficiaries will draw on the fund. Up through June 30, 1954, we paid out $36,800. If all the possible beneficiaries had called upon us, we would have had to pay out approximately $50,000. Our disbursements, however, amounted to 71 per cent utilization. In projecting the balance of the fund to 1974, we have assumed that we will pay out 80 per cent of the total possible payments. In other words, there will be an 80 per cent utilization.

Reference to the schedule will show that as of June 30, 1954, we have received, since the inception of the fund, $25,828 in interest, paid out $36,800 in benefits, and had assets of $231,614. The last two columns of the schedule show cash on hand at that time of $16,614 and securities of $25,000. It is estimated that by June 30, 1974, we will have received $91,318 in interest and paid out in benefits, $237,920. The projected balance of assets at that time is $95,984, consisting of $84,000 in securities and $11,984 in cash.

As has been pointed out, this is only an estimate. If our securities do not earn $2^1/_8$ per cent and if the utilization is greater than 80 per cent, obviously the assets remaining in 1974 will be less. In addition, we feel that at present we are unable to forecast possible losses on the sale of securities which would be necessary to meet our obligations for the payment of benefits.

As to whether the remaining total, at June 30, 1974, amounting to $95,984, will be sufficient to provide for children of members who lost their lives in the Korean conflict, we do not know at the present time. In order to arrive at a conclusion, we will have to know the number of members who died as a result of the Korean conflict and the number of their surviving children. A study is now in progress to obtain the necessary data. Based upon our experience in collecting this type of information about World War II members and their children, it will

TABLE I.—War Memorial Fund, Projected Status as at June 30, 1974

Year*	Interest Earned	Payment of Benefits†	Assets End of Year	Analysis of Assets End of Year	
				Cash	Securities
1954	$25,828	$36,800	$231,614	$16,614	$215,000
1955	5,345	12,960	223,999	8,999	215,000
1956	5,323	14,880	214,442	442	214,000
1957	5,025	13,920	205,547	5,547	200,000
1958	4,876	15,840	194,583	583	194,000
1959	4,626	14,880	184,329	329	184,000
1960	4,251	18,720	169,860	860	169,000
1961	4,075	20,640	153,295	1,295	152,000
1962	3,725	18,240	138,780	1,780	137,000
1963	3,124	16,320	125,584	1,584	124,000
1964	2,824	13,440	114,968	2,968	112,000
1965	2,599	11,520	106,047	4,047	102,000
1966	2,399	9,600	98,846	4,846	94,000
1967	2,311	9,600	91,557	4,557	87,000
1968	2,141	5,280	88,418	4,418	84,000
1969	2,141	1,920	88,639	4,639	84,000
1970	2,141	960	89,820	5,820	84,000
1971	2,141	960	91,001	7,001	84,000
1972	2,141	480	92,662	8,662	84,000
1973	2,141	480	94,323	10,323	84,000
1974	2,141	480	95,984	11,984	84,000
Total	$91,318	$237,920	....	....	....
Projected Balance June 30, 1974			$ 95,984	$11,984	$ 84,000

* As at June 30.
† 80 per cent utilization.

probably be twelve to fifteen months before reasonably accurate statistics can be presented to the House of Delegates.

During 1954, payments to beneficiaries amounted to $8,800. Interest during that year amounted to $5,398. The total assessments received to date amounted to $243,351. No assessments have been received during 1954. The total disbursements amount to $39,400. The fund decreased $3,402 during the year, and as of December 31, 1954, surplus amounted to $232,424, of which $215,000 is invested in government securities.

Your committee is very happy to acknowledge the wonderful cooperation and valued assistance rendered by its secretary, Miss Mollie Pesikoff. She has been actively engaged in carrying out this project since its inception, and her enthusiasm for its aims is ever increasing. It is very gratifying to note her continued interest in the progress of our scholars and her encouragement for better work in order to gain final success, thereby enhancing the value of the Society's contribution.

Respectfully submitted,
Edward R. Cunniffe, M.D., *Chairman*

Report of the Nominating Committee

To the House of Delegates, Gentlemen:

The Nominating Committee met Thursday evening, January 13, 1955, at the Harvard Club, 27 West 44th Street, New York City. All members were present:

First District	Thurman B. Givan, M.D.	Kings
Second District	John L. Sengstack, M.D.	Suffolk
Third District	Homer L. Nelms, M.D.	Albany
Fourth District	Denver M. Vickers, M.D.	Washington
Fifth District	William W. Street, M.D.	Onondaga
Sixth District	Ben L. Matthews, M.D.	Broome
Seventh District	Joseph Lane, M.D.	Monroe
Eighth District	Herbert H. Bauckus, M.D., *Chairman*	Erie
Ninth District	Christopher Wood, M.D.	Westchester
Member-at-Large	Gerald D. Dorman, M.D.	New York
Member-at-Large	Herbert Berger, M.D.	Richmond
Ex officio	W. P. Anderton, M.D., *Secretary*	New York

The above members were appointed by President Dan Mellen, with approval of the Council, in accordance with Chapter XI, Section 4, of the Bylaws.

The following nominations were voted to be submitted to the House of Delegates at the annual election, May 11, 1955:

President-Elect	James Greenough, M.D., Otsego
Vice-President	Herbert Berger, M.D., Richmond
Secretary	W. P. Anderton, M.D., New York
Assistant Secretary	Ezra A. Wolff, M.D., Queens
Treasurer	Maurice J. Dattelbaum, M.D., Kings
Assistant Treasurer	Samuel Z. Freedman, M.D., New York
Speaker	Frederic W. Holcomb, M.D., Ulster
Vice-Speaker	Frederick W. Williams, M.D., Bronx

Councillors (three years)

Harold F. Brown, M.D., Erie

Theodore J. Curphey, M.D., Nassau

Norman S. Moore, M.D., Tompkins

Denver M. Vickers, M.D., Washington

Trustee (five years)

Herbert H. Bauckus, M.D.	Buffalo

Delegates (two years)

A. H. Aaron, M.D.	Erie
Renato J. Azzari, M.D.	Bronx
Maurice J. Dattelbaum, M.D.	Kings
Thomas M. d'Angelo, M.D.	Queens
Peter J. Di Natale, M.D.	Genesee
Andrew A. Eggston, M.D.	Westchester
Leo E. Gibson, M.D.	Onondaga
James Greenough, M.D.	Otsego
Frederic W. Holcomb, M.D.	Ulster
J. Stanley Kenney, M.D.	New York
John J. Masterson, M.D.	Kings
Dan Mellen, M.D.	Oneida
Norman S. Moore, M.D.	Tompkins
Peter M. Murray, M.D.	New York
William B. Rawls, M.D.	New York
Frederick W. Williams, M.D.	Bronx

Of the nominees for delegates, the eight receiving the largest number of votes will be elected. The second eight will be alternates. They will take office January 1, 1956.

Respectfully submitted,
Herbert H. Bauckus, M.D., *Chairman*

Report of the Special Medical Defense Committee

To the House of Delegates, Gentlemen:

The members of the Special Medical Defense Committee are as follows:

J. G. Fred Hiss, M.D., *Chairman*	Syracuse
Harold Bishop, M.D.	Chappaqua
Edward A. Burkhardt, M.D.	New York City
Theodore J. Curphey, M.D.	Forest Hills
Herman E. Hilleboe, M.D.	Albany
Joe W. Howland, M.D.	Rochester
John J. Masterson, M.D.	Brooklyn
James E. McAskill, M.D.	Watertown
Abraham M. Rabiner, M.D.	Brooklyn
Solomon Schussheim, M.D.	Brooklyn
Edward T. Wentworth, M.D.	Rochester
Stuart A. Winning, M.D.	Ogdensburg
Floyd S. Winslow, M.D.	Rochester
W. Warriner Woodruff, M.D.	Saranac Lake

So far this year the Medical Defense Committee has met on only one occasion to discuss and plan activities with the Office of Medical Defense. This office, which is part of the Department of Health of the State of New York with headquarters at Albany, is just as active as it has been in the past in developing an adequate medical defense program for New York State. However, most of the basic policies were formulated in the early years of existence of the committee, and the present activities consist primarily of implementing these policies. As part of the natural course of development the number of new policies and new activities has become very small, hence the greatly reduced need of calling the Medical Defense Committee together. There will probably be one additional meeting before the annual meeting of the Medical Society of the State of New York.

On October 30 and 31, 1954, your present chairman and the former chairman, Dr. John J. Masterson, participated in the National Organization of County Medical Society Defense Organizations in Chicago, Illinois. We represented both the Office of Civilian Defense and the Defense Committee of our Medical Society. This meeting was very stimulating and your representatives learned what was being done in other parts of the country in this field and also described what was being done in our State. Unfortunately, only one county medical society (Monroe County) of New York State sent a delegate to this meeting. It is the opinion of your chairman that all county societies in whose jurisdiction there is a major target city should plan to send a delegate to the 1955 meeting.

During the present year this committee and the Office of Civilian Defense published several articles in the New York State Journal of Medicine dealing with various aspects of civil defense. Most of these were printed in color.

Two *News-Letters* have also been sent to all members of all defense committees of the county societies. These letters continued to attract much favorable comment, and many requests for additional copies were received. These letters serve the purpose of keeping county medical society defense workers informed of current medical developments and especially of plans of the State Office of Medical Defense.

Respectfully submitted,

J. G. Fred Hiss, M.D., *Chairman*

(*This report is referred to the Reference Committee on Report of Council, Part I*)

Report of Special Committee on Constitution and Bylaws

To the House of Delegates, Gentlemen:

Your committee on Constitution and Bylaws consists of:

A. H. Aaron, M.D., *Chairman*	Buffalo
Thomas O. Gamble, M.D.	Albany
James R. Reuling, M.D.	Bayside

Dr. W. P. Anderton, secretary, as an ex officio member, has carefully reviewed the Constitution and Bylaws and has offered a number of valuable suggestions as to changes that will modernize them and eradicate duplication.

We beg to submit the following report on the various amendments referred to us.

Constitution—Article XI District Branches, Section 2

Present	*Proposed*
Section 2. Each district branch may adopt a constitution and bylaws for its government and may amend the same; but before becoming effective they shall be approved by the Council. They shall be consistent with the Constitution and Bylaws of this Society, and they must provide that the district branch president shall have first served as a president of a component county society.	Delete the words "and they must provide that the district branch president shall have first served as a president of a component county society," and it will then read as follows: "Each district branch may adopt a constitution and bylaws for its government and may amend the same; but before becoming effective they shall be approved by the Council. They shall be consistent with the Constitution and Bylaws of this Society."

The Committee recommends adoption of this amendment.

Bylaws—Chapter I Membership, Section 2(a)

Present	*Proposed*
As amended and passed in 1954: Section 2. The term "good standing" is hereby defined as: (*a*) A member is in good standing when his dues to his county society and the assessment of the State Society have been paid when they are due and payable. The dues year shall coincide with the calendar year, January 1 to December 31.	(*a*) A member is in good standing when his dues to his county society and the assessment of the State Society have been paid when they are due and payable. The dues year shall coincide with the calendar year, January 1 to December 31. Add: "A member in good standing shall have the right to malpractice defense by Counsel of the Medical Society of the State of New York for any acts upon which suit may be predicated during the period of his good standing."

Your committee recommends that action on this amendment be deferred because the matter is under study by a committee of the Board of Trustees, the Trustees, and the legal counsel.

Bylaws—Chapter I Membership, Section 6

Present	*Proposed*
Section 6. A member in good standing in his component county medical society, reaching seventy years of age or if permanently disabled, may *ipso facto* have the privilege of applying for retired membership in the State Society. All such applications shall be signed by the president and the secretary of the county society of the applicant and then sent to the secretary of this Society for presentation to the House of Delegates for approval. An active member desiring to become a retired member shall apply for such membership to the component county society of which he is a member. Such application shall be governed by the constitution and bylaws of the component county society relative to active membership. Retired members shall not be subject to dues or assessment but shall be accorded all the rights and privileges of active membership except voting and holding office.	Chapter I, Section 6, of the Bylaws be amended by adding to the end of the said Chapter I, Section 6, the following paragraph: "In the event a member in good standing reaches his seventieth birthday too late for consideration by the annual meeting of the Medical Society of the State of New York held in the same year, and too late to be recommended for retired membership by his component county society, he may be considered at the next annual meeting of the State Society, and on the recommendation of the component county society, remain a member in good standing until that time without paying dues or assessments to the State Medical Society."

Your committee recommends that this amendment be not accepted because it is unnecessary. The House has covered such contingency by electing a man to retired membership retroactively with remission and refunding of dues. It seemed to the Committee on Constitution and Bylaws that we must be careful not to clutter the Constitution and Bylaws with material that really should be interpreted by the officials.

Bylaws—Chapter III

A resolution submitted to the committee by Dr. Leo F. Schiff according to the following Section 167, on page 147 of the Proceedings of the House of Delegates—Announcement of Intention to Propose Amendment of Bylaws, Chapter III:

Speaker Holcomb: Dr. Schiff is recognized.

Dr. Leo F. Schiff, *Trustee:* Mr. Speaker, in the footsteps of the late, illustrious, and never-to-be-forgotten James Rooney, I take this opportunity to give notice under the provisions of the Bylaws that I propose to produce within the required legal time an amendment to Chapter III of the Bylaws having to do with the election of delegates to the American Medical Association.

Speaker Holcomb: Thank you, Dr. Schiff.

Delete sections 6 and 7 of Chapter III of the Bylaws and substitute the following:

Section 6. Delegates to the American Medical Association shall be elected in accordance with the constitution and bylaws of that body for a term of two years beginning with the annual meeting of the American Medical Association in the calendar year following their election. The member elected to be president-elect of this Society shall be considered also to have been elected to be a delegate of the American Medical Association.

(*This is a rewording of the first sentence of Section 7.*)

Section 7. The balance of the delegates to the American Medical Association shall be voted for in two separate groups, to be designated group 1 and group 2. Group 1 shall consist of active members of the First District Branch of the State Society; group 2, of the balance of the active members of the State Society. To each group shall be assigned one half of the total number of delegates to the American Medical Association to be elected in any given year; except that when such total number is an odd number, group 1 shall have one more delegate assigned to it than group 2.

Section 8. Nominations for each group shall be made from the eligible membership of that group and shall be for at least double the number of delegates to be elected to that group. The nominees in each group shall be declared elected delegates in the order of the number of votes received, beginning with the highest numbers, until the number of delegates allocated to that group shall have been chosen. A corresponding number of nominees, in continued order of number of votes received, shall be declared alternate delegates for that group.

Section 9. When a duly elected delegate to the American Medical Association is not available for attendance at a meeting of the American Medical Association, his place may be filled by any available elected alternate in the following order of groups and in the order of election in each group:

(*a*) An alternate of the same group and year,

(*b*) An alternate of the same group—but alternate year,

(*c*) An alternate of the other group—same year, or

(*d*) An alternate of the other group—alternate year. When no such alternates are available, the president shall appoint and certify a sufficient number to fill the quota.

The foregoing sections 7, 8, and 9 shall not take effect until after the annual meeting of the State Society in 1955.

Section 10. Delegates and representatives may be elected to other medical societies or similar bodies as the interests of the Society may require, and credentials shall be issued to all delegates and representatives, signed by the president and secretary.

Your committee does not recommend the adoption of these amendments on the following bases: (1) they are too cumbersome; (2) it sets up a division in the Medical Society of an upstate group and a downstate group. This is a dangerous procedure as we have stated before. The activities of the Medical Society of the State of New York should be for the physicians as a whole, and representation should be in a similar manner.

This amendment requires considerable thought and discussion. It brings up the problem of proportional representation which possesses certain dangers in bringing about a division of sentiment of the State Medical Society into an upstate and downstate organization. It brings up the point of a delegate representing a certain number of paid members. Also, we are unable to see anything seriously wrong with the present method, which has supplied outstanding delegates to the American Medical Association as evinced by their choice on important committees and in official positions. Nevertheless, such a momentous question should not be settled by a committee of three, and, while we have recommended certain action, we are sure the final decision must be made by the House with the information that we have and they possess.

Your committee has noted the dangers of such a division in the two main political parties in the State of New York, upstate or downstate, and would dislike very much to see a similar situation evolve in the Medical Society of the State of New York.

Your committee deems it unwise to legislate these proposals into the Bylaws. We believe the House of Delegates has shown excellent judgment in selecting representatives of the House of Delegates to the American Medical Association from the Empire State.

Bylaws—Chapter XI Special Committees, Section 4

Present	*Proposed*
Section 4. The Nominating Committee shall comprise 11 members, one member to be chosen from each district branch and two additional members at large to be nominated to this committee by the president, in conformity with Chapter VII, Section 1, of these Bylaws. It will be the duty of this committee to propose and nominate members of the Society for all vacancies to be filled at the annual meeting of the House of Delegates succeeding their appointment. These recommendations shall be made to the House of Delegates in the same manner as prescribed in Chapter X, Section 2, of the Bylaws.	That the first sentence of Chapter XI, Section 4 shall read: "The Nominating Committee shall comprise 13 members, one member to be chosen by the president from each county in the First District Branch, and one from each of the remaining district branches, in conformity with Chapter VII, Section 1, of these bylaws."

Your committee recommends rejection of this proposed amendment, because the Nominating Committee has functioned satisfactorily as at present constituted. It has each year been wisely chosen to consist of members of sound judgment, not only representative of the district branches but also of the State as a whole, and the two "members at large" have always come from the metropolitan area.

Bylaws—Chapter XIV Component County Medical Societies, Section 2, paragraph 1

Present	*Proposed*
As amended in 1954: SECTION 2. Whenever an active member in good standing or a retired member in any component county medical society removes to another county in this State, his name upon his request shall be transferred to the roster of the component county medical society of the county to which he removes, without cost to him, provided that he files a certificate with the secretary signed by the president and secretary of the component society from which he removes as to his good standing in such society, and provided his application for membership has been acted upon favorably by the members of the society of the county to which he has removed. No member, however, shall be an active member of more than one component county society, nor shall any component county society accept a physician residing in another county in any other way than in accordance with the law governing transfers.	That Section 2 of Chapter XIV of the Bylaws of the Medical Society of the State of New York be amended by adding to the first sentence "and provided he is found acceptable by the county medical society to which he is requesting transfer."

Your committee recommends that this proposed amendment be not adopted, because it is already covered in the last phrase in the first sentence by the words "and provided his application for membership has been acted upon favorably by the members of the society of the county to which he has removed."

Bylaws—Chapter XVII Amendments, Section 1

Present	*Proposed*
SECTION 1. Amendments to these Bylaws, except such as are obligatory by law, shall be made only at an annual meeting of the House of Delegates.	SECTION 1. Amendments to these Bylaws or to the *Principles of Professional Conduct*, except such as are obligatory by law, shall be made only at an annual meeting of the House of Delegates.
SECTION 2. Notice of the proposed amendment shall be given at a previous annual meeting of the House of Delegates, and before the same can be acted upon it shall be published once before the annual meeting in the official bulletin or journal of the Society.	SECTION 2. Notice of the proposed amendment shall be given at a previous annual meeting of the House of Delegates, and before the same can be acted upon it shall be published once before the annual meeting in the official bulletin or journal of the Society.
SECTION 3. The affirmative vote of two thirds of the House of Delegates present and voting shall be necessary for adoption.	SECTION 3. The affirmative vote of two thirds of the House of Delegates present and voting shall be necessary for adoption.
SECTION 4. Amendments made necessary by law shall be made either by the Council or House of Delegates whenever such necessity exists.	SECTION 4. Amendments made necessary by law shall be made either by the Council or House of Delegates whenever such necessity exists.

Adoption of this amendment is urged. Your committee feels that any proposed changes in our *Principles of Professional Conduct* should be as carefully studied as are amendments to the Constitution and Bylaws.

Bylaws—Chapter IV Council, Section 10

The Reference Committee on the report of the Council, Part IX—Legislation, approved the recommendation of the Committee on Legislation that consideration be given to amending the Bylaws so the chairman of the Committee on Legislation should not necessarily be a Council member.

This would require amending Section 10 of Chapter IV of the bylaws, adding (i) to the list of the activities in the second sentence.

Your committee does not recommend the adoption of this.

The chairmen of all important committees should be members of the Council. They should be chaired by experienced personnel, but, more important, such person should be a Council member since he must attend the meetings of the Council and be prepared to participate in the discussions that relate to the special activities of that committee and offer recommendations. If the policy of having non-Council members as chairmen of the committees was adopted, it would weaken the entire structure of our form of procedure.

To bring our Bylaws up to date your committee recommends the following changes:

Chapter III

Section 2.—The third paragraph should be deleted. It reads: "In 1950, four councillors shall be elected for three years, one for two years, and one for one year."

Section 3.—The second and third phrases should be eliminated, leaving a comma after the words, "One trustee shall be elected annually for a term of five years," to be followed by the present second sentence after changing the word "Thereafter" to the word "but." This eliminates division which was necessary in 1950. This is no longer necessary. Deleting the words "but in 1950 one trustee shall be elected for five years, one for four years, and one for three years," the section will then read:

> One trustee shall be elected annually for a term of five years, but whenever the terms of two trustees expire in the same year, two trustees shall be elected each for five years. In the event of a vacancy, a trustee shall be elected for the unexpired term. A person to be eligible for election as trustee shall have served at least two years as an officer, or at least

three years as a member of the Council, or at least five years as a member of the House of Delegates.

Section 4.—Since part of the first sentence is a repetition of the first sentence in Section 1, we recommend deleting the following: "The first order of business at the last scheduled session of each annual meeting of the House of Delegates shall be the nominations and elections for officers of the Society and other members of the Council, a member or members of the Board of Trustees, delegates to the American Medical Association, and..."

We recommend that this section read as follows:

> After the appointment of a sufficient number of tellers by the speaker, and after all nominations have been made, the secretary shall cause to be displayed in full sight of the delegates a list of nominees for each office arranged in alphabetical order, and shall also cause to be distributed a sufficient number of blank ballots for the use of the House of Delegates. These ballots shall have printed or stamped thereon the appropriate headings for each office with spaces thereunder in which may be written the name of the candidate or candidates to be voted for.

Chapter IV

Section 1(b).—The Executive Committee now meets regularly the afternoon before the Council meeting. It considers correspondence and perhaps other matters. It reports the next day to the Council and thus saves time for the Council. It would seem wise, therefore, to insert before the last sentence in this section a comma followed by the words, "and it shall at all times assist the Council." The section would then read:

> The Council shall establish an executive committee to be composed of the president, the president-elect, the secretary, the treasurer, and three additional members of the Council appointed by the president with the approval of the Council. This committee shall be appointed by the president immediately upon his assumption of the office of president and to serve during his tenure as president only. The executive committee shall have the authority to take action in case of emergency arising in the interim between the meetings of the Council in order to protect the interests and purposes of the Medical Society of the State of New York as set forth in this Constitution and Bylaws. In times of such emergency, the executive committee shall have all the powers and duties which are conferred upon the Council, and it shall at all times assist the Council. Any action taken by the executive committee shall be reported in full to the Council at its next meeting.

Chapter VII

Section 7.—Although allowed by custom to sign checks, no allotment of such power and responsibility to either the assistant secretary or assistant treasurer is made. Mr. Alexander, our accountant and office manager, feels it advisable to have this contingency covered in the Bylaws. Your committee, therefore, recommends that there be inserted in the first sentence of this section after the words "the secretary" the words "or assistant secretary." That would necessitate a period after the first "Society" and commence the second sentence after that "Society" with the words "The Secretary."

A sentence in this section is obsolete and should be deleted: "He shall supply each county society with the necessary blanks for making its annual report to this society."

Section 7 will then read:

> The secretary or assistant secretary shall countersign all checks issued by the treasurer on funds of the Society. The secretary shall be the custodian of the seal of the Society and of all books of records and papers belonging to the Society, except such as properly belong to the treasurer, and shall keep an account of and promptly turn over to the the treasurer all funds of the Society which come into his hands. He shall provide for the registration of the members at all sessions of the Society. With the aid and cooperation of the secretaries of the county societies, he shall keep a proper register of all the registered physicians of the State by counties. He shall aid the officers of the district branches in the organization and improvement of the county societies and the extension of the power and influence of the Society. He shall conduct the official correspondence, notifying members of meetings; officers, councillors, trustees, and board members of their election, and committees of their appointments and duties. He shall affix the seal of the Society to all credentials issued to members of the Society elected by the House of Delegates and to such other papers and documents as may require the same. He shall make an annual report to the House of Delegates. Acting in cooperation with the Council, he shall prepare and issue all programs. He shall be a member of the Council. He shall be ex officio a member of all boards and committees without vote. He shall record the name and date of admission of each member of the Society. He shall be in complete charge of the administration of the headquarters of the State Society.

Section 8.—Continuing about the signing of checks, in this section, after the first three words, there should be added "may countersign checks drawn by the treasurer on funds of the Society, he"; the section will then read:

> The assistant secretary may countersign checks drawn by the treasurer on funds of the Society, he shall aid the secretary in the work of his office, and, in the absence or disability of the latter, he shall perform the duties of the office until the secretary resumes the work, or, in the case of a vacancy, until a successor shall be elected.

Section 9.—In the same vein we advocate that there be inserted in the second phrase of the first sentence the words "or assistant treasurer" after the word "treasurer." Also in that same phrase, following the word "secretary," the words "or assistant secretary" should be inserted. This sentence would then read:

> The treasurer shall keep accurate books of accounts of all moneys of the Society which he may receive and shall disburse the same when duly authorized, but all checks drawn by the treasurer or assistant treasurer upon the funds of the Society shall be countersigned by the secretary or assistant secretary of the Society. He shall collect, on or before the first day of June in each year, from the treasurer of each component county society the State per capita assessment. He

shall at the expense of the Society give a bond for the faithful performance of his duties, which shall be approved by the Council as to amount, form, and surety. He shall make an annual report to the House of Delegates and monthly reports to the Council. He shall be a member of the Council.

Chapter XI

Section 2.—To be up to date, we recommend that the second sentence be deleted and that the present first sentence have its period changed to a comma, followed by the words "each for a term of five years." The section would then read:

> A special committee, to be known as the Malpractice Insurance and Defense Board, consisting of seven members, including a chairman, shall be appointed by the president with approval of the Council, each for a term of five years, annually at expiration of term of office of a member. Vacancies for any other cause shall be filled for the unexpired term by appointment by the president with the approval of the Council. The secretary, treasurer, legal counsel, and indemnity representative shall be ex officio members of the committee with voice but without vote. It shall be the duty of the committee to study and supervise, on behalf of the Society, all matters having to do with malpractice insurance and defense.

Chapter XII

Section 1.—We advocate the insertion of the words "and vice-chairman" after the word "chairman" in the second sentence. The section would then read

> The scientific sections designated by the House of Delegates shall each organize by the election of a chairman, vice-chairman, and secretary. The chairman and vice-chairman shall be elected annually; the secretary for such term as the section may deem fit.

Section 3.—The policy has been established for each section to meet once instead of twice as formerly at the annual convention. Therefore, the first sentence in Section 3 should be deleted as well as the words "and must have recorded his name and address in the section registry." No particular section registry is kept by a section; rather each member records his section affiliation on the registration card when he registers at the annual convention. Section 3 would then read:

> To participate in the election of any section, a member must be registered with such section.

Chapter XIV

Section 1.—Paragraph (*b*) is no longer needed. We therefore recommend that "(*a*)" after the words "Section 1" be eliminated as well as paragraph (*b*).

Section 2.—It is provided in the last sentence of this section that dues may be remitted on account of illness. This is the only permission in the Bylaws for dues remission. The House of Delegates has instructed the Council that it may remit dues on account of temporary service in the armed forces and financial hardship. The American Medical Association allows remission of dues for age over seventy, financial hardship, and temporary service in the armed forces or U.S. Public Health Service. It is, therefore, recommended that the last paragraph of Chapter XIV be amended to read as follows:

> The dues of any member of the Medical Society of the State of New York may be remitted for the current year on account of illness, financial hardship, temporary service in the armed forces or in the U.S. Public Health Service, when the request is made by the member's component county medical society.

Respectfully submitted,
A. H. Aaron, M.D., *Chairman*

Reports of the District Branches

First District Branch

To the House of Delegates, Gentlemen:

A meeting of the members of the House of Delegates from the First District Branch of the Medical Society of the State of New York was held at the Hotel Statler on Sunday, May 9, 1954. There were 76 of the possible 98 voting delegates present, with Dr. Thomas d'Angelo, president, presiding. The abstract of the minutes of the Coordinating Council, which had been submitted in advance to all of the voting delegates, was approved.

The Nominating Committee, consisting of the presidents of the five county medical societies of greater New York—Dr. John Garlock, New York; Dr. Frederick Wurzbach, Bronx; Dr. Alfred P. Ingegno, Kings; Dr. Sol Axelrad, Queens, and Dr. William H. Barlow, Richmond—with Dr. Wurzbach acting as chairman, brought in the following nominations for officers of the First District Branch for two years, until May, 1956:

President—Dr. Charles W. Mueller, Kings
Vice-President—Dr. Herbert Berger, Richmond
Treasurer—Dr. Moses Krakow, Bronx
Secretary—Dr. Charles F. McCarty, Kings

Upon motion the nominations were approved by the membership.

A suggestion was made that the council study the method of assignment and payment for treatment of liability cases (cases in tort) and cases who hold health and accident insurance.

It was approved that the county societies be asked to cooperate with the Moreland Act Commissioner and that they be requested to notify their members as to the law in the treatment of compensation cases in hospitals; that this letter be drawn up by a committee from each of the five county medical societies, and that Miss Mary Donlon and Moreland Act Commissioner Dawson be asked for their approval of this letter, which is to be sent by the president of each county society to all members in the county society as well as to the president of the medical board, president of the board of trustees, and superintendent of each hospital in that county.

It was approved that Dr. d'Angelo, who had been president for the past two years, be written a letter thanking him for his efforts on behalf of the District Branch.

At the meeting in New York City, the Coordinating Council of the Five County Medical Societies of Greater New York gave a reception to the delegates and their guests. This was very well attended.

A meeting of the Coordinating Council was held on June 14, 1954, at the Hotel Statler, New York City, at which time it was decided that the letter, which had been suggested at the meeting of the First District Branch concerning the handling of compensation cases in hospitals and which had been approved by Moreland Act Commissioner Dawson and Miss Mary Donlon, chairman of the Workmen's Compensation Board of the State of New York, be sent to the aforementioned persons.

In May, 1954, a press conference was held for all metropolitan newspapers and the Coordinating Council in an attempt to explain the position of organized medicine on various matters which affect the public health and the medical profession.

The Coordinating Council of the First District Branch, consisting of the officers of the District Branch, the officers of the Coordinating Council, and three delegates from each county, met monthly from September through April. At these meetings the council approved the Blood Assurance Program of the Blood Banks Association of New York State and recommended that its constituent societies also approve this plan. The council approved a $6,000 limit for service benefits for families insured under United Medical Service and also recommended that its constituent county societies approve this limit. The council agreed to join with the Joint Committee of Greater New York for the Care of the Hospital Patient.

At the January meeting, Dr. Frederick Wurzbach of the Bronx was elected vice-chairman of the Coordinating Council.

The council requested that each county society bulletin publish a "Directory of Services for Unmarried Mothers in New York City" which was prepared by the Welfare and Health Council of New York City.

Dr. Frederich Wurzbach was nominated by the council to serve as a member of the Planning Committee for Medical Policies of the Medical Society of the State of New York.

The following committee has been appointed by the Coordinating Council to serve as a review board for the First District Branch for articles to be published in lay magazines:

Dr. Alfred P. Ingegno, 119 Sixth Avenue, Brooklyn
Dr. Joseph A. Landy, 900 Grand Concourse, Bronx
Dr. Herbert S. Ogden, 2 East 103rd Street, New York City
Dr. Jacob J. Silverman, 100 Central Avenue, Staten Island
Dr. Ezra A. Wolff, 108-23 Jewel Avenue, Forest Hills

Respectfully submitted,
Charles W. Mueller, M.D., *President*

Second District Branch

To the House of Delegates, Gentlemen:

The 48th annual meeting of the Second District Branch of the Medical Society of the State of New York was held at the Garden City Hotel at Garden City on September 15, 1954. This was a dinner meeting and was attended by 28 district branch members, 23 members of the Woman's Auxiliary, and 13 others.

The minutes of the previous annual meeting of the Second District were read by Dr. Leo T. Flood, secretary pro tem, for information. The main order of business was the election of new officers. This was regularly done, and they are as follows: Dr. Leo T. Flood, president; Dr. Arthur Corwith, first vice-president; Dr. John N. Shell, second vice-president; Dr. Albert M. Biglan, secretary; Dr. George C. Erikson, treasurer.

Dr. Renato J. Azzari, president-elect of the Medical Society of the State of New York, was then presented and stressed the need of attendance of all doctors at meetings, especially those in their own county societies.

Mrs. Isadore Zadek, president-elect of the Woman's Auxiliary to the Medical Society of the State of New York, emphasized the willingness of the auxiliaries to undertake designated projects and pointed out many accomplishments, such as the nursing scholarship program, with their gratifying results.

The guest speaker of the evening was Dr. Stuart T. Ross, proctologist, whose topic was "An American Doctor's Experiences in India." This offered very instructive and entertaining material. The meeting adjourned at 10:40 P.M.

Respectfully submitted,
G. P. BERGMANN, M.D., *President*

Third District Branch

To the House of Delegates, Gentlemen:

The executive committee of the Third District Branch met at the Governor Clinton Hotel, Kingston, June 26, 1954. Preliminary arrangements were made for the annual meeting, which was held on September 16, 1954, at Grossinger's Hotel, Grossinger, where the Medical Society of the County of Sullivan were hosts.

The morning session convened at 10:30, and three interesting cases were presented by members of the Sullivan County Medical Society. Following the scientific session the nominating committee—Dr. Alfred O. Persons, Greene; Dr. Donald R. Lyon, Schoharie; and Dr. William Fernoff, Sullivan—advanced the following slate: Dr. E. A. Jacobs, Columbia, president; Dr. Edwin G. Mulbury, Greene, first vice-president; Dr. Clement Handron, Rensselaer, second vice-president; Dr. Henry J. Noerling, Columbia, secretary; Dr. William Rapp, Greene, treasurer. These gentlemen were unanimously elected for the ensuing two years.

The election was followed by a short talk on Blue Cross and Blue Shield Plans by Mr. George P. Farrell, director of the Bureau of Medical Care Insurance. The meeting recessed at noon.

Following a delicious luncheon, which the members enjoyed as guests of Grossinger's Hotel, the afternoon session was called to order at 2:15 P.M. After an address of welcome by Dr. William Fernoff, president of the Medical Society of the County of Sullivan, district branch president Dr. John H. Wadsworth presented several members of the State Society: Dr. W. P. Anderton, secretary; Dr. Frederic W. Holcomb, speaker of the House of Delegates; and Dr. Laurance D. Redway, editor of the NEW YORK STATE JOURNAL OF MEDICINE; also Dr. Alfred O. Persons, past "General Practitioner of the Year," and others. Then Dr. Renato J. Azzari (Bronx), president-elect of the Medical Society of the State of New York, delivered a brief address, touching upon pending Washington legislation, attendance at county and district branch meetings, and some functions of the State Medical Society. Dr. Azzari's address was followed by a symposium and a round table discussion on "Rehabilitation of the Cardiac Patient," from etiologic, diagnostic, medical, and surgical aspects.

The meeting adjourned shortly after 5 P.M.

Respectfully submitted,
JOHN H. WADSWORTH, M.D., *President*

Fourth District Branch

To the House of Delegates, Gentlemen:

On May 20, 1954, the executive committee of the Fourth District Branch held a dinner meeting at the Queensbury Hotel, Glens Falls, where plans for the annual meeting were discussed. The Medical Society of Warren County volunteered to be the host for our annual meeting.

At the executive meeting during the morning of October 21, 1954, at the Queensbury Hotel, the business of the district branch was discussed. A letter from Dr. Michael A. Mastrianni offering his resignation as second vice-president was read and accepted.

The annual meeting was called to order in the early afternoon. Following the various scientific papers which were presented and discussed, Dr. Beverly C. Smith, president of Physicians' Home, Inc., described policies of this worth-while endeavor. Mr. George Farrell, director of the Bureau of Medical Care Insurance, delivered a brief progress report on Blue Cross and Blue Shield Plans. He was followed by Mr. George S. Weber, a representative of the Mutual Benefit Health and Accident Association of Omaha, who described the Fourth District's health and accident policy.

Following approval of the minutes of the previous meeting, the nominating committee advanced the following names: Dr. Alfred A. Hartmann, Essex, president; Dr. Leonard J. Schiff, Clinton, first vice-president; Dr. Roman R. Violyn, Montgomery, second vice-president; Dr. Milton Greenberg, Washington, secretary; Dr. Arthur Q. Penta, Schenectady, treasurer. These gentlemen were unanimously elected.

Following discussion, the district branch adopted the revised bylaws as approved by the Council of the Medical Society of the State of New York. The meeting adjourned at 5:25 P.M.

After a social hour the dinner which followed was attended by a large number of members and their wives. Dr. Dan Mellen, president of the Medical Society of the State of New York, spoke in his usual forceful and humorous vein. He was followed by Mr. E. A. Soucy, in charge of the Federal Bureau of Investigation of Upstate New York, who recounted many exciting and interesting events.

Respectfully submitted,
J. FREDERICK SARNO, M.D., *President*

Fifth District Branch

To the House of Delegates, Gentlemen:

The executive committee of the Fifth District Branch assembled at the Hotel Onondaga, Syracuse, New York, on May 6, 1954, to make arrangements for the annual meeting. The committee was considering the final revision of the bylaws which was due to be presented to the annual meeting of the district branch.

The annual meeting was held October 20, 1954, in Syracuse. Afternoon sessions were held in the Veterans Administration Hospital and the State University College of Medicine at Syracuse. Great credit is due the State University College of Medicine for the excellent panel discussions which they presented for the afternoon sessions. At the business meeting the planning committee presented a resolution to be later presented to the House of Delegates of the State Society. This resolution was to the effect that the district branches be abolished; the reason for this resolution is the feeling that district branch meetings have largely lost their appeal, which is definitely shown by continued decrease in the percentage of members attending. After discussion the resolution was adopted and will be presented to the House of Delegates at the proper time. New bylaws were also adopted. The evening session, which was held at the Hotel Onondaga, was attended by about one hundred doctors and their wives who heard a very stimulating and provocative address on the subject "Current Challenges to American Medicine," by Ernest B. Howard, M.D., assistant secretary of the American Medical Association.

Respectfully submitted,
RICHARD B. CUTHBERT, JR., M.D., *President*

Sixth District Branch

To the House of Delegates, Gentlemen:

The annual meeting of the Sixth District Branch of the Medical Society of the State of New York was held at the Statler Club on the campus of Cornell University in Ithaca, New York, on October 27, 1954. The program was under the direction of Dr. Paul Bunn of Syracuse University and embodied a discussion of the use of antibiotics as related to present practice today. Dr. Lincoln, Dr. Gibson, and Dr. Rogers together with Dr. Bunn presented a most intelligent and enlightening discussion covering this field.

The Tompkins County Medical Society were hosts to the physicians and their wives at a dinner following this scientific program. The entertainment provided was greatly enjoyed by all, and Dr. Mellen, president of the Medical Society of the State of New York, was the principal speaker. Mrs. Arthur Bennett, president of the Woman's Auxiliary of the State of New York, also spoke after the dinner.

Dr. Norman Moore was re-elected to the planning committee of the State Society at the business meeting that had been held immediately following the scientific discussion. A letter from the Fifth District Branch was introduced at the business meeting regarding the proposal to do away with district branch meetings. However, discussion was tabled until the component societies of the Sixth District could discuss this within their own societies and then report back to the Sixth District Branch.

Speaking as president of the Sixth District Branch of the Medical Society of the State of New York and as an individual, and not for the District Branch as a whole, I feel that there is a great deal to be discussed regarding the necessity for district branch meetings. The original foundation of the individual district branches to the Medical Society of the State of New York, I am sure, was at a time where there was a distinct need for postgraduate training that was difficult to obtain. However, today with the number of medical society meetings, the increased activity in postgraduate training, and the improved methods of travel, the attendance at the various branch meetings has dwindled. I do not feel that this is limited only to the Sixth District Branch, but from hearsay I am certain that it is happening in the other branches as well. It would seem to me that today the main function of the district branch is more of a political nature than it is upon the basis that it was originally intended. It would seem to me, therefore, that there must be a great deal of discussion and honest weighing of thought regarding the usefulness of the individual branch societies. I personally feel that probably the biggest advantage that the branch can have today is to acquaint the various members with their fellow physicians. I also feel that besides its political aspect the district branch takes on a definite social aspect as far as its functioning is concerned. It would seem to me, again speaking personally, that more of an attempt to bring physicians out to a district branch meeting would be greatly helped if it were on a social basis rather than on a postgraduate basis.

I say this because I feel that one of the big pitfalls in the medical profession today is the fact that physicians do not know each other personally well enough. There is too much chance of criticism of medicine within its own house. By that I mean actual criticism of other physicians by their own colleagues merely because they do not know them. If medicine is to become and remain a solid structure, this criticism must be done away with, and only through personal contact with our colleagues, chiefly upon a social level, can we obtain this solidarity.

Respectfully submitted,
G. M. Palen, M.D., *President*

Seventh District Branch

To the House of Delegates, Gentlemen:

The first meeting of the Advisory Council was held at Canandaigua on January 14, 1954. It was devoted primarily to the organization of this administration, which remains in office for approximately two years, i.e., from September, 1953, to September, 1955. (According to Chapter II, Section 3, of the proposed bylaws: "The officers elected shall assume office and the duties thereof on the Monday following their elections, and shall serve for the ensuing two years or until their successors are elected.")

Reports of officers were received and accepted followed by reports of committees. The resolution on the chiropractic problem, presented at the last annual meeting, was tabled. A progress report on the Blood Banks Association of New York State was given by Mr. A. Carl Messinger of the State Society Professional and Public Relations Bureau. Clarification of permissive use of Monroe County Medical Society's Medical Business Bureau was given by Messrs. Carl Webber and Daniel Lolito, the bureau manager. Mr. Sellers, of the Charles J. Sellers Insurance Agency, presented the advantages of group coverage for supplemental accident and health insurance on the district level. A division of responsibilities of officers for the balance of their terms of office was set up by the president.

The date of the annual meeting was set for Wednesday, September 22, 1954, to conform with the wishes of the Eighth District Branch and the officers of the State Medical Society. It was understood that in 1955 the Seventh District meeting would revert to the fourth Thursday in September as the meeting date. In ensuing years both branches will meet on alternate fourth Wednesdays and Thursdays of September.

A program committee was set up with Dr. Eldred Stevens, second vice-president, as chairman. Drs. Joseph A. Lane, Fred W. Bush, John H. Schultz, and Theodore B. Steinhausen were to serve as members.

The second meeting was held on June 11, 1954, at Canandaigua. This meeting had particularly to do with formulating the program for the annual meeting of 1954.

Dr. Steinhausen, chairman of the District Branch Planning Committee for Medical Policies, reported more fully on the work of the corresponding State Society committee. He pointed out that it was thought desirable that district chairmen serve not more than three years. He therefore recommended that a Seventh District chairman be appointed or elected at the 1954 annual meeting of the district. The new chairman would then take office as of the close of the 1955 annual meeting of the Medical Society of the State of New York.

Dr. Edward T. Wentworth, as a past-president of the State Medical Society and present board member of the Blood Banks Association of New York State, gave an up-to-date report on the entire blood banking problem in New York State.

Reporting in part on actions of the State Society at its 1953 annual meeting in New York City, the president cited the establishment of a Judicial Council and its resultant change in the organizational structure of the State Medical Society, to wit: This council is to be composed of five physicians, each of whom will serve five years. However, to implement the rotation basis, four councillors were elected this year (1953) to serve, respectively, terms of four, three, two, and one years, the fifth being appointed by the president for the full five-year term. Hereafter, all Judicial Councillors will be appointed on a one-per-year basis.

The annual meeting was held at the University of Rochester School of Medicine and Dentistry September 22, 1954. Outstanding features of the program were concurrent sessions in medicine, surgery, and pediatrics, as follows:

Medical Clinics.—"Iron Metabolism and the Management of Iron Deficiency States," Frank Furth, M.D.; "Adverse Reactions to Antibiotics," H. R. Morgan, M.D., and T. W. Mou, M.D.; "Fainting," George Engle, M.D.

Surgical Clinics.—"Differential Diagnosis of the Acute Abdomen," Harry Kingsley, M.D.; "Peripheral Vascular Disease with Emphasis on Varicose Veins," W. J. Merle Scott, M.D.; "Present-Day Scope of Cardiac Surgery: Selection of Patients and Procedures Used," Earle B. Mahoney, M.D.

Pediatric and Obstetric Clinics.—"Technics for the Diagnosis and Management of Intraepithelial Carcinoma of the Cervix," Curtis J. Lund, M.D.; "Office Management of Normal Infants," William Bradford, M.D.; "Problems of Convulsions in Pregnancy and Childhood," Gilbert Forbes, M.D.

We are indebted to Dr. Donald Anderson, dean of the medical school, and to Dr. Earle Mahoney for arranging the above program.

Following these meetings a short business session was held in which the secretary's and treasurer's reports were read and approved. Under old business the bylaws proposed in 1952, which have been approved by the State Society within the last few months, were presented for approval. It was decided, however, that since the proposed bylaws had not been sent to each member with a notification of this proposed adoption, as is constituted in Chapter VII of the bylaws, that they be reproposed at the next annual meeting.

The Auxiliary members met with us for luncheon in the gymnasium. After a cordial welcome by Dean Anderson, Dr. Renato J. Azzari, president-elect of the Medical Society of the State of New York, addressed us. Among other points he suggested ways and means of how the individual doctor can raise the standard of both the local and State organizations.

Mrs. Arthur Bennett, president of the Woman's Auxiliary, brought greetings and promised cooperation in all our efforts. The Woman's Auxiliary program consisted of a morning tour of the hospital, a short business meeting, and a most informative talk by Mr. Robert N. Abbott, Monroe County Director of Civilian Defense.

In the afternoon session, due to plane difficulty that unavoidably detained our main speaker, the schedule was rearranged so at 2 P.M. a clinicopathologic conference was conducted by Dr. McCann, professor of medicine at the University of Rochester. At its conclusion our main speaker, Dr. Joseph Benton, Director of Medical Education, Bellevue Hospital Medical Center, gave an enlightening talk on "The Third Phase of Medical Care."

At the conclusion of these meetings a social hour was held in the form of an enjoyable cocktail party at Guy Michael's Restaurant, through the courtesy of Walker Laboratory, Mount Vernon, New York, with Mr. Robert Cromarty in charge.

Throughout the year Dr. Steinhausen, our representative on the State Planning Committee for Medical Policies, has been very helpful. He has been most enthusiastic in voicing our desires in this powerful State committee.

The program committee, consisting of Dr. Eldred Stevens of Hammondsport, and Drs. Joseph A. Lane, Fred W. Bush, John H. Schultz, and Theodore B. Steinhausen, should all be commended for their work in arranging the program; Mr. Carl Webber, executive officer, and his staff deserve considerable credit for their work, not only on the annual meeting but also for their tasks throughout the year.

In closing this report I wish to pay tribute also to Dr. W. P. Anderton, our State Society secretary, for his ready guidance and suggestions.

Respectfully submitted,
GLENN C. HATCH, M.D., *President*

Eighth District Branch

To the House of Delegates, Gentlemen:

The year 1954 for the Eighth District Branch of the Medical Society of the State of New York was marked by a continuation of effort to develop the closest possible working relationships among the eight component county societies, to promote united-front action within the branch, and to achieve new benefits for the branch, its physician members, and the public at large. The year was also distinguished by fresh endeavors to create wider member participation in affairs and programs of the branch, since the branch leadership is thoroughly sold on the soundness, usefulness, and future possibilities of the district branch organization in the State.

The branch raised the curtain on its year of activities and projects at the annual midwinter dinner meeting of the advisory council of presidents and secretaries, the central conference committee on workmen's compensation problems, the planning committee for medical policies, and the chairmen of legislative committees for constituent societies, held at the Hotel Statler, Buffalo, on the night of February 11. More than 20 branch leaders were present.

On that occasion September 23 was selected as the date for the 1954 annual meeting. Previously, the branch had voted to hold this meeting in Warsaw, Wyoming County. At the same midwinter meeting, for the help of Dr. Alfred L. George, Batavia, chairman of the program committee for the annual meeting, suggestions were advanced as to speakers and topics; Dr. Joseph C. O'Gorman, Buffalo, was re-elected as chairman of the central conference committee; it was voted to hold a branch luncheon meeting at Hotel Statler, New York City, on May 10, opening day of the 1954 annual convention in the metropolis of the State Medical Society; Dr. John C. Kinzly, North Tonawanda, was selected to be the member-representative of the branch on the board of trustees of the Western New York Medical Plan.

Branch action on a number of bills pending in the 1954 State Legislature of interest or concern to medicine was taken, featured by a vote to oppose vigorously the Peterson-Noonan Bill to license the chiropractic cult.

Over 30 branch leaders, delegates, and others assembled around the luncheon table at Hotel Statler, New York City, on Monday, May 10, opening day of the 148th annual meeting of the State Society. This get-together was modeled after the social-business meetings held by the branch in 1950, 1951, 1952, and 1953 in conjunction with the annual meetings for those years of the State Society. The agenda included consideration and taking of action on a series of important matters scheduled to come before the House of Delegates as well as matters presented at the first morning session, capped by appointment by the president, who presided, of a small group of branch delegates to serve as a liaison committee between the House's work and the branch group.

With the Wyoming County hills as the setting, the branch held its 49th annual meeting at Warsaw on September 23. The weather was ideal and the attendance wholly satisfactory. Prior to presentation of the scientific program at 2 P.M. at Wyoming County Community Hospital, the advisory council and allied auxiliary groups of the branch held a luncheon meeting at the Moose Club, Warsaw, with more than 30 people present. Several officers of the State Society addressed the gathering informally. The meeting voted to hold the annual early winter dinner meeting of branch groups on December 2 at the Hotel Statler, Buffalo. The Blood Assurance Program of the Genesee County Medical Society was discussed by Dr. George S. Young. Others also were given the floor to speak or to take bows.

At the afternoon scientific meeting, speakers and their subjects were Dr. Maurice Segal, "Recent Advance in Management of Pulmonary Disorders";

Dr. Theodore E. Boyd, "Poliomyelitis; Critical Evaluation of Present Methods of Immunization"; Dr. J. Russell Elkinton, "Practical Aspects of Fluid Balance."

At the annual business meeting which followed the scientific program, final approval was given the proposed amendments to the branch bylaws abolishing the existing "line" offices of first vice-president and second vice-president and creating in their stead the new officers of immediate past-president and president-elect. A vote of thanks was tendered Dr. W. P. Anderton, secretary of the State Society, for his cooperative aid in giving written notice by mail of the proposed amendments to all members of the branch. The same business meeting also listened to talks by Dr. John C. Brady, member of the Council Committee on Legislation of the State Society, Dr. Milton Terris, Assistant Dean for Postgraduate Education of the University of Buffalo School of Medicine, and others.

The evening dinner meeting, held at the Moose Club auditorium, was attended by about 125 doctors and their wives. The branch president's introduction of officers of the State Medical Society was followed by an address by Dr. Renato J. Azzari, president-elect of the State Society, who deplored physicians' public criticism of the A.M.A. or the State Society for their acts. Mrs. Arthur L. Bennett, Buffalo, president of the Woman's Auxiliary to the State Society, spoke briefly. Dr. Samuel Sanes, Buffalo, addressed the audience, with the aid of slides, on "Fashions in Medicine."

Activities for the year 1954 concluded at the annual early winter dinner meeting of the advisory council and other auxiliary bodies at Hotel Statler on the night of December 2. Niagara Falls was chosen as the scene of the 1955 annual meeting of the branch, with Wednesday, September 28, as the date. The president appointed Dr. Milton Terris as chairman of the program committee for the annual meeting. It was voted that Dr. Terris' committee would work with a similar group from the Seventh District Branch for the procurement of a name physician as the main attraction on the scientific programs for both branch meetings.

Dr. Richard A. Loomis, Springville, offered a proposal that the branch consider the establishment of a branch professional placement bureau, and a committee of three was named to study the proposal. The branch went on record as favoring a policy under which the annual meeting of the State Society would be held in Buffalo every third year. A resolution was adopted vigorously opposing the action taken by the Fifth District Branch at its 1954 annual meeting in calling for the abolition of the district branch organization in the State. It was voted to hold the annual midwinter dinner meeting on February 17, 1955. The meeting concluded with an address by Dr. James Greenough, Oneonta, chairman of the Council Committee on Legislation of the State Society, on "The Shape of Things to Come at the 1955 Session of the State Legislature."

Respectfully submitted,

Sydney L. McLouth, M.D., *President*

Ninth District Branch

To the House of Delegates, Gentlemen:

The fifth annual meeting of the Ninth District Branch of the Medical Society of the State of New York took place Wednesday, October 6, 1954, at the Sleepy Hollow Country Club, Scarborough.

Since the weather permitted, and through the courtesy of Dr. Alex Newlands, a few hardy souls toured the golf course, one of the most beautiful in these parts. A beautiful cup for low gross, donated at our 4th annual meeting by Lederle Laboratories, to be competed for annually, was won by Dr. Mattola of Orange County with a 77.

The Pfizer Trophy for low net was won by Dr. Smith with an 80-11-69. We are most appreciative of the interest shown by the Pfizer Corporation in donating several other golf prizes, as well as five door prizes for the ladies. Needless to say, the door prizes added much to the gaiety of the dinner.

The scientific program, beginning at 3:30 P.M., was devoted to a symposium on blood transfusions with discussion on complications and blood substitutes. Dr. Aaron Kellner, associate professor of pathology, Cornell University, and president of the American Association of Blood Banks, was moderator. He conducted the program with the utmost ease and diplomacy without ever appearing too scientific as many pure scientists may do.

Drs. Sawitsky, Brancato, Roger Unger, and Hicks presented their papers, scientifically and with a human approach. The work done by these doctors is of great concern to all physicians. How fortunate, for those of us who attended, to hear these excellent comprehensive papers. It is hoped the material presented will be incorporated in a clinical summary for our State Journal. It contains a fund of practical, clinical observations, easily understood for future enlargement.

The nominating committee, consisting of Drs. Scott Lord Smith, Albert Rosenberg, and Maxwell Gosse, through their able chairman, Dr. Smith, presented the following slate, to take office for two years after the annual meeting of the Medical Society of the State of New York in May, 1955: Dr. Harold S. Heller, president; Dr. Earl C. Waterbury, first vice-president; Dr. Reid R. Heffner, second vice-president; Dr. William P. Kelly, Jr., secretary; Dr. Maxwell Gosse, treasurer. The slate was unanimously elected.

Mr. Farrell of the Bureau of Medical Care Insurance gave his usual excellent summary of this activity of our State Society.

We wish to announce the annual meeting of the Ninth District Branch will take place on the first Wednesday of October until such time as it may be unanimously changed.

Following the business meeting a cocktail party was enjoyed through the courtesy of the Westchester County Society, and midst the glittering countenances of our members, surrounded by the fashionable, charming distaff, and the ghosts of the Goulds and Washington Irving, we partook of a delightful dinner.

The component county society officers were introduced, and we listened to a short talk by the attractive president of the Woman's Auxiliary to the Medical Society of the State of New York, Mrs. Arthur Bennett. We were most enjoyably entertained by our genial president, Dr. Dan Mellen, whose savoir faire and wit have never been equaled by any other president of New York State. Your president made a short survey in a philosophic yet practical manner on district branch problems.

The principal speaker of the evening was Dean Arnold, president of Arnold Bakers. His interpretation of "Human Relations in Industry" was not only highly informative but extremely practical as to the necessity, if small business is to continue as an entity, of maintaining a complete interest in every employe from the lowest in the pay scale to the executive vice-president. Nothing should ever be too much trouble for the big boss to be always approachable.

This meeting has further emphasized to me that good fellowship at the grass roots can foster a thorough understanding between the members of a county society and our hardworking officers of the State Society that is not possible in any other way.

Respectfully submitted,
John F. Rogers, M.D., *President*

Do You Have Your Hotel Reservation for the Annual Meeting?

If you do not now have a confirmed hotel reservation in Buffalo for the Annual Meeting of the Medical Society of the State of New York, May 9 to May 13, 1955, at the Hotel Statler, please fill out and mail the reservation form at the bottom of this page, and send it directly to the Hotel Statler.

Should your reservation be received after the five hundred rooms set aside for the Society at the Hotel Statler have been assigned, your reservation will be turned over to one of the hotels in the neighborhood. Confirmation of your reservation will come to you direct from the hotel making the accommodation.

If you do not use the reservation form below, be sure to identify yourself as a physician when writing regarding reservations. This will insure proper attention to your request.

W. P. ANDERTON, M.D., *Secretary*

All Reservations Must Be in by April 20

149TH ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK,
MAY 9 TO MAY 13, 1955

Front Office Manager
Hotel Statler, Buffalo 5, New York
Please reserve accommodations as checked (√) below:

Name (*Please Print*)..

Address..

City..State....................

(Unless requested otherwise, we will hold your reservation until 6 P.M. of the day of your arrival.)

Date arriving......................Hour..............A.M.........P.M.........

Room and Bath for one—per day		$ 6.00☐ 7.00☐	$ 8.00☐ 9.00☐	$ 10.00☐ 11.00☐
Double-Bed Room with Bath for two—per day		9.00☐ 10.00☐	11.00☐ 12.00☐	13.00☐ 14.00☐
Twin-Bed Room with Bath for two—per day	$10.00☐ 11.00☐	11.50☐ 12.50☐	13.00☐ 14.00☐	15.00☐ 16.00☐
Suite—Living Room, Bed Room, and Bath		24.00☐	27.00☐	30–37.00☐

MORE THAN TWO PERSONS IN ONE ROOM: For each additional person in Double- or Twin-Bed Room, the extra charge is $3.00 per day.

If a room at the rate requested is unavailable, reservation will be made at the next available rate.

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the January, 1955, meeting of the Council of the Medical Society of the State of New York.

The Council met January 13, 1955, from 9:03 A.M. to 12:10 P.M. at the Manhattan Club, New York City. Dr. Dan Mellen, president, presided.

Secretary's Report

Dues Remissions.—The Council voted to remit annual State dues of ten members for 1954 and five members for 1955 because of illness; of one member for 1948, 1949, 1950, 1951, 1952, 1953, and 1954, of five members for 1954, and of 41 members for 1955 because of service with the armed forces; and of one member for 1954 because of financial hardship. It was also voted to request the American Medical Association to remit dues of one member for 1950, 1951, 1952, 1953, and 1954; of ten members for 1954, and of 34 members for 1955; and to exempt five members from further dues payments because they are past the age of seventy.

Executive Committee.—Dr. Anderton reported that the Executive Committee had considered the following communications:

1. Correspondence regarding a newspaper article by Dr. Walter C. Alvarez. The committee recommends to the Council that the matter be referred to the Chicago Medical Society and that Dr. Sandler be so notified. Dr. Sandler, president of the Bronx County Medical Society, referred the matter to the State Society.

It was so *voted.*

2. Letter of December 17, 1954, from Dr. Victor L. Pellicano, president-elect of the Medical Society of the County of Niagara, asking if this Society would approve the county society "going on record as favoring the sale of the Easter seals for the crippled children." The Executive Committee recommends to the Council that it is a local matter, that the county society should decide for themselves.

After discussion, approval of the recommendation *was voted.*

3. The committee recommends to the Council that the chairman of the Legislation Committee be allowed a per diem when he is absent from his practice on special committee business.

Referred to the Board of Trustees.

General.—Dr. Anderton reported: "In accordance with instructions, your secretary, on December 17, 1954, wrote Attorney General-Elect Jacob Javits requesting that he continue Messrs. Tartikoff and Calanese as assistant attorneys general, delegated to the New York State Education Department, in view of the fine work these gentlemen have accomplished.

"President Mellen has appointed the following members of the Sesquicentennial Committee: Dr. A. H. Aaron, chairman; Drs. Herman E. Hilleboe, Charles Prudhon, John J. Finigan, and John H. Iselin, Jr.

"On December 27 Mr. Robert C. Killough, Jr., Assistant Commissioner for Professional Education, New York State Education Department, notified you that Dr. W. Guernsey Frey has been reappointed by the Board of Regents as a member of the Nurse Advisory Council, commencing January 1, 1955, for three years.

"The annual Christmas party of your office staff was held at the Hotel Statler, Wednesday, December 22. 'A good time was had by all.' "

Dr. Anderton reported his personal activities during the preceding month.

He stated: "The Council recommended to the Board of Regents two gentlemen, one to be appointed a member of the New York State Education Department Medical Grievance Committee. Both were sixty-eight years of age, which the Regents thought was too near the retirement age of seventy. So, in a conference with Deputy Commissioner of Education Newsom, last Friday, I was asked to request the Council to recommend a couple of younger men, one of whom would be chosen. It is respectfully suggested you consider Dr. Paul B. Sheldon, of New York City, and Dr. Theodore B. Russell, of New York City. This vacancy requires a New York County physician."

It *was voted* to approve these recommendations and the report as a whole, including supplementary report.

The Treasurer's report was accepted.

Reports of Committees

Economics.—Dr. Renato J. Azzari, chairman, presented the report of Mr. George P. Farrell, director of the Bureau of Medical Care Insurance. In it Mr. Farrell stated that he had attended a number of meetings and reported: "December 14, 1954, your director presented to the Department of Health, Department of Welfare, and Department of Education (Division of Rehabilitation) an outline of a standard nomenclature developed by the Bureau for the purpose of compiling schedules of allowances now in effect in the respective departments for the information of the proper committees of the Medical Society of the State of New York and State department officials."

Ethics.—Dr. Thurman B. Givan, chairman, read the following letter from Dr. Garra L. Lester, president of the Medical Society of the County of Chautauqua:

> I understand that in one town in our county (Silver Creek) there is an osteopath, I believe the only one. He is doing surgery, and there are M.D.'s assisting him in the surgery and giving anesthesia.
>
> Is this ethical according to the New York State Medical Society, and, if not, what if anything should be done about it? I have deferred writing this letter to you until the present time because of the A.M.A. meeting in Miami early this month, as I thought that the M.D. relationship to the osteopath, etc., might be clarified by the A.M.A. at this meeting.

Dr. Givan stated: "I brought this to the attention of your Committee on Questions of Ethics. We all agreed to ask the Council to take the following action and answer Dr. Lester's letter accordingly: 'Since osteopathy is considered a cult by the Medical Society of the State of New York, as defined under Chapter II, Section 1, of the *Principles of Professional Conduct* of the Medical Society of the State of New York, we feel that it is unethical for physicians practicing medicine under the auspices of this State to associate professionally with osteopaths and that your county society should handle the situation mentioned by you.' I would like to make a motion that this action be taken."

It was so *voted.*

Finance.—Dr. Maurice J. Dattelbaum, chairman, reported: "The Finance Committee was requested by the Council to report today on the advisability of recommending to the House of Delegates a special assessment or increase in dues and, if so, the amount.

"The Finance Committee met yesterday morning and was unable to complete this study. It did, however, consider the preparation of a revised budget which will be submitted to the Council at its February meeting.

"The committee wishes to report that it went into the question of loans to the Blood Bank Association of New York State and gave particular attention to the budget of that organization for the year ending December 31, 1955.

"It should be pointed out that this is only a budget, and it must be remembered that if the actual income does not reach expectation and/or the Association does not live within its budgeted expenditures, figures and estimates will have to be revised.

"It was noted that the management of the Association anticipates 13 paid employes and four volunteers. The Finance Committee understood that it was impossible for the Medical Society to house this number of additional people. On the other hand, in order to produce the expected income it was felt that obtaining more office space for the Association is essential. The Association's financial status is such that the landlord will not accept a lease expiring September 30, 1955, without a guarantee by the Medical Society of the State of New York.

"The Society has already loaned the Association $32,000. The Association may borrow an additional $9,000 from the Society, or a total of $41,000, because the Board of Trustees has approved this amount. After a review of the budget of the Association, it was estimated that they will need $11,000 more in addition to the amount already borrowed and/or approved. In other words, the Association, assuming that the loans are approved by the Board of Trustees, will have borrowed by June 30, 1955, a total of $52,000. Assuming that the budgeted income is attained and that the Association lives within its budgeted expenditures, they should be able to return to the Society, by December 31, 1955, $20,000 of the total $52,000 loaned.

"The committee recommends that the Council request the Board of Trustees to guarantee the lease which the Association must sign and an additional loan of $11,000 over and above the amount of $41,000 which has already been approved."

After discussion it *was voted* that the committee's recommendations be approved.

Hospital and Professional Relations.—Dr. Harold F. Brown, chairman, reported that his committee had not met since the last meeting of the Council but that he had attended a meeting of the Special Study Committee on Hospital and Professional Relations headed by Dr. Louis H. Bauer and expected to meet with them again in February. He stated that such problems as the practice of medicine by hospitals and tenure on hospital staffs would be handled by this special committee.

Legislation.—Dr. James Greenough, chairman, reported: "Your chairman attended a meeting of Dr. Bauer's Special Committee to Study Hospital and Professional Relations, with representatives of the State Hospital Association on December 9.

"Another meeting of 15 representing pathologists, anatomists, medical schools, hospitals, medical examiners, Health Department, Welfare Department, morticians, and the State Society, was held December 9. Fruitful discussions of the laws relating to the disposition of dead bodies were had. Many disputed points were cleared up. At the conclusion of the meeting, the chairman was authorized to appoint subcommittees to investigate some of the problems. This has been done, and a second meeting will be held when the subcommittees have completed their work.

"Dr. Harold B. Smith, executive officer, and Dr. Jacob L. Lochner, Jr., of the Committee on Legislation, attended a meeting in Schenectady, December 20, sponsored by the professional engineers to discuss the question of corporations practicing professions.

"Your chairman attended a dinner meeting December 20, given by the Legislative Committee of the Medical Society of the County of Kings to the legislators from Kings County. It was an enjoyable and highly informative occasion.

"Your chairman was in Albany the opening day of the 1955 legislative session. The program of the Society was reviewed with the executive officer and the legislative counsel. A meeting of the executive committee of the Committee on Legislation is scheduled for this afternoon."

Dr. Wolff inquired whether Dr. Greenough had received a wire from the Coordinating Council of the First District Branch concerning the free choice bills. Dr. Greenough replied that he had and had acknowledged it. He stated that at the last meeting of the Legislation Committee it had been decided that these two bills were the chief business of the Legislation Committee this year.

The executive officer, Dr. Harold B. Smith, reported on the free choice issue. He also stated that in conjunction with the opening of the Legislature, the first thing was the Governor's address. It has been abstracted for our Legislative Bulletin, which is sent to each county society legislation committee chairman and others.

The report *was discussed.*

Office Administration and Policies.—Dr. John J. Masterson, chairman, reported that a meeting of the Office Administration and Policies Committee was held January 12 and that various personnel matters were approved.

The report *was accepted.*

Publication.—Dr. Masterson, chairman, reported: "A meeting of the Publication Committee was held January 12, 1955.

"It was decided to request the Council to approve the appointment of Dr. Denver Vickers to the associate editorial board.

"Dr. Redway reported that a possible plagiarism has been referred to our counsel for his opinion.

"A previous action to publish members' changes of address in the JOURNAL was rescinded on account of cost.

"It was noted that the American Medical Association does not grant complimentary subscriptions to the *Journal of the American Medical Association* to medical schools.

"It was noted that Dr. Norman Moore, assistant editor, had been appointed a member of the State Public Health Council by Governor Dewey.

"There was discussion of the costs involved in producing the history of the Medical Society of the State of New York from the year 1806. It was felt that if this is published, its title should be 'History of Medicine in New York State.' It was decided to approve such publication of this history and that, in order that the resources of the Society be not drawn upon, an effort be made to obtain outside financial assistance. Dr. Moore was appointed to investigate the possibility of obtaining funds outside of the Medical Society.

"The editor's report was accepted.

"The business manager reported for the six months ending December 31, 1954."

It *was voted* to approve the report.

Planning Committee.—Dr. Peter J. Di Natale, chairman, reported progress.

Public Health and Education.—Dr. Theodore J. Curphey, chairman, stated that he had attended five committee meetings since his last report to the Council and had arranged 17 postgraduate lectures in nine counties. He reported as follows:

1. At the meeting of the Subcommittee on General Practice it was agreed to request Wyeth and Company for assistance in mailing sample copies of the Health Examination Form to members in the counties of Westchester, Nassau, Suffolk, New York, Bronx, Kings, Queens, and Richmond. It is hoped they will supply the postage and possibly the cost of the envelopes for the 17,000 physicians in these counties.

Dr. Seymour Fiske gave a progress report on the replies to the hospital questionnaire relative to the establishment of departments of general practice in hospitals. In this connection a letter had been received from the director of Grasslands Hospital in Valhalla in reply to the letter sent in October to all county medical societies by Dr. Anderton, reiterating the favorable attitude of the State Society toward the establishment of such departments. The letter indicated that many medical boards do not understand that the proposed departments are intended to function on the administrative level, not as clinical services.

The committee hopes to arrange for a well-informed general practitioner in each locality to visit those hospitals which have given evidence in the questionnaire of willingness to set up a department and to explain the details of organization. It was pointed out that hospital and professional relations committees in the county medical societies could go a long way toward a better understanding by hospital administrators of the problems of the general practitioner.

There was discussion in connection with financial assistance requested by the Academy of General Practice. It was agreed that, in general, where the activities of the Academy and the State Society overlap, there should be a sharing of expense. It was voted that the chairman of the finance committee of the New York State Academy of General Practice, Dr. Curphey, and Dr. Anderton act as a reference group on matters of expense.

2. The meeting of the committee with the State Health Department considered a letter received by the Medical Society from the Amalgamated Meat Cutters and Butcher Workmen of North America advocating the probing of sick and diseased poultry and the passage of effective poultry regulation and inspection legislation. It was apparent from information given by Dr. Donald Dean, veterinarian of the Department, that from a public health point of view there would be little to be gained by inspection regulations for poultry for the expense of setting up the machinery and enforcing the law would outweigh the reduction of diseases.

Commissioner Hilleboe suggested that the Medical Society address a letter to the Commissioner of Agriculture and Markets and the Department of Health, asking what they could do in the way of inspection and education within the limits of the resources of the State.

The Council *requested* Dr. Anderton to write these letters.

A statement drawn up by your chairman and Dr. F. B. Amos, director of professional training for the Health Department, was summarized, setting forth the problems in postgraduate medical education in this State, together with possible legislation which might assist in carrying out the proposed program. Their opinions of the statement had been received from several of the deans of the medical colleges of the State.

Commissioner Hilleboe said that the original intent in drawing up the statement was to give the Medical Society of the State of New York a constructive measure to propose to the Legislature, which would enhance the prestige of the Society. It was agreed that a committee should be appointed to study the proposal and should include three deans and three general practitioners; also Dr. Greenough and two members of his Committee on Legislation. It is hoped to call a meeting in the near future.

> After discussion the Council *voted* to table this matter until the next meeting, at which time a committee, as proposed by Dr. Curphey, could bring in a bill for further discussion.

3. The meeting of December 14 of the Executive Committee of the New York State Citizens' Health Council discussed the problems at Massena as a result of the increased influx of labor in connection with the construction of the St. Lawrence Seaway. Plans were considered whereby a program to meet the health needs of the community could be set up, for which the Citizens' Health Council would act as an advisory group.

Report of Ad Hoc Committee on the Practice of Laboratory Medicine.—Dr. Curphey stated: "This Council might remember that this committee was set up nearly two years ago to review, with an eye to revision, the laboratory laws in the State or the laws that govern laboratory practice in the State.

"Since the February, 1954, meeting of the Ad Hoc Committee with the joint meeting of the Public Health Committee and the Department of Health of the State of New York, the investigation proposed for the State as a whole has not been made. The Commissioner's recommendation proposing an independent investigation at a cost of from $20,000 to $30,000 was not acted upon because the committee was informed that certain information bearing on this problem in upstate New York was available in the Division of Laboratories. Study of this information provided the basis for the present report.

"State aid for local public health laboratories in New York State has been provided to encourage the development of public health laboratory services at the local level. Originally, this plan resulted in the establishment of many local laboratories, which might otherwise not have been founded.

"In recent years the growth of non-State-aided laboratories has been greater than that of State-aided laboratories. Also, the function of State-aided laboratories and non-State-aided laboratories has not been clearly delineated. Frequently, a major part of the activities of State-aided laboratories has been in the fields of medical laboratory services which were not closely related to or a part of public health services. Also, many non-State-aided laboratories have provided public health laboratory services. In such instances these non-State-aided laboratories may have received no reimbursement from government funds for this public health laboratory service, or if government funds were provided, they were secured entirely from the local government. In the event that no government funds have been provided, the expense of this type of service has been defrayed from private sources, usually the collection of fees from patients.

"The assessment of fees by State-aided laboratories has been at the discretion of local boards of laboratory managers. The income derived from such fees has been used to defray the expenses of these laboratories. As a result of this policy, the income from fees charged for clinical pathology, hematology, chemistry, and similar tests at times has been almost sufficient to meet the total expenses of the laboratory. Under these circumstances the public health laboratory has required little State aid or local governmental financial support, and the private patient has paid the expense of the public health laboratory service.

"Boards of laboratory managers of other State-aided laboratories have decided to provide complete laboratory services, including the usual public health laboratory procedures as well as various types of clinical pathology, completely without fee. In such localities the amount of State aid and local government financial support has necessarily been considerable. This has resulted in a very inequitable distribution of State funds.

"Reports of present medical laboratory practice in both State-aided and non-State-aided laboratories show a leveling off for the past several years and, in some cases, even a decrease in laboratory procedures which are directly referable to the control of communicable disease and environmental sanitation. At the same time there has been a continuous increase in clinical pathology, hematology, chemistry, and other types of diagnostic medical laboratory procedures not obviously related to public health. This has been accompanied by an increasing interest in clinical pathology and a lessening interest in the public health laboratory procedures, particularly methods concerned with environmental sanitation, serology, and microbiology, often to the extent that these services have not received the expert attention which they deserve.

"The committee believes that these defects should be corrected by a more equitable distribution of State aid to local laboratories and by restricting this State aid to public health procedures only. This would necessitate a clear delineation of the public health laboratory field, admitting that at present there is controversy and difference of opinion as to what should be the exact limits of public health laboratory services.

"In the absence of a clear-cut and generally accepted definition of public health laboratory services, it is recommended that such services should include tests necessary for the control of communicable disease. Such tests are named and described under the title, 'Methods for the Examination of Specimens for Evidence of Certain of the Communicable Diseases,' form LR 18 8-11-52-400. Tests for control of environmental sanitation also should be provided. These are specifically described under the title, 'Methods for Examinations Concerned with Sanitation,' form LR 18-a. 10-20-53-400 (3-OMO-859). The committee agrees that the medical laboratory procedures referred to in these New York State bulletins are definitely in the realm of the public health laboratory.

"It is understood that this report refers to the laboratory problem at the local level and not to the activities of the central laboratory. Also, it is realized that as circumstances and changes occur, other laboratory procedures may be approved as within the scope of public health laboratory service.

"In conclusion, it appears that a reappraisal of the New York State program of State aid to local laboratories is in order. Government units, both local and State, in conjunction with their public health departments, should provide public health laboratory services without fee. Such services might satisfactorily be supplied by contract with well-qualified local medical laboratories. The use of government funds limited in this way should provide a more uniform and efficient public health laboratory service throughout the State. This should also promote the return of the practice of clinical pathology to its proper relationship with the other specialties in the practice of medicine. We recommend that a gradual reapportionment of State funds to local approved laboratories be inaugurated in line with the above principles. We further recommend that the Council of the Society designate a committee to advise local boards of managers regarding these policies.

"Adopted by motion at the joint meeting of the Public Health Committee and the Department of Health of the State of New York, December 16, 1954, in New York City."

The Council *voted* to approve the report.

It *was voted* that a committee be appointed to meet local boards of managers in trying to channel this to the grass roots.

Dr. Curphey continued: "Last month the Council was apprised of the Baby Care Program in Dutchess County. We wrote to the president of the society, Dr. Arthur M. Sullivan. Under date of December 17, 1954, he replied:

> In answer to your letter of December 14, I wish to advise you that the course being conducted by the Dutchess County Chapter of the Red Cross in Poughkeepsie does not have the sponsorship of the Dutchess County Medical Society.
>
> Dr. John Rogers has been appointed at the last comitia minora meeting to investigate this situation, and he advised me last night that he had contacted the Red Cross National Headquarters in Washington regarding this situation. He is also investigating the nature of this program and will contact you when he has obtained the details.
>
> Sincerely,
> Arthur M. Sullivan, M.D.

The report *was adopted* as amended.

Public Relations.—Dr. Floyd S. Winslow, chairman, presented the following report: "Since the last Council meeting, progress has been made in setting up machinery to carry out the intent of the 'Guide for Cooperation' between the medical profession and the media of public information.

"Immediately following distribution of this Guide, the Bureau received requests from writers for help. To meet this situation, Dr. Theodore J. Curphey, chairman, Council Committee on Public Health and Education, after discussions with Mr. Miebach, agreed to name two physicians, specialists in the fields under inquiry willing to answer questions asked by writers. This arrangement is working satisfactorily.

"At the request of a national magazine a writer submitted an article on hernia and asked us to check the accuracy. Through the cooperation of Dr. Henry I. Fineberg, who was a member of the subcommittee which drew up the Guide, the Coordinating Council of the five Greater New York medical societies appointed a panel of surgeons to review the article.

"The field representatives acted as liaison between writers and physicians in the above arrangements and have promoted the implementation of the Guide by county medical societies.

"The Guide received additional publicity when the November issue of the American Medical Association's *PR Doctor* devoted almost a page to its discussion.

"In December Mr. John Schuyler replaced Mr. A. Carl Messinger, who left the Bureau to become executive director of the Blood Banks Association of New York State. Mr. Schuyler will further public relations activities of county medical societies in the fifth, seventh, and eighth district branches.

"At Dr. Curphey's request an article on a form to facilitate comprehensive health examinations, which is being sent to every member of the Society by the Subcommittee on General Practice, was published in the January issue of *Newsletter*. The same issue carried an article on recommendations of the Subcommittee on Mental Hygiene about the new Community Mental Health Services Act.

"Following the publication of a notice in 'Nurses Notes' put out by Squibb, the Bureau received 1,000 requests for our publication 'Telephone Cues for Medical Personnel.'

"News releases about postgraduate lectures in the following counties were sent to papers in the respective areas: Dutchess, Jefferson, Monroe, and Ontario.

"Mailings during the past month included announcements to county medical society public relations chairmen, Woman's Auxiliary public relations chairmen, and executive secretaries regarding two current television shows, 'Horizons' and 'Night Call.'

"The Bureau also worked with the Woman's Auxiliary. Among these activities were the preparation, in connection with the health poster contest, of *Distaff* and NEW YORK STATE JOURNAL OF MEDICINE articles as well as television film promotion. Suggestions also were made for increasing the scope of the Auxiliary's public relations, legislation, and nurse recruitment programs.

"At the request of the American Medical Association's Department of Public Relations, the Bureau cooperated in a nation-wide program to educate senior medical students in the practical aspects of medical practice. The American Medical Association has made available to the deans of medical schools a volume entitled 'A PR Pattern for a Successful Practice' containing seven articles telling how to bring about good public and patient relations when one enters medical practice. The Bureau has ordered 1,000 copies of this volume, to be sent, upon request, to deans of medical schools in this State for the use of senior medical students."

The Council approved a letter written by Dr. John C. McClintock, chairman, Subcommittee on Cooperation with Media of Information, to the chairman of the board of censors of the Herkimer County Medical Society, presented in a supplementary report by Dr. Winslow. The letter urged that the Board approve the request of a local physician that he be authorized to permit his photograph to be published in a national weekly magazine in connection with an article including excerpts from a paper the physician had published in a medical journal.

It *was voted* to adopt the report as a whole.

Veterans Administration, Liaison with.—Dr. Herbert H. Bauckus, chairman, reported: "The board of directors of the Plan voted last May to have figures that would show the work done in the four branches of the Plan in New York State. There was a discussion at that time as to whether or not the Plan should continue. As far as that is concerned, you will need to wait until the Liaison Committee and the board of directors meet, I hope in the next month. It is a great question in my mind as to whether we should continue this expense. The expense for the Liaison Committee is small because most of the members come here anyway. However, we have a revolving fund of $15,751. We have not lost any money, but we are not receiving any return on the money. Maybe we lose 3 per cent interest on that fund, and we have no business using it thus if there is no need.

"The Publication Committee has suggested for the *Directory* that we have an item of a half page describing our work. I will read part of it as Dr. Anderton has so well written it. Then I have just one figure to quote you:

> In 1946 the United States Veterans Administration appealed to practicing physicians for help because it did not have sufficient personnel to treat the large number of veterans applying for care.
>
> Under the auspices of the Medical Society of the State of New York, the Veterans Medical Service Plan of New York was incorporated. The organization meeting of its board of directors was held August 7, 1946, and the offices for a coordinator of the plan were located in Veterans Administration facilities in Buffalo, Syracuse, Albany, and New York City.
>
> It was required that a coordinator approve all medical services except in emergency. The Veterans Administration reimburses the Plan for salaries of coordinators and pays physicians in accordance with the negotiated fee schedule. The coordinator approves all fee-basis payments. At present, care by participating physicians is authorized only for ambulant patients when attendance at a Veterans Administration facility would cause hardship for the veteran. "Hardship" is delineated as financial loss due to distance of travel or absence from work.
>
> The physicians in New York State have made a generous contribution to the care of veterans' service-connected disabilities and are ever willing to do so.

"Then follows a list of the officers of the plan and the Liaison Committee.

"Our main reason for being in this Plan has been stated. We did preserve the free choice of physician. We can still preserve that if we have this organization set up in the State Society as a committee. We have lost a great deal of the fee basis because the Veterans Administration just refuses to authorize; therefore, the free choice is lost largely to the V.A. clinic.

"As for ethics, we can still handle that just like we do in our State Society. With all of those complaints in the last two years I have had very little contact with the administration at Washington over the situation. The chief medical officer and the branch officer in charge take the entire responsibility. I feel that we have not much to do about the Plan at the present time. We offer some help in the sense possibly of giving moral support to the administration. Our coordinators must approve all fee-basis payments, but that is a matter of routine except in a rare instance.

"I am beginning to wonder whether we ought to continue the present service. That, of course, will depend on action by the Liaison Committee and by the board of directors of the Plan and the Council, and probably finally the House of Delegates in May. We must have a decision by the first of June because our contract expires then."

As a result of a letter from Mr. George Cooley, secretary of the American Medical Association Council on Medical Service, it was voted that Dr. Bauckus and Dr. Anderton be authorized to attend a meeting in Chicago, Illinois, on February 19, 1955.

Woman's Auxiliary, Advisory to.—Dr. Andrew A. Eggston, chairman, stated: "We have reviewed the budget for the next year. We are to have a meeting in Westchester County on January 24, at which time I expect to make a few remarks."

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, presented the following: "The New York State Joint Legislative Committee on Industrial and Labor Conditions met at the Hotel Astor on December 13, 14, and 15, 1954. Notable was the statement made by Miss Mary Donlon concerning revision of Rule 21 about the new hearings. According to Miss Donlon, the employer must file notice of controversy timely. If he does not, he is deemed to have accepted the basic element of liability for the accidental injury that underlies the claim.

"Miss Donlon reported that the new hearing procedures are working well. However, to make the new hearings a complete success, even greater cooperation should be forthcoming.

"One of the main objectives of the new procedures is to reduce the number of hearings, and another is to expedite adjudication.

"Miss Donlon reported that there have been many court decisions concerning workmen's compensation during the current year. Perhaps the most significant is that of the Court of Appeals* upholding a position the chairman has long held, namely, that the term 'disability' includes a condition requiring medical care and is not confined to work disability. The Appellate Division, Third Department, had previously overruled the chairman and held that a condition requiring medical care without work stoppage was not a 'disability.'

"Miss Donlon's remarks about rehabilitation are timely and important. Excerpts follow:

> Rehabilitation is one of the truly pressing problems of modern society.
>
> There are relatively few people for whom "rehabilitation" evokes an identical word image. Rehabilitation is a term that covers a wide range of activities thought by many to be "good works." It includes safety regulations and safety education; medical, surgical, and psychiatric care; education in the technics of daily living; occupational therapy; social work; special job placement; and also vocational training and retraining.
>
> With close to 30 million Americans known to be physically disabled and unknown other millions suffering the disabilities of mental illness, there is no need to underscore the importance of active rehabilitation programs. We are particularly pressed here to find a sound approach to the multiple problems of rehabilitation. We need an adequate rehabilitation program.
>
> Probably no single aspect of workmen's compensation has stimulated so many proposals. Friends of rehabilitation propose legislative devices, sometimes programs that are administratively unsound or, at best, difficult. Their intentions are the best. *What is difficult to understand is why they persist in ignoring the opportunities for sound rehabilitation the law now clearly affords.*
>
> Proponents of new legislation profess the view that workmen's compensation, and in particular the Workmen's Compensation Law of New York State, is a roadblock in the way of rehabilitation of the industrially disabled. On the one hand there are sincere advocates of State-operated rehabilitation centers with treatment facilities. Generally these advocates of State-operated clinics do not wish to compel the disabled to enter these State rehabilitation centers under pain of forfeiture of benefit rights, as in the Canadian provinces, or to sacrifice "free choice" medical care as it is sacrificed in American jurisdictions where there are government-operated workmen's compensation rehabilitation centers.
>
> On the other hand, there are those who would compel the reference of injured workers for rehabilitation, not to a State-operated clinic, but elsewhere. Advocates for this program generally recognize how seriously it would impair "free choice" and how difficult and costly it would be to supervise, but they justify these debit items by a firm insistence on its humanitarian and cost reducing values.
>
> Both ignore or are unaware of the untried rehabilitation opportunities already available in the law. What is needed is not some new, experimental legislation, but a right-about-face by employers and carriers with respect to their medical care obligations in workmen's compensation cases. If they will not use the program for rehabilitation now available, it seems idle to hope that Utopia will be reached through State-operated rehabilitation centers or by the transfer of a duty the employers and carriers now have to the doctors who attend claimants. Why not give a fair trial to what we have before concluding it is not enough?
>
> In workmen's compensation, rehabilitation has a narrower meaning. The rehabilitation of workmen's compensation claimants comprehends whatever is necessary to provide early accurate diagnosis and sound prescription; such medical, surgical and psychiatric treatment as may be necessary to effect humanely the restoration of maximum potential earning capacity, and such vocational and placement assistance as may be necessary. Ideally, rehabilitation should be oriented to the old trade and old employment. However, all which follows the medical phase of rehabilitation is ancillary.
>
> Employers have an obligation, under the Workmen's Compensation Law, to provide whatever medical care the injury requires. Early recovery and the minimization of compensable disability are good for the injured employe. They are good for his employer. They are also good for consumers, who in final analysis pay workmen's compensation costs.
>
> To safeguard his interest, the law gives to employers the statutory right to have early and recurring medical inspections of injured employes.
>
> But how have carriers availed themselves of this right? It is most unusual for a carrier to avail itself of medical inspection, at least in the early stages of disability, for opinions on prescription and medical care.
>
> *Our experience is that claimant doctors respond to doctor consultation, while they rightly resent lay decisions as to medical care.*
>
> And if the doctors disagree as to what medical care should be authorized, what then? Under the law the employer or carrier may refuse authorization of medical care in the best interest of the parties if it is, on sound medical opinion, deemed wrong to authorize it.
>
> Many times we have offered to set up special hearing parts for prompt adjudication of disputes as to what medical care should be authorized if the carriers will inspect early and through adequate medical personnel.
>
> If there is to be a legislative incentive to rehabilitation, I suggest to you the recent proposal of the Board of Regents of the American College of Surgeons that the earnings of an injured worker during rehabilitation should not prejudice his continuing right to receive workmen's compensation benefits.

"Your director also appeared before the Legislation Committee. He supported most of the opinions voiced by Miss Donlon.

"Defining rehabilitation is largely a question of semantics. Many insurance carriers and other agencies have tried to use the new trend towards 'rehabilitation' as a means of amending the Workmen's Compensation Law and doing away with 'free choice,' claiming that in this State the employer is in danger of violating Section 13 if he recommends rehabilitation and the attending physician refuses to cooperate. Your director has maintained that the Workmen's Compensation Law provides the means of affording rehabilitative treatment with ample protection for the employer or carrier in case the attending physician refuses to cooperate.

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* *Mastrodonato* v. *The Pfaudler Co.*

"As long ago as 1941, we drew to the attention of insurance carriers and self-insurers the advantages to be gained from proper and timely rehabilitation of injured workers. We testified before the Joint Legislative Committee a number of years ago that the present law, as amended in 1935, provides both employers and insurance carriers every safeguard and opportunity to make available to the injured employes rehabilitation without fear of a penalty.

"We agree with Miss Donlon that the Workmen's Compensation Law gives the employers the statutory right to have early and recurrent inspection of injured employes, and we also agree it is unusual for a carrier to avail itself of medical inspection by competent physicians, in the early stages of disability, to obtain opinions and prescriptions for medical care. We have long advocated that insurance carriers set up adequate medical examination and inspection departments manned by well-qualified physicians rather than permit, as at present, lay claim-men and adjustors to be the judges of when to call medical help to examine claimants. With properly qualified physicians and consultants at their disposal, the insurance carriers would be in a position promptly to examine claimants and recommend the referral, at the earliest possible moment, of the injured worker for such rehabilitative procedures as were indicated if the attending physician refused to cooperate or was not competent to provide the necessary care.

"A few years ago a pilot study of rehabilitation was set up by Miss Donlon under Dr. Willis M. Weeden in the New York office of the Workmen's Compensation Board. Miss Donlon has testified before the Legislation Committee and elsewhere, and Dr. Weeden has confirmed the fact, that there has been full cooperation on the part of the medical profession in this program. We agree with Miss Donlon when she states that "claimant doctors respond to doctor consultation, while they rightly resent lay decisions as to medical care." Miss Donlon also made a significant statement to the effect that time after time she has offered to set up special hearing parts for prompt adjudication of disputes as to what medical care should be authorized if the carriers would only inspect early and through adequate personnel. This has been our position too. We have, when such disputes have arisen, recommended to carriers that the case be sent to impartial and mutually acceptable consultants or to the department for prompt examination as to the disputed medical issue. Our early recommendation for panels of experts to decide disputed medical issues was never given a chance, although the Workmen's Compensation Law provided for the panels.

"Now we have further opportunity to control this situation through the filing of form C-8.1 by an employer or carrier in any case where the physician is requested to stop medical care or where the type or need for medical care is questioned.

"The issue can now be promptly resolved, but the carrier must accompany his objection to continuation of medical care or the type of medical care by adequate medical examination and evidence, not on the mere filing of a claim-man's report.

"In workmen's compensation cases it is important for the attending physician to make a proper diagnosis and see that the patient gets such care as he is able to give and to refer the patient to a better qualified physician if the nature of the injury requires. The specialist in physical medicine is in a position to give expert advice on the value of physical modalities. But even the highly qualified specialist should bear in mind the value of certain rehabilitative measures in reducing disability. These may be part of or in addition to the care the practitioner or specialist can give. They should take into consideration also the effect of an injury on the mind.

"We have repeatedly emphasized the role of the general practitioner in workmen's compensation medicine. He is responsible for the care of the majority of compensation injuries and is usually the first to see even the most severely injured. He is or he should be fully acquainted with the needs of the particular patient and should call in either to assist him or to take over such injuries or occupational diseases as require specialist care. The role of the general practitioner in rehabilitation is depicted in a personal communication to your director by Dr. Howard A. Rusk. We quote:

> Rehabilitation for the severely disabled has become generally accepted by the medical profession, industry, labor, and the public. One of the important principles in rehabilitation is that it should be started early and should be a continuous process designed to meet the total needs of the individual—physical, emotional and vocational.
>
> As in all medical programs the physician is the first line of defense in rehabilitation. Many of the simpler technics can be done efficiently and adequately in the physician's own office. However, as in other branches of medicine, if consultative services are used early and wisely, many injuries or disabilities can be minimized so that long-term and often permanent disability is avoided. This applies especially to back injuries, injuries of the hand, and fractures requiring long mobilization. It is important that these patients be referred in a program that stresses return of function at the earliest possible time, general conditioning, and an emphasis on a return to the job as soon as possible. A rehabilitation program is a service program to the physician. He does not and should not lose control of his patient but continues to be responsible for the patient's definitive care and well-being while rehabilitation, treatment, and training are being effected. It is only by such a teamwork approach that the goals of rehabilitation may be effected.

"If employers or carriers have a sincere interest in medical rehabilitation and are willing to bear the additional cost, the present law provides opportunity for the employers, carriers, and doctors to get together and do a real job."

RULES ON ARBITRATION OF MEDICAL BILLS, PROMULGATED BY THE CHAIRMAN OF THE WORKMEN'S COMPENSATION BOARD PURSUANT TO SECTION 13-a(3)

AND SECTION 13-g OF THE WORKMEN'S COMPENSATION LAW

On receipt of a medical bill which is regarded as unfair, notice of any objection (A-1) shall be given thereto by the carrier in accordance with Section 13-g(1) within thirty days after receipt of the bill on a form approved for this purpose. The original is to be mailed to the chairman of the Workmen's Compensation Board, and copies thereof shall be sent to the claimant physician, medical society, and Rating Board. Copies to the claimant physician and Rating Board shall be accompanied by the Submission (A-2) as provided in Rule 5 therein. The notice shall briefly state all objections to the bill. *In cases where there has been no determination as to whether the injury is compensable, the notice of objection shall so state.*

A similar rule of procedure before the Medical Practice Committee on examination of disputed medical bills in counties having a population of one million or more is worded as follows: "1. Notice of objection by a carrier to any medical bill shall be given to the chairman, Workmen's Compensation Board, and the physician or hospital whose bill is in dispute within thirty days after such bill has been rendered on the form (A-1) prescribed by the chairman for that purpose. Where compensability of the claim is controverted and has not yet been determined, the notice of objection shall so state."

Section 13-g(1) of the Workmen's Compensation Law states: "(1) Unless within thirty days after a bill has been rendered to the employer by the physician or hospital which has treated an injured employe, such employer shall have notified the chairman and such physician or hospital in writing that such employer demands an impartial examination of the fairness of the amount claimed by such physician or hospital for his or its services, the right to such an impartial examination shall be deemed to be waived and the amount claimed by such physician or hospital shall be deemed to be the fair value of the services rendered by him or it."

"It is the practice of certain insurance carriers not to comply with the above in cases that are being controverted. Objection to medical bill is made within thirty days of the decision of the referee or Board affirming compensability. Thus, in many instances months elapse after medical care has been rendered and a bill submitted to an insurance carrier before an objection is made. This deprives the physician of his opportunity to bill the patient subsequently in the event that compensability is disallowed.

"It is the opinion of the Bureau that every bill submitted and not paid should be objected to within thirty days of its submission, as indicated in the above rules. In the event that no objection is made within thirty days and the case is subsequently declared compensable, the failure to file the A-1 on the part of the employer or carrier within the thirty-day period after submission of the bill is ground for enforcing the payment of the bill without the benefit of an impartial examination under the provision of Section 13-g. In other words, if a physician renders a bill to an employer or carrier and said bill is not objected to and the case is controverted and subsequently declared compensable, the failure of the carrier to file the A-1 timely automatically designates the bill as fair and reasonable under the provisions of Section 13-g, and payable.

"The failure of an employer or carrier to make a timely objection in a case being controverted puts the physician at a disadvantage, should subsequent hearings before the Board or referee declare it noncompensable. The lapse of time often makes it impossible for the physician to locate and hold his patient directly responsible for the services rendered which were found not to be of occupational causation.

"Under date of December 16, 1954, Mr. Jacob Schutzbank, Administrator of Claims for the Workmen's Compensation Board, stated in a letter to your director that "With reference to the filing of the A-1, I have reviewed the subject and can state to you that your interpretation as stated in your letter is correct.""

Dr. Dorman supplemented his report by stating: "Miss Angela Parisi will be chairman of the Workmen's Compensation Board under the Harriman administration."

Appointments

Dr. Anderton stated: "As a result of the Council delegating power to the president, he has appointed to membership on the Council on Improvement in New York State of the Care of the Patient, Dr. Louis M. Rousselot, Dr. Guernsey Frey, and Dr. Joseph A. Geis."

Approval *was voted.*

New Business

Dr. Ezra A. Wolff, assistant secretary, stated: "At the last House of Delegates' meeting a resolution was introduced to establish a group that would refute false allegations made by lay writers. That resolution was turned down on the basis that a good number of these allegations were not worth dignifying by refutation. There have recently been two flagrant instances where there has been criticism, not of an isolated segment, but of a large part of the medical profession by members of the profession itself, who are in positions that carry weight.

"About a month ago an article was reproduced in the *New York Herald Tribune*, I believe by Dr. Alvarez, condemning what he said was widespread practice in providing unnecessary and incompetent medical care.

"More recently, in the *Bulletin of the American College of Surgeons* for January and February, there is an article entitled 'For the Triumph of Evil,' written by Dr. Edward H. Daseler, of Victorville and Apple Valley, California. This article was picked up by one of the feature writers for a metropolitan daily and given widespread publicity. I should like to read some of this material:

> Ghost surgery and the splitting of fees have been discussed strenuously and at length by the American College of Surgeons in the past three years. However, fee-splitting and ghost surgery, it seems to me, are but a minor part of, and perhaps only a contributing factor to, the main problem faced by most honest and ethical surgeons.
>
> This problem is the general acceptance and tolerance of, and even total inattention to, by the majority of the medical profession, the unnecessary, unethical, and oftentimes criminal surgery practiced by an affluent, politically powerful minority.

> It is obvious to me, after practicing surgery in the Southwest for two years, that huge numbers of perfectly normal, undiseased, or inflamed organs, e.g., appendices, uteri, fallopian tubes, ovaries, and even gallbladders, are being removed for one reason only: extirpation of the customary fee from the pocketbook of the unwary patient or his relatives.

"He goes on further to say: 'I feel that this problem is not confined to a few small isolated communities but exists in the majority of hospitals in the United States today.'

"Gentlemen, here is something that can negate any public relations program. Here is something that is patently untrue, conclusions that are based on observations which are admittedly limited, and which I think requires some answer on our part. Now what the best method of answering this attack is, I am not prepared to say. It occurs to me that direct approach to the College of Surgeons might be one way, to the editor of the Bulletin of the College; through our House of Delegates to the American Medical Association, a little more cumbersome; possibly directly to the American Medical Association, but I feel that it is incumbent on us who are acquainted at least with some of the facts locally to know that this is gross exaggeration, and there are untruths that will be picked up and exploited by people who don't want to do us any good. I lay it before you for whatever consideration you think it may require."

After discussion it *was voted* to refer the matter to the Public Relations Committee with power to act.

NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Teaching Day—Problems related to diseases of women and problems of bone and joint abnormalities as encountered in the general practice of medicine were discussed at the College's Specialty Teaching Day on March 3. Dr. Kenneth M. Archibold, associate clinical professor of obstetrics, was in charge of the morning session. Speakers and their subjects were: Dr. Edward P. McDonald, associate clinical professor of gynecology, "The Value of Periodic Physical Examination, Including Vaginal Smear"; Dr. James H. Flynn, associate clinical professor of gynecology, "Cancer of the Uterus"; Dr. Lyle A. Sutton, associate clinical professor of gynecology, "Cancer of the Ovaries"; Dr. Thomas O. Gamble, professor of obstetrics, "Natural Childbirth"; Dr. Thomas F. Frawley, associate professor of medicine, "Indications for the Use of Hormones in Obstetrics and Gynecology." Dr. John G. Hayes, associate clinical professor of obstetrics, conducted the clinical pathologic conference.

The afternoon session was moderated by Dr. Crawford J. Campbell, associate professor of orthopedic surgery and head of the Sub-department of Orthopedic Surgery. Speakers included Dr. Fred E. Dexter, instructor in orthopedic surgery, "Management of Acute Trauma to the Fingers"; Dr. Paul M. Clark, instructor in orthopedic surgery, "Ankle Injuries"; Dr. Edward R. Kamen, instructor in orthopedic surgery, "The Normal and the Abnormal Foot"; Dr. Philip L. Forster, associate in orthopedic surgery, "Orthopedic Abnormalities Considered Under the New York Compensation Laws"; Dr. John W. Ghormley, associate professor of orthopedic surgery, "Bursitis and Tendinitis," and "Low Back Pain: Differential Diagnosis and Management," by Dr. Campbell.

Credit for attendance was given by the American Academy of General Practice.

Columbia University

Appointed—Dr. Ray E. Trussell, presently serving as director of the Hunterdon Medical Center, Flemington, New Jersey, has been appointed the first executive officer of the newly organized School of Public Health and Administrative Medicine and the DeLamar Professor of Administrative Medicine and Associate Dean for Public Health in the faculty of medicine.

New York University College of Medicine

Appointed—Dr. Elijah Adams, formerly a member of the section on biochemical pharmacology, Institute of Arthritis and Metabolic Diseases, National Institutes of Health in Bethesda, Maryland, has been appointed associate professor of pharmacology of the College.

Lecturer—Sir Harold P. Himsworth, M.D., director of the Medical Research Council of the British Commonwealth of Nations, spoke on "The Clinic Experience of Liver Disease" on February 11.

Alumni Day Speaker—Dr. Jonas Salk, 1939 graduate of the College, was the principal speaker at the alumni day ceremonies on February 22.

Awarded—Dr. Luther B. MacKenzie, class of 1904, was presented with the College of Medicine Alumni Association Distinguished Service Award for 1954 "for his outstanding statesmanship in the field of medicine" at the alumni day ceremonies.

Appointed—Major General George Ellis Armstrong, surgeon general of the U.S. Army, has been named vice chancellor for medical affairs at the University. The appointment as chief administrative officer of the New York University-Bellevue Medical Center becomes effective following his retirement in July after a four-year tour of duty as surgeon general.

State University of New York College of Medicine at New York City

Austin Flint Society Lecture—The first annual Austin Flint Society Lecture was held on March 8. Dr. Frederic D. Zeman, chief of medical service at the Home for Aged and Infirm Hebrews in New York City, spoke on "The Nature of Medical Error." The Austin Flint Society was formerly known as the Medical History Club.

State University Speakers Bureau—Eighteen faculty members at the College are members of the State University's recently formed Speakers Bureau which consists of 350 faculty members from the University's 27 units.

The bureau was organized to help program chairmen find speakers, and a 96-page brochure entitled "A Service to Program Chairmen" and listing all of the speakers and their topics is available upon request.

Topics covered by speakers from the medical school include "Functions of the University," "Medical Care," "Public Health," "Human Reproduction," "The Knockout in Boxing," "Sexual Difficulties and Their Therapy," "Modern Cancer Detection," "Qualifications for Admission to the Study of Medicine," and many others.

Affiliation with the Jewish Hospital of Brooklyn—A primary teaching affiliation between the College and the Jewish Hospital of Brooklyn was announced in March. The affiliation provides for the teaching of medical students on the wards and outpatient services of the Hospital's Department of Internal Medicine. Under the affiliation agreement the director of the Hospital's Medical Service will be appointed by joint action of the Hospital trustees and the trustees of the State University upon nomination by the dean of the College and will hold a full professorship of medicine on the College faculty. In addition, other members of the staff of the Hospital's Department of Medicine who assist in the instruction of students will receive academic appointments on the College faculty.

The College is presently affiliated with 13 hospitals in Brooklyn for the purpose of clinical teaching of third- and fourth-year students. The affiliations vary in extent and closeness and are made on a "service" rather than a "hospital-wide" basis. Other affiliations comparable to the one with Brooklyn Jewish are currently in operation with the Maimonides Hospital of Brooklyn in medicine, surgery, and obstetrics and gynecology and with the Jewish Chronic Disease Hospital in medicine, adult rehabilitation, and pediatric rehabilitation. In the Kings County Hospital, the college's major clinical teaching center, a separate University Division provides case material for teaching in all of the major clinical branches.

State University of New York College of Medicine at Syracuse

Appointed—Dr. George O. Pratt, manager of Syracuse Veterans Hospital, as clinical associate professor of public health and preventive medicine (hospital administration).

Dr. Augusto L. Samonte, as clinical instructor of surgery, anesthesia section.

Phi Delta Epsilon Lecture—The annual Phi Delta Epsilon lecture at the College was given by Dr. Cornelius P. Rhoads, director, Sloan-Kettering Cancer Institute, on February 15. Dr. Rhoads discussed "Current Status of Cancer Chemotherapy."

OPENINGS FOR PHYSICIANS IN NEW YORK STATE

GENERAL PRACTICE

Albany County

Altamont.—Population 3,000 in 3 miles. Hospitals 6, 9, and 10 miles distant. Opening available in industry. Contact Mr. Frank F. Warner, 134 Lincoln Avenue, Altamont (phone Altamont 2857).

Cayuga County

Cayuga.—Population 500; service area with population 2,000 plus. Two hospitals at Auburn 9 miles distant. Contact Dr. Frank A. Graceffo, Secretary, Medical Society of the County of Cayuga, 9 William Street, Auburn.

King Ferry.—Population 200. Area of 75 square miles, radius varying from 2 to 15 miles, including towns of Ledyard, Poplar Ridge, Sherwood, Goodyears Corners, Lake Ridge, Myers, Five Corners, and Little Hollow. Position as school physician available. Hospitals 20 miles distant at Auburn and Ithaca. Contact Mrs. Leona B. Stoner, R.N., King Ferry.

Chautauqua County

Cassadaga.—Population 700. Two villages within 4 miles; population 600. Additional 1,000 population in surrounding country. Radius to be covered about 5 miles; Industrial-farming community. General hospital at Dunkirk 12 miles; two at Jamestown 25 miles; tuberculosis hospital 3 miles. Position of town health officer available. Contact Mr. Raymond Haines, Mayor, Cassadaga, (phone Cassadaga 31-F2).

Mayville.—Population 6,000 in a 6- to 10-mile radius. Hospitals 6 and 20 miles distant. Hospital privileges should present no problem. Contact Mr. Claire E. Davis, Mayville (phone Mayville 3363); Mr. Frank O. Henshaw (phone 2663); Mr. George P. Rogers (phone 5322); Mr. David Paulus (phone 3562).

Chenango County

McDonough.—Population 200; population 1,000 within a radius of 10 miles. Hospital at Norwich 18 miles; Greene 13 miles; Binghamton 32 miles. Contact Mr. J. J. Duell, Town Supervisor, McDonough.

Clinton County

Altoona.—Population 2,000. Radius about 15 miles including villages of Ellenberg, Mooers Forks, Sciota, and West Chazy. Two hospitals in Plattsburg, about 20 miles. Excelsior mill and milk plant. Private residence, rent free for one year. Appointments as school health officer and medical officer for industries available. Contact Mr. Halsey J. Stark, County Clerk, Altoona.

Mooers.—Population 500; population 3,000 to 5,000 in 12-mile radius served. Hospitals in Plattsburg 25 miles. Position of school physician available, possibly town health officer. Contact Mr. M. B. Stewart, Mooers, and Dr. Aaron Davis, 9 Rugar Street, Plattsburg.

Rouses Point.—Population 1,990 within 2 miles, 3,000 within 5 miles. Dr. Harris Sklaire, only active physician in community, desires a colleague. School, industrial health, and railroad positions will become available. Contact Dr. Harris Sklaire, Rouses Point.

Delaware County

Andes.—Population 500 within 13-mile radius. School physician and health officer positions available. Hospitals 13 miles distant at Delhi and Margaretville. Contact Miss Eleanor W. Palmer, Box 105, Andes.

Essex County

Lake Placid.—Population about 3,000; summer population considerably larger. Contact Mr. John H. Servis, Administrator, Placid Memorial Hospital, Lake Placid.

Lewis County

Port Leyden.—Population 900; population 5,000 in working area. Temporary replacement desired. Lowville Hospital 18 miles. Positions available as school physician, health officer, examiner for two insurance companies, and compensation doctor for three mills. Well-equipped office and good living quarters available. Contact Dr. John P. Meyers, Port Leyden.

Madison County

Madison.—Population 2,500; area 100 square miles; five villages. Doctor expecting to come by the day. Hospitals at Hamilton 7 miles, Oneida 20 miles, Utica 25 miles, Syracuse 40 miles. Positions as school physician and town health officer available. Contact Dr. B. L. Rockwell, Oriskany Falls.

Monroe County

Scottsville.—Population about 3,000 in area.

Fifteen miles from Rochester which has good hospitals and medical college. Contact Mr. Adrian Hanna, 3 Church Street, Scottsville (member of Town Board), and Dr. Clarence Pearson, Scottsville.

Niagara County

Middleport.—Population 10,000 to 15,000 in 7- to 10-mile radius. Hospitals at Medina 4 miles; Lockport City 12 miles; Niagara Sanatorium 15 miles, and Buffalo 35 miles. Four part-time positions may become available. Living and office quarters will be available. Contact Miss Octavia S. Thaxter, Village Clerk-Treasurer, Village Hall, Middleport (phone Middleport 6-2811).

Rapids.—Population 150 families in 8-mile radius. Hospitals in Buffalo 25 miles and Lockport 7 miles. Opening as examining physician for school at $1.00 per pupil. Contact Mrs. George W. Dietz, Sr., Route 5, Lockport.

Oneida County

Clayville.—Population 719; 3,800 more population within 6-mile radius in prosperous farming territory. Three industries in Clayville with 525 employes. Hospitals and laboratory facilities in Utica 8 miles distant. Town health officer position probably available. Home and office of former doctor for sale, possibly equipment. Contact Mr. M. Donohue, Real Estate Broker, Sauquoit (phone Utica 7-7383).

Onondaga County

Liverpool.—Population 4,500 in 5-mile radius. Hospitals 3 miles. Positions of town health officer and school physician available, as well as positions in industry. Contact Mrs. Herman L. Harding, 201 2nd Street, Liverpool (phone Liverpool 69-5501).

South Onondaga.—Population 10,000. Hospitals twenty to thirty minutes distant. Positions of town health officer, $1,500; school physician, $1,100; and physician to Indian reservation may be available at $3,000. Contact Mr. Walter Wheeler, R.D. #1, Nedrow (phone Syracuse 9-2680).

Ontario County

Hall.—Population 300; population 2,000 within surrounding prosperous farming area. Midway between Penn Yan and Geneva, each about 8 miles distant. Fifty-bed hospital at Penn Yan; 80-bed hospital at Geneva. Rochester 45 miles; Syracuse 50 miles. Contact Dr. Ray E. Deuel, Jr., 508 Castle Avenue, Geneva, or Mr. Joseph Robson, Hall.

Honeoye.—Population 1,300; population 4,000 in area. Present doctor leaving to specialize. Hospital at Canandaigua. Positions of local health officer and school physician available. Contact Dr. William J. Meyer, Briggs Street, Honeoye.

Orange County

Unionville.—Population 500; additional 400 population within 8- or 10-mile radius. Hospital at Sussex, New Jersey, 8 miles; two at Middletown, New York, 13$^1/_2$ miles. Contact Mr. A. R. Blanchard, Orchard Street, Unionville, or Mrs. Julia Roche, Postmistress, Unionville.

Oswego County

Altmar.—Population 1,800. No doctor at present. Positions of school physician and town health officer may be obtained. Hospital facilities forty-five minutes drive at Syracuse, Oswego, Utica, Watertown, Fulton, and Rome. Local ambulance service. Contact Mr. Norman B. Spear, Supervisor, Town of Albion, Altmar.

Otsego County

Cherry Valley.—Population 1,400 to 1,800 in 14-mile radius. Hospital at Oneonta 35 miles. Contact Mr. Frank Peltzner, Main Street, Cherry Valley.

Morris.—Population about 600; population 3,500 in surrounding area, 10-mile radius. Possibility of obtaining appointments as school physician and as town health officer for Morris, New Lisbon, and Laurens. Garrattsville and Burlington also in area. Hospitals at New Berlin 9 miles and Oneonta 14 miles. Contact Mr. Lynn Secor, Lewis Rutherford Morris Central School, Morris.

Otego.—Population 3,000 in 6-mile radius. Fox Memorial Hospital (95 beds) at Oneonta 8 miles; Mary Imogene Bassett Hospital at Cooperstown 39 miles; a 58-bed hospital in Sidney 16 miles. Positions as local health officer and school physician available. Contact Mr. Albert L. Donner, Committeeman, Otego Rotary Club, Otego.

Rensselaer County

Petersburg.—Population 1,000 plus in 5-mile radius including town of Grafton. Hospitals 20 miles distant. Positions of town health officer and school physician available. Contact Mr. Harry Brown, Town Supervisor, Petersburg (phone Petersburg 431), or Mr. Paul Green, President, Civic Council, Petersburg (phone Petersburg 423), or Mrs. Reuben Graves, Secretary, Civic Council, Petersburg (phone Petersburg 354).

Schenectady County

Pattersonville.—Population about 1,300. Two hospitals at Schenectady and two hospitals at Amsterdam, each about 7 miles distant. Contact Mr. W. Eriksen, R.D. #1, Pattersonville (phone Tulip 7-8776).

Schuyler County

Burdett.—Population 500; 3,000 within surrounding area. Three miles from Watkins Glen. Area includes villages of Hector, Valoise, Bennesburg, and Mecklenburg. Positions of town health officer and school physician available. Hospital 4 miles distant at Montour Falls. Contact Dr. Paul F. Willwerth, Montour Falls.

St. Lawrence County

North Lawrence.—Township of Lawrence, population about 1,625 in three villages. Radius of approximately 7 miles east to west and 16 miles north to south. Hospitals at Massena 18 miles and at Malone and Potsdam 22 miles. Contact Mr. Robert E. Driscoll, Town Supervisor, Lawrence.

Sullivan County

Grahamsville.—Population 300; about 2,500 population in radius of 10 or 12 miles, including Neversink, Claryville, Sundown, and Grahamsville. Hospital at Ellenville 16 miles; two hospitals at Monticello 18 miles; two hospitals at Liberty 14 miles. Contact Mr. Robert Many, Grahamsville (phone Grahamsville 2941).

Narrowsburg.—Population 2,500 in 12 miles. Hospitals at Callicoon 15 miles and Honesdale, Pennsylvania, 15 miles. Contact Mr. Roy V. Sullivan, Narrowsburg (phone Narrowsburg 56 or 28) or Mr. Carl Behling, Narrowsburg (phone Narrowsburg 107R120).

Washington County

Hartford.—Population 1,308. Surrounding territory includes towns of Argyle and Hebron. Posts as school physician and town health officer (New York State Department of Health) will be available. Possibility of bonus from town of Hartford. Contact Mr. Howard Hanna, Town Clerk, Hartford.

Wayne County

Palmyra.—Population 3,800 in 10- to 15-mile radius. Hospitals at Newark 6 miles and Canandaigua 14 miles. Privileges available any time. Contact Mrs. J. R. Hagaman, 145 West Main Street, Palmyra (phone Palmyra 235).

EYE, EAR, NOSE, AND THROAT

Steuben County

Hornell.—Population 16,000; population of 40,000 in area. Three men in above-mentioned specialty. Office space of recently deceased physician available. Centrally located, dual office building occupied by urologist. Living quarters available. Industry primary source of income. Protestant, Catholic, and Jewish churches. Service and social clubs of all types in community. Contact Dr. Kenneth T. Rowe, 33 Center Street, Hornell.

Don't Forget . . . .

Make your hotel reservations for the annual convention, May 9 to 13, 1955, Hotel Statler, Buffalo.

NECROLOGY

Louis Herbert Baretz, M.D., of Brooklyn, died on March 2 at his home at the age of fifty-nine. Dr. Baretz received his medical degree from Yale Medical School in 1920 and interned at the Jewish Hospital of Brooklyn. He was attending urologist at the Jewish Hospital and had served as assistant professor of urology at the Long Island College Hospital. A Diplomate of the American Board of Urology, a Diplomate of the International College of Surgeons, a Fellow of the American College of Surgeons, and a Fellow of the International College of Surgeons, Dr. Baretz was a member of the American Urological Association, the New York Academy of Medicine, the New York Society of the American Urological Association, the Brooklyn Urological Society, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

David Stoddard Dooman, M.D., of Los Gatos, California, formerly of Garden City, died on December 30, 1954, at his home at the age of sixty. Dr. Dooman was graduated from Columbia University College of Physicians and Surgeons in 1918. During World War I he served as a medical officer attached to the balloon corps and during World War II as a major attached to Military Intelligence. Dr. Dooman had practiced for thirty years in Garden City before his retirement five years ago.

Charles H. Erway, M.D., of Elmira, died on February 5 at the Arnot-Odgen Hospital at the age of sixty-four. Dr. Erway was graduated from Syracuse University College of Medicine in 1905 and during World War I served in the U.S. Army Medical Corps. He had been village health officer for thirty years and medical director at the Eclipse Machine Division plant for eleven years. Dr. Erway was an emeritus staff member of the Arnot-Ogden Hospital and a member of the Chemung County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Edward Vincent Farrell, M.D., of Whitehall, died on February 20 at his home at the age of seventy. Dr. Farrell received his medical degree from the University of Vermont in 1910 and during World War I served in the U.S. Army Medical Corps in France. He had practiced in Castleton, Vermont, until opening his practice in Whitehall in 1933. Since 1942 Dr. Farrell had served as attending surgeon for the Delaware and Hudson Railroad and since 1952 as health officer and school physician in Whitehall. A member and past president of the Washington County Medical Society, he belonged also to the Medical Society of the State of New York and the American Medical Association.

William Fernhoff, M.D., of Woodridge, died on January 31 in the Cornwall Hospital at the age of fifty-eight, following fatal injuries received in an automobile collision ten days previously. Dr. Fernhoff, a native of Austria, received his medical degree from the University of Vienna in 1923 and interned at the Montefiore Hospital. He had practiced in Woodridge for thirty years and was attending physician at the Monticello Hospital and associate attending physician at Maimonides Hospital in Liberty. Dr. Fernhoff was a member of the American Public Health Association, the American Academy of General Practice, the New York Academy of Medicine, the Sullivan County Medical Society, of which he was a past president, the Medical Society of the State of New York, and the American Medical Association.

Alexander Grossman, M.D., of Brooklyn, died in February, 1954, at the age of fifty-six. Dr. Grossman was graduated from New York University and Bellevue Hospital Medical School in 1922. He was a member of the Kings County Medical Society and the Medical Society of the State of New York.

Edward Franklin Horr, M.D., of Barneveld, died on February 21 at the age of eighty-six. Dr. Horr was graduated from Columbia University College of Physicians and Surgeons in 1894. He served in Cuba during the Spanish-American War and during the Philippine Insurrection was in charge of a base hospital on Mindanao. Dr. Horr also acted for three years as surgeon of the South American expedition of the Peabody Museum of Harvard University. He had practiced in Barneveld for almost forty years, for more than twenty years serving as health officer of the Town of Deerfield and the Village of Barneveld. Dr. Horr was associate attending physician at St. Luke's Memorial Hospital in Utica and a member of the Utica Academy of Medicine, the Oneida County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Hilda Herrick Noyes, M.D., of Oneida, died on February 15 at her home at the age of seventy-six. Dr. Noyes was graduated from Syracuse University College of Medicine in 1901.

Harry Irving Partridge, M.D., of Buffalo, died on February 6 at his home at the age of seventy-three. Dr. Partridge was graduated from Syracuse University College of Medicine in 1905 and had practiced for thirty years in Buffalo before his retirement five years ago.

Cecil Eccleston Rogers, M.D., of Hadley, died on February 12 at his home at the age of fifty. Dr. Rogers was graduated from Syracuse University College of Medicine in 1933 and interned at the Ideal Hospital in Endicott. He was associate attending physician at Saratoga Hospital and on the staff of Corinth Hospital. Dr. Rogers was a member of the Saratoga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Will H. Schwartz, M.D., of Colton, died on February 1 at his home at the age of eighty-seven. Dr. Schwartz was graduated from Albany Medical College of Union University in 1896 and had practiced in Colton since that time. For fifteen years he served as St. Lawrence County coroner and for several years as health officer for Colton. For many years he had been on the staff of the Potsdam Hospital and had belonged to the St. Lawrence County Medical Society and the Medical Society of the State of New York.

Joseph Slavit, M.D., of Brooklyn, died on November, 1954, at the age of seventy-one. Dr. Slavit was graduated from Cornell University Medical College in 1904 and had been consulting physician at Maimonides Hospital. A Diplomate of the American Board of Internal Medicine, he was a member of the American Public Health Association, the Kings County Medical Society, and the Medical Society of the State of New York.

Edward S. Van Duyn, M.D., of Syracuse, died on February 13 in Syracuse Veterans Hospital at the age of eighty-two. Dr. Van Duyn was graduated from Syracuse University College of Medicine in 1897. During World War I he served in France as commander of Syracuse University Unit G attached to the Army base hospital at Contrexieville. Dr. Van Duyn was consulting surgeon at University Hospital, where he had been chief surgeon for many years. He was also professor emeritus of surgery at the College of Medicine. A Fellow of the American College of Surgeons, Dr. Van Duyn was a member of the Syracuse Academy of Medicine, the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Eleazar Moshe Winograd, M.D., of Brooklyn, died in June, 1954, at the age of fifty-three. Dr. Winograd received his medical degree from the University of Paris in 1935. He was clinical attending physician at the Beth-El Hospital Outpatient Department, adjunct physician at the Brooklyn Hebrew Home and Hospital for the Aged, and attending dermatologist at the East New York Dispensary. Dr. Winograd was a member of the Kings County Medical Society and the Medical Society of the State of New York.

MEDICAL NEWS

Dr. Mellen Receives Award—Dr. Dan Mellen, of Rome, president of the Medical Society of the State of New York, was the 1955 recipient of the Annual Distinguished Service Award of the Utica Academy of Medicine. The award was made "in recognition of meritorious achievement in the advancement of scientific progress or humanitarian attainment." Dr. H. D. Vickers of Little Falls was chairman of the selection committee. The award was presented by Dr. Stuart Krohn, Academy president.

Features at Annual Meeting—Outstanding scientific features of the A.M.A. annual meeting in Atlantic City June 6 through 10 will include a report on the Salk polio vaccine trials at a joint meeting of the sections on pediatrics and preventive medicine; a general discussion of resuscitation of the newborn for the sections on anesthesiology, diseases of the chest, general practice, obstetrics, and pediatrics; exhibit-symposiums on rheumatism and diabetes; fracture and fresh pathology exhibits, and a new "Queries and Minor Notes" feature in which consultants from all branches of medicine will be on hand in the convention hall to answer physicians' questions concerning specific cases. In addition, the Air Force will demonstrate its "flying infirmary" on the beach in front of the auditorium throughout the week.

Polio Vaccine Report—A special report on results of the extensive clinical trial of poliomyelitis vaccine, which will answer the question of whether or not a way has been found to prevent paralytic poliomyelitis, will be given to physicians throughout the nation in early April. This report will be received in approximately 60 cities in the United States and Canada through a closed-circuit television broadcast, made possible by the cooperation of the National Foundation for Infantile Paralysis and Eli Lilly and Company.

National Vitamin Foundation—Appropriations by the National Vitamin Foundation for grants-in-aid for research and fellowships and for educational and public health purposes have totaled more than a million dollars, it has been reported by Dr. Robert S. Goodhart, scientific director of the Foundation. The National Vitamin Foundation was incorporated in February, 1946, as a nonprofit organization to "promote and support studies of nutrition in both health and disease, toward the end that the health and welfare of mankind may be improved through better nutrition and to initiate and encourage research in any way relating to medicine and health."

"March of Medicine"—An on-the-spot television report of the effects of atomic radiation on the people of Hiroshima ten years after the A-blast, was presented on a coast-to-coast network March 29. It was the 14th in the continuing series of "March of Medicine" programs, sponsored and produced by Smith, Kline & French Laboratories, Philadelphia pharmaceutical firm, in cooperation with the American Medical Association. The show, entitled "Ten Years After Hiroshima," followed closely behind the latest headlines of atomic weapon testing in Nevada. It was the first of the "March of Medicine's" new series which will present further reports this spring from three other leading medical organizations. The second program of the series will be held at the time of the meeting of the American College of Physicians on April 26 in Philadelphia. On May 15 a third telecast will feature the annual meeting of the American Psychiatric Association in Atlantic City, and the fourth and final show of the series will emanate from the American Medical Association's gathering of 15,000 physicians, on June 7, also in Atlantic City.

Poison Control Center—A Poison Control Center to provide practicing physicians and hospitals reliable information, diagnostic facilities, and aid in treatment of persons who have been poisoned is being set up in the Department of Health in New York City, Dr. Leona Baumgartner, commissioner of the department, has announced. Particular attention will be given to the problem of accidental poisoning among children. A recent Department of Health study shows that 20 per cent of persons admitted to municipal hospitals for treatment of accidental poisoning were children under four.

American Medical Education Foundation—Contributors from New York State to the American Medical Education Foundation for the month of December were: *Albany*—Dr. B. Belser; *Bemus Point*—Dr. Luke H. Boyd; *Bronx*—Drs. M. H. Alexander, J. Alper, Joseph P. Alvich, C. G. Bottino, G. Brown, A. A. Buscemi, S. Canter, William J. Crote, Jr., J. Felsen, J. Fierstein, H. M. Finkelstein, E. P. Flood, J. T. Friedman, J. V. Gazzola, H. S. Goldsmith, I. Greene, R. B. Gross, Jay Hershkowitz, Kurt E. Hirschfeld, A. K. Leinman, Jack Levine, W. Levine, H. R. Marcus, D. A. Martoccio, L. J. McTague, Herbert B. Nelson, T. J. O'Kane, J. J. Poggi, Antonio Rottino, A. Rubin, C. J. Scala, S. B. Schecter, S. J. Schneierson, A. S. Sebo, S. P. Squitieri, Emery Szanto, and W. Turano; *Brooklyn*—Drs. Thomas D. Dublin and Joshua J. Rabinowitz; *Buffalo*—Dr. Gilbert B. Tybring, Jr.; *Dunkirk*—Dr. Joseph F. Cellino; *East Norwich*—Drs. Mary MacFadyen and Frank H. Netter; *Elmira*—Drs. William T. Boland, William H. Burke, Lionel Dichter, Morris Dreyfuss, C. E. Erway, John F. Lynch, James A. Mark, Alfred Mitchell, James Mitchell, Charles H. Ott, Stewart Peterson, Robert V. Powell, and Joseph Shortsleeve.

Also: *Fort Plain*—Dr. Milton Lipson; *Great Neck*—Drs. Mary S. Calderone and Martin L. Stein; *Green Island*—Dr. Frank O'Brien; *Hempstead*—Drs. Walter Cane and John P. Glaubitz; *Horseheads*—Dr. C. Leet; *Jamestown*—Drs. F. H. Clark and William F. Hoover; *Lake Placid*—Drs. George G. Hart and B. H. Ring; *Latham*—Dr. Thomas A. McCullough; *Long Beach*—Dr. Robert H. Alterman; *Lynbrook*—Dr. Herbert C. Mayer; *Manhasset*—Dr. John G. Connell; *Merrick*—Dr. R. C. Grant; *Middletown*—Dr. M. Benjamin; *New York City*—Drs. J. M. Cennerazzo, Mary M. Crawford, K. Frantz, Milton H. Goolde, Halford Hallock, Isaac Hartshorne, Murray Israel, Jetti Katz, Samuel F. Kelley, Emory Klein, Thomas E. Lee, R. M. Lobsenz, Walter Menaker, Emy A. Metzger, Z. R. Parker, Walter B. Rosen, David Soletsky, Gurney Taylor, Milton J. Wilson, and F. D. Zeman.

Also: *Ray Brook*—Dr. B. Zinn; *Ridgewood*—Dr. Edward A. Essex; *Rochester*—Drs. Mary J. Bird, Monroe County Medical Society, and Albert C. Snell, Jr.; *Rockville Centre*—Drs. John L. Battenfeld and Harvey Poliakoff; *Rome*—Dr. Robert L. Ullman; *Scarsdale*—Dr. R. V. Jones, Jr.; *Schroon Lake*—Dr. John Breen; *Syosset*—Dr. Vincent A. Nardiello, Jr.; *Syracuse*—Drs. D. V. Needham and T. Perl; *Westbury*—Dr. Robert S. Millen; *Westfield*—Dr. C. A. Heist; *Westport*—Dr. Onslow A. Gordon, III; *White Plains*—Dr. Charles G. Huntington, and *Willsboro*—Dr. Albert L. Hayes.

Medical Officers Examination—A competitive examination for appointment of medical officers to the Regular Corps of the United States Public Health Service will be held in various places throughout the country on June 7, 8, and 9. Appointments provide opportunities for career service in clinical medicine, research, and public health. They will be made in the ranks of assistant and senior assistant, equivalent to Navy ranks of lieutenant (j.g.) and lieutenant, respectively. Application forms may be obtained by writing to the Chief, Division of Personnel, Public Health Service, Department of Health, Education, and Welfare, Washington 25, D.C. Completed application forms must be received in the Division of Personnel no later than May 6, 1955.

Albert Einstein College of Medicine—The Albert Einstein College of Medicine of Yeshiva University in New York City announces the following professorial appointments: Department of Anatomy, Dr. Ernst Scharrer, professor and chairman, and Dr. Berta Scharrer, professor; Department of Biochemistry, Dr. Abraham White, professor and chairman; Department of Medicine, Dr. Irving London, professor and chairman; Department of Pathology, Dr. Alfred A. Angrist, professor and chairman; Department of Pediatrics, Dr. Henry L. Barnett, professor and chairman; Department of Physiology, Dr. Henry D. Lauson, professor and chairman, and Department of Preventive and Environmental Medicine, Dr. Marcus D. Kogel, dean, professor and chairman, and Dr. Henry B. Makover, professor.

Also, Department of Pharmacology, Dr. Alfred Gilman, professor and chairman; Department of Psychiatry, Dr. Milton Rosenbaum, professor and chairman, and Dr. John Frosch, professor and executive officer; Department of Radiology, Dr. Milton Elkin, professor and chairman, and Department of Surgery, Dr. Leo M. Davidoff, professor and chairman, and Dr. Charles B. Ripstein, professor and executive officer.

Hospital Construction—The Division of Hospital Facilities, FSA, reports that as of January, 1955, the status of Hill-Burton hospital construction in New York State shows that there are completed and in operation 71 projects at a total cost of $72,204,835, including Federal contribution of $20,859,101 and supplying 4,007 additional beds. Under construction are ten projects at a total cost of $40,855,475, including Federal contribution of $4,404,191 and designed to supply 886 additional beds. Approved but not yet under construction are nine projects at a total cost of $13,436,851 including $3,473,685 Federal contribution and designed to supply 887 additional beds.

A.M.A. European Tours—Accommodations are still available for the four-week air tours of Europe which are planned to precede and follow the A.M.A. annual meeting at Atlantic City, June 6 through 10. Four tours are offered which include a comprehensive itinerary of capital cities and renowned points of interest combined with medical lectures by eminent European medical authorities.

Departures from New York are scheduled for May 6, May 8, June 11, and June 13. Requests for booking or additional information should be addressed to American Medical Association, Pre- and Post-Convention Tours, 5959 South Cicero Avenue, Chicago 38, Illinois.

Philadelphia Regional Committee on Trauma—The Philadelphia Regional Committee on Trauma of the American College of Surgeons announces a three-day Fracture Course by Dr. Lorenz Bohler, Vienna, Austria, and Dr. Jorg Bohler, Linz, Austria, on April 21, 22, and 23 at the College of Physicians of Philadelphia, 19 South 22nd Street, Philadelphia 3, Pennsylvania. The course will be supplemented with discussions by outstanding American fracture surgeons.

Reservations for the course will be limited to 400. Further information and application blanks may be secured by writing to Dr. William T. Fitts, Jr., secretary-treasurer, Philadelphia Regional Committee on Trauma, 301 South 21st Street, Philadelphia 3, Pennsylvania.

Pine Crest Sanatorium Closed—State Health Commissioner Herman F. Hilleboe has announced the closing of the Pine Crest Sanatorium at Salisbury Center as the Herkimer County tuberculosis hospital. Dr. Hilleboe designated Herkimer County as part of the district served by Broadacres Sanatorium, the State tuberculosis hospital at Utica. The commissioner's action followed receipt of an official application from the Herkimer County board of supervisors, who have been reviewing all factors involved in the county's tuberculosis situation. The supervisors found that maintenance of their small county sanatorium no longer meets the needs of all patients as well as the larger State hospital would, especially since the average number of patients has continued to decline. The study also showed it would be virtually prohibitive in cost for the county to attempt to supply the personnel and equipment necessary to provide the latest types of tuberculosis treatment.

Meetings—Past

Eye, Ear, Nose and Throat Society

The 191st meeting of the Eastern New York Eye, Ear, Nose and Throat Society was held at the Troy Club, Troy, on February 3. Communications from Dr. George H. Sisson of the Central New York Eye, Ear, Nose and Throat Society, and Dr. Walter P. Anderton, State Medical Society secretary, were read.

State University of New York Research Society

The sixth meeting of the Research Society of the State University of New York College of Medicine at New York City was held on March 9 in Brooklyn.

Society of Medical Jurisprudence

The 688th regular meeting of the Society of Medical Jurisprudence was held at the New York Academy of Medicine building on March 14. A panel discussion was held on "Eye Problems from the Medico-Legal Standpoint."

Medical Society of Jefferson County

The regular monthly meeting of the Medical Society of Jefferson County was held on March 15 at the Black River Valley Club. Dr. Adrian Ostfelt, New York Hospital, spoke on "Varieties of Headache and Their Mechanisms."

New York Allergy Society

The New York Allergy Society met on March 23 at the New York Academy of Medicine in New York City. Dr. William B. Sherman, chief of the Institute of Allergy at Roosevelt Hospital, moderated a panel discussion on "Treatment of Emphysema and Pulmonary Fibrosis." Participants were Dr. George G. Ornstein, director of chest diseases at Polyclinic Hospital; Dr. Alvin L. Barach, clinical professor of medicine at Columbia University College of Physicians and Surgeons; Dr. Francis J. Lovelock, chief of the pulmonary disease section at Manhattan Veterans Administration Hospital, and Dr. Daniel S. Lukas, assistant professor of medicine at Cornell University Medical College.

Meetings—Future

Westchester Academy of General Practice

The Westchester Academy of General Practice will present for the spring of 1955 a course in "The Interpretation of the Chest X-ray." The first meeting was March 17. The course is to be given by Dr. Irving Kane, consultant in chest diseases, U.S. Naval Hospital, St. Albans, and associate in diagnostic roentgenology, Montefiore Hospital, New York City. Information may be obtained from Dr. Frederick Saunders, Education Committee, Westchester Academy of General Practice, Elmsford, New York.

Wayne County Medical Society

The postgraduate instruction arranged for the Wayne County Medical Society, sponsored by the E. J. Barber Hospital staff of Newark, will continue at the Hotel Wayne in Lyons with a lecture on "Psychiatry in General Practice" on April 1, by Dr. Harry E. Faver, assistant professor of psychiatry, University of Buffalo School of Medicine. On April 8 Dr. Clyde Randall, professor of obstetrics and gynecology, University of Buffalo School of Medicine, will speak on "Spontaneous Abortion and Obstetric Problems."

Gastrointestinal Cancer Conference

The sixth national gastrointestinal cancer conference, sponsored by the Gastrointestinal Cancer Committee of the National Advisory Cancer Council, will be held April 4 and 5 at Hosack Hall, New York Academy of Medicine. Chairman of the April 4 morning session to be held from 9 A.M. to 12 NOON will be Dr. George T. Pack, president of the New York Cancer Society. Speakers will be Dr. John R. Heller, director of the National Cancer Institute, who will make the introductory speeches; Dr. T. H. Crawford Barclay, of Regina, Saskatchewan, on "The Incidence and Behavior of Gastric Cancer"; Dr. Madge T. Macklin, of Columbus, Ohio, on "The Role of Heredity in Gastric and Intestinal Cancer"; Dr. Robert C. Horn, Jr., of Philadelphia, Pennsylvania, on "Failures in the Diagnosis of Gastric Cancer"; Dr. H. M. Pollard, Ann Arbor, Michigan, on "The Natural History of Survival in Carcinoma of the Stomach, Treated and Untreated," and Dr. Melvin I. Klayman, Chicago, Illinois, on "Gastric Malignant Lymphoma: Increasing Accuracy in Diagnosis."

Dr. Henry S. Kaplan will preside at the afternoon session to be held from 1:30 to 4:30 P.M. Dr. W. Edward Chamberlain, Philadelphia, will speak on "The Use of Image Tubes and Amateur Photographic Equipment to Reduce Exposure to Radiation at Fluoroscopy"; Dr. Theodore E. Keats, San Francisco, California, on "An Evaluation of the Sources of Error in the Roentgenologic Diagnosis of Neoplasms of the Small Intestine"; Dr. Cyrus E. Rubin, Seattle, Washington, on "The Diagnosis of Gastric Malignancy in Pernicious Anemia"; Dr. Norman Zamcheck, Boston, Massachusetts, on "Cytology in the Diagnosis and Investigation of Gastric Cancer"; Dr. Edmund N. Goodman, New York City, on "The Clinical Significance of the Electrogastrogram," and Dr. Mark A. Hayes, New Haven, Connecticut, on "The Gastric Ulcer Problem."

On Tuesday, April 5, Dr. Arthur Purdy Stout will preside at the morning session. Dr. Claude R. Hitchcock, Minneapolis, Minnesota, will speak on "The Value of Achlorhydria as a Screening Test for Gastric Cancer"; Dr. Harry L. Segal, Rochester, on "Present Status and Trend of Ion Exchange Tubeless Determinants of Gastric Acidity"; Dr. Seymour J. Gray, Boston, Massachusetts, on "The Clinical Use of the Urinary Uropepsin Excretion in Distinguishing Benign from Malignant Gastric Ulcer"; Dr. Lloyd D. MacLean, Minneapolis, Minnesota, on "Differentiation of Achylia Gastrica and Achlorhydria by means of Radioactive Vitamin B_{12}", and Dr. G. B. Jerzy Glass, New York City, on "Intestinal Absorption of Radioactive Vitamin B_{12} in Patients with Cancer of the Stomach Following Subtotal and Total Gastrectomy."

Sullivan County Medical Society

Postgraduate courses of the Medical Society of the County of Sullivan, arranged by the Council Committee on Public Health and Education of the Medical Society of the State of New York, and provided by the Medical Society of the State of New York with the cooperation of the New York State Department of Health, will be continued on Wednesday evenings. On April 13 Dr. Paul A. Bunn, associate professor of medicine at the State University of New York College of Medicine at Syracuse, will speak on "Antimicrobial Agents in Therapy of Infections" at the Monticello Hospital in Monticello.

On April 20 Dr. Milton G. Bohrod, pathologist and director of laboratories at Rochester Gen-

[Continued on page 1066]

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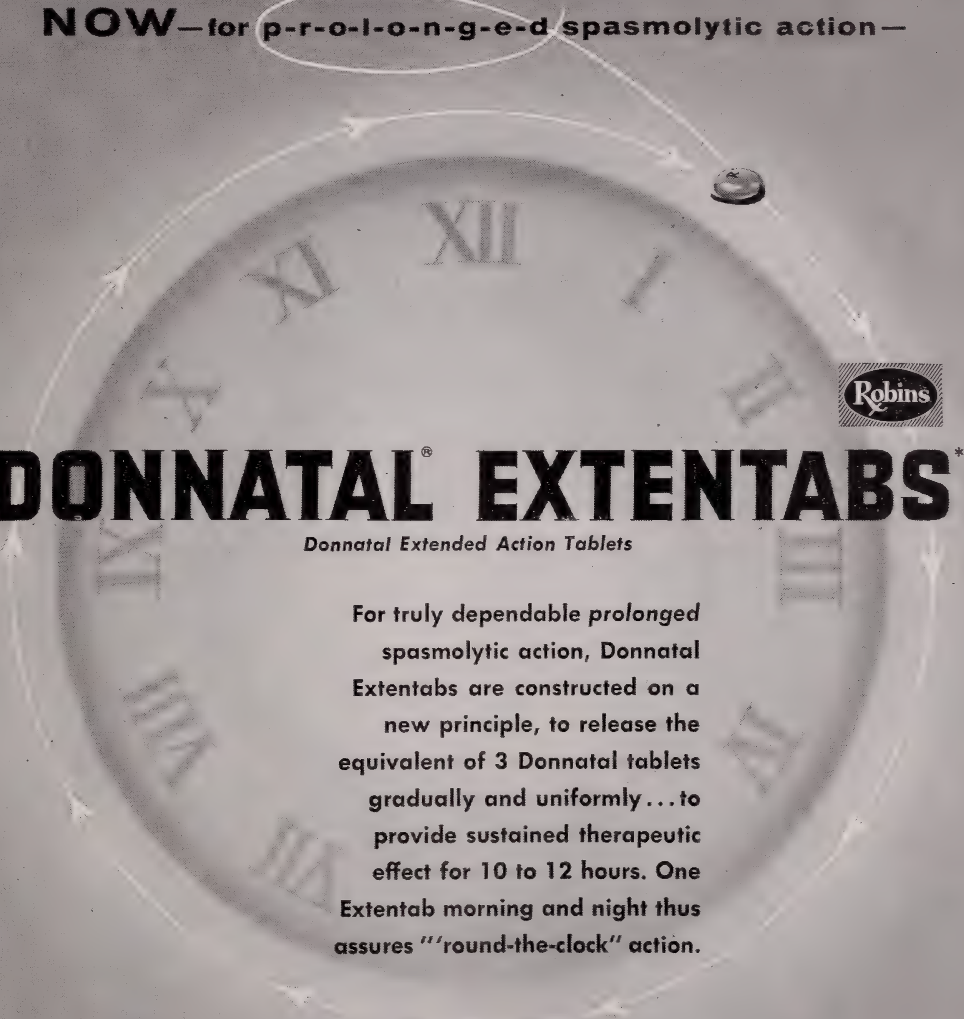

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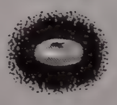

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[Continued from page 1064]

eral Hospital, will speak on "The Use of the Laboratory in Clinical Medicine" at Liberty Maimonides Hospital in Liberty. On April 27 Dr. William J. Messinger, assistant professor of clinical medicine at New York University College of Medicine, will speak on "Newer Methods in the Treatment of Coronary Disease" at Monticello Hospital in Monticello, and on May 4 Dr. Herman E. Hilleboe, commissioner of the State of New York Department of Health in Albany, will speak on "Changes in the Pattern of Public Health Administration in New York State" at the Liberty Maimonides Hospital in Liberty.

Cancer Diagnosis Course

A postgraduate course in cancer diagnosis and treatment is planned by the Columbia University Faculty of Medicine for April 18 through 30. This course is given by the faculty of the College of Physicians and Surgeons and is designed primarily for those physicians who have special interest or responsibility in the cancer field, such as directors of cancer clinics or those actually participating in the functioning of cancer clinics. The New York State Health Department will provide a limited number of fellowships for tuition for physicians licensed by and living in the State of New York for the above courses.

Application blanks can be obtained from Memorial Center for Cancer and Allied Diseases, 444 East 68th Street, New York 21, New York; from the Columbia University Faculty of Medicine, 630 West 168th Street, New York 32, New York, or from the Bureau of Cancer Control, New York State Department of Health, 39 Columbia Street, Albany, New York.

Industrial Health Conference

The 1955 Industrial Health Conference will meet at the Memorial Auditorium in Buffalo April 23 to 29. Some 2,000 members of the participating five organizations, the American Association of Industrial Dentists, American Association of Industrial Nurses, American Conference of Governmental Industrial Hygienists, the American Industrial Hygiene Association, and the Industrial Medical Association, as well as representatives of industrial management, labor, and others concerned with health in industry, are expected to attend the conference.

American College of Allergists

The eleventh annual congress and graduate instructional course in allergy of the American College of Allergists will be held at the Morrison Hotel in Chicago, Illinois, April 25 through 30. These courses will be conducted by 45 specialists mostly chosen from the medical college faculties throughout the nation. Further details and the program may be obtained by writing American College of Allergists, La Salle Medical Building, Minneapolis 2, Minnesota.

Pennsylvania Academy of General Practice

The Pennsylvania Academy of General Practice will hold its seventh annual convention in Wernersville, Pennsylvania, on May 13, 14, and 15. Among the speakers at the scientific program, which will be held on May 14, will be Dr. Harry Gold, Department of Pharmacology at Cornell University, on "Recent Developments in Testing of Therapeutic Agents," and Dr. L. Maxwell Lockie, head of the Department of Therapeutics, University of Buffalo School of Medicine on "Recent Advances in the Treatment of Arthritis."

American Trudeau Society

The American Trudeau Society, medical section of the National Tuberculosis Association, will begin May 23, in Milwaukee, Wisconsin, with three days of scientific papers, panel discussions, and special lectures on pulmonary diseases. Panel discussions have also been arranged. Reservation blanks for local events may be obtained by writing the National Tuberculosis Association, 1790 Broadway, New York 19, New York.

American College of Chest Physicians

The 21st annual meeting of the American College of Chest Physicians will be held at the Ambassador Hotel, Atlantic City, New Jersey, June 1 through 5. The scientific program will include approximately 200 speakers representing specialists in all aspects of diseases of the heart and lungs. In addition to formal presentation, the program comprises a number of symposia, round table luncheon discussions, diagnostic-treatment conference, and motion pictures. All interested physicians are cordially invited to attend the 21st annual meeting of the College; there is no registration fee. Copies of the program may be obtained by writing to the Executive Offices, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

Symposium for General Practitioners

The fourth annual symposium for general practitioners on tuberculosis and other chronic pulmonary disease will be held in Saranac Lake, New York, from July 11 to 15. It is approved for 26 hours of formal credit for members of the American Academy of General Practice. Further information and copies of the program can be obtained by writing Dr. Richard P. Bellaire, general chairman, Symposium for General Practitioners, P.O. Box 2, Saranac Lake, New York.

Personalities

Honored

Dr. Benjamin M. Bernstein, president of the medical board of the Jewish Chronic Disease Hospital in Brooklyn, with a scroll in appreciation of

[Continued on page 1068]

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[Continued from page 1066]

his services. . .Dr. Edmund P. Fowler, New York City, as guest of honor at the annual meeting of the American L. R. & O. Society in Hollywood, Florida. . .Dr. John H. Garlock, New York City, made an Honorary Fellow of the Chiba Medical Congress and the Tokyo Surgical Congress during a teaching tour of Japan. . .Dr. John Howard, transferring as clinical director from the St. Lawrence State Hospital to Utica State Hospital, at a buffet supper at the home of Dr. James Brown. . .Dr. David Lehr, Larchmont, professor and director of the Department of Pharmacology, associate professor of medicine and associate attending physician at New York Medical College, Flower and Fifth Avenue Hospitals (not New York University College of Medicine, as previously reported), cited in the "Chironian," official alumni publication for the New York Medical College, Flower and Fifth Avenue Hospitals, for his experimental work and clinical studies with sulfonamides. . .Dr. Edgar Mayer, Tarrytown and New York City, by the presentation of the Cross of the Legion of Honor for services to France for almost forty years. . .Dr. Arnold A. Schillinger, manager of the Veterans Administration Hospital at Northport, at a meeting and dinner by the Northport Medical Society.

Appointed

Dr. Norbert Bromberg as staff seminar leader, and Dr. Samuel Rosemarin as attending psychiatrist for Children's Village, Dobbs Ferry. . .Dr. James. A. Halsted, as chief of professional services at Syracuse Veterans Administration Hospital. . .Dr. Alfred Hurwitz, New England surgeon-educator, to concurrent posts in Brooklyn as full professor of surgery at the State University College of Medicine and full-time director of surgical services at Maimonides Hospital. . .Dr. Stanton K. Livingston, of Troy, as chief of professional services at Veterans Administration Hospital in Albany. . .Dr. Francis Maloney, associate attending surgeon at St. Elizabeth's Hospital and assistant attending surgeon at Misericordia and Harlem Hospitals, as medical director of the Mary Manning Walsh Home for the Aged, in New York City. . .Dr. Leonard D. Policoff, as head of the Department of Physical Medicine and Rehabilitation in Albany Hospital. . .Dr. Willard C. Rappleye, dean of the College of Physicians and Surgeons of Columbia University, as chairman of the college and university division of the 1955 April cancer crusade of the New York City Cancer Committee. . .Dr. Leslie Van Nostrand, Schenectady, as physician at the Knolls Atomic Power laboratory in Schenectady. . .Dr. Dominick A. Zurlo, as attending staff surgeon of the Glens Falls Hospital.

Elected

Dr. Florence M. Stone of the State University of New York College of Medicine at New York City, to the Rollins College, Florida, board of trustees.

Speakers

Dr. G. Gowing Broad, Syracuse, on "Diagnosis in Disease of the Anorectum," before the Tompkins County Medical Society on February 21 at the Statler Club on the Cornell University campus in Ithaca. . .Dr. William S. Langford, of the Columbia-Presbyterian Medical Center, as chairman, and Dr. Leona Baumgartner, commissioner of health; Judge Anna M. Kross, commissioner of correction; Dr. Benjamin Pasamanick of Johns Hopkins University; Dr. Fritz Dedl, of the National Institute of Mental Health, Dr. Lawrence S. Kubie, of Yale University, and Dr. Harris B. Peck, former director of the Bureau of Mental Health Service, New York Court of Domestic Relations, on the "Problem of Delinquency in Adolescence" at a symposium at the New York Academy of Medicine on March 3 prepared by sections on neurology and psychiatry and pediatrics.

Dr. Richard H. Lyons, professor of medicine at the State University of New York College of Medicine at Syracuse, on "The Evaluation of the Hypertensive Patient" before the Fulton County Medical Society on March 17 at the Hotel Johnstown in Johnstown. . . Dr. George T. Pack, New York City, before the annual spring clinic at DePaul Hospital in Norfolk, Virginia on March 30 on "Surgical Treatment of Tumors of the Liver," and on "The Definition of Adequate Surgery in the Treatment of Cancer" before the Worcester, Massachusetts District Medical Society on April 13. . .Dr. Leon Pordy, instructor in postgraduate medicine at Mount Sinai Hospital, before the Geneva Academy of Medicine on March 21 at the Belhurst in Geneva, on "Chest Pain". . . Dr. David M. Spain, director of laboratories at Beth-El Hospital in Brooklyn, on "Medical Legal Testimony" before the Dutchess County Medical Society on March 9 at the Hudson River State Hospital. . .Dr. Richard L. Schafer, senior physician at the University Hospital of the Good Shepherd in Syracuse, on "Malignancy of the Hematopoietic System," before the Cortland County Medical Society on February 28 at the Cortland County Hospital in Cortland.

Awarded

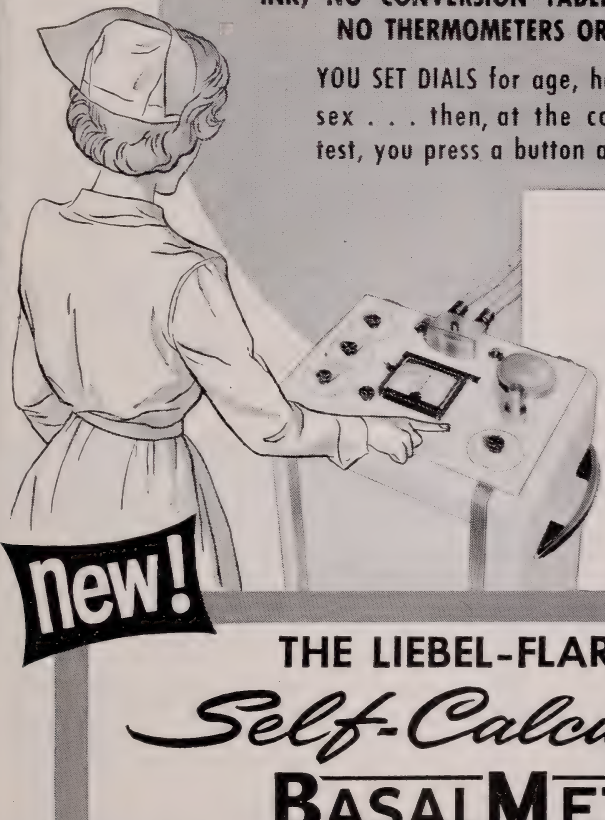
Dr. George E. Miller, director of house staff education at Buffalo General Hospital and assistant professor of medicine University of Buffalo, the Buffalo Junior Chamber of Commerce's 23rd annual Gold Key Award for outstanding community service in 1954.

New Offices

Dr. Leon C. Benardot, general practice at St. Regis Falls. . .Dr. Francis Chanatry, practice of general surgery in Utica. . .Dr. Julius Cohen, practice of dermatology in Spring Valley. . .Dr. Clifford M. Marsh, recently discharged with the rank of captain from the United States Air Force, general practice in Cornwall, taking over the practice of Dr. J. Brewster Gere. . .Dr. Gerald P. Schneider, practice of internal medicine in Elmira. . .Dr. Russel J. Van Coevering, practice of obstetrics and gynecology in Dundee on Thursdays.

Resumes Practice

Dr. Thomas H. Mason, practice of neurologic surgery in Schenectady, after two years as chief of the neurosurgical section at U.S. Army Hospital, Camp Gordon, Georgia.



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BOOKS RECEIVED

(The following books were received during the month of February, 1955)

Fractures in Children. By Walter Putnam Blount, M.D. Quarto of 279 pages, illustrated. Baltimore, Williams & Wilkins Co., 1955. Cloth, $9.50.

Antiseptics, Disinfectants, Fungicides, and Chemical and Physical Sterilization. Edited by George F. Reddish, Ph.D. Thirty Contributors. Octavo of 841 pages. 71 illustrations. Philadelphia, Lea & Febiger, 1954. Cloth, $15.

The Medical Care of the Aged and Chronically Ill. With Particular Emphasis on Degenerative Disorders, Advanced Cancer and Other As Yet Incurable Diseases. By Freddy Homburger, M.D. Octavo of 253 pages, illustrated. Boston, Little, Brown & Co., 1955. Cloth, $5.75.

Twenty Years of Nurse-Midwifery, 1933–1953. Octavo of 123 pages, illustrated. New York, Maternity Center Association, 1955.

Financing Hospital Care in the United States. Edited by Harry Becker. Vol. 2. Prepayment and the Community. Octavo of 356 pages, illustrated. New York, Blakiston Division, McGraw-Hill Book Co., 1955. Cloth, $4.50.

Financing Hospital Care in the United States. Edited by Harry Becker. Vol. 3. Financing Hospital Care for Nonwage and Low-Income Groups. Octavo of 110 pages, illustrated. New York, Blakiston Division, McGraw-Hill Book Co., 1955. Cloth, $2.50.

Seventeenth Semiannual Report of the Atomic Energy Commission, January 1955. Octavo of 138 pages, illustrated. Washington, D.C., United States Government Printing Office, [1955].

Cumulative Index to the First Fifteen Semiannual Reports to Congress, January 1947–December 1953, U.S. Atomic Energy Commission. Octavo of 118 pages. Washington, D.C., U.S. Government Printing Office, 1954. Paper, 35 cents.

The Coagulation of Blood. Methods of Study. Edited by Leandro M. Tocantins, M.D. Prepared with the help and under the sponsorship of the Panel on Blood Coagulation of the Committee on Medicine and Surgery of the National Academy of Sciences, National Research Council. Octavo of 240 pages, illustrated. New York, Grune & Stratton, 1955. Cloth, $5.75.

Public Speaking for the Professions and Clubs. By Samuel Kahn, M.D. Octavo of 244 pages, illustrated. New York, Greenberg: Publisher, 1952. Cloth, $3.00.

Make Inferiorities and Superiorities Work for You. By Samuel Kahn, M.D. Duodecimo of 184 pages. Ossining, Dynamic Psychological Society Pr., 1954.

Diabetes Mellitus in Infants and Children. Report of the Twelfth M & R Pediatric Research Conference. Octavo of 79 pages, illustrated. Columbus, M & R Laboratories, 1955.

Clinical Diagnosis. By Elmer G. Wakefield, M.D. Octavo of 1,611 pages, illustrated. New York, Appleton-Century-Crofts, 1955. Cloth, $22.50.

Health Supervision of Young Children. A Guide for Practicing Physicians and Child Health Conference Personnel. Prepared and Authorized for Publication by the Committee on Child Health of the American Public Health Association. Octavo of 179 pages, illustrated. New York, The Association, 1955. Paper, $2.00.

Bone. An Introduction to the Physiology of Skeletal Tissue. By Franklin C. McLean, M.D., and Marshall R. Urist, M.D. Octavo of 182 pages, illustrated. Chicago, University of Chicago Pr., 1955. Cloth, $6.00.

Fragments of an Analysis with Freud. By Joseph Wortis, M.D. Octavo of 208 pages, illustrated. New York, Simon & Schuster, 1954. Half-cloth, $3.00.

Adrenal Cortex. Transactions of the Fifth Conference, November 4, 5 and 6, 1953, Princeton, N. J. Edited by Elaine P. Ralli, M.D. Octavo of 187 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1954. Cloth, $3.75.

Connective Tissues. Transactions of the Fifth Conference, February 8, 9, and 10, 1954, Princeton, N.J. Edited by Charles Ragan, M.D. Octavo of 222 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1954. Cloth, $4.25.

Reactions with Drug Therapy. By Harry L. Alexander, M.D. Octavo of 301 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $7.50.

Peripheral Vascular Diseases. By Edgar V. Allen, M.D., Nelson W. Barker, M.D., and Edgar A. Hines, Jr., M.D., with associates in the Mayo Clinic and Mayo Foundation. Second edition. Octavo of 825 pages. 316 illustrations, 7 in color. Philadelphia, W. B. Saunders Company, 1955. Cloth, $13.

[Continued on page 1072]

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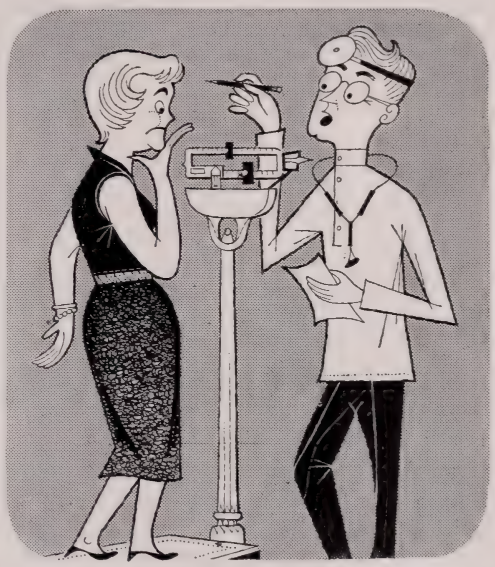

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[Continued from page 1070]

Leg Ulcers. Their Causes and Treatment. By S. T. Anning, M.D. Octavo of 178 pages. 42 illustrations. Boston, Little, Brown & Co., 1954. Cloth, $4.00.

Biochemical Investigations in Diagnosis and Treatment. By John D. N. Nabarro, M.D. Octavo of 299 pages, illustrated. Boston, Little, Brown & Co., 1955. Cloth, $6.00.

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selections will be based on merit and interest to our readers.

BOOKS REVIEWED

Social Science in Medicine. By Leo W. Simmons, Ph.D., and Harold G. Wolff, M.D. Octavo of 254 pages. New York, Russell Sage Foundation, 1954. Cloth, $3.50.

Accumulating evidence of the relationship of stress to organic disease has raised new questions regarding the several sources of stress. One source, the sociocultural environment, has long been recognized, but it has never been well defined and systematic knowledge is pitifully small. This book attempts to meet these deficiencies by providing general background material and by mapping out in a broad way common research problems of mutual interest to medicine and social science. Specifically, the book aims at the following: first, it is meant to serve as an introduction to some of the basic concepts of social science; second, an effort is made to identify those sociocultural mechanisms which are stress-inducing; third, links between the social situation, stress, and reactions to stress are suggested.

The over-all development of this point of view is vague at times and it lacks illustration at some crucial points, but this may be expected in a new field where directly relevant research findings do not yet exist.

The appendix contains an extensive and useful bibliography.—Walter L. Johnson

The Management of Abdominal Operations. Edited by Rodney Maingot, F.R.C.S. Quarto of 1,253 pages, illustrated. New York, Macmillan Co., 1953. Cloth, $24.

This book is composed of 1,253 pages with 532 illustrations in 328 figures. The author-editor is to be congratulated upon getting so much information as it relates to the management of abdominal operations in such a condensed volume. There are 47 chapters contributed by 33 physicians and surgeons and each chapter deals with a different and distinct clinical entity.

It would be quite impossible to review in detail a text of this kind with so many different subjects so thoroughly covered. The preoperative and postoperative management of the surgical patient, the subject of fluid balance, the use of chemotherapy, an excellent chapter on anesthesia and on nutrition in surgical patients, as well as one on shock and another on complications make an admirable completeness.

The basic sciences as they relate to surgery of the abdomen have been wisely curtailed. This allows more space for the practical discussion of the actual surgery of the abdominal viscera. The book is quite up to date from every standpoint and is recommended to the postgraduate student of surgery, the general surgeon, and all senior house officers.—Merrill N. Foote

Synovial Fluid Changes in Joint Disease. By Marian W. Ropes, M.D., and Walter Bauer, M.D. Octavo of 150 pages, illustrated. Cambridge, Mass., published for the Commonwealth Fund by Harvard University Pr., 1953. Cloth, $4.00.

The recent resurgence of popularity of intra-articular therapy in rheumatic disease has again focused attention on the synovial fluid.

Drs. Ropes and Bauer have collected in one brief volume their data on 1,500 examinations of joint fluid from patients with various arthritic disorders. In concise fashion they have outlined the various tests indicated and the conclusions to be drawn from them.

This pioneer work re-emphasizes the diagnostic value of synovial fluid examination. It is a book which should be owned by internists, orthopedists, pathologists, and any others who have occasion to manage joint disease.—Charles M. Plotz

Lectures on the Scientific Basis of Medicine. By the British Postgraduate Medical Federation, University of London. Volume II, 1952–53. Octavo of 380 pages, illustrated. London, England, University of London, The Athlone Press (New York, John de Graff), 1954. Cloth, $6.00.

This second series of lectures, given in the London Postgraduate Schools of Medicine under the auspices of the British Postgraduate Medical Federation, comes up to the high standard set by the first series. The topics range from Methodology of Clinical Science to the Physiology of Parturition and the Life Cycle of the Malarial Parasite. All are timely, authoritative, and interesting. Most are presented in a lively fashion.

One might single out Paton's striking description of "hexamethonium man" and his lines on properties of a drug which give information about the receptor organ. "Nicotine could be compared to one of those shapeless objects that people knit in railway trains—one has grave doubts whether it is a baby's vest or a seaman's stocking. But hexamethonium is more like a glove, enabling one to say it goes on something with five fingers." Or Garnham's concluding lines on Plasmodia—"If I have done nothing else I have made it clear that the malaria parasite is endowed with a purpose and sense of direction that many of us might envy."

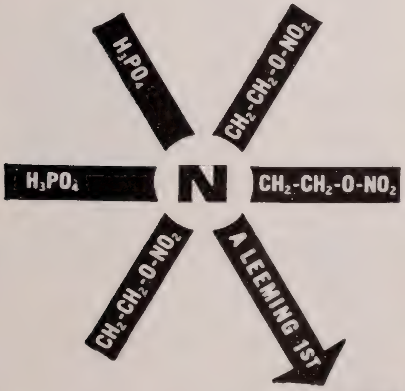
For a striking and stimulating lecture on a topic which has lulled generations of medical students into coma, we would single out Dent's exposition of the great progress made by applying that simple and exact British method—paper chromatography—to clinical medicine. For physicians interested in the frontiers of medical science or curious about life, this is a book to read and reread.—William Dock

Psychoanalysis and the Education of the Child. By Gerald H. J. Pearson, M.D. Octavo of 357 pages. New York, W. W. Norton & Co., 1954. Cloth, $5.00.

The author of this book, a child psychiatrist, brings together the findings of psychoanalysis as it relates to the theory and practice of education. As one reads through the pages there are presented the various analytic viewpoints based on the original concepts of Freud. There are chapters dealing with the disturbance of the learning process, when it is not involved in the neurotic conflict, as in the person of low intellectual endowment or illness, as well as when there is neurotic conflict. Numerous case reports are used to illustrate the author's ideas. Specific educational problems are discussed from an analytic standpoint.

[Continued on page 1074]

Angina pectoris prevention



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[Continued from page 1073]

This book is clearly only for those interested in childhood education where another and different point of view may be added to their armamentarium in treating the problems in this field. A basic knowledge of psychoanalysis is not essential as the author explains the underlying concepts quite adequately.—STANLEY S. LAMM

Legal Medicine. Pathology and Toxicology. By Thomas A. Gonzales, M.D., Morgan Vance, M.D., Milton Helpern, M.D., and Charles J. Umberger, Ph.D. Second edition. Octavo of 1,349 pages, illustrated. New York, Appleton-Century-Crofts, 1954. Cloth, $22.

This 1,349-page book can best be described by quotations from the introduction by Harrison S. Martland. "This book is one of the few authoritative works on legal medicine and toxicology in this country." Also: "This book so completely and thoroughly covers the subjects of legal medicine and toxicology that it should become the handbook and daily guide for the coroner, the coroner's physician, the county physician, the medical examiner, the toxicologist and the pathologist."

Chapter 38, "The Rights and Obligations of Physicians: Malpractice," is also of great interest to the practicing physician who has no public office. It is impossible to review the many changes and additions which have been made in this edition. It has been brought completely up to date in all its many contents.—HENRY F. GRAHAM

Physiology of the Eye. Vol. II. Vision. By Arthur Linksz, M.D. Quarto of 869 pages, illustrated. New York, Grune & Stratton, 1952. Cloth, $19.

This volume is an outgrowth of a series of lectures delivered by the author in his native Hungary before World War II. His manuscripts were lost during the war, but with the love of a true scientist for his work the subject has been reconstructed, enriched by knowledge gained in the interim, with the addition in section IV of a new chapter, which the author says could not have come into being without his association with Walter B. Lancaster. The whole is colored by the philosophy of a man who was once a student of theology. He says that the two eternal questions of all theology and of all philosophy are "What is man to do?—How is man to know?" and the present volume is "as much an attempt at an answer to the second of these questions as an essay on the physiology of vision."

The author further acknowledges his debt to the Dartmouth group, Adelbert Ames, Jr., and Walter B. Lancaster, as well as to Rudolph Luneburg of New York, and their influence is apparent in various parts of the book. There are four sections, (1) An Analysis of Sensations; (2) Pattern and Detail Vision; (3) The Perception of Spatial Relationships; and (4) Vision and the Oculo-Rotary Reflexes.

No book on this subject could make light reading, but the author has made this one a delight to read for his touch is light and the humanness of his approach illumines many a passage which in other hands might make dry reading indeed.

It is highly recommended to all who are interested in the physiology of the eye.—E. CLIFFORD PLACE

Clinical Diagnosis by Laboratory Methods. A Working Manual of Clinical Pathology. By James Campbell Todd, M.D., Arthur Hawley Sanford, M.D., and Benjamin B. Wells, M.D. Twelfth edition. Octavo of 998 pages, illustrated. Philadelphia, W. B. Saunders Co., 1953. Cloth, $8.50.

This revised edition does not differ markedly from the 11th edition except in the chapters dealing with urinalysis and with some alterations and rearrangements related to other subjects. It is unfortunate that this revision did not contain an independent chapter on the problem of electrolyte balance in view of its present-day significance in relation to laboratory and clinical medicine. Clarity of presentation, excellent illustrations, details in description of methods, and reliability of tests in all fields of clinical pathology make this book almost indispensable for hospital laboratories as well as being a ready reference book in every practicing physician's library.—CASPAR G. BURN

Clinical Orthoptics. Diagnosis and Treatment. By Mary Everist Kramer, Certified Orthoptist. Edited by Ronald Atmore Cox, M.D., Wade Hampton Miller, M.D., and Louisa Wells Kramer, Certified Orthoptist. Second edition. Octavo of 531 pages, illustrated. St. Louis, C. V. Mosby Co., 1953. Cloth, $12.50.

Like all subsequent editions this book follows the lines of thought and objectives sought in the first edition with the subject matter broadened by the knowledge obtained during the intervening time, five years in this instance.

It is a thorough and comprehensive work on orthoptics by a well-trained, experienced, and enthusiastic technician. It is written as "a guide to clinical technics and orthoptic therapeutics for the establishment of comfortable, single binocular vision without the aid of glasses when at all possible which is the ultimate aim of all orthoptic procedures."

It is well written, in rather large size print with 160 illustrations, and is complete in its discussion and application of the technics of orthoptics. The chapters on anatomy, physiology, neurology, and surgery were written by Dr. Wade Hampton Miller.

The book is interesting, informative, and valuable in itself and as a reference work for the student and ophthalmologist. Orthoptics is becoming recognized more and more as useful in the treatment of ocular muscular anomalies, and it is to be hoped that this book will further stimulate interest in these modalities.—E. CLIFFORD PLACE

The Encyclopedia of Child Care and Guidance. Edited by Sidonie Matzner Gruenberg. Managing Editor, Frances Ullmann DeArmand. Associate Editor, Pauline Rush Evans. Octavo of 1,016

[Continued on page 1076]

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[Continued from page 1074]

pages, illustrated. Garden City, New York, Doubleday & Company, 1954. Cloth, $7.50.

As the name indicates, this book offers practical information on all aspects of child care and guidance. In its first 604 pages, which comprise Part I of this *Encyclopedia,* there is a unique arrangement of various articles listed alphabetically according to topics. Frequent illustrations are used to emphasize a point. There are health charts, growth tables, lists of graded toys and books and pamphlets for parents. Included, for example, under the letter "C" are college, colorblindness, colostrum, and comics, all listed in orderly succession and adequately discussed.

Following page 604 there are listed agencies and organizations dealing with children. This is followed by a bibliography of articles for further reading.

Part II contains a series of 30 articles on the basic aspects of child development by various authors, many of whom are leaders in their field.

This reviewer was especially impressed with Part I. Any physician dealing with children would be benefited by reading this book and recommending it to parents.—Stanley S. Lamm

Bright Children. A Guide for Parents. By Norma E. Cutts, Ph.D., and Nicholas Moseley, Ph.D. Octavo of 238 pages. New York, G. P. Putnam's Sons, 1953. Cloth, $3.50.

Although primarily written as a guide for parents, this book is well worth reading for anyone interested in children and their scholastic development. Most of the material is based on the personal experiences of Drs. Cutt and Moseley and is presented both concisely and succinctly. Using a combination of survey and questionnaire method, the authors have come forward with a book full of profitable advice.

As the chapters unroll, one progresses with the child through his various scholastic experiences. The value of the kindergarten is noted, the expedient of skipping for intelligence alone is decried, and the importance of emotional and social adjustment is stressed. The all-around development, friends, recreation, and leadership are noted as part of the schooling of the bright child. The question of public versus private schools is gone into thoroughly, and vocational guidance culminates the educational career.

A bibliography of suggested readings for parents is appended.—Mark J. Wallfield

Sergei N. Winogradsky. His Life and Work. The Story of a Great Bacteriologist. By Selman A. Waksman, Ph.D. Octavo of 150 pages, illustrated. New Brunswick, Rutgers University Press, 1953. Cloth, $4.00.

Sergei Winogradsky lived a productive and eventful life and died at the age of ninety-seven years. The story of that life is told here by another great scientist who knew him personally and who loved and revered him.

It is a fascinating story. First attracted to music as a career, the young Winogradsky entered the University of St. Petersburg in 1877 to specialize in plant physiology. In three years of graduate work at the University, he studied the growth and metabolism of single-cell cultures of a yeast. In 1885 he went to Strassburg to work with Anton De Bary, the famous mycologist; after De Bary's death he removed to the University of Zurich. In the seven years at Strassburg and Zurich, Winogradsky made his monumental contributions to the science of soil bacteriology—his studies of the autotrophic bacteria, those bacteria that obtain energy by oxidizing sulfur, iron, or nitrogen compounds. He returned to St. Petersburg in 1891 and began his studies on nitrogen fixation.

Following a severe illness Winogradsky returned to his native Ukraine where for seventeen years he devoted himself to the life of a farmer. The Bolshevik rebellion caused him to flee Russia, and he finally became established at the Pasteur Institute in Paris where, for eighteen years, he continued his researches on soil microbiology.

World War II again interrupted his active research. The valiant scholar, now eighty-five years old, undertook a monumental review of his lifetime labors. This volume of 853 pages was published in 1949. A last paper on bacterial classification was written and published when he was ninety-six years old. His distinguished biographer has not only narrated the events of his life but has also described and interpreted and evaluated his great contributions to science.—Arnold H. Eggerth

Heart. A Physiologic and Clinical Study of Cardiovascular Diseases. By Aldo A. Luisada, M.D. Second edition. Quarto of 680 pages, illustrated. Baltimore, Williams & Wilkins Company, 1954. Cloth, $15.

The second edition of Luisada's *Heart* appears eight years after the first. It has been extensively and competently revised, and much new material has been added, although the text is not much longer. It is a scholarly presentation of cardiac problems by the physiologic approach and will interest, often delight, undergraduates and graduates alike.—Milton Plotz

The Physician and His Practice. Edited by Joseph Garland, M.D. Octavo of 270 pages, illustrated. Boston, Little, Brown & Company, 1954. Cloth, $5.00.

This book will be found to be a useful source of information and expert opinion concerning the physician and the many varied aspects of the practice of medicine. As expressed in the foreword, this material should prove interesting and informative to the young man just embarking on his life's work in medicine and to the older man desirous of keeping abreast of the wide ramifications which medical practice has taken over the years. Such subjects as "Medicine and the Law," "The Income Tax," "Reading and Writing," "Economic Security," the "Doctor and the Hospital," are a few examples of the ground covered in the book, with each subject by an expert in the field.—Benjamin M. Bernstein

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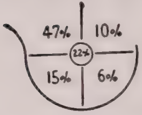
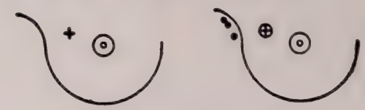


No axillary glands
70 to 80 per cent—
five-year survival

Comparative frequency



Axillary glands or fixation of
tumor 20 to 30 per cent—
five-year survival

TO IMPROVE THE RESULTS OF TREATMENT OF BREAST CANCER

Investigate

*Bloody, serous, grumous discharge from nipple with or without palpable mass.

Tiny lump.

Minimal localized thickening.

Persistent fissure, ulceration and scaling of nipple.

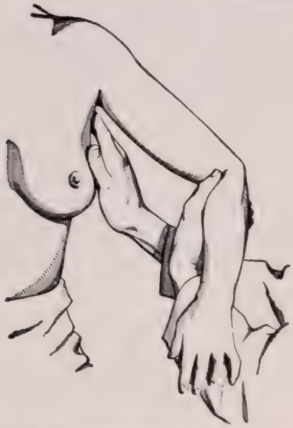
Slightest dimpling of overlying skin.

Nontender axillary gland.

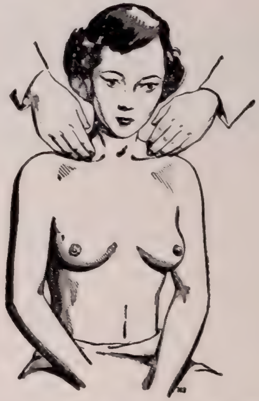
Don't WATCH and WAIT for

OBVIOUS lump.
OBVIOUS fixation or retraction of skin, areola, nipple, or chest wall.
OBVIOUS fixed axillary and supraclavicular nodes.
OBVIOUS ulceration of skin.
OBVIOUS bleeding from palpable duct tumor.
OBVIOUS tense orange peel skin.
OBVIOUS edema of arm.
OBVIOUS pain from metastasis to bone.

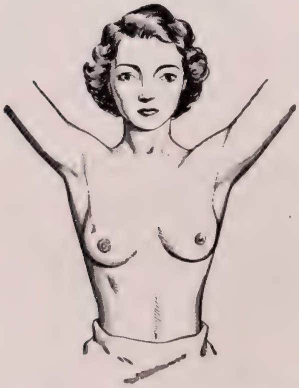
POSITION FOR EXAMINATION OF AXILLA



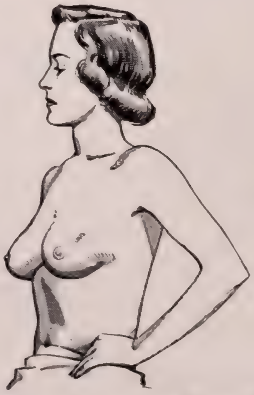
The arm is relaxed so that the examiner can palpate the axilla, apex, lateral chest wall, upper, outer, and lower quadrants of the breast.

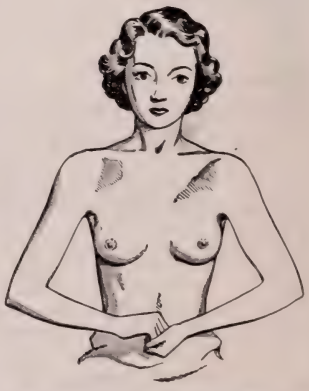


The physician should stand behind the patient to examine for supraclavicular nodes and for a breast tumor.



Raising the arms demonstrates the dimpling and fixation of the tumor to the skin.





Tensing the pectoral muscles by pressure on the hips or tightly clasping the fingers shows fixation of the tumor to the skin, pectoral fascia or muscle.

*Express a few drops of discharge from nipple on a glass slide and fix wet slide in mixture of 95 per cent alcohol and ether for cytologic examination.

(Prepared by the Subcommittee on Cancer, Medical Society of the State of New York)

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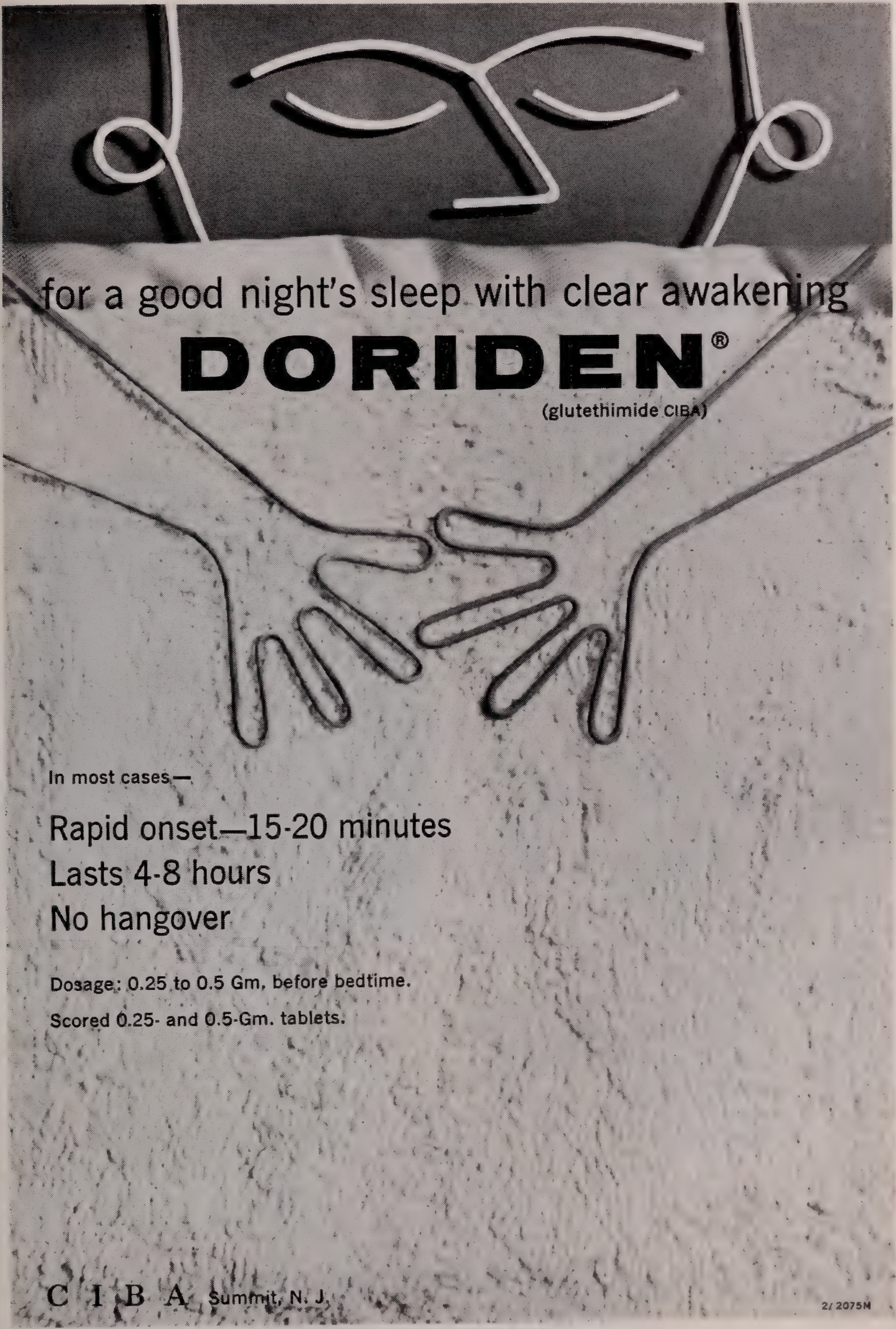

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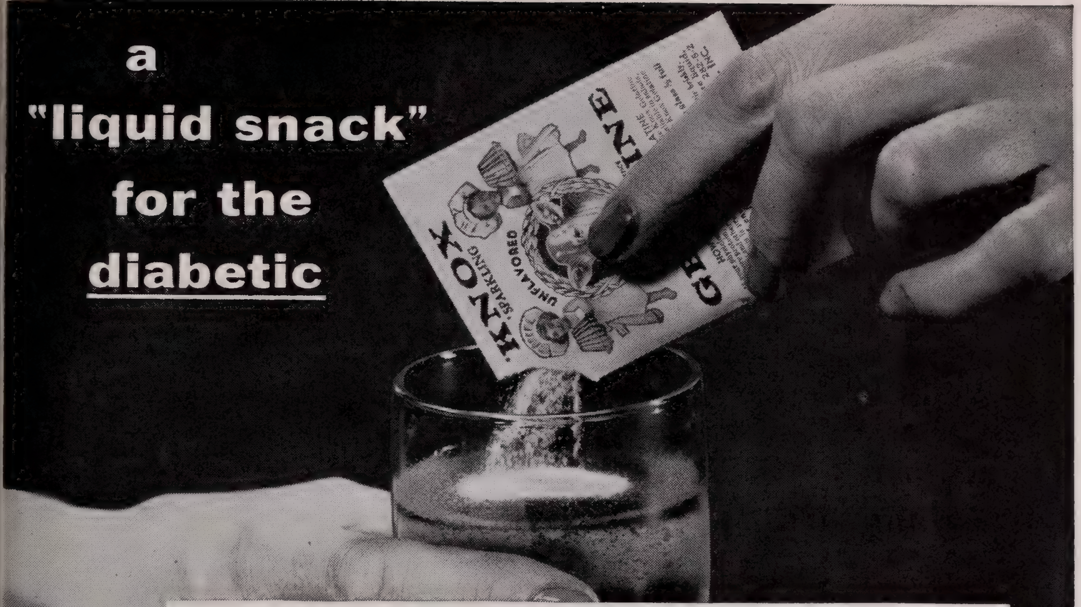
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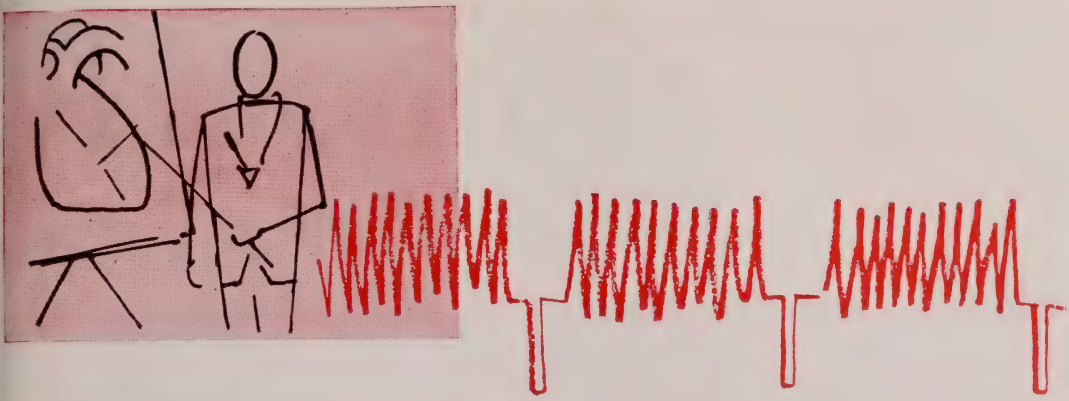

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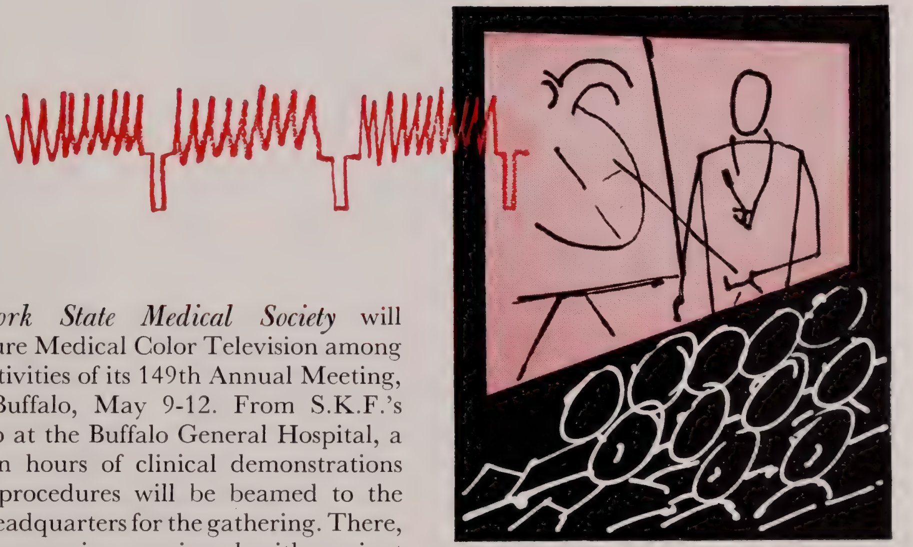

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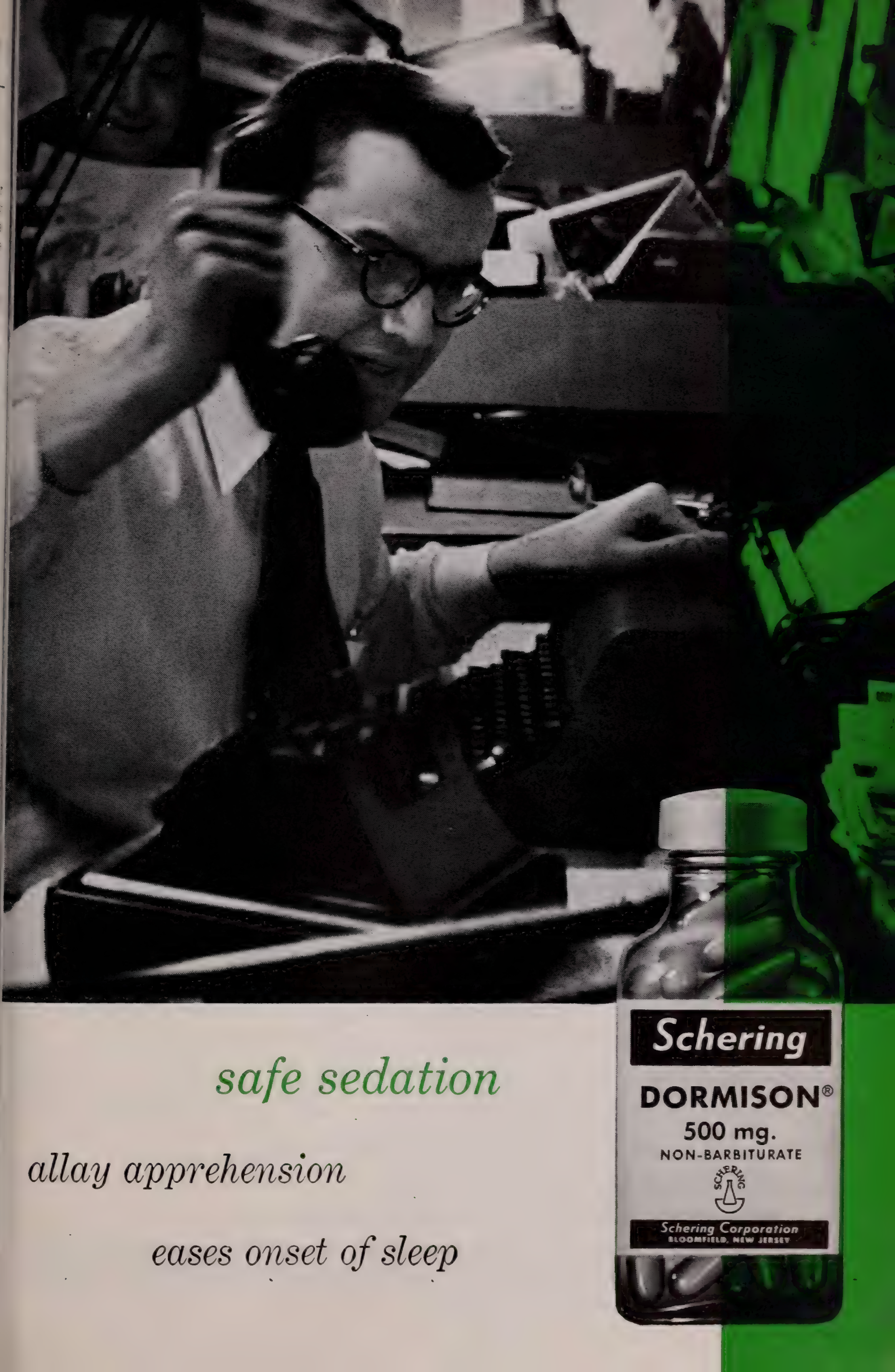
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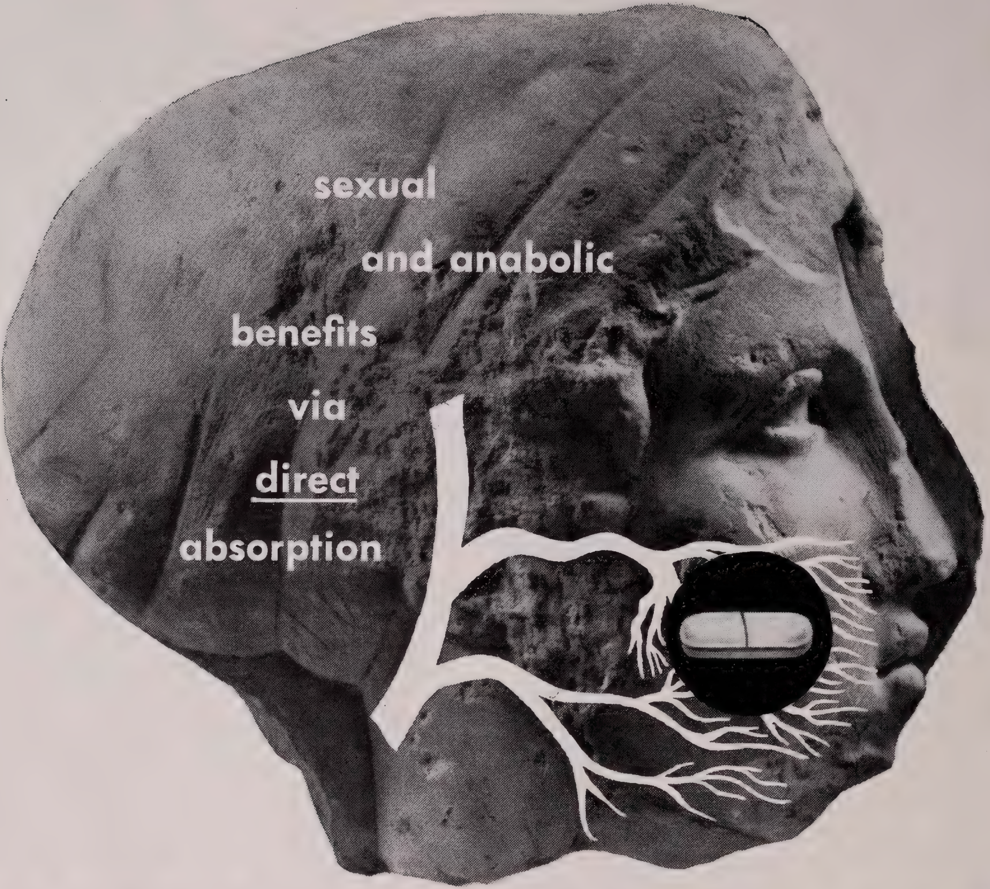

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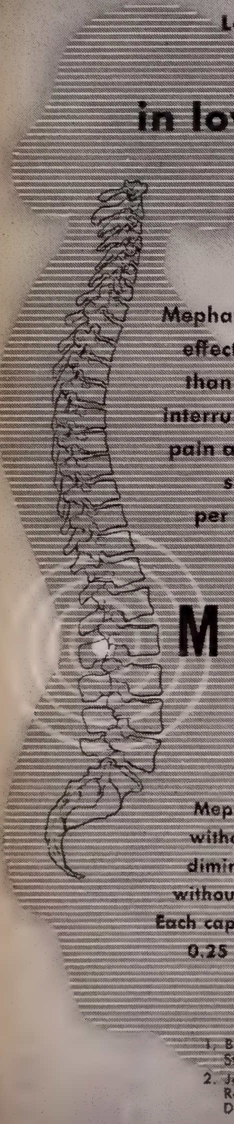

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1. Bender, T. J. Jr.: at Mtg. Med. Assoc. St. Alabama, Mobile, 1954.
2. Jessup, R., Murray, R. J. and Rossi, A.: Amer. Pract. & Dig. of Treatment, 5:792, 1954.

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[1] *Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, Prepared with Collaboration of the Committee on Therapeutic Nutrition, Food and Nutrition Board, National Research Council, Baltimore, Waverly Press, 1952.*

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With Obedrin and the 60-10-70 Basic Diet, the overweight patient receives specific, proved aids to control overeating. Loss of weight is accomplished more comfortably, while the patient develops new and better eating habits.*

OBEDRIN CONTAINS:

Methamphetamine for its anorexigenic and mood-lifting effects.

Pentobarbital as a corrective for any excitation that might occur.

Vitamins B$_1$ and B$_2$ plus niacin for diet supplementation.

Ascorbic acid to aid in the mobilization of tissue fluids.

Obedrin contains no artificial bulk, so the hazards of impaction are avoided. The 60-10-70 Basic Diet provides for a balanced food intake, with sufficient protein and roughage.

*Eisfelder, H. W.: Am. Pract. & Dig. Treat., *5*:778 (Oct. 1954).

FORMULA:

Semoxydrine HCl (Methamphetamine HCl) 5 mg.; Pentobarbital 20 mg.; Ascorbic acid 100 mg.; Thiamine HCl 0.5 mg.; Riboflavin 1 mg.; Niacin 5 mg.

Write for 60-10-70 Diet Pads, Weight Charts, and samples of Obedrin.

The S. E. MASSENGILL COMPANY
Bristol, Tennessee

Upjohn

Sex hormones—only one injection per month:

Depo-Estradiol

Trademark, Reg. U. S. Pat. Off.

CYCLOPENTYLPROPIONATE

Each cc. contains:

Estradiol, 17-Cyclopentylpropionate	1 mg. or 5 mg.
Chlorobutanol	5 mg.
Cottonseed Oil	q.s.

1 mg./cc. strength in 10 cc. vials
5 mg./cc. strength in 5 cc. vials

Depo-Testosterone

Trademark, Reg. U. S. Pat. Off.

CYCLOPENTYLPROPIONATE

Each cc. contains:

Testosterone Cyclopentylpropionate	50 mg. or 100 mg.
Chlorobutanol	5 mg.
Cottonseed Oil	q.s.

50 mg./cc. strength in 10 cc. vials
100 mg./cc. strength in 1 cc. and 10 cc. vials

Depo-Testadiol

Trademark. Reg. U. S. Pat. Off.

Each cc. contains:

Testosterone Cyclopentylpropionate	50 mg.
Estradiol, 17-Cyclopentylpropionate	2 mg.
Chlorobutanol	5 mg.
Cottonseed Oil	q.s.

10 cc. vials

The Upjohn Company, Kalamazoo, Michigan

To build giant-size appetites, prescribe...

Redisol®

CRYSTALLINE VITAMIN B_{12}

MAJOR ADVANTAGES: Helps youngsters gain weight. Stimulates hemopoiesis. Cherry-flavored *Elixir* or soluble *Tablets* readily blend with milk, juices, infant formulas.

Supplied as REDISOL *Tablets:* 25,50, 100, 250 *mcg.; Elixir: 5 mcg.* per 5 cc.; *Injectable:* 30, 100, 1000 *mcg.* per cc.

SHARP & DOHME
Philadelphia 1, Pa.
DIVISION OF
MERCK & CO., INC.

Did you know that your MEDICAL DIRECTORY OF NEW YORK STATE contains a list of pharmaceutical laboratories and supply houses throughout the country with the names of their local representatives included? If you have questions concerning new drugs and other items used in your practice you may contact firm representatives by going to this list for their names, addresses, and telephone numbers.

24 hours of relief

12
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One or two 'Perazil' 50 mg. usually provides freedom from the discomfort of allergy up to 24 hours.

'PERAZIL'® Brand

Chlorcyclizine Hydrochloride 50 mg., compressed, scored.

A new, *long-lasting,* potent ANTIHISTAMINE with exceedingly low incidence of side effects.

BURROUGHS WELLCOME & CO. (U.S.A.) INC., *Tuckahoe 7, New York*

YOUTH IS THE TIME FOR YUVRAL*

VITAMINS AND MINERALS CAPSULES LEDERLE

For the big and important age group between pediatrics and geriatrics, Lederle offers YUVRAL Capsules, a new diet supplement. A highly potent formula including 11 vitamins, 13 minerals, and Purified Intrinsic Factor Concentrate—all in a dry-filled, soft-gelatin capsule with no unpleasant aftertaste.

Among adolescents and young adults, there are many "nutritionally starved" persons: those with strong dislikes for certain foods, those who won't drink milk, young women on self-prescribed diets. Just one YUVRAL Capsule daily assures them of an adequate supply of essential vitamins and minerals.

Each capsule contains:

Vitamin A	5000 U.S.P. Units
Vitamin D	500 U.S.P. Units
Vitamin B_{12}	1 mcgm.
Thiamine Mononitrate (B_1)	3 mg.
Riboflavin (B_2)	3 mg.
Niacinamide	20 mg.
Folic Acid	0.2 mg.
Pyridoxine HCl (B_6)	0.5 mg.
Ca Pantothenate	1 mg.
Ascorbic Acid (C)	50 mg.
Vitamin E (as tocopheryl acetates)	5 I. U.
Iron (as $FeSO_4$)	15 mg.
Iodine (as KI)	0.15 mg.
Boron (as $Na_2B_4O_7.10H_2O$)	0.1 mg.
Copper (as CuO)	1 mg.
Fluorine (as CaF_2)	0.1 mg.
Purified Intrinsic Factor Concentrate	0.5 mg.
Magnesium (as MgO)	1 mg.
Manganese (as MnO_2)	1 mg.
Potassium (as K_2SO_4)	5 mg.
Zinc (as ZnO)	0.5 mg.
Calcium (as $CaHPO_4$)	69 mg.
Phosphorus (as $CaHPO_4$)	53.8 mg.
Dibasic Calcium Phosphate	236 mg.
Molybdenum (as $Na_2MoO_4.2H_2O$)	0.2 mg.

*REG. U.S. PAT OFF.

LEDERLE LABORATORIES DIVISION
AMERICAN *Cyanamid* COMPANY Pearl River, New York

Lederle

"DICATED IN ALL ANEMIA"
"EQUALS 1/3 ABOVE FORMULA"
"1/2 USP Oral Unit"
"equals 1/3 above formula"
in a MAZE about hematinics?
"Two-a-day"
"2 a day"
"Indicated in all anemias"
"15 mcg. / 300 mg."
"Indicated in pernicious anemia"
"Indicated in pernicious Anemia"
"3 A DAY"
"three a day"
our story is simple, Doctor...

is it a treatable anemia?

prescribe **ROETINIC***

ONE CAPSULE DAILY

Each ROETINIC capsule *(one daily dose)* contains:

Intrinsic Factor-Vitamin B$_{12}$ Concentrate	1 U.S.P. Oral Unit
Folic Acid	2 mg.
Ferrous Sulfate, Exsiccated	400 mg.
Ascorbic Acid	100 mg.
Molybdenum	1.5 mg.
Cobalt	0.5 mg.
Copper	0.5 mg.
Manganese	0.5 mg.
Zinc	0.5 mg.

Bottles of 30 and 100
Prescription only

Only one-a-day hematinic which conforms to exact U.S.P. requirements for Intrinsic Factor-B$_{12}$, as defined by the Anti-Anemia Preparations Advisory Board.

Only one-a-day hematinic which contains therapeutic amounts of all known hemapoietic factors, including the "four extra essentials."

*Trademark

ROERIG Rx CHICAGO 11, ILLINOIS

Pyridium®

(PHENYLAZO-DIAMINO-PYRIDINE HCl)

Gratifying relief from urogenital symptoms *in a matter of minutes*

MAJOR ADVANTAGES: Swift-acting, soothing urinary analgesic. Nontoxic local action restricted to urogenital mucosa. Compatible with sulfas and antibiotics.

FOR COMFORT
ON THE JOB . . . AND AT PLAY

EFFECTIVE—An extensive evaluation[1] of the effects of PYRIDIUM in 118 cases of pyelonephritis, cystitis, prostatitis and urethritis showed the drug relieved or abolished dysuria in 95% of the patients and reduced or eliminated nocturia in 83.7% of the cases.

WELL-TOLERATED—Specific analgesic action is confined entirely to the urogenital mucosa. PYRIDIUM may be administered concomitantly with sulfonamides or antibiotics. When so used, it provides welcome relief from painful symptoms in the interval before the antibacterials can act.

PHYSIOLOGICAL—The soothing analgesic action of PYRIDIUM helps relax irritated, tense sphincter muscles of the bladder. This relaxation minimizes the amount of residual urine.

PSYCHOLOGICAL—Prompt appearance of the characteristic orange-red color in the urine is positive assurance to the patient of PYRIDIUM's rapid access to affected areas.

SUPPLIED—in 0.1 Gm. (1½ gr.) tablets, vials of 12 and bottles of 50, 500 and 1,000.

PYRIDIUM *is the registered trade-mark of Nepera Chemical Co., Inc., for its brand of phenylazo-diamino-pyridine HCl. Sharp & Dohme, Division of Merck & Co., Inc., sole distributor in the United States.*

SHARP & DOHME
Philadelphia 1, Pa.
DIVISION OF MERCK & CO., INC.

REFERENCE: 1. Kirwin, T. J., Lowsley, O. S., and Menning, J., *Am. J. Surg.* **62**:330-335, December 1943.

BETTER TOLERATED SALICYLATE THERAPY

ACTS twice as fast AS ASPIRIN
BUFFERIN
ANTACID ANALGESIC
BUFFERIN
BUFFERIN

For Headache, Neuralgia, Minor Aches and Pains

Give BUFFERIN® because...

1. It gives fast pain relief—acts twice as fast as aspirin.[1]

2. Even large doses seldom cause gastric upsets.[2]

For Arthritis—and Other Rheumatic Disorders

Give BUFFERIN because...

1. It provides effective, better-tolerated relief of pain.

2. There were no gastric upsets with BUFFERIN in 70% of hospitalized arthritic patients who couldn't tolerate aspirin.[3] This is an important finding, for arthritics are 3 to 9 times as susceptible to gastric upsets with straight aspirin as the general population.[3]

3. The antacids in BUFFERIN do not lower the blood salicylate levels as **sodium bicarbonate does.**[4]

BUFFERIN contains acetylsalicylic acid (5 gr. per tablet), for prompt analgesia, plus magnesium carbonate and aluminum glycinate.

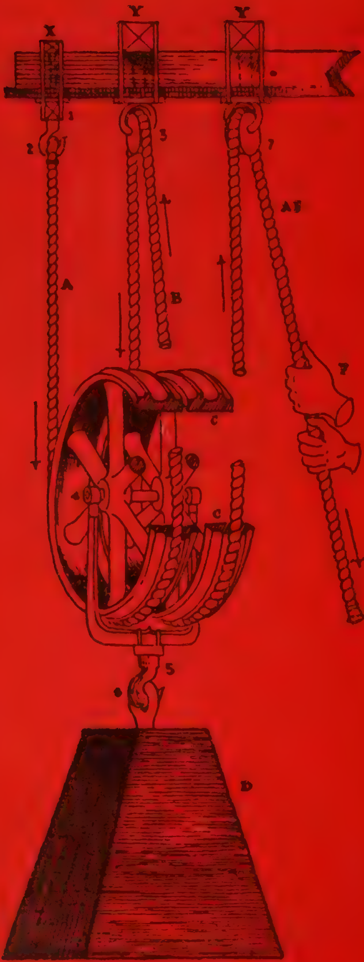
Available—bottles of 12, 36, 60 and 100 tablets.

References: 1. J. Am. Pharm. Assoc., Sc. Ed. 39:21 (Jan.) 1950. 2. Ind. Med. 20:480 (Oct.) 1951. 3. In Press. 4. J.A.M.A. 141:124 (Sept. 10) 1949.

WHENEVER SALICYLATE THERAPY IS INDICATED
GIVE BUFFERIN® Acts Twice as Fast as Aspirin
Does Not Upset the Stomach

BRISTOL-MYERS CO.,
19 W. 50 St., New York 20, N. Y.

the **new** antiarthritic with multiple advantages



Salicylates and cortisone have complementary action when combined . . .

Smaller doses of each are sufficient to produce a therapeutic response equivalent to massive cortisone therapy. With smaller doses, side effects are absent, thus permitting SALCORT therapy over a prolonged period. THERE ARE NO WITHDRAWAL PROBLEMS WITH SALCORT.

Salcort provides safe, dependable relief in arthritic affections. Early functional improvement and a sense of well being are significant in a large percentage of patients.

Each tablet contains:

Cortisone Acetate	2.5 mg.
Sodium Salicylate	0.3 Gm.
Aluminum Hydroxide Gel, dried	0.12 Gm.
Calcium Ascorbate (equivalent to 50 mg. ascorbic acid)	60 mg.
Calcium Carbonate	60 mg.

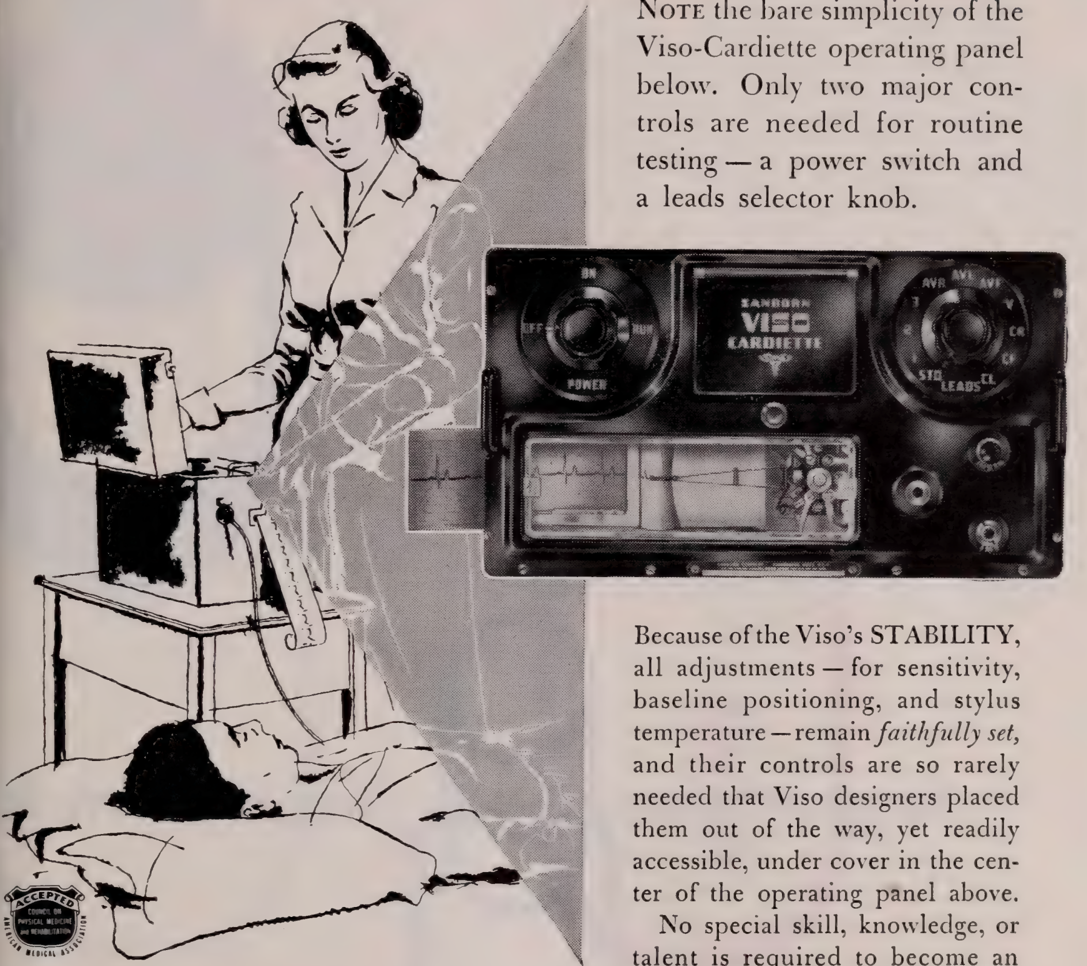
professional literature and sample available on request

THE S. E. MASSENGILL COMPANY
BRISTOL, TENNESSEE

SALCORT

IT'S AS EASY AS IT LOOKS...

NOTE the bare simplicity of the Viso-Cardiette operating panel below. Only two major controls are needed for routine testing — a power switch and a leads selector knob.



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OFF
RUN
POWER
SANBORN
VISO
CARDIETTE
AVR
AVL
AVF
V
CR
CF
STD
LEADS
CL
ACCEPTED
COUNCIL ON PHYSICAL MEDICINE and REHABILITATION
AMERICAN MEDICAL ASSOCIATION

Because of the Viso's STABILITY, all adjustments — for sensitivity, baseline positioning, and stylus temperature — remain *faithfully set,* and their controls are so rarely needed that Viso designers placed them out of the way, yet readily accessible, under cover in the center of the operating panel above.

No special skill, knowledge, or talent is required to become an expert in the use of a Viso. The Viso works *with* the operator and practically does the whole job itself of turning out accurate, permanent cardiograms.

Viso-Cardiette operators everywhere praise the speedy, precise performance of this instrument, and particularly enjoy the extreme simplicity of its operation.

For further information, or details of the Viso-Cardiette 15-day no-obligation trial plan, contact your local Sanborn Office:

NEW YORK, N. Y., 1860 Broadway
Phone: Circle 7-5794 and 7-5795

ROCHESTER, N. Y., 5 Juniper St.
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The inherent operating simplicity of Sanborn instruments is also found in the Sanborn Metabulator, a modern metabolism tester.

SANBORN COMPANY
195 Massachusetts Avenue
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Important ingredient i

Cyanamid
Fine Chemicals

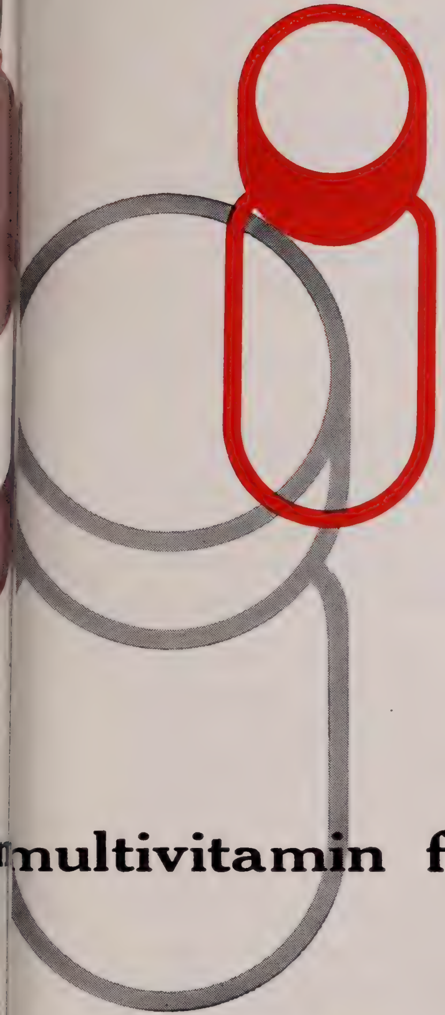
AMERICAN *Cyanamid* COMPANY, Fine Chemicals Division, 30 Rockefeller Plaza, New York 20, N. Y

Folic Acid, a member of the vitamin B complex, is now recognized as being an essential nutritional element. It is a vital factor in the formation of not only red blood cells but all body cells and, therefore, is a contributing factor to normal growth.

During infancy and pregnancy, the need for Folic Acid is intensified. Certain macrocytic anemias sometimes observed during those periods are only one of many possible signs of folic acid deficiency, all promptly responding to this vitamin. Although it is found in a number of natural foods, Folic Acid is not usually present in abundance. As with other vitamins, it may be notably absent from certain diets.

When you prescribe a vitamin preparation, particularly for an infant, a growing child, or a mother-to-be, remember the established importance of Folic Acid and specify one of the many products that contain it!

Most leading pharmaceutical manufacturers, recognizing the essential nature of Folic Acid, include it in their multivitamin preparations. This message is presented in their behalf.



multivitamin formulas!

Folic Acid

ILIDAR 'ROCHE'

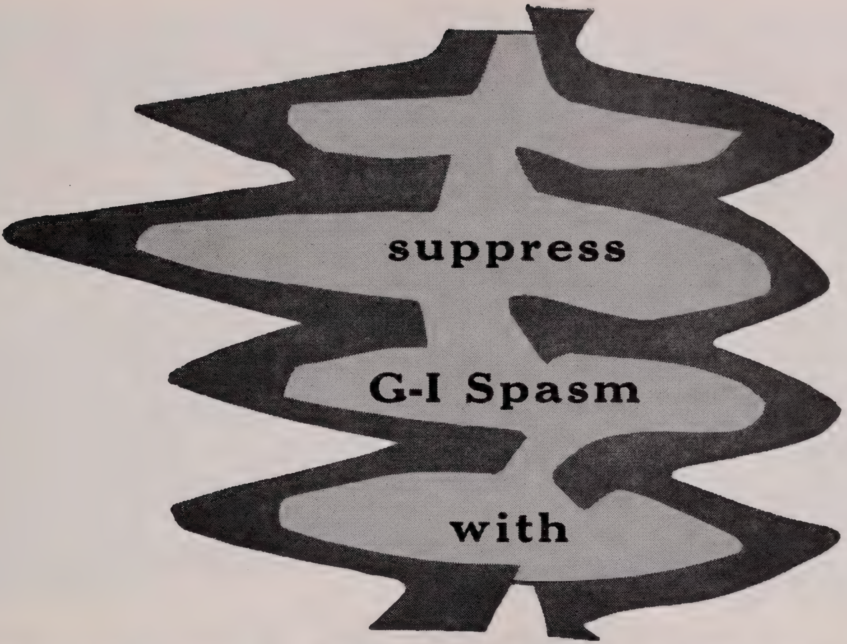
WELL-TOLERATED VASODILATOR

*for relief of aching,
numbness, coldness, and
blanching of the
extremities due to vasospasm*

PROPERTIES	Ilidar relieves vasospasm and increases peripheral circulation by (1) direct vasodilation, and (2) adrenergic blockade, i.e., sympatholysis, adrenolysis, and epinephrine reversal.
INDICATIONS	Peripheral diseases characterized by vasospasm, e.g., Raynaud's Disease, thromboangiitis obliterans, arteriosclerosis obliterans, endarteritis, postphlebitic syndrome, etc.
CONTRAINDICATIONS	There are no known absolute contraindications. Use cautiously in the presence of asthma, coronary disease, cardiac decompensation, and peptic ulcer. Transient postural hypotension may result from overdosage.
DOSAGE	One 25 mg tablet t.i.d., gradually increased as necessary (recommended maximum dosage, 300 mg daily).

HOFFMANN-LA ROCHE INC • ROCHE PARK • NUTLEY 10 • NEW JERSEY

ILIDAR® *Phosphate—brand of azapetine phosphate (6-allyl-6,7-dihydro-5H-dibenz[c,e]azepine)*



Trasentine® - Phenobarbital

- Inhibits Parasympathetic Activity
- Relaxes Smooth Muscle Directly
- Exerts Local Anesthetic Effect on G-I Mucosa
- Sedates the Patient

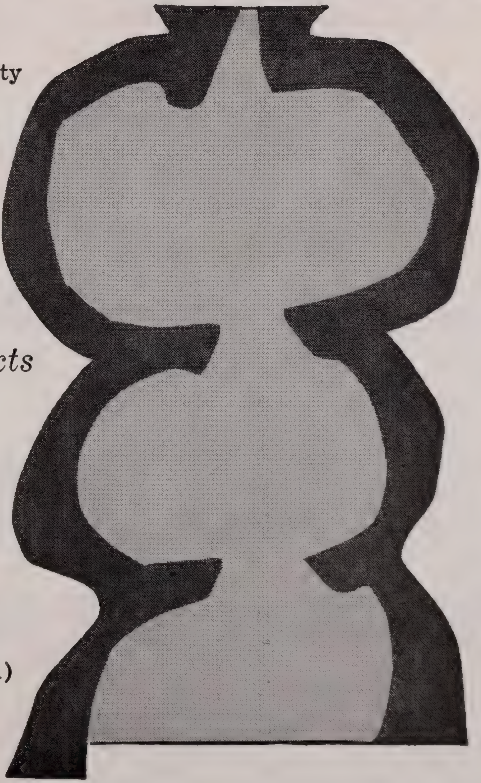
Without Atropine Side Effects

Each tablet contains 50 mg. Trasentine hydrochloride and 20 mg., phenobarbital. Also available: Trasentine hydrochloride Tablets, 75 mg.

Trasentine® hydrochloride
(adiphenine hydrochloride CIBA)

2/2061M

C I B A *Summit, N. J.*



four good things happen to your peptic ulcer patient when Kolantyl goes to work

Painful gastrointestinal spasm is relieved hyperacidity is neutralized • cellular repair is encouraged • mechanical erosion is arrested (1).

Give your next ulcer patient economical 4-way relief.

Prescribe pleasant-tasting KOLANTYL GEL.

(1) Johnston, R. L.: J. Ind. St. Med. Assn. 46:869, 1953

(2) McHardy, G. and Browne, D.: Sou. Med. J. 45:1139, 1952

Merrell
Since 1828

Kolantyl Gel

Rx INFORMATION

Action:

1. Bentyl* combines spasmolysis and parasympathetic-depressant actions without the side effects of atropine.

2. Prompt, prolonged neutralization of excess gastric acidity... magnesium oxide and aluminum hydroxide.

3. Protective, demulcent coating action over the ulcerated area ... methylcellulose.

4. Checks the mucus-destroying action of lysozyme and pepsin... sodium lauryl sulfate.

*Merrell's distinctive antispasmodic that is more effective than atropine —free from side effects of atropine.[2]

Composition: Each 10 cc. of Kolantyl Gel or each Kolantyl tablet contains:

Bentyl Hydrochloride . . 5 mg.
Aluminum Hydroxide Gel 400 mg.
Magnesium Oxide . . . . 200 mg.
Sodium Lauryl Sulfate . 25 mg.
Methylcellulose . . . . 100 mg.

Dosage: Gel—2 to 4 teaspoonfuls every three hours, or as needed. Tablets – 2 tablets (chewed for more rapid action) every three hours, or as needed.

Supplied: Gel—12 oz. bottles. Tablets—bottles of 100 and 1,000.

T. M. Kolantyl®, 'Bentyl'.

The Wm. S. Merrell Company
CINCINNATI
New York • St. Thomas, Ontario

PIONEER IN MEDICINE FOR OVER 125 YEARS

a Brighter Prognosis for your

HERPES ZOSTER PATIENTS

when you use

PROTAMIDE®

(Sherman)

because published studies* show:

"Good to excellent results" in more than 80%, with "almost immediate improvement."

Prompt recovery in more than 90% when Protamide is started in the first week of symptoms.

Why not use Protamide first?

. . . for herpes zoster, post-infection neuritis, chickenpox, and other nerve root pain such as tabes dorsalis.

A sterile colloidal solution prepared from animal gastric mucosa . . . denatured to eliminate protein reaction . . . completely safe and virtually painless by intramuscular injection.

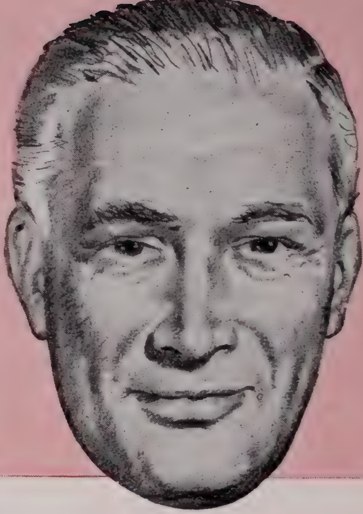
CLINICAL DATA ON REQUEST

*Combes, F. C. & Canizares, O.: New York St. J. Med. 52:706, 1952; Marsh, W. C.: U. S. Armed Forces M. J. 1:1045, 1950.

SHERMAN LABORATORIES
BIOLOGICALS • PHARMACEUTICALS
WINDSOR • DETROIT 15, MICHIGAN • LOS ANGELES

In this...

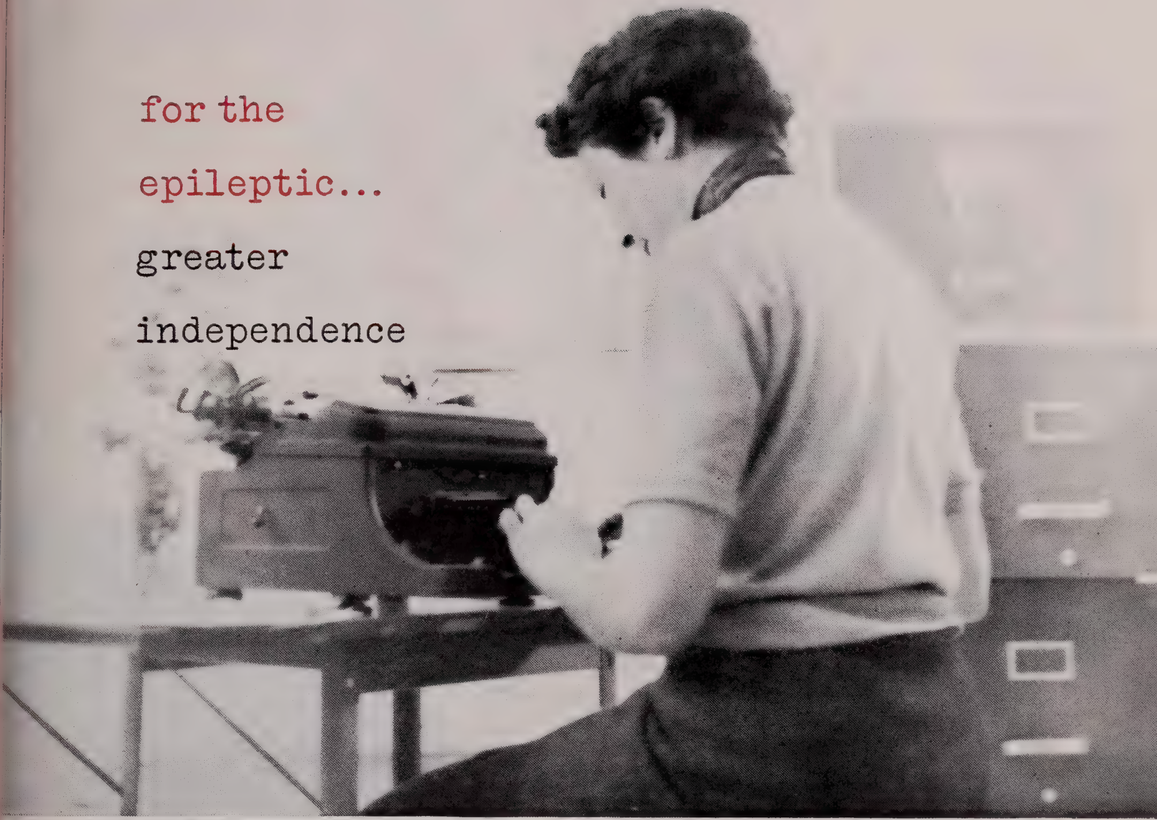
"the Commonest Disease of Civilized Man"



- In hypertension, management can now be started in the earliest stages . . . to retard progression, with the goal of prolonging useful life.
- Fully one half of all cases of mild, labile hypertension can be controlled with simple Rauwiloid therapy.
- Rauwiloid accomplishes what mere sedation cannot . . . the patient is spared the reaction to tension situations . . . without somnolence, without clouded sensorium, without change in alertness.
- The feeling of well-being engendered by Rauwiloid may become manifest as soon as 24 to 48 hours after the first dose. Its antihypertensive effect becomes apparent in two to three weeks.
- In the face of tension-producing stimuli, Rauwiloid, through its sedative and bradycrotic properties, provides tranquil equanimity.
- Its dosage schedule is uncomplicated, definite, easy to follow: Merely 2 tablets at bedtime. For maintenance, 1 tablet usually suffices. No contraindications.

Rauwiloid® First Thought IN HYPERTENSION

Riker LABORATORIES, INC., LOS ANGELES 48, CALIF.



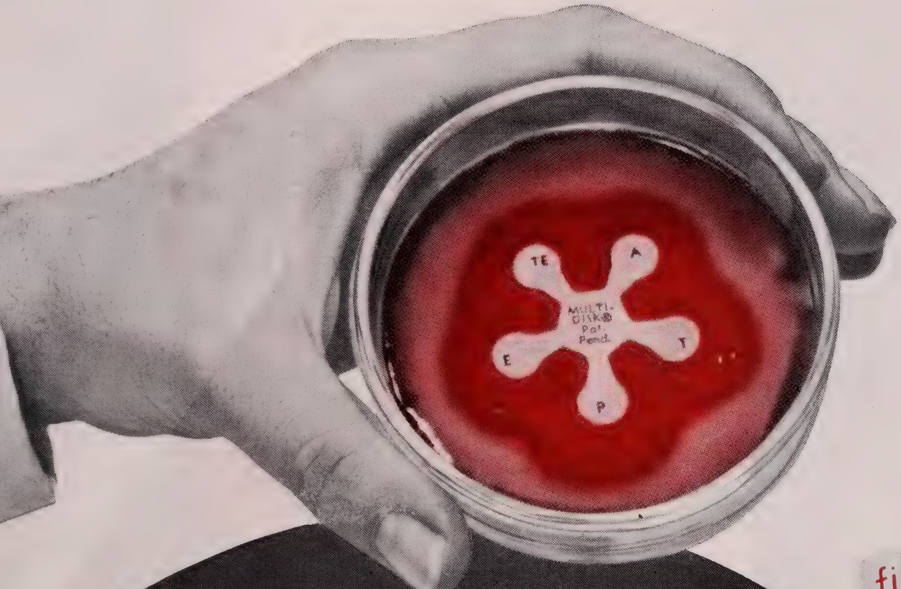
Modern diagnostic methods and effective anticonvulsants now help the patient with epilepsy enjoy greater freedom from seizures. And with a more understanding society, greater independence is assured.

DILANTIN® SODIUM (diphenylhydantoin sodium, Parke-Davis)

an established anticonvulsant of choice, alone or in combination, for control of grand mal and psychomotor seizures -- without the handicap of somnolence.

DILANTIN Sodium is supplied in a variety of forms -- including Kapseals® of 0.03 Gm. (½ gr.) and 0.1 Gm. (1½ gr.) in bottles of 100 and 1,000.

Parke, Davis & Company
DETROIT, MICHIGAN



specific therapy against the cocci…

Now, you can prescribe an antibiotic (*Filmtab* ERYTHROCIN) that is specific therapy for most bacterial respiratory infections. Specific therapy—because these infections are caused by staph-, strep- or pneumococci. *And the cocci are the very organisms most sensitive to* ERYTHROCIN. In fact, you'll find ERYTHROCIN more active against this group of organisms than many other antibiotics.

filmtab Erythrocin® STEARATE

(ERYTHROMYCIN STEARATE, ABBOTT)

Against streptococci

This is an actual sensitivity test with a strain of *Streptococcus pyogenes* on a blood agar plate. Note the high activity of ERYTHROCIN against this organism. This same streptococcus may be associated with *sinusitis . . . otitis media . . . tonsillitis . . . pneumonia . . . empyema . . . pharyngitis . . . septicemia . . . tracheobronchitis . . . streptococcal sore throat . . . scarlet fever . . . erysipelas . . . certain urinary tract infections* . . . and certain cases of *subacute bacterial endocarditis and osteomyelitis.*

Against common intestinal flora

This sensitivity test shows ERYTHROCIN and the same antibiotics against a typical intestinal strain of *E. coli.* Note that ERYTHROCIN and penicillin do not affect growth of this organism—while the other antibiotics show marked inhibitory action. Since ERYTHROCIN is inactive against gram-negative organisms, *it is less likely to cause alteration in common intestinal flora—with an accompanying low incidence of side effects.*

...with little risk of serious side effects

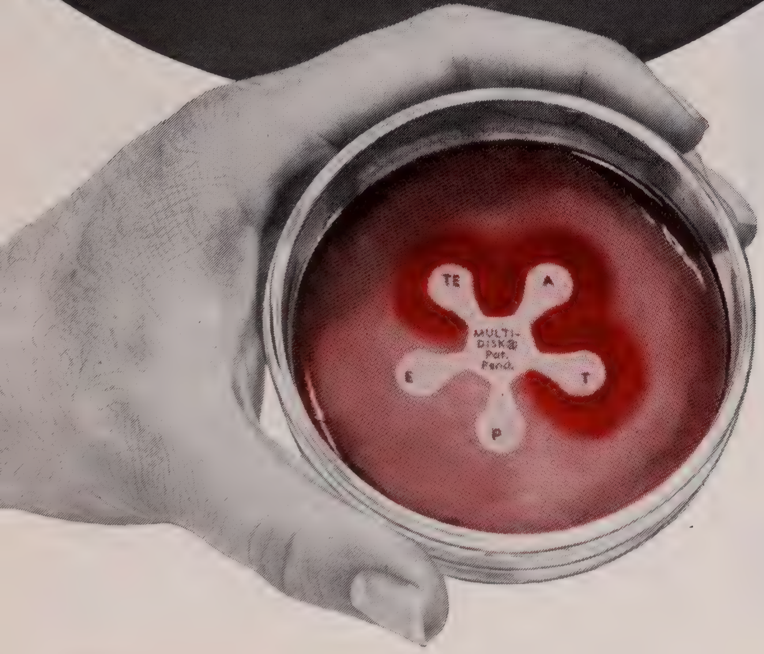
The main reason is because ERYTHROCIN acts specifically. It destroys only harmful coccic invaders—yet doesn't materially change normal intestinal flora. *Thus, your patients rarely get side effects from* ERYTHROCIN. Nor do they get the allergic reactions sometimes seen with penicillin therapy. *Filmtab* ERYTHROCIN (100 and 200 mg.) comes in bottles of 25 and 100. Won't you prescribe *Filmtab* ERYTHROCIN—soon?

Abbott

filmtab **Erythrocin®** STEARATE

(ERYTHROMYCIN STEARATE, ABBOTT)

5041



When the pain
is more than the
patient can bear
Lilly
QUALITY / RESEARCH / INTEGRITY

'Dolophine Hydrochloride'

(METHADON HYDROCHLORIDE, LILLY)

An excellent analgesic, more potent than morphine

'Dolophine Hydrochloride' offers prompt, profound analgesia in all types of pain, including obstetrical labor. Minimal sedative effect and relative absence of euphoria further enhance its usefulness in all conditions in which a dependable analgesic is indicated.

'Dolophine Hydrochloride' is notably effective for the relief of severe pain due to malignant tumors and metastases, renal colic (in which spasm of the urinary bladder is also alleviated), and postoperative pain.

As an antitussive, 'Dolophine Hydrochloride' is usually superior to codeine, because it suppresses cough for longer periods of time.

Available in 2.5, 5, 7.5, and 10-mg. tablets; single and multiple-dose ampoules; and syrup which contains 10 mg. of 'Dolophine Hydrochloride' per 30 cc. Narcotic order required.

ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA, U.S.A.

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EDITORIAL

Can the Cardiac Work?

The progress made in surgical treatment of congenital heart conditions and the prophylactic measures being applied to the control of rheumatic heart disease requires reevaluation of the employability of young persons with these conditions. The more favorable outlook for individuals surviving initial coronary attack also suggests some reappraisal of work in relation to coronary heart disease. These clinical considerations and the increasing proportion of older persons in our working population mean the physician today not only sees more cases of heart disease in his practice, but more than ever before he needs to be well informed on prognosis in heart disease to answer the question, "Can the cardiac work?"

Other factors must be considered in answering this perplexing question. Although cardiologists tell us the majority of individuals with heart disease of working age can and should work, finding work often is difficult for both the older patient needing new employment and the young cardiac looking for his first job. Most industries are willing to try to place workers already on the payroll, but employers in New York State and elsewhere are becoming increasingly reluctant to hire cardiacs of any age looking for new jobs.

One reason for this is the growing tendency, when heart disease is the cause of a worker's death or disablement, to adjudge

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FACTS ABOUT NUTRITION

Prepared by the School of Nutrition, Cornell University, Ithaca

NORMAN S. MOORE, M.D., *Editor*

Vitamin B_{12} is a comparatively new therapeutic weapon to the physician. Not unlike other scientific discoveries put in clinical use, vitamin B_{12} has been given credence for improving nutrition and health where credit is not justified by scientific evidence. Again the age-old mistake of assuming that what happens in animals will likewise happen in humans is largely responsible for misleading recommendations. Vitamin B_{12} has been shown to be an important growth factor for pigs and chicks, and its addition in concentrated form in certain diets has proved advantageous. Data obtained here cannot be assumed to hold for man. For these reasons "Facts About Nutrition" has had prepared a review of experimental data pertaining to the effect of vitamin B_{12} in human nutrition.

Vitamin B_{12} and Human Nutrition

THE importance of vitamin B_{12} in animal nutrition has been well established, but the need for this vitamin in human nutrition is less clearly defined. The efficacy of vitamin B_{12} in certain macrocytic anemias, especially pernicious anemia, is now unquestioned. That vitamin B_{12} is concerned with functions other than hematopoiesis in man is evident since it relieves the neurologic symptoms occurring in pernicious anemia and has been reported to alleviate the neuropathies which occur in certain other diseases. Recently, there have been several reports on its stimulation of growth in children.

A dietary deficiency of vitamin B_{12} might be expected to occur where diets are low in animal protein since to date the vitamin has been found in foods of animal origin only. Clinically, however, a deficiency of vitamin B_{12} is rare, a fact which may be explained by the low requirement for it and by the contribution made by intestinal microorganisms that synthesize it. A deficiency of vitamin B_{12} may affect the course of the disease kwashiorkor, a type of malnutrition of infants occurring after weaning in areas in the world where low-quality plant proteins constitute the only protein in the diet. Thus far, the supplements that have cured this disease have contained good quality protein and vitamin B_{12}, although the lack of good quality protein has been thought to be the primary dietary deficiency in this condition.

Pernicious anemia is a vitamin B_{12} deficiency state within the tissues of the patient, induced by a gastric abnormality resulting in poor absorption of the vitamin. Vitamin B_{12} does not cure the gastric atrophy present since there is neither histologic evidence for regeneration of tissue, nor a change in the inadequate secretion of gastric juice components on its administration.[1]

In other megaloblastic anemias vitamin B_{12} has a variable effect. The megaloblastic anemia of infancy responds more specifically to folic acid than to vitamin B_{12}.[2] In the megaloblastic anemia of pregnancy, folic acid consistently gives a response, whereas large doses of vitamin B_{12} may be required to produce comparable results; in some cases the condition has been aggravated by vitamin B_{12} supplementation.[3,4] Nutritional macrocytic anemia is primarily a deficiency of folic acid, there being only a secondary requirement for vitamin B_{12}.[5] The anemia accompanying sprue responds to folic acid or vitamin B_{12}.[6] The variation in responses reported in the literature is no doubt due to differences in the degree of deficiencies of folic acid and/or vitamin B_{12}.

Vitamin B_{12} alleviates the neurologic symptoms of pernicious anemia, especially if given in large enough doses before the irreversible stage is reached.[7,8] Although neuropathies associated with several other conditions, including malnutrition, alcoholism, and diabetes, have been reported to be relieved by vitamin B_{12},[9,10] the therapeutic role of vitamin B_{12} in neuropathies has certainly not been elucidated.

Since many areas of the world are not able to supply proteins of animal origin to any great extent in the human diet, the possibility of the occurrence of a vitamin B_{12} deficiency is evident, especially in the growing child. With the advent of crystalline vitamin B_{12} several studies were undertaken with children of varying racial, dietary, and health backgrounds.

Wetzel, Fargo, Smith, and Helikson,[11,12] using the Wetzel Grid technic for evaluating the data, reported that the oral administration of 10 micrograms of vitamin B_{12} per day for eight weeks to 11 children in a Fresh Air camp in Ohio was effective in promoting the growth of those children in growth failure.

Jolliffe *et al.*,[13] studying a larger population (351 Italian children), reported an average gain in weight for a seven-month period of 345 Gm. in favor of the vitamin B_{12} supplemented group. The authors concluded that oral daily doses of 20 micrograms of vitamin B_{12} gave a highly significant increase in the weight of children seven to eleven years old, whose diets were lower in calories and animal protein than the National Research Council's Recommended Daily Allowances.

A study was conducted by Larcomb *et al.*[14] on the effect of vitamin B_{12} on normal, healthy children under ten years of age in an institution where the food consumed was the same for all subjects. Considering the group as a whole, there was no effect on weight or height gains from the vitamin. However, the underweight or thin children gained statistically more weight than their controls when given 20 micrograms of vitamin B_{12} daily for eight months. There was no change in the rate of gain of height.

Wilde[15] studied the effect of vitamin B_{12} on the growth of Aleut infants using the Wetzel Grid method. With 2 micrograms of vitamin B_{12} per day for seven months, five of the seven infants (nine to fifteen months old) gained weight at a rate greater than the standard. Wilde considers the Grid so sensitive as to pick up a response to 2 micrograms of the vitamin per day, even in infants growing at about the "normal" rate.

On the other hand, Scrimshaw and Guzman,[16] working in Central America with children who are about two years behind those in the United States in height and weight, have been unable to show any clear-cut advantage of vitamin B_{12} in the diet of children eating low-quality plant proteins. Although some statistical difference was obtained, the authors are cautious to point out that many other effects may be operating to influence their results.

Chow[17] fed vitamin B_{12} to chronically ill children admitted to a Baltimore hospital with a variety of illnesses and chosen at random in respect to vitamin B_{12} administration. Over a period of three months there was some statistical advantage in favor of vitamin B_{12} supplementation. Chow states that this was only suggestive of a trend since chronically ill children may have a greater need for vitamin B_{12}.

Downing[18] was not able to show any benefit in weight gains from vitamin B_{12} injection in premature infants. As the author points out, there is no reason for a premature infant to respond to vitamin B_{12} unless there is a deficiency of the vitamin, and at present there is no evidence that such is the case. Similar negative results with premature infants have been obtained by other investigators.[19,20]

The importance of nutrition as a major factor in the growth and development of the young has been amply documented by animal experiments. The problems of conducting a well-controlled experiment with children are great, however, since environmental and genetic factors may be influential, and the time and expense involved are tremendous. It is extremely difficult to assess the role of an individual nutrient in human growth. It is probably safe to say that vitamin B_{12} is an important factor in human growth. However, in the studies reported thus far, evidence for a deficiency of vitamin B_{12} is lacking. Although most of the reports suggest that vitamin B_{12} may have a statistical effect on stimulating the growth of children in various stages of growth failure, considerably more evidence is needed before definite conclusions may be made.—LOUISE J. DANIEL, PH.D.

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Editorial

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the condition to have been occupational in origin with impartial medical testimony playing little or no part in the decision. New York's Second Injury Law, designed to encourage employers to hire handicapped workers, does not appear to be an aid to the cardiac and is seldom invoked.[1] A factor too is management's impression that anyone with heart disease is a bad risk as regards productivity and disability, no matter to what kind of work he may be assigned.

The attitude of unions, especially regarding seniority provisions in contracts, discourages some companies from employing cardiacs. Of growing importance as a deterrent to the worker with heart disease who is seeking a new job is the increase in retirement and disability plans.

These factors indicate the importance, the complexity, and the difficulty of finding a solution to the problem of employing the worker with heart disease.

For several years heart associations have been taking the initiative in bringing together representatives of industry, labor unions, government, the legal profession, and a variety of community agencies to consider the problem. One of the best illustrations of this leadership was the Heart in Industry Conference sponsored in November, 1953, by the New York Heart Association.[2] Meyer Texon's thorough study and discussion of typical case histories involving workers with heart disease is another recent major contribution toward the handling of these cases according to scientific medicine.[3]

In New York State another advance has been the establishment of work classification units under the auspices of local heart associations. These units are demonstrating in cooperation with the family physician how best to use the specialist skills involved in evaluating the cardiac status of the individual in relation to his employment.

To focus the medical profession's attention on this problem, the State Society resolved at its annual meeting last year to appoint a committee with funds and staff to study the cardiac in industry with the purpose of delineating the problems associated with the employment of persons with heart disease and to recommend a program to improve the understanding and management of these problems.

The Subcommittee on Heart Disease of the Council Committee on Public Health and Education of the State Society, in cooperation with the Workman's Compensation Committee and the Industrial Health Committee, has been making efforts to implement this resolution. An important step in this direction will be the panel discussion "Can the Cardiac Work?"on May 13 in Buffalo. This session of the Section on General Practice will be under the chairmanship of Dr. William Sawyer, and should be a session of more than average interest to every physician.—G. M. W.

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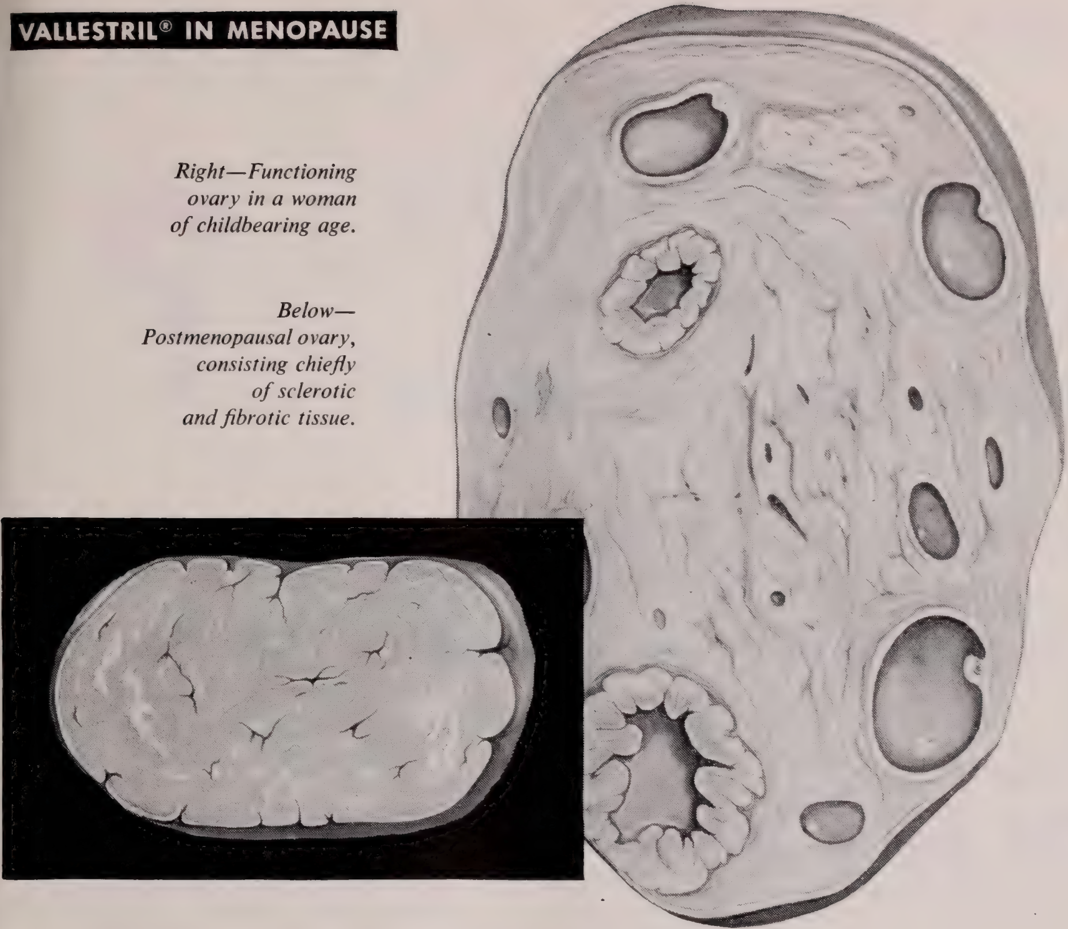

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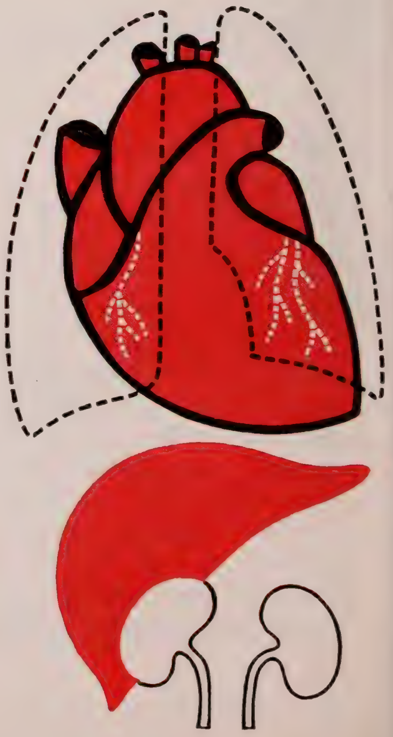

SCIENTIFIC ARTICLES

Medicine's Importance in Aviation

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LAST year aviation celebrated the golden anniversary of powered flight. In fifty years the aviation industry has expanded from the first nonstop flight of 120 feet in twelve seconds to a transcontinental nonstop flight of 2,500 miles in a little under five hours. The first flight was equal in distance to the wing spread of one of our modern airliners. In 1922 Lieutenant James H. Doolittle flew across the continent in twenty-one hours. Today our modern airliners fly the same route in approximately eight hours carrying 60 passengers. No other mode of transportation has developed to such a degree in so short a span of time.

The rapid development and growth of aviation has caused aviation medicine to grow with equal rapidity. The first paper on aviation medicine following the invention of the airplane was published in 1907, the second in 1910. The latter actually was a series of papers which were later translated from French to English and published as a book in the United States. During 1911 there were 11 papers published on various aspects of flying. In 1912 there were five, in 1913 seven, and in 1914 seven. Thus, when World War I began, eleven years after the Wright brothers' first flight, the world's literature devoted to the medical aspects of flight in airplanes consisted of 31 papers and one small book. In 1953 aviation medicine was accorded recognition as a specialized field in medicine.

Long Island is closely associated with the early history of aviation medicine. Since aviation in the United States was pioneered by the Army, aviation medicine had its beginning in the framework of that organization. In 1918 the Air Service Medical Research Laboratory was opened at Hazelhurst Field, Mineola. Dr. Conrad Berens was in charge of the Ophthalmology Department. In 1919 a school for flight surgeons was added, and with the laboratory it was moved to Mitchel Field. In 1931 the School of Aviation Medicine was moved to Randolph Field, Texas, where it has remained. During World War II the school expanded, and to the field of research other projects have been added, such as the Aero Medical Laboratory at Wright Field. Since World War II the practice of aviation medicine has developed by leaps and bounds; especially is this true in the field of research where medicine is trying to stay abreast of engineering developments.

Future of Aviation Medicine

When one attempts to predict the future, he can be assured his words will return to haunt him. However, it is believed we can make certain observations about the future which are based on present known facts.

One development may well be changes in the transporting of patients. The military, beginning with World War II, has demonstrated the reliability and effectiveness in transportation of ill and injured by air. This is true for individual as well as mass movement. During the latter part of World War II and during the Korean conflict, thousands of ill and wounded were transported safely across the Atlantic and Pacific for definitive treatment in general hospitals in the United States. These transferrals were made in large airplanes with flight surgeons, flight nurses, and medical technicians in attendance. In

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Presented at the annual joint meeting of the Medical Society of the County of Queens and the Queensboro Tuberculosis and Health Association, Forest Hills, September 21, 1954.

spite of the excellent record and large number transported in large planes, it has been the helicopter which has shown the greatest development and promise for the future, both from a military and civilian standpoint.

During the Korean conflict the helicopter came into its own. This machine was used for rescue behind the lines, rescue from bailouts over water, and transport of wounded. It was not unusual for a man to be wounded, treated in an aid station near the front, flown by helicopter to a rear echelon hospital, and operated on in a matter of hours. This early, rapid, smooth means of transportation was a big factor in reducing the mortality rate below that of World War II.

It is almost axiomatic that the problems or methods that now concern the military in five to ten years will be the problems or methods of civilian aviation. As far as transportation of patients is concerned, I doubt if it will be used in highly populated areas but can see a definite future for the helicopter in sparsely settled areas. It would seem most plausible and useful to build centrally located hospitals in sparsely inhabited areas. Ambulance service would be by helicopter. Such a method would be appropriate in many places irrespective of terrain, lack of roads, etc. Such a system would cover a wide area of population, provide better facilities and services, and afford the personal physician the opportunity to have specialists and hospitals at his fingertips.

On this continent there are many areas in the West where helicopter ambulance service would be ideal. For example, all through the mining and agricultural parts of Canada with its vast areas this method of transportation is a must when speed is essential.

New Concepts

The idea has been held by many professional men that aviation medicine is a "general practice" type of medical endeavor. Furthermore, they have held that its teachings are those of general medicine which is slanted toward a group of people who participate in aviation. This is true in only a very small part. The fundamental fact is completely overlooked that aviation medicine has a large fund of basic scientific information as its foundation and regularly makes substantial contributions to general scientific and medical knowledge not normally developed in many other medical fields. Aviation medicine is a separate, distinct, well-defined field of medicine.

The problem of aging is ageless but is new to aviation medicine. It confronts both the military and the civilian. It must be remembered that the first generation of men are at the point now of completing a vocational lifetime of flying. There has arisen the relatively new problem of determining minimal deterioration in psychomotor skills, reaction time, and instantaneous judgment brought about by physiologic aging. New technics are being developed to assist the flight surgeon in evaluating the point at which experience patterns no longer compensate for degenerative changes.

Recent investigations of crash deceleration has brought new evidence that very great forces can be tolerated by humans, provided the time-force factors for deceleration are maintained within critical limits. This research work, which is being done by the Air Force, is readily applicable for use in reducing the injuries now being sustained in automobile accidents.

On one hand, there is a division of aeromedical problems of the civilian air transport group, while the more advanced and experimental military flying creates quite different problems. As has been stated, commercial aviation progresses some five to ten years behind the most advanced military aviation accomplishments, and to a great extent the civilian aeromedical problems of today are those which were encountered by the military toward the end of World War II. (Some problems are peculiar to the military and never concern commercial aviation.) The most important aeromedical problem of the military today concerns pilot error, escape from high-speed aircraft, and the effects of high altitude in flight. Today, the problem of escape from a disabled aircraft at high speed and high altitude is distinctly a military problem but nonetheless acute. The jet aircraft with its high speeds has resulted in the development of ejection seats, special safety harness cockpit refrigeration systems, and improvement of cockpit layout and instrument design. Many of these problems have been and are being worked out through the cooperation and coordination of aviation engineers and aviation medical specialists.

In the latter part of 1951 there was a three-day symposium on "Physics and Medicine in the Upper Atmosphere" presented at a meeting in

San Antonio, Texas. This meeting was attended by leading physicians, physicists, and engineers interested in the future of aviation. The discussion centered around the problems that would develop in flights from 100,000 and 300,000 feet and included the possible solution to those problems. This may seem fantastic, but I mention it because I thought it was fantastic when I heard these altitudes mentioned three years ago. Most people thirty years ago thought it would be impossible to fly at 25,000 feet at a speed of 350 miles per hour, but today that feat is being accomplished daily in a routine manner by our commercial airliners.

Although flights of 100,000 feet or higher may seem impossible today, the Air Force has just announced the fact that they have flown "appreciably" over 83,000 feet at a rate of speed of a little over 1,600 miles per hour. For all practical purposes aviation has arrived at "space equivalent" flying.

So it appears that it is important for those interested in space travel and space medicine to continue their research into the problems of the upper atmosphere. For flights above 80,000 feet it becomes necessary to have a sealed cabin aircraft, a closed system where there is no relation between inside and outside air and only temperature and radiation will penetrate the cabin walls. Respiratory and other physiologic requirements must be supplied and controlled from within the cabin. Extensive study and refinement in equipment will be needed to determine the balance of respiratory gases, water vapor, and temperature in such a closed system.

We previously have mentioned the sonic barrier and what a problem it was thought to be. The heat barrier is a new term coming into importance because of high-speed aircraft. It is possible that it may be a more formidable phenomenon than the sound barrier. Pilots in high-speed aircraft have reported the existence of extremely high temperatures in the cockpit during speed runs. The solution is a mechanical air conditioning system for the cockpit.

Although I have not gone into detail, I hope that this has given you some idea of new concepts that are developing in aviation medicine.

How Aviation Affects Your Practice

The role the personal physician plays in the life of a pilot or flight crew member is a vital one. Whether or not a pilot flies is dependent on his health. As you may know, pilots receive periodic medical examinations. We, as flight surgeons, have a dual duty to perform, and it often is a difficult one. We are vitally interested in the health of the pilot as an individual, and we also must consider his health from the standpoint of safety.

When some pathologic condition is found, we refer him immediately to his personal physician. It is in the best interests of the individual and the company that he be returned to work as soon as possible. Over and above the humanitarian aspect, it can become a financial problem also. The sooner a pilot is cured of his disease, the less is his financial loss. A pilot with several years experience is valuable to the company too. It has been estimated that the value of training and experience is about $30,000. So the loss of a pilot is a loss to the company also.

In cases where we feel it is detrimental to the pilot to continue in a flying capacity or believe it is contrary to the interest of safety and there is a divergence of opinion, we have a method available to provide an equitable and unbiased decision in evaluating his ability to continue. If we feel that a pilot should discontinue flying temporarily or permanently and he objects to our decision, we gladly recommend that he go to his own physician for an examination to determine whether or not he should continue. In the event that the pilot's own physician confirms our findings, the case is carried no further.

However, if the pilot's physician is in disagreement with us, we then consult with that physician and together appoint a third to render a decision. This third physician should be one who is unbiased and has had no previous connection with the case whatever. We try to obtain a leading specialist in the field of medicine under consideration. We then abide by the decision of the majority. It is my belief that this is a fair and equitable means of arriving at a decision, and the entire proceeding is carried out on as high an ethical plane as one finds in any medical consultation of three physicians. We make our records available to the third physician in this case if he so desires and feel it is only fair that the pilot's physician do the same. This procedure has been used on several occasions in the past five years and has been found to be satisfactory.

When a pilot has been off ill, we will make available any of our records or tests which may be useful to the personal physician. This is a two-way street we travel, and we usually accept the recommendations of a personal physician about his pilot patient's ability to return to flying. Occasionally, we may disagree because of some factor of which the personal physician is not aware, or we may disagree over whether he should return or when he should return.

So often, we receive letters from doctors stating their patient is able to return to work. Immediately our question is, "Is he able to return to flying?" There is a difference. So if we ask you for more information, it is only a desire on our part to cooperate with you completely and at the same time look out for all concerned in the interests of safety.

It is somewhat interesting to note that in the last few years our medical problems have gradually changed as the pilot group grows older. Where ten or fifteen years ago we were more concerned with the proper selection of young pilots and saw illnesses which were generally restricted to the acute infections, we now are more concerned with the older pilots and are placing greater emphasis on metabolic diseases, cardiovascular diseases, and other diseases of degeneration. This poses a problem for our examiners. The pilots are becoming aware of the problem and often hesitate to give the doctor a complete history.

Compensation cases among the flight group are not great in number, and they differ very little from other compensation except for aerosinusitis and aerotitis, two conditions which are peculiar to aviation and compensable.

The New York area is one of the largest aviation centers in the world, and the greatest concentration of the aviation personnel and operations is in Queens County. As a result the majority of these people live in Queens. They are of all ages, and their afflictions are no different from the general population. However, it is interesting to note that in the compensation cases we have very few of the industrial dermatoses when compared to other industries.

Public Health Problem

The advent of rapid intercontinental transportation has resulted in the possibility of developing a public health problem. Today, people arrive, leave, or pass through New York City for all parts of the world and within a few hours may have come from the jungles of the Amazon in South America or parts of Asia or Africa where tropical diseases are endemic. Not only must tropical diseases be considered, but there are other contagious diseases which may be contracted.

Under the circumstances it is quite possible for a traveler to have come in contact with a contagious disease in some foreign country and to have traveled to the United States before the incubation period was completed and symptoms developed. In this situation the disease would go undetected on entrance into the United States. When you consider this possibility, one reaches for his textbook and starts reading up on tropical medicine.

Air Transportation of Patients

In peacetime the transportation of patients is often a problem in medical practice. In wartime the transportation of patients is one of the major activities of the Medical Department of the Air Force.

Among the civilian population the necessity to transport a sick or injured person often requires special consideration by the attending physician. Today, much of the available expert medical care is concentrated in medical centers, and in many instances the patient requiring care must be transported to such a center. The physician is frequently consulted as to the most appropriate mode of travel, and in some situations he even makes arrangements for the patient's transportation. With the current general popularity of air travel, many patients elect to travel by airplane. Moreover, it is not unusual for many of the regular air passengers to have some type of illness or injury. Seldom, a week goes by but what we receive a call from a physician or family concerning the feasibility of air travel.

At the present time the transportation of patients in civilian life varies considerably according to the airlines on which the individual travels. The extent to which the airline may carry patients as passengers is dependent on many factors. Some companies have planes that are not suited to carrying patients, and only those companies whose planes have berths are able to carry bed patients. Air transportation primarily is geared to the transporting of a well individual from point "A" to point "B." The usual reason for this individual to travel is either business or pleasure. In the United States where medical facilities are easily available, severely ill patients traveling by air are in the minority. However, some companies who serve cities with large medical clinics do make special provision for the carrying of patient passengers. In some parts of the world the airplane is the only means of rapid transit, and the airlines have accepted the responsibility of carrying patients in these localities. I am referring particularly to remote areas such as Alaska, parts of Canada, Australia, and Africa.

Throughout the United States there are available airplane ambulance services. These air ambulances are completely equipped, just as an automobile ambulance is equipped, and have adequate oxygen supplies. In addition to space for a nurse, there is also accommodation provided for a physician to accompany the patient. Where it is necessary, these services are superior to that of the certificated carrier since these planes are fitted out specifically as ambulances to care for patients. For your information there is a directory of ambulance planes available which may be obtained from the Civil Aeronautics Administration.

Patients as Passengers

Since the majority of the passengers on airplanes are well people, the planes have been built and provided with accommodations to carry the well passenger in comfort. Actually, there are very few medical conditions in which air travel is contraindicated, provided proper facilities are available for the correct handling and treatment of patients.

Many progressive changes have been made in recent years to provide for passenger comfort. The advent of the pressurized cabin did more than any other single item to provide increased comfort. Today, the majority of the planes in commercial aviation are pressurized, although some of the smaller ones are still without pressurization.

The popular conception of pressurized cabins is so erroneous that I would like to clarify the situation. Pressurized cabins are not pressurized to the extent that the atmospheric pressure in the cabin remains at ground level irrespective of the plane altitude. Actually, they are partially pressurized, and the cabin altitude in flight will be somewhere above gound level and below the cruising altitude of the plane, depending upon the pressure differential for that particular type of plane. For example, the Douglas DC-6 has a differential of 4.16 pounds per square inch. At 20,000 feet it will maintain a cabin altitude of approximately 8,000 feet. The newer DC-7 has a differential of 5.46 pounds per square inch. This will maintain a sea level altitude in the cabin when the plane altitude is 12,500 feet. At 20,000 feet the cabin altitude will be 5,000 feet, and at 25,000 feet altitude in the cabin will be 8,000 feet.

Knowing and appreciating the fact that there is a varying pressure differential is important from a medical standpoint. For example, it is important to know this before deciding whether or not anemias, coronaries, or persons with lung pathology should fly.

A second misconception which needs clarification is the oxygen supply. The Civil Aeronautics Board requires that oxygen be carried on board all airplanes that fly above 8,000 feet regardless of whether or not they are pressurized. However, the amount of oxygen required is supplemental rather than therapeutic. In other words, the amount of oxygen carried on the planes is insufficient in quantity to maintain an adequate therapeutic rate of flow for an appreciable length of time.

If it is necessary for a patient to fly any distance on oxygen, the best method is to rent a tank of oxygen with the reduction valve and mask from a medical supply house and provide the patient with his own individual oxygen. This has been done on many occasions and works quite satisfactorily.

There are two medical conditions which are brought about as a result of flying. Aerotitis media or barotitis is the result of the closing of the eustachian tube and an increased pressure exerted on the external surface of the tympanic membrane. Persons with moderate or severe rhinitis or postnasal infections are susceptible to the development of aerotitis and should not fly until the disappearance of symptoms and the nasal mucosa has returned to normal. Excessive lymphoid hyperplasia near the pharyngeal orifice of the eustachian tube may be benefited by nasopharyngeal irradiation in chronic cases of aerotitis media.

If, while on descent, one notices a plugging sensation in either or both of the ears, the passenger can assist in keeping the eustachian tube open and equalizing pressure in the middle ear by chewing gum, swallowing, or drinking water. Holding the nose and swallowing will also help to relieve the pressure. Once the drum has become retracted, the pain is fairly severe and can be relieved by Empirin compound or small dosages of codeine. Immediate relief from pain may be obtained by catheterization of the eustachian tube. The usual vasoconstrictors may be used to shrink the nasal mucosa. Dry heat applied to the ear is also comforting.

Motion sickness is exactly what its name implies. In this case it is known as air sickness but is no different from motion sickness caused by other means of transportation. Any motion sickness is due to abnormal motion to which the body is not accustomed. Only a small percentage of the passengers today get airsick. This is readily prevented by the use of one of the newer antimotion sickness drugs.

I would like to refer briefly again to pressurization. More than anything else, it has reduced the number of cases of motion sickness and aerotitis. Pressurization has permitted the airlines to adopt a very slow rate of descent in the cabin. This in itself reduces remarkably the number of cases of aerotitis. For example, in the average flight today at 25,000 feet, while the airplane descends 25,000 feet, the cabin pressure descends only 8,000 feet. The other point is that because of pressurization, planes are able to fly at high altitudes above most of the weather. This results in a comfortable, smooth ride.

For the remainder of this discussion, let us consider some specific problems which concern ill people who desire to travel by air. Let me reemphasize a previous statement by repeating that there are very few conditions which cannot be transported by air. But, when we discuss the carrying of patients, we must understand that the transportation of ill or injured by the Air Force and by commercial air carrier are two entirely different situations.

Cardiovascular Disease.—Among this group for which flight is most contraindicated are those cases of recent myocardial infarction or decompensation. Patients who have had coronary attacks are acceptable if (1) their last attack was approximately six months ago, (2) they have a stabilized electrocardiogram, (3) they are permitted mild exercise such as walking a few blocks or climbing a short flight of stairs, and (4) they have no cyanosis or dyspnea on exertion. In valvular heart disease flight is not contraindicated if there is no cyanosis, dyspnea, or other signs of decompensation. Patients with congestive failure or severe coronary insufficiency should not fly.

Hypertension is not a contraindication to flight. Persons with a diastolic pressure above 110 mm. Hg should be carefully evaluated. Flight is contraindicated if prodromal symptoms of stroke, asthma, etc., indicate serious involvement.

Actually, most cardiac cases travel very well if they take precautions. In 1953 American Airlines flew 5,870,000 passengers. There were four deaths in flight, and one passenger died following an attack on the ground after flight. Four of these deaths were due to coronary occlusion, and the fifth was a cerebral accident. Five deaths out of almost six million passengers is a very small percentage. It is interesting to note that some of these cases that died gave histories of aggravating factors such as previous loss of sleep, overeating, and emotional disturbances such as death in the family.

Respiratory Diseases.—If lung pathology seriously reduces the pulmonary reserve, flights may be hazardous. Such patients should require critical evaluation, medical attendants, and adequate oxygen during the flight.

Asthma, if mild, is not a contraindication. Those with status asthmaticus should not fly.

Active tuberculosis is a contraindication to flight, mainly from a public health standpoint, although considerable damage can be done. Contraction and expansion of collapsed lung tissue is deleterious to healing. Gas trapped in cavities will expand and injure lung tissue by tearing adhesions. Pneumothorax is contraindicated since pressure change and expansion of air can produce a mediastinal shift sufficient to cause death. Healed tuberculosis offers no problem.

Lung cancer, pulmonary abscess, and bronchiectasis may be aggravated by conditions during flight. Also, those with chronic infections which produce odors annoy other passengers. Lobectomy and pneumonectomy do not travel well under three months postoperatively but may fly in pressurized planes after the mediastinum becomes well fixed. Cases of foreign bodies in the lung may be flown, provided the airway is adequate, plenty of oxygen is available, and there is no pulmonary edema.

Blood Dyscrasias.—Patients with anemia may fly if their hemoglobin is above 60 per cent. Some physicians also include a red blood cell count of over 3,000,000.

Metabolic Disorders.—Diabetes mellitus is not a contraindication, provided patients will need no insulin during their actual time in the air or have everything available to administer their own insulin. Diabetics with a tendency to air sickness should use antimotion sickness drugs.

Pregnancy.—If there is no history of premature birth or habitual abortion, pregnant women may be flown without question the first eight months of pregnancy. In the ninth month an obstetrician must furnish a statement that delivery is not anticipated within seventy-two hours of destination time. In cases of pregnancy most airlines prefer that the physician provide a certificate stating that it is satisfactory for the patient to travel, even though she is still within the eight-month period.

Infants.—Flight during the first ten days of life is contraindicated since the respiratory system of the infant at that age has not stabilized adequately.

Mental Conditions.—Psychotics or agitated patients who may be dangerous, obnoxious, or irritating are absolutely contraindicated. Any neurologic patient should be ambulatory and have full bowel and bladder control. Epileptics have a tendency to seizures in flight and do very poorly.

Surgical Cases.—Perforated chest wounds can be flown if the wound is sealed with vaseline gauze, has continual professional observation, and the means of aspirating air if signs of distress develop. These cases should be flown in hospital planes.

Colostomy bags should be emptied just before flight and may be acceptable for flight if they are nonodorous.

Peptic ulcer, if active and bleeding, is a contraindication.

Recent abdominal operations are contraindicated unless given special handling.

Skull fractures and maxillofacial fractures require special attention and handling. These are good cases for an air ambulance.

Empyema cases require special evaluation and should be aspirated just before flight. Draining sinuses or osteomyelitis are contraindicated.

Contagious Diseases.—These come under the jurisdiction of the United States Public Health Service, and the same laws apply as to other travel involving the crossing of state lines.

Elderly Persons.—In the absence of any organic disease, flight is not contraindicated.

Summary

In this paper I have presented the more practical aspects of aviation medicine as I believe it applies to you as practicing physicians. Aviation itself has yet to reach full maturity, and likewise aviation medicine has not yet reached its full growth. You as personal physicians have a vital part to play in that growth, just as those who devote their full time to it.

What? ANNUAL CONVENTION

Medical Society of the State of New York

When? *May 9 to 13, 1955*

Where? *Hotel Statler, Buffalo*

Cortisone in the Management of Hemolytic Disease in the Newborn

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(*From Georgetown University School of Medicine and the Doctors Research Foundation*)

THIS report is a further notation on the progress made in attempting to determine the effect of cortisone on hemolytic disease of the newborn and fetus due to Rh incompatibilities.[1] Included herewith are the results from 98 cases.

This study was originated because of previous observations in a large number of Rh incompatibilities in which it was noted that women with high Rh-antibody titers delivered infants in relatively good condition, whereas some women with relatively low Rh-antibody titers delivered infants that had severe erythroblastosis or even stillborn infants that died of the disease.[2]

The great variation in the disease with patients having similar titers led to the belief that there must be an influencing factor in addition to the antibody titer. Further observations revealed that severe anemia developed in many erythroblastotic babies in the neonatal period, while in others very little anemia developed, even though the infants were delivered of mothers with similar titers.

In acquired hemolytic disease of the adult it has been observed that the use of cortisone and corticotropin (ACTH) tends to inhibit the hemolysis of the red blood cells affected.[3] These red blood cells show the presence of antibodies on their surface as indicated by the positive direct Coombs test. The similarity between this type of anemia and hemolytic disease of the newborn was apparent. Studies were initiated, therefore, to determine whether or not cortisone and corticotropin could possibly be effective in preventing erythroblastosis. In the initial study the observations were limited to those on the newborn babies at the time of delivery. More recently studies have been directed to the baby in utero.

Previous studies on the involution of the adrenal cortex[4] in the newborn led to the consideration that delivery was of prime importance in this phenomenon, because it removed the baby from the influences of corticotropin in utero. This involution of the newborn's adrenal cortex has been consistently observed. It is concurrent with hemolysis of the red blood cells. Proof of the correlation of hemolysis of the red blood cells in a baby with a positive Coombs test with the adrenal cortical involution was then of foremost consideration.

From other observations in our laboratory poor placental development has resulted in poor pregnanediol excretion. This would be the end result in fetal hemolytic anemia, and, therefore, the quantitative estimation of this hormone should be a source of guidance as to the condition of the blood of the fetus in utero. The estimation of both pregnanediol and 17-ketosteroid excretion rates was thought to be of value in estimating the fetal adrenal cortical function as well as the placental function. Progressive anemia in utero would be identified again by the fall of the excretion levels and vice versa. The hematologic status of the fetus would thus be reflected.

Observations were made on mothers with Rh incompatibilities treated with cortisone. The dosage of cortisone was controlled by the studies of these hormones in an effort to reduce the problem to scientific measurement rather than to vague clinical judgment.

Material and Methods

This study consists of the observations made on 98 women with antibody titers considered to be sufficiently high to produce erythroblastosis. All maternal titers were 1:8 or higher. The mothers frequently had a history of the delivery of previous severely erythroblastotic babies. These women all received cortisone or corticotropin, and during the period of observation a large percentage of the mothers were studied by means of 17-ketosteroid and pregnanediol studies on the urine excreted during twenty-four-hour test periods. These studies were made at weekly

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The cortisone used in this study was provided by Dr. Elmer Alpert of Merck and Company, Rahway, New Jersey, and the Acthargel by Dr. Richard J. Meyers of the Armour Laboratories, Chicago.

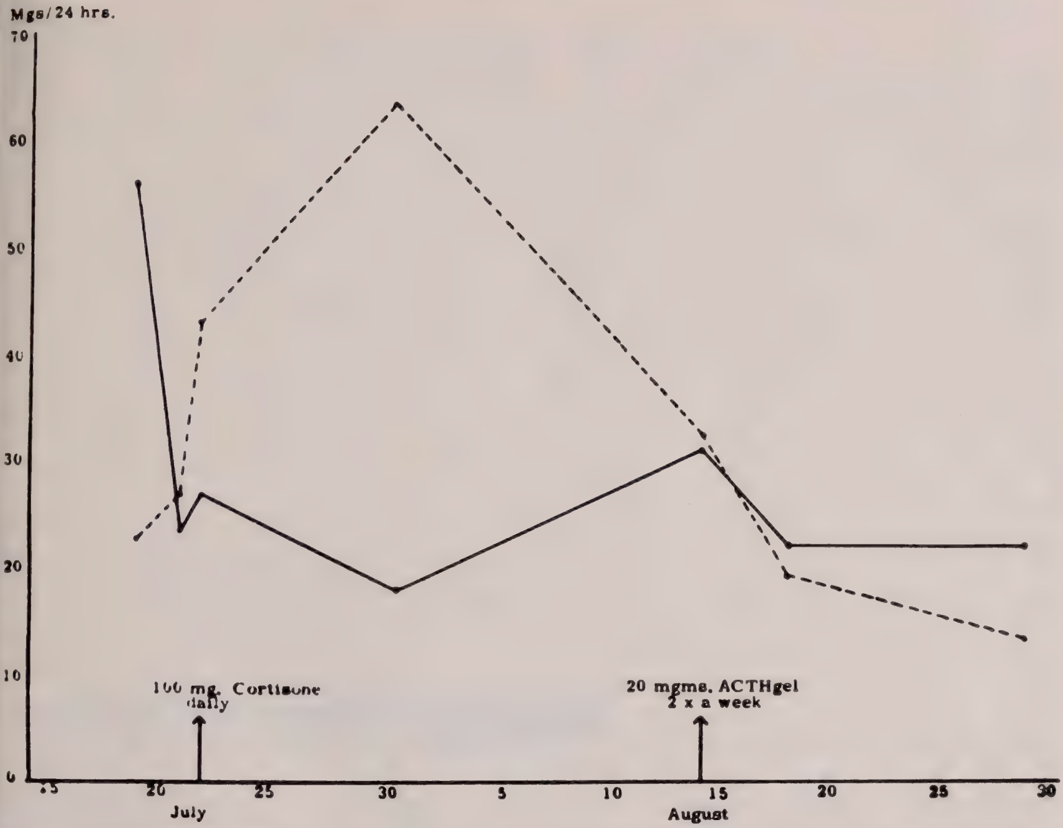

Fig. 1. Graph showing pregnanediol (broken line) and 17-ketosteroid (solid line) excretion in patient whose baby was Rh positive and died of erythroblastosis. Cortisone dosage was inadequate.

or semimonthly intervals, and they were started around the twentieth week and continued until delivery. The 17-ketosteroids were estimated by means of Zimmermann's test[5] and the pregnanediol by the Chaney-Fischer technic.[6] Cortisone was given in doses of 100 mg. per day, 25 mg. every six hours, and, where indicated, the dose was increased to 150 mg. or 25 mg. every four hours day and night. If necessary, 200 mg. per day were given. The usual symptoms of mild sodium and fluid retention were occasionally observed in these women.

Case Reports

Case 1.—A twenty-eight-year-old white woman had been sensitized as a result of transfusion in the past. Her first pregnancy terminated in a stillbirth after a cesarean section at seven months. Her blocking antibody titer during this pregnancy rose to 1:256. The 17-ketosteroid and pregnanediol excretion showed some tendency to improve when the patient was given 100 mg. of cortisone at the twenty-first week (Fig. 1). In the twenty-third week, however, the 17-ketosteroid level showed a tendency to fall, and at the twenty-fifth week both the 17-ketosteroid and pregnanediol excretion showed a tendency to diminish. When these observations were made, the fetus was believed to have died (the twenty-sixth week). At that time no increase in dosage of cortisone was made. This case illustrates an inadequate cortisone dosage for this particular patient.

Case 2.—This twenty-nine-year-old white woman was Rh negative, and her husband was Rh positive and heterozygous. Her first pregnancy was an erythroblastotic Rh-positive child who required four transfusions. The second pregnancy was interrupted because of toxemia at three months. The third was a stillborn at six months. The fourth pregnancy was Rh negative and delivered without mishap. The fifth pregnancy is the present one observed. During this pregnancy the 17-ketosteroid and pregnanediol level fell at the thirty-second week (Fig. 2). Cortisone was initiated with an immediate rise in both levels. Thereafter the levels fell at the thirty-fourth week and were again reversed by increasing the dosage to 100 mg.

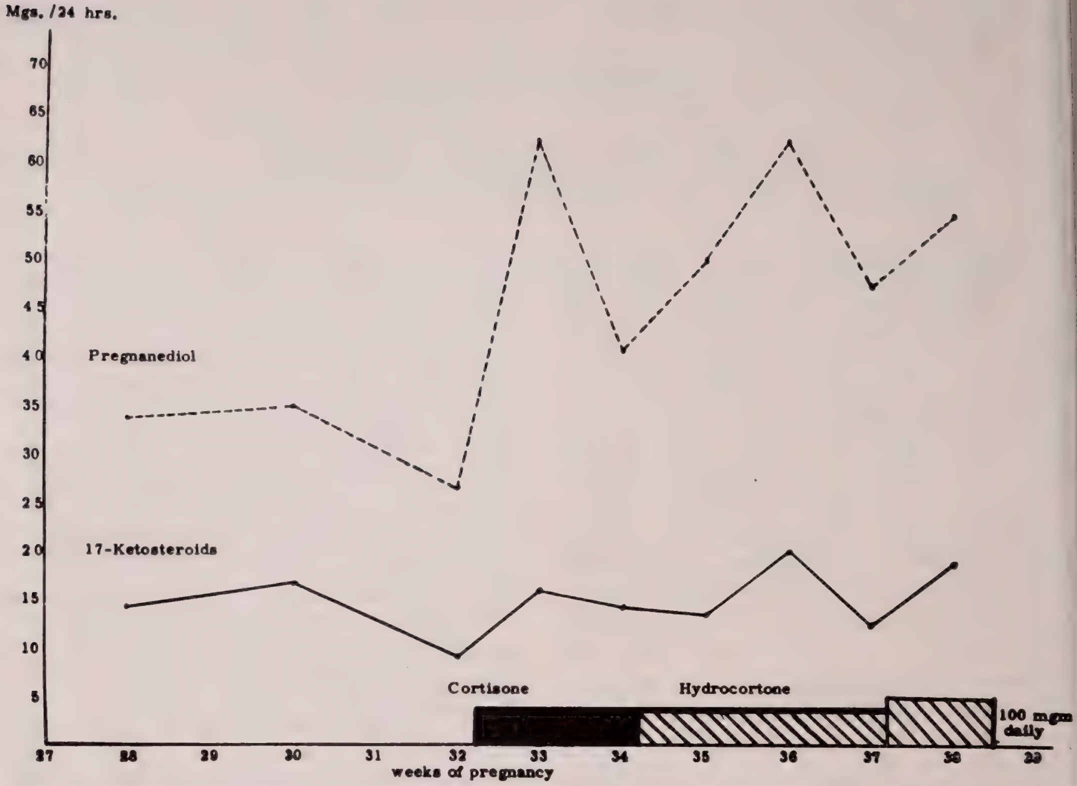

Fig. 2. Graph showing fall in pregnanediol (broken line) and 17-ketosteroid (solid line) excretion in patient at the thirty-second week of pregnancy. Cortisone produced an immediate rise and then a fall which was again increased by an increase in dosage. A second fall was reversed by further increasing the dosage. The child was in excellent condition at birth.

of hydrocortisone daily. There was another fall at the thirty-seventh week; by increasing the dosage to 120 mg. daily, it again reversed the trend, and the patient was delivered at thirty-eight weeks. The baby at birth had a 4,400,000 red cell count and was in excellent condition. Exchange transfusion was performed, and the course thereafter was uneventful.

TABLE I.—Cortisone Therapy of Erythroblastosis

Previous Pregnancy	Result of Subsequent Cortisone-Treated Pregnancy				
		Lived			
	Number	Number	Per Cent	Born Alive	Stillbirths
Normal	38	37	97	1	0
Erythroblastotic	20	18	90	1	1
Miscarriage	11	7	63	1	3
Stillbirth or died	29	18	62	4	7
Total	98	80	81*	7	11

* 14 Rh-negative babies.

Comment

Table I illustrates the results of the entire series of cases. The fetal mortality rate was considerably reduced by the use of cortisone. The high salvage rate of infants born of mothers who had previously had stillbirths or neonatal deaths is particularly important (62 per cent). Survival to this extent is unrecorded in the literature and our previous experience. The number of cases observed now has become statistically significant. Although these cases are selected in that all of the cases are sensitized mothers with antibodies 1:16 or higher, nevertheless the stillborn mortality rate is reduced in all cases to 11 per cent, and the mortality with exchange transfusion is reduced to 8 per cent. With all sensitized cases seen during this period, these figures are reduced 75 per cent from previous results.[7]

The observations in Fig. 2 are particularly enlightening when viewed with the statistical evidence. In this case the previous child had been stillborn. It would be expected that this fetus would have a similar fate. The 17-ketosteroid and pregnanediol levels fell, prognosticating a fatal outcome. The immediate reversal of this trend, however, was significant. Two subsequent falls occurred which were also reversed by increasing the dosage of the drug. Such findings as these are common. A few cases, however, have been irreversible and are presumed to have resulted when the fetal anemia became too severe.

From these observations it is evident that pregnanediol and 17-ketosteroid estimations on twenty-four-hour urine specimens gave considerable information as to the status of the fetus in utero. It is believed that they reflect placental and fetal adrenal cortical function. These observations, when considered in the light of the Rh-antibody titers of the patients, enable the observer to determine when the infants are embarrassed in utero. With anemia there is a fall in the hormone excretion levels. We have been successful in predicting the death of the babies by this fall. In some instances, however, we have been led astray by a hydropic placenta that produces a high pregnanediol content. On reconsideration the fall of 17-ketosteroid excretion should have given some indication of the poor status of the infant. With these chemical observations it is possible to regulate the dosage of cortisone given to the mother. The cortisone administered must be transmitted to the child in order to inhibit the hemolytic activity. Fetal improvement has been observed by the mother and obstetrician correlating with the rise in the 17-ketosteroid and pregnanediol excretion levels noted in the laboratory.

The exact nature of the method of function of cortisone is not entirely clear. In these cases the results of the Coombs test on the newborn infant is positive if the child is Rh positive. This indicates, therefore, that in spite of the cortisone a union of antigen and antibody has occurred, but unlike the usual condition the antigen-antibody complex does not result in hemolysis. Theoretically, perhaps, there is an inhibition by the corticoids of the hemolytic mechanism blocking the action of complement. This is entirely theoretic, and we have not been able to make observations to prove whether this particular hypothesis is either true or false.

There appeared to be variables other than adrenal cortical function since a few infants die in spite of the cortisone therapy. Nevertheless, it seems to be a valid conclusion that the cortisone does have a very definite effect in the great majority of cases.

The following procedure is an outline of our method at this time:

1. Antibody studies should be done early in the pregnancy. If this antibody is below 1:8, no specific therapy is indicated. If the antibody is 1:8 or higher, a twenty-four-hour specimen of urine should be obtained at twenty weeks of gestation and the 17-ketosteroids and pregnanediol levels determined.

2. These levels should be estimated at weekly intervals. If they show a continued increase from week to week, no specific therapy need be started. If, however, the levels cease to rise or actually fall, therapy should be instituted.

3. Therapy should be started with 25 mg. of cortisone by mouth every six hours. It is important that this be given at regular intervals.

4. The 17-ketosteroid and pregnanediol levels should be continued at *weekly* intervals thereafter until delivery. If these levels do not continue to rise or actually fall, an increase in the dose of cortisone would be indicated; 25 mg. of cortisone or 20 mg. of hydrocortisone every four hours should be instituted.

5. Delivery should be effected two weeks prior to the expected date of confinement. This has been proved to be helpful pragmatically, but, in addition, there is some suggestive evidence to indicate that the endogenous cortisone levels are affected during the last several weeks of the pregnancy.

6. Studies should be made on the cord blood at the time of delivery to determine whether or not the child needs an exchange transfusion. This procedure should be initiated in all cases if the child is Rh positive.

Exceptions to the above principles exist when there is a history of stillbirth at a relatively early date in a previous pregnancy. When such is the case, cortisone therapy could well be initiated prior to the time that the child would be expected to die in utero. Hormone levels would still be of assistance.

Toxic effects other than edema were minimal. Every patient required restriction of sodium. Once it was necessary to hospitalize the mother because of polyhydramnios before initiating cortisone therapy. Growth of hair and striae were exaggerated by the treatment in a few instances. One mother had an aceneform eruption on the chest when the cortisone dosage was increased to 150 mg. daily. This disappeared when the dosage was reduced to 100 mg. No psychosis or undue depression was noted; in fact, most women felt improved while receiving the therapy. In the newborn there is occasionally an increase in fluids as evidenced by the weight loss in the first few days. This has never constituted an unusually difficult problem.

Summary

There appears to be substantial evidence that 17-ketosteroid and pregnanediol levels in the mother's urine reflect the activity of the fetus in utero. Cortisone is effective in improving these levels in cases of Rh incompatibilities. Cortisone should be administered when the normal progression of these hormones falters. Doses of 25 mg. every six hours by mouth suffice in many cases, but increases may be necessary. Hydrocortisone may be effective when cortisone produces excessive sodium and fluid retention. The dosage may be controlled by hormone excretion levels. The newborn child may be expected to lose a small amount of weight, and an exchange transfusion is usually necessary. This therapy has substantially reduced the fetal mortality rate in our hands.

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Members of the staff of the Oscar B. Hunter Memorial Laboratory and the Blood Grouping Laboratory, Washington, D.C., assisted in the preparation of the charts and manuscript and in the performance of the tests.

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The Use and Abuse of Blood Transfusions

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A TRANSFUSION of whole blood is properly administered only when one or more of certain definite indications for its use are present in the individual patient and, furthermore, when the hazards of its use are fully appreciated by the attending physician and when there are no contraindicating conditions present. This applies equally well to the use of any other therapeutic agent or procedure. The proper use of whole blood has in the past few years saved countless lives, but, on the other hand, a number of lives have also been lost either from the abuse of whole blood transfusions or from one of the inherent hazards of this therapeutic device. The balance lies heavily on the side of the lives saved, but it is time that the lessons learned by trial and error concerning the hazards of transfusion should be known by all physicians.

The indications for whole blood transfusions have changed remarkably as various blood derivatives have become available for clinical use. For instance, the availability of human albumin preparations has almost obviated the necessity for the use of whole blood in nonhemorrhagic shock since albumin (together with plasma) works more rapidly to increase the blood volume and raise the blood pressure than does whole blood and it does not carry with it the risk of homologous serum jaundice (hepatitis).[1]

Despite these changes it does seem possible to list certain definite indications which apply at the present time to the transfusion of whole blood or of packed red blood cells. The first of these indications is the correction of shock due to acute blood loss such as occurs with trauma, gastro-

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intestinal hemorrhage, and extensive operative procedures. The use of blood is also indicated to prevent shock in these conditions by maintaining the blood volume despite the blood loss. The indication, then, is anemia due to acute blood loss and applies equally well to acute anemia due to hemophilia or other disorders of coagulation.

Another anemia requiring blood transfusion is that due to acute blood destruction not correctable by other means. Examples of this are erythroblastosis fetalis and other acute hemolytic anemias, either congenital, acquired, or due to poisoning or the transfusion of mismatched blood.

Chronic anemias of two general types at present must be treated by blood transfusion. One of these is aplastic or hypoplastic anemia of idiopathic or toxic origin or associated with neoplasia, in which other treatments fail to correct the lack of red cell formation. The other is anemia due to incorrectable abnormal red cell formation such as chronic Mediterranean anemia or sickle cell anemia.

Contraindications for blood transfusions are determined first by the condition of the patient and second by the basic disease process. Thus the presence of a normal red cell mass in the patient should contraindicate the transfusion of more red cells just as the presence of an increased blood volume should contraindicate the transfusion of more plasma. Hypervolemia, active renal disease, and cardiac decompensation are generally considered contraindications to the use of whole blood in other than exceptional circumstances. When the basic disease process has resulted in a chronic anemia which can be corrected by specific means other than blood transfusion, such as in Addisonian anemia and certain nutritional disorders, the use of whole blood is contraindicated because of the risk to the patient from the transfusion itself.

Although many physicians are aware generally of the contraindications and indications as listed above, they are not equally well informed regarding the hazards of transfusion therapy. The one hazard they are well aware of is that of the "major incompatible" transfusion, and they consider the prevention of this the responsibility of the physician in charge of the blood bank. It is! "Minor incompatibilities" can also result in the death of the patient, and of these, anti-D (anti-Rh_0) reactions are also regarded as completely preventable by the average blood bank.

TABLE I.—Final Serologic Findings in Case 1

	Reactions				
Patient (V. S.)	O	Dce/dce	NSNs	kk	Fy^a+Jk^a-
Husband	O	dce/dce		K	Fy^a+
Son	O	dce/dce	NsNs	Kk	Fy^a+Jk^a-

Blood banks are becoming aware, however, of the complete individuality of each patient's blood and of the possibility that any patient may have an incompatible (hemolytic) reaction to a particular blood even though the ABO and Rh genotypes of the two are identical. For this reason the method of cross-matching employed in assuring compatibility is now the subject of much discussion. The development of antibodies to these rarer blood groups, or antigens, usually occurs in patients who have received repeated transfusions inevitably containing some red cell antigens differing from their own. Occasionally, however, the particular antibody may develop as a result of the isoimmunization of pregnancy, or in some instances the antibody may be a so-called "natural" antibody.

The following case demonstrates such a "minor" reaction due to anti-Kell following a transfusion which was "compatible" as tested by a routine saline cross-matching procedure.

Case 1.—V. S., a female, had Group O, Rh-positive blood. The patient's serum plus "standard" O positive trypsinated cells showed no clumping. There was no clumping in saline when the patient's serum was tested with Group O, Rh-positive bank blood cells.

One hour after completion of a 500-cc. transfusion, there was shock and extensive bleeding from the operative site. Laboratory tests done from two to six hours after completion of the transfusion showed serum bilirubin 2.2 mg. per cent (preoperative 0.3 mg. per cent), clotting time (Lee-White) fifty-four minutes, methemalbumin present in plasma, and hemoglobin present in urine.

The patient was in peripheral vascular collapse for at least six hours and, on recovery from the vascular collapse, developed anuria. Careful clinical management carried the patient through seven days of anuria and four more days of oliguria. Five additional pints of compatible blood were needed during this time. The patient recovered completely within thirty days. Table I demonstrates the antibodies responsible. Three months after the reaction, tests with patient's serum for anti-K (Kell) were positive in saline 1:1, trypsin 1:8, and antiglobulin 1:16.

The patient had had no transfusions prior to this hospitalization and so was presumably immunized to the Kell factor during pregnancy. Her last pregnancy was twenty-one years before this transfusion accident. Immunization to the Kell factor is being recognized more and more frequently in those blood banks doing careful immunization studies prior to declaring blood compatible for a patient, and other, less common antibodies have been reported in significant numbers.

The next most important hazard to the patient is impossible to prevent at the present time, and that is the transmission of homologous serum jaundice or viral hepatitis. The recent articles in the *Journal of the American Medical Association,* as well as others reported previously, have documented this transmission beyond any doubt.[2-4] The best available information indicates an incidence of viral hepatitis between two and ten per thousand whole blood transfusions despite all the precautions taken in the selection of donors. These authors state that until practical and dependable methods for the detection or inactivation of hepatitis virus in whole blood and plasma become available, physicians are obligated to reserve the use of these materials for clinical conditions in which their potential value outweighs the risk of the potential complication of viral hepatitis. Fortunately, we now have some evidence to support the proposal that the storage of liquid plasma at room temperature for six months results in the inactivation of the hepatitis virus,[5] and it is probably safe to use such plasma instead of whole blood when the proper indications are present. Examples of the transmission of homologous serum hepatitis are seen in the following cases. Fortunately in neither of these cases was the hepatitis fatal.

Case 2.—A sixty-nine-year-old white man with a clinical diagnosis of pernicious anemia was transfused on February 29 and March 1 with 250 cc. of packed red cells. No plasma or other derivatives were given. Jaundice appeared on April 15, and laboratory findings and course were typical of serum hepatitis. The patient eventually recovered.

Case 3.—A fifty-seven-year-old white man with a diagnosis of psoas abscess and gout had incision and drainage. A 500-cc. transfusion of whole blood was given on November 12; no plasma or other derivatives were used. Jaundice appeared on December 31; laboratory findings and course were typical of serum hepatitis. The patient eventually recovered.

Other diseases may be transmitted by blood transfusions. Malaria, syphilis, and brucellosis are thought of in this respect. Fatalities have been reported following the transfusion of blood in which certain bacteria that multiply freely at refrigerator temperatures have had an opportunity to grow.[6] The overwhelming nature of the reaction has caused this to be referred to as "transfusion catastrophe."

Another definite hazard of blood transfusion is the probability of obscuring the basic disease process if its nature and origin have not been clearly delineated before the transfusion is given. Thus the type of anemia and the bone marrow picture can be altered very rapidly by the administration of normal cells and normal plasma, and the patient will have a false sense of security and well-being, while the physician will still be uninformed as far as the actual disease is concerned.

Circulatory overload is another hazard. Patients with decreased cardiac reserve handle transfusions very poorly, and when such patients require red blood cells, it is best to give them just red blood cells and as little plasma as possible. Even patients with normal hearts may be overloaded if transfusions are administered promiscuously.

Some less serious hazards are pyrogenic and allergic reactions and the condition known as "transfusion jaundice." The latter usually appears following a large number of transfusions and is due to the administration of large amounts of free hemoglobin or to the rapid breakdown of poorly preserved and fragile erythrocytes. It is seldom a serious complication. Transfusion hemosiderosis is another condition which may follow repeated transfusions.

Now that we have considered the proper conditions under which blood transfusions should be given and the risks that must be weighed, we must review the proper methods for getting that blood to and into the patient. This is generally a problem in logistics that varies with the size and organization of the institution. It is here that much of the "abuse" of transfusions occurs.

In an ideal situation the physician orders only the amount of blood that will be needed and for which he has adequate indications. The typing and cross-matching are performed promptly, and the blood is set aside in the blood bank until such time as it is actually to be used. At this time the blood is taken to the patient, and the transfusion is immediately started.

This ideal situation presupposes a great deal: (1) that the indications are definite and the exact need can be calculated; (2) that the blood bank has the proper type of blood available in the quantities requested; (3) that the messenger system is rapid and accurate; (4) that the distances involved allow the blood to be kept in the bank until the actual time of use; (5) that the nursing and resident situation is such that the transfusion is started as soon as the blood reaches the patient.

Any breakdown in this system results in an "abuse" of the system. In a small hospital the amounts of blood on hand may not be sufficient to cover the needs, but, on the other hand, it may be much easier to order the blood and to keep it in the bank until use. In a large hospital the converse may be true.

In a recent article[7] the "over-ordering" of blood was deplored. This habit is perhaps better referred to as the reservation of blood for a patient and the subsequent nonuse of that blood. It can readily be appreciated by noting the discrepancy between the number of cross-matchings and the number of transfusions for any given period. As long as this blood does not leave the blood bank refrigerator, it is not harmed. It has been properly cross-matched. It is tied up and unavailable to other patients. As long as the reservation period is only twenty-four hours, it would seem far better to have this blood cross-matched in advance and available than to have to use blood that has been processed under the spur of urgency. This type of reservation is largely limited to elective surgery and to "keeping ahead" of gastrointestinal hemorrhage during the period preceding definitive surgery.

If the organization of the hospital is such that this "reserved" blood leaves the blood bank refrigerator and is not properly refrigerated and returned promptly when not used, then this practice is an abuse. This should not be tolerated because during the time that the blood is away from the bank it is not available for emergencies, and it may, in fact, become dangerous to use because of excessive hemolysis or contamination.

Another abuse would be failure of the blood bank to keep on hand adequate stocks of blood. This is sometimes the case in the so-called "repository" blood banks. These are banks that keep on hand minimum amounts of blood and depend upon other, larger banks for more than one unit, particularly of the rarer types. Under this system it is impossible to have enough of any one type of blood to cover those cross-matched bloods that are eventually not used. A repository bank depending upon the delivery of blood from another bank for the sole use of patients with credit for that blood will also fail under these circumstances and might actually, should it try to keep blood on reservation, bankrupt the credit bank.

Thus we have abuses based upon logistics which, on the one hand, are eased by a larger use and supply of blood and, on the other hand, are magnified by too large a hospital unit. These abuses can then be said to be the fault of the blood bank. Other abuses by the blood banks include faulty technics in the screening and the bleeding of the donor, faulty storage, and incomplete compatibility procedures. Such faults can result in contamination, excessive hemolysis, and transfusion reactions.

The more common abuses, however, are those associated with a disregard of the indications and contraindications for blood transfusion. These are abuses laid at the door of the practicing physician. Blood bankers can only point out the dangers and, by their influence, example, and advice, try to prevent them. Such abuses are an individual matter and generally parallel the misuse of other therapeutic agents such as antibiotics, parenteral medications, and elective surgery. The presence of abuses, however, reflects the failure of the physicians who control the blood banks to educate their colleagues.

It is not necessary to dwell much further on these abuses except to review the blood derivatives that are available and that can be used more safely or more effectively in certain situations. No physician would give a child a transfusion to prevent measles when a small dose of immune globulin is so effective. No more should a physician give whole blood to replace the serum proteins if it is true that stored liquid plasma is less likely to cause hepatitis. Serum albumin is free of the hepatitis risk and acts much more swiftly to correct peripheral vascular collapse in the absence of hemorrhage. Other derivatives are not free of the hepatitis hazard but are more effective than whole blood in certain situations. These include fibrinogen, antihemophilic globulin or fresh frozen plasma, platelets or platelet-rich plasma, and thrombin. Packed red blood cells, or the red cell mass, is another derivative of whole blood, but this dis-

TABLE II.—TRANSFUSIONS IN A LARGE GENERAL VOLUNTARY TEACHING HOSPITAL (1,100 BEDS)

Year	Ward		All Obstetrics-Gynecology	All Pediatrics	Private Medicine, Surgery, and Miscellaneous	Total
	Medicine	Surgery				
1949	1,007	3,113	1,052	1,220	2,515	8,907
1950	800	3,097	1,128	1,462	2,972	9,459
1951	891	3,156	1,269	1,356	2,980	9,652
1952	913	3,517	1,155	1,172	3,458	10,215
1953	765	3,041	932	1,006	3,421	9,165

TABLE III.—TRANSFUSIONS IN A SMALL VOLUNTARY GENERAL HOSPITAL (150 BEDS)

Year	Surgery	Medicine	Obstetrics	Pediatrics	Out-patient	Total
1952	723	209	152	57	15	1,156
1953	967	247	175	76	21	1,316

cussion has considered the use of it together with the use of whole blood.

In which type of case does the abuse of blood transfusion usually occur? It is difficult to obtain statistics of this nature. It is possible, however, to obtain data showing how many transfusions are given on various hospital services. Tables II and III give such data for a large and small general voluntary hospital. It can be seen that in the larger hospital doing more extensive surgical procedures, the number of transfusions administered to ward surgical patients is roughly four times that given to ward medical patients. One third of all transfusions given are received by ward surgical patients, and the private surgical patients probably receive three quarters of the transfusions listed in the private column. Except for the smaller number of transfusions given to children the figures from the smaller hospital are in fairly close agreement with those from the larger hospital since the surgical figures include gynecology. In each case fewer than ten transfusions per bed per year are given.

From personal observation it would seem that in proportion to the amount of blood given there are as many transfusions given without good indications to medical patients as to surgical or obstetric patients. Perhaps there are fewer nonindicated transfusions given to children.

These same data, however, give some hope that the abuses of blood transfusion are being eliminated gradually. The constant increase in the total number of transfusions given stopped in 1953 when fewer were administered than even in 1950. Comparable trends have been reported from two other large New York hospitals. The data from the smaller hospital are misleading in that blood in quantity was first made available in the middle of 1952. The early enthusiasm for transfusion is now waning, and in 1954 less blood is being used.*

There are probably many factors operative to bring about such a stabilization of the upward trend. Wider knowledge among physicians of the hazards of transfusion is probably the most important single factor. Substitutes for and derivatives of whole blood have also become more available in the last few years. ACTH, cortisone, other steroid hormones, and antileukemia compounds have lessened the need for whole blood in the treatment of leukemias and purpuras. In any event both the uses and abuses of whole blood transfusion now appear to be less than they were a few years ago.

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* NOTE: Full statistics for 1954 reveal that in both hospitals fewer transfusions were given in 1954 than in 1953.

The Problem of Reducing the Danger of Serum Hepatitis from Blood and Blood Products

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THE purpose of this presentation is to bring before you the most significant findings in the studies on hepatitis in relation to the safety of blood and blood products which have engaged the attention of our group for the past three years. Some of these findings have already been reported; others will be published in fuller detail elsewhere. All of the results have been obtained by carrying out studies in human volunteers.

This work has been directed towards achieving a reduction in the incidence of homologous serum hepatitis (1) by the elimination of as many potential carriers as possible, (2) by investigation of the safety of presently used methods of sterilizing plasma and of processing blood derivatives, and (3) by the study of new methods of sterilizing blood and blood derivatives.

Screening Out Potential Carriers

The essential features of this work are summarized in Table I.[1] Included in this table are a number of cases with equivocal or minimal evidence of hepatic dysfunction where their inclusion has been warranted. The figures presented here clearly show that there *are* carriers of hepatitis and that the individuals concerned may be carriers for a considerable length of time The fact that a rather high percentage of these carriers have abnormal liver function tests has recently been noted by Neefe *et al.*[2] and will not be gone into here. Their observations, however, do suggest a possible way of reducing the number of carriers who act as blood donors.

The requirement that no one with a history of hepatitis may serve as a blood donor has not been accepted unreservedly by all engaged in blood banking. There has been some disposition to question this requirement, and the statement has often been voiced that a convalescent or recovered case of hepatitis may be a safer donor because of the possible presence of antibodies in

TABLE I.—RESULTS OF INOCULATION OF VOLUNTEERS WITH SERUM FROM SUSPECTED DONORS

		Days Since Incriminated Donation	Number of Volunteers Inoculated	Cases of Hepatitis			Incubation Period (Days)	
Case	Donor			With Jaundice	Without Jaundice	Total	In Volunteers**	Original Recipient
1	W. C.	203	10	0	0	0	...	65
2	L. H.	385	10	4	2*	6	(18), 30, 45, 46, (46), 56	48
			5	0	1	1	(43)	
3	V. S.	356	10	1	0*	1	48	40
5	R. F.	149	10	1	0*	1	84	70
7	H. H.	135	10	4	0	4	35, 50, 56, 72	44
			5	5	..	5	43, 49, 56, 57, 63	
8	C. D.	43	10	2	1†	3	(50), 57, 67	32

* One additional subject in each of these groups showed development of equivocal or abnormal hepatic tests suggestive of hepatitis without jaundice.

† Three additional subjects in this group showed development of equivocal or abnormal hepatic tests suggestive of hepatitis without jaundice.

** Incubation periods in parenthesis refer to cases of hepatitis without jaundice.

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These investigations were carried out under the sponsorship of the Commission on Liver Disease, Armed Forces Epidemiological Board, and were supported in part by the Office of the Surgeon General, Department of the Army. This work was made possible through the cooperation of the Bureau of Prisons, U.S. Department of Justice, and of the staffs of the U.S. Penitentiary, McNeil Island, Washington; U.S. Penitentiary, Lewisburg, Pennsylvania; and the Federal Correctional Institution, Ashland, Kentucky. The service rendered by the volunteers is gratefully acknowledged.

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his serum. Drake *et al.*[3] have recently reported their inability to demonstrate any protective value in gamma globulin prepared from convalescent serum.

We have performed two limited studies designed to test the infectivity of serum from individuals convalescent from serum hepatitis. Both serums were taken approximately four months after recovery from hepatitis and at a time when the subjects were well and had normal liver function. Two groups of volunteers were inoculated; one volunteer developed typical serum hepatitis with an incubation period of ninety-one days. The occurrence of this single case represents suggestive evidence that some convalescents at least may remain infective.

Donor H. H. (Table I) presents a problem of considerable interest from the point of view of the persistence of viremia. Approximately two and one-half months after the serum referred to in the table was collected, this donor, now proved to be a carrier by inoculation studies, developed viral hepatitis with jaundice himself. Convalescence was reported to be uneventful. He was bled approximately eight months after the onset of this illness. Serum obtained from this bleeding was subsequently inoculated into five volunteers, two of whom developed fulminating hepatitis with incubation periods of forty-four and forty-six days, respectively. This represents additional evidence that individuals who have recovered from hepatitis may continue to harbor the agent in their blood stream.

Investigation of the Safety of Presently Used Methods of Sterilizing Plasma and of Processing Blood Derivatives

All of the investigations in this field were carried out using a single pool of infected plasma prepared by adding approximately 1 L. of pooled plasma or serum from a number of acute-phase cases of serum hepatitis to the pooled plasma drawn off from 408 commercially obtained units of blood. The volume of the resulting pool was approximately 130 L. Some of this material was frozen for future use. The remainder was either dried from the frozen state, stabilized with glucose, or fractionated by a combination of Methods 6 and 9 of Cohn *et al.*[4]

INFECTIVITY OF POOL.—Experience with this material, involving 55 volunteers who have been followed for six months from the time of inoculation, shows a take rate or 52.7 per cent, with 40 per cent developing hepatitis with jaundice and 12.7 per cent hepatitis without jaundice.

The incubation period of the illness produced has varied from sixty-eight to one hundred and forty-eight days. The infective titer of this plasma when tested in dilutions ranging from 10^{-3} through 10^{-8} using five subjects per dilution and 1.0 ml. per subject was 10^{-4}.

ULTRAVIOLET IRRADIATION.—Early encouraging reports[5,6] on the effectiveness of ultraviolet radiation as a method of eliminating or reducing the hazard of serum hepatitis, at least in the case of serum, led to the introduction of ultraviolet irradiation as a means of freeing plasma of the virus of serum hepatitis.[7] A special feature of this method was that the plasma proteins appeared to be unaffected by the amount of ultraviolet energy used.[8] A number of disquieting reports[9–12] now indicate that cases are being encountered even with materials which it was believed had been rendered safe. One recent report by Murphy and Workman[13] indicates a rate as high as 11.9 per cent in patients who had been carefully followed for at least six months. Most of these patients, it should be noted, had received more than 1 unit of plasma.

Three studies on the effect of ultraviolet light were carried out using material from the infected plasma pool which has been described.[14] The irradiators used were (1) the Dill Irradiator, (2) the Habel-Sockrider Irradiator, and (3) the Oppenheimer-Levinson Centrifugal Filmer. All of these pieces of apparatus depend upon rotation for the formation of a plasma film. When commercial types of apparatus were used, an attempt was made to simulate actual processing conditions. In all cases particular attention was paid to the measurement of the ultraviolet output of the lamp used, to continuous monitoring of each irradiation run, and to accurate measurement of the rate of flow of the plasma through the apparatus. Each run was also checked by means of the Aerobacter aerogenes test.[15]

The general conditions of each study, the numbers of volunteers used, the volumes of the inocula, and the resulting cases of hepatitis are shown in Table II. It will be seen that cases occurred with almost all of the plasma samples tested, the exceptions being plasma which had been passed through the Habel-Sockrider apparatus five or more times. The studies with the Dill Irradiator were performed first because this type of apparatus was most widely used. When

TABLE II.—Ultraviolet Irradiation of Infected Pool Plasma

Apparatus and Conditions of Irradiation	Number in Group	Volume (Ml.)	Cases of Hepatitis		Additional Cases with Suggestive Laboratory Findings
			With Jaundice	Without Jaundice	
Dill					
515 ml. per minute	10	1.0	3	1	0
249 ml. per minute	10	2.0	2	1	1
73 ml. per minute	10	4.0	6	3	0
Control	10	1.0	4	2	1
Habel-Sockrider					
1 passage	10	1.0	4	1	1
5 passages	10	2.0	0	0	0
10 passages	10	4.0	0	0	0
Control	10	1.0	6	0	1
Oppenheimer-Levinson					
10-inch bowl, standard lamp	8	1.0	3	1	0
15-inch bowl, high-powered lamp	8	1.0	2	1	0
Control	5	1.0	2	0	0

sterilization of the infected plasma was not achieved in this study, an attempt was made to verify, if possible, the results of the work of Blanchard and Stokes[6] with the identical apparatus used by these authors. The Oppenheimer-Levinson apparatus was studied because it possesses the feature of being able to present an extremely thin film of plasma for irradiation.

Effect of Heat on the Agent of Homologous Serum Hepatitis.—The occurrence of numerous cases of homologous serum hepatitis following inoculation of certain lots of yellow fever vaccine to which human serum had been added has demonstrated that the agent of homologous serum hepatitis can survive heating at 56 C. for thirty to sixty minutes.[16,17] The human serum which was used in the manufacture of early lots of yellow fever vaccine was routinely "inactivated" by heating at 56 C. for one hour. Actual practice, however, probably fell somewhat short of this.[16] Oliphant, Gilliam, and Larson[18] showed that a sample of dried yellow fever vaccine from one of the incriminated lots was still capable of producing hepatitis after a further period of heating at 56 C. for thirty minutes. Gellis *et al.*[19] have demonstrated that a mixture consisting of 40 ml. of normal serum albumin and 10 ml. of proved icterogenic plasma which had been heated at 60 C. for ten hours failed to produce serum hepatitis when inoculated in 10-ml. amounts into five volunteers. The difference between the amounts of heat applied in heating at 56 C. for one hour and at 60 C. for ten hours is considerable, and there is no indication of the factor of safety involved in heating under the latter conditions, a required step in the manufacture of Normal Serum Albumin (Human).[20] Because of this and because the fact that heated plasma might be clinically useful were the amount of heat applied sufficient to inactivate the virus of serum hepatitis, it was decided to study the effect of heating at 60 C. for four hours and for two hours.[21] Preliminary work had shown that heating at 60 C. for four or more hours caused serious injury to the plasma, as evidenced by the occurrence of turbidity and the formation of a precipitate.

Samples of infected pool plasma were subjected to controlled heating at 60 C. for two hours and four hours, respectively. A similar sample was kept at room temperature during the heating process. This served as a control. Two groups of ten volunteers who had been carefully screened by a series of liver function tests were inoculated with the heated materials. One group received 1.0 ml. of the plasma which had been heated for two hours at 60 C. and the other 1.0 ml. of that which had been heated for four hours at 60 C. Members of a third group of five men were each given 1.0 ml. of the control material. All volunteers were kept under close observation for six months. The results obtained are summarized in Table III.

Three cases of hepatitis with jaundice and one showing clinical signs and symptoms of hepatitis but with no visible jaundice occurred in the group of ten men inoculated with plasma which had been heated for two hours. Three cases of hepatitis with jaundice and two cases showing abnormal laboratory findings occurred in the group which received the plasma which had been heated for four hours. One case of hepatitis with jaun-

TABLE III.—EFFECT OF HEATING INFECTED POOL PLASMA AT 60 C.

Duration of Heating	Number Inoculated	Cases of Hepatitis With Jaundice	Cases of Hepatitis Without Jaundice	Cases of Hepatitis Total	Incubation Period (Days)
2 hours	10	3	1[*]	4	70, 70,[*] 126, 147
4 hours	10	3	2[†]	5	84,[†] 87, 88, 91,[†] 97
Not heated	5	1	1	2	77, 77[*]

[*] Case of hepatitis showing clinical signs and symptoms but no jaundice.
[†] Cases showing only abnormal laboratory findings.

dice and one case of hepatitis without jaundice occurred in the group which received the control material.

ROOM TEMPERATURE STORAGE.—Following the report of Allen *et al.*[22] in 1950 which indicated a lowered incidence of homologous serum hepatitis resulting from the infusion of plasma stored at room temperature for periods of three months to one year, it was decided to investigate this means of inactivating the agent(s) by inoculation studies in volunteers.[23]

Three groups of volunteers were inoculated with samples of infected pool plasma which had been stored at room temperature (70 F.) for periods of three and six months, respectively. Ten volunteers were each inoculated with 2.0-ml. samples of six-month room temperature stored plasma. One of these developed hepatitis with jaundice after an incubation period of one hundred and ninety-four days. A second group of volunteers included ten additional individuals who received 1.0 ml. each of the six-month room temperature stored pool plasma as used previously. No cases of hepatitis developed. Since one of these ten individuals received 10 ml. of immune serum globulin for reasons other than this study, he was excluded at that time for statistical purposes. Thus, in effect 19 men were inoculated with six-month room temperature stored plasma. One developed hepatitis.

A third group of five volunteers was inoculated with 1.0 ml. each of plasma which had been stored at room temperature for three months. Three individuals in this group developed hepatitis with jaundice. Incubation periods were eighty-two, ninety-five, and one hundred and seventeen days. Thus, although the occurrence of only one case suggests that the residual infectivity after six months storage at room temperature must be low, this is certainly not the case with material stored for three months. Allen has recently recommended storage at room temperature for six months.[24]

The one hundred ninety-four-day incubation period in the single individual who developed hepatitis following administration of six-month room temperature plasma, although not unique, was unusual. Acute phase serum drawn from this patient was inoculated into three additional volunteers, each receiving 1.0 ml. One of these developed hepatitis without jaundice after an incubation period of seventy-five days.

SAFETY OF PLASMA FRACTIONS.—A portion of the pool of infected plasma was fractionated by a combination of the Methods 6 and 9 of Cohn.[4] Albumin, gamma globulin, fibrinogen, and thrombin were prepared. Only two of these derivatives have been tested, immune serum globulin and normal serum albumin.

Immune Serum Globulin.—The Minimum Requirements of the National Institutes of Health for Immune Serum Globulin[25] have stipulated that pools consist of at least 500 individual contributions. In view of the fact that approximately one individual out of 300 receiving blood transfusions may develop hepatitis,[22,26–28] it might be expected that many of the pools of plasma used in the manufacture of immune serum globulin would be infected with the agent(s) of homologous serum hepatitis. General experience indicates that the incidence of homologous serum hepatitis following administration of immune serum globulin must be low. According to Ordman *et al.*[29] one of 400 individuals in one series receiving immune serum globulin developed jaundice. The fact that 74 other children in the series received material from the same lot without untoward sequelae makes it unlikely that the immune serum globulin was the cause of the hepatitis in this one individual. During 1943–1944 a follow-up by Janeway[30] of 869 individuals who received immune serum globulin revealed no cases of jaundice. Hammon, Coriell, and Stokes,[31] in a follow-up of field studies on poliomyelitis in Utah, found that immune serum globulin injected into 2,800 children was not icterogenic. Material prepared by the cold-ethanol method was used in these studies. Cockburn[32] has reported the development of one case of hepatitis among 58 subjects inoculated with immune serum globulin produced by ether fractionation.[33] The plasma used in its preparation gave rise to seven cases of hepatitis among ten children who were given from 5 to 30 ml. parenterally.

Immune serum globulin prepared from the infected pool plasma[34] was administered to ten volunteer subjects in 2.0-ml. doses. Simultaneously five volunteers in a control group each received 1.0 ml. of the original plasma from which the globulin had been produced. None of the subjects who received globulin developed hepatitis, with or without jaundice, while one of the five in the control group developed hepatitis with jaundice having an incubation period of eighty-four days. A second individual in this control group developed positive hepatic tests suggestive of hepatitis without jaundice.

Normal Serum Albumin.—Normal serum albumin prepared at the same time as the globulin which we have already described was tested for infectivity by inoculation into two groups of ten volunteers. Each subject in group 1 received 3.0 ml. of heated albumin subcutaneously. This albumin had been heated for ten hours at 60 C.; the second group received unheated albumin. Simultaneously a group of ten volunteers was given 1.0 ml. of the original infected plasma. No cases of hepatitis with or without jaundice developed in either of the groups that received albumin, while five of the ten in the control group developed typical hepatitis with jaundice. This study suggests that albumin prepared by alcohol fractionation is a safe product and confirms a widely held belief in this regard, which has been sustained by the clinical follow-up studies recently reported by Paine and Janeway.[35] However, it must be remembered that albumin is normally administered in amounts much larger than 3.0 ml. Administration of larger doses is at present under study.

Thrombin.—Thrombin prepared from the infected plasma pool was not used in this study. The material used was derived from a commercial lot reported to have caused hepatitis in a number of patients who had received it as a topical application following surgery of various types. The results of these studies have been reported jointly by Dr. Stokes' group, Philadelphia, and ourselves.[36] The particular lot of thrombin studied proved to be icterogenic. Whether this represents a breaking through the manufacturing process by the virus is not clear. The possibility exists that it may have been introduced by the placental extract used to activate prothrombin to thrombin. This is a process carried out subsequent to alcohol fractionation.

New Methods of Sterilizing Blood and Blood Derivatives

It is too soon to give final figures on any of the newer methods which have been studied, but some of these may be mentioned briefly. Two chemical agents have been studied with respect to their ability to inactivate the agent of serum hepatitis. These substances are sulfur mustard and beta-propiolactone. Preliminary work has indicated the ability of both of these materials to inactivate the agent of serum hepatitis, but what will be their ultimate usefulness in the processing of plasma cannot be stated. Results in the case of beta-propiolactone, at least, although encouraging in preliminary studies, indicate that small amounts of virus remain after treatment. Some work has been done on the newer metal fraction methods developed by Dr. Cohn and his associates at Harvard. From this it appears that the agent of serum hepatitis is not completely removed by the zinc precipitation step in the preparation of either stable purified protein solution (S.P.P.S.; unheated) or gamma globulin.

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Treatment of Hemophilia

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HEMOPHILIA is a hereditary (usually sex-linked) disorder of blood coagulation which is responsible for repeated hemorrhages throughout the patient's life.[1] The sites of bleeding are varied; tissues and joints subject to even slight trauma are most frequently involved, but severe hemorrhage may occur in the gastrointestinal tract, kidneys, and other organs. Ankylosis and atrophy result when tissues and joints are permanently damaged from repeated hemorrhage.

The coagulation defect in hemophilia is associated with improper activation of plasma thromboplastin and is thought to be due to a deficiency in an essential element necessary for the generation of active plasma thromboplastin.[1] This defect can be corrected ordinarily by the addition of nonhemophilic plasma (cell-free), a fact which forms the basis of many of our more recent tests for this disease and of our present-day treatment.

Hemophilia, as we know it today, must be treated in accordance with the results of laboratory assay of the coagulation defect.[1] The disease varies considerably from an extremely mild disorder causing the patient little difficulty to a severe state in which the coagulation defect remains refractory despite all therapy. Just as it is pointless to overtreat the mild case, any ordinary attempt to correct the coagulation of the severe case may meet with failure. Between these two extremes, however, sound clinical judgment can be exercised when reliable laboratory data are available. The therapeutic management of the hemophiliac should not be blind; there must be good justification for treatment, therapy should be adequate, and unnecessary measures should be withheld. Blind management frequently results in inadequate correction and serious consequences. Unabated suffering may require prolonged analgesia with

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the risk of drug addiction; unrelieved tissue and joint hemorrhages may cause permanent crippling, and repeated transfusions, even though insufficient to correct the coagulation, may cause a temporary if not a permanent refractoriness to future transfusions.

Every hemophiliac deserves the benefit of a thorough coagulation study. The patient should be classified as to whether he is deficient in antihemophilic globulin (AHG),[2] plasma thromboplastin component (PTC),[3] or plasma thromboplastin antecedent (PTA).[4] Patients with PTC or PTA deficiency may be treated with thirty-day-old bank plasma. In AHG deficiency fresh plasma or fresh frozen plasma should be used to correct the coagulation defect because the missing factor is extremely labile.[5] The amount of normal plasma necessary to correct the coagulation defect should be determined. Since coagulation time determinations are inadequate for this type of study, one of the newer technics, which yield information about the utilization of prothrombin[6] or the generation of thrombin[7] during the course of coagulation, must be utilized. These studies may show that the patient requires relatively little normal plasma (less than 10 per cent of his plasma volume) to achieve a significant correction, or conversely it may be found that correction cannot be achieved because of the presence of an anticoagulant.[8] Ordinarily it is not necessary to devise special tests for an anticoagulant because the normal assay procedure should detect this abnormality. Some patients are so refractory to correction that an anticoagulant is the simplest explanation of the situation. Further tests then may be designed to establish the mechanism of this refractoriness.

Frequently the greatest burden in the treatment of the hemophiliac falls on the blood bank. With a small specimen of the patient's blood as the only source of information, the blood bank is asked to furnish whole blood or plasma and then is subject to criticism if the patient has an untoward reaction or if the treatment fails to benefit him. This is not only an unfair situation, but it is not realistic since our present knowledge allows for a much more rational approach to therapy.

The Hemophilia Foundation, Inc., has successfully established a program to maintain a stock of type-specific fresh frozen plasma for the hemophiliacs in the New York area.[9] This fresh frozen plasma is so simple to use that the attending physician may accept a patient in the knowledge that he may be able to relieve suffering in the home. Thus, for the more common episodes of hemorrhage many days of hospitalization may be avoided.

When tests of blood coagulation are discovered which are more sensitive than those now available, it may be possible to undertake elective surgery on the hemophiliac. At present, after laboratory tests show that the coagulation defect has been corrected by plasma infusion, necessary dental surgery or gentle orthopedic correction may be attempted with some patients. Beyond this, however, one must be cautious and conservative because bleeding may occur despite the appearance of normal blood coagulation. Although the determination of prothrombin consumption and thrombin generation are more sensitive than tests previously utilized, even these tests supply insufficient information concerning the efficiency of blood coagulation.

When the hemophiliac's blood volume has been seriously depleted from massive hemorrhage or when continued blood loss has depleted both the hemoglobin and the iron stores, blood transfusions must be administered in addition to supplementary oral iron therapy. Compatible fresh whole blood may not always be available for the hemophiliac but need not be a serious obstacle. Acute, severe hemorrhage must be treated with blood, fresh or stored, as long as the donor red cells are compatible. The supernatant plasma may be aspirated from the bank blood and replaced with fresh or fresh frozen plasma of compatible blood group. This has proved to be a satisfactory procedure but should not be performed long in advance of transfusion because of the danger of bacterial contamination.

Donor blood specifically intended for the treatment of hemophilia, i.e., fresh blood or fresh frozen plasma, should be drawn with sufficient care to avoid even minute clots. Partially clotted blood usually contains little or no antihemophilic globulin,[10] whereas blood drawn with extreme care to avoid any initiation of coagulation may show little loss of AHG for as long as twenty-four hours at 4 C.[11]

For infants and children compatible blood transfusion is a relatively simple situation. In adult hemophiliacs, however, the numerous blood transfusions received over the years have frequently resulted in isoimmunization to a number of blood factors, and finding compatible blood may prove to be a difficult problem. Practically all Rh-negative adult hemophiliacs are immunized to the Rh factor. In addition to this fairly common situation, immunization to K, E, c, e, C, and Fy^a has been found on more than one occasion.[12] One patient who developed severe reactions to all transfusions was found to be immunized to K, S, N, and a new Rh factor subsequently termed f.[13] This case has succeeded in complicating the serology and genetics of the Rh-Hr system, but it is possible, nevertheless, to find compatible donors when necessary.

It is poor policy to wait until the hemophiliac requires a blood transfusion before finding evidence of isoimmunization. Cases should be screened for intragroup antibodies during periods of remission so that this information is available when an emergency requiring the use of whole blood arises. Several hours devoted to an intensive search for isoantibodies at a time when the hemophiliac is not in shock and waiting to receive blood may save both time and suffering later. Obviously, compatibility tests must include the indirect antiglobulin technic in order to detect such antibodies as anti-K, anti-Fy^a, and anti-S. However, the use of enzyme-treated red cells is a valuable adjunct for the detection of very weak Rh-Hr antibodies.

Summary

1. The treatment of hemophilia should follow the results of adequate laboratory assay of the individual coagulation defect. Laboratory tests should be sufficiently complete to reveal severity (severe, moderate, mild, minimal), nature of plasma deficiency (AHG, PTC, or PTA), presence of an anticoagulant, and amount of normal plasma required to correct the defect in thromboplastin activation.

2. Massive blood loss should be treated with compatible whole blood. If fresh blood is required but is not available, the supernatant plasma of compatible stored blood may be removed and replaced with fresh, or fresh frozen, group-specific plasma.

3. Blood or plasma intended for use to correct AHG deficiency should be drawn with extreme care to avoid any initiation of coagulation. Small clots have been found responsible for serious depletion of the AHG content of the donor blood.

4. Hemophiliacs have been immunized to nearly all reported blood factors. They should be screened for evidence of isoimmunization before they require blood transfusion so that the blood bank may be in a better position to obtain compatible blood when an emergency arises. Compatibility tests with donor red cells should include the indirect antiglobulin test.

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Politics and Medical Care

Someone mailed Dr. F. J. L. Blasingame, A.M.A. trustee from Texas, the following clipping, entitled "Private Security," from the *Dallas Morning News:*

"Ninety-five of every 100 workers are now covered by some kind of private—not government—benefit program. This is not the brag of private business. It is a government figure.

"Nine of ten have life insurance. Eight of ten have hospital insurance, and more than half of those have surgical policies. Six of ten are covered for sickness and accident. Five of ten have medical care. Six of ten have their own company pension coverage.

"Yet, there is growing pressure in Washington for the Federal Government to get into the medical business. It makes just as much sense as the government going into the automobile business so that those who don't have a car can have one—at taxpayers' expense. That pressure is for political 'care,' not medical care."

Hypofibrinogenemia and Postpartum Hemorrhage

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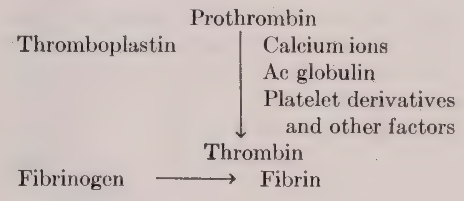
SINCE 1901, when DeLee[1] first reported a "hemophilia-like condition" in the blood of a patient who died of uteroplacental apoplexy, sporadic reports have appeared in the literature indicating that in certain cases of premature separation of the placenta, there was also noted a failure of the maternal blood to clot. In 1922 Willson[2] postulated a circulating toxin, which he chose to call hemorrhagin, as the etiologic agent. It was his belief that this substance caused an interference with normal blood coagulation in patients with premature separation of the placenta. In 1936 Dieckmann[3] made mention of the decrease in blood fibrinogen in patients with abruptio placenta. It was not until 1947 and 1948 that such workers as Schneider[4] and Page, Fulton, and Glendening[5] made the assumptions that thromboplastin was the probable agent responsible for the incoagulable state of the blood and that the source of the circulating thromboplastin presumably found its origin in the placenta or adjoining decidua. Once this entity had been established, numerous reports were published on individual cases. One of the more elaborate of these reports was that of Wiener *et al.*[6–8] This covered 50 cases collected from Boston Lying-In Hospital and vicinity.

Physiology

Whenever the normally located placenta undergoes separation from the uterine attachment between the twentieth week of pregnancy and the birth of the infant, the condition is known as abruptio placenta. Synonyms also commonly employed are premature separation of the normally implanted placenta, ablatio placenta, and accidental hemorrhage. The severity of the condition is usually judged by the amount of placenta detached, e.g., 25 to 50 per cent, moderate; 50 to 100 per cent severe. It has long been a recognized fact that in certain of the more severe cases of abruptio placenta, the patient will continue to bleed in spite of massive transfusion therapy and at times even after the affected uterus has been removed. It is in cases of this type that blood defibrinogenation must be suspected.

The formation of a fibrin clot may be schematized in the following manner (after Seegers[9]):



Thromboplastin ordinarily originates from outside the circulation. Thromboplastin precursor is usually of tissue origin and reacts together with plasma factors and platelet derivatives to form active thromboplastin. The latter, in the presence of ionic calcium and Ac globulin, activates prothrombin to thrombin. Fibrinogen is thereby converted to fibrin. If thromboplastin from a tissue source gets into the circulation, intravascular coagulation may ensue.

The placenta is rich in thromboplastin.[9] It is estimated that in the first trimester of pregnancy the placenta contains thromboplastic activity of 2,000 units per Gm. of tissue and at term 200 units per Gm. The decidua in the first trimester contains 2,000 units per Gm. of tissue and at term 1,500 units per Gm. Compared with lung tissue which contains 200 units per Gm., this makes the decidua one of the richest sources of thromboplastin in the human body. Seegers and Schneider[9] have demonstrated in the test tube and in the living animal that thromboplastin can initiate intravascular blood clotting. If sufficient thromboplastin is injected into animals, the animal undergoes a process of intravascular coagulation which may result in the depletion of circulating blood fibrinogen. Should surgery or hemorrhage be initiated, the animal may die of hemorrhage or spontaneous pulmonary hemorrhage. Disseminated, pulmonary fibrin throm-

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boemboli are found in animals that have died following the injection of thromboplastin.

The theoretic application of these laboratory observations to the pregnant patient are that thromboplastin from the decidua may gain access to the general maternal circulation in the following manner: A retroplacental hematoma is formed by the premature separation of the placenta from its normal site of implantation. The disruption of the decidua at the site of separation allows the thromboplastin-rich material to gain access to this hematoma and then by way of the maternal lake into the maternal circulation. Wiener and his group have also suggested that when the intrauterine pressure increases within the venous sinusoids at the site of placental detachment, the coagulant-containing material may be forced into the maternal blood channels by the pressure gradient. As long as the membranes remain intact, the intrauterine pressure is maintained and probably increases with further retroplacental bleeding. The arrest of defibrinogenation has been noted following the artificial rupture of membranes. The release of thromboplastin into the maternal circulation is thought to cause a conversion of the available circulating fibrinogen to fibrin. Accordingly, an incoagulable state of the blood may result, attributable to a deficiency in fibrinogen concentration. The terms afibrinogenemia, hypofibrinogenemia, or fibrinogenopenia are most often used to denote reduction of the circulating fibrinogen sufficient to prevent coagulation of the blood or merely to reduce the coagulability of the maternal blood to critical levels.

Diagnosis

Despite the uncertainty of the pathologic physiology, we are fortunate in that recognition of this syndrome is not very difficult, providing the physician is cognizant of its possibility and potentialities. Afibrinogenemia has been described in occasional patients manifesting the following complications: (1) premature separation of the placenta, (2) isoimmunization associated with a dead fetus due either to Rh or major blood group incompatibility, (3) toxemia of pregnancy, (4) amniotic fluid embolization, (5) severe liver disease, (6) shock, or (7) metastatic carcinoma of the prostate to bone and carcinoma of the body of the pancreas.

Clinically the hemorrhagic diathesis is made known by constant bleeding from the uterus and birth canal with inability of the blood to clot. The appearance of ecchymotic areas on the skin and persistent bleeding from a finger prick or venipuncture should suggest fibrinogenopenia. A rapid bedside qualitative test for the presence of fibrinogenopenia may be made with the withdrawal of 5 ml. of the patient's blood which is then incubated at 37 C. for thirty to forty-five minutes. If no clot appears or if at the end of thirty minutes the clot appears to fall apart or disintegrate, the patient's fibrinogen level is critically low. A quantitative blood fibrinogen level may be determined. However, this laboratory procedure requires time and may delay therapy. We have used the Schneider fibrin titer assay[10] with success.

The Schneider fibrin titer assay is a simple coagulation dilution series of whole blood. The highest dilution in which visible coagulation of fibrin occurs is the fibrin titer. A series of eight glass test tubes are set up in the following manner: The first tube remains empty; 3 ml. of Ringer's solution are placed in the second tube, 4 ml. in the third tube, and 1 ml. in each of the five remaining tubes. Venous blood is then drawn from the patient and 1 ml. of whole blood placed in the first tube. Then 0.5 ml. of blood is mixed with the diluent of the second tube and 1 ml. of this mixture is carried over to the next tube; 1 ml. of this mixture is carried over to the third tube. The remaining dilutions are made by carrying over 1-ml. aliquots. The resultant dilutions of the plasma component are (assuming a hematocrit of 0.35)—1, 10, 50, 100, 200, 400, 800, 1,600. A vial of topical thrombin is then dissolved to give 100 units per ml. To each tube 0.1 ml. of thrombin solution is added, and each tube is tilted back and forth to insure mixing. Coagulation occurs with a minute. A control rack from another patient in labor is set up simultaneously. A fibrin titer above 400 is usually associated with normal fibrinogen levels obtained by more conventional chemical methods.

The Schneider titer assay is now used in all patients where hypofibrinogenemia is thought to be a possibility. In an attempt to evaluate this procedure further and as a screening process in patients with vaginal bleeding, 45 successive patients with vaginal bleeding were studied with the results shown in Table I.

This series has since been extended many times with similar results.

TABLE I.—RESULTS OF SCHNEIDER TITER ASSAY IN 45 PATIENTS

Cause of Bleeding	Number of Cases	Positive	No Change
Placenta previa	6	0	6
Marginal sinus rupture	2	0	2
Abruptio placenta	25	5	20
Menses	5	0	5
Incomplete abortion	5	0	5
Transfusion reaction (hemolytic)	2	0	2

TABLE II.—DATA ON 16 PATIENTS HEREWITH REPORTED

	Number of Cases
Most common clinical signs	
Antepartum vaginal bleeding	14
Spontaneous ecchymoses	3
Other bleeding (wound, cesarean)	1
Shock	12
Postpartum bleeding	16
Laboratory data	
Prolonged bleeding time	7
Prolonged clotting time	14
Prolonged prothrombin time	12
Positive Rumpel-Leede	6
Thrombocytopenia (less than 150,000)	9
Normal platelet count	7
Hypofibrinogenemia	16
Fibrinolysin (Biggs and McFarlane)	7
Albuminuria	10
Associated conditions	
Abruptio placenta	14
Dead fetus with abruptio	3
Dead fetus without abruptio	1
Acute hepatitis	1
Eclampsia	
Severe	4
Moderate	3
Mild	3
Fetal loss	12
Dead fetus in utero	4
Due to isoimmunization	3
Anti-Rh_0	2
Anti-B	1
Maternal deaths	0

Present Study

Included in the study now being reported are 16 cases of hypofibrinogenemia which have been observed in the past two and one-half years. The most common clinical signs, the laboratory data noted, and the associated conditions present in the 16 patients are given in Table II.

The following are illustrative case reports of patients who exhibited hypofibrinogenemia.

CASE 4.—V. T., a thirty-two-year-old, white, para 2, gravida 3, was admitted to Flushing Hospital on May 26, 1952, complaining of continuous abdominal pain. Her last menstrual period was November 11, 1951, and estimated date of confinement was August 18, 1952. Past obstetric history revealed that her first pregnancy was terminated at thirty-seven weeks gestation by cesarean section because of a placenta previa; a 6-pound, 2-ounce, living newborn was delivered at that time. Her second pregnancy was complicated by a partial premature separation of the placenta at twenty-six weeks gestation. The infant weighed 1 pound, 14$^1/_2$ ounces and died of prematurity shortly after birth.

On admission to the hospital at 1:25 A.M., the patient complained of continuous abdominal pain of one hour duration. Physical examination revealed the blood pressure to be 130/100. The uterus was two fingerbreadths above the umbilicus and hard and tender. Heavy vaginal bleeding was also noted.

A low classic cesarean section was performed at 2:10 A.M. The placenta had completely separated, and the uterus was full of blood clots. A premature male stillborn was delivered from the right occiput posterior postion. The uterus contracted well after its closure. The free blood in the peritoneal cavity appeared very watery, and no clot formation was noted. After the skin had been closed, there was moderate oozing of blood through the abdominal incision. About five hours later the patient was returned to the operating room because of bleeding through her abdominal incision. At exploration no definite bleeding points could be found; however, there was generalized oozing from all surgical surfaces, and it was noted that the blood did not clot. The incision was closed, and the patient was returned to her room.

A 5-ml. sample of her blood was incubated at 37 C. for thirty minutes and revealed extremely poor clot formation which almost completely disintegrated upon gentle manipulation. A diagnosis of hypofibrinogenemia was made. About 1,500 ml. of citrated whole blood, type O, Rh negative, had been administered during the night prior to her return to the operating room. The wound continued to bleed. The blood pressure was 100/58, pulse 76. At 2:45 P.M. (twelve hours postoperatively) 500 ml. of whole fresh blood, 100 mg. of vitamin C, and 60 mg. of vitamin K were given. No improvement was noted. The bleeding time was six minutes, the Lee-White coagulation time was thirty minutes (Table III). A clot which formed was poor, ragged, and easily broken down. No fibrinolysin could be demonstrated at either 37 C. or room temperature, even after forty-eight hours incubation. Prothrombin time was twenty seconds (control fourteen) and the dilute (1:8 saline) prothrombin time, infinity seconds (control twenty-eight seconds). The platelet count was 110,000 per cu. mm. The fibrin precipitate was 1 plus and the fibrinogen concentration 95 mg. per cent.

Two grams of fibrinogen dissolved in 150 ml. of saline were given intravenously. One hour later blood specimens revealed good clot formation. An additional 500 ml. of fresh whole blood followed the fibrinogen administration. Vitamins C and K were given daily by mouth. On the third postoperative

TABLE III.—HEMATOLOGIC STATUS OF CASE 4

Date	Bleeding Time (Minutes)	Coagulation Time (Minutes)	Fibrinogen (Mg. Per Cent)	Prothrombin (Seconds)	Platelets (Per Cu. Mm.)	Clot Quality
May 26						
2:10 A.M.	Cesarean section; diffuse bleeding; 1,500 ml. whole blood					
7:00 A.M.	Re-explored; bleeding all surfaces					
2:00 P.M.	500-ml. whole blood					
2:45 P.M.	6	28	95	20	110,000	Ragged, very poor
3:15 P.M.	2,000-mg. fibrinogen; 500-ml. blood					
4:30 P.M.	2	6	150	15	165,000	Excellent
May 27	2	8	220	16	350,000	Excellent
May 29	To O.R. for repair of evisceration					
	2	8	255	15	300,000	Excellent
June 1	...	9	...	15	390,000	Excellent
June 7	1½	8	365	14	350,000	Excellent

TABLE IV.—HEMATOLOGIC STATUS OF CASE 6

Date	Bleeding Time (Minutes)	Coagulation Time (Minutes)	Fibrinogen (Mg. Per Cent)	Platelets (Per Cu. Mm.)
March 21				
12:05 P.M.	5	No clot	?	?
1:00 P.M.	6	No clot	25	300
	Pitocin infusion			
2:30 P.M.	5	No clot	45	250
	2,000 ml. blood			
3:30 P.M.	8	60	...	190
4:00 P.M.	Cesarean section; 4,000 mg. fibrinogen; 500 ml. blood			
5:00 P.M.	2	6	195	460
March 22	3	8	325	300
March 23	2	6	250	...
March 24	3	8	300	360
March 28	2	8	200	265

day the patient eviscerated through her abdominal incision requiring secondary closure. This procedure was done without incident. There was no defect in the clotting mechanism at this time, and the laboratory values were within normal limits. The patient gradually recovered and was discharged from the hospital on the eleventh postoperative day.

CASE 6.—F. B., a thirty-three-year-old, Negro female, para 10, gravida 11, type O, Rh positive, was admitted to the obstetric service at 11 A.M. on March 21, 1953. She was in labor, and light vaginal staining was noted. Her last menstrual period was uncertain, and her expected date of confinement was either April or May. The patient was not aware of quickening. She had had swelling of the hands for the past three months and had demonstrated elevated blood pressure, 150/110, with a trace of albuminuria in prenatal clinic on two occasions.

Physical examination was essentially negative. There was no evidence of systemic bleeding. The fetal heart was not heard. At 12 noon x-ray of the abdomen revealed a dead fetus in utero. The bag of waters was electively ruptured, allowing the escape of 200 ml. of sanguineous amniotic fluid. At 1 P.M., Pitocin was begun. The uterus continued to relax poorly between contractions, and venous blood failed to clot in one hour. Schneider test failed to reveal any fibrinogen. At 2:30 P.M. Pitocin infusion was discontinued since the uterus had become tonically contracted and had remained in the tonic state for one hour. Fibrinogenopenia had been established as indicated in Table IV, and between 2:30 and 4 P.M. 2,000 ml. of blood had been administered.

At 4 P.M. cesarean section was performed, and 4,000 mg. of fibrinogen in 250 ml. of saline were given. A stillborn fetus of approximately 4 pounds was delivered, and the placenta was found to be completely detached with numerous, recent infarcts on the maternal surface. A retroplacental hematoma of approximately 500 ml. was found. The remainder of the clinical course was uneventful. Additional hematologic data are shown in Table IV. Isoimmunization studies for anti-A or anti-B antibodies were not made.

CASE 11.—A. M. was a twenty-one-year-old, white, multigravid female whose estimated date of confinement was June 28, 1953. The firstborn child was now five years old and was born normally. The second pregnancy resulted in a stillborn, full-term infant in May, 1951. The patient was first seen on February 12, 1953, in her fifth month of pregnancy. The pregnancy appeared to be normal at this time. The mother was type O, Rh negative, dce/dce, and the father was type O, Rh positive, DCe/dce (heterozygous). The mother's serum showed her to be sensitized to the Rh factor in the following manner: saline agglutinins, negative;

reaction to trypsinated "O" R_1R_2 cells, positive 1:16. The indirect Coombs test was positive to a dilution of 1:32. Specificity was Rh_0.

Although the Rh antibody titer continued to rise, the pregnancy continued uneventful until May 11, 1953 (eighth month of pregnancy). On May 11, no fetal heart could be heard, and no fetal movement had been noted for the past three days. Two weeks later abdominal x-ray revealed a fetus of about six months of age with overriding of the skull bones. Induction of labor was rejected by the obstetrics service. The urine examination was entirely normal at this time. Plasma fibrinogen level was 560 mg. per cent. Recalcification time was normal, and no fibrinolysin could be demonstrated in the patient's plasma or serum (method of Biggs and MacFarlane). All other tests for bleeding diathesis were normal. Four weeks later the patient noted spontaneous ecchymoses of the legs and easy bruising of the entire body; urine examination was still normal. Six days after the onset of easy bruisability, the patient went into spontaneous labor.

Admission urine contained 2 plus albumin. The prothrombin time was sixteen seconds, control fourteen seconds; platelet count 200,000; plasma fibrinogen 250 mg. per cent. The patient delivered within one hour of admission, and only slight postpartum vaginal bleeding was noted. Bedside incubation of venous blood showed an absence of coagulation, and plasma fibrinogen of this sample was later found to be 10 mg. per cent. Whole blood was started, but within thirty minutes the patient went into shock. Vaginal bleeding continued, and another pint of blood was administered. One hour later the patient's general condition was much improved, although the clotting mechanism was still found to be impaired. The plasma fibrinogen at this time was 90 mg. per cent. A third unit of blood was started, and since the patient's general condition was rapidly improving, the thought of using fibrinogen was put aside. After the third unit of blood the plasma fibrinogen was 390 mg. per cent. A bedside clot was formed, although the clot quality was poor. Vaginal clots were now noted, but vaginal bleeding continued. Two hours later (five hours after admission), a fourth unit of blood was started. The patient's general condition rapidly improved. There was a noticeable decrease in vaginal bleeding. Seven hours after admission the patient's fibrinogen was 530 mg. per cent. The patient's further hospital course was uneventful. The fibrinogen concentration the next day was 390 mg. per cent. On the eighth postpartum day the patient was discharged from the hospital with normal hematologic values. Plasma fibrinogen level was 350 mg. per cent.

Comment

The presentation of 16 cases of postpartum hemorrhage associated with a coagulation defect successfully treated highlights the importance of recognition of this syndrome. Once the diagnosis is suspected, it must be proved and therapy planned and executed with dispatch.

All patients who exhibit severe toxemia, signs of premature separation of the placenta, dead fetus, high-titer isoimmunization due either to Rh or ABO sensitization with possible dead fetus, or finally, severe hepatic damage are suspect for fibrinogenopenia. Antepartum studies of the coagulation mechanism may fail to reveal any defect, but with the onset of labor serial observations of the coagulation time, clot quality, and the fibrinogen blood level must be carried out. The use of the coagulation test alone may leave the obstetrician with a false sense of security, and some method similar to Schneider's fibrin titer assay is recommended. Furthermore, the aid of the hematology service should be sought in the management of the problem.

Fibrinogen administration is the most direct means of restoring the blood fibrinogen level to normal and re-establishing the integrity of the clotting mechanism. However, this plasma protein fraction is not always available. Follow-up studies of the nine patients who received fibrinogen have revealed the presence of serum hepatitis in one patient. This patient received 3,000 ml. of blood and 6 Gm. of commercial fibrinogen. Liver function profile studies of the six donors involved failed to reveal any liver abnormalities in five, while one donor did not cooperate in the study. Where fibrinogen is not readily available, fresh whole citrated blood and fresh plasma may be used. If plasma is used, the operator must be certain that the fibrinogen has not been removed during the processing of the plasma. Usually, 2 to 6 Gm. of fibrinogen are necessary for rapid restoration of blood levels, but frequently the lesser dose together with adequate fresh blood replacement will suffice. Each 500 ml. of whole blood contains approximately 500 mg. of fibrinogen. Caution must be exercised in the administration of blood and plasma so that, in the effort to replace fibrinogen, cardiovascular dynamics are not compromised. In an attempt to determine the relative incidence of fibrinogenopenia among patients delivered at a general hospital, a review of patients delivering at Queens General Hospital from December 1, 1951, to June 1, 1953, was made. Hypofibrinogenemia was found in 0.2 per cent of all deliveries and in 11.9 per cent of patients admitted to the obstetrics ward with an antepartum complaint of vaginal bleeding. Also, within this group abruptio placenta was the only associated diagnosis. It can be seen that 17.2 per cent of patients with abruptio placenta exhibited hypofibrinogenemia.

The exact cause of the coagulation defect is still not completely clear, although there is little question that the high concentration of thromboplastic substance in the placenta and decidua is of paramount importance. However, the role of the fibrinolysin, so active in some cases but not demonstrable in other patients, is not known. Spontaneous bruising and a prolonged bleeding time are not prominent signs. Moderate thrombocytopenia, however, was present in nine patients. The possibility of intravascular platelet agglutination and subsequent peripheral thrombocytopenia is thereby suggested. Similar experimental thrombocytopenia was demonstrated by Schneider[11] when dogs were subjected to sublethal intravenous injection of meconium. The blood of these animals became incoagulable, presumably due to the release of an anticoagulant substance since the fibrinogen and other protein plasma components of coagulation remained normal. It is also possible that a platelet deficit was produced in the body because of the extensive hemorrhage and inadequate platelet replacement.

Summary

Sixteen cases of hypofibrinogenemia associated with coagulation defect are presented. This hypofibrinogenemia was present at the height of bleeding diathesis. The serum of seven patients showed transient but marked fibrinolytic activity. In nine patients transient mild thrombocytopenia was noted.

The Schneider fibrin titer assay has been successfully employed in the clinical management of this syndrome. Where used, intravenous fibrinogen caused prompt return of the coagulation mechanism to normal.

Surgery should not be attempted without the simultaneous use of fibrinogen, once the diagnosis has been established. The removal of the uterus and its contents does not insure rapid correction of the coagulation defect. Additional fibrinogen is frequently necessary.

The diagnosis of fibrinogenopenia must be suspected in the presence of premature separation of the placenta, marked isoimmunization of a pregnant woman, presence of a dead fetus in utero, severe hepatic damage, severe toxemia of pregnancy, amniotic fluid embolism, surgical shock, and metastatic carcinoma of the prostate or carcinoma of the body pancreas.

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What It Costs to Be Sick

The December 24 issue of *U.S. News & World Report* carried an interesting and informative article on "What It Costs People To be Sick." Quoting figures "based on the latest study of the Social Security Administration brought current through estimates by the Economic Unit of *U.S. News & World Report*," this special article points out some favorable information on doctors' fees. The story said:

"Government experts attribute most of the rise in hospital expense to higher charges resulting from better pay scales for hospital workers and the higher cost of food.

"Dentists and physicians, on the other hand, are getting a somewhat smaller share of the nation's private medical outlays. This finding runs counter to criticism of physicians' fees. Physicians' fees used to account for 30 per cent of the out-of-pocket cost; now they are 29 per cent. Dental bills are less than 10 per cent today, compared with more than 12 per cent in 1948.

"These fees tend to stay fairly constant for periods of years. The last big jump came during World War II. Today many physicians are charging the same for office calls and sickroom visits as they did shortly after the war." The report said that medical care is costing people a total of 12.4 billion dollars a year, of which 2.1 billion is met through health insurance.

Broad-Spectrum Antibiotics in Industrial Medicine

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This is a report of our experience with broad-spectrum antibiotics in an industrial medical practice and is presented because it accents certain trends suggested sporadically both in the literature and in personal communications.

Vacillating between extremes of enthusiasm and caution concerning the broad-spectrum antibiotics is hardly good medicine, but this is doubly undesirable in industrial practice since invariably our patients are seen in the early stages of their diseases when precisely appropriate medication can do the most good and a less appropriate medication or none at all may do the most harm or allow the most harm to happen. Unwise treatment with a broad-spectrum antibiotic can make a mild acute infection, from which the patient might have recovered spontaneously, into a serious secondary infection. Undertreatment at this early stage can allow the disease process to take hold and thus have equally serious consequences.

Our patients are referred back to their family physicians for treatment, and we have the opportunity of following the progress of this case in their hands through referral and consultation with the physician of our employe's choice. This has been found a most expeditious and practical method of treating these patients, and we have had gratifying cooperation from outside physicians. Perhaps this is the place to point out that this cooperation between the outside physician and the industrial physician has led not only to greater benefits to the patient due to the close consultation and the early diagnosis of these disorders, but also to an increasing recognition on the part of the worker and the outside physician that we are a worth-while support to private medical practice. We are mindful of the fact that any therapy we initiate may help in determining whether recovery is rapid or delayed or whether we invite complications, sometimes involving symptoms worse than those the patient brought with him when he came to us.

In all of the severe cases, including all hospital cases, we have continued to follow the progress of the patient and have accumulated in this way the evidence on which we base both our "rules of thumb" and our mode of treatment. Our experience reflects acutely our awareness of the fact that the antibiotics are very valuable but far from innocuous drugs. To use them properly we have felt impelled to maintain a running digest of the accumulating literature, and not only to note this paper by paper, but to project the trends of reported effectiveness and side-reactions.

Our clinical experience indicates that only by so doing have we been able to pinpoint our use of these drugs; the right drug for the right patient at the right time. This is indeed a challenge because the continued use of these drugs on our patients alters the effectiveness of the drugs so that we are unable to rely entirely on published clinical papers. By the time they are published, their findings may well have been outdated by the changes in our patients and in the species of organisms invading them.

For example, by the time the first reports were available on the effectiveness of erythromycin in the treatment of infections caused by hemolytic Staphylococcus aureus, we were already observing increasing numbers of resistant strains, a fact which has been confirmed in reports indicating that, currently, two thirds of the staphylococcic organisms are resistant to this drug.

Only by being alert to the trends established by laboratory and clinical research in the field can we keep our therapy at peak effectiveness. Such trends, which first become apparent to us in our own industrial practice, are even more clearly defined when one analyzes the antibiotic literature of the last year. Our experiences and those of others suggest some rules of thumb that can guide our use of these valuable drugs.

Changing Effectiveness

The experience in our clinics underlines the practical therapeutic significance of the fact that the sensitivity of the common pathogenic organisms to the broad-spectrum antibiotics has changed markedly during the last year. We

TABLE I.—PERCENTAGE OF STAPHYLOCOCCI SENSITIVE TO BROAD-SPECTRUM ANTIBIOTICS*

Year	Aureomycin	Chloromycetin	Terramycin	References
1949	100	100	. . .†	Kuhns *et al.*[2] Chabbert *et al.*[3]
1950	97.5	98.5	. . .†	Kuhns *et al.*[2] Chabbert *et al.*[3]
1951	85.5	90.0	65.0	Kuhns, *et al.*[2] Chabbert *et al.*[3]
1952	67.4	83.6	60.0	Weil and Harris[1] Kuhns *et al.*[2] Chabbert *et al.*[3] Hall[4] Kirby and Ahern[5]
1953	59.3	87.0	56.7	Kirby and Ahern[5] Haviland[6] Miyahara *et al.*[7]
1954	76.4**	. . .†	64.5**	Bohonos *et al.*[8] Finland *et al.*[9]
		Tetracycline 64.5**		

* Mean determination computed from references listed.

† Not reported.

** All of this work was on freshly isolated strains of hemolytic Staph. aureus.

NOTE.—Since this paper was submitted for publication, Clapper *et al.*[10] have reported that about 60 per cent of staphylococcic strains tested were resistant to the tetracyclines, and only 12 per cent were resistant to chloramphenicol More than 25 per cent of the 150 strains of bacteria tested in their study were resistant to the tetracyclines, while less than 9 per cent were resistant to chloramphenicol. These findings seem to confirm the projections proposed in this paper.

have found particularly that the effectiveness of aureomycin and Terramycin has been diminishing much more rapidly than that of Chloromycetin. In our experience resistant staphylococcic strains have developed much more frequently than strains of the other gram-positive cocci, but notable exceptions are Streptococcus fecalis and some strains of pneumococci. Our observations have been corroborated by other investigators.[1–3]

When we started to use aureomycin, for example, almost 100 per cent of the staphylococcus organisms were sensitive to this antibiotic, while our current experience confirms the reports indicating sensitivity of less than 45 per cent of staphylococcus strains to aureomycin.[1–6] Similar declines are recorded for most of the common pathogens with both aureomycin and Terramycin following the same downward curve. This is undoubtedly due to the similarity of their chemical structures, as evidenced by the generic names of the drugs, chlortetracycline and oxytetracycline. Chloromycetin, on the other hand, has a completely different structure and has retained much of its original effectiveness, possibly because of the inherent property of the drug. Recent reports indicate that resistant strains are relatively uncommon even in populations exposed to prolonged and extensive use (Table I).

Our first rule is to select the antibiotic that has the greatest chance of being effective with the guidance of the most recent data on organism sensitivity or, better still, by actual laboratory determinations of sensitivity.[1]

Reactions

MILD TO SEVERE.—As many as 50 to 60 per cent of all patients who receive broad-spectrum antibiotics will have from mild to severe side-effects, but the probability of incurring a side-effect and its nature and severity differ from drug to drug.

The upper range of sensitivity is found with aureomycin, which produces nausea and vomiting and in many cases urticaria and dermatitides, cheilitis, stomatitis, esophagitis, and pruritus ani.[11–13]

We have found Terramycin to have a range and incidence of side-effects approaching those of aureomycin, and in our clinical experience an individual sensitive to one of these drugs is likely to be sensitive to the other. Experiences of others tend to confirm these findings.[14–16]

We have also found that Chloromycetin administration is much less likely to be followed by these mucous membrane and gastrointestinal complications, the incidence of reactions being about 15 per cent. This is attributable to its different mode of action; this drug is more readily absorbed from the gut so that lower concentrations are found in the feces and large intestines, as compared with Terramycin or aureomycin.[17–20]

We find that tetracycline, the common chemical moiety of chlortetracycline and oxytetracycline, is similarly effective, and although the side-effects seem milder, they are of similar frequency in their occurrence. Our clinical experience agrees with Trafton and Lind[21] and Putnam[22] who report that approximately 52 per cent of individuals administered tetracycline develop mild to severe reactions, an incidence similar to that of aureomycin and Terramycin.

Our second rule, therefore, is to choose the antibiotic which is least likely to impose on our patient side-effects that may be not only annoying but actually more debilitating than the original symptoms.

SERIOUS.—Each of these drugs has been associated with rare but serious, and sometimes fatal, reactions, and this must enter into our calculation when we consider using them. Cases of blood dyscrasias following aureomycin and Terramycin, as well as Chloromycetin, were noted in the recent Food and Drug Administration survey. The incidence is, of course, very low, but what may be a low incidence statistically is still a 100 per cent incidence for the patient and his family.

In fairness to the drugs it should be noted that, as Alexander[23] has recently pointed out in her long-range study of Chloromycetin, in no cases were there complete hematologic workups before the drug was administered. Haviland[6] has recently observed that in 36 reporting states the incidence of aplastic anemia in the population at large was significantly greater than in the people known to have received Chloromycetin. The Food and Drug survey also stated that there has been no increase in the incidence of blood dyscrasias since these broad-spectrum antibiotics came into widespread use. Many observers have reported on a substantial series of cases in which, under careful hematologic study, not a single blood dyscrasia was observed.[24-26]

More serious clinically, because they may be more common, are the recently reported fatal superinfections following aureomycin and Terramycin therapy. Diarrhea, hyperthermia, and decreased blood pressure followed by anuria and uremia, frequently fatal, due to the proliferation of resistant strains of pathogens when the Escherichia coli are killed off have been reported recently by French clinicians and more recently by the Mayo group.[27-31] The Mayo group alone reported on 44 such cases by mid-1953.[32] Similar fatal outcomes following Terramycin therapy were reported in a series of pneumonia cases by Jackson *et al.*[33] and in cases of urinary tract infections by Womack *et al.*[34] Terplan[35] reported eight cases of fulminating diarrhea with a shock-like state in patients being given broad-spectrum antibiotic therapy. Death occurred in three to eleven days in all of these cases. Coagulase-positive staphylococci were recovered from the ulcerated gastrointestinal tracts and lungs of these patients. These staphylococci were sensitive only to erythromycin, although as we have mentioned, resistant strains to this relatively new antibiotic have already been reported.[36] No reports of such syndromes following administration of Chloromycetin have come to our attention.

We have been very careful to alert our patients who are on antibiotic therapy to the possible early signs and symptoms of these severe reactions so that they may immediately inform us of any abnormalities and we may take steps to halt the process.

Thus, the third rule: Because of these rather rare but serious contraindications to the use of each of these drugs, as with so many other medications, their use is clearly indicated only where the disease is serious and the need specific. On the other hand, withholding the drug in such cases because of the small possibility of a serious side-effect is an extreme equally to be avoided.

Repeated or Prolonged Use

We restrict repeated or prolonged use to the necessary dosage and time for a clinical cure since all of the antibiotics are potential allergens. In this connection it should be noted that fatal anaphylactic reactions are increasingly observed following otherwise innocuous doses of penicillin.[37]

Thus, our fourth rule: Previous history of allergy or side-effects should be elicited and repeated or prolonged use of the same drug avoided where possible.

Prolonged use of a drug or lack of clinical response to it should be accompanied by sensitivity tests to be certain that the organism is still sensitive to the antibiotic.

Synergism and Antagonism

We feel this is of importance in two ways. First, if two drugs are used, they must be synergistic or additive. For example, the effective drug action of streptomycin and Chloromycetin is synergistic, while the action of penicillin and Chloromycetin is antagonistic.[38,39] Thus, the combined effect of these latter drugs would be less than the effect of either drug alone.

Second, our therapy must preserve nonpathogenic organisms that compete with pathogens, as Parker has pointed out.[40] Otherwise, if one group of nonpathogens is eliminated, another group, not previously harmful in the presence of normal flora, may become pathogenic.

Hence, our fifth rule: If combined antibiotic therapy is indicated, choose synergistic drugs and drugs which will maintain a normal nonpathogenic flora.

Application of Principles

What do these principles mean for the cases we see most commonly in industrial practice?

Upper Respiratory Conditions.—We do not employ the wide-spectrum antibiotics in cases of common colds unless the patient develops a bacterial complication since these drugs do not influence the common cold per se. Although a significant degree of fever (104 F. plus) is highly suggestive, we have found that most of the complications are easily recognized clinically by symptoms and signs such as acute toxicity, rales, loose productive cough, and inflammation of the nasopharynx. Although the local application of an antibiotic is of negligible efficacy, the same antibiotic used systemically has proved of great value in the complicated case. We have treated cases with full therapeutic doses over a three to five-day period, usually combining either Chloromycetin, erythromycin, or tetracycline with a sulfonamide.

Gastrointestinal Infections.—Most of the gastritis we see is of the acute type, more annoying than serious, and usually nonspecific, afebrile, and self-limiting. However, colitis is usually of a chronic nature, and we feel that aureomycin and Terramycin are contraindicated lest gastrointestinal side-reactions be added on top of already present symptoms and the natural defense mechanism seriously interfered with. In acute phlegmonous gastritis, when there is a fulminating bacterial infection of the gastric wall, usually secondary to staphylococcus, streptococcus, pneumococcus, or colon bacillus septicemia, vigorous treatment with the wide-spectrum antibiotics and sulfonamides is indicated.

In chronic ulcerative colitis we have been using alternate courses of drugs, starting with sulfathalidine, 1 Gm. four times daily for five days, and then alternating with five days of myomycin, erythromycin, or Chloromycetin therapy. The use of retention enemas of sulfasuxidine and penicillin is helpful only when the disease is confined to the sigmoid and rectum. We have found Magnamycin quite effective where Endameba histolytica are encountered. In general, all wide-spectrum antibiotics used in amebiasis work on the bacterial substrate and not on the ameba. Therefore, we usually give an amebacide with the antibiotic.

Genitourinary Conditions.—Because of the superiority of the sulfonamides in treatment of gram-negative bacillary infections such as Proteus and Pseudomonas, we generally employ sulfisoxazole (Gantrisin) in combination with pencillin in large doses to combat the gram-positive Strep. fecalis and staphylococcus. However, in resistant cases Chloromycetin, aureomycin, and Terramycin are effective, but our choice has been Chloromycetin because it is more effective against the two common genitourinary invaders, Proteus and Pseudomonas, and Chloromycetin is less likely to cause gastrointestinal symptoms.

Local Wound Infections and Inflammatory Lesions.—We do not use the sulfa drugs and penicillin topically, except where specially indicated, because of the established high index of sensitization. Bacitracin and Neomycin are effective, as are aureomycin, Terramycin, or Chloromycetin ointments. For most of the dermatitides we have obtained very satisfactory results with an ointment containing Chloromycetin and an antihistamine with sodium propionate.

With furuncles or carbuncles we have been loath to infiltrate with aqueous penicillin, even though such treatment is effective, since the development of penicillin-resistant strains is apt to follow. Instead, we have preferred to institute drainage.

In widespread cutaneous pyogenic infections a broad-spectrum antibiotic by mouth is usually indicated in conjunction with local application of the same antibiotic.

In the choice of either topical or systemic antibiotics in these conditions, the recently reported one-year study of Thompson *et al.* serves as a guide.[41] They observed that in streptococcus, coliform, and coagulase-negative infections, treated either systemically or locally with aureomycin, strains resistant to both aureomycin and Terramycin take over in the wound. In the coagulase-positive staphylococci and Pseudomonas organisms, with local application of aureomycin there was also a relative increase of strains resistant both to Terramycin and aureomycin. With systemic use of aureomycin both the absolute number of organisms and the proportion of resistant strains flourished. In all of these organisms these observers report that they found no development of resistance to Chloromycetin.

Comment

The clinical use of antibiotics and particularly of the broad-spectrum antibiotics, as outlined above, poses some interesting problems and provocative responsibilities. More than ever before, good medicine may vary from day to day and certainly from month to month. The best medicine where these antibiotic drugs are concerned must not only keep up with published reports of changing effectiveness and sensitivity but must project the tendencies suggested by ten years experience with antibiotic therapy and five years experience with broad-spectrum drugs.

As has recently been said of hormonal therapy, the honeymoon with the antibiotics is—and should be—over. We object to the use of the term "miracle drugs" in the lay press because these drugs are no better than the diagnostics and therapeutics of the physician using them.

Although our industrial medicine practice may be a special case, it poses in every sense of the word problems common to early therapy in any medical practice. In this respect, it should be noted that, far from making our problems easier, the addition to our armamentarium of these potent agents means that we can do more for our patients than keep them comfortable while nature fights their disease. One aspect of the problem remains to be stressed, and that is greater reliance on help from the laboratory.

In her work on bacterial meningitis Alexander[23] points out, "it is possible to define the etiologic agent and assess the severity of infection within thirty minutes after the cerebrospinal fluid reaches the laboratory." While such service is certainly not generally available, it sets a target for anyone who purports to talk in terms of the best in antibiotic therapy.

Summary

Rules of thumb presented for guidance in broad-spectrum antibiotic therapy are as follows:

1. Select the antibiotic that has the greatest chance of being effective, using as a guide the most recent data on organism sensitivity and, wherever possible, actual laboratory determinations of sensitivity.

2. Choose the antibiotic which is least likely to impose on the particular patient side-effects which may be even more debilitating than the original symptoms.

3. Because of the rare but serious contraindications to each of the antibiotics, their use is indicated only where the disease is sufficiently serious and the need specific, but an extreme equally to be avoided is the withholding of the drug in such cases because of the statistically small possibility of a serious side-effect.

4. Previous history of allergy or side-effects should be elicited and repeated or prolonged use of the same drug avoided where possible. Prolonged use of a drug or lack of clinical reponse to it should be accompanied by sensitivity tests.

5. If combined antibiotic therapy is indicated, choose synergistic drugs and drugs which will not interfere with normal nonpathogenic flora.

The application of these rules is reported for certain common disease entities: (1) upper respiratory conditions, (2) gastrointestinal infections, (3) genitourinary conditions, and (4) local wound infections and inflammatory lesions.

The indications for a dynamic approach to optimal antibiotic therapy are discussed, and more widespread reliance on laboratory cultures is suggested.

1740 Broadway

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Rheumatoid Arthritis Aggravated by Pregnancy and Controlled by Cortisone

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It is well known that during pregnancy there may occur a suppression of the manifestations of rheumatoid arthritis as well as of other diseases such as migraine, asthma, angioneurotic edema, primary fibrositis, intermittent hydrarthrosis, and rheumatoid spondylitis. A similar suppressive effect may occur in the course of hepatitis and jaundice. These suppressive effects of both pregnancy and jaundice were the basis from which Hench successfully discovered the antirheumatic action of cortisone.[1]

The mechanism by which the ameliorating effect of pregnancy is produced is still unknown. Occasionally, however, rheumatoid arthritis may undergo an exacerbation during pregnancy or may even have its onset at that time. In looking over the literature I did not find any cases of rheumatoid arthritis patients aggravated by pregnancy and treated with cortisone. Therefore, I am reporting three cases of rheumatoid arthritis which were aggravated by pregnancy and controlled by cortisone.

Case Reports

Case 1.—C. F., a thirty-six-year-old Puerto Rican multipara, had a history of pains in joints for about two months, for which she was treated in another hospital prior to admission to our hospital. The patient had six living children ranging in age from three to eighteen years. Pregnancies were uncomplicated.

She was referred to our clinic in the fourth month of her pregnancy with a history of exacerbation of pain in her left foot, both ankles, and both knees. Three days prior to admission to our clinic she also began to have pain in her left sacroiliac region. Examination of the joints involved revealed only slight swelling of the knees and ankles and a localized, marked tenderness of the sacroiliac region with limited motion of the left hip.

Laboratory findings were as follows: sedimentation rate (Westergren) 106 mm. per hour; sensitized sheep cells 64/4; hemolytic streptococcus agglutination negative. Serology, urine, and chest x-ray were negative. Blood count showed secondary anemia, hemoglobin 9 Gm., 2 plus anisocytosis and poikilocytosis, and 1 plus achromia.

In the fifth month of her pregnancy she was placed on cortisone, 100 mg. the first day, 75 mg. the second day, and 50 mg. for the rest of the week. Patient was completely relieved of pain. The cortisone was reduced to 25 mg. a day, but she again began to have pain in both knees and other joints. She was then placed on 37.5 mg. daily for the following three weeks.

Sedimentation rate at this time was 40 mm. in one hour. Cortisone was reduced to 25 mg. daily for two weeks and then to 12.5 mg. daily for two weeks. Cortisone was then discontinued. Patient was seen two weeks after discontinuance of cortisone and complained of only slight pain in her joints; cortisone was not resumed. This patient delivered prematurely a stillborn, thirty-five-week pregnancy; cord was around baby's neck. Mother was RH negative with antibodies. Two days postpartum a tubal ligation was done.

The patient had no pain in her joints until two weeks postpartum. She reported to this clinic again four weeks postpartum complaining of pain and swelling of both knees and right wrist. Sedimentation rate at this time was 31 mm. per hour. She was again placed on cortisone therapy.

Case 2.—E. B., a twenty-eight-year-old Negro female, had a history of pains in her hands, feet, and ankles of twelve years duration. In 1945 and 1946 this patient received gold injections in another hospital and was relieved for a short period of time. During 1947 she became worse and went to Arizona, but she did not improve. In 1951 she began taking cortisone without medical supervision and obtained considerable relief. She started with high doses and gradually cut down to two or three tablets a day.

In 1952 she became pregnant for the first time. Her pains continued, and she took cortisone, 75 mg. a day, up to the fifth month. After the fifth month she felt better and was able to cut the dose down to two tablets a day until delivery. On the twenty-second day postpartum, she again began to have pain in the involved joints and started to take cortisone again until November 5, 1953, when she came to our clinic in the second month of her second pregnancy. She was taking 50 to 75 mg. of cortisone daily.

At that time there was involvement of both shoulders, both elbows with partial ankylosis, almost all proximal interphalangeal joints of all fingers with flexion and extension deformities, right knee, and swelling of both ankles and both feet.

Laboratory findings were as follows: sedimentation rate (Westergren) 40 mm. per hour; hemoglobin 11.2 Gm.; sheep cell agglutination 64/16; hemolytic streptococcus agglutination negative. Serology, urinalysis, electrocardiogram, and x-ray of the chest were negative.

Cortisone was reduced to 37.5 mg. daily, and the patient returned in one week. She then complained of an exacerbation of pain in all joints, and cortisone had to be increased to 50 mg. daily. This patient was seen weekly in our clinic, and at the beginning of the third month of her pregnancy the cortisone was again reduced to 37.5 mg. daily. She did fairly well until January 11 when she stopped taking cortisone for two days because she did not have the medication. She immediately felt worse, and cortisone was again resumed. Sedimentation rate after stopping cortisone for two days was 70 mm. per hour. The patient again did fairly well on 37.5 mg. daily for three weeks when cortisone was reduced to 25 mg. daily. After one week on 25 mg. she again felt worse, and the dose had to be increased to 37.5 mg. daily. In her sixth month of pregnancy cortisone was reduced to 25 mg. daily. Sedimentation rate at this time was 59 mm. per hour.

This patient continued to take 25 mg. of cortisone daily until one week postpartum. On May 31, 1954, the patient delivered a boy, weighing 7 pounds, $10^1/_2$ ounces. The delivery was normal with no complications.

Case 3.—M. M., a twenty-eight-year-old Indian multipara, had a history of seven years of rheumatoid arthritis involving the proximal interphalangeal joint of the left hand, metacarpal phalangeal joints of the right hand and both wrists, both knees, and both ankles. The arthritis began the second week after the birth of her second child in 1946. There had been no previous history of arthritis. She did not receive any specific therapy and suffered for five years. At the Indian Reservation she received some medication consisting of herbs, after which she had a recovery (spontaneous) when all joints improved except for some swelling in the third and fourth proximal interphalangeal joints of the left hand.

In the second month of her third pregnancy she began having swelling and pain in her wrists, fingers, shoulders, ankles, and knees. The condition became worse as the pregnancy advanced. In the sixth month she was treated at another hospital where she was given all kinds of medication without benefit. Finally, in the eighth month she received Butazolidin which gave her considerable relief. One month after delivery the arthritis became worse, and she returned to the same hospital where she received injections which gave her some relief until the present pregnancy.

When she came to our hospital and was referred to the arthritis clinic, she was in the third month of her fourth pregnancy. At this time there was severe arthritic involvement of both hands, both wrists, both ankles, both feet, both shoulders, and the lower back.

Laboratory findings were as follows: sedimentation rate (Westergren) 110 mm. per hour; sheep cell agglutination 256/2; hemolytic streptococcus agglutination positive in 1:40 dilution; hemoglobin 9.6 Gm. Serology and x-ray of the chest were negative.

The patient was started on cortisone therapy, 100 mg. daily for three days, 75 mg. daily for the following two weeks. She was slightly improved in the beginning. When cortisone was discontinued for four days because of vomiting due to iron medication, the pains and swelling became worse. Cortisone was again started, 100 mg. daily for three days, 87.5 mg. for three days, and 75 mg. daily for one week. She improved, and cortisone was reduced to

50 mg. a day for ten days, then to 37.5 mg. a day for ten days, then to 25 mg. a day for three weeks. The dose was then reduced to 12.5 mg. a day for two weeks. The patient did very well, and cortisone was stopped. After about one week the pain and swelling of the joints became worse, and the patient was again started on cortisone, 25 mg. daily. Sedimentation rate at this time was 75 mm. per hour.

Patient was in the beginning of her seventh month of pregnancy when cortisone had to be increased to 50 mg. a day; on this dosage she was fairly comfortable. In her eighth month of pregnancy cortisone was reduced to 37.5 mg. daily. In her ninth month of pregnancy, cortisone was reduced to 25 mg. daily, and she remained fairly comfortable.

On March 17, 1954, the patient delivered a girl, weighing 6 pounds, 4 ounces. Delivery was normal with no complications.

Comment

Three cases of rheumatoid arthritis in pregnancy treated and controlled with relatively small doses of cortisone are presented.

In the first case, a multipara with six previous normal pregnancies, the arthritis started in the second month of the present pregnancy. The patient had no previous history of arthritis. This patient required very small doses of cortisone. The drug was discontinued in the seventh month of pregnancy. She delivered prematurely a stillborn child. The mother was RH negative, and the cord was around the child's neck. There is no reason to believe that cortisone had any detrimental effect on the child. Two weeks postpartum this patient again began to have arthritic complaints.

The second patient had a history of severe rheumatoid arthritis of twelve years duration. She had been on cortisone therapy for over three years including the period of her entire first pregnancy. She delivered a healthy, normal child. This patient required 25 mg. of cortisone daily to control her symptoms after the sixth month of pregnancy. The patient delivered a normal, healthy child.

The third patient was multipara with a history of rheumatoid arthritis of seven years duration. It began two weeks after the birth of her second child. Prior to her third pregnancy she had an almost complete remission of the rheumatoid arthritis. In the second month of her third pregnancy she had an exacerbation of the arthritis, which became progressively worse till the eighth month, when she received Butazolidin therapy with some relief. One month postpartum she became worse and returned to the same hospital where she received injections with considerable relief until the present pregnancy when her arthritis again became worse. She came to our clinic in the third month of her present pregnancy and was placed on cortisone therapy. The patient was comfortable on 50 to 25 mg. of cortisone daily. This patient also delivered a healthy child.

In all these patients the cortisone was discontinued at one time or another but had to be resumed because of an exacerbation of symptoms. The symptoms were controlled with relatively small doses of cortisone without any adverse effect on the pregnancy.

Summary

Although there is a general belief that rheumatoid arthritis is improved during pregnancy, this report cites three cases of unequivocal rheumatoid arthritis, two of which were exacerbated and one of which even had its onset during pregnancy. All of these patients responded to relatively small doses of cortisone without any adverse effect on the pregnancy.

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They say that he (Apelles, the artist) was censured by a shoemaker for having represented the shoes with one latchet too few. The next day, the shoemaker, quite proud at seeing the former error corrected, thanks to his advice, began to criticize the leg; upon which Apelles, full of indignation, popped his head out and reminded him that a shoemaker should give no opinion beyond the shoes,—a piece of advice which has equally passed into a proverbial saying.—Pliny the Elder, A.D. 23–49

The Effect of Salicylates on the Vitamin C Stores of Rheumatic Fever Patients

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Our interest in the comparative metabolic effects of ACTH, cortisone, and salicylates in the human antedates our report in the New York State Journal of Medicine in 1951.[1] This report showed that in children with acute rheumatic carditis the depletion of nitrogen stores, commonly found during treatment with ACTH or cortisone, could be mitigated by providing diets of high biologic value in terms of protein, calories, and electrolyte content. Our subsequent studies[2] would indicate that salicylates do not exert the same metabolic effect with regard to the protein stores of the body as measured in terms of nitrogen balance and blood amino acid levels.

The need for information on the metabolic effects of salicylates on other dietary essentials is obvious. Our attention was focused on vitamin C by reports[3] that within two hours following the administration of ACTH, there occurs a 20 per cent rise in the blood vitamin C levels of adult humans. The more recent investigations of McSwinney *et al.*[4] have disclosed that this effect of ACTH is not uniform and is dependent in a large measure on the prevailing vitamin C status of the patient. In the present report our observations on the effects of salicylates and ACTH on the vitamin C status of the human, as revealed by plasma and urinary levels, will be presented.

Methods and Procedures

The abscorbic acid content of the plasma and urine was measured by the method of Roe and Kruether.[5] The plasma was derived from lithium-oxalated blood collected by venipuncture. The fasting blood specimens were obtained at 8 A.M. after a fifteen-hour fast and the test substances administered immediately thereafter. Salicylates and vitamin C were given orally and ACTH intramuscularly. In view of the reports of previous investigations,[3] blood samples were collected at intervals of one and two hours after the test dose. However, experience soon showed that the first hour measurement could be obviated without significantly altering the implications of the observations.

TABLE I.—Current Criteria of Vitamin C Status of Man

	Diet Intake (Mg. per Day)	Plasma Concentration (Mg. per 100 Ml.)	Urinary Excretion
Normal	100	1.0	60 to 80% of intake
"Normal"	40 to 100	0.4 to 1.0	20 to 60% of intake (variable)
"Deficient"	10 to 15	0.1	Low; not informative
"Deficient"	5	0.05	Saturation test useful
Scorbutic	0	0	Saturation test useful

In the studies involving urinary measurements twenty-four-hour urine collections were made prior to and after administration of the test substances.

The diet of the subjects was adequate and relatively constant with respect to all nutrients. To avoid errors from lag effects, multiple tests on the same subjects were spaced at least one week apart.

Results

The metabolic significance of our findings is interpreted in terms of the prevailing criteria of ascorbic acid status of the human which are listed in Table I. Typical observations on the effect of ACTH, sodium salicylate, and a mixture of sodium salicylate and para-aminobenzoic acid (Pabalate) on the blood vitamin C levels of normal and diseased individuals are shown in Table II.

It will be noted from these data that (1) individuals convalescing from episodes of rheumatic carditis had normal or better than normal

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TABLE II.—EFFECT OF SALICYLATES AND ACTH ON VITAMIN C BLOOD LEVELS

						Blood Ascorbic Acid (Mg. Per Cent) Time After Test Dose		
Patient	Sex	Age	Weight	Diagnosis	Test Substance	Fasting	1 Hour	2 Hours
M. N.	F	50	128	Healthy, normal	15 grains salicylate	1.89	1.80	1.77
					25 mg. vitamin C	1.69	1.75	1.98
					100 mg. ACTH	1.11	...	1.17
Z. L.	F	21	145	Healthy, normal	15 grains salicylate	1.12	1.24	1.19
					25 mg. vitamin C	1.49	1.49	1.46
J. B.	F	25	185	Healthy, normal	100 mg. ACTH	1.35	...	1.50
					50 mg. vitamin C	1.12	...	1.28
T. A.	F	43	134	Healthy, normal	50 mg. vitamin C	0.75	...	0.73
					100 mg. ACTH	0.89	...	0.84
V. A.	F	56	178	Recurrent pancreatitis	50 mg. vitamin C	1.41	...	1.63
					100 mg. ACTH	1.73	...	1.87
E. B.	M	11	93	Rheumatic heart disease, active	10 grains salicylate	1.98	2.20	1.98
					1 Gm. vitamin C	2.36	...	3.57
					15 grains salicylate*	2.15	...	2.20
R. A.	M	10	76	Rheumatic heart disease	500 mg. vitamin C	2.68	...	3.38
					15 grains salicylate*	2.41	2.34	2.36

* Salicylates given as Pabalate tablets contain 5 grains each of sodium salicylate and para-aminobenzoic acid.

TABLE III.—EFFECT OF ACTH, SALICYLATES, AND VITAMIN C ON DAILY URINARY OUTPUT OF VITAMIN C

Patient	Sex	Age	Weight	Diagnosis	Test Substance	Vitamin C Output (Mg. per 24 Hours)	Control Level Differences (Mg. per 24 Hours)	Per Cent
R. R.	F	$11^{1}/_{2}$	93	Healthy, normal	None	289	...	...
					1 Gm. Vitamin C	925	646	64.6
					ACTH	304	15	5.2
R. A.	M	11	84	Rheumatic heart disease, active	None	271	...	...
					500 mg. vitamin C	570	299	59.8
					15 grains salicylate*	...	...	...
L. J.	M	8	51	Rheumatic heart disease, inactive	None	276	...	...
					500 mg. vitamin C	563.5	288	57.5
					30 grains salicylate*	285	...	...
B. E.	M	11	99	Rheumatic heart disease, active	None	295	...	...
					40 grains salicylate	322	27	...
					30 grains salicylate*	280	−15	−5.0
A. T.	F	$5^{1}/_{2}$	49	Healthy, normal	None	212	...	...
					30 grains salicylate*	211	0	0
P. F.	M	9	44	Malnutrition	None	79	...	...
					30 grains salicylate	90	11	14.0

*Given as Pabalate.

TABLE IV.—EFFECT OF SALICYLATES* ON ASCORBIC ACID BLOOD LEVELS AND URINARY OUTPUT OF CHILDREN RECOVERING FROM RHEUMATIC FEVER ATTACKS

					Pretest Levels		Postsalicylate Levels	
Patient	Sex	Age	Weight	Erythrocyte Sedimentation Rate (Mm. per Hour)	Blood (Mg. Per Cent)	Urine (Mg. per Day)	Blood (Mg. Per Cent)	Urine (Mg. per Day)
E. B.	M	11	102	18	1.60	162	1.60	126
R. A.	M	10	90	19	2.16	105	2.16	75
L. G.	M	$6^{1}/_{2}$	42	19	1.93	106	1.83	70
L. J.	M	8	53	11	1.94	100	2.14	126

* Given in a single dose as 3 tablets of Pabalate (3 × 5 grains sodium salicylate).

plasma vitamin C levels (Table I) and (2) that these levels were not significantly altered with the administration of salicylates, with or without para-aminobenzoic acid, or ACTH. Furthermore, these levels were not changed by the usually prescribed amounts of vitamin C. Appreciable increases were noted only when 500 mg. or more of ascorbic acid were given.

Measurements of the output of vitamin C as influenced by the administration of the various test substances are listed in Table III. Examination of these results discloses that in terms of our criteria, administration of salicylates or ACTH at various therapeutic levels does not appear to induce a depletion of the vitamin C stores. This view is further supported in the results obtained with a limited number of children convalescing from rheumatic carditis in whom we were able to make measurements of blood and urine vitamin C levels before and after the administration of Pabalate by the described procedures (Table IV).

Our observations to date indicate that the action of salicylates does not have a catabolic component with respect to vitamin C metabolism. These findings bear the practical implication that during salicylate therapy there appears to be no need to increase the patient's vitamin C intake beyond the daily recommended allowances. The administration of para-aminobenzoic acid in conjunction with salicylates also does not appear to alter the vitamin C needs, as indicated by measurements of the blood and urine. Obviously, these studies should be extended to other essential or critical nutrients, e.g., amino acids.

Summary

The adrenocorticotropic action of salicylates, as evidenced to some investigators by alterations in the count of circulating eosinophils, does not cause catabolic effects on the vitamin C or nitrogen stores of the human body. This important nutritional characteristic of salicylates should be considered in the therapy of children with active rheumatic fever. This is especially true when the patient shows signs of malnutrition.

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Don't Forget . . .

Make your hotel reservations for the annual convention, May 9 to 13, 1955, Hotel Statler, Buffalo.

The "Well" Patient Who Feels Sick

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A GOOD part of the internist's practice is composed, not of the dramatically ill, but of the "well" patient who feels sick. This patient, of average emotional stability, has "nothing really wrong." Complete tests and thorough examinations on him have disclosed "findings in normal range" and "results essentially negative." The news has been happily imparted to the patient, and at this point in the procedure he is often discharged.

Medical "bromides" follow him to the door, accompanied time and again by a prescription for a sedative, or a tonic, or 30 therapeutic vitamin capsules.

The patient goes home mentally relieved. However, in a short while he begins to suffer the identical or equivalent discomfort. What now? With the doctor's words, "Everything is normal; nothing is wrong with you," still ringing in his ears, he has three courses open to him: (1) he can philosophize and learn to live with his pain or discomfort, or (2) he can shop around for another doctor, or (3) he can return to his own physician.

Interestingly, the philosophic one who learns to live with his trouble often returns in a short period with what he believes are brand new symptoms. True, to him the manifestation is different. Formerly, he might have suffered supraorbital neuralgia; now intercostal neuralgia takes precedence. Formerly, he was bothered with precordial pain; now it's pain in the abdomen. Formerly, the main distress was heartburn; now it's cramps or nausea.

Tests and examinations are again in the normal range and essentially negative and strikingly similar to the former ones in pattern. What is even more striking, if an accurate history has been kept, is the resemblance down to the last letter, of the patient's description of his "new" trouble.

Perversely we sometimes allow the x-ray or examination to substitute for the person, or, to restate, we permit the "normal range and essentially negative findings" to act as a panacea. This is not to deny the fact that there are times when even for the stoutest nerves, reassurance itself is the cure. We've all had the experience of apprehension at the slightest symptom when another member of the family has fallen unexpectedly ill with a ruptured appendix, a sudden heart attack, or the like. But these apprehensive patients are not to be confused with the "well" patient who feels sick. With the latter, prevention of the "return engagement" should have begun when he was told there was "nothing really wrong."

The fault with the arbitrary use of the words, "nothing really wrong," lies in the manner in which it paves the path, as symptoms persist, for other banalities, such as "constitutional inadequacy," or "general debility," or "neuresthenia," or more recently "psychosomatic." This wide swing of the pendulum leaves the patient just where he was when he came in—in midair. It is too pat and is reminiscent of the kind of omniscient thinking which Galen employed towards his patients when he said, "All who drink this remedy recover in a short time, except those whom it doesn't help, who all die and have no relief from any other medicine."

Having been a clinician for almost forty years and knowing that nothing in medicine can be rubber-stamped (including the rubber stamp itself, for some are allergic to the inkpad and others are allergic to the rubber), I have found a clue which has been helpful to so many of my "well" patients who felt sick that I'd like to pass it on for further study.

Despite the countless individual characteristics rampant in these men, women, and children; despite the wide variety of their complaints; despite all the variables—there is a common denominator which gets them into trouble. *It is a depletion of energy up to or beyond the body's ability to spring back.*

This point, up to or beyond which the body cannot spring back with impunity, may be designated as the level of energy expenditure.[1] It may be compared to the "elastic limit" in the fatigue of metals. In people it may be thought of as the point at which the last straw would add danger to the load.

The "well" patient who suffers with migraine or other periodic disturbance is one whose energy expenditure goes beyond his own level of energy expenditure. His attack is Nature's protective mechanism in operation. It represents a kind of safety valve. When it pops, Nature steps in to preserve the homeostasis of the body by restoring energy to the body after an attack; she repays the energy "debt." This type of self-righting process is more spectacular after a convulsive attack. There, Nature is restoring the blood sugar to normal level, thus abolishing the very condition which brought about the convulsion in the first place. Migraine (or its variants) is, therefore, a "recharging" agent in the same sense that a convulsion is a "refueling" agent in a hypoglycemic attack.[2]

The "well" patient with intermittent distress rather than periodic attacks usually has not expended his energy beyond his level of energy expenditure. The "wisdom of the body" does not regard his illness, therefore, as a serious threat to its homeostasis. For this reason, it sees no need for the popping of a safety valve or the subsequent recharging of energy or the immunity between attacks.

The migraine patient gets his attack, I've observed elsewhere,[1] when his energy is depleted beyond his level of energy expenditure. He is then in energy debt. He has, as Cannon[2] said, taken "goods out of the stream" but has failed to put "goods of equivalent value" back into it.

The intermittent patient, who concerns us here, does not abscond without putting "goods of equivalent value" back into the stream, but before the "goods" have a chance to settle in the stream, he's taking some out again! This "well" patient who feels sick no sooner almost achieves spring-back when his energy is siphoned off, and he starts hovering uncomfortably around his level of energy expenditure again.

The factors responsible for this siphoning off of energy are as varied as the level of energy expenditure is *constant*! I believe that the level of energy expenditure is an inherited characteristic, and we may categorize individuals as those with optimal, average, and minimal levels of energy expenditure.[1] This is not to say that an optimal is immune to becoming a "well" patient who feels sick. If the optimal consistently overspends down to his level of energy expenditure, he runs the same risk as does the minimal or average who consistently overspends. By the same token, a minimal need never become the "well" patient who feels sick as long as he lives within his own level of energy expenditure. He need not bewail his lot. Too few of us, including optimals, ever reach our own potential anyway, whether it be physical or mental. Reaching it is something to strive for. And prevention of depletion is a step towards achieving it.

I have found it practical to classify depletion into two categories: unavoidable and avoidable. And, having decided on these neat categories, let me hasten to add, would that patients could fit neatly into them! Would that we could call a factor a cause of depletion, without reminding ourselves promptly that the cause could be, in effect, the result. The old game of which came first! But, since our problem with the "well" patient who feels sick is to make him feel well, to put him "together again," to make him function efficiently as a whole contented human being, the important thing is to break into the circle of depletion at any point we can.

Therefore, I have selected nine factors of unavoidable depletion, which in my practice happen to come up most frequently:

1. The borderline disturbance, like a mild allergy, which because of some variable did not show up at the time of the patient's original complete examination. This mild allergy might flare up when the soil is receptive for it. An emotional upset might provide the soil, as one instance.

2. There might be two factors of depletion, each in itself inconsequential. Together, they amplify each other. For instance, a borderline low blood sugar plus a borderline low blood calcium can deplete the patient down to the level of energy expenditure with bouts of frightening tachycardia.

3. Any link in the long, complex chain of the endocrine system, if it is a weakened link or if it is dependent on a link which has weakened, could cause depletion. We have just to look at the "chain reaction" in puberty with its advent of the reproduction function and its stress of personality changes. In this critical period of growth, as well as in the menopause or the male climacteric, it is the small extra stresses of minor dysfunctions which are enough to push the patient down to his or her level of energy expenditure.

4. Menstruation is a depleting factor.[1]

5. Emotional trauma is another factor. It has a cruel way of popping up unexpectedly and of amplifying everything it touches.

At this point I anticipate the question, "But, isn't it possible that these 'well' patients feel sick because their troubles are just psychosomatic?" Of course! Anything is possible. It is possible that anxiety, hysteria, hypochondriasis, or even a mild insanity could conceivably slip by a doctor's eye. But this does not give us license to stamp as psychosomatic any distress for which we have no ready diagnosis. In my mind, if a patient has definite need for the help of a psychiatrist, he is not well (even though the *well* might be enclosed with quotation marks). And as for the "well" patient who feels sick, I do not assume to disentangle mental and physical, but rather to treat them together, as they occur in the body.

6. Although past infections may or may not leave markings on an x-ray plate, they have a way of dragging after them a subtle trail of enervating distress (to say nothing of the not so subtle aftermath of the antibiotics which often accompany the infections).

7. Inborn weakness of constitution, along with hereditary predispositions. Here, the physician who knows the family well, who was acquainted with the fetal environment of the "well" patient, has a clear advantage in his delving for clues to energy leakage.

8. Toxicity caused by ingestion of or exposure to DDT and its many variants. Biskind[3] says, "Patients with this syndrome rarely show objective changes on physical examination sufficient to account for the severity of the subjective disorder and the actual amount of disability present." DDT and numerous related chemicals equally as dangerous are in widespread use on the farm, in industry, and in the home, literally from garden to attic to kitchen. The patient, often aware of the toxicity of DDT, innocently subjects herself and her family to an equally dangerous variant in the form of a "harmless" kitchen insecticide. As far as the "well" patient is concerned, I feel there has been a decided lag between the published reports of the toxicity of DDT, Chlordane, chlorinated camphene, etc., and our practical application of it in diagnosis. The symptoms of this toxicity can simulate any of the other factors of depletion to the level of energy expenditure.

9. Of prime importance is nutritional deficiency with an inborn higher requirement for certain essential nutrients. Williams[4] has denominated this as "genetotrophic disease." If it seems inconsistent to refer to disease in a "well" patient, let's remember that in these people frank nutritional deficiency is never seen. Even the invaluable anatomic signs with which Jolliffe *et al.*[5] have furnished us, so that we may make early diagnosis, are not present at the outset of the trouble. This, therefore, leaves a large group, surprisingly large, who, Barboroka[6] says, are suffering from nutritional deficiency which is "vague and elusive even to the careful observer using the most accurate specialized techniques." In the "well" patient who feels sick, the constant interplay of factors leading to the level of energy expenditure is nowhere more pronounced than in the area of nutritional deficiencies. We may never lose sight of the fact that "dietetic deficiency means endocrine insufficiency."[7]

Nutritional deficiency in the unavoidable listing brings us naturally to the first factor of avoidable depletion:

1. Faulty eating, which includes poor eating habits and poor food, qualitatively and quantitatively speaking. That no medical history is complete without a dietetic history is axiomatic. Nevertheless, the patient today isn't trained to give a much better account of his food intake than he was twenty-five years ago. He's vague, and even if he's diet conscious, he thinks of his food in terms of his "big meal." The inferior breakfast, the not much better lunch are never given equal "billing."

And where do we stand on the history? Almost a quarter of a century ago, when we were on "speaking terms" with only three vitamins, we were urged to look at the patient's diet from the point of view of vitamins, proteins of high biologic value, minerals, and excesses of carbohydrates or fats.[7] Our perspicacity hasn't been world-shaking!

Now that the expression, "balanced meals," is bandied about thoughtlessly by the informed, the pseudoinformed, the misinformed, and the uninformed, every housewife fancies that her meals are "balanced." And in the higher professional echelons, we've been just as guilty for handing out indefinite advice for "well-balanced meals" and a "good mixed diet."

2. The overlapping factors of disregard for individual requirements in the rhythm of daily work and rest and play and rest (play in the category includes exercise) and consistent overwork or overplay.

3. Unnecessary speeding in all activities.

4. Poor rest and sleep habits.

5. Excesses in sex, drinking, and smoking constitute an avoidable factor of depletion. I use the word, however, with reservations, and I'm

thinking of Mosso,[8] who said, "We give no measure of what constitutes excess, because this is relative to the person of whom we speak. It is with fatigue as it is with love. What would constitute excess for some, for others is merely an agreeable stimulus." Nevertheless, I have found excesses to be a depleting factor, particularly in the "well" patient who is given to intellectual fatigue. Although we are well aware of the constant interlacing of brain and brawn, the brain consumes more energy. Our "well" patient, even though he knows that intellectual fatigue influences muscular fatigue and vice versa, is often the one who tries to "get the cobwebs" out of his brain by one means of overexpenditure or another. There may be nothing harmful in the "means"; it may be beneficial. What is harmful is the expenditure of energy when he is already exhausted. Since fatigue of the brain does not warn as does fatigue of the muscle, if our patient does not learn to anticipate it, he becomes trapped by what for him are excesses. We do not know the physiology of thought as yet, but we do know that the metabolism in the brain, measured in the amount of oxygen used, is about one fourth the total metabolism in the body of an adult and about one half in a young child[4] and that the gray matter with which we do our thinking uses from two to four times the energy needed by the white.[9]

To reiterate—whether the causes are unavoidable or avoidable, the "well" patient who feels sick does feel sick because his energy has been depleted to his individual level of energy expenditure. Treatment, therefore, should be aimed at removing or preventing the offending factors, wherever possible, and at building the stockpile of energy reserve high enough to provide for the "everyday" strains and stresses of living. The rhythmic way of life, which is the very nature of our beings, is thrown out of gear when there are depleting factors to upset the balance of input and output. And when the balance is upset, the night's rest does not bring with it spring-back. Instead, it carries in its wake heartburn to one, tachycardia to another, nausea to a third, spasms of sneezing to a fourth, etc.

Sir Greville, poet and statesman of the sixteenth century, had a comment on that which still holds good. "It is often better," he said, "to have a great deal of harm happen to one than a little; a great deal may rouse you to remove what a little will only accustom you to endure." A "little" nutritional deficiency, spread over a period of time, certainly does more harm than an acute deficiency, and it is "endured" by the unsuspecting patient.

For evaluating the existing diet of a patient, at the beginning of treatment, I resort to a device I've used with my migraine cases. Because it is of utmost importance for me to know how the latter are spending and hoarding their energies, I give them small notebooks labeled, "My Twenty-four Hours." During the first week of treatment I ask them to record as many details as they possibly can of what they do and of what they eat the clock round. This serves as an adjunct history; it helps me spot energy leakage, and it is a boon for enabling me to see dietary indiscretions.

It is nothing short of amazing to see, in writing, what are regarded as adequate meals by otherwise intelligent people. One landscape gardener with a superior knowledge of plant ecology could tell me down to the last pinch how much boron was needed by the soil so that the broad bean plant could mature. The protein content of his meals, when evaluated, averaged 50 Gm. a day (and he was a big man); yet he had wondered why he was so irritable when he had nothing to be irritable about.

The "well" patient will cooperate with maturity if he fully realizes that "not only do the glands of internal secretion affect the utilization of available nutrients, but they themselves are directly influenced by states of malnutrition."[10]

Patients are pleased to know all we can tell them. Sir Robert McCarrison's explanation of how vitamins work (published in 1921) still fascinates: "Vitamins are as the spark which ignites the fuel mixture of a petrol-driven engine, liberating its energy; the spark is of no use without the fuel, nor the fuel without the spark—nay, more, the efficacy of the spark is dependent in great measure on the composition of the fuel mixture."[7] The patient who understands the reason for sound nutrition is not apt to fall under the influence of a faddist cult or to be sheepish about changes in his dietary habits. Only after the patient understands the "why?" of improved nutrition and has put his understanding into the practice of three (or more) equally valued meals should supplements be added.

Individual nutrition therapy does much towards adding to the stockpile of energy reserves in the "well" patient who feels sick. A very early dividend is the subjective response of less fatigue. On the other side of the coin, removing fatigue, which frequently distresses our patient, does much towards lessening nutritive failure. (There's a striking case report of a patient whose blood iodine had fallen more than 50 per cent and had threatened her with miscarriage. A week's bed rest without any other treatment brought the blood iodine up to normal.)[11]

With our "well" patient the more roads attacked, the more crossroads eliminated, the better. We spoke of menstruation as a depleting agent. Nutritional therapy, although aimed at other discomforts, has lessened menstrual distress. Once again, the merger of cause and effect.

Mergers with fatigue are expected in our patient. However, repeatedly we have a "well" patient who feels sick but who doesn't tire easily. Indeed, these patients often regard themselves as being "full of pep." This sham energy occurs many times with overexpenditure in the direction of the emotional or intellectual. We all know that when the brain doesn't get what it needs in rest and nutrition, it compensates with greater sensitivity or irritability. It gives these people then a drive. It may well be a kind of alarm reaction in the Selye concept. When the level of energy expenditure is minimal, the drive of sham energy is more likely to be short. But, long or short, it is spurious and forces the body to demand "time and a half" for energy spent during actual fatigue.

This speeding, driving patient must be taught that the world won't come to a bad end, even if he or she doesn't accomplish every detail of work or play. He must be taught also that there are no dire consequences if he breaks an appointment or says "no" to one he hasn't enough time for. He must be made to slow down, to coast along, even if sedation is required to get him into the habit of an efficient rhythm (for him) of work and rest and play and rest. This is not to say that all "well" patients who feel sick will benefit by slowing down. On the contrary, some have been so frightened by their symptoms that they've begun to rest to the point where they rust out instead of wear out.

What all the "well" patients who feel sick need is the reassurance that the spending of energy will not cause depletion, as long as it is kept within the confines of his own level of energy expenditure. But to maintain his ability to pay as he goes, he must provide for the stresses that are part and parcel of living, and the only way he can provide is to have his stockpile of energy reserve large enough, and much larger than he would think necessary. This is the way of the body's wisdom. Not only are our "parts" built for maximum stress, but spares have been thrown in to boot. "Without too much," said William James, "you cannot have enough of anything."

If the patient is to maintain his enthusiasm in treatment, he must be assured that rest is not the important feature of therapy, nor is work, nor is exercise and play. What is imperative is that into each day must go the rhythm of work and rest and play (with exercise) and rest. What is even more imperative is that the rhythm must be suited to his very own level of energy expenditure.

With the removal of factors of depletion, with the building of energy reserves, and with the establishment of the individual as an individual, the "well" patient should emerge without feeling sick. And as he emerges, a complete person, with spring-back, he'll do well to remember that when a mountain-climber peasant hails his neighbor with the greeting, "Take your time!" he doesn't mean, "Stop climbing!"

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A lot of good could be done for the world if nobody cared who got credit for it.

Unusual Complications of Acute Coronary Occlusion: Gastrointestinal Hemorrhage and Hiccup

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THE purpose of this paper is to discuss the occurrence and management of two serious complications of coronary thrombosis, namely, gastric hemorrhage and hiccup. Although the coexistence of chronic peptic ulcer and coronary artery occlusion is of statistical significance as reported by Morrison,[1] there is little in the literature of the last twenty years concerning gastric bleeding in a patient with myocardial infarction. One instance, cited as a case report in the *New England Journal of Medicine*,[2] described a patient with a past history of duodenal ulcer and coronary artery disease who was hospitalized because of hematemesis. During the first twenty-four hours the patient complained of severe substernal pain. He died two hours after being admitted, and the autopsy report revealed an anterior wall infarct with recent occlusion of the descending coronary artery.

Two of the cases reported below illustrate the difficulties that arise when a patient with the signs and symptoms of acute coronary closure hemorrhages from the gastrointestinal tract. In one of the cases where bleeding occurred, hiatus hernia was found to be the source. This patient hiccupped almost constantly for seventy-eight days until a phrenic nerve crush was successfully employed.

Case Reports

CASE 1.—M. A., a fifty-eight-year-old white Hebrew male, was admitted to Beth-El hospital on February 2, 1951, complaining of severe chest pain of several hours duration. The previous morning, while at work, the patient suddenly experienced severe substernal pain which radiated down his left arm. The pain did not subside until he was given Demerol by hypodermic injection several hours later. There was no previous history of cardiac disease or any other serious ailment.

The patient was a well-developed male in no apparent distress. There was no dyspnea or cyanosis. The head and neck revealed no significant abnormalities. The heart sounds were of fair quality, and no murmurs were audible. The apical rate was 80 per minute, and the blood pressure was 110/80. The lungs were clear, and the respiratory rate was 16 per minute. On palpation the abdomen showed no evidence of masses, and there was no pain or tenderness. The liver and spleen were not palpable. There was no peripheral edema. The temperature was 100.2 F. by rectum.

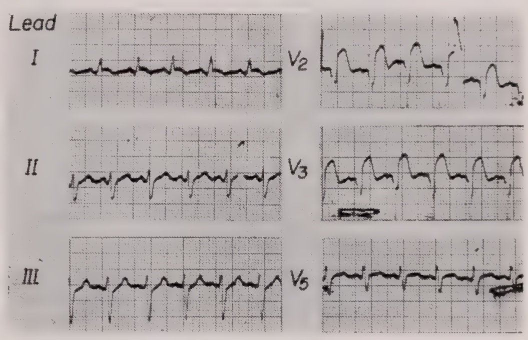

FIG. 1. *Case 1*—Electrocardiogram taken on March 2, 1951, showing acute coronary thrombosis (anterior wall infarction).

Laboratory findings on the day of admission were as follows: Urine—specific gravity 1.030, albumin faint trace, glucose negative, no red or white blood cells on microscopic examination; blood count—hemoglobin 101 per cent, white blood cells 11,600 with neutrophils 72 per cent, lymphocytes 21 per cent, stab cells 3 per cent, eosinophils 2 per cent, monocytes 2 per cent. The blood smear was normal; hematocrit 52 per cent; sedimentation rate (Wintrobe) 24 mm. per hour. Blood glucose was 78 mg. per cent, urea nitrogen 12.5 mg. per cent, total proteins 5.7 Gm. per cent, and total chlorides 104 mEq. per L. The stool and vomitus were positive for blood. An electrocardiogram taken on March 2 gave evidence of acute anterior wall infarction (Fig. 1). Subsequent tracings showed the usual evolutionary changes seen after coronary occlusion. An x-ray of the chest done on March 4 showed only mild hilar thickening. Gastrointestinal and gallbladder series done on the same day revealed normal findings.

On admission the patient suffered two bouts of hematemesis and several hours later began to hiccup intermittently. The vomiting of blood ceased on April 5, and he was still hiccupping when he was discharged April 16.

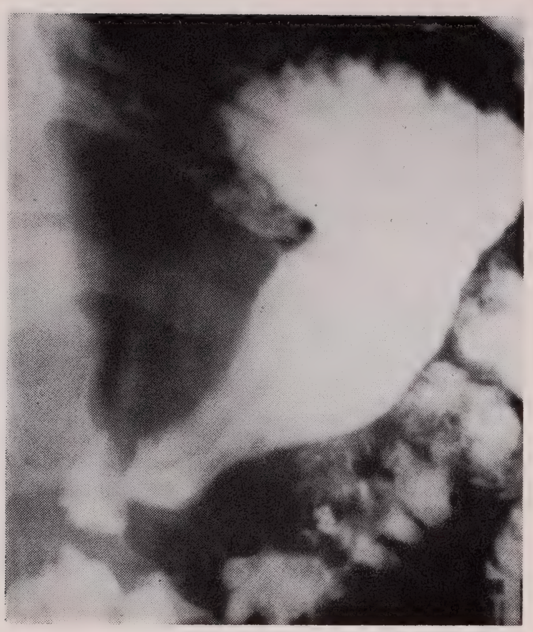

FIG. 2. *Case 1*—X-ray taken May 21, 1951, showing hiatus hernia.

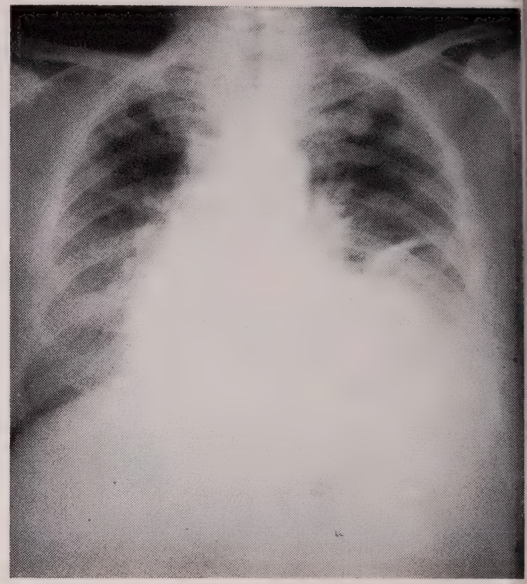

FIG. 3. *Case 1*—X ray taken August 27, 1951, after left phrenic nerve crush, showing elevated left diaphragm and atelectasis.

With the onset of hematemesis the Dicumarol which had been ordered on admission was discontinued. To combat the loss of blood he was given blood transfusions and intravenous fluids. In addition, vitamin K was given to shorten the prothrombin time.

He was placed on an ulcer diet, and the usual antacids were administered. Although he was given 100 mg. of Demerol by injection every four hours and sedation by mouth, his hiccups did not cease when he left the hospital.

The patient was readmitted on April 27, eleven days after his first discharge, still hiccupping. He was in acute distress. Six days prior to his reentering the hospital he vomited coffee-colored fluid. On examination the blood pressure was 98/62 and the apical rate 104 per minute. The heart sounds were of good quality. The lungs were negative to percussion and auscultation. The abdomen was soft, and there was no pain or tenderness. No masses were palpable. No peripheral edema was noted. Immediately after admission 500 cc. of blood and 10 per cent glucose in saline were administered, and vitamin K was added. After giving the patient nothing by mouth for the next eighteen hours, the usual peptic ulcer therapy was instituted. An electrocardiogram taken on April 30 showed evidence of old anterior wall infarction, and persistent elevation of the S-T segment suggested the possibility of left ventricular aneurysm. A gallbladder and gastrointestinal series was repeated, and again no abnormalities were found. Although he still hiccupped, the patient stopped bleeding when he was discharged on May 12, sixteen days after readmission.

At home the patient continued to hiccup but did not vomit blood for the first nine days. On May 21, however, he suffered a bout of hematemesis and was not able to take any food. Upon auscultation of the chest marked gurgling was heard, and for the first time a diagnosis of diaphragmatic hernia was entertained. A gastrointestinal series done on the same day confirmed this impression (Fig. 2). The patient remained at home, and although he did not vomit blood for the next few days, the hiccups continued unabated. On May 28 the patient was hospitalized, and a unilateral phrenic nerve crush was performed on the left side. The hiccups ceased on the operating table as soon as the phrenic nerve crush was completed and did not recur. Three hours later the patient collapsed in his bed. He was totally unconscious, and no pulse could be elicited. On examining his chest the heart was found to be markedly deviated to the left. Within half an hour, however, after an intratracheal tube was inserted and oxygen administered, the patient recovered. He continued to do well and was discharged on June 6.

On August 8, 1951, the patient had no complaints, the hiccups had not returned, and he was back at his job. An x-ray of the chest taken three weeks later showed the diaphragm on the left side to be elevated (Fig. 3). Areas of linear atelectasis were visible.

Several points in this case are worth emphasizing. From the day that this patient entered the hospital for the first time until the phrenic nerve crush was done, he had hiccupped almost continuously for approximately seventy-eight days and nights. In addition to heavy sedation, which was attempted, one of the measures employed to stop hiccups is the inhalation of carbon dioxide.[3,4] It was felt, however, that in a patient with myocardial damage, the administration of carbon dioxide might have a weakening effect on the cardiac musculature because of its depressive effect on the junctional tissues.[5] Operative interference was considered because of the weakening effect on the patient and because the diaphragmatic excursions were thought to aggravate or bring about the bleeding which was apparently due to a hiatus hernia.

Various authors have stressed the importance of including diaphragmatic hernia of the stomach in the differential diagnosis of bleeding lesions of the upper gastrointestinal tract.[6,7] In 1929 Harrington[8] reported 30 cases of hiatus hernia operated upon, eight of which had a definite history of bleeding from the gastrointestinal tract without apparent cause. Seven of these patients had erosion or ulceration of the mucosa in the herniated portion of the stomach, and the hernial sacs were found to be incarcerated. Sahler[6] noted active bleeding on gastroscopic examination of several cases of hiatus hernia. Mendelsohn[7] stressed the negative clinical findings in many patients with this condition until the onset of hemorrhage. One of his patients, however, had such severe precordial pain that until a gastrointestinal series was done, coronary thrombosis was suspected.

Case 2.—S. R., a fifty-five-year-old white Hebrew male, was admitted to Beth-El Hospital on June 13, 1952, complaining of burning precordial pain of five to six hours duration. The previous night the patient was awakened by severe precordial pain for which he obtained partial relief with morphine sulfate, $^1/_4$ grain, by hypodermic injection. Early the next morning the patient vomited coffee-ground material and was hospitalized.

Past history revealed the patient had had peptic ulcer for seven years Physical examination revealed the patient to be a fifty-five-year-old male who complained of severe chest pain. The apical rate was 74 per minute, and the blood pressure was 90/60. The heart sounds were faint, and no murmurs were audible. The lungs were clear. No abdominal masses were palpable, and there was no peripheral edema. The rectal temperature was 99.8 F.

Complete blood count revealed hemoglobin 88 per cent, white blood cells 13,000 with neutrophils 88 per cent, lymphocytes 12 per cent. Urine showed specific gravity 1.028, albumin negative, no red blood cells and an occasional white blood cell on microscopic examination. Blood urea nitrogen was 17 mg. per cent, blood glucose 98 mg. per cent, carbon dioxide combining power 56 volumes per cent, sedimentation rate 22 mm. per hour (Wintrobe). Stool was positive for occult blood. An electrocardiogram done on June 14 showed evidence of acute posterior wall infarction. A gastrointestinal series performed on July 8 revealed evidence of an old duodenal ulcer.

As soon as the patient was admitted, he was put into an oxygen tent, and 200 cc. of whole blood were given intravenously. This was followed by 1,000 cc. of 5 per cent glucose in saline. To control the pain the patient was given 50 mg. of Demerol by hypodermic injection. Papaverine and aminophylline were administered orally. An antiulcer regime was instituted, and the patient made an uneventful recovery.

The bleeding was clearly due to duodenal ulceration, and it is interesting to note that the attack of severe anterior chest pain preceded gastric hemorrhage by several hours. Woldman,[9] reviewing autopsy reports of 108 cases of acute ulcers of the esophagus, stomach, and duodenum, pointed out the relationship between periods of stress and acute mucosal hemorrhage. His findings lend support to Selye's thesis[10] that acute exacerbations of gastrointestinal ulcers may follow fatigue and emotional tension.

Case 3.—M. C., a fifty-five-year-old white Hebrew male, was admitted to Beth-El Hospital complaining of pain in the chest radiating down to both arms. In the past week the patient had had mild anginal pain of brief duration. On March 4 in the afternoon he had a severe attack of precordial pain which lasted several hours and was accompanied by pallor and a drop in blood pressure. An electrocardiogram taken on the same day showed evidence of left bundle branch block and severe coronary insufficiency. Past history revealed the patient had had a hemorrhoidectomy four years ago.

The blood pressure was 100/60, and the apical rate was 80 beats per minute. The rest of the physical examination showed no significant abnormalities. The rectal temperature was 101 F.

Laboratory reports gave the following results: Complete blood count showed hemoglobin 88 per cent, white blood cells 11,000 with neutrophils 67 per cent, lymphocytes 26 per cent, band cells 3 per cent, eosinophils 1 per cent, monocytes 3 per cent. Urine specific gravity was 1.028, albumin faint trace, glucose negative; there were 2 red blood cells and 6 white blood cells per high power field. Hematocrit was 41 per cent; sedimentation rate (Wintrobe) was 38 mm. in one hour. Blood glucose was 90 mg. per cent, urea nitrogen 26.7 mg. per cent, total protein 6.1 Gm. per cent, albumin 4.14 Gm. per cent, globulin 1.7 Gm. per cent, carbon dioxide combining power 42 volumes per cent. An electrocardiogram done on March 16, showed serial changes indicating anterior wall infarction. Another tracing taken on March 26 showed further progressive changes confirming the impression of recent coronary occlusion.

The patient was put on Dicumarol and the usual coronary vasodilators. He began to hiccup on the day of admission and continued to do so for eight days. Despite Demerol which was given by hypodermic injection in 50-mg. doses, he hiccupped constantly, even during sleep. The hiccups finally ceased spontaneously. On the third day after admission the patient developed bronchopneumonia, and Crysticillin was given. He did well and was discharged on April 1, 1951. The hiccups did not return.

It should be noted that after eight days of almost constant clonic hiccupping which did not respond to heavy sedation, the diaphragmatic excursions finally ceased of their own accord.

Comment

Gastric hemorrhage supervening in an individual with coronary thrombosis is a complication of the utmost gravity and concern. The state of shock that may follow sudden bleeding aggravates the anoxemic state of the heart. According to Master[11] an acute loss of blood may in itself precipitate subendocardial necrosis with signs and symptoms of acute coronary occlusion. That this may be so is indicated by Gruner[12] who has described several patients in whom severe anginal pains developed as a result of bleeding from the gastrointestinal tract. Two of his patients died, and autopsy revealed myocardial necrosis without infarction.

The loss of blood may affect the thrombosed coronary arteries adversely. According to Quick[13] the anemic state is conducive to propagation and dislodgment of the thrombus by its influence on the clot reaction time. As the clot shrinks, thrombin is released and causes secondary extension of the thrombus. In view of Wright's conclusions[14] that the use of anticoagulants in myocardial infarction increases markedly the chances of recovery, a dilemma is presented when a patient with coronary thrombosis suffers from gastrointestinal hemorrhage. It would appear, however, that when such a condition arises, therapy should be directed chiefly toward alleviating the loss of blood by means of intravenous fluids and blood transfusions despite the added load this may place on the cardiac reserve. Master[11] has given 2,500 cc. of blood in twenty-four to thirty-six hours without ill effects.

Hiccupping as a complication of coronary occlusion is rarely discussed in the literature. Weiss[15] encountered three such cases and suggested as possible causes infarction of that portion of the ventricle resting on the diaphragm with consequent irritation or a localized pericarditis with involvement of the phrenic nerve. In each of the instances cited by Weiss, the hiccupping ceased spontaneously. Rubin and his associates[16] describe a patient who developed hiccups after coronary occlusion and had to be subjected to a left phrenic nerve crush, because of the weakening effect due to the constant diaphragmatic excursions. The authors state that phrenic nerve crush to abolish hiccups in an individual with acute myocardial infarction had never been previously attempted. It should be noted that the hiccups did not cease until three days after operative interference, although they were somewhat diminished immediately after the surgical procedure was completed. Since hiccups may cease spontaneously, as in the three cases presented by Weiss[15] and as occurred in one of our patients, it is difficult to evaluate the efficacy of the phrenic nerve crush in the case reported by Rubin.[16]

Summary

1. Three cases of acute coronary artery occlusion with serious complications are presented.

2. Two of the patients suffered acute gastrointestinal hemorrhage subsequent to the attacks of coronary thrombosis. One of these patients experienced a severe case of hiccups which persisted for seventy-eight days and nights despite all conservative therapy. Phrenic nerve crush was done, and the hiccups ceased. In another case the hiccups stopped spontaneously after eight days.

3. Gastric bleeding occurring in a patient with myocardial infarction presents a serious problem fraught with many therapeutic pitfalls. Treatment should be directed towards alleviating the acute loss of blood.

4. Hiatus hernia should be thought of as a possible cause of gastrointestinal bleeding.

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Clinical Vagaries of the Stein-Leventhal Ovary

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THE original concept of Stein and Leventhal[1] embraced the clinical features of menstrual irregularity featuring amenorrhea, a history of sterility, masculine type hirsutism, and, less consistently, retarded breast development and obesity. These findings combined with ovaries similarly and simultaneously enlarged and showing typical cystic changes, which were alleged to be irreversible and refractory to hormone therapy, comprised the so-called Stein-Leventhal syndrome.

The data as originally listed are valid and have been confirmed.[2–4] However, there are variants of the syndrome which may not have received sufficient recognition.

Variations from the Literature

Clinical increments to this possible entity were made by Ingersoll and McDermott[5] who demonstrated that excessive bleeding episodes could occur in the presence of the typical pathologic ovarian findings. The emphasis in their group of 21 patients was on the menorrhagic feature.

The refractory character of this type of ovary to hormone therapy has been contradicted by Greenblatt.[6] He has evidence that there is in the amenorrheic phase, at least symptomatically, some reversibility effected by the oral use of cortisone. He has also suggested that in those cases not responsive to bilateral ovarian wedge resection, oral cortisone may be efficacious. Jones and Howard[7] have also utilized low-dosage cortisone therapy in a group of patients with polycystic Stein-Leventhal ovaries with improvement in five out of nine cases.

The typical patient with this condition is statistically anovulatory and, accepting the dictum "nulla dysmenorrhea sine ovulatione," is singularly free from menstrual pain. We have reported persistent and progressive dysmenorrhea with the characteristic Stein ovarian findings confirmed microscopically.[8]

Corpora lutea have been demonstrated in ovarian tissue removed in other cases.[1] This implies that ovulation can and does occur in this type ovary and that, excluding other types of pathology, the presence of dysmenorrhea in the symptom complex is not incompatible with the diagnosis. Brief mention[8] has been made of pelvic pain unrelated to menses in this disease state. This point has not had elaboration.

The patient exhibiting this syndrome is usually regarded as infertile, yet pregnancy has occurred in the presence of the untreated Stein-Leventhal ovary.[2]

The accepted therapy of ovarian wedge resection, according to the data of Stein,[9] Ingersoll,[5] Meaker,[10] Siegler,[11] and Weinstein,[12] results in conception in approximately 65 per cent of those married; in the same percentage surgery accomplishes readjustment to normal menses. The failure of therapy in 35 per cent of these cases may suggest a multiple etiology in this condition.

A review of the literature[1,5] reveals no uniformity in the findings of mammary hypoplasia, hirsutism, or obesity.

All pathologists[13] handling a sufficient volume of gynecologic material and their gynecologic confreres are familiar with the occasional patient who is symptomatically free, who exhibits no known hormonal alteration, yet whose ovarian tissue changes are "consistent with the findings of the Stein-Leventhal ovary."

Etiology

In 1951 Leventhal and Cohen[14] suggested a possibility based on Reynolds'[15] findings that the ovaries were nourished by spiral arterioles. Gonadotropin is released by the pituitary gland which initiates the course of the ovarian follicles in the direction of cystic enlargement. Such cystic enlargement would then structurally alter the spiral arterioles, and the intra-arteriolar pressure would increase with a resultant transudative edema into the ovaries and eventually into the follicles, causing further distention of the ovaries. Thus there develops a vicious circle which is only relieved by the decompression operation of wedge resection. This, presumably, allows the arterioles to shrink back to their original form. The supposition in this theory is that the original disorder resides in the pituitary gland.

In contrast, Albright[16] postulates the following sequence of events: He thinks that, possibly owing to ovulation failure and continuous estrogen production, the pituitary gland is stimulated to release the luteinizing hormone fraction, which has two effects—one on the adrenal cortex to produce some androgenic corticoid responsible for the hirsutism so often found, and the other on the ovaries with thecal luteinization and amenorrhea. Albright's theory presupposes that the original disturbance is in the ovary. Wedge resection in this theory causes destruction or removal of the follicles producing the estrogen. This is regarded as sufficient to alter the hormonal cycle and result in a return to normal ovarian function.

Sturgis[17] believes that there are two kinds of situations producing the Stein-Leventhal ovary. In a small series of patients with typical pathologic ovarian findings, urinary 17-ketosteroids were found to be elevated. It is his opinion that in some cases the pathology arises de novo in the ovary; in other cases the pathology is a primary adrenal or pituitary disorder. Specifically Sturgis reports that in one case that did not respond to ovarian wedge resection adrenal hyperplasia was found. It was his impression that wedge resection of the ovary is not therapeutic in those cases of pituitary or adrenal origin. He cautions against the assumption that an easy differential in the teleologic mechanism lies in the ketosteroid determination. The fact is that if pituitary stimulation causes excessive adrenocortical production and if that production is in the direction of glucocorticoid type of excretion, the 17-ketosteroid level will not be elevated. Generally the glucocorticoids are not broken down into 17-ketosteroids.

For the present a satisfactory response to wedge resection may be indicative of primary ovarian etiology, and a failure of this type therapy may point to uniphasic or combined adrenal-pituitary disorder.

Sturgis' theory should be evaluated in the light of eight cases described by Jones and Howard,[7] a group of gynecologic patients complaining primarily of amenorrhea and oligomenorrhea. Superficially they resembled the Stein-Leventhal complex. Bilateral polycystic ovaries were not demonstrated in these cases, and these patients appeared to have only a mild degree of classic adrenal hyperplasia as their pathology.

Clinical Material

Our clinical experience,[18] obtained chiefly by culdoscopy and ovarian wedge resection, has confirmed that aspect of the disease state as outlined by Stein and Leventhal, but we have been impressed with the relative frequency of the characteristic ovarian findings in the absence of the accepted stigmata of the disease. This has suggested to us that, regardless of the genesis of the syndrome, there are infrequent cases with intermediate degrees of manifestation of the process.

The single common denominator to establish the diagnosis is the microscropic appearance of the ovaries. The findings are as follows: the tunica albuginea is greatly thickened and permeated with excessive amounts of collagen. Immediately beneath the tunica albuginea or scattered throughout the underlying stroma, there are follicle cysts of varying size. The granulosa cells may be somewhat hypertrophied and several layers thick but more often are reduced to a single attenuated layer or have disappeared entirely. Characteristically the theca interna shows marked hyperplasia and frequently luteinization of its cells. The theca externa and adjacent ovarian stroma are generally more dense and more fibrous than normal.

Accepting these microscopic findings as the tissue elements required for the diagnosis, we believe that the clinical manifestations may vary from no apparent symptoms (rare cases) through intermediate degrees (of equal rarity) to those coinciding with the syndrome as originally described (more common). The following cases are illustrative.

Case 1.—Sister K. S., a forty-two-year-old member of a religious order, was admitted to the hospital for evaluation of a pelvic mass found on routine physical examination. Menses began at age thirteen and were entirely regular with no history of metromenorrhagia or intervals of amenorrhea. Detailed queries revealed some acquired dysmenorrhea in the five years preceding hospital admission, but the degree of pain was never considered sufficient to require use of analgesics.

The general physical examination was entirely negative. Pelvic examination revealed a plum-sized, tender swelling which appeared to be localized in the region of the right uterosacral ligament. Because of the difficulty in localizing the mass accurately and its persistence after an interval of observation, dilatation and curettage and exploratory laparotomy were done.

At the time of surgery the mass was identified as arising in the region of the right uterosacral ligament, and pathologically it proved to be an adenomyoma. Biopsy of the ovaries was done because they were bilaterally enlarged and grossly consistent with the Stein-Leventhal variety. The pathologic report showed findings consistent with the Stein-Leventhal picture.

The inference in this case and in similar cases in the experience of others is that the pathologic characteristics may exist in the absence of clinical manifestations.

Case 2.—Miss B. L. was a twenty-four-year-old-girl admitted to the hospital with a chief complaint of profuse episodes of menstrual bleeding. She stated that her menses began at age fourteen, were irregular in her early years, and at intervals in recent years had been profuse in character.

In the two years preceding hospital admission there were infrequent episodes of amenorrhea not exceeding forty to sixty days, followed by profuse vaginal bleeding of eleven to eighteen days duration. There was no history of dysmenorrhea.

The general physical examination was negative. There was no obesity, no hirsutism, no mammary hypoplasia. Pelvic examination was negative except for evidence of moderate bilateral ovarian enlargement.

The patient had been treated elsewhere with hormonal therapy, and on two occasions dilatation and curettage was done. The pathologic report both times was proliferative endometrium. The condition was described as dysfunctional bleeding by her previous physician.

In view of the bilateral ovarian enlargement, culdoscopy was done with visual evidence of Stein-Leventhal ovaries. This was confirmed histologically at the time of wedge resection of the ovaries. Since surgery the menorrhagia has improved.

This case is in agreement with those reported by Ingersoll and McDermott[5] and exclusive of the pathologic findings has only the amenorrheic component of the original syndrome described.

Case 3.—The degree of variation of the syndrome is well expressed in the case of Mrs. M. E., twenty-six years old. After being married three years with no history of contraception, she conceived and bore one child.

Her menstrual history was entirely regular except for rare intervals of amenorrhea two to three times a year lasting on the average of six weeks. There were no profuse periods and no dysmenorrhea. Since her menses began, she had episodes of dull, bilateral, nonradiating aching, unrelated to periods, in the lower abdominal quadrants.

The patient consulted one of us (J.A.F.) because of inability to conceive again. Sperm studies of her husband were negative. Rubin test demonstrated patent tubes. Repeat endometrial biopsies showed secretory endometrium only twice in a twelve-month interval.

The general physical examination was negative. The singular pelvic finding was bilateral ovarian enlargement. Culdoscopy revealed characteristic Stein ovaries; biopsy was not done.

Wedge resection was not advised in this case, and since her study she has conceived and delivered another child.

Although lacking the confirmatory tissue evidence, this case presented findings at culdoscopy that are considered pathognomonic of the Stein-Leventhal ovary. If it is assumed that the tissue evidence would corroborate the findings of the culdoscopic examination, the only resemblance that this case has to the full-blown syndrome is in the suggestion of amenorrhea and relative infertility.

Case 4.—Mrs. E. P., a twenty-four-year-old married woman, was admitted to the hospital for diagnostic dilatation and curettage for daily episodes of slight to moderate vaginal bleeding of six weeks duration. Her periods had begun at age fourteen; they were fairly regular until after the birth of her only child. Since that time there were intervals of amenorrhea varying from six to eight weeks duration. The patient had been married five years and without contraception had only been pregnant once. There was no history of menorrhagia and, excluding the present illness, no metrorrhagia. The patient believed that her recent symptoms of daily bleeding were related to a possible miscarriage. There was little evidence by history or examination to support this belief.

Except for obesity the physical examination was negative. Pelvic examination was negative. Diagnostic dilatation and curettage was done with the pathologic findings of adenoacanthoma. At the time of surgery the ovaries were bilaterally enlarged, pale and white, and studded with follicle cysts. The microscopic findings were consistent with the Stein-Leventhal pathology.

Again, except for obesity, a degree of infertility, and some amenorrhea, exclusive of the unusual uterine pathology, this patient was not particularly symptomatic.

Summary

The variability of the clinical picture in the presence of the Stein-Leventhal ovary is described and contrasted with the original description.

The present concept of the clinical characteristics of the Stein-Leventhal syndrome appears to require amplification, at least in the exceptional cases. The pathologic ovaries may exist in the absence of any clinical manifestations or in the presence of an intermediate clinical picture, as well as in the typical syndrome.

Excerpts from the literature indicating the degree of variability of this syndrome are presented, and four cases are reviewed in support of this thesis.

131 Franklin Street

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Forward Resolutions Early

Early in January, Dr. Frederic W. Holcomb, Kingston, speaker of the House of Delegates of the Medical Society of the State of New York, made a strong appeal to county medical society officials to help expedite the work of the 1955 House of Delegates by forwarding resolutions to the State Medical Society's offices as early as possible.

> May I request the assistance of the officers of the component county societies, particularly the secretaries and executive secretaries, in forwarding promptly all resolutions that have been presented and passed upon by the county societies?
>
> For the past several years, approximately 70 to 80 resolutions have been introduced at each annual meeting of the House of Delegates. Many of these resolutions are important to over 23,000 members of the State Medical Society, and relate to the activities and various phases of our professional work. It seems manifestly unfair to reference committees, some of which have to report on many resolutions that actually concern us, to have a limited time of only two days to consider them thoroughly and then present a worthwhile report to the House of Delegates.
>
> The majority of these resolutions are passed by the county societies before March 1st. In the interest of the conservation of time during the annual session, and for the furtherance of more mature study, I urge again, as in the past, that the respective officers forward these resolutions to the office of the Medical Society of the State of New York as soon as possible after they have been acted upon.—*News Letter, January, 1955*

Brucellosis and Diabetes Mellitus

The Influence of Chronic Brucella Infection and/or Allergy on Pancreatic Function

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BRUCELLOSIS seems to occupy a unique place in medicine. There is still much controversy as to its incidence, symptomatology, and diagnostic criteria these many years after the organism was identified by Bruce in 1886.

It seems difficult for clinicians, on the one hand, and laboratory and public health workers, on the other, to agree as to what constitutes brucellosis and, therefore, as to what may be its manifestations. This arises largely from the fact that many workers cling to the concept "if there aren't agglutinins in high titer and if blood culture is negative, brucellosis can be ruled out." It then naturally follows that, if brucellosis doesn't exist, none of the patient's illness can be attributed to it. Would that it were that simple!

There is not the time nor is this the place to try to prove that chronic brucellosis is a clinical entity. That ground has been covered in many articles and in a few monographs. Therefore, the flat statement must be made that the frequently occurring chronic phase of brucellosis seldom can be detected by the agglutination test and blood culture alone. But these are the two laboratory procedures on which entire dependence is placed by many clinicians and by nearly all laboratory and public health workers. Rather it must be diagnosed by combined clinical and laboratory studies, the latter including blood complement fixation reaction and opsonocytophagic and intradermal reactions, as well as agglutination reaction and culture. A relatively new test, the Signorelli test as modified by Minoprio, gives promise of being helpful. Often it is necessary to employ a therapeutic test of Brucella antigen before the diagnosis can be established or ruled out. (Parenthetically, as a member of the Panel of Experts on Brucellosis of the World Health Organization [United Nations], it seems proper for me to point out that the views expressed here are shared by some members of the Panel and disputed by others.)

In various articles contributed to the current literature since 1937 and in the two editions of my book,[1-4] attention has been called to the occurrence of hyperglycemia and glycosuria in a small percentage of patients suffering from chronic brucellosis with remission following treatment of the Brucella infection.

Also it was noted that *hypo*glycemia (hyperinsulinism) occurred in a small percentage of patients suffering from brucellosis with reversal of the condition in some patients on recovery from brucellosis. It is realized that this syndrome may be a psychosomatic condition in some patients.

It was pointed out that Brucella has been isolated from various endocrine glands, including the pancreas, in patients showing evidence of endocrine dysfunction. It was suggested that some of these conditions might be mistaken for primary endocrine dysfunction.

No explanation for these phenomena was advanced beyond possible coincidence or pancreatic dysfunction based on Brucella infection or allergic reaction. Increased metabolism resulting in pancreatic failure or activation of a latent diabetes through stress also seems possible, however.

In 1953 Leon and Aguirre[5] reported on 150 cases of brucellosis in Mexico, using 36 cases of other infections as controls. They found the almost unbelievably high incidence of 67.7 per cent of diabetes among their cases of brucellosis, as compared with 13.8 per cent among the controls. The diabetic state was reversible in the majority of cases, they stated, through treatment of the Brucella infection with antibiotics and Brucella antigens.

There the similarity between the recent work of Leon and Aguirre and my own earlier observations ends. Among approximately 900 patients suffering from chronic brucellosis, 23 instances of significant hyperglycemia were found, an apparent incidence of 2.5 per cent. The true incidence may have been somewhat higher.

Presented at the 48th Annual Meeting of the Fourth District Branch, Glens Falls, October 21, 1954.

Whereas all patients had urine sugar determinations, less than half had blood sugar studies, and fewer than 10 per cent had glucose tolerance tests.

Ages varied from four to eighty-one years; three were under ten, the remainder scattered through all age groups. Fourteen were males, and nine were females.

In most of the patients hyperglycemia and glycosuria were noted intermittently, along with mild exacerbations of other symptoms, such as fatigue and low-grade fever. It is probable that these patients, if observed from the standpoint of diabetes or brucellosis during remissions, would have exhibited nothing noteworthy.

Case Report

The following case history will serve to illustrate the situations encountered.

A fifty-five-year-old, retired farmer was seen on November 28, 1949, complaining of fatigue, weakness, arthralgia, myalgia, and sexual apathy (a common syndrome in chronic brucellosis) and also of polydipsia and polyuria, gradually developing over a period of three years. Various physicians had found no abnormalities beyond an occasional trace of urine sugar. Past history was irrelevant except for exposure to Brucella infection in his own cattle.

Physical examination showed no evidence of organic disease. There was slight temperature elevation of from 99 to 99.2 F.

Laboratory studies showed the following: Fasting urine contained a trace of sugar and a trace of acetone. Fasting blood sugar was 268 mg. per cent. Glucose tolerance test showed a diabetic curve. There was no anemia, but there was leukopenia and relative lymphocytosis (a usual finding in chronic brucellosis) with 4,600 white blood cells, of which 43 per cent were polymorphonuclears, 5 per cent eosinophils, 51 per cent lymphocytes, and 1 per cent monocytes. Blood sedimentation rate was 6 mm. in one hour (Westergren), blood urea nitrogen 31 mg., blood Wassermann negative.

Specific tests for brucellosis gave the following results: Blood agglutination reaction was positive in a low dilution of the serum (1:40); blood complement fixation for brucellosis was positive in a titer of 1:64; opsonocytophagic reaction showed a numeric index of 28 (indicating slight resistance to a past or current Brucella infection); blood culture was negative. Intracutaneous test with 0.1 cc. of heat-killed Brucella abortus organisms gave a strongly positive (3 plus) reaction.

During the height of the systemic reaction induced by the intradermal test there was a characteristic exacerbation of most of his symptoms. Fasting blood sugar rose to 335 mg. per cent; urine showed sugar 3 plus and acetone 1 plus. There had been no alteration in diet. Two weeks later the patient reported more normal thirst, appetite, and urinary output and virtual freedom from other symptoms. Fasting blood sugar was 180 mg., and urine showed no sugar or acetone. The phagocytic index rose to a moderately high level (70).

The patient's clinical and phagocytic response to the skin-testing dose of Brucella organisms had been so similar to that seen in patients with culturally proved brucellosis that it was decided to institute no dietary or insulin treatment but rather to attempt further desensitization and immunization with dilute, nonshock-producing intramuscular doses of Brucella abortus vaccine. There was gradual clinical improvement during treatment with eight reactionless doses of vaccine. Blood sugar fell to 115 mg. per cent, and urine remained free of sugar and acetone. The opsonocytophagic reaction rose to a high level (91), and white blood count rose to 7,200 with a normal differential.

The patient has been kept under observation for four years. There has been no return of signs or symptoms of diabetes.

Comment

Brucellosis, acute or chronic, is often characterized by exacerbations and remissions. Various systems may be involved as a result of direct invasion of tissues or allergic reactions in them to distant foci of infection, such as in spleen, lymph nodes, gallbladder, prostate, and fallopian tubes.[6] Manifold symptomatology may result.

Brucellosis and diabetes, or a diabetic-like syndrome, are bound to coexist occasionally, both diseases being of common occurrence. However, in some patients the diabetic syndrome has been reversed following successful treatment of chronic Brucella infection or allergy without dietary restriction or insulin, suggesting an etiologic relationship. So far as is known, other chronic illness, such as tuberculosis, is not a causal or precipitating factor in diabetes.

Just what percentage of cases of brucellosis are attended by hyperglycemia and glycosuria is speculative, nor do we know what percentage of diabetics have chronic brucellosis. Low-grade chronic brucellosis frequently remains undiagnosed. Neither adequate tests for brucellosis nor for diabetes are employed routinely. Blood agglutination reactions in titers of 1:80 or 1:160 and/or positive blood culture are usually considered the minimum diagnostic criteria, although in the chronic disease agglutinins usually are absent or present in low titer only, and blood culture rarely is positive. When skin tests are used to rule out Brucella allergy, Brucellergen is commonly employed. This antigen, a Brucella protein nucleate, gives approximately 50 per cent fewer positive reactions than killed whole Brucella organisms when both antigens are used simultaneously,[4,7] resulting in further confusion in case-finding.

Although it is true that a definitive diagnosis of brucellosis cannot be made in the absence of positive blood culture, a high percentage of accurate diagnoses can be achieved through use of the multiple tests mentioned if combined with careful clinical (including psychiatric) evaluation and, in doubtful cases, with a therapeutic trial of specific Brucella antigen.

Conclusions

1. The coexistence of brucellosis and diabetes may in some instances be more than coincidence since the diabetic syndrome may be reversible through treatment of the Brucella infection or allergy.

2. It would seem important to survey a large group of diabetic patients in the United States to determine the incidence of brucellosis among them, as well as to carry out blood and urine sugar determinations and glucose tolerance tests on a large number of patients known to be suffering from acute or chronic brucellosis.

3. Tests for brucellosis should include blood agglutination, complement fixation and opsonocytophagic reactions, blood culture, and intracutaneous test using killed Brucella abortus organisms. The Signorelli reaction as modified by Minoprio gives promise of being a valuable additional laboratory procedure. It depends upon the loss of bactericidal power of blood against Brucella in the presence of Brucella infection.

4. When chronic brucellosis and diabetes are found to coexist, the possible causal relationship can be demonstrated or ruled out through antigenic treatment of the Brucella infection or allergy, alone or combined with antibiotic therapy.

25 FIFTH AVENUE

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Success of Sight-Saving Campaign

Messages stressing the vital importance of eye care and basic eye research reached millions of Americans in all parts of the country during the 1954 "Sight-Saving Month" campaign in September. The nation's radio, press, and television cooperated to publicize the annual sight-saving event, and free educational material was widely distributed.

Governors in 19 states officially proclaimed September as "Sight-Saving Month," in their areas, and many local groups joined in the nationwide drive for better eye care. Car-cards stressing the theme, "The Most Wonderful Eyes in Town Belong to You," were placed in the transportation systems of major cities. A coast-to-coast spotlight was also put on the campaign by major magazines, including *Redbook*, *Parents' Magazine*, *Charm*, and *Compact*.

In addition to newspaper stories and articles, there were radio broadcasts in every state of the union presenting sight-saving information, and television stations in 39 states joined in the effort. As a result of this cooperation from all media of mass communication, many thousands of requests for information about eye problems were received at the headquarters of the National Society for the Prevention of Blindness in New York City. All persons sending requests received a free folder on vision care, "Your Wonderful Eyes," prepared by the National Society for distribution during the September campaign.—*The Sight-Saving Review, Winter, 1954*

Introduction of Human Tetanus Through Minor Wounds

Review of 17 Cases

HAROLD BEDELL, M.D., AND SAMUEL S. PALEY, M.D., NEW YORK CITY

(*From the Medical Service of Harlem Hospital*)

HUMAN tetanus is generally associated with contaminated wounds of warfare. During World War I and in the German and Japanese Armies of World War II, the armed forces demonstrated a high incidence of human tetanus. In contrast, during World War II, the United States Army reported[1] only 12 cases of human tetanus, and the United States Navy reported[2] only four cases. Tetanus toxoid inoculations accounted for this very low incidence. The cases reported are attributed either to inadequate administration or lack of tetanus toxoid inoculations.

In the vast number of industrial and civilian injuries human tetanus is an infrequent complication since immediate débridement and supplemental therapy with tetanus toxoid are routine and sufficient measures. However, tetanus organisms thrive when associated with pyogenic organisms and necrotic tissues, especially in deep puncture wounds caused by varied agents.[3,4]

The following 17 cases were observed in Harlem Hospital from 1937 to 1953. They highlight the numerous pathways by which the tetanus bacilli gain entrance into the body. Of particular interest are the six cases of human tetanus observed in known drug addicts. This mechanism of infection, previously reported,[5] is another hazard of narcotic addiction.

Case Reports

CASE 1.—W. M., a forty-seven-year-old Negro male, sustained a laceration on his left leg on May 29, 1939. He developed stiffness of the neck and inability to open his jaws on July 8. Examination on hospital admission four days later revealed definite rigidity of the neck and trismus. He expired on July 16, 1939, despite intensive therapy with tetanus antitoxin and sedation.

CASE 2.—C. M., an eighteen-year-old Negro female, was admitted on December 10, 1939. The patient's father stated that two weeks prior to the onset of the present illness, she punctured her foot with a splinter. She attempted to remove the splinter with a pin. Trismus and nuchal rigidity developed on December 8, 1939. In spite of intensive therapy she became comatose two days after admission and expired on the following day.

CASE 3.—L. K., a forty-year-old white male, was admitted on November 27, 1941, with pain, nuchal rigidity, and trismus. He recalled that three weeks previously his finger had been cut on a rusty can, and the wound was not treated. The patient continued to work part time until the onset of symptoms. Spinal tap on November 28 was negative. On the following day tonic contractions occurred. The patient reacted very favorably to intensive tetanus antitoxin therapy and was discharged December 16, 1941.

CASE 4.—E. S., a forty-three-year-old Negro female, admitted on June 22, 1942, complained, "Something closing in my throat, and I have a pain in my neck." She was a known heroin addict since 1926. Two months prior to admission she had become a morphine addict. On the day before admission she developed a headache and swelling of the lips. The next morning she awakened at 6 A.M. with trismus, nuchal rigidity, and inability to extend her elbows. Physical examination revealed severely indurated, reddened areas about the elbows, secondary to drug injections. Intensive treatment with tetanus antitoxin and sedation for the convulsions which developed were instituted. She expired June 23, 1942.

CASE 5.—C. S., a twenty-two-year-old female of Puerto Rican extraction, was admitted on November 24, 1942. The history elicited from her sister stated that five days previously the patient went to a woman for a criminal abortion. She was treated by instrumentation and medication. The night prior to admission she developed a stiff neck and inability to swallow. Examination on admission revealed a temperature of 101 F., hyperactive reflexes, nuchal rigidity, and clonic spasm of the jaw. The laboratory reported that cervical smears were negative for Clostridium tetani. She expired on November 26, 1942.

Case 6.—H. C., a fifty-six-year-old Negro male, was admitted on December 15, 1942. He infected his great toe by cutting a corn and treated himself with hot solutions of epsom salts. Subsequently, the toe turned black. The patient was found three to four days later in bed and sent to the hospital. Examination upon admission revealed dry gangrene of the right great toe, trismus, and markedly hyperactive reflexes. He expired on December 16, 1942, despite intensive tetanus antitoxin.

Case 7.—H. J., a thirty-three-year-old Negro male, was admitted on December 14, 1944. History was unobtainable on admission since the patient was irrational and in shock. It was believed that he fell three flights down an elevator shaft. X-ray examination demonstrated separation of the symphysis pubis and fracture of the left tibia and fibula and right and left malleoli. Six days after admission he complained of inability to open his mouth. The following day nuchal rigidity was observed. Convulsions of the grand mal type occurred repeatedly from January 1 to 3. Repeated smears and cultures were negative. The patient had received tetanus antitoxin upon admission. Clinical picture was typical of tetanus. He expired on January 3, 1945.

Case 8.—P. G., a thirty-eight-year-old Negro male, was admitted on January 30, 1945, with the chief complaint that "I got burned and treated myself, and now my jaws feel tired." The history elicited from the patient was that he had fallen on a hot object three weeks ago and burned his right elbow. He treated himself. On January 26 his jaws began to get tight, and he had difficulty in swallowing. Examination on admission revealed dirty, burned areas on the right elbow which were infected and necrotic. He also displayed signs of trismus and rigidity of the abdominal muscles. Three cultures taken from the necrotic areas were negative for Cl. tetani. The temperature varied from 102 F. on admission to 106 F. He expired on February 2, 1945. Later, indirect report from the medical examiner stated that the so-called burns over considerable areas of the body were suggestive of extensive needle marks that would be indicative of drug addiction.

Case 9.—A two and one-half-year-old Negro female was admitted on June 25, 1945, with rigidity, frothing mouth, and difficulty in swallowing. The mother was informed by someone in the clinic (not a physician) that a matchstick was removed from the child's nostril. Past history obtained from the mother stated that the child had had a similar seizure at the age of one month, but this had never recurred. Examination on admission revealed obstructive respiration. The child was placed in a Drinker respirator. X-ray examination on June 25 revealed a small area of atelectasis of the right side. Two days later she developed stiffness of the neck and rigidity of the spine, followed by a convulsion and spasticity of the face and jaw muscles. Artificial respiration was necessary at the time. On the following day a partial examination produced a convulsion. Crusty discharge was evident from the right nostril. During this episode the teeth were clenched tight; the neck and back were rigid. She expired that same day. Postmortem studies revealed atelectasis and cerebral edema of the frontal lobe.

Case 10.—S. W., a thirty-six-year-old Negro male, was admitted on December 7, 1945. Employed as a fireman, he had sustained second-degree burns from a hot water boiler on the face, chest, arms, and wrist which involved one eighth to one sixth of the body. Vaseline dressings were used. One week after admission the patient developed signs of trismus and inability to swallow food. Ample antitoxin and sedation were given. Smear from the burned area revealed many thick, gram-positive, bacilli-like sporangi, resembling Cl. tetani. The trismus and dysphagia continued. He expired on December 18, 1945.

Case 11.—J. S., a sixty-seven-year-old white male, was admitted on April 29, 1946, with the following complaint, "I cannot open my jaw, and my legs are shaky." He had fallen down a flight of stairs four weeks previously and injured his back. The patient remained in bed for two weeks and one week ago began to note weakness and stiffness of the neck and trismus plus dysphagia for a total of four days prior to admission. Examination on admission revealed trismus, inability to flex the lumbar spine, and hyperactive knee jerks. On May 11 the temperature was 100 F. "Rigidity of muscles is increasing, legs are markedly extended, abdomen is slightly rigid. He still swallows freely." Neurologic consultation diagnosed this as a case of tetanus. Dental opinion was that the trismus was not due to any local dental condition. The nuchal rigidity and the generalized muscle spasms gradually lessened. The patient was discharged as cured on May 26, 1946.

Case 12.—L. S., a thirty-five-year-old Negro female, was admitted on September 16, 1946, with the chief complaint of inability to open her mouth. Patient stated that two weeks previously she was slapped on the left jaw and twelve days ago had noted discharge from the ear. The discharge stopped within seven days. Prior to admission she developed stiffness of the jaw with difficulty in opening her mouth. Examination on admission revealed the left side of the jaw to be swollen. Two days later marked contraction of the jaw muscles was observed. Ear, nose, and throat consultation on

September 17 revealed extreme trismus with the impression of atypical tetanus. On September 23 marked nuchal rigidity, spasm of the back extensors, and abdominal rigidity were observed. She gradually improved and was discharged on October 16, 1946.

Case 13.—O. J., a thirty-six-year-old Negro female, was admitted on December 14, 1952, with a history of heroin addiction for two years. Drugs had been taken both intravenously and subcutaneously. Examination revealed trismus and nuchal rigidity. Multiple areas of thrombosis of the superficial blood vessels and ulcerated areas of the lower extremities, secondary to multiple needle punctures, were evident. The patient expired the following day despite intensive therapy.

Case 14.—E. B., a twenty-eight-year-old Negro male, was admitted on July 7, 1953, with severe pain and stiffness of the neck, back, and abdominal muscles. He admitted "skin popping" with heroin. Examination revealed trismus. Spinal fluid examination was negative. He was treated energetically with tetanus antitoxin and sedation but expired on December 15, 1953.

Case 15.—S. E., a thirty-eight-year-old female, was admitted on July 20, 1953, with a stiff neck, headache, and trismus. There was a definitely known history of drug addiction and using unsterilized needles for skin injections. Examination revealed trismus and multiple areas of punched-out ulcers on the skin, secondary to self-inflicted needle punctures. The patient was treated with intensive tetanus antitoxin therapy. She expired the day after admission.

Case 16.—R. S., a forty-three-year-old Negro male, was admitted on September 10, 1953, with a history of laceration of the left wrist against the jagged edge of a locker seven days ago. One day prior to admission he noted inability to open his jaw. Examination on admission revealed a stiff neck, trismus, and rigidity of the body. The case was treated intensively with tetanus antitoxin and sedation. Symptoms gradually subsided, and the patient was discharged as cured on October 23 after six weeks hospitalization.

Case 17.—H. V., a twenty-five-year-old Negro male, was admitted on December 26, 1953, with a history of being a heroin addict irregularly for a total of four years. He had had a previous admission in February, 1952, at which time there were swelling and tenderness of the antecubital spaces and hands, secondary to acute thrombophlebitis. Numerous old scars along the course of the veins were present. On the day prior to the present admission the patient developed inability to open his jaw and stiff neck. Examination revealed severe trismus, opisthotonus, marked rigidity of the entire body, and ulcerations on both arms, secondary to drug injections. The patient developed convulsions of the grand mal type. Despite intensive tetanus antitoxin therapy and sedation he expired the following day.

Summary

Seventeen case histories are presented which emphasize the ubiquitous pathways for introduction of Cl. tetani into minor wounds.

A high mortality rate characterizes the cases of human tetanus admitted to various general hospitals. Delay in applying for assistance and mistaken and misguided self-medication allow time for development of an overwhelming Cl. tetani infection.

The experience of the United States armed forces demonstrated that only prophylactic inoculations with tetanus toxoid will drastically reduce the incidence of human tetanus.

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Note: Since this paper was submitted for publication, two additional cases of tetanus in heroin addicts were admitted to Harlem Hospital. Both patients expired in spite of intensive treatment.

When people's ill, they comes to I,/ I physics, bleeds, and sweats 'em;/ Sometimes they live sometimes they die./What's that to I? I lets 'em.—Dr. J. C. Lettsom

proceedings

Special Committee on

INFANT MORTALITY

Medical Society of the County of New York

HAROLD ABRAMSON, M.D., *Editor*

Clinical Management of the Pregnant Woman with Tuberculosis

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MORE than 33,000 pregnancies occur in tuberculous women in the United States annually. Although the mortality from tuberculosis in women of the child-bearing age has decreased from 70 per 100,000 in 1930 to 22 per 100,000 in 1950, tuberculosis is still the leading cause of death in this group of women.[1] Sufficient data are now available to prove that there is no causal relationship between pregnancy and the onset of tuberculosis. However, the almost universal premise that pregnancy acts as a "constant" factor in whatever influence it may have on tuberculosis, that is, that all women tolerate pregnancy alike and their bodily economy reacts to pregnancy in the same way, is fallacious. Most of us will agree that the bodily response of womankind to pregnancy is of almost "infinite variety," and a discussion of the influence of pregnancy on tuberculosis would have to take these facts into account. It is probably true that pregnancy exerts a harmful effect on tuberculosis in those women who, without tuberculosis, would naturally tolerate pregnancy poorly and a harmless or even beneficial effect on those tuberculous women who, without tuberculosis, would stand pregnancy well or even have their bodily economy improved by pregnancy.

The practice of grouping under the heading of "pregnancy" the three related functions—gestation, parturition, and the puerperium—each of which may exert an effect on the organism, and hence on the tuberculous lesions, that is entirely distinct from the other two, has resulted in confusion.

Furthermore, in speaking of tuberculosis some attempt at classifying the type and extent of the lesion is necessary to afford a basis for comparison. It is obvious that the prognosis for a patient with active, far-advanced, bilateral pulmonary tuberculosis is much graver than for one with inactive, minimal disease, whether or not the patient is pregnant.

While the danger of pregnancy complicating tuberculosis is recognized, a great deal of evidence can be produced to show that under ideal conditions, with appropriate medical, obstetric, and nursing care during gestation, labor, and in the postpartum period, a gloomy outlook is not warranted. It is generally accepted that the extent of the pulmonary area involved, the type and severity of the infection, individual variations in resistance, the influence of age and race, and the inception of early and adequate treatment for the tuberculosis determines the course of the disease in the pregnant as well as in the nonpregnant patient.

Incidence

Until recently most of the experience I have had in the treatment of pregnancy and tuberculosis, with the exception of approximately 100

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such patients in private practice, was gathered from the care of patients at Sea View and Triboro Hospitals, both tuberculosis institutions. Since joining the staff of the New York Lying-In Hospital, we have reviewed the charts of all the tuberculous patients who had full-term and premature deliveries at this hospital from 1932 through 1951 with a view to studying the results of tuberculosis complicating pregnancy as seen in an antepartum clinic and in private practice. It is a coincidence that 88 per cent of the patients in the Sea View-Triboro group had active pulmonary tuberculosis and 88 per cent in the New York Hospital series had inactive disease.

The incidence of tuberculosis in pregnancy varies in different institutions depending on the effort made to diagnose it. When routine history and physical examination are relied upon, the incidence is about 0.5 per cent, whereas when routine chest x-rays are added to the antepartum examination, the incidence is between 1.5 and 2.0 per cent.

At the New York Lying-In Hospital a routine roentgenogram has been taken on all clinic antepartum patients since June, 1945. If this examination is suspicious of pulmonary pathology, a standard 14 by 17-inch chest x-ray is done. Since these procedures were instituted, over a threefold increase in the incidence of pulmonary tuberculosis in antepartum patients has occurred. Before 1945 the incidence of pulmonary tuberculosis complicating pregnancy ranged from 0.4 to 0.7 per cent. From 1946 to 1951 the incidence rose rapidly so that for the past two years it has been 1.85 per cent.

A few years ago a Pulmonary Antepartum Clinic was established as a part of the Obstetric Service. All patients with pulmonary lesions, nontuberculous as well as tuberculous, are referred to this clinic which is under the supervision of an obstetrician. A phthisiologist is present at all the sessions and recommends medical treatment for the pulmonary lesions. If hospitalization is necessary during gestation, the patient is admitted on the obstetric service and the phthisiologist called in consultation.

All pulmonary tuberculosis is minimal in its early stages, and progression may be avoided by effective treatment. However, since minimal disease is usually unaccompanied by symptoms, routine roentgenogram or chest x-rays offer the only method of diagnosis. Many state laws require a routine blood test for the diagnosis of syphilis during each pregnancy. The incidence of syphilis in our clinic, based on history or serology, was 0.9 per cent in 1950 and 1951, less than one-half the incidence of pulmonary tuberculosis during this time. The cost of diagnosing unsuspected pulmonary tuberculosis by means of roentgenograms is approximately that of diagnosing syphilis by means of serology. However, the cost of treating a patient with tuberculosis that has advanced beyond the minimal stage is several thousand times that of treating a patient with syphilis.

Importance of Early Recognition and Treatment of Tuberculosis

Pulmonary tuberculosis is so insidious a disease that it may be far advanced before its symptoms and signs are recognized. The importance of early diagnosis of tuberculosis cannot be overemphasized since the result of treatment is directly proportional to the type and extent of the disease at the time treatment is instituted. The problem of pregnancy and tuberculosis has several aspects: (1) pregnancy in a woman known to have tuberculosis, active or inactive, at the time of conception and (2) tuberculosis first diagnosed during or immediately after pregnancy.

Analysis of large series has shown that approximately twice as many women died (28 per cent) in whom tuberculosis was first discovered during pregnancy as did those known to have tuberculosis before the onset of pregnancy (13 per cent).[2] Hill[3] has shown that the earlier the diagnosis, the less danger to the mother. Less than one in 12 of the women diagnosed before pregnancy was dead one year after delivery, whereas one in five of the women diagnosed during pregnancy were dead, and one in three of those diagnosed after confinement died within one year.

However, early recognition of tuberculosis is not sufficient. Unless adequate treatment is instituted immediately, the disease will progress whether the patient is pregnant or not. For those women who are aware of their tuberculosis before becoming pregnant, treatment should be continued. For those in whom tuberculosis is diagnosed during pregnancy, treatment should be started immediately. The tendency in the past has been to await the termination of the pregnancy before starting surgical procedures. The results, when this was done, were much worse than for those women actively treated during their pregnancy. Tuberculosis discovered in the puerperium has probably existed for many months during and perhaps even before the pregnancy. Most of these patients are found to have far-advanced disease. It is from this group that the unwarranted accusations that pregnancy predisposed to tuberculosis have been made.

Medical Treatment of Tuberculosis During Pregnancy

Bed Rest.—Bed rest is still the basis for all treatment for pulmonary tuberculosis. Rest may be expected to reduce the hazard of extending disease by reduction of discharge and by decreasing toxemia, thus favoring an increase in resistance. The increasing resistance encourages suppression of bacterial activity and promotes resolution and healing. Not only physical but also mental rest is the desired goal. The amount of rest required by a patient depends on the nature of her disease. Patients with arrested or minimal disease can obtain rest at home during their pregnancy. Patients with moderately advanced disease require more rest, and unless this can be obtained at home, they should be hospitalized. In any event they should be in the hospital for the last three months of gestation. Far-advanced patients should be in the hospital for the entire duration of their pregnancy. All tuberculous patients require a longer period of rest after delivery than do nontuberculous patients. They should be kept in the hospital until their disease is adequately controlled.

Pneumothorax.—The great majority of phthisiologists are now agreed that pneumothorax should be instituted when indicated during pregnancy just as in the treatment of tuberculosis without pregnancy. Cutler[4] states that the interval of effective collapse therapy is the safest period of child-bearing. A lung anatomically collapsed before pregnancy will not become reactivated during pregnancy. Bilateral pneumothorax has been successfully used during pregnancy in a number of patients.

Thoracoplasty.—At first those patients who had thoracoplasty performed before the onset of pregnancy were carefully watched during the pregnancy, labor, and puerperium. The results in this group were favorable. Thoracoplasty was then offered to those pregnant patients, who, it was felt, could withstand a major operation and thus begin healing their tuberculous lesion while pregnant, rather than await the termination of the pregnancy and stand the risk of progression of the disease. A number of authors have reported thoracoplasties performed during pregnancy with good results, and the performance of several-stage thoracoplasty during pregnancy is now an accepted procedure at many large tuberculosis hospitals.[5,6]

Pneumoperitoneum.—Those who advise pneumoperitoneum claim that the acute flareup in the tuberculous lesion results from the rapid descent of the diaphragm, which has been "splinted" during pregnancy by the enlarging uterus. In certain cases the advocates of pneumoperitoneum try to prevent the descent of the diaphragm and the flareup of lesions in the lungs by the induction of artificial pneumoperitoneum immediately following delivery.

Cohen[7] and others state that from their experience with pneumoperitoneum it is very difficult to produce elevation of the unparalyzed diaphragm, and the results of this therapy without preliminary phrenic paralysis are disappointing. The abdominal capacity is increased, not so much by elevating the diaphragm as by distending the abdominal wall. These men believe that the induction of pneumoperitoneum immediately after labor with the object of maintaining the intra-abdominal pressure is a measure of no practical value.

Lung Resection.—The present trend in the treatment of pulmonary tuberculosis is to remove the diseased lung tissue rather than collapse the lung and await a healing of the cavernous or necrotic lesion. Removal of lung tissue is accomplished by either lobectomy, partial lobectomy, or pneumonectomy. We have now delivered six patients who had lobectomy or pneumonectomy performed before the onset of pregnancy. All these patients had normal deliveries and uneventful postpartum courses. Others have reported similar results. The final evaluation of segmental resection for tuberculosis will require many years.

We have also recently delivered a patient who had a right upper lobectomy performed during the second month of gestation who received streptomycin during the entire course of her pregnancy. This patient was a twenty-eight-year-old primigravida with far-advanced tuberculosis. Following lobectomy her pulmonary condition improved. She was delivered by low forceps of a 7-pound infant after an uneventful pregnancy and labor. We have just delivered this patient a second time after an uneventful prenatal course and labor.

Streptomycin and Para-aminosalicylic Acid.—"That streptomycin and para-aminosalicylic acid are adjuncts to the medical and surgical treatment is an established fact. At first great credit was given to streptomycin and its influence upon surgical results in tuberculosis, but continued experience tends to demonstrate that neither streptomycin nor any other drug can be expected to replace sound judgment in selecting the right operation for a specific patient, to be done at the proper time, under good anesthesia, and by a competent surgeon."[8]

There is a growing realization that chemotherapy of pulmonary tuberculosis is only one aspect of the definitive treatment of this serious disease. The plan for integrating chemotherapy with other measures requires careful evaluation of the individual case. Lesions of recent origin showing prompt resolution may be treated successfully with a short course (four to six months) of chemotherapy, whereas new lesions with caseous pneumonic, necrotic, or cavitary components may require a long course (twelve months) of drug treatment.

Streptomycin and PAS are now gaining widespread use during pregnancy with excellent results. The fear of injury to the fetus has not materialized, and with the present dosage schedule this fear becomes remoter. It has been demonstrated that streptomycin is present in the fetal blood and amniotic fluid in approximately one-half or less the concentration of the maternal blood after parenteral administration.

We have treated about 40 patients with streptomycin and PAS in various stages of their gestation. Some have received streptomycin and PAS through the entire course of pregnancy. No untoward effects have been noted in either mother or infant several years after delivery.

Our present dosage is 1 Gm. of streptomycin every three days and 12 Gm. of PAS in three or four divided doses daily.

We have used isoniazid in pregnancy complicated by tuberculosis in a large number of patients. It is used in combination with streptomycin or PAS, although in a few selected patients at the New York Hospital we have used it alone. The usual dose is 5 mg. per Kg. of body weight, orally. This amounts to 300 mg. per day for the average patient and is given in three divided doses. No ill effects have been noted in mother or infants with this regimen.

The two most important adjuvants to the medical treatment of tuberculosis are streptomycin and isoniazid. However, many phthisiologists do not advise their combined use as the initial chemotherapy for pulmonary tuberculosis since it entails the risk of bacterial resistance to the two most effective antituberculous drugs now available. Furthermore, it has not yet been determined whether the combination of these two major agents has a distinct advantage over the combination of a major agent and a minor agent (PAS). Because of its ease of administration and the fact that it retains its therapeutic usefulness for long periods of time, isoniazid is perhaps one of the most useful chemotherapeutic agents in the treatment of tuberculosis at the present time.

Obstetric Management

The obstetrician who cares for the tuberculous pregnant woman must have an intelligent concept of the nature and pathogenesis of the disease. The term "pulmonary tuberculosis" includes all tuberculous lesions in the lungs from primary focus to fatal disease. This lesion is always an unstable one. Progression takes place by contiguous spread, necrosis, softening, and excavation with dissemination by way of the bronchi, blood, or lymph. The healing or repair process—resorption, fibrosis and calcification—may occur at any stage of progressive pulmonary tuberculosis.

The initial lesion of primary pulmonary tuberculosis is so small that it is not demonstrable clinically; it is only after its size has increased by direct extension and adjacent bronchial dissemination that it becomes manifest. Pulmonary tuberculosis is classified into minimal, moderately advanced, and far advanced, depending on the area and volume of the lung involved.

The term "inactive lesion" is one that has been observed on serial x-rays to be stable or shrinking slowly. There must be no evidence of a cavity, and symptoms of tuberculosis must be absent. Sputum or gastric contents must be negative for tuberculosis repeatedly, not only by concentration but also by culture and animal inoculation. These conditions shall have existed for at least six months.

The term "arrested" connotes the same symptomatic and x-ray requirements as "inactive" except that the laboratory requirements are different. An occasional positive culture or positive animal inoculation may occur in an arrested case.

"Active" lesions are those observed on serial x-ray to be progressive, retrogressive, or stationary. Symptoms of tuberculosis are usually present. Sputum and gastric contents almost always are positive for tubercle bacilli.

Antepartum Care.—Since tuberculous patients are frequently underweight, we have not restricted weight gain during pregnancy except in unusually obese patients. In over 1,000 tuberculous patients whose records we have reviewed, we have never seen a case of eclampsia or severe toxemia.

Severe vomiting of pregnancy may have a bad effect on the tuberculous process because of the dehydration, depletion of nutrition, and starvation acidosis that may ensue. Such a complication must be treated vigorously and, if not readily controllable, may necessitate a therapeutic abortion. However, we have not had to abort the tuberculous patient with severe vomiting of pregnancy any more frequently than the nontuberculous one.

Parity.—In a review from Sea View Hospital of a series of several hundred patients with active tuberculosis who had been treated as inpatients before and after delivery, we found that parity had no influence on the course of pulmonary tuberculosis. Nineteen per cent of the primigravida died compared to 21 per cent multigravida.[9]

In 439 patients with inactive tuberculosis treated as outpatients in the New York Lying-In Hospital, two primigravida and three multigravida showed a progression of their disease up to two years after delivery.

Although we do not advise repeated, frequent pregnancies in the tuberculous woman, no apparent ill effects resulted in patients with inactive disease who became pregnant several times. Two patients had five full-term deliveries over periods of six and eight years, respectively. Nine patients had three full-term deliveries, and 55 had two full-term deliveries.

Analgesia and Anesthesia.—More harm may result from the injudicious use of analgesia and anesthesia in the pregnant tuberculous woman than from their omission. The preoperative use of such drugs as morphine, scopolamine, Amytal, and Avertin abolishes or greatly diminishes the cough reflex and the function of voluntary expectoration, not only during the operation but for a number of hours afterward. During this time stasis of pulmonary secretions may cause the development of new areas of infection within the lung.

Ether and other general anesthetics that produce prolonged periods of unconsciousness are more dangerous than gas or local anesthesia from the point of pulmonary complications since the patient is unable to cough or expectorate efficiently when under general anesthesia.

It is not possible by statistical data alone to implicate any one factor in the management of the tuberculous pregnant patient—whether it be analgesia, anesthesia, duration of labor, type of delivery, etc.—as the cause for progression of the disease. The number of inactive patients who become worse is too small to permit definite conclusions. In the active patients who became worse, every effort was made to avoid morphine, scopolamine, and ether. It is our impression, however, based on clinical experience, that the safest type of labor for the tuberculous parturient is no analgesia for those amenable to such care. For patients who require analgesia, small repeated doses, if necessary, of pentobarbital sodium and meperidine have proved efficacious.

The best anesthesia, we believe, is conduction anesthesia, and we use local and pudendal block. If necessary, a few whiffs of nitrous oxide may be given.

Conduct of Labor.—The general consensus of opinion is that a long, severe labor is to be avoided in the tuberculous woman, not only because excessive straining during labor may cause a spread of the disease, but also because the exhaustion and increased blood loss incident to a prolonged labor may weaken the patient's general resistance. Although we have tabulated the time element in hundreds of labors in tuberculous patients, it became obvious that this factor alone could not be evaluated statistically. Two or three hours of severe, exhausting pain could be more harmful than twelve to fourteen hours of moderate contractions. It is our policy to make labor as short and as easy for the patient as is commensurate with good obstetric practice.

Type of Delivery.—We attempt to evaluate each patient at term as to the type of delivery one may expect. Where no obstetric contraindications exist, we allow our patients—active and inactive, primigravida and multigravida—to deliver vaginally and use forceps to shorten the second stage. While we do not advocate cesarean section for tuberculosis, we favor some liberalization in its use to avoid a prolonged and difficult forceps delivery with its resultant trauma and blood loss.

TABLE I.—Results in Tuberculous Women After Delivery* and in Nonpregnant Patients

	After Delivery		Nonpregnant
	Sea View 1920–1945 (407 Patients)	New York Lying-In 1932–1951 (419 Patients)	Sea View 1920–1945 (4,455 Patients)
Result	Per cent	Per cent	Per cent
Died	12	0.5	23
Progressed	6	3.0	7
Unchanged	43	88.0	31
Improved	39	8.5	39

* After 3 months to 20 years.

Results in Tuberculous Women Following Delivery

Table I shows the results in tuberculous patients after delivery who had follow-ups from three months to twenty years. Experience with patients in a tuberculosis hospital where they remained as inpatients for three to four months after delivery has convinced us that if the pregnancy and labor are to cause any progression of the tuberculosis, such changes will usually occur within three months.

There were 407 patients in the Sea View group, of whom 88 per cent had active disease. Fifty patients, or 12 per cent, died. All the deaths, with the exception of two from hemorrhage in the 1930's, occurred in patients with far-advanced tuberculosis. In the 419 patients at the Lying-In, only 12 per cent had active tuberculosis, and only two patients, or 0.5 per cent, died. Both these deaths were in patients with far-advanced tuberculosis admitted very late in pregnancy. In the nonpregnant group of patients discharged from Sea View Hospital between 1939 and 1945, 23 per cent of the patients died. We do not wish to create the impression that the pregnancy was responsible for the better results. Sea View Hospital admits the most severe type of tuberculous patient, many of whom are admitted in the last stages of their disease. It is seldom that an inactive patient is admitted to Sea View, although in the years 1939 to 1945 we did admit at least 12 per cent of inactive pregnant patients for delivery.

Stewart[10] reported a mortality of 18 per cent in nonpregnant tuberculous patients compared to 13 per cent in pregnant patients who had full-term deliveries.

Forty-three per cent of the Sea View patients showed no change in their tuberculosis following delivery, as did 88 per cent in the New York Hospital group. In the nonpregnant group 31 per cent showed no change. Thirty-nine per cent of the pregnant group at Sea View were improved on discharge from the hospital, as were 39 per cent of the nonpregnant group.

A tabulation of the extent and the type of disease together with the time at which active treatment was instituted would show that these factors were responsible for the varying results within the pregnant groups as well as in the nonpregnant group.[2]

Therapeutic Abortion

One of the most important prophylactic measures for lowering infant mortality is the reduction of unnecessary abortions, both spontaneous and therapeutic. Spontaneous abortions do not occur more frequently in the tuberculous patient than in the nontuberculous. In the past, before the toxicity of tuberculosis could be controlled by chemotherapy, an occasional patient with far-advanced, unrecognized, and untreated tuberculosis would have a premature delivery because of her toxicity. However, this occurred no more frequently in tuberculosis than it did in any other toxic condition.

The incidence of therapeutic abortion, however, remains high in some institutions. At six large tuberculosis hospitals the incidence was 14 per cent in all pregnant patients with tuberculosis. The incidence in six large obstetric clinics was 0.2 per cent of all pregnancies. This figure is dependent on the number of patients with tuberculosis seen in the antepartum clinic.[9]

Most writers now agree that therapeutic abortion for pulmonary tuberculosis is not indicated after the first trimester of pregnancy. The operative procedure necessary, usually vaginal or abdominal hysterotomy, is more formidable than delivery at term, and the results are poorer. (Eight of 20, or 40 per cent, of patients terminated by these methods died.[9]) However, some men still advocate therapeutic abortion in the presence of active pulmonary tuberculosis during the first trimester. It is this aspect of the problem that we shall discuss.

We analyzed 63 therapeutic abortions performed for pulmonary tuberculosis at Sea View and Triboro Hospitals.[9] All the deaths following therapeutic abortion were in patients with far-advanced tuberculosis, just as they were following full-term deliveries. The total number of patients who died or progressed following therapeutic abortion (19 per cent) was almost identical with those who died or progressed after full-term delivery (18 per cent). In order to judge the results following abortion and full-term delivery in patients with similar lesions, we compared the results of patients with far-advanced tuberculosis admitted in the first four months of pregnancy. Table II shows these results.

Ten per cent of the patients with far-advanced disease who had therapeutic abortion died within three months, and 20 per cent died after three months, compared to 7 per cent of the patients with full-term deliveries admitted in the first four months of pregnancy who died within three months and 7 per cent who died after three months. Fifty-three per cent of the patients having therapeutic abortion were unchanged, compared to 37 per cent who were unchanged after full-term delivery. Seventeen per cent of the patients were improved after therapeutic abortion, compared to 49 per cent after full-term delivery. The fact that almost one half of the patients (49 per cent) with far-advanced disease who were admitted in the first four months of pregnancy were improved was noted and will be discussed later.

Most of the 43 patients admitted in the early months of pregnancy were treated actively for their tuberculosis. In addition to bed rest, treatment consisted of pneumothorax (13 patients), pneumothorax and pneumonolysis (four patients), thoracoplasty (five patients), and pneumothorax and thoracoplasty (two patients). The three patients (7 per cent) who died and the three patients (7 per cent) who progressed had such far-advanced bilateral disease that no other treatment besides bed rest could be instituted. By comparison, of the 21 patients (49 per cent) who improved, 15 received more active treatment than bed rest.

Of the 41 patients with far-advanced disease who had abortions, active treatment was not begun immediately in the majority of cases. The tendency was to await the termination of the pregnancy and recovery from the operation, usually a period of six to eight weeks or longer, before starting active treatment for the tuberculosis. Thus, 27 of the 41 patients who had abortions were treated with bed rest, and of these 48 per cent died or progressed. The 14 patients who had treatment before abortion were all receiving pneumothorax before the onset of pregnancy, and this was continued. None of this group of 14 patients died, 71 per cent were unchanged, and 29 per cent were improved.

In addition to the fact that active treatment for the tuberculosis was not instituted so quickly in the abortion group as it was in those patients having full-term deliveries who were admitted in the first trimester, there was a difference in the duration of stay in the hospital in these two groups. The average stay in the hospital for patients who had full-term deliveries was five months after delivery, plus six months before delivery for those admitted in the first trimester, a total of eleven months. The median stay in the hospital after therapeutic abortion was three months. Many of the patients on whom therapeutic abortion was performed signed themselves out of the hospital soon after the termination of the pregnancy and refused further treatment. The longer period of hospital treatment received by those patients who had full-term deliveries was responsible for the better results in this group. It might be argued, therefore, that it is best to terminate the far-advanced tuberculous patient's pregnancy immediately and keep her in the hospital longer after operation. We do not know what the results following such a procedure would be. We do know from experience that by the time an adequate workup has been carried out with sputa analyses, gastric analysis, x-rays, tomographic studies, etc., and the patient is seen by both medical and obstetric services, several weeks have elapsed. Furthermore, the chest surgeons prefer to wait several weeks after abortion to perform radical chest surgery because operative bleeding is diminished after such a period. We have also been aware that many patients whose pregnancies are aborted refuse further treatment for their tuberculosis and sign themselves out of the hospital against advice.

Infant

The probability of a tuberculous mother giving birth to a normal, healthy infant is excellent. Although cases of congenital tuberculosis in a stillborn infant and in several newborn infants dying soon after birth with generalized tuberculosis have been reported,[11–13] these cases are extremely rare. In close to 1,000 deliveries in tuberculous patients at Sea View and New York Lying-In Hospitals, no case of congenital tuberculosis occurred.

It has been stated that mothers of infants suffering from congenital tuberculosis usually have advanced tuberculosis. The maternal history may contain an incident which would have been

TABLE II.—RESULTS IN FAR-ADVANCED PATIENTS ADMITTED IN FIRST FOUR MONTHS OF PREGNANCY

	Full-term Deliveries	Therapeutic Abortions
Number	43	41
Per cent died	7	10
Per cent progressed	7	20
Per cent unchanged	37	53
Per cent improved	49	17

likely to lead to bacillemia, such as an acute flareup of a quiescent tuberculous lesion or the onset of miliary tuberculosis.

A relatively small percentage of the cases of tuberculosis in infancy are congenital in origin. In these cases infection occurs in one of two ways: (1) from tearing of a placental tubercle, the organisms passing via the umbilical vein to the fetal liver, which becomes the primary site of disease, or (2) by ingestion into the gastrointestinal tract or aspiration into the lungs of bacilli from infected amniotic fluid in the birth canal with resultant primary infection at these sites.

Rich[14] is of the opinion that the relative rarity of fetal tuberculosis is due to the resistance of the fetus to the bacilli. It is known that isoimmune bodies are present in the maternal bloodstream and may be passed across the placental barrier. Since antibodies bear a great similarity to the immune bodies which might be produced by the infant, they will not be eliminated rapidly by the fetus. Therefore, some authorities believe that a partial immunity may exist for years which does not destroy the bacilli but merely holds them in check.

Four instances of congenital tuberculosis were encountered in the Gallinger Municipal Hospital between 1940 and 1949.[15] Two of these patients were alive and well at the ages of twenty-six and thirty-two months. Their tuberculosis apparently has been arrested by streptomycin therapy.

Not only are infants born of tuberculous mothers healthy, but their birth weight is similar to that of newborn of nontuberculous mothers. Table III shows these results at the New York Lying-In Hospital.

In the smaller weight groups the infants born of tuberculous mothers were slightly larger than in the nontuberculous mothers. There were slightly more infants over 2,500 Gm. in the tuberculous series (94.4 per cent) than in the nontuberculous (93.0 per cent).

We compared the infant mortality (neonatal deaths and deadborn) in all tuberculous patients with the total infant deaths for the hospital in the years 1932 to 1951. The perinatal mortality was 2.9 per cent for infants born of patients with inactive tuberculosis and 2.9 per cent of the total hospital births. Four deaths (5.8 per cent) occurred in infants of mothers with active tuberculosis.

Of these four infant deaths, two were in twins weighing 1,070 and 1,080 Gm. and one in an infant weighing 1,110 Gm., born prematurely of a patient admitted with tuberculous pneumonia.

While infants born of tuberculous mothers do not have tuberculosis at birth, the danger of infection from a sputum-positive mother exists and can be greatly reduced with proper care. Immediately following delivery the infant should be removed to the nursery and should not be breast fed by the mother. If the mother has active tuberculosis, she should not be permitted to care for her infant on discharge from the hospital.

BCG Vaccination

The Tuberculosis Control Division of the New York State Department of Health has issued the following official statement in its pamphlet on BCG vaccination:

> BCG vaccination is one of the known methods of reducing morbidity and mortality from tuberculosis, and at present is the only known practical method of inducing specific resistance to tuberculosis. There is general agreement on two points: (*a*) it is safe; (*b*) it serves to convert nonreactors

TABLE III.—WEIGHTS OF INFANTS OF TUBERCULOUS MOTHERS AND COMPARISON WITH TOTAL BIRTHS IN CLINIC IN 1948–1951

	Infants of Tuberculous Mothers		Total Hospital Births 1948–1951	
Weight (Gm.)	Number	Per cent	Number	Per cent
500 to 1,499	6	1.1	217	1.3
1,500 to 2,499	23	4.5	920	5.7
2,500 and over	485	94.4	15,080	93.0
TOTAL	514	100	16,217	100

> to tuberculin to reactors through infection with avirulent and benign bovine tubercle bacilli. There is sufficient evidence of the effectiveness of BCG to warrant its use in selected population groups in which the infection rate is high. Persons who do not react to tuberculin in such groups might otherwise be first infected with virulent organisms. BCG vaccine is not to be administered indiscriminately, because it can be of benefit only to those persons who have not been infected by the tubercle bacillus. It must be emphasized that BCG vaccine has no value in the treatment of tuberculous disease.

Much more needs to be known about BCG vaccination against tuberculosis before general acceptance or even license for commercial production. No method has yet been discovered for stabilizing potency or preventing rapid disappearance of live organisms in fresh vaccine. The best method of vaccination, degree and duration of immunity conferred, and the racial difference in response are still uncertain. Although many foreign countries unable to carry out other measures rely on BCG vaccine, none has equaled our record in decreased tuberculosis mortality.

As yet no evidence is forthcoming on the ability of BCG vaccine given in infancy to diminish the tuberculosis mortality rate among adolescents and young adults. It is evident that the BCG inoculation has the ability to prevent a pulmonary primary tuberculosis, at least during the period of postvaccination tuberculin allergy.

It would appear that there is great difficulty in determining the efficacy of BCG unless some method of maintaining the potency is devised and a standard accurate means of inoculation is used. It is suggested that the BCG tuberculin sensitivity be maintained by revaccination whenever the skin reaction becomes negative.

Social and Economic Factors

Perhaps the social and economic status of a patient should not influence our course of treatment, yet the ability of a patient to receive proper care during the time when she has tuberculosis (which not infrequently is for the duration of her life) is important in her eventual cure. While it is true that many nonpregnant tuberculous patients do not seek or persist in adequate care, the occurrence of pregnancy with tuberculosis places the onus for any deterioration in the patient's condition, at least in the minds of some people, on the pregnancy. The mental and physical strain of looking after a young infant, even without other children in the family to care for, may prove hazardous.

It has been said that to achieve the best therapeutic results in these cases, it may be advisable to treat the tuberculosis as if no pregnancy existed, but the pregnancy cannot be treated as if no tuberculosis existed. Lack of appraisal of the conditions under which the patient and her child will be forced to live after delivery is only one of the causes for incorrect decision.

The ideal setup for the adequate management of tuberculosis and pregnancy would be a special institution devoted exclusively to the care and treatment of pregnant tuberculous women. Here would be working in close harmonious cooperation a specialist in tuberculosis, an expert obstetrician interested in tuberculosis, a pediatrician also interested in tuberculosis, a roentgenologist, and the whole group supported by good pathologic, serologic, and bacteriologic laboratories. In such an institution the tuberculosis, the pregnancy, the labor and the puerperium, and the baby immediately after birth could be adequately handled, and the follow-up of mother and baby could be ascertained with accuracy.

Such institutions are not always available. It is possible to permit patients with minimal, arrested, or moderately advanced tuberculosis who are well controlled to remain at home, provided they are carefully watched by both phthisiologist and obstetrician. Following delivery these patients should be relieved of many of their household duties so that they secure sufficient rest.

It is our belief that all patients with far-advanced tuberculosis who are pregnant should be treated in the hospital for the entire period of gestation and for as long after delivery as is necessary to control their disease. Provision for caring for the baby after delivery becomes a social service problem. Domestic help and financial assistance in the home must be provided when necessary. The home difficulties are not easily overcome.

It is also our belief, along with others, that the better results being obtained today in the management of tuberculosis and pregnancy are due to the closer relationship between obstetrician and phthisiologist and to the use of newer, more effective therapeutic measures.

Summary

1. Routine x-ray examination of the chest should be a part of the obstetric examination of every pregnant woman.

2. Early diagnosis, the type and extent of the lesion, and adequate therapy primarily determine the prognosis in tuberculosis complicated by pregnancy.

3. Pregnancy does not necessarily have a deleterious effect upon tuberculosis of the lungs, either active or inactive.

4. Pregnancy per se is not an indication for the interruption of pregnancy in pulmonary tuberculosis.

5. Tuberculosis in pregnancy is not an indication necessarily for cesarean section.

6. The tuberculous woman can be expected to give birth to a normal child.

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Ordinary Baldness Can't Be Cured

The first known written medical record contained a remedy for baldness, including fat from the lion, hippopotamus, crocodile, goose, serpent, and ibex. It had one thing in common with modern "cures." It also failed to cure baldness.

One of the reasons baldness "cures" have continued to appear for thousands of years is that baldness is a "mysterious condition about which people can be easily fooled," according to Veronica L. Conley, assistant secretary of the American Medical Association Committee on Cosmetics. Another reason is that it is the kind of problem that breeds quackery, she said in the January *Today's Health* magazine, published by the A.M.A. The "pseudoscientific arguments supporting most baldness cures" are frequently "so convincing that their unsound basis can be detected only by trained scientists."

For instance, "before and after" picture of bald men whose hair grew again after using a "restorer" are among "the most potent advertising weapons." The trouble is that in many types of baldness, hair will return regardless of treatment or lack of it. This type of baldness and "spontaneous regrowth" often follows infectious diseases accompanied by fever, including erysipelas, pneumonia, typhoid, and influenza. Serious hair loss sometimes follows childbirth or surgery. In all these conditions, normal hair growth returns without help.

But for ordinary baldness, massage and hair tonics with or without vitamins, hormones, ultraviolet light diets, sulfa drugs, and antiseptics have "no special place" in treatment. A complete physical examination to discover a possible cause in disease is wise. Regular and gentle scalp massage, brushing, and intermittent tugging at the hair to lift the scalp are "measure for good scalp hygiene."

However, once ordinary baldness gets under way, "it is progressive and permanent and there is no known way of preventing or retarding its progress," Mrs. Conley said. The tendency toward baldness is hereditary but will appear only where there is a normal amount of male hormone. Scientists are mostly optimistic about an eventual solution to the problem of baldness, except for one factor. "In the course of evolution there has been a marked reduction in the amount of hair covering the human body," she said.

"The loss of scalp hair may be part of an evolutionary trend. If this is true, future centuries will bring not a cure but the appearance of more and more bald men."

CLINICOPATHOLOGIC CONFERENCE

MEDICAL SERVICE, UNIVERSITY DIVISION, KINGS COUNTY HOSPITAL

BROOKLYN, NEW YORK

Conducted by WILLIAM DOCK, M.D.

DECEMBER 17, 1953

Case History

The patient was a fifty-four-year-old, white, male, electric switchman who was in good health until April, 1947, when he developed a pruritic, bullous, erythematous rash on the soles of both feet which shortly spread to the palms and was made worse by exposure to sunlight. At about this time bilateral ankle, knee, and elbow pain occurred without any signs of inflammation. The arthralgia was intermittent, lasting one to three days and remitting spontaneously. No history of allergy or noxious contact was elicited.

In October, 1948, the patient was hospitalized for the rash at another hospital. Physical examination at that time revealed ". . .scaling exfoliative dermatitis of the hands and feet with generalized lymphadenopathy." Laboratory findings included white blood cells 17,750 with 54 per cent lymphocytes. Node biopsy revealed "chronic lymphadenitis." Skin biopsy was not considered diagnostic.

By November, 1949, the rash had spread to the entire body. Laboratory data at that time revealed albumin-globulin ratio 4.4:3.4 and white blood cells 24,000. A course of nitrogen mustard was administered with subsequent reduction of white blood cells to 12,000.

By August, 1950, the patient had developed alopecia totalis and loss of the nails. Over the next year he was hospitalized three times for the skin lesion, anorexia, fever, and weakness and received courses of ACTH and/or cortisone.

During hospitalization in April, 1953, the following laboratory data were obtained: red blood cells 3,640,000, hemoglobin 8.9 Gm., white blood cells 30,500 with neutrophils 25 per cent, lymphocytes 51 per cent, eosinophils 20 per cent, basophils 1 per cent, and monocytes 3 per cent. Albumin-globulin ratio was 3.5:3.0; sodium 135 mEq. per L.; potassium 4.5 mEq. per L.; blood urea nitrogen 10.5 mg. per cent; fasting blood sugar 50 mg. per cent; total cholesterol 135 mg. per cent. Cervical node biopsy again showed "chronic lymphadenitis," and a marrow aspiration showed eosinophilic hyperplasia. Fuadin therapy was given, but the patient was unimproved.

From this time on the skin rash became worse. Weakness, anorexia, weight loss, and fever were progressive, and a persistent cough developed. One week prior to his admission to this hospital, he developed diarrhea consisting of yellowish-green stools.

Physical Examination.—Physical examination upon admission to Kings County Hospital on August 12, 1953, revealed an emaciated, elderly, white male with generalized exfoliative dermatitis and complete absence of hair and nails. Pulse was 100 and regular, blood pressure 130/70, rectal temperature 100 F., and respirations 20. There were hard, nontender, confluent lymph nodes in the cervical, axillary, and epitrochlear areas bilaterally. The fundi were normal, the tongue was smooth, and the lungs were clear.

The heart sounds were of good quality, and there were no murmurs. The point of maximal impulse was in the sixth intercostal space in the midclavicular line. The second aortic sound was equal to the second pulmonic sound.

The abdomen was soft and scaphoid. The liver was nontender and palpable three fingerbreadths below the costal margin in the midclavicular line; the upper edge was percussible in the sixth intercostal space. Spleen was nontender and descended one fingerbreadth by palpation.

The right ankle was swollen without signs of inflammation. No significant abnormalities were elicited on neurologic examination. Rectal examination revealed a soft and moderately enlarged prostate with a small hard nodule in the right lobe.

Laboratory Data.—Erythrocyte sedimentation rate was 18 in fifteen minutes and 24 in thirty minutes. Red blood cells were 2,300,000, hemoglobin 6.5 Gm., white blood cells 28,000 with reticulocytes 1.6 per cent, neutrophils 40 per cent, stabs 8 per cent, lymphocytes 44 per cent, eosinophils 6 per cent, and monocytes 2 per cent; hematocrit was 21 per cent. Lupus preparations were negative on two occasions.

Urine was acid with 3 plus albumin, sugar and acetone negative: there were 3 to 5 white blood cells per high-power field on microscopic examination but no casts, red cells, nor bacteria. Mazzini test was negative; blood urea nitrogen 15; fasting blood sugar 100; icterus index 6; total protein 6.3; albumin-globulin ratio 2.1:4.2; phosphorus 3.9; alkaline phosphatase 0.8; cephalin flocculation 2 plus; calcium 8.6; prothrombin time 15.8 seconds, control 12.5; clotting time three minutes, forty-five seconds.

Bone marrow aspiration revealed the following: reticulum cells 0.5 per cent; myeloblasts 0.5 per cent; promyelocytes 1.5 per cent; neutrophilic myelocytes 5.0 per cent; neutrophilic metamyelocytes 13.0 per cent; eosinophilic metamyelocytes 3.5 per cent; polymorphonuclears and band forms 32.5 per cent; eosinophils 7.0 per cent; basophils 0.5 per cent; lymphocytes 25.0 perc ent; plasma cells 2.9 per cent; reticuloendothelial cells 7.5 per cent.

Posteroanterior x-ray of the chest revealed blunting of the left costophrenic angle. There was an irregular infiltration of the mesial third of the right lung field. Flat plate of the abdomen revealed numerous phleboliths at pelvic inlet. Posteroanterior x-ray of the skull was normal.

Hospital Course.—The patient's temperature ranged from 98 to 100 F. throughout most of his hospital course. He was seen in dermatologic consultation, and a diagnosis of generalized exfoliative dermatitis was made. Three per cent Vioform ointment and oral Pyribenzamine were prescribed. Two transfusions were given on August 17.

On August 31 the patient awoke from sleep with a complete right-sided hemiplegia and motor aphasia.

On September 3, 1953, cortisone (50 mg. orally every four hours) was begun. By September 5 some clearing of the skin lesion on the arms and face was noted, and on September 8 the patient was able to speak a few words. It was noted on this date that the liver was palpable two fingerbreadths down, but the spleen was no longer felt. White blood cell count was 36,000 and hemoglobin 9.0 Gm.

On September 9 cortisone doses were tapered, and Aminopterin, 0.5 mg. three times a day, was started. By September 12 the skin lesion showed further improvement, but weakness and anorexia were more marked. Aminopterin was discontinued on September 15 when ulcerations were found in the mouth. Because of patient's failure to take food orally, intravenous fluids were begun.

On September 16 dyspnea and basilar rales were noted. Pulse was 120 and regular; temperature rose to 102 F. Hemoglobin was 8.5 Gm. and white blood cells 38,000 with a differential of histioblasts 1 per cent, lymphocytes 60 per cent, microlymphoblasts 8 per cent, metamyelocytes 15 per cent, myelocytes 1 per cent, polymorphonuclears 4 per cent, and bands 10 per cent. Patient expired quietly on September 17, 1953.

Discussion

Chairman Dock: All right, Dr. Austrian.

Dr. Robert Austrian: When I received this protocol from Dr. Bilello last weekend, it was not without a certain sense of chagrin. Dermatologic problems in general fill me with dismay. It is reasonable perhaps to rationalize one's inability to arrive at the proper diagnosis of the disturbances which may occur in organs lying within the chest or abdomen, but the skin is accessible directly to view and to examination by all one's senses. Certainly both the patient and perhaps the physician have the right to expect that any disorder so immediately obvious should be capable of proper diagnosis. Even among experts, however, opinions as to the origin and nature of skin lesions may differ. This result follows perhaps from the generalizations that most organs have limited patterns of reaction and that different etiologic agents may give rise ultimately to the same anatomic alterations in the affected organ.

With this preamble let us turn now to a consideration of an elderly, white, male switchman who became ill in 1947, at which time he developed what are described as bullous, itching lesions on the palms and soles which were exacerbated by exposure to sunlight. I wonder at the term "bullae" because certainly bullous lesions in these areas are somewhat unusual. As far as the photosensitivity is concerned, it is somewhat difficult to evaluate.

Subsequent developments will show it unlikely that this patient suffered either from porphyria or from a nutritional deficiency such as pellagra which gives rise to dermatologic lesions with well-recognized photosensitivity. The only possible occupational hazard to which this patient may have been exposed is coal tar products if they were used in lubricating switches, and I do not know that this was the case. Individuals who develop dermatitis from exposure to tar products often manifest photosensitivity.

The lesions on the hands and feet persisted during the ensuing year and extended gradually to involve the entire body. In 1948, when the patient was hospitalized for the first time, he showed an exfoliative dermatitis, involving chiefly the extremities, and an abnormal blood picture with both leukocytosis and a relative lymphocytosis. At this time biopsies were made of both a lymph node and of an area of involved skin, but in neither instance did histologic examination reveal the nature of the underlying pathologic process. Apparently it was believed, in view of the lymphocytosis and dermatitis, that the patient might have some disease involving tissues which were sensitive to nitrogen mustards. He was so treated, and as the result of this his circulating leukocytes diminished. The progress of the disease despite therapy, however, was seemingly relentless. By 1950 the dermatitis had progressed to involve the entire body with associated dystrophic changes leading to loss of both the hair and nails. During the ensuing three years the patient was treated repeatedly with ACTH and cortisone, although we do not gather from the protocol that he was benefited strikingly thereby.

In April of 1953 he was hospitalized again in another hospital in Manhattan where he was found to present the picture of generalized exfoliative dermatitis, this time with rather marked anemia, leukocytosis, lymphocytosis, and eosinophilia. On this occasion a lymph node was again removed, and again the procedure was unrewarding. His bone marrow was examined and showed only eosinophilic hyperplasia. On this occasion the patient was treated with Fuadin. The reason for this therapy was not immediately apparent until exploration of the literature revealed that one hospital in Manhattan had been studying the effect of this antimonial in the treatment of mycosis fungoides. Inasmuch as the patient was hospitalized in this institution, it seems likely mycosis fungoides was the suspected diagnosis. He did not benefit, however, from the therapy. During the summer months, in addition to other difficulties, he developed diarrhea.

In August, 1953, he was admitted to Kings County Hospital. At this time he was normotensive, and he presented the picture of a chronically ill, emaciated, white male with the generalized picture of exfoliative dermatitis. No further description of the skin lesions is given. Absence of the hair and nails is mentioned. In addition to these findings he had generalized lymphadenopathy and a palpable liver and spleen. A hard nodule was also felt in the prostate.

Numerous laboratory determinations were made. Among the significant ones which may merit discussion in a moment is the anemia which was essentially normocytic in character. He again had leukocytosis with lymphocytosis and eosinophilia. The urine showed 3 plus albumin, and on this occasion his albumin-globulin ratio was reversed, although in comparison to the other determinations described in the protocol, it appears that the change was due largely to a fall in albumin rather than to any striking rise in globulin. The patient's bone marrow was examined by aspiration, and on this occasion, in addition to showing a relatively normal proportion of the cells usually present in the marrow, it revealed the presence of 7.5 per cent reticulum cells.

A chest film, which I would like to see at this juncture, is reported to have shown some infiltrative changes. Could we see the film please, Dr. Harrington?

Dr. Leo A. Harrington: This is the only roentgenographic study we have on this patient. The roentgenograms of the chest were taken three weeks before death, and at this time I see no gross evidence of consolidation or neoplasm (*film*). There are accented peribronchial markings at the right base. These (*indicating*) represent bronchial changes, recent or old, or some peribronchial process. The interpretation should be correlated with the clinical findings. The cardiac shadow apparently is not grossly enlarged. The diaphragms are slightly elevated, whether due to the phase of respiration or to other causes cannot be accurately determined. The left diaphragm is somewhat flattened. We have a left lateral view, which I will show you, in which there are old adhesions causing tenting of the diaphragm. There is a small, calcified hilar gland.

This is the left lateral view in which the arrow points to the tenting of the diaphragm, indicating old thickening of the pleura (*film*).

Dr. Austrian: Admission to this hospital resulted in no dramatic change in the patient's course, which was progressively ingravescent. Shortly after admission to the ward, the patient awoke one morning with paralysis of the entire right side of the body and with motor aphasia. His condition worsened steadily. Shortly before death an examination of the peripheral blood showed an abnormal differential white count, revealing the presence of both microlymphoblasts and histioblasts. Soon thereafter the patient expired.

Our problem appears to be one of relating, if possible, the generalized dermatitis with a systemic disease involving principally the lymph nodes. What pathologic processes then need we entertain? It seems unlikely that this patient was suffering from syphilis, tuberculosis, sarcoid, or disseminated lupus erythematosus. The serologic test for syphilis was negative. The course was marked by the relative absence of fever, and the pulmonary changes certainly do not suggest tuberculosis. I was unable to find, in Dr. Longcope's long monograph on sarcoid, evidence that exfoliative dermatitis is one of the dermatologic manifestations of this disease. Search for the lupus erythematosus cell was unrewarding, and the patient's blood picture was certainly unlike that of one with disseminated lupus erythematosus. Was this merely a case of progressive exfoliative dermatitis? Those which are due to drugs are generally more acute, and the patient either dies or recovers completely. Cases of allergic dermatitis have been described which have progressed to the point of giving a clinical picture not too dissimilar from this, but the hematologic finding in this case was not present in any that I was able to read about. It seems more likely that this patient suffered from some form of neoplastic process in association with which the dermatologic changes arose.

Inasmuch as our pathologist has his roots in Boston, it would perhaps be wise for anyone discussing diseases of the reticuloendothelial system and lymphoid structures to do so within the "nosologic confines" employed in that learned city. It is a very difficult problem for anyone who has no strongly preconceived notions about the classification of such disorders to approach the problem because the terminology used in different geographic areas and by different authors is so varied.

It seems highly improbable that this patient suffered from a lymphosarcoma, the course of which is generally more fulminating, and one would have expected the biopsies of the lymph nodes to have been positive in one of the two instances.

According to Jackson and Parker, reticulum cell sarcoma has never been seen by them to terminate in a picture suggesting lymphatic leukemia. In addition, that disease generally runs a more acute course with fever as a frequent manifestation and with painful lymph nodes. There is nothing in the history to suggest this patient may have had in association with his disease Kaposi's hemangiosarcoma, although it occasionally arises in settings like this. Neither is there anything in the examination of the blood or lymph nodes to suggest that this patient may have had myeloid or monocytic leukemia.

This leaves for consideration the three types of Hodgkin's disease, lymphatic leukemia, and a very bizarre disorder known as mycosis fungoides.

Hodgkin's disease may be associated with a wide variety of dermatologic manifestations, some of which may show changes on microscopic examination characteristic of the histologic picture of Hodgkin's disease. In other instances the alterations may be nonspecific, and patients with Hodgkin's disease may develop exfoliative dermatitis which is indistinguishable from that manifested by others who lack this neoplastic disorder. The absence of changes in the lymph nodes, however, militates to some extent against the diagnosis of Hodgkin's disease, although it does not exclude it. In addition, the blood picture is most atypical for a patient with Hodgkin's disease. In this disorder when leukocytosis occurs, it is usually accompanied by relative lymphocytopenia rather than lymphocytosis.

Insofar as lymphatic leukemia is concerned, we are again confronted with an anomalous situation. Although the peripheral blood picture was compatible with chronic lymphatic leukemia on two occasions, the bone marrow did not present the picture of leukemic change, and, in addition, the two lymph node biopsies were negative. Again I think we are confronted with a situation which makes difficult such a diagnosis.

Finally we come to mycosis fungoides. This is a disorder that was described first by Alibert in 1806 under the name Pian fungoide because he believed the lesions resembled those of yaws. Some twenty years later they impressed him as resembling mushrooms. Therefore, he changed the name to mycosis fungoides from Pian fungoide. Not all patients with this disorder, however, manifest the exuberant tumors which sometimes occur. The disease is described in dermatologic texts as manifesting three stages in its characteristic course. The first stage is one of eczematoid dermatitis which may become generalized. This phase may be followed by the development of areas of localized, infiltrative changes in the skin and, finally, by the appearance of the tumors. There exist, however, other types, one of which has been termed "erythrodermic" and which is manifested mainly by exfoliative dermatitis. In this disorder changes in the skin and allied ectodermal structures are similar to those which occurred in this patient. In addition, there has been described a more fulminating form which begins with the initial appearance of tumors, particularly about the head and neck.

So far as I am able to determine, the nature of mycosis fungoides is rather obscure. As I have said, the changes in the skin manifested by this patient are not infrequently seen. The disease is one which runs a course of variable length, the range being given from six months to forty years. It occurs more frequently in males than in females and is seen most commonly in middle life. The average life expectancy after onset in patients with this disorder is about five years, and our patient's illness falls within this limit.

Frazer has described a patient who manifested symptoms and findings very similar to ours in an article which was published about a decade ago. This patient had generalized exfoliative dermatitis with leukocytosis which at times was in excess of 100,000 cells, with a lymphocytosis reaching 84 per cent of the total number of circulating leukocytes. This patient was treated with total body irradiation with complete regression of all his signs and symptoms and was seemingly well a year later. Whether or not he had chronic lymphatic leukemia and relapsed later on I do not know.

Mycosis fungoides is not only a disease of the skin, but it has been reported by many observers to involve the internal organs. Those organs most commonly affected are the lungs, liver, and spleen. The histologic picture may vary in different patients when they come to postmortem examination. The tumor may be any one of the types mentioned previously, and it is very difficult to surmise the histologic appearance which will be found at autopsy unless such changes are detectable in a peripheral lymph node or unless a definite histologic type predominates in sections of the skin. The skin lesions are described as being made up of aggregates of cells of different types which lie beneath the epidermis. One instance has been described of a patient in whom similar lesions showing cellular polymorphism were found in the viscera at autopsy.

There are certain other findings in this patient which perhaps one would like to explain. To begin, there is the albuminuria, the cause of which is not entirely clear. It is interesting to speculate whether or not this patient had secondary amyloidosis. It has been reported relatively recently that secondary amyloidosis may occur in patients with Hodgkin's disease, and one should consider this possibility, therefore, in individuals who have signs, symptoms, or laboratory manifestation suggesting such a diagnosis. I am unaware of its having been found in association with mycosis fungoides and think it probably was not present in this patient.

With regard to the cerebral manifestation shown shortly before death, it seems most likely to me that this patient suffered a thrombosis of an artery in the left cerebral hemisphere, and I doubt that any neoplastic process was responsible for changes in the brain. The fact that the patient awoke the following morning and did not present a shocklike picture militates, I think, in favor of thrombosis in contradistinction to hemorrhage, and we have no evident site of origin for an embolus to the brain.

Finally, because of the penchant of our pathologist for diagnosing more than one neoplasm in a patient, it is perhaps possible that this patient suffered, in addition to his generalized disturbances which caused him so much discomfort, from carcinoma of the prostate gland.

In conclusion, therefore, I should like to make a diagnosis of mycosis fungoides with involvement of liver, lung, spleen, and possibly the intestinal tract. The histologic type of cell which will be found in these organs I can only surmise. In addition, the patient had probably a thrombosis of a vessel of the left cerebral hemisphere and carcinoma of the prostate, and there is a question of secondary amyloidosis with renal involvement.

CHAIRMAN DOCK: Thank you very much, Dr. Austrian!

There are a number of mysteries here. We might ask Dr. Grace about one of them. Do you know of any cases of mycosis fungoides in which bullous lesions on the palms and soles were seen? This seems to me an odd lesion. Does that occur in mycosis fungoides?

DR. ARTHUR W. GRACE: I don't know of the existence of bullous lesions on the palms and soles in mycosis fungoides. The commonest cause of bullous lesions on the palms and soles is probably ringworm. This gentleman sitting around the switch for a long time probably had time to develop ringworm of the foot. I don't know just how often he bathed his feet, but the chances are he did not bathe as much as he should. Having gotten blisters on them, it is very simple for the fungus element to reach the palm and live in the keratinous material there.

Another common condition that leads to bullous lesions on the soles is shoe leather dermatitis which is often wrongly diagnosed as ringworm.

The third, and least likely, condition which might have produced the bullous lesions and which also could be responsible for the loss of nails, is pemphigus. It is, however, inconceivable that this man would have had pemphigus for all these years between 1947 and 1953 without at least showing a few blisters elsewhere. Some cases of pemphigus vulgaris do turn into pemphigus exfoliaceus, which is almost indistinguishable from exfoliative dermatitis. I am inclined to subscribe with Dr. Austrian to the diagnosis of mycosis fungoides in this case.

CHAIRMAN DOCK: There is another mystery which will take a great deal of work. What is a man doing exposing his palms and soles in April to sunlight? This is not part of the ordinary switchman's job.

There is a third mystery which I am sure all of you are aware of—this man had been in hospitals since October, 1948, and nothing is said about the skin biopsy, which is undoubtedly where they began. I have no doubt the diagnosis of mycosis fungoides was made in 1948 and repeatedly confirmed. This apparently led immediately to treating him as though he had mycosis fungoides. So I take it, the people responsible for him had come to that diagnosis within the first year. He had five years in which various hospitals saw him, and Dr. Austrian pointed out the chagrin of the internist who can diagnose with considerable elegance and accuracy the side on which a man has a carcinoma of the adrenal and describe the expected histology but cannot tell what is wrong when the lesion is right in plain sight on his skin. I suspect there was more than one skin biopsy because it is easier to do a skin biopsy even than on a kidney. One of the mysteries that Dr. Fitzgerald may clear up is how many skin biopsies were recorded and what different histologic diagnoses were made before the patient came to autopsy.

I think we better hear from him as to the unraveling of these mysteries.

Diagnoses

Clinical.—*Generalized exfoliative dermatitis.*

Dr. Austrian.—*Mycosis fungoides, thrombosis of a vessel of the left cerebral hemisphere, carcinoma of the prostrate gland.*

Anatomic.—*Malignant lymphoma, lymphocytic type, and leukemia cutis picture.*

Pathologic Discussion

DR. PATRICK FITZGERALD: I shall mention only the significant gross findings. There was cachexia and a healing dermatitis with desquamating yellow and white, thin, crusted lesions noted on the scalp, chest, abdomen, and extremities. Ulcerations were present at the corners of the mouth and over the hard palate. The patient had palpable axillary nodes. The right lung weighed 1,240 Gm. and showed discrete, elevated patches that were gray-white and from which could be squeezed some purulent exudate. The left was similar, weighing 800 Gm. In the greater curvature of the stomach near the cardiac end, there was a mass 2.5 by 2 cm. involving the entire wall. This was yellow and soft; there were small gray-white areas in the liver and spleen. Former weighed 1,400 Gm. and the latter 360 Gm.

As far as the terminal episode is concerned, the patient had many abscesses scattered throughout the lungs, a confluent necrotizing bronchopneumonia in which were scattered these areas (*slide*) which at first glance showed many fungi in the periodic acid (Schiff stain). Presumably these fungi are related to his terminal course of nitrogen mustard therapy.

This is a lymph node (*slide*). Unfortunately, I must go into classification to some extent. This is characteristic of some lymph nodes that were found in the mediastinum, in the aortic region, and para-aortic region, and in the serosa of the stomach were also a few nodes showing this pattern. This is a typical lymphocytic infiltration of lymph nodes and lymph follicles with complete replacement of the architecture by mature lymphocytes. I would call this lesion a malignant lymphoma of the lymphocytic type. In the liver about the portal area there is considerable infiltration with the same type of cell (*slide*).

This is the spleen, and grossly some yellow-white nodules were described (*slide*). These nodules represent infiltration by a malignant lymphoma of the lymphocytic type.

The bone marrow, in general, showed some hyperplasia but essentially of the eosinophils, eosinophilic myelocytes, and also of the reticulum cells, but no neoplastic process is evident (*slide*). One of the bone marrow aspirations done at this hospital and two years before, in another hospital, a bone marrow biopsy showed essentially the same picture.

This is the skin biopsy, taken four years before death, which is not specific (*slide*). Most observers would not make a diagnosis on this slide. This is essentially a chronic dermatitis, and three or four similar biopsies showed the same lack of specificity. This patient had an exfoliative dermatitis for six years and for a period of at least four years had had essentially negative biopsies.

This is taken at autopsy and at first glance is diagnostic (*slide*). This is leukemia cutis. Since there is present a lymphocytoma involving viscera, we believe that this is a malignant lymphoma giving the leukemia cutis picture with its characteristic infiltration of the corium.

Thus, so far, the pattern is simple—an exfoliative dermatitis and the findings of a malignant lymphoma at autopsy. In Montgomery's series of 78 cases 25 per cent of his cases showed a lymphoblastoma (malignant lymphoma). About 80 per cent of the lymphoma cases were lymphocytomas, about 3 per cent Hodgkin's, and about 15 per cent mycosis fungoides. The skin lesions of mycosis fungoides are not present in our material.

About 15 to 25 per cent of the malignant lymphomas will show some cutaneous involvement. There may be nodular lesions, ulcerations, or occasionally the exfoliative type seen here.

In the stomach the large ulcerating lesion in the cardia (*slide*) is of interest primarily to the morphologist, I am afraid, but possibly also of interest in the pathogenesis of some of the malignant lymphomas. This is a clear-cut Hodgkin's granuloma involving the wall of the stomach. There are typical Reed-Sternberg (Greenfield) cells. There is also polymorphous infiltrate of lymphocytes, plasma cells, eosinophils, fibrosis, and necrosis.

Here is a multinucleated Reed-Sternberg with the prominent nucleolus (*slide*). Here is the clear-cut fibrosis over toward the left with the cellular infiltrate of the Hodgkin's granuloma type. Here are some more bizarre forms (*slide*); down at the bottom here (*indicating*) one sees markedly atypical mitoses going on. This is an atypical and anaplastic reticulum cell response. This is getting a little more bizarre (*slide*). As you know, many years ago, James Ewing suggested that some of the Hodgkin's that had gone on for many years terminated rather rapidly with a sudden change in the clinical picture. At autopsy one noted a sarcomatous picture, not the classic fibrosis, necrosis, eosinophilia, and the Reed-Sternberg cells, but frank sarcomatous cells predominating. That is what is illustrated here.

Here is one of the most striking of all the lesions (*slide*). By all our classic criteria this lesion is a reticulum cell sarcoma. In the stomach, therefore, we have the characteristic picture of a Hodgkin's granuloma, Hodgkin's sarcoma, and also a reticulum cell sarcoma. We also have atypical changes in regenerating reticulum cells scattered throughout this region and in a few nodes that we know are changes secondary to nitrogen mustard.

So, for the classicist this is not a good lesion to talk about. Gross and Mallory in their classic article on the malignant lymphomas showed that in 22 per cent of their lesions, which had been followed by at least two consecutive biopsies over a period of years, there was a change in classification from one group to another. The Hodgkin's paragranulomas, for example, often precede the Hodgkin's granuloma, and most paragranuloma lesions can be followed to the development of a Hodgkin's granuloma; a small percentage of Hodgkin's granulomas show a transition to Hodgkin's sarcoma. It is difficult to piece this whole case together satisfactorily, and much of it would have to be guesswork. Without any question we have a malignant lymphoma of the lymphocytic type, which presumably was associated with the exfoliative dermatitis for some years. We also have a very clear-cut picture of Hodgkin's granuloma and reticulum sarcoma (and possibly a Hodgkin's sarcoma) found only in the stomach and adjacent node. We presume this to be a relatively late development. One cannot help but speculate about the relationship of chemotherapy to the development of the terminal bizarre morphology, particularly when one remembers the atypical reticulum cell regeneration seen after nitrogen mustard therapy.

In summary, I think that the significant findings are (1) malignant lymphoma, lymphocytic type, of the spleen, liver, lymph nodes, and skin; (2) pleomorphic malignant lymphoma of the stomach and adjacent lymph node with histologic features of Hodgkin's granuloma, Hodgkin's sarcoma, and reticulum cell sarcoma; (3) bronchopneumonia with abscess formation; (4) exfoliative dermatitis; (5) eosinophilia and reticulum cell hyperplasia of the bone marrow.

Chairman Dock: Thank you, Dr. Fitzgerald. I think to guide Dr. Austrian and me and some of the rest of the audience, you might tell us how mycosis fungoides differs from leukemia cutis.

Dr. Fitzgerald: The lesion of mycosis fungoides presents a pleomorphic pattern that can be mistaken for Hodgkin's disease or, on rare occasions, a myelogenous leukemia infiltration. Some of the lesions may resemble the reticulum cell sarcoma. Fortunately in this case the clear-cut, monotonous cellular infiltrate of lymphocytes implicates leukemia cutis. Often with mycosis fungoides there is a predominance of reticulum cells, some atypical, but in addition a polymorphous infiltrate in which in some cases plasma cells are quite conspicuous. In others these are lymphocytes and polys and, not infrequently, eosinophils, to confuse the problem with Hodgkin's.

Chairman Dock: Do you consider mycosis fungoides to be one of a group of mesenchymal tumors manifested in the skin?

Dr. Fitzgerald: Many cases of mycosis fungoides appear to be clearly limited to the skin; others have visceral lesions as well. To the dermatologist it is primarily a skin disease, and we must admit the paucity of visceral involvement in a few cases, particularly in the older literature. More recently with autopsy work and more careful examination, more and more cases of mycosis fungoides show the high incidence of visceral lesions. I see no reason why it could not arise in the skin. I would certainly suspect that in the majority of cases one would find visceral lesions associated with it.

Chairman Dock: You think it is a bad thing for us to call these cases mycosis fungoides? When an itching skin lesion is the outstanding feature of lymphomatosis for years, some of us have the habit of calling them mycosis fungoides. Whether they have it in a pure form or have one of the other mesenchymal tumors does not seem worth the clinician's worrying about.

Dr. Fitzgerald: In ignorance of dermatology I had always presumed that the diagnosis of mycosis fungoides was a very clear-cut and simple differentiation. Is that true, Dr. Grace? I am going to get out of here before I get ringworm or something.

Dr. Grace: I think after a while when exfoliative dermatitis goes on and there are some nodes, we are not too sure whether they have arisen from infection of the skin or whether they are due to some more troublesome thing than just skin infection. We are apt to put them down under the head of lymphoblastoma. We don't expect to diagnose mycosis fungoides unless we have a piece of skin taken out to show the picture of which Dr. Fitzgerald has just spoken. Also we only feel certain clinically about mycosis fungoides when we see the patient in the tumor stage.

Chairman Dock: I think in the future I will follow Dr. Fitzgerald's advice and not call all of these cases mycosis fungoides. It is such a nice name, but we will call them all leukemia cutis or lymphoblastoma cutis because the percentage is with us as to what pathologists will call mycosis fungoides.

As far as managing the patient and the duration of life, the same wide spread in prognosis occurs in mycosis fungoides as in leukemia cutis. They may live many years, but some may get into serious trouble within a year or two.

Dr. Fitzgerald: Leukemia cutis usually means exitus within a few years. As Dr. Grace mentioned, many mycosis fungoides live for years and years.

Chairman Dock: Some of the other cases, like this man, have lived for over five years after the skin lesions led to a biopsy.

Dr. Fitzgerald: He did not have leukemia cutis in his skin biopsies.

Chairman Dock: What did he have six years ago?

Dr. Fitzgerald: Chronic dermatitis.

Chairman Dock: You don't believe that?

Dr. Fitzgerald: That has been substantiated by biopsy—the only evidence of the period available.

Chairman Dock: You don't think the disease six years ago is the same disease which killed him?

Dr. Fitzgerald: He had an exfoliative dermatitis then, and eventually he manifested his malignant lymphoma.

Dr. Austrian: This patient had a leukemic blood picture five years before exitus.

Dr. Fitzgerald: The marrows were negative.

Dr. Austrian: Did he have leukemia in addition to all the other disorders?

Dr. Fitzgerald: I have no evidence of it. One may or may not have a leukemia with malignant lymphoma. In about 50 per cent of the lymphoma cases there will be a leukemic picture. Would the hematologist be willing to call this peripheral blood picture leukemia, or do they also want marrow involvement for it? As far as we pathologists are concerned, the leukemic picture occurs with malignant lymphoma in half the cases. It proves to me lymphatic leukemia is not a marrow disease.

Dr. Austrian: This man, then, had a blood picture consistent with lymphoma five years before death and not one or two.

Dr. Fitzgerald: Successive skin biopsies were negative. You can use the skin biopsies of leukemia cutis as a fairly good prognostic sign.

Dr. Austrian: Unless he gets leukemic infiltration or exfoliative dermatitis in the setting of lymphoma.

Dr. Fitzgerald: There are two types of skin lesion associated with the malignant lymphoma. One is nonspecific. The other is exfoliative dermatitis which may exist for even five or ten years.

In some cases of Hodgkin's disease the exfoliative dermatitis has appeared two, four, five, seven years before even the peripheral nodes were involved. That was the type of lesion one gets here—no nodes involved clinically nor any other picture of the malignant lymphomas, even though the patient came in with exfoliative dermatitis. So one has to differentiate the nonspecific lesions associated with the malignant lymphomas from the discrete infiltration of the skin by the lymphocytes, lymphoblasts, or Hodgkin's disease, whatever it happens to be. The first appearance here was a nonspecific skin lesion. Whether there was at the same time a malignant lymphoma present in the viscera we don't know—we have no evidence to decide the matter.

Dr. Austrian: I would like to add one final note. Dr. Fitzgerald was ahead of me on Monday. I went to the library to get Jackson's monograph and found Dr. Fitzgerald had taken it out of the library. Yesterday afternoon, in pursuit of this elusive diagnosis which I have still to overtake, I returned to the library to look up a rather unusual case of mycosis fungoides. The librarian returned in five minutes and said, "I am very sorry. The book is charged out to Dr. Fitzgerald. I will go down to see if his office is still open." It is evident today that Dr. Fitzgerald is still ahead of me.

Dr. Fitzgerald: To keep the record clear, I confess that I own a personal copy of Jackson and Parker.

Chairman Dock: I think we are now thoroughly confused and can disperse.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

149th Annual Meeting

May 9 to 13, 1955

Hotel Statler ***Buffalo***

HISTORY OF MEDICINE in New York State

Editor
FREDERIC D. ZEMAN, M.D.

European Influences on Medicine in Colonial New York

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(*Chairman, Session on History of Medicine*)

THE subject for the symposium of the May, 1954, meeting of the Session on History of Medicine of the Medical Society of the State of New York was chosen as "Medicine in Colonial New York" to coincide with the 200th anniversary of the founding of King's College.

The first two papers[1,2] cover medicine in New York during the seventeenth and eighteenth centuries as shown by correspondence from or to medical men of those periods. The third paper[3] deals with one small phase of the medical activities of that remarkable doctor, Cadwallader Colden, whose professional work was largely concerned with the administration of the city, but whose vast interest in science and medicine led him to be considered one of the foremost scientists of the colonies. There are indeed those who feel that had not Cadwallader Colden been loyal to his king and country, he would have been considered as rivaling Benjamin Franklin in the importance of his scientific investigations and writings. The fourth paper deals with the period just preceding the Revolution, when a medical society, a medical school, and a hospital patterned after European institutions, were started in New York.

Medicine in New York had its beginnings and flourished under somewhat different conditions from those of such coastal cities as Boston and Philadelphia. In both of the latter communities, settlements were made for colonization, whereas the Dutch town of New Amsterdam was started largely as a center for trade and exploration. As such there was less rapid growth and less need for medical aid to the inhabitants. The early doctors who came to New Amsterdam were largely untrained barber surgeons who treated the ill as best they could when their ships were in port.

With the advent of women in New Amsterdam certain midwives came to help in labor, but the first graduate in medicine to come was Johannes La Montagne, who had received his medical degree from the University of Leyden and arrived on these shores in 1637. He, like his later colleague, Cadwallader Colden, was largely occupied with the administration of affairs in the settlement.

Dutch medicine at this time was outstanding in Europe, and with the stimulus of such eminent surgeons and scientists as Sylvius, Boerhaave, and Leeuwenhoek, not only doctors from the continent but also from England and Scotland received formal training at the Universities of Leyden, Utrecht, etc. Holland therefore furnished the earliest influences to the rise of medicine in New York directly from its graduates, and indirectly through the school of medicine at Edinburgh, which sent some of its European graduates to New York and a larger number to Philadelphia. From Philadelphia, graduates of both the Dutch universities and Edinburgh came to New York, while Americans flocked to the Edinburgh medical school, later to return to practice here. As S. Weir Mitchell has said, American medicine was "the child of Edinburgh and the grandchild of Leyden."

Two charts are offered to indicate in brief the influences of the Dutch schools on medicine in New York and the other influences on early medical education in New York City. Between 1752 and 1804, a total of 124 Americans graduated in medicine at Edinburgh, and 42 of these were New Yorkers. No Americans graduated in 1781 and 1782, probably because of the War of

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Presented at the 148th Annual Meeting of the Medical Society of the State of New York, New York City, Session on History of Medicine, May 13, 1954.

The Influence of the Dutch Medical Schools on Medicine in New York

Johannes La Montagne—Leyden M.D.
Arrived New Amsterdam 1637
Samuel Megapolensis—Harvard; Utrecht, M.D. and theology
John Van Beuren—Leyden M.D. (Boerhaave)
Arrived New Amsterdam ca. 1700
Johannes Kerfbyle—Leyden M.D.
Performed first medicolegal postmortem (on Governor Slaughter, 1691)
Samuel Staats (d. 1716)
First New Yorker to return to Holland for medical education
Issac Dubois (d. 1743)—Leyden M.D.

Independence, and only one in 1783 and one in 1784.

William Shippen, Jr., of Philadelphia, along with other students from America, attended lectures in medicine at the University of Edinburgh and received his medical degree there in 1761. Dr. John Bard, who came from Philadelphia to practice medicine in New York, sent his son, Samuel Bard, to the medical school in Edinburgh in 1761. Both Shippen and Samuel Bard were imbued with the idea of starting medical schools in the colonies. Shippen, together with John Morgan who also graduated from Edinburgh, was largely responsible for founding in 1765 the first medical school in this country, the College of Medicine in Philadelphia, which was later incorporated in the University of the College of Philadelphia and eventually in the University of Pennsylvania. Two years later, Samuel Bard with five colleagues started the King's College Medical School in New York in 1767. The medical school in Philadelphia in 1768 gave the first medical degree in course in this country, the bachelor's degree, but King's College Medical School was the first medical institution to award the doctorate in medicine in 1770. King's College Medical School was flourishing at the outbreak of the Revolution, but no degrees were given in 1775 because of the absence of the president of the College, the outspoken Loyalist Myles Cooper, who had escaped partly clad out of a back window, while Alexander Hamilton harangued a mob trying to lay violent hands on him. King's College was closed in April, 1776, since the buildings were impressed for the reception of troops and for use as a military hospital.

Some Influences on Early Medical Education in New York City

PHILADELPHIA	NEW YORK
Cadwallader Colden—Edinburgh, 1705 (theology?); London	Cadwallader Colden—Edinburgh, 1705; London
Thomas Bond—Paris	
Phineas Bond—Leyden M.D.; Edinburgh, Paris, London	John Jones—Rheims M.D., 1751; Edinburgh, Leyden, London, Paris
John Kearsley, Sr.—England	
Teacher of	
Thomas Cadwalader—London (Cheselden)	
Teacher of John Jones—Rheims M.D., 1751	James Jay—Edinburgh, M.D., 1753
Lloyd Zachary (also abroad)	Samuel Clossey—Trinity College, Dublin M.D.
Teacher of John Jones—Rheims M.D., 1751	James Smith—Leyden M.D.
John Bard	John Bard
John Redman—Leyden M.D., 1748	Peter Middleton—St. Andrews M.D.
Teacher of	
John Morgan—Edinburgh M.D., 1763; London (William Hunter), Paris	Samuel Bard—Edinburgh M.D., 1765; London, Leyden
Benjamin Rush—Edinburgh M.D., 1768; London, Paris	
Caspar Wistar—Edinburgh M.D., 1768; Also with John Jones	John Van Brugh Tennent—Edinburgh M.D., 1764
William Shippen, Sr.	Richard Bayley—London (Hunter, 1770)
Teacher of William Shippen, Jr.—Edinburgh M.D., 1761; Princeton; London (Hunters and McKenzie)	Samuel Nicoll—Edinburgh M.D., 1776
Adam Kuhn—Edinburgh M.D., 1767; Upsala (Linnaeus); London, France, Holland, Germany	William Moore—Edinburgh M.D., 1780
Teacher of Philip Syng Physick—Edinburgh M.D., 1792; London (John Hunter)	Benjamin Kissam—Edinburgh M.D., 1784 Richard S. Kissam—Edinburgh M.D., 1789
Nicholas Romayne—Edinburgh M.D., 1780; Paris, London, Leyden	Nicholas Romayne—Edinburgh M.D., 1780; Paris, London, Leyden
David Hosack—Philadelphia M.D., 1791	David Hosack—Philadelphia M.D., 1791; Princeton; New York (Richard Bayley); Edinburgh, London, Leyden

New York, unlike Boston and Philadelphia, was occupied during the Revolution by British troops for seven years. The medical profession in New York was therefore pulled in various directions by their loyalties to the Crown and to their patients. Even though they might be sympathetic to the revolutionary forces, they were often tied to their homes and to their obligations to the sick. It was therefore much harder for the New York doctors to decide to break away from the city with their families than for those in unoccupied areas.

The effect of the occupation on the medical school was disastrous. No further attempt was made at medical education until 1784, when King's College Medical School was started again as the medical school of Columbia College, but it did not really flourish again until it was merged with the College of Physicians and Surgeons in 1813.

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Older Workers Eat Better than Younger Ones

Workers about 65 eat more wisely than younger workers but they still need more milk, fruits, and vegetables, a Cornell University study has shown. Researchers also found encouraging news for educators—advanced education is more important than higher income in forming good eating habits. Diets improved steadily among older workers as their education increased, while only slight improvement followed income increases.

The report on part of a study of occupational retirement was made in the December *Archives of Industrial Hygiene and Occupational Medicine*, published by the American Medical Association. Some of the major findings among 1,640 employes sixty-four years old were:

1. "A less desirable milk usage was one of the most important faults in the diet of older employes." Protein intake was "less than desirable."
2. Only 10 per cent of the men and 7 per cent of the women had "adequate" diet ratings.
3. "Only 3 per cent of the men and 5 per cent of the women missed any meal during the day recorded; the meal most frequently missed was lunch."
4. "Two-thirds of the workers ate between meals. . .foods which were primarily carbohydrate were the commonest between-meal snacks."
5. During one day reported, 77 per cent of the men and 97 per cent of women drank no beer or alcoholic beverages; less than 10 per cent of either group used soft drinks.

"This survey shows that there is still a need to encourage the use by industrial workers of milk and its products and of fruits and vegetables, particularly citrus fruits, tomatoes, and green, leafy and yellow vegetables," the researchers said. Older persons still actively employed, however, "appear to eat in a pattern and at a level of adequacy in most instances equal or superior to that of younger workers previously studied."

"With increasing education there was increasing use of milk, eggs, fruits and vegetables high in ascorbic acid and. . .carotene, other vegetables, legumes, and breakfast cereals," the researchers said. "For both men and women, as the educational level rose, there was a steady increase in the percentage of subjects at each educational level who used some milk."

The number of servings of meat, bread, and (among women) potatoes decreased with education; the use of sweets, soft drinks, fruits, and (among men) potatoes remained about the same. The over-all adequacy of diet rose while habits about number of meals and between-meal eating changed little. The use of beer and alcoholic beverages also dropped off.

Income level made less difference in all these factors and there was only a slight tendency for over-all adequacy of diet to be higher at the higher income level. The researchers said this "refutes the often unsubstantiated claim that dietary differences are more closely related to income than education."

Three meals a day is still about par for older workers: 99 per cent ate three times or more. In fact, 66 per cent of the men and 70 per cent of the women ate four to seven times. About 97 per cent of men and 95 per cent of women missed no meals.

ADDITIONAL ANNUAL REPORTS

Medical Society of the State of New York

1954–1955

Report of the Treasurer

To the House of Delegates, Gentlemen:

There is submitted for your information and, I hope, study a table showing income and expenditures of the General Fund of the Society. When your treasurer states that he hopes you will study the figures in Table I, it is asked with an earnest desire that members and delegates be familiar with our general financial picture. It must be remembered that every activity of the Society becomes a part of the picture.

At the 1954 meeting of the House of Delegates, it was ordered that our fiscal year end on June 30 rather than December 31. In order, however, to present comparative figures, Table I has been prepared so that calendar year figures for 1954 may be shown.

If you will refer to the 1954 column, you will first note that our income is primarily from dues of members. Dues income increased approximately $112,700. This increase resulted from an annual dues increase of $5.00 per member in 1954.

The JOURNAL suffered a net loss of $37,234 before allocation of dues of $2.50 per member. This net loss was approximately $5,700 more in 1954 than it was in 1953. Paper costs have increased, and, in addition, we are now supplying the JOURNAL gratis to fourth-year medical students in New York State. We trust that by introducing our publication to these men and women, they will become interested in our JOURNAL. We believe that we are building good will for the future.

Administration costs were $124,058. This is an increase of approximately $14,800 over 1953 and was caused primarily by an increase in the cost of living. One of the particular factors involved here is increased salary costs. We have been feeling the pressure of increased salaries in every department and activity. We must meet the market rates for salaries if we are to keep our personnel as well as attract new and desirable employes.

For several years we have spent higher and higher sums for our Public and Professional Relations Bureau. During 1954 the Bureau was successful in reducing its expenditures more than $20,000. This is a substantial saving when considered in the light of previous years.

Traveling expenses increased approximately $4,100. One reason for this was that the A.M.A. meeting was held in Miami, Florida, last December.

With regard to the *Medical Directory*, it would appear from the report that this expense decreased approximately $41,000. For reasons which are related to accounting, it would seem that we saved this amount. However, the cost shown here represents only a part of the entire expense. At this writing the book is being printed. Therefore, the figure of $40,397 can only be an estimate. We believe the net cost of the 1955 edition will be in excess of $100,000.

Our annual meeting in New York in 1954 produced a loss of $1,073. In 1952 we had a gain of $3,872. This is a decline in income of more than $4,800.

During 1954 we suffered a loss of approximately $27,700 through advancing money to the Blood Banks Association of New York State. This is an increase of approximately $23,300 over the previous year.

There is one significant omission from our expenditures this year. It is a contribution to the American Medical Education Foundation. In 1952 and 1953 we contributed $25,000 each year. In the face of a net income of $71,544, the question as to why we did not make this disbursement in 1954 may be asked. If you will look back for the previous five years on the last line of the table, adding up our net income and expenses, we suffered a net loss of $132,628 for those years. If we take into account income for 1954, our net loss for the past six years totaled more than $61,000. Under the circumstances, I know that your officers could not, during 1954, approve of increasing this loss.

As to the future your treasurer can only say that all expenditures should be scrutinized carefully. It is his belief that with a surplus in the General Fund of only $5,114 we ought to be very careful in the manner in which we disburse our income. (It should be noted here that while we had a net income of more than $71,000 in 1954, we owed in loans a total of $125,000 at December 31, 1953.) For the fiscal year ending June 30, 1955, we are anticipating a def-

TABLE I.—Income and Expenditures, 1949 through 1953

	1949	1950	1951	1952	1953	1954
INCOME						
Members' Dues	$319,758.00	$329,336.00	$433,010.00	$439,400.00	$439,010.00	$551,711.48
Journal	_4,909.78_*	_9,937.55_*	2,532.16	_12,466.39_*	_31,563.68_*	_37,234.09_*
Interest	625.53	651.99	672.90	855.47	881.05	869.25
Sundry	12.50	28.74	16.28	. . . . .	. . . . .	. . . . .
Total Income	315,486.25	320,079.18	436,231.34	427,789.08	408,327.37	515,346.64
EXPENDITURES						
Administrative	92,982.24	93,289.19	97,766.81	102,657.88	109,220.70	124,058.70
Public and Professional Relations Bureau	64,332.85	68,815.43	65,531.85	93,334.88	93,479.05	73,132.78
Legislation Bureau—Albany	19,794.54	27,031.37	31,289.96	25,828.73	26,336.47	26,018.33
Workmen's Compensation Bureau	20,522.11	20,661.19	21,329.33	23,396.84	23,825.92	25,109.39
Bureau of Medical Care Insurance	15,985.84	16,883.63	17,482.44	19,094.39	19,328.92	19,330.80
Scientific Activities	16,126.00	19,400.90	20,622.05	19,952.04	20,177.92	22,513.56
District Branches	2,498.12	2,995.22	3,648.71	2,764.94	2,573.25	2,809.28
Planning Committee for Medical Policies	397.37	424.11	426.67	1,088.83	1,110.04	1,283.92
Woman's Auxiliary	2,000.00	2,000.00	2,210.16	6,890.95	10,067.13	7,913.82
Malpractice Insurance and Defense Board	1,114.92	1,011.91	910.22	2,625.91	3,420.32	2,962.64
Malpractice Audit	1,000.00	750.00	800.75	1,000.00	1,000.00	1,250.00
Counsel—Retainer and Expenses	21,990.71	21,975.90	27,000.00	27,000.00	30,000.00	30,000.00
Traveling Expenses	17,371.94	26,657.53	28,385.69	26,126.11	23,929.96	27,996.78
World Medical Association	. . . . .	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
A.M.A. Conference Room Expense	499.94	91.77	164.50	769.81	173.77	150.00
Societies for Medical Research	. . . . .	500.00	500.00	500.00	500.00	500.00
Committee on Alcoholism	414.88	274.52	783.57	26.23	. . . . .	. . . . .
Conference of Presidents	50.00	50.00	50.00	50.00	75.00	150.00
Pharmacopeia Revision Committee	100.00	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Special Legal Services	9,054.00	11,777.18	7,087.03	1,000.00	. . . . .	. . . . .
Veteran's Medical Service Plan	495.13	1,451.14	26.78	249.23	14.42	88.86
Medical Directory	44,320.60	48,665.70	48,960.62	44,088.85	81,301.22	40,397.05
Annual Meeting	10,677.93	_4,929.68_*	8,637.60	_3,872.91_*	16,403.31	1,073.07
Moving Expense and Alterations	. . . . .	. . . . .	. . . . .	11,517.68	3,320.46	518.43
A.M.A. Convention—Students	. . . . .	. . . . .	216.43	129.01	712.77	. . . . .
Middle Atlantic States Conference	. . . . .	. . . . .	25.09	53.22	_1.52_*	. . . . .
Pensions	. . . . .	. . . . .	5,000.00	5,000.00	5,400.00	7,400.00
Citizens' Health Council	. . . . .	. . . . .	. . . . .	1,000.00	750.00	25.00
Blood Banks Commission	. . . . .	. . . . .	. . . . .	588.54	334.66	64.98
American Medical Education Foundation	. . . . .	. . . . .	. . . . .	25,000.00	25,000.00	. . . . .
American Medical Association Convention	. . . . .	. . . . .	. . . . .	. . . . .	5,313.55	. . . . .
State Convention—Students	. . . . .	. . . . .	. . . . .	. . . . .	209.53	396.09
Blood Banks Association of New York State, Inc.	. . . . .	. . . . .	. . . . .	. . . . .	4,341.36	27,658.64
Total Expense	341,729.12	360,777.01	389,856.26	438,861.16	509,318.21	443,802.12
NET INCOME	$ _26,242.87_*	$ _40,697.83_*	$ 46,375.08	$ _11,072.08_*	$_100,990.84_*	$ 71,544.52

* Italics denote figures in red.

icit in excess of $40,000. A continual deficit can mean only one thing—a drastic reduction in both the quantity and quality of the service we render our members or a request for an increase in dues. The latter solution is always a bad and distasteful recommendation for your officers to make. We know it presents a difficult problem to the House of Delegates. It is, however, a situation which must be faced.

The treasurer wishes to inform the House of Delegates that we are confronted with a situation which ought to be met. You will note that during the year 1954 we expended $7,400 for pensions. This money was paid from our dues income. In the not too distant future, we know that the amount we will have to expend for pensions will be increased if we are going to provide for employes who have been in the employ of the Society for a long period of time. The principle of giving pensions to employes is not unusual in this day. If we are going to continue to provide pensions to employes upon retirement, it is suggested that the House of Delegates give some thought to placing the matter on a sound financial basis. It might be appropriate, because we will shortly celebrate our 150th anniversary, that we provide for pensions now by an assessment upon each member in order to set up a fund similar to the War Memorial Fund.

Your treasurer wishes to take this opportunity to thank the assistant treasurer, Dr. Thomas M. d'Angelo, for his assistance during the year and the invaluable aid and suggestions received from our secretary, Dr. W. P. Anderton. Your treasurer also desires to express his appreciation for the efforts of the accounting department including Mr. Frank Grassi, its supervisor, and Mr. Thomas E. Alexander, the office manager.

Respectfully submitted,

Maurice J. Dattelbaum, M.D., *Treasurer*

Report of the Budget Committee

To the House of Delegates, Gentlemen:

This committee has a new name this year. It was previously known as the Finance Committee. Recently, the Council changed this to the Budget Committee.

During the past year your committee has met four times. Its duty is to accumulate and present to the Council the annual budget. During the past two years we have presented a budget at the beginning of the fiscal year, and after five or six months have elapsed, a "second look" is taken and any necessary revisions presented to your Council.

This committee has been made up of the same men for the past few years. This factor has enabled us to become quite familiar with the expenses of the various departments and activities. Much of our work consists merely of review in order to watch our expenditures. In some instances your committee has found it necessary, after study, to recommend the reduction or complete elimination of some budgetary requests. This has always been done in the interest of economy. We realize that reducing or eliminating budgetary requests is not pleasing to those who request an appropriation. However, in order to keep our expenses at a minimum, it must be done.

As we go about our work, we realize that in recommending budgetary reductions, we are, in a sense, having something to do with Society policy. A certain amount of judgment as to the particular value of an activity must be considered. All committees, however, may appeal directly to the Council for any monies deleted from a budget by the committee.

There is submitted herewith a summary of the 1954–1955 budget. You will note that a deficit of over $45,000 is forecast. Every effort has been made to reduce this. Certain items previously spent have been deleted. One which deserves comment is the $25,000 which was contributed to the American Medical Education Foundation. Your committee did not feel that in the face of a deficit budget, it could include a gift of $25,000. Both the Council and the Board of Trustees approved its elimination.

TABLE I.—Summary of Budget for Year Ended June 30, 1955

Income	
Dues	$474,500
Interest	500
Journal	9,788
	$484,788
Expenditures	
Administration	$129,004
Public and Professional Relations Bureau	84,080
Legislation Bureau	26,844
Workmen's Compensation Bureau	25,358
Industrial Health Bureau	6,725
Bureau of Medical Care Insurance	20,138
Scientific Activities	22,681
Woman's Auxiliary	8,135
Travel	28,600
Annual Meeting	18,442
District Branches	4,550
Planning Committee	1,500
Malpractice Insurance and Defense Board	3,500
Malpractice Audit	1,250
Legal	30,000
A.M.A. Delegates Expense Fund	750
Conference of Presidents	75
Veterans Medical Service Plan	150
Pension	5,500
Alterations	1,000
Citizens' Health Council	25
Blood Banks Commission	250
Blood Banks Association of New York State, Inc.	42,000
State Convention Delegates—A.M.A. Student	520
Provision for Salary Adjustments	2,000
Medical Directory 1955	67,003
Total Expenditures	$530,080
Budgeted loss	$ 45,292

Respectfully submitted,

Maurice J. Dattelbaum, M.D., *Chairman*
Frederic W. Holcomb, M.D.
Thomas M. d'Angelo, M.D.

Report of the Board of Trustees

To the House of Delegates, Gentlemen:

Herewith as chairman of the Board of Trustees for the period 1954–1955, I respectfully submit this report.

The Bylaws provide, Chapter V, Section 2, in part that "the Board of Trustees shall have charge of all property including trust funds and shall supervise financial affairs of the Society and shall invest the surplus from time to time. The budget prepared by the Council shall be submitted to the Board for its approval, and all resolutions or recommendations of the House of Delegates or Council pertaining to expenditures of money must be approved by the Board of Trustees before the same shall become effective. The Board of Trustees shall make and execute all contracts for the Society."

In Section 3, "The chairman of the Board of Trustees shall make a report to the House of Delegates of its transactions for the year and of the amount of money belonging to the Society under its control."

Article IX, of the Constitution, states in part "The approval of the Council and of the Board of Trustees shall be necessary for the expenditure of any funds of the Society."

Study of the statistics printed in the reports of the Board of Trustees, Treasurer, and the Budget Committee of the Council should give the membership much information on the resources, income, and expenditures of our Society. Those who wish to have a further breakdown of the items displayed are invited to request additional information from the accounting and business department of the Society.

The speaker of the House has suggested that there be available at certain times in the House of Delegates a place where reference committee members and others interested may question the trustees and the accounting and business management. We feel that this may assist in the discussion of resolutions in the House that have to do with the expenditure of money.

It will be noted that as the years pass, the expenditures and work of the Society keep on increasing. This increased cost is due to various causes which indicate the increased scope of our work.

We have a membership as of January 20, 1955, of 23,899. The number of employes, including executives, is 63, an increase of but one during the year. The rent of the former quarters was $25,000 per year. At present in our 386 Fourth Avenue quarters your rental is $30,500. With the increased costs of the times we have needed to increase the salaries of personnel, allowances for travel expenses, and the cost of supplies which included items such as paper, printing, and general management of the JOURNAL. Since 1953 we have been sending the JOURNAL gratis to all fourth-year medical students in New York State. It has been necessary to employ a full-time editor for the JOURNAL. The allocation of dues for the expenses of the NEW YORK STATE JOURNAL OF MEDICINE amounts to about $2.50 per member. Without the use of this allocation there would be a financial deficit in the production of the JOURNAL.

The Board of Trustees, at its meeting February 10, 1955, received from the chairman of the Budget Committee a Council-approved budget for the remainder of the year ending June 30, 1955. The Trustees are now studying this budget as of this date (February 15, 1955).

At the May, 1954, meeting of the House of Delegates, a resolution was approved to change the fiscal year from December 31 to June 30. Our auditor's report for the six months ended June 30, 1954, is submitted herewith. Since this report is about nine months old, the Board of Trustees felt that more up-to-date information regarding the finances of the Society ought to be published. There is, therefore, submitted financial report as of December 31, 1954, and there is included therein a statement of operating income and expenditures for the twelve months ended December 31, 1954.

The Board of Trustees has been pleased with the change in bookkeeping procedure made the year before, in which the following special reserves have been designated out of the general reserve as follows:

Building fund reserve	$100,000
Equipment reserve	50,000
Employes beneficial fund reserve	75,000

There is no question but that these are urgently needed and should be increased when possible.

It is certainly apparent that we need all of the space that we rent at present. If continued expansion takes place, we will need to increase this expenditure. It may be that the obtaining of permanent headquarters would resolve this difficulty except that this would require capital not now in our possession.

The employes beneficial fund reserve is a result of a wish to give some status to aid in caring for employes long and faithful in the service of the Medical Society. The problem of establishing a suitable retirement pension fund has troubled the Medical Society for a long time. The initial cost of establishing such a fund would be very great and again would require some addition to our present funds. Other boards of trustees have granted pensions in certain cases, and the Board this year has granted a pension of $100 per month. Some of the pension payments have ceased because of death, and we may be able to handle the subject within strict limits if we can gradually increase our employes beneficial fund reserve.

The treasurer and the accounting office report a June 30, 1954, deficit of $47,573 in the general fund. We are confronted with conditions which may well increase our budget this year. At its meeting February 10, 1955, the Council passed a resolution to ask the House of Delegates to increase by $5.00 the yearly dues. If this is done, we should take immediate steps to resolve this deficit in our general fund and adhere closely to the pay-as-you-go policy.

If our present activity and its costs continue to increase, we would not remain solvent without additional revenue. If it is the desire of the House of Delegates to have no increase of dues, it should make careful study to determine the activities that are to be discontinued.

The House of Delegates and the Council approved a new venture of establishing an industrial health bureau. The reference committee in their approval stated that, "concerning the report of the Council Committee on Industrial Health and the supplementary report of the Board of Trustees on the Bureau of Industrial Health, your reference committee approves them both and recommends their adoption with the recommendation that the director need not necessarily be a medical man." The Planning Committee for Medical Policies of the House of Delegates, the Council, and the Board of Trustees found the establishment of such a bureau a considerable problem involving budget funds, study of efforts to combine the work of the Workmen's Compensation Bureau, Bureau of Medical Care, and Industrial Health Bureau under a group which would reduce the cost, and finally, the difficulty of securing a properly trained person to head the Industrial Health Bureau. The Council accepted a plan to put the Industrial Health Bureau under the Workmen's Compensation Bureau with an assistant physician directly in charge of industrial health. The position, designated as consultant to the Industrial Health Bureau, was offered to Dr. Anthony J. Lanza of New York. Dr. Lanza accepted the position but became ill before he could begin employment. At its meeting on February 10, 1955, the Board of Trustees voted to defer employment because of the delay and referred the matter to the Council for further action.

The Board of Trustees has given attention to the subject of malpractice benefits relating to the cost of legal defense for those not carrying such insurance. Considerable work is required of the legal counsel to defend these noninsured members. A committee of the Board of Trustees is carefully studying this problem and will report later.

The chairman of the War Memorial Fund, Dr. Edward R. Cunniffe, has made frequent reports to the Board of Trustees indicating the continued success of this plan. A full report of this activity appears elsewhere.

In the course of the year the Board has made certain deletions from the budget to avoid a severe deficit. The Council with the approval of the Board of Trustees had made no donation for this year to the American Medical Education Foundation because of our limited budget. In New York State most of the county societies provide for a voluntary donation of $10 at the time of payment of county dues by each member, and this, together with larger amounts made available by physicians in alumni and other categories, should give practical aid to the foundation. The figures on this gross amount may be available at a later time.

The Investment Committee, under the chairmanship of Dr. John J. Masterson, has very successfully conserved and improved our capital funds. There are times in the year when the anticipation of dues is not up to our requirements, and temporary borrowing becomes necessary using our investment securities as collateral. Careful attention has been given to securing all of the interest we can on items such as savings bank deposits. However, it was found impractical to handle working funds so that they might accrue savings bank interest. The Board of Trustees, the Investment Committee, and the treasurer have taken steps to correct some of this difficulty, and where a temporary loan could be made at less cost through the use of other holdings, this was accomplished. In the fall of 1954 there was a need for cash until the 1955 dues could be collected. Data relating to our investment groups will be found in the financial report. The Investment Committee receives regular financial information from an accredited source. The members of the Board of Trustees in our Society have often received queries about our capital surplus and investment funds. There has been a suggestion that some of this capital be used for current expenses. Studies of our finances would indicate that we have some $20 per each member in reserve which is a very small amount for an organization with the responsibility of the State Medical Society. As has been stated, we need to make temporary loans, and for this we must present collateral. Like all other organizations we need a certain amount of capital to keep our accounts payable in current order. A study of our activities will reveal that there are possibilities in many directions that may cost us considerable money, and part of this, cash outlay. We have benefits from the returns on such funds as we can invest. In the past years we have been using this to pay our expenses and not adding it to capital as was formerly done. Our dollars that we have today will do for us much less than was the case ten or twenty years ago. It would seem that if inflation continues, we should augment our capital accordingly.

On the subject of income, investment, and deficit we have added a new item in the past few years in a loan to the Blood Banks Association of New York State. The House of Delegates has approved support of this association so that it may make a suitable beginning in the task of providing blood bank service to the people of our State where and when needed. At the present time the Council and Board of Trustees have approved a loan to the Blood Banks Association amounting to $52,000. It is hoped that no more than this sum will be needed to carry on the project until June 30, 1955. It is possible that this loan may be reduced during 1955. The subject cannot be fully covered in this report, but suffice it to say that the Council has approved the objectives to be attained by the Blood Banks Association, and the Board of Trustees has approved all requests. However, the Board is concerned over its responsibility in this loan and has endeavored to acquaint itself with the working plans of the Blood Banks Association of New York State which is a separate corporation. In the interval of the printer's deadline for this report (February 15, 1955) and the meeting of the House of Delegates in May, further

[Continued on page 1221]

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Balance Sheet—December 31, 1954

ASSETS

GENERAL FUND			
CURRENT ASSETS			
Cash in Banks and on Hand	$ 31,816.16		
Less: Due to American Medical Association	3,137.50	$ 28,678.66	
Accounts and Notes Receivable	17,535.46		
Less: Reserve for Doubtful Accounts and Agency Commissions	2,992.56	14,542.90	
Dues Receivable—net estimate		6,135.00	
Due from Endowment Funds—per contra		550.00	
Due from War Memorial Fund—per contra		600.00	
Inventory of Paper Stock		16,255.50	
Advances to Employes		1,885.18	
TOTAL CURRENT ASSETS			$ 68,647.24
PREPAID EXPENSES			
Advance Cost (net), *Medical Directory* 1955		8,053.07	
Advance Costs, Annual Meeting 1955		3,318.61	
Sundries		3,259.21	
TOTAL PREPAID EXPENSES			14,630.89
FURNITURE AND FIXTURES—At Nominal Value			2.00
ADVANCES TO VETERANS MEDICAL SERVICE PLAN OF NEW YORK		16,972.53	
Less: Reserve		1,212.00	15,760.53
ADVANCES TO BLOOD BANKS ASSOCIATION OF NEW YORK STATE, INC.		32,000.00	
Less: Reserve		32,000.00	0
TOTAL GENERAL FUND			99,040.66
INVESTMENT FUND			
Cash in Bank—Checking Account		1,639.26	
Cash in Banks—Saving Accounts		70,597.44	
Investments at Cost		324,105.29	
Accrued Interest Receivable		983.01	
Loan Receivable from General Fund		24,000.00	
		421,325.00	
Less: Due to Other Funds		5,067.08	
TOTAL INVESTMENT FUND			416,257.92
SPECIAL FUNDS UNDER CONTROL OF BOARD OF TRUSTEES			
BUILDING FUND			
Investments—U.S. Treasury Obligations at Cost	$100,000.00		
Accrued Interest Receivable	688.58		
Due from Investment Fund	2,745.92		
TOTAL BUILDING FUND		103,434.50	
EMPLOYES BENEFICIARY FUND			
Investments—at Cost	75,998.15		
Accrued Interest Receivable	331.66		
Due from Investment Fund	1,086.03		
TOTAL EMPLOYES BENEFICIARY FUND		77,415.84	
REPAIR AND REPLACEMENT FUND			
Investments—at Cost	39,950.00		
Accrued Interest Receivable	251.21		
Due from General Fund	10,000.00		
Due from Investment Fund	1,235.13		
TOTAL REPAIR AND REPLACEMENT FUND		51,436.34	
TOTAL SPECIAL FUNDS			232,286.68
ENDOWMENT FUNDS			
Cash in Banks		14,121.98	
Less: Due to General Fund		550.00	
TOTAL ENDOWMENT FUND			13,571.98
WAR MEMORIAL FUND			
Cash in Banks		14,658.98	
Investments—U.S. Treasury Bonds—at Cost		215,665.95	
Accounts Receivable		1,306.25	
Accrued Interest Receivable		1,392.94	
		233,024.12	
Less: Due to General Fund		600.00	
TOTAL WAR MEMORIAL FUND			232,424.12
TOTAL ASSETS			$993,581.36

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Balance Sheet—December 31, 1954

LIABILITIES AND CAPITAL

GENERAL FUND		
Current Liabilities		
Loan Payable to Investment Fund		$ 24,000.00
Loan Payable to Repair and Replacement Fund		10,000.00
Accounts Payable		18,325.05
Commissions Payable—*Directory* Advertising Sales		914.69
Taxes Payable (Including Withholdings)		6,610.73
Total Current Liabilities		59,850.47
Deferred Credits		
Journal Advertising, Circulation, Reprints, etc.	$ 3,025.12	
Medical Directory, 1955	11,628.55	
Annual Meeting, 1955	10,664.25	
Membership Dues, 1955	8,758.20	
Total Deferred Credits		34,076.12
General Fund		5,114.07
TOTAL GENERAL FUND		99,040.66
INVESTMENT FUND		
Reserve for Depreciation of Investments	50,000.00	
Balance	366,257.92	
TOTAL INVESTMENT FUND		416,257.92
SPECIAL FUNDS UNDER CONTROL OF THE BOARD OF TRUSTEES		
Building Fund	103,434.50	
Employes Beneficiary Fund	77,415.84	
Repair and Replacement Fund	51,436.34	
TOTAL SPECIAL FUNDS		232,286.68
ENDOWMENT FUNDS		
Lucien Howe Prize Fund	5,608.19	
Merritt H. Cash Prize Fund	2,072.43	
A. Walter Suiter Lectureship Fund	5,891.36	
TOTAL ENDOWMENT FUND		13,571.98
WAR MEMORIAL FUND		232,424.12
TOTAL LIABILITIES AND CAPITAL		$993,581.36

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Statement of Operating Income and Expenses

For the Year Ended December 31, 1954

OPERATING INCOME		
Member's Dues for the Current Year		$551,251.48
Less: Allocation to JOURNAL Circulation, as Authorized by the Board of Trustees		59,245.75
		492,005.73
Arrears (Dues)		460.00
Interest on Savings Accounts		869.25
Operating Income from JOURNAL (Deficit)	$ _37,234.09_*	
Plus: Allocation of Dues	59,245.75	
		22,011.66
Sales of 1951 and 1953 *Directories* (Net)		12,602.95
		527,949.59
OPERATING EXPENSES		
Administrative	124,058.70	
Public and Professional Relations Bureau	73,132.78	
Legislation Bureau—Albany Office	26,018.33	
Workmen's Compensation Bureau	25,109.39	
Bureau of Medical Care Insurance	19,330.80	
Scientific Activities	22,513.56	
District Branches	2,809.28	
Planning Committee for Medical Policies	1,283.92	
Woman's Auxiliary	7,913.82	
Expenses of Blood Banks Association of New York State, Inc.	27,658.64	
Malpractice Insurance and Defense Board	2,962.64	
Malpractice Audit	1,250.00	
Counsel—Retainer and Expenses	30,000.00	
Annual Meeting	1,073.07	
Traveling Expenses	28,392.87	
World Medical Association	1,000.00	
A.M.A. Conference Room Expense	150.00	
National Society for Medical Research	100.00	
New York State Society for Medical Research	400.00	
New York State Citizens' Health Council	25.00	
Conference of Presidents	150.00	
Blood Banks Commission	64.98	
Pensions	7,400.00	
Veterans Medical Service Plan of New York	88.86	
Medical Directory 1955 (Portion of Estimated Loss)	53,000.00	
Alterations	518.43	
TOTAL		456,405.07
EXCESS OF INCOME OVER EXPENSES		$ 71,544.52

* Italics denote figures in red.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Statement of General and Other Funds

For the Year Ended December 31, 1954

	General Fund	Investment Fund	Building Fund	Employes Beneficiary Fund	Repair and Replacement Fund	War Memorial Fund	Lucien Howe Prize Fund	Merritt H. Cash Prize Fund	A. W. Suiter Lectureship Fund
BALANCE AT JANUARY 1, 1954	*$66,430.45**	$346,052.42	$100,687.23	$75,430.96	$50,186.65	$235,826.41	$5,460.82	$2,013.78	$5,782.80
ADDITIONS									
Excess of Income over Operating Expenses, not Including Income from Securities	70,675.27	.....	.....	....	....	.....	...	...	...
Interest on Bank Balances	869.25	1,635.44	.....	....	....	.....	147.37	58.65	158.56
Income from Securities	....	20,609.00	2,747.27	1,984.88	1,249.69	5,397.71	...	...	...
Profit (Net) from Sale of Securities	....	11.58	.....	....	....	.....	...	...	...
TOTAL ADDITIONS	71,544.52	22,256.02	2,747.27	1,984.88	1,249.69	5,397.71	147.37	58.65	158.56
DEDUCTIONS									
Custodian and Investment Service Fees	....	2,050.52	.....	....	....	.....	...	...	...
Prizes	....	.....	.....	....	....	.....	...	...	50.00
Benefits Disbursed	....	.....	.....	....	....	8,800.00	...	...	...
TOTAL DEDUCTIONS	....	2,050.52	.....	....	....	8,800.00	...	...	50.00
NET INCREASE OR DECREASE	71,544.52	20,205.50	2,747.27	1,984.88	1,249.69	*3,402.29**	147.37	58.65	108.56
BALANCE AT DECEMBER 31, 1954	$ 5,114.07	$366,257.92	$103,434.50	$77,415.84	$51,436.34	$232,424.12	$5,608.19	$2,072.43	$5,891.36

* Italics denote figures in red.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Cash in Bank and on Hand

December 31, 1954

GENERAL FUND	$ 31,816.16†
INVESTMENT FUND	72,236.70
TOTAL	$104,052.86

	UNION DIME SAVING BANK
ENDOWMENT FUNDS	
Lucien Howe Prize Fund	$ 5,708.19
Merritt H. Cash Prize Fund	2,272.43
A. Walter Suiter Lectureship Fund	6,141.36
TOTAL	$ 14,121.98

WAR MEMORIAL FUND	
On Deposit	$ 14,658.98

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† Includes $3,137.50 due American Medical Association.

[Continued from page 1215]

developments may require a supplementary report as the subject is again brought before the House.

At its February 10, 1955, meeting the Council approved designation of the term "budget committee" instead of "finance committee" which has often been used. The Budget Committee is a committee of the Council which prepares an annual budget for submission to the Board of Trustees.

I wish to express appreciation to the treasurer, Dr. Maurice J. Dattelbaum, who attends our meetings and regularly reports to us. He is the person who often answers our many queries and is most amiable about it. I wish to acknowledge the good work of the Budget Committee: Maurice J. Dattelbaum, M.D., chairman, Thomas M. d'Angelo, M.D., and Frederic W. Holcomb, M.D.; Mr. Thomas E. Alexander, office manager and accountant and business manager for the JOURNAL and *Directory*, is responsible for the care of our financial records and reports. He often appears before the trustees, and his explanations and answers help immensely. Miss Doris K. Dougherty is present at the meetings of our Board and is a most gracious assistant. I thank all of these competent and kind people and many others in the working staff.

There are many who help us in other departments, county societies, and the many organizations with which we come in contact; however, none serves so well nor makes us more competent than our secretary of the Board, Dr. W. P. Anderton. To look forward to my work and contact with him is ever a joyful anticipation.

Respectfully submitted,

HERBERT H. BAUCKUS, M.D., *Chairman*
EDWARD R. CUNNIFFE, M.D.
JOHN J. MASTERSON, M.D.
J. STANLEY KENNEY, M.D.
LEO F. SCHIFF, M.D.
JAMES R. REULING, M.D.
WALTER W. MOTT, M.D.

Auditor's Certificate

To the Board of Trustees, Medical Society of the State of New York:

We have examined the balance sheet of the Medical Society of the State of New York as of June 30, 1954, and the related statements of operating income and general and other funds for the six months then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

We did not confirm the unpaid members' dues by correspondence with the members.

In our opinion, the accompanying balance sheet and the statements of operating income and general and other funds present fairly the financial position of the Medical Society of the State of New York as of June 30, 1954, and the results of its operations for the six months then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

PATTERSON AND RIDGWAY
Certified Public Accountants

September 27, 1954

Balance Sheet—June 30, 1954

ASSETS

GENERAL FUND			
CURRENT ASSETS			
Cash in Banks and on Hand	$173,489.84		
Less: Due American Medical Association	13,012.50	$160,477.34	
Accounts and Notes Receivable (After Reserves)		24,945.14	
Dues Receivable—net, estimated		61,350.00	
Due from Endowment Funds—per contra		550.00	
Inventories		15,541.51	
TOTAL CURRENT ASSETS			$ 262,863.99
PREPAID EXPENSES			
Sundry Expenses and Deposits			3,792.07
FURNITURE AND FIXTURES—At Nominal Value			2.00
ADVANCES (AFTER RESERVES)			
Veterans Medical Plan of New York		15,760.53	
Blood Banks Association of New York State, Inc.		1,338.08	17,098.61
TOTAL GENERAL FUND			283,756.67
INVESTMENT FUND			
Cash in Banks		82,146.72	
Investments at Cost (Market or Redemption Value $476,177.71)		324,281.42	
Accrued Interest Receivable		984.21	
		407,412.35	
Less: Due to Other Funds		1,900.22	
TOTAL INVESTMENT FUND			405,512.13
SPECIAL FUNDS UNDER CONTROL OF THE BOARD OF TRUSTEES			
BUILDING FUND			
Investments—U.S. Treasury Obligations at Cost (Market Value $99,696.00)	100,000.00		
Accrued Interest Receivable	700.30		
Due from Investment Fund	1,361.30	102,061.60	
EMPLOYES BENEFICIARY FUND			
Investments—U.S. and Other Obligations at Cost (Market Value $76,205.00)	76,030.42		
Accrued Interest Receivable	331.71		
Due from Investment Fund	86.08	76 448.21	
REPAIR AND REPLACEMENT FUND			
Investments—U.S. and Other Obligations at Cost (Market Value $51,148.00)	49,950.00		
Accrued Interest Receivable	431.52		
Due from Investment Fund	452.84	50,834.36	
TOTAL SPECIAL FUNDS			229,344.17
ENDOWMENT FUNDS			
Cash in Banks		13,929.85	
Less: Due to General Fund		550.00	
TOTAL ENDOWMENT FUNDS			13,379.85
WAR MEMORIAL FUND			
Cash in Bank		13 735.83	
Investments—U.S. Treasury Bonds (Market Value $211,673.00)		215,722.49	
Accounts and Interest Receivable		2,877.91	
TOTAL WAR MEMORIAL FUND			232,336.23
TOTAL ASSETS			$1,164,329.05

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Balance Sheet—June 30, 1954

LIABILITIES AND CAPITAL

GENERAL FUND		
Current Liabilities		
Accounts Payable		$ 43,653.99
Taxes Payable (Including Withholding)		6,206.54
Total Current Liabilities		49,860.53
Deferred Credits		
Membership Dues—Second Half of 1954	$273,267.42	
Sundry	5,781.75	
Total Deferred Credits		279,049.17
Reserve for *Medical Directory, 1955*		
Portion of Estimated Deficit—*Medical Directory 1955*, Less Advance Costs		2,420.05
General Fund		*47,573.08**
TOTAL GENERAL FUND		283,756.67
INVESTMENT FUND		
Reserve for Depreciation of Investments	50,000.00	
Balance	355,512.13	
TOTAL INVESTMENT FUND		405,512.13
SPECIAL FUNDS UNDER CONTROL OF THE BOARD OF TRUSTEES		
Building Fund	102,061.60	
Employes Beneficiary Fund	76,448.21	
Repair and Replacement Fund	50,834.36	
TOTAL SPECIAL FUNDS		229,344.17
ENDOWMENT FUNDS		
Lucien Howe Prize Fund	5,530.53	
Merritt H. Cash Prize Fund	2,041.52	
A. Walter Suiter Lectureship Fund	5,807.80	
TOTAL ENDOWMENT FUNDS		13,379.85
WAR MEMORIAL FUND		232,336.23
TOTAL LIABILITIES AND CAPITAL		$1,164,329.05

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* Italics denote figures in red.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Statement of Operating Income and Expenses

For the Period January 1 to June 30, 1954

OPERATING INCOME		
One-half of Members Dues for the Year 1954—After Reserve		$273,122.43
Less: Allocation to JOURNAL Circulation, Income, as Authorized by the Board of Trustees		29,518.75
		243,603.68
Net Operating Income from JOURNAL		12,873.45
Sales of *Directories*		10,077.43
Interest on Savings Accounts		461.65
		267,016.21
OPERATING EXPENSES		
Administrative	$59,770.28	
Public and Professional Relations Bureau	38,317.22	
Legislation Bureau—Albany Office	14,411.27	
Workmen's Compensation Bureau	12,636.71	
Bureau of Medical Care Insurance	10,103.11	
Scientific Activities	12,549.71	
District Branches	430.75	
Traveling Expenses	16,548.04	
Woman's Auxiliary	3,494.71	
Expenses of Blood Banks Association of New York State, Inc.	14,320.56	
Malpractice Insurance and Defense Board and Audit	3,145.43	
Counsel—Retainer and Expenses	15,000.01	
Annual Meeting	1,073.07	
World Medical Association	1,000.00	
National and State Societies for Medical Research	500.00	
Medical Directory 1955—Portion of Estimated Loss	40,000.00	
Pensions	3,700.02	
Sundries	1,157.95	
		248,158.84
NET OF OPERATING INCOME OVER EXPENSES		$ 18,857.37

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Statement of General and Other Funds

For the Period January 1 to June 30, 1954

	General Fund	Investment Fund	Building Fund	Employes Beneficiary Fund	Repair and Replacement Fund	War Memorial Fund	Lucien Howe Prize Fund	Merritt H. Cash Prize Fund	A. W. Suiter Lectureship Fund
BALANCE AT JANUARY 1, 1954	_$66,430.45_*	$346,052.42	$100,687.23	$75,430.96	$50,186.65	$235,826.41	$5,460.82	$2,013.78	$5,782.80
ADDITIONS									
Interest on Bank Balances	....	723.18	.....	....	....	.....	69.71	27.74	75.00
Income from Securities	....	9,743.11	1,374.37	911.00	647.71	2,709.82	...	...	...
Profit (Net) from Sale of Securities	....	11.58	.....	106.25	....	.....	...	...	...
Excess of Operating Income over Expenses, not Including Income from Securities	18,857.37	.....	.....	....	....	.....	...	...	...
Total Additions	18,857.37	10,477.87	1,374.37	1,017.25	647.71	2,709.82	69.71	27.74	75.00
DEDUCTIONS									
Custodian and Investment Service Fees	....	1,018.16	.....	...	....	.....	...	...	50.00
Prizes	....	.....	.....	....	....	6,200.00	...	...	...
Benefits Disbursed	....	.....	.....	....	....		...	...	...
Total Deductions	....	1,018.16	.....	....	....	6,200.00	...	...	50.00
Net Increase or Decrease	18,857.37	9,459.71	1,374.37	1,017.25	647.71	_3,490.18_*	69.71	27.74	25.00
BALANCE AT JUNE 30, 1954	_$47,573.08_*	$355,512.13	$102,061.60	$76,448.21	$50,834.36	$232,336.23	$5,530.53	$2,041.52	$5,807.80

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* Italics denote figures in red.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Cash in Bank and on Hand

June 30, 1954

GENERAL FUND	$173,489.84†
INVESTMENT FUND	82,146.72
TOTAL	$255,636.56

	Union Dime Savings Bank
ENDOWMENT FUNDS	
Lucien Howe Prize Fund	$ 5,630.53
Merritt H. Cash Prize Fund	2,241.52
A. Walter Suiter Lectureship Fund	6,057.80
Total	$ 13,929.85

WAR MEMORIAL FUND	
On Deposit	$ 13,735.83

† Includes $13,012.50 due American Medical Association.

Investments

The investments of the Society are summarized as follows:

	Cost	Market
INVESTMENT FUND		
U.S. Government Bonds	$ 69,300.00	$ 67,125.00
Railroad Bonds	5,551.25	5,880.00
Industrial Bonds	25,000.00	25,781.00
Mortgage	3,707.04	3,707.04
Preferred Stocks	35,087.63	35,863.62
Common Stocks	185,635.50	337,821.05
Total	$324,281.42	$476,177.71
BUILDING FUND		
U.S. Government Obligations	$100,000.00	$ 99,696.00
EMPLOYES BENEFICIARY FUND		
U.S. Government Bonds	$ 55,110.35	$ 55,331.00
Public Utility Bonds	10,522.01	10,587.00
Industrial Bonds	10,398.06	10,287.00
Total	$ 76,030.42	$ 76,205.00
REPAIR AND REPLACEMENT FUND		
U.S. Government Obligations	$ 39,987.50	$ 40,561.00
Industrial Bonds	9,962.50	10,587.00
Total	$ 49,950.00	$ 51,148.00
WAR MEMORIAL FUND		
U.S. Government Obligations	$215,722.49	$211,673.00

Report of Counsel

To the House of Delegates, Gentlemen:

This is the twelfth annual report of your present counsel on the activities of the Legal Department of the Medical Society of the State of New York.

Prior to my own period of service as counsel to the Society, I was with the office of counsel for fifteen years, so that this Spring marks the twenty-seventh year of my association with the Society.

Mr. Robert J. Bell, the attorney for the Society, has been with the office since 1931. The rest of our staff consists of Mr. John J. DeLuca, who has been with the office ten years; Mr. Harold Shapero, who was with the office when Mr. Lloyd Paul Stryker was counsel, and then, after spending a period of more than twenty years with Mr. Stryker, came back to work with us; Mr. William C. Richardson has been with us five years; Mr. J. Richard Burns, three years; Mr. Robert C. Heidell, two years, and Miss Barbara C. Molinsky, two years.

We have indeed been fortunate in retaining all of these loyal associates so that their cumulative experience is available to help us with our work.

In my report of last year I gave a detailed statement of the nature of our work. It has increased considerably in the year, principally as a result of one new activity of the county societies which has been recommended by and encouraged by the State Society. This is the work of the county malpractice insurance and defense committees. Many of these committees have had their organizational meetings, and these meetings are evening ones which have been attended by members of our staff. The Queens County Committee has been particularly active and has met at monthly intervals for nearly a year.

The main function of a county committee of this sort is to bring home to the membership of the county society the problems presented in malpractice cases and claims, with the thought that much can be learned that can be put to use in improving the patient-physician relationship and the standards of care which are prevalent in the community. Previously, even the officers of the county societies were unaware of the extent of litigation of this sort that was in their midst, and they may have heard only at second hand of the cases and claims which were in existence.

Under the present system they may be fully informed of what the current trend is. If practices are disclosed which seem to call for correction, active measures can be taken to see that such is effected. The object is to seek out the truth and to deal fairly with everyone. It is also a healthy reminder to the members of the Society that their acts will be reviewed by their own appointed committees. Many useful suggestions as to the type of proof that can be offered in support of doctors who are sued have been made by the committees. The Queens Committee has a fair representation of all of the specialties, and the men have given unstintingly of their time and advice. We have met with committees from Erie County, New York County, Westchester County, and Kings County, and a number of other counties have scheduled meetings in the very near future.

It takes a considerable period of service before a member of one of these committees can really become useful in its work, and it is hoped that there will be a fair continuity of service by the men who assume this work. The Queens County Committee is now thoroughly aware of the fact that before a decision is made to settle a case or claim, a written consent is obtained from the insured doctor. It is also aware that the consent is obtained only after a number of experts have been interviewed, factual witnesses have been seen, a physical examination of the claimant or plaintiff has been done, and the results and advices are discussed with the doctor.

Since many of the cases which were reviewed by the Queens County Committee had been in existence for a considerable period of time, the committee had a good opportunity to see the work that was done in preparing these cases. I think it is fair to report that they were impressed with the volume of the detailed work that goes into each matter that is handled.

No case is settled unless the doctor willingly consents. The decision to settle is left to the doctor after he has been informed of the results of our investigation and our views. We endeavor to see to it that the client has a clear understanding of the issues involved.

Litigation.—A total of 297 lawsuits were commenced in the calendar year 1954 which are being defended by your counsel. The great majority of these are cases which arose in the period covered by the present group carrier, but there were more than a score brought against uninsured doctors, and seven were brought against doctors insured by the previous carrier.

There is an additional mass of threatened litigation consisting of close to 300 claims against doctors, which arose during 1954. Because of the accumulation of past work, there is presently a backlog of close to 1,000 lawsuits in this office. These suits may involve upwards of 1,500 doctors.

Of course, any doctor who is acquainted with the calendar situation in the courts knows that there is a considerable backlog of cases awaiting trial. When you remember that the statute of limitations in a malpractice action is two years from the date of the claimed malpractice, that some suits are not commenced until near the end of the statutory period, that there is a lag before the case is put on the calendar, and then that it takes several years for it to be reached, you can readily see that some of these cases do not come to trial for five or more years after the actual happening of the events. An infant has until two years after reaching his majority, namely, until his twenty-third birthday to bring an action in the courts of this State, and we have infants' actions that date back a decade. Sometimes a lawyer will not press his case too aggressively for trial. The courts are very liberal in granting plaintiffs additional time in which to prepare cases, and it is well nigh impossible to get a case dismissed for lack of prosecution. Some lawyers serve a summons and complaint in their case; we answer, and then it takes them a year or more to put the case on the calendar which is a further cause of delay. Some of our cases remain in a sort of limbo for a number of years.

Because of the complicated nature of most malpractice cases, the investigators for the insurance carrier and the lawyers who are defending the case must spend a great deal of time on investigation. Furthermore, as I have pointed out in previous reports, there is now available the right of the defendant to examine the plaintiff and the plaintiff to examine the defendant, and sometimes these pretrial depositions go on for days. These serve the purpose of clarifying the issues. It is the availability of this type of discovery proceeding which has encouraged many lawyers in recent years to bring malpractice cases because they can readily become acquainted with all of the facts. One improvement in procedure recently effected in New York and Bronx Counties will allow us to obtain all relevant hospital records. We may obtain photostatic copies of these records at our own expense, on the condition that we also furnish the plaintiff with a copy of the record, again at our expense.

Members of the Society should understand that even a malpractice case which is won may involve a great deal of expense before it ever comes to the courthouse door. Most of the examinations before trial are reported and transcribed by public stenographers, and their fees constitute a considerable item of expense. Particularly in order to get the testimony of former interns, residents, nurses, and other more or less transient associates in the care of a case, a great deal of traveling expense is necessary, and their testimony must often be taken in far distant places.

To show the diverse nature of litigation involving claimed malpractice that has arisen in the courts of late, four decided cases might be of interest to all doctors.

In *Adams* v. *City of New York*, 137 N.Y. Supp. 2d., 158, decided February 1, 1955, there was involved an action against the City for damages for premature discharge of a patient from City Hospital, and the Apellate Division decided that the jury should consider the issue of whether the failure of the doctor and nurse to make a note of the doctor's direction to keep the plaintiff for further observation and whether the nurse's discharge of the patient, contrary to hospital routine, were administrative acts sufficient to take to the jury.

In another case a jury absolved two doctors and returned a verdict against a drug company for $100,000 because gauze used by the doctors during the course of an operation, and alleged to be wholly absorbable, did not absorb; the patient developed an obstruction; two further operations were done to relieve the obstruction, and a mass of gauze was found. The amount of the verdict was compromised by the company for a lesser sum.

The Court of Appeals in *Perlmutter* v. *Beth David Hospital*, 308 N.Y. 100, reviewed a situation where it was claimed that a hospital "sold" blood to a patient and had impliedly warranted that the blood was fit for its intended use, whereas it was not. It was claimed that the blood was not fit nor of merchantable quality but instead contained jaundice virus, with the result that the patient was afflicted with homologous serum jaundice or homologous serum hepatitis. The Court of Appeals reversed the Appellate Division and dismissed the complaint. It was held that a contract between a hospital and a patient at the hospital for medical care and treatment is one for services and is not divisible and that concepts of purchase and sale cannot separately be attached to the healing materials supplied by the hospital for a price as part of its medical services, and when service predominates and the transfer of personal property is an incidental feature, the transaction is not a sale within the Sales Act. It was held that what was described in the complaint was not the purchase and sale of a given quantity of blood but the furnishing of blood for transfusion for a stated sum as part of and incidental to medical treatment. This is a very important decision since a contrary decision would hold the hospital responsible for something that it could not in the exercise of reasonable care prevent.

Another decision in the Court of Appeals was the case of *Vera Mrachek* v. *Sunshine Biscuit, Inc.*, 308 N.Y. 116. In that case the plaintiff filled out an employment application form and was sent to rooms maintained by the defendant for first aid and preemployment physical examination. The negligence of a physician employed by the defendant in attempting to take blood from the applicant's arm as a basis for a blood test caused the left hand to lose all feeling and to develop a paralysis diagnosed as causalgia. Defendant, a private industrial corporation, was held liable for the negligence of the physician against whom the action had been discontinued. The court decided that the rule exempting hospitals from liability for the negligence of physicians and nurses in the treatment of patients also applies to private corporations which engage physicians for treatment of employes or third persons. But this rule was inapplicable since the plaintiff was not a patient of defendant's physician, had not asked for treatment, and had not undergone any treatment or care at his hands. It appeared the physician was a regular employe of the defendant who worked on defendant's premises daily in an office entirely equipped by the defendant, was paid a salary semimonthly like any other office employe of the defendant; the usual payroll deductions were taken from his paycheck, and he was covered under the Workmen's Compensation Law. He did not exercise any independent discretion or judgment in determining whether or not to draw the applicant's blood since he was required by the employers to extract a small quantity of blood and forward it to a testing laboratory which conducted the actual blood test. The physician was not, therefore, acting as an independent contractor, exercising his own discretion but by demand of the defendant.

I cite these three cases to show that problems of malpractice concern hospitals, industrial corporations, drug companies, and municipalities, as well as the physicians themselves. To those who are interested in reading recent articles on the general subject of malpractice cases, see "Let's Sue Doc—A Growing Problem" by William C. Stronach in the *Illinois Medical Journal*, volume 104, number 6, December, 1953. There is another well-considered article: "Are Malpractice Claim Prevention Programs Worth While?" by Howard Hassard of Pearl, Baraty & Hassard, of San Francisco, which appears in *New York Medicine*, volume X, number 16, August 20, 1954. Also an article by Louis J. Regan, able California lawyer-doctor, who has written extensively on the subject of malpractice, entitled "Malpractice an Occupational Hazard" in the *Journal of the American Medical Association*, December 4, 1954, issue. He says on page 1318 that there are many "secondary causes" that cause malpractice suits, among which are "(1) cases in which patients are urged to sue by relatives or friends who are physicians, lawyers, or nurses; (2) cases in which physicians have sued to collect their bills from dissatisfied patients or have used irritating pressure methods in collection efforts; (3) cases in which patients were surprised and shocked by the amount of the fees charged; (4) cases in which patients resented having been kept waiting in the office or conceived that they had in some other way been affronted; and (5) most frequently, cases in which there has been criticism by some physician of the treating physician's care of the patient or the result obtained."

The courts of New York State have held that it is not negligence to break off a needle in a patient but that such an act might be explained as one that can occur with the best of care and skill. However, when a doctor calls us up and says that a needle has been broken off in one of his patients, we encourage him to take the case immediately to an x-ray man and consider whether or not to have surgery done to remove the needle. Although no malpractice may be involved and we could refuse to pay any part of the expense, we have usually made an allowance for the x-ray and the use of an operating room and even for the anesthesia. We were surprised by the attempt of the surgeon who took out a needle to charge a substantial fee for his work, knowing that it must be paid by the first doctor. This also refers to the removal of foreign bodies other than needles and to other types of corrective procedures.

Let me repeat one piece of advice that I have given in past annual reports and in many speeches that I have made, namely, be careful of the records that you keep, and remember that you may be called to an examination before trial in a malpractice action and your records may be inspected. These records should at all times reflect a logical reaction to the condition of the patient and notes which really make sense. However, do not change your records. If they are poor records, we would rather have poor ones than changed ones. Some men may change them for no more serious reason than to bring in records which are more presentable and cleaner looking. This is a great mistake.

When you are called to a hospital to treat or operate upon a patient and that patient has been in the hospital on previous occasions, by all means read the entire record for all the admissions before you proceed to resort to treatment or operation. Failure to read the entire record was one reason which led to a recent settlement of a case involving injuries as severe as any we have ever encountered in a malpractice suit.

It is only appropriate to close this section on litigation by speaking of the number of dispositions that were worked out during the year. Approximately 525 cases and claims were disposed of. This includes both insured and uninsured.

It should also be mentioned that many a telephone call or communication from a doctor regarding problems presented by his practice is never entered in our records as even a claim. For instance, a doctor might call us up and ask us what he should do in view of certain conditions which faced him in the treatment of a patient, and we will give him such advice or call his attention to previous similar situations which have arisen and what was done about them. A number of these calls are received at this office every day.

Very often, after we speak to a group of doctors, one or more of them will have some thought about a particular feature of our talk that he wants to clarify further, and we will receive a number of telephone calls and even written communications about the same. We also receive a large volume of requests for information from lay people and from members of the Bar who call upon us because we are counsel for the State Society. So far as possible, we try to be polite and aid as much as we can, but there has to be some limit put upon this sort of request.

Before closing this section, I do not wish it to be understood that I have by any means mentioned everything about our work that would be of interest to the members of the State Society. I make a conscious effort each year in my report to discuss some particular features that seem to be called to our attention during that year.

Council Work.—Each meeting of the Council and Board of Trustees of the Medical Society of the State of New York is attended by at least one representative of this office. Each meeting of the Malpractice Insurance and Defense Board and practically every meeting of its subcommittees are attended by at least one of us. Scores of committee meetings are attended. We are in communication with the legislation representative, Dr. Harold Smith. We are frequently called into conferences with officials of various county societies. Last year, I mentioned our attendance at recent meetings of the Board of Censors in connection with disciplinary proceedings.

I am happy to report that a very worth-while advance has been effected by the change in the Constitution of the State Society so we now have a Judicial Council, and it will no longer be necessary to hear appeals of disciplinary decisions of the county societies at meetings of the House of Delgates. The old board of censors has been abolished, and a new Judicial Council created, on which men will serve for a number of years and acquire experience in their quasijudicial duties. The first appeal will be heard before this new Judicial Council very shortly. It was unsatisfactory to have to argue an appeal before the House of Delegates, and it was quite distracting to the House to have to take off practically an afternoon of its time to hear one of these appeals from a local society.

The last decision of the House of Delegates was in turn appealed to the Judicial Council of the American Medical Association and reviewed by it at a meeting at Miami, Florida, this winter which was attended by your counsel. A great deal of detail work was involved in preparing for this appeal.

There has been a very considerable volume of correspondence referred to this office by the State Society and its various officers. In conjunction with Dr. Walter P. Anderton, the secretary of the Society, we have handled much of this interoffice mail.

During the year I spoke before the following groups: the staff of Albany Veterans Administration Hospital; the anesthetists staff of New York Hospital; the Utica Academy of Medicine; the Ontario County Medical Society at Canandaigua; the Conference of Public Relations Chairmen held by the State Society for the county society officials; the New York University College of Medicine; a meeting of the United Hospital Fund staff; the Westchester Bar Association; the Erie County Medical Society; and Yale University Law School. Other members of my staff spoke to the Bronx Hospital staff, the Queens County Medical Society, and the senior students at Cornell University and New York University.

I also assisted in the preparation of talks given on malpractice and related subjects by some of the officials of the State Society. We also participated in the deliberations of and assisted in the preparation of opinions for the Public and Professional Relations Bureau; the Planning Committee; a special committee on unprofessional conduct, the Special Committee to Define "unprofessional conduct"; the Coordinating Council of the First District Branch; and the Malpractice Insurance and Defense Board. We rendered a considerable number of opinions to various county medical societies and talked with their officials and employes about various problems; rendered a great number of written opinions to various members of the State Society; and participated in the organization of and the deliberations of the Blood Banks Association of New York State, Inc.

We have received valuable help from various hospital officials throughout the city and have very often participated in conferences where they sought our advice.

I must express the great appreciation I have for the efficient help rendered us by Mr. B. E. Kuechle, vice-president of the Employers Mutual Liability Insurance Company of Wausau, Wisconsin; Mr. Dale Snure, in charge of their New York office; and their most proficient claim staff, headed by Mr. Frank W. Appleton and Mr. Gerald Wilson of New York City, as well as their various upstate office managers.

We have a number of matters still in this office for the Yorkshire Insurance Company, the previous carrier, and receive splendid cooperation from Mr. Horace Crowell, vice-president in charge of claims; Mr. Thomas Finnegan, their attorney; and Mr. Anthony Falke, their claims manager.

The group carrier is able to have an investigator at a doctor's side very shortly after the first telephone call made about any claim or case. Each of these investigators is a trained, efficient representative, who carries with him identification from his office which should assure the doctor that he is entitled to talk about the matter in question. We also have a number of law firms throughout the State who are associated with us in this work, and they carry credentials which should assure the doctor to whom they speak that they are authorized to do so. Kindly make the work of these people as easy as possible. Keep appointments with them when made, and do not use up too much of their time in arranging for a meeting.

Respectfully submitted,
William F. Martin, *Counsel*

Report of the Malpractice Insurance and Defense Board

To the House of Delegates, Gentlemen:

The Malpractice Insurance and Defense Board consists of the following:

John F. Kelley, M.D., *Chairman*	Utica
Joseph A. Lane, M.D., *Vice-Chairman*	Rochester
J. Stanley Kenney, M.D.	New York City
Leo F. Schiff, M.D.	Plattsburg
Thomas M. d'Angelo, M.D.	Jackson Heights
John C. Brady, M.D.	Buffalo
Christopher Wood, M.D.	White Plains
W. P. Anderton, M.D., ex officio	New York City
Maurice J. Dattelbaum, M.D., ex officio	Brooklyn
William F. Martin, counsel, ex officio	New York City
Harry F. Wanvig, secretary, ex officio	New York City

During the past year this board held nine regular and two special afternoon meetings, many of which were attended by the president, Dr. Dan Mellen; the speaker of the House, Dr. Frederic W. Holcomb; and Mr. Robert Bell, attorney of the Society. On January 14, 1954, Mr. James M. Arnold was appointed assistant indemnity representative by the Council, and on December 8, 1954, he was elected assistant secretary of the board. Each of these gentlemen took part in discussion of matters before the board, and their advice and suggestions were most helpful. In addition to the meetings referred to above, members of the board, acting as subcommittees, interviewed various doctors throughout the State regarding matters affecting their insurance in the Group Plan of the Society.

New and Closed Cases.—At its meetings the board examined the new suits and claims filed during the year and reviewed with legal counsel each month the details of those closed and disposed of. Regardless of the policy years involved, the following is a comparative statement of the new cases filed and those closed during the years 1954 and 1953:

	1954	1953
New suits and claims filed	531	518
Closed	480	534
Increase or decrease in open cases outstanding	Plus 51	Minus 16

The foregoing figures include only suits and claims against members insured in the Group Plan while it was carried by the Yorkshire and the Employers. It is important to note that although the Yorkshire has issued no new malpractice policies since June 30, 1949, when it resigned the Group Plan, 320 new suits and claims have been reported under their policies since then, seven of them in 1954. At the end of the year they still had a total of 88 cases open and outstanding, for which they have established reserves of $319,000—five and one-half years after discontinuing this form of insurance.

Financial Reports.—From time to time members of the Society have inquired why the board's reports do not include a financial summary of the operation of the Group Plan. Such inquiries apparently stem from the belief that the difference between the income and disbursements of any calendar year represents the profit or loss for that year. That, however, is not the case in insurance accounting and particularly in malpractice insurance where the loss experience must be accounted for on a policy-year basis and where there is such a great lag in the reporting of claims and in the final disposition of them, as pointed out in previous reports of the board.

It is possible, however, to present a statement of income, disbursements, and reserves for a combined period of years. These are given below for both the Yorkshire and the Employers separately:

YORKSHIRE INDEMNITY COMPANY

For the Period January 1, 1936, to June 30, 1949, as Developed to December 31, 1954

Income		
Premiums		$5,346,895
Disbursements		
Cases closed	$4,787,418	
Expenses	1,790,385	
Reserves		
Open cases	319,000	6,896,803
NET LOSS		$1,549,908

It will be noted that the foregoing includes no reserve for incurred-but-not-reported cases. This is because the Yorkshire has not advised us as to what reserves, if any, they are now carrying for that liability.

EMPLOYERS MUTUAL

For the Period July 1, 1949, to December 31, 1952, as Developed to December 31, 1953

Income		
Premiums	$4,032,936	
Contingent loss factor	230,984	$4,263,920
Disbursements		
Closed cases	1,214,524	
Expenses	1,180,078	
Taxes on contingent loss factor	6,930	
Reserves		
Open cases	2,473,400	
Unreported cases	1,232,994	6,107,926
NET LOSS		$1,844,006

A detailed analysis of current costs will be found in the report of Messrs. Wolfe, Corcoran, and Linder on their audit and actuarial examination of the Group Plan, a copy of which has been filed with the secretary of the Society.

The combined losses of these two companies was

$3,393,914 on 189,124 policies issued up to December 31, 1953. This means that the cost of every policy issued through the Group Plan up to that date averaged $17.95 more than the premium paid. Had this been our goal, it would have been an all-time record of achievement, but obviously such losses were not intended or expected by any one connected with the Group Plan. That they occurred was due principally to the fact that no one could foresee the rapid and continuous rise in the rate of incidence of claims to insured members and to the steady increase in the average cost of disposal. In 1937 there was one suit or claim for every 55 members insured in the Group Plan, but in 1954 the rate had more than doubled, the ratio being one for every 25.5 policyholders. During those same years the average cost of suits and claims closed rose from $457 to $1,968. Every reasonable effort was made to establish reserves adequate to care for anticipated increases in both the number and cost of the cases which arose, but the net losses shown above indicate how inadequate they proved to be.

Questions have been asked as to why no increase in rates is demanded this year in view of the deficit which has been accumulated in previous years; also why the company is willing to continue our insurance in the face of this deficit. The answer to the first question is found in the fact that our retrospective rating formula does not include any provision for loading for deficits prior to the "last three expired policy years," as explained in the reports of Messrs. Wolfe, Corcoran, and Linder, except that which may be provided by the contingent loss factor. And since the application of the agreed formula for the years 1951, 1952, and 1953 does not show an over-all increase in costs for this period, no increase in rates is in order at this time.

The answer to the second question is in two parts. First, as we have seen, there was a small decrease in the rate of incidence of claims during 1953. If this ratio were to continue downward for a few years, the application of our formula would provide a profit which would eventually liquidate the deficit. This is the only way the deficit can be wiped out, and the company as well as the Society has great hopes that the cooperation of the county advisory committees on malpractice will provide a powerful influence in accomplishing that result. Second, the company undertook our business with a long term in view. Their agreement with the Society was not lightly entered into, nor will it be hastily resigned. So long as it is assured that the Society is living up to its agreement, the company can be depended upon to stand by the Society until it becomes obvious to everyone concerned that the combined efforts of both of these great organizations cannot succeed.

Rate Changes.—For the first time in many years the board is able to report that there have been no significant changes in the cost of operating the Group Plan during the last three expired policy years, as compared with the previous three. The final report has not yet been received from our actuaries, but their audit has progressed to a point which shows that although there was a small increase in the loss costs in the upstate counties, this was offset by a small decrease in the metropolitan area. For this reason the board takes great pleasure in announcing that no increase in our present rates will be needed next September, a pleasure which is shared by our insurance carrier, the Employers Mutual of Wisconsin.

It would be an even greater pleasure to report that a turning point has apparently been reached in our spiral of increasing costs, but that is not possible. The present pause in the upward curve of costs is due to a slight reduction in the rate of incidence of claims to policyholders in 1953, but it would be overly optimistic to interpret this as assurance that the upward trend has been halted and will not be resumed in 1954. If this proves to be the case, a further increase in rates would have to be anticipated next year. On the other hand, if the rate of incidence holds level with 1953 or shows a further decline, our rates next year would be favorably affected.

Advisory Committees on Malpractice Insurance and Defense.—The effect on our rates of the small decrease in the rate of incidence in 1953 should furnish an added impetus to county societies that have not already done so to organize advisory committees on malpractice insurance and defense as authorized by the House of Delegates in 1954. To date 26 counties have reported the formation of such committees, which are now in varying stages of organization and operation. The board is especially glad to report the excellent progress made in Queens County where the work of their advisory committee has already been of substantial assistance to the board and legal counsel. It can also be said that through their work the members of that county are being given a clearer understanding of the seriousness of the malpractice problem. Other counties also are moving forward with their plans, and it is expected that they will soon be in full operation rendering equal assistance in their localities.

It must not be expected that the work of these committees will have any immediate effect upon our rates. We already have a backlog of nearly 800 cases reported and outstanding, and there will be an addition of several hundred cases still to be reported, based upon events which have already occurred. Local committees will give the board and legal counsel much valuable assistance in combating these suits and claims, but obviously no corrective measures can now be taken with respect to the acts which gave rise to them. However, the board confidently expects that the accumulated effect of a concerted attack on the problems of malpractice claims throughout the State will be a sharp decrease in the number of cases filed, and this should be the primary objective of everyone concerned. Although a reduction in our insurance costs is most desirable, it is far more important for the profession as a whole, as well as for the public, to reduce the causes of malpractice actions. If that can be achieved, our insurance costs will automatically be reduced. The board, therefore, calls upon all county societies that have not already done so to appoint advisory committees and complete their organization so that they can begin receiving reports of claims filed and be ready to take action when required.

No doubt it is natural for every doctor, including those who have been sued, to believe that he is a good malpractice risk, but this does not justify the belief, too often expressed, that it is some other section of the State, some other county, locality, or some other specialty that is responsible for our malpractice losses. This is one of the theories which county advisory committees will encounter almost as soon as they are organized. There are differences in loss costs between sections of the State, between the three general classes of medical practice, and such specialties as x-ray and electroshock therapy and cosmetic surgery. But these differences are known and recognized in our insurance rates. To attempt any further refinement in cost accounting and rating as between smaller sections of the State or groups would not only be impracticable, but narrowing the insurance base (number of exposures) would tend to make the loss experience more erratic and the rates more unstable. Furthermore, considerations of this kind go beyond the purpose for which the advisory committees were authorized, namely, to combat and reduce the number of malpractice cases arising in their counties and to help reduce the cost of disposing of them for the benefit of the profession as a whole and to assist in preserving a stable and dependable source of protection for all the members of the Society.

Panel of Experts.—Last year the House of Delegates, upon the recommendation of the reference committee on the board's report, authorized the formation of a panel of outstanding physicians and surgeons throughout the State whose members would be available to assist the board and legal counsel in the preparation of effective defenses and by appearing as defense witnesses. Although this appeared to be a desirable step at the time, the board has not acted upon it for two reasons. First, our legal counsel reported that he has seldom found difficulty in securing the wholehearted assistance from leaders of the profession in all parts of the State when their services were required. Second, the board feels the proposal might conflict with the organization and work which has been delegated to the county advisory committees. It recommends, therefore, that the House of Delegates withdraw its 1954 directive until such time as the board and legal counsel can determine how a State-wide panel can be used to better advantage than appears possible at present.

Classification System.—During the year a great deal of interest and some criticism have been directed at the board's attempt to provide three classes of medical procedures for the purpose of insurance rating. The difficulties of this project were fully understood before it was undertaken, but it was felt that the differential between major surgery (major insurance risk) and nonsurgery was too large and that greater good would accrue to the largest number of members by establishing an intermediate class designated as minor surgery. This permitted an easing of the rates required for doctors in the nonsurgical class and at the same time made it possible for many doctors, who otherwise would be obliged to pay the full surgical rates, to take advantage of the intermediate rates.

It is interesting to note that for the four months beginning September 1, when the new classification system became effective, the doctors insured in the Group Plan have classified their practice for insurance purposes in the following percentages:

Class	Percentage
Class I—Major Surgery	39
Class II—Minor Surgery	27
Class III—Nonsurgery	34

As might be expected, the members have been inclined to judge the new classification system by how it affects them individually, but it should be remembered that the board is obliged to view this matter from the standpoint of the Society as a whole. Several members have expressed doubt that any doctor could practice medicine with less than major surgical protection, but the above percentages show that 61 per cent of the members insured so far have been able to find the protection they require in classes with rates lower than those for major surgery. It would appear, therefore, that the new system is moving in the right direction.

Members Insured in the Group Plan.—During the past year the number of members insured in the Group Plan decreased from 14,490 to 13,539, a net loss of 951. Table I is a statement of members insured in the Group Plan by counties during 1954:

This reduction was due almost entirely to the formation of national specialty groups for insurance and to the activities of nonlicensed insurers in this State. It is safe to assume that the members who have transferred their insurance to such groups or insurers are those who have paid no attention to the long list of failures that have attended similar experiments in the past, or who have disregarded the future insurance welfare of themselves, as well as that of their fellow members of the Society, for a temporary saving in costs for themselves. Their attitude is summed up by those who have stated that they are interested only in what they can save now and that they will return to the Group Plan when they can no longer buy their insurance cheaper outside it. That they will need a dependable haven to which they can eventually return has been proved by all recorded experience in this State, and they assume that their fellow members and our insurance carrier will loyally stand by and preserve a refuge for them when their experiments with personal saving are no longer possible.

Following the abortive experiment with malpractice insurance in New York by the American Policyholders Insurance Company, the Society provided a waiting period of six months for disaffected members before permitting their re-entry to the Group Plan. It is evident, however, that this has not been a sufficient warning to certain groups of trusting members who appear to be ready at any time to leave the Group Plan and follow the lead of false prophets offering something just as good for less money, giving

TABLE I.—Number of Members in Group Plan by Counties

County	Number of Members	Number of Insured	Per Cent Insured
Schoharie	17	17	100
Cayuga	72	69	96
Lewis	17	15	88
Yates	23	17	84
Chemung	117	96	82
Fulton	52	43	82
Greene	28	23	82
Sullivan	46	37	81
Chenango	39	31	79
Rensselaer	151	117	78
Broome	264	204	77
Oneida	285	219	77
Delaware	41	31	76
Genesee	54	41	76
Oswego	55	42	76
Tioga	24	18	76
Schenectady	212	159	75
Allegany	34	25	74
Orange	205	150	73
Saratoga	59	43	73
Chautauqua	115	83	72
Herkimer	61	44	72
Tompkins	91	66	72
Wyoming	31	22	71
Albany	389	271	70
Jefferson	89	62	70
Onondaga	554	390	70
Ontario	108	76	70
Warren	82	55	67
Clinton	61	40	66
Richmond	203	133	66
Madison	49	32	65
Monroe	758	496	65
Westchester	1,143	739	65
Cattaraugus	99	63	64
Essex	31	20	64
St. Lawrence	90	58	64
Steuben	111	70	63
Columbia	55	34	62
Otsego	61	38	62
Suffolk	449	283	62
Cortland	44	27	61
Niagara	188	116	61
Wayne	63	37	60
Bronx	1,507	880	58
Erie	1,177	644	55
Nassau	1,172	653	55
Queens	1,921	1,051	55
Schuyler	11	6	55
New York	6,903	3,756	54
Ulster	107	58	54
Rockland	137	73	53
Franklin	72	37	52
Montgomery	61	32	52
Putnam	21	11	52
Orleans	20	10	51
Seneca	30	15	50
Washington	36	17	48
Kings	3,370	1,524	45
Livingston	39	17	44
Dutchess	241	103	43
Total	23,545	13,539	58

no thought to the future insurance welfare of themselves or their fellow members of the Society.

Lloyd's of London.—By this time everyone must be aware of the fact that Lloyd's are not licensed to do business in this State. They have no funds deposited with the Superintendent of Insurance through which he can enforce compliance with our laws, nor have they complied with any of the other requirements of the insurance laws adopted by the Legislature for the protection of the citizens of this State.

Because of this the Superintendent of Insurance on July 7, 1953, issued a cease and desist order on all Lloyd's representatives in this State, ordering them to discontinue writing malpractice insurance in New York. Thus, they were obliged to transfer their malpractice insurance business to their Baltimore office and to transact it by mail from outside the State.

Aside from the illegality of writing malpractice insurance in New York, there are two items which should be of interest to the members of the Society.

Early in 1953 the American College of Physicians concluded an arrangement with Lloyd's through which members of the College were granted a base rate of $50. In a letter dated May 5, 1953, Mr. Loveland, the executive secretary of the College, stated: "This rate. . . is justified on the grounds that these are superior risks. The great care with which the members are selected for the College, the fact that they do no surgery, obstetrics, gynecology, or other surgical procedures, and the general supervision of the membership exercised by the College, are assurances to the insurance carrier that here is a superior malpractice risk."

That sounded attractive, but what the College did not know was at precisely the same time, Lloyd's entered into an agreement with the King's County Academy of General Practice to furnish its members with identical insurance at a base rate of $31.50. Furthermore, other doctors were urged to join the group in a circular letter published in the February, 1953, *Bulletin of the King's County Physicians Guild* which said, in part: "Any duly licensed physician who is a member of the County Medical Society and *who does not restrict his practice to one single specialty is eligible.*"

In other words, fellows of the American College of Physicians, being superior risks for the reasons given by Mr. Loveland, were granted a special low rate of $50, but *any doctor* in Kings County, except a specialist, was eligible for a rate of $31.50 for the same insurance provided, of course, he purchased it through the Kings County Academy of General Practice. Shortly after this fact became known, Lloyd's reduced its rates for the American College to $35, although as a relative measure of risk this is nearly as far out of line as their original rate.

Finally, there is the matter of Lloyd's rates to be appraised. The May, 1954, *News Letter* of the American College of Radiology and the September 16 issue of the *National Underwriter* reported that Lloyd's had recently announced malpractice rates for $25,000/$75,000 limits for the states of Florida, Illinois, and New York as shown in the first column of the following:

	Column I	*Column II*
Physicians (no surgery, radium, or x-ray therapy and diagnosis)	$230	$ 61.25
Surgeons	360	87.50
Radiologists	575	175.00

Both stories carried a footnote which read as follows: "Add $33^1/_3$ per cent to the above for California rates. For all other states deduct 25 per cent from the above."

In a letter to the president of the Kings County Physicians Guild dated September 22, 1954, the Baltimore office of Lloyd's stated that regardless of the foregoing their rate for doctors in New York State for $25,000/$75,000 limits were those shown above in the second column. What are New York doctors to think about the disparity between these two sets of rates—differences so great, in fact, as to border on the ridiculous? Certainly, no one can believe that the rates quoted in the second column are even remotely adequate. It is important, therefore, that all members of the Society ask the reason which prompts these wide differences.

Lloyd's might expect that a large number of doctors in New York would transfer their insurance to them, provided the rates they offered were low enough. And, if a sufficient number of members could be drawn away from the Group Plan to assure its dissolution, the control which the State Society exercises over malpractice insurance rates in this State would be destroyed. If that could be accomplished, the way would be open for Lloyd's to charge the rates shown in the first column above or any other rates they cared to nominate. Thus, we see that what appears to be their strange action in this case is merely preparation of the ground for a rich harvest to be garnered from the doctors of this State by an insurance organization completely uninhibited by our State laws. So, unwitting though his act may be, every member of the Society who transfers his insurance from the Group Plan to Lloyd's is hastening the consummation of this scheme.

If and when that is accomplished, most of the members will be obliged to turn to Lloyd's for protection. They will then have nothing to say about the terms of the coverage offered them by mail from Baltimore. They will have no board of their own members to decide who shall or shall not be insured or to prevent cancellation of their insurance at will by the underwriters. They will be obliged to accept such legal defense as Lloyd's general attorneys can offer and to pay whatever rates are demanded.

Conclusion.—The board wishes to acknowledge with thanks the great assistance it has had from various advisory committees and from numerous individual members in connection with problems concerning classification of procedures. It wishes also to record the appreciation of the Society as a whole for the continued support and encouragement it has received from the officers and staff of our carrier, the Employers Mutual Liability Insurance Company.

Respectfully submitted,
John F. Kelley, M.D., *Chairman*

Blood Banks Commission

To the House of Delegates, Gentlemen:

Your Blood Banks Commission is composed of the following members:

Renato J. Azzari, M.D., *Chairman*	Bronx
Dan Mellen, M.D.	Rome
Theodore J. Curphey, M.D.	Forrest Hills
Floyd S. Winslow, M.D.	Rochester
Margaret M. Loder, M.D., Representative, New York State Association of Public Health Laboratories	Rye
Herbert Brown, Jr., M.D., Representative, American Red Cross	Rochester
William Markel, M.D., Representative, American Red Cross	New York City
Lester J. Unger, M.D., Representative, Hospital Blood Banks	New York City
John Scudder, M.D., Representative, Hospital Blood Banks	New York City
Ernest Witebsky, M.D., Representative, Hospital Blood Banks	Buffalo
Quentin Jones, M.D., Representative, Hospital Blood Banks	Utica
John J. Clemmer, M.D., Representative, Community Blood Banks	Albany
Herman E. Hilleboe, M.D., Commissioner, New York State Health Department	Albany
Jacob Geiger, M.D., Representative, Blood Banks Association of New York State, Inc.	New York City

Your Blood Banks Commission has continued in the last year to help the Blood Banks Association of New York State, Inc., in its gradual transformation from the stage of committee planning to a functioning State-wide organization.

There are now over 400 dues-paying members in the Association. This includes individual physicians, blood banks as institutional members, and, as associate members, nonmedical citizens interested in the use of blood.

One of the greatest achievements of the Blood Banks Association was the establishment of its clearinghouse. Since activation on April 19, 1954, over 2,500 units of blood have been transferred through its operation. Many of these exchanges were on an emergency basis and unquestionably aided in preserving human life.

A reciprocity program also has been established, whereby a patient in a hospital who needs transfusions may have his physician request the clearinghouse to make arrangements for the patient's friends or relatives elsewhere to give blood for him through a member blood bank of the association.

The success of the pilot project for the Blood Assurance Program in cooperation with Genesee County Medical Society is now well known. There have been 1,333 assurance certificates issued to date, not including renewals. The county medical society, working with the association since the end of the experimental project, has formed a blood assurance board of directors in this community, composed of both physicians and other citizens. This board has assumed responsibility for renewals of the Blood Assurance Program certificates and has established an objective of 2,000 pints of blood to be secured during 1955.

Seven county medical societies—New York, Bronx, Richmond, Kings, Queens, Orange, and Genesee—are now sponsoring the Blood Assurance Program in New York State. These county medical societies constitute a majority of the physicians in the Medical Society of the State of New York, while their areas include a major portion of our State population.

Among the outstanding organizations, the members of which have enrolled in the Blood Assurance Program, are the DuPont Corporation, Sylvania Television, Massey-Harris, Doehler-Jarvis, Steelworkers Union Local 1831, U.S. Gypsum Company, International Ladies Garment Workers' Union Locals 155 and 60, and Council of Western Electric Technical Employees National. It is anticipated that the satisfactory relationship of the Blood Banks Association with these organizations, as already developed, will result in a sharp expansion of assurance certificates issued in 1955. Work is in progress with many other organizations, large and small, with more than 6,000 persons now covered under the terms of the contract.

Under the chairmanship of Dr. Ernest Witebsky, a committee is now implementing plans to standardize the requirements for institutional members of the clearinghouse. It is planned that consulting teams from the association will visit banks participating in the clearinghouse. Many physicians consider that this will be one of the most vital services the association can render.

Your commission is hopeful that ultimate success will be achieved by the Blood Banks Association. It already plays a major role in making available to the physicians and their patients of this State a constant supply of blood. The success of the clearinghouse, which is now the largest operation of its kind in the United States, indicates that the Society may well extend confidence to the over-all operation.

The secret of success for the Blood Assurance Program may be summed up in one word—organization. This does not constitute a quick and easy way to achieve results, but it is the best guarantee that, with proper leadership and community participation, the association should attain a self-sustaining basis as one of the truly great humanitarian organizations of the State and one which will make a major contribution to the good public relations of the medical profession.

Your chairman wishes to thank the members of the Blood Banks Commission who unselfishly have given their time and counsel during the past year.

Respectfully submitted,
Renato J. Azzari, M.D., *Chairman*

MEMBERS OF THE HOUSE OF DELEGATES, 1955

Medical Society of the State of New York

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1950–1951—Carlton E. Wertz, Buffalo
1951–1952—J. Stanley Kenney, New York City
1952–1953—Edward T. Wentworth, Rochester
1953–1954—Andrew A. Eggston, Mount Vernon

Commissioner, New York State Department of Health

Herman E. Hilleboe, Albany

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Fifth District—Richard B. Cuthbert, Jr., Canastota
Sixth District—Gilbert M. Palen, Margaretville
Seventh District—Glenn C. Hatch, Penn Yan
Eighth District—Sydney L. McLouth, Corfu
Ninth District—John F. Rogers, Poughkeepsie

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(*Delegates from Scientific Sections*)

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Gastroenterology and Proctology—Lester S. Knapp, Buffalo
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Orthopedic Surgery—Frederick Lee Liebolt, New York City

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Pathology and Clinical Pathology—Harry P. Smith, New York City
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John F. Mosher, Coeymans
Homer L. Nelms, Albany
Arthur J. Sullivan, Albany

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Irwin Felsen, Wellsville

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Philip Ladin, Bronx
Frank LaGattuta, Bronx
Samuel Leo, Bronx
James A. Lynch, Bronx
Thomas F. McCarthy, Bronx
Charles Sandler, Bronx
Abraham B. Tamis, Bronx
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Leonard J. Flanagan, Binghamton
John A. Kalb, Endicott

Cattaraugus (1)
Joseph A. Wintermantel, Olean

Cayuga (1)
Edward S. Platt, Auburn

Chautauqua (2)
Edward J. Schwabe, Brocton
Clyde L. Wilson, Jamestown

Chemung (2)
William T. Boland, Elmira
R. Scott Howland, Elmira

Chenango (1)
Norman C. Lyster, Norwich

Clinton (1)
Leonard J. Schiff, Plattsburg

Columbia (1)
John L. Edwards, Hudson

Cortland (1)
George F. Nevin, Cortland

Delaware (1)
Orin Q. Flint, Delhi

Dutchess (3)
Frank A. Gagan, Poughkeepsie
Maxwell Gosse, Poughkeepsie
E. Gordon MacKenzie, Millbrook

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E. Dean Babbage, Buffalo
Antonio F. Bellanca, Buffalo
John C. Brady, Buffalo
Thomas S. Bumbalo, Buffalo
Stephen A. Graczyk, Buffalo
John D. Naples, Buffalo
William J. Orr, Buffalo
Samuel Sanes, Buffalo

Essex (1)
Thomas R. Cummins, Ticonderoga

Franklin (1)
Carl G. Merkel, Saranac Lake

Fulton (1)
Sylvester C. Clemans, Gloversville

Genesee (1)
Alfred L. George, Batavia

Greene (1)
Kenneth F. Bott, Greenville

Herkimer (1)
George A. Burgin, Little Falls

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David Kershner, Brooklyn
Aaron Kottler, Brooklyn
Isaac Levine, Brooklyn
Charles H. Loughran, Brooklyn
Harry A. Mackler, Brooklyn
A. W. Martin Marino, Brooklyn
John G. Masterson, Brooklyn
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Livingston (1)
George E. Lynch, Avon

Madison (1)
Felix Ottaviano, Oneida

Monroe (6)
Henry B. Crawford, Rochester
Donovan M. Jenkins, Webster
Joseph A. Lane, Rochester
Eli A. Leven, Rochester
Christopher Parnall, Jr., Rochester
Roland E. Stevens, Rochester

Montgomery (1)
Walter Dreyfuss, Amsterdam

Nassau (7)
Ray McCune Bowles, Hempstead
Gerard V. Farihola, Roosevelt
John M. Galbraith, Glen Cove
Stephen F. Gerde, Freeport
E. Kenneth Horton, Rockville Centre
Percival A. Robin, Hempstead
Joseph G. Zimring, Long Beach

New York (25)
Philip D. Allen, New York City
Norton S. Brown, New York City
Joseph E. Corr, New York City
Harold B. Davidson, New York City
Peter G. Denker, New York City
A. Wilbur Duryee, New York City
James H. Ewing, New York City
Samuel Z. Freedman, New York City
Frances A. Harmatuk, New York City
George Himler, New York City
John J. H. Keating, New York City
William Hall Lewis, Jr., New York City
John L. Madden, New York City
Gervais W. McAuliffe, New York City
Thomas H. McGavack, New York City
Frank J. McGowan, New York City
Peter M. Murray, New York City
Herbert S. Ogden, New York City
Bernard J. M. Pisani, New York City
Henry T. Randall, New York City
William B. Rawls, New York City
Adelaide Romaine, New York City
Charles F. Stewart, New York City
W. Laurence Whittemore, New York City
Frederic D. Zeman, New York City

Niagara (2)
John C. Kinzly, North Tonawanda
Guy S. Philbrick, Niagara Falls

Oneida (3)
Arthur F. Gaffney, Clinton
John F. Kelley, Utica
Harold L. Pender, Utica

Onondaga (5)
Irving L. Ershler, Syracuse
William J. Michaels, Jr., Syracuse
Dwight V. Needham, Syracuse
William E. Pelow, Syracuse
W. Walter Street, Syracuse

Ontario (1)
Philip M. Standish, Canandaigua

Orange (3)
Robert J. Hewson, Monroe
Nathaniel T. Keys, Goshen
Theodore R. Proper, Newburgh

Orleans (1)
Angelo F. Leone, Medina

Oswego (1)
Olin J. Mowry, Oswego

Otsego (1)
John W. Latcher, Oneonta

Putnam (1)
Robert S. Cleaver, Brewster

Queens (13)
Alfred A. Angrist, Jamaica
Sol Axelrad, Woodhaven
William Benenson, Flushing
Frank J. Cerniglia, Rego Park
Meyeron Coe, Queens Village
Albert H. Douglas, Jamaica
John L. Finnegan, Flushing
Benjamin F. Glasser, Jackson Heights
Ferdinand H. Herrman, Far Rockaway
George J. Lawrence, Jr., Flushing
John Edward Lowry, Flushing
Anthony A. Mira, Forest Hills
Tobias M. Watson, Jackson Heights

Rensselaer (2)
Gilbert A. Clark, Troy
Richard P. Doody, Troy

Richmond (3)
Herbert Berger, Staten Island
Walter T. Heldmann, Staten Island
Frank Tellefsen, Staten Island

Rockland (2)
Harold W. Grosselfinger, Suffern
George Gordon Knight, Piermont

St. Lawrence (1)
Thomas M. Watkins, Potsdam

Saratoga (1)
Webster M. Moriarta, Saratoga Springs

Schenectady (3)
James M. Blake, Schenectady
Joseph H. Cornell, Schenectady
Donald C. Walker, Delanson

Schoharie (1)
David W. Beard, Cobleskill

Schuyler (1)
Milton J. Daus, Watkins Glen

Seneca (1)
Stanley B. Folts, Interlaken

Steuben (2)
Thomas S. Cotton, Hornell
Maynard W. Gurnsey, Corning

Suffolk (4)
Francis J. O'Neill, Central Islip
Philip J. Rafle, Riverhead
John L. Sengstack, Huntington
Sol Shlimbaum, Bay Shore

Sullivan (1)
Frederick Elias, Monticello

Tioga (1)
Frederick K. Shaw, Waverly

TOMPKINS (1)
C. Stewart Wallace, Ithaca

ULSTER (2)
Eugene F. Galvin, Rosendale
Edward F. Shea, Kingston

WARREN (1)
Morris Maslon, Glens Falls

WASHINGTON (1)
Walter S. Bennett, Granville

WAYNE (1)
James H. Arseneau, Lyons

WESTCHESTER (7)
David Fertig, Hartsdale
Edwin L. Harmon, Valhalla
Reid R. Heffner, New Rochelle
Henry E. McGarvey, Bronxville
W. Alex Newlands, Tarrytown
Waring Willis, Bronxville
Christopher Wood, White Plains

WYOMING (1)
Willard J. Chapin, Perry

YATES (1)
William G. Roberts, Penn Yan

RESOLUTIONS

1955 House of Delegates
Medical Society of the State of New York

The following resolutions will be presented to the House of Delegates of the Medical Society of the State of New York, May 9 to 11, 1955, Hotel Statler, Buffalo, and are published here for information.

Organization of County Society Malpractice Discussions (55–1)

Proposed by the Bronx County Medical Society

WHEREAS, the cost of malpractice insurance has been increasing; and

WHEREAS, the only solution is a decrease in the number of claims brought against the physician; and

WHEREAS, education of the physician concerning the pitfalls of malpractice cases is considered essential; and

WHEREAS, the proper place for dissemination of such knowledge is at the county society level; and

WHEREAS, a similar mode of action has proved helpful in reducing the errors leading to maternal mortality; therefore be it hereby

Resolved, that the Medical Society of the State of New York go on record urging that component county societies organize such activity and hold meetings as frequently as deemed necessary, depending upon the material (cases) on hand, such action to consist of presentation and discussion of malpractice cases with the view toward emphasizing the pitfalls and methods of avoiding them.

Settlement of Malpractice Suits Out of Court (55-2)

Proposed by the Bronx County Medical Society

Whereas, the cost of malpractice insurance has increased again this year and it is expected that still greater increases in cost will be necessary; and

Whereas, there is a limit beyond which the physician cannot afford to pay and the insurance company cannot be expected to go; and

Whereas, without this protection it would be impossible to practice medicine; and

Whereas, the number of malpractice suits settled out of court has increased to such an extent that this practice undoubtedly increases the number of suits; and

Whereas, the 1954 report of the Malpractice Insurance and Defense Board stated, "In a very real sense . . . it is the losses caused by insured members of the Society which make our rates" [New York State J. Med. **54:** 14 (Sept. 1, Part II) 1954] and again "Raising our rates from year to year is no cure; this will merely price our protection out of the market" (*ibid.* p. 16) and again "The sum of these [losses and loss reserves] together with a minimum addition for operating expenses represents the total cost of our insurance" (*ibid.* p. 17); and

Whereas, a resolution adopted by the 1954 House of Delegates stated, "Whereas, the premium rates of the Group Malpractice Insurance and Defense Plan of the State Society reflect actual costs plus losses" (*ibid.* p. 116); and

Whereas, these quoted statements make it seem that the counsel and carrier are not greatly upset by the course of events; and

Whereas, the measures taken up to this time have been a complete failure in lowering or even holding the premium rates; and

Whereas, the only way that this continued rise in costs can be stopped is by decreasing the amount of monies paid by settlement out of court and by making each suit a court case as often as possible; therefore be it hereby

Resolved, that no malpractice suit be settled out of court unless a majority of the malpractice committee in the county society of which the sued doctor is a member shall determine that the case is not medically defensible; and be it further

Resolved, that if a doctor settles out of court against this action of the county malpractice committee, the Malpractice Insurance and Defense Board of the Medical Society of the State of New York shall have the right to withdraw from such member the privilege of renewing his insurance in the group plan.

Identification in Journal of State Society Officers by Counties (55-3)

Proposed by the Bronx County Medical Society

Whereas, the Medical Society of the State of New York is made up of component county medical societies; and

Whereas, officers of the Medical Society of the State of New York hold membership through membership in such component county societies; therefore be it hereby

Resolved, that all elective officers of the Medical Society of the State of New York be identified according to their respective component county medical societies on the officers pages of the New York State Journal of Medicine.

Establishment of Medical Hall of Fame (55-4)

Proposed by Dr. Benjamin M. Bernstein, Kings County, as an individual

Resolved, that a Medical Hall of Fame be established with headquarters suitably housed either in Chicago, Illinois, or in the nation's capital at Washington, D.C.; and be it further

Resolved, that a committee with nation-wide representation be formed for the purpose of selecting candidates for inclusion in this Hall of Fame; and be it further

Resolved, that the ceremonies of election be given the widest possible publicity; and be it further

Resolved, that the delegates from the Medical Society of the State of New York to the House of Delegates of the American Medical Association be instructed to sponsor this project at the next meeting of the American Medical Association in June, 1955.

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Assembly Room, 17th Floor

Medical Society of the State of New York
in cooperation with
Buffalo General Hospital

John H. Talbott, M.D., *Chairman*, Buffalo
Colgate Phillips, M.D., *Cochairman*, Bronxville
E. Dean Babbage, M.D., Buffalo
Kenneth W. Bone, M.D., Buffalo
John C. Brady, M.D., Buffalo
Lester L. Coleman, M.D., New York City
Richard A. Downey, M.D., Buffalo
Roy E. Seibel, M.D., Buffalo
Samuel Zwerling, M.D., Brooklyn

Program directed and sponsored as a service to medical education by Smith, Kline & French Laboratories

Monday, May 9

SURGERY

9:00–9:20 A.M. **Gastric Surgery**
John D. Stewart, M.D.

9:20–9:35 A.M. **Proctology (Demonstration)**
J. Edwin Alford, M.D.

9:35–9:55 A.M. **Appendectomy**
Floyd M. Zaepfel, M.D.

9:55–10:10 A.M. **Splinting (Demonstration)**
James P. Cole, M.D.

10:10–10:25 A.M. **Backache (Demonstration)**
George H. Marcy, M.D.

10:25–10:45 A.M. **Hysterectomy**
Clyde L. Randall, M.D.

Intermission

MEDICINE

11:00–11:15 A.M. **Pediatric Seminar**
Louis Judelsohn, M.D.

11:15–11:30 A.M. **Chemotherapy of Cancer**
James Holland, M.D.—By invitation

11:30–11:45 A.M. **Skin Tests**
Carl E. Arbesman, M.D.

11:45–12 NOON **Neurology Examination**
Bernard H. Smith, M.D.

12:00–12:15 P.M. **Cushing's Disease**
Marshall Clinton, M.D.

12:15–12:30 P.M. **Lymphoma**
L. Edgar Hummell, M.D.

Tuesday, May 10

SURGERY

9:00–9:20 A.M. **Pneumonectomy**
John Mueller, M.D.—By invitation

9:20–9:35 A.M. **Varicose Veins (Demonstration)**
Everett H. Wesp, M.D.

9:35–9:55 A.M. **Hernial Repair**
Elmer T. McGroder, M.D.

9:55–10:10 A.M. **Nerve Block (Demonstration)**
E. Dean Babbage, M.D.

10:10–10:25 A.M. **Traumatic Rupture of Bladder (Demonstration)**
Thomas F. Kaiser, M.D.

10:25– 10:45 A.M.	**Normal Delivery** Charles J. Woeppel, M.D.
	Intermission

MEDICINE

11:00– 11:15 A.M.	**X-ray (Demonstration)** Gordon J. Culver, M.D.
11:15– 11:30 A.M.	**Rheumatoid Arthritis** Harold M. Robbins, M.D.
11:30– 11:45 A.M.	**Premature Infant** David H. Weintraub, M.D.
11:45– 12 NOON	**Mouth and Face Cancer** Herbert L. Traenkle, M.D.
12:00– 12:15 P.M.	**Early Diagnosis of Poliomyelitis** Irving Hyman, M.D.
12:15– 12:30 P.M.	**Rehabilitation** William H. Georgi, M.D.

Wednesday, May 11

SURGERY

9:00– 9:20 A.M.	**Cholecystectomy** Winfield L. Butsch, M.D.
9:20– 9:35 A.M.	**Recovery Room (Demonstration)** John H. Geckler, M.D.
9:35– 9:55 A.M.	**Amputation** Paul A. Kennedy, M.D.
9:55– 10:10 A.M.	**Fracture Clinic (Demonstration)** Benjamin E. Obletz, M.D.
10:10– 10:25 A.M.	**Aortography (Demonstration)** Robert Franz, M.D.
10:25– 10:45 A.M.	**Thyroid** Kenneth W. Bone, M.D.
	Intermission

MEDICINE

11:00– 11:15 A.M.	**Blood Compatibility** Ernest Witebsky, M.D.
11:15– 11:30 A.M.	**X-ray (Demonstration)** Roy E. Seibel, M.D.
11:30– 11:45 A.M.	**Salk Vaccine** Richard A. Downey, M.D.
11:45– 12 NOON	**Gout** John H. Talbott, M.D.
12:00– 12:15 P.M.	**Rheumatic Heart Disease** Albert C. Rekate, M.D.
12:15– 12:30 P.M.	**Cardiac Evaluation** Dexter S. Levy, M.D.

Thursday, May 12

SURGERY

9:00– 9:20 A.M.	**Cardiac Surgery** Joseph E. Macmanus, M.D.
9:20– 9:35 A.M.	**Office Gynecology** Harry G. LaForge, M.D.
9:35– 9:55 A.M.	**Hemorrhoidectomy** Willard H. Bernhoft, M.D.
9:55– 10:10 A.M.	**X-ray (Demonstration)** George Newton Scatchard M.D.
10:10– 10:30 A.M.	**Artificial Larynx (Demonstration)** John J. Klaiber, M.D.
10:30– 10:45 A.M.	**Corneal Transplant** Charles H. Addington, M.D.
	Intermission

MEDICINE

11:00– 11:15 A.M.	**Electric Shock Therapy** Harry Ernest Faver, M.D.
11:15– 11:30 A.M.	**Dermatology Clinic** Frank C. Hoak, M.D.
11:30– 11:45 A.M.	**Pulmonary Function** Theodore H. Noehren, M.D.
11:45– 12 NOON	**Bone Marrow Aspiration** Marvin L. Bloom, M.D.
12:00– 12:15 P.M.	**Muscle Training—Eye** William M. Howard, M.D.
12:15– 12:30 P.M.	**Fluid Administration in Infants** George H. Selkirk, M.D.

NATION-WIDE VIDECLINIC

"Mind and Medicine—New Weapons Against Mental Illness"

Monday night, May 9, 9 P.M.
Hotel Statler, Buffalo
Ballroom, Main Floor

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NECROLOGY

Ernst Philip Boas, M.D., of New York City, died on March 10 at Mount Sinai Hospital at the age of sixty-four. Dr. Boas graduated from the College of Physicians and Surgeons, Columbia University, in 1914 where he later became assistant clinical professor of medicine. From 1920 to 1929, Dr. Boas was medical director of Montefiore Hospital for Chronic Diseases and from 1932 to 1940 served as chairman of the New York Heart Association. Dr. Boas was a founder and former chairman of the New York Physicians' Forum. Besides being the author of several books, in collaboration with Dr. E. F. Goldschmidt he developed the cardi-tachometer. From 1917 to 1919 Dr. Boas served as a captain in the Army Medical Reserve Corps. Dr. Boas at various times served as chairman of the Welfare Council's Committee on Chronic Illness, as a member of the Heart Committee of the New York Tuberculosis and Health Association, as chairman of the Medical Advisory Council of the Sidney Hillman Health Center, and as a member of the Advisory Council of the Health Center for Hotel Workers. He was also instrumental in the appointment of Negro physicians and nurses to hospital staffs and head of the National Committee for the Resettlement of Foreign Physicians. At the time of his death, he was consulting physician at the Mount Sinai Hospital.

Dr. Boas was a member of the American Society for Clinical Investigation, the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Clement B. Cobb, M.D., of New York City, died on March 12 at the New England Deaconess Hospital in Boston at the age of fifty-four. Dr. Cobb graduated from Harvard University Medical School in 1926 and interned at the Presbyterian, Babies, and New York Hospitals. At the time of his death, Dr. Cobb was assistant professor of pediatrics at Cornell University Medical College and assistant attending pediatrician at New York Hospital. A Licentiate of the American Board of Pediatrics, Dr. Cobb was a member of the American Academy of Pediatrics, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Louis De Innocentes, M.D., of New York City, died on March 19 at the age of fifty-four. Dr. De Innocentes graduated from Long Island College Hospital School of Medicine in 1925. He was associate attending surgeon at the Polyclinic Hospital Outpatient Department and a member of the New York County Medical Society and the Medical Society of the State of New York.

Evan Morton Evans, M.D., of New York City, died on March 17 at his home at the age of eighty-five. Dr. Evans graduated from the College of Physicians and Surgeons, Columbia University, in 1895 and interned at St. Luke's Hospital after which he went to Edinburgh where he studied under Sir William Turner. Following Dr. Evans return from Scotland, he became a member of the staff at City Hospital and Roosevelt Hospital, serving as director of the Department of Medicine at the latter until 1942. In 1899 he joined the faculty of the College of Physicians and Surgeons and retired as professor of clinical medicine in 1938.

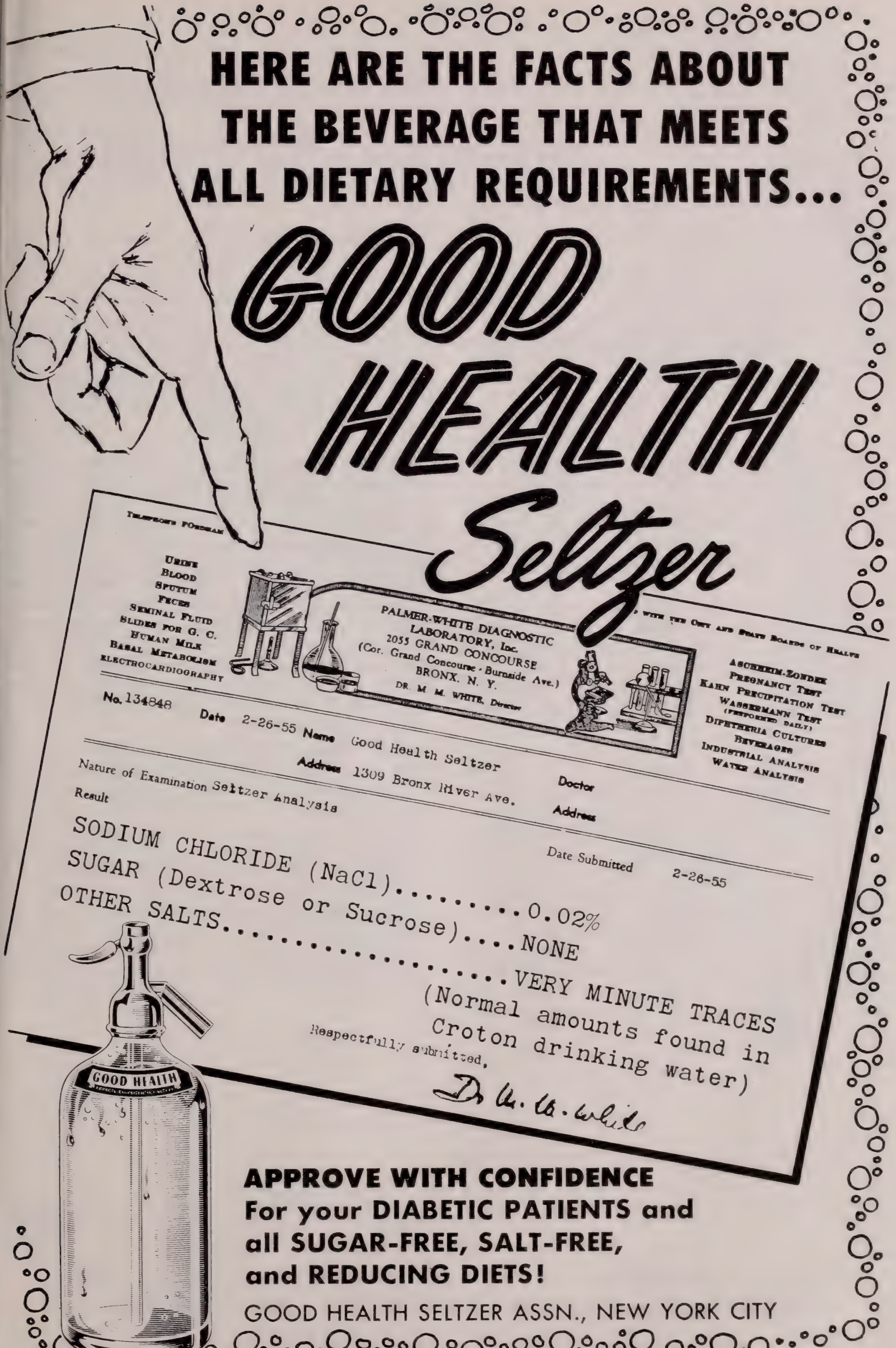
Until his retirement three years ago, Dr. Evans had been consulting physician at Beth Israel, Roosevelt, and Babies Hospital in New York City, Vassar Brothers Hospital, Poughkeepsie, Lawrence Hospital, Bronxville, and Englewood, New Jersey, Hospital. He had been a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Roberto Funaro, M.D., of New York City, died on March 11 at his home at the age of seventy-one. Dr. Funaro received his medical degree in 1906 from the University of Pisa and later did graduate work at the University of Berlin. Before World War II, Dr. Funaro had acted as physician to the children of several royal families including those of Italy, Bulgaria, Luxembourg, and Austria. Dr. Funaro was engaged in the practice of pediatrics and did work on nutrition research for the Department of Health. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Nathan Hudes, M.D., of Jackson Heights, died on October 4, 1954, at the age of fifty-four. Dr. Hudes graduated from Cornell University Medical College in 1927 and served as associate attending physician in cardiology at the Triboro Hospital, Jamaica, and attending physician at St. John's Long Island City Hospital. A Diplomate of the American Board of Internal Medicine, he was a member of the New York Cardiological Society, the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

J. Roberts Johnson, M.D., of Herkimer, died on March 3 at the Folts Home in Herkimer at the age of

[Continued on page 1246]



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Address 1309 Bronx River Ave. Doctor
Nature of Examination Seltzer Analysis Address
Result
Date Submitted 2-26-55

SODIUM CHLORIDE (NaCl).........0.02%
SUGAR (Dextrose or Sucrose)....NONE
OTHER SALTS......................VERY MINUTE TRACES
(Normal amounts found in
Croton drinking water)

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Dr. M. M. White

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[Continued from page 1244]

ninety-three. Dr. Johnson attended Burlington Medical College, Burlington, Vermont, and received his medical degree from New York University Medical School in 1887. Dr. Johnson had specialized in the practice of pediatrics for fifty-four years, retiring from active practice in 1946. He had been a member of the Herkimer County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Alfred Klinger, M.D., of Kew Gardens, died on December 31, 1954, at the age of forty-six. Dr. Klinger received his medical degree from the University of Vienna in 1933 and was a member of the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Edward Miller, M.D., of New York City, died on September 12, 1954, at the age of seventy-six. Dr. Miller graduated from the College of Physicians and Surgeons, Columbia University, in 1899 and had been a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Morris William Mootnick, M.D., of Mount Vernon, died on February 18 at the age of seventy-two. Dr. Mootnick graduated from the Long Island Hospital College of Medicine in 1905 and until his retirement had been associated with Mount Sinai Hospital and the New York Eye and Ear Hospital, New York City.

Josephine Bicknell Neal, M.D., of New York City, died on March 19 in the New York Infirmary at the age of seventy-four. Dr. Neal, who retired from active practice in 1942, graduated from Cornell University Medical College in 1910. A former professor of neurology at the College of Physicians and Surgeons, Columbia University, and a former consultant at New York Infirmary, St. Vincent's Hospital, and Willard Parker Hospital, Dr. Neal was a Diplomate of the American Board of Psychiatry and Neurology and Fellow of the American College of Physicians. She also served as director of the William J. Matheson Survey of Epidemic Encephalitis, had written many articles for newspapers and medical publications, and for many years had served as associate director of the Bureau of Laboratories in the Department of Health in New York City. Dr. Neal was a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Mary Emma Potter, M.D., of Brooklyn, died on March 4 at the age of eighty-two. Dr. Potter received her medical degree from New York University in 1899, and was honorary physician at the Prospect Heights Hospital, consulting physiotherapist at the Methodist Hospital, and consultant at the Caledonian Hospital, all in Brooklyn. She was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Robert N. Severance, M.D., of Staten Island, died on March 11 in St. Vincent's Hospital, Staten Island, at the age of eighty. Dr. Severance, who graduated from Dartmouth Medical College in 1904, organized and was the first chief of the urology section of St. Vincent's Hospital in Staten Island. Before his retirement, Dr. Severance was a Diplomate of the American Board of Urology, a Fellow of American College of Surgeons, and a member of the American Urological Association, the New York Urological Society, the Richmond County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Adolf Zeckel, M.D., of New York City, died on March 17 in Roosevelt Hospital at the age of fifty. Dr. Zeckel received his medical degree from Groningen University in the Netherlands in 1928. At the time of his death he was an associate in psychiatry at the Vanderbilt Clinic of Columbia-Presbyterian Medical Center. A Diplomate of the American Board of Psychiatry and Neurology, Dr. Zeckel had been a member of the American Psychiatric Association, the American Psychosomatic Society, the New York Psychoanalytic Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

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MEDICAL NEWS

Research Fellowships in Multiple Sclerosis—The National Multiple Sclerosis Society has established a limited number of fellowships to encourage promising students and scholars to enter the field of research related to multiple sclerosis and the demyelinating diseases. Fellowship candidates are free to elect a training institution and sponsor of their own choice. However, all candidates are urged to consider a training program looking toward preparation for a career of research in this broad general area of disease. Postdoctoral research fellowships will be made to qualified candidates holding a doctorate in medicine or in related fields and afford a basic stipend of $4,000–$5,000 per year based upon the academic and professional training of the applicant and the family dependency status involved. Appointment as a scholar will be made to qualified candidates holding a doctorate in medicine or in related fields and who have demonstrated competence in biologic investigation. This award will provide $6,000–$8,000 per year based upon the academic record, professional training, and research attainments and interests of the applicant. For applications and further information, write to Dr. Harold R. Wainerdi, Medical Director, National Multiple Sclerosis Society, 270 Park Avenue, New York 17, New York.

American College of Gastroenterology—The American College of Gastroenterology, in cooperation with the Ames Company of Elkhart, Indiana, has announced the Ames Award Contest for the best papers in gastroenterology. The three classes of awards will be fellows or residents of gastroenterology, first or second year interns, and best paper published. All papers must be original and can be clinical or basic science. Clinical papers must not be case records, but controlled clinical work. The length of a paper is no criterion for originality or value. Entries must be typewritten in English, double-spaced on one side of the paper and submitted in six copies. Address entries and queries to the Research Committee, American College of Gastroenterology, 33 West 60th Street, New York 23, New York.

School Health Grant—A grant of $159,940 has been awarded by the U.S. Public Health Service to the Welfare and Health Council of New York City to make a comprehensive, three-year survey of the value and effectiveness of school health services in New York City, it has been announced by J. Donald Kingsley, executive director of the Council. Principal investigator and director of the project is Dr. William C. Spring, DeLamar professor of public health practice, School of Public Health, Columbia University.

The committee which guided the development of the current project included Dr. Leona Baumgartner, commissioner of health; Dr. William Jansen, superintendent of schools; Dr. Alfred Yankauer, director of the Bureau of Maternal and Child Health, New York State Department of Health; Dr. Odin Anderson, research director, Health Information Foundation; Dr. Harry Bakwin, president-elect, American Academy of Pediatrics; Dr. Neva R. Deardorff, board member of the Health Insurance Plan of Greater New York; Dr. Franklin M. Foote, executive director, National Society for the Prevention of Blindness; Dr. Harold Jacobziner, assistant commissioner of health; Dr. Frank J. O'Brien, associate superintendent of schools; Dr. George M. Wheatley, third vice-president, Metropolitan Life Insurance Company, and Dr. Spring.

Hospital Construction—Division of Hospital Facilities, FSA, reports that as of February, 1955, there are completed and in operation in New York State, 71 projects at a total cost of $72,254,704, including Federal contribution of $20,857,083 and supplying 3,991 additional beds. Under construction are 10 projects at a total cost of $40,855,475 including Federal contribution of $4,404,191 and designed to supply 886 additional beds. Approved but not yet under construction are nine projects at a total cost of $13,436,851, including $3,473,565 Federal contribution and designed to supply 889 additional beds.

Douglas P. Arnold Lectures—The Douglas P. Arnold Lectures by Dr. Louis K. Diamond, associate professor of pediatrics at Harvard Medical School, were held on March 31 and April 1 in Buffalo under the sponsorship of the Children's Hospital of Buffalo and the University of Buffalo School of Medicine.

Bronx Society of Neurology and Psychiatry—The regular meeting of the Bronx Society of Neurology and Psychiatry was held at the Morrisania City Hospital on March 24. The Nathan Savitsky Memorial Symposium was held on the "Effects of Psychogenic Processes Upon Tissue Changes."

Albany County Medical Society—The March meeting of the Albany County Medical Society was held on March 22 at Wolfert's Roost Country Club.

Cattaraugus County Medical Society—The regular monthly meeting of the Cattaraugus County Medical Society was held on March 10. Dr. John

[Continued on page 1250]

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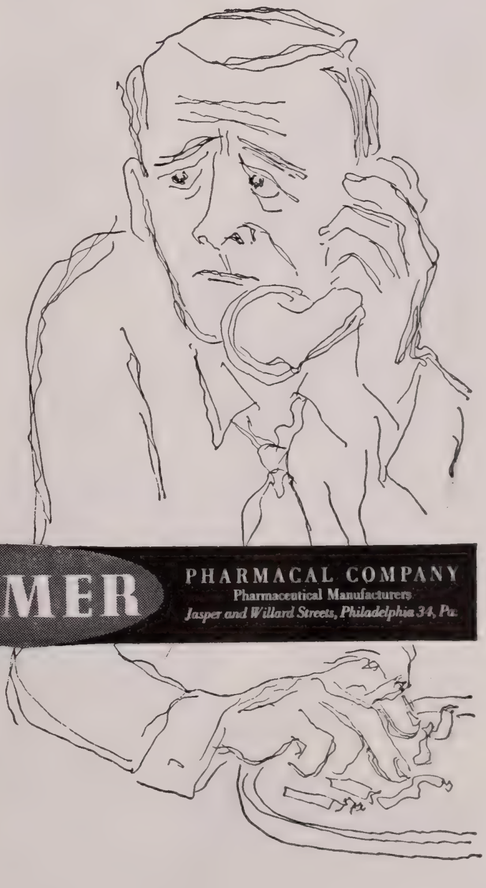
1. Krantz, J.C. & Carr, C.J.: Pharmacological Principles of Medical Practice, Williams & Wilkins Co., Baltimore, Md., 1951.

2. Goodman, L. & Gilman, A.: The Pharmacological Basis of Therapeutics. The Macmillan Co., New York City, 1941.



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[Continued from page 1248]

Paine of the University of Buffalo Medical School spoke on "The Problems of Common Duct Stones," and Dr. Gordon Culver of the University of Buffalo Medical School spoke on "Operative Cholangiography and the Use of Cholegrafin."

Delaware County Medical Society—The Delaware County Medical Society met on March 8 and heard a panel discussion on "The Modern Management of Heart Disease" conducted by Dr. Frank M. Woolsey, Jr., associate dean and director of postgraduate education; Dr. John Filippone, associate professor of medicine and head of the sub-department of cardiology, and Dr. Joseph Doyle, associate professor of medicine and director of the cardiovascular health center, all of Albany Medical College.

Association for the Advancement of Psychotherapy—The 132nd scientific meeting of the Association for the Advancement of Psychotherapy was held at the New York Academy of Medicine Building on March 25. Edrita Fried, Ph.D., spoke on "Technics of Ego Strengthening," and Dr. Richard Sterba, of Detroit, opened the discussion.

American Medical Education Foundation—Contributors from New York State to the American Medical Education Foundation for the month of February were: *Baldwinsville*—Drs. James H. Bennett, C. A. Hebblethwaite, and Robert G. Wedemeyer; *Ballston Spa*—Dr. Miles J. Cornthwaite; *Binghamton*—Drs. Robert E. Ahearn, F. A. Baumann, Nathan Brown, F. Fenning, Ernest Hock, Philip H. Landers, Stephen Major, Harold W. McNitt, Manuel M. Monserrate, Emil C. Mrozek, G. R. Murray, Leon G. Payes, Thomas H. Phalen, Irving Werner, Myrtle M. Wilcox, and James B. Woodruff; *Brockport*—Drs. H. J. Collins, Charles F. Gay, and Carl C. Sansocie; *Bronx*—Drs. R. J. Azzari, P. C. Brunori, S. Callerame, O. J. Cheevers, William G. Chorba, M. Cohen, M. Eisenstat, Kurt Elias, Frank M. Ferrante, H. Field, Henry Fleck, S. M. Friedland, H. Friedman, J. H. Friedman, Frank Garofalo, J. T. Geddis, J. W. Goldenkranz, J. Golomb, Edmund E. Good, M. J. Goodfriend, M. Greenberg, L. Greenspan, Norman B. Juskowitz, E. B. Kaplan, B. Karen, A. Karger, M. H. Krakow, H. Kubel, M. M. Levites, J. Lo Cascio, E. J. McDermott, Martin F. McGowan, J. Minkin, A. M. Modance, E. J. Murphy, A. P. O'Flaherty, Gilbert Reuben, R. Rosenbaum, S. S. Rosenfeld, W. M. Savedoff, A. Schmorr, M. B. Schwartzfarb, H. Seidenstein, A. A. Sherman, Milton Shields, D. H. Spotkov, L. Tabatznik, A. B. Tamis, J. Taub, M. Terragni, S. Wagreich, William J. Walder, and Max J. Weinstein.

Also: *Brooklyn*—Drs. Joseph L. Gottesman and S. W. Hoffs; *Camden*—Dr. Daniel D. Simmons; *Churchville*—Drs. F. W. Dietel and Vito P. Laglia; *Corinth*—Dr. Raymond D. Snyder; *Delhi*—Dr. Orin Q. Flint; *Deposit*—Drs. Clayton M. Axtell and C. V. Latimer; *Endicott*—Drs. Emil Ekstein, Herta Ekstein, and Dante Tocco; *Fairport*—Drs. George Dean, John Kraai, and J. N. McEachren; *Great Neck*—Dr. Louis E. Marshall; *Hamlin*—Dr. Paul Marx; *Hilton*—Drs. Robert N. Blodgett and Charles R. Keller; *Honeoye Falls*—Dr. Niels Madsen; *Jamaica*—Dr. Alfred Angrist; *Johnson City*—Dr. N. R. Occhino; *Little Falls*—Dr. Bernard J. Burke; *Mechanicville*—Dr. John C. O'Brien; *Minoa*—Dr. Harold J. Platz; *Morrisville*—Dr. Frank Matthias; *Mount Vernon*—Drs. Julius J. Carucci and Louis Schneider; *Munnsville*—Dr. Fred Feldman; *New Berlin*—Dr. William Elliott; *New York City*—Drs. Leonora Andersen, P. V. Breitenberger, Robert J. Fleischaker, C. Howe, Samuel Marton, David T. Mintz, Harmon T. Rhoads, Jr., and U. J. Salmon; *North Pelham*—Dr. D. G. Petix; *Norwich*—Dr. Thomas M. Flanagan.

Also: *Oneida*—Drs. Howard Beach, Richard J. Rebasz, and J. F. Rommel, Jr.; *Penfield*—Dr. E. S. Deuel; *Rochester*—Drs. Ralph E. Alexander, Walter C. Allen, Donald G. Anderson, Mario A. Argentieri, Barbara Authur, E. J. Avery, Peter A. Badamy, Maurice A. Barnard, Paul Beaven, Wilford W. Berge, Mary J. Bird, Floyd E. Bliven, Jr., M. G. Bohrod, Floyd C. Bratt, B. B. Breese, Jr., Herbert R. Brown, Jr., Richard J. Brzustowicz, Stearns S. Bullen, Sr., Fred W. Bush, Lynn R. Callin, M. M. Clark, John E. Connor, Joseph W. Cooney, Vincent J. Coviello, Jerome Cowen, Francis J. Crimmings, Glenn C. Cummings, John N. Daly, C. P. Danehy, Lavelle P. Davlin, John Detro, H. R. Drysdale, B. J. Duffy, Eugene Duggan, Alfred G. Ebel, Jacob Epstein, M. D. Evans, David W. Fassett, B. V. Favata, S. S. Feldman, Sidney Feyder, Ernest J. Field, and John Finigan.

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[Continued on page 1252]

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1. Hyman, S., and Rosenblum, S. H.: Illinois M. J. 104:257, 1953.
2. Piper, C. E., and Nicklas, F. W.: Indust. Med. 23:510, 1954

*U.S. Pat. 2,628,185

[Continued from page 1250]

Also: *Rome*—Dr. Walter I. Akana; *Saratoga Springs*—Drs. Claire K. Amyot, John A. Esposito, Vincent R. Kelleher, and Malcolm J. Magovern; *Schenectady*—Drs. D. A. DeLisa, George F. Emerson, Jacob Frumkin, Seymour Horwitz, and T. W. Smith; *Sherburne*—Dr. Harry H. Epstein; *Sidney*—Dr. Elliot Danforth; *Syracuse*—Drs. Alfred S. Berne, Asher Black, Hans Bruns, Agnes Buck, Bruce E. Chamberlain, Chester Clark, Mark Conan, Arthur N. Curtiss, E. J. Delmonico, James G. Derr, Herbert R. Diass, Edward J. Dick, L. W. Ehegartner, Michael J. Elwood, Edwin J. Euphrat, Thomas J. Fahey, Robert D. Fairchild, Louis G. Fournier, Carmen D. Gelormini, Robert O. Gregg, Leon H. Griggs, Charles A. Gwynn, Merton C. Hatch, C. Jernakoff, Reuben L. Leverton, Charles H. Lynch, Richard H. Lyons, Carl E. Marlow, F. N. Marty, M. P. McCarthy-Broughm, DeWitt C. Mead, William J. Michaels, Jr., Donald E. Moore, Charles Needham, Edgar M. Neptune, L. K. Pickett, David L. Poushter, Arthur B. Raffl, Eber Resnick, Henry W. Schoeneck, Jr., Rudolph F. Slowik, Harry A. Steckel, George M. Stern, Howard H. Volan, Marie C. Wasileska, Walter J. Werfelmann, Jr., William G. Woodin, and Carl S. Worboys.

Also: *Tully*—Dr. Marcus S. Richards; *Vestal*—Dr. Manuel A. Angulo; *Walton*—Dr. Walter E. Eells; *Waterford*—Dr. Harold P. Peckham; *Watertown*—Dr. Wendell D. George, and *Whitney Point*—Dr. Henry Rapaport.

New York State Heart Assembly—Officials of the New York State Heart Assembly have announced that fund raising efforts for 1955 are expected to total $650,000, which is 25 per cent higher than the 1954 total. The assembly's fund raising area includes all of the state outside New York City, Westchester, Orange, and Albany Counties. Dr. Eugene J. Lippschutz of Buffalo was elected chairman of the assembly.

Personalities

Awarded

Dr. Vincent du Vigneaud, professor and chairman of the Department of Biochemistry, Cornell University Medical College, New York City, the $5,000 Passano Foundation Award for 1955, in recognition of his investigation of the chemical and physiologic nature of the hormones of the posterior portion of the pituitary gland, to be awarded June 8, during the week of the American Medical Association convention in Atlantic City.

Appointed

Dr. Frank Gilbert to the courtesy medical staff of the Placid Memorial Hospital, Lake Placid. . . Dr. Gene H. Stollerman, New York City, to direct rheumatic fever research in the Department of Medicine of Northwestern University Medical School.

Elected

Dr. Floyd Breed, president; Dr. Francis Haines, secretary; and Dr. Newell Washburn, vice-president, of the staff of the Charles S. Wilson Memorial Hospital, Johnson City. . .Dr. James C. Harberson, Watertown surgeon, as chief of the surgery division B of the medical staff of Mercy Hospital in Watertown. . .Dr. Arthur G. O'Leary, New Windsor, to membership in the Orange County Medical Society.

Speakers

Dr. Robert C. Gregg, associate professor of surgery at the State University of New York College of Medicine at Syracuse, on "The Management of Intestinal Obstruction," before the Steuben County Medical Society on April 21, at the Baron Steuben Hotel in Corning. . .Dr. Milton G. Bohrod, director of laboratories at Rochester General Hospital, on "Vascular Sclerosis," before the Ontario County Medical Society at Clifton Springs on April 12.

Honored

Dr. William Bierman, past president of the New York Society of Physical Medicine and Rehabilitation, at a dinner on April 27, at the New York Academy of Medicine, 2 East 103rd Street, New York City.

New Offices

Dr. David M. Bikoff, general practice in Patchogue in association with Dr. Edward Klane, after a tour of duty with the Army Air Force. . .Dr. Wayne C. Templer, general practice at 163 East Second Street, New York City.

Author

Dr. Marie Pichel Warner's article, "Artificial Insemination in Cases of Incurable Sterility," included in a volume published by the Society of Medical Jurisprudence of papers which were delivered before them between 1942 and 1950.

Retired

Dr. James H. Bennett, health officer for Van Buren and school physician for Baldwinsville Academy and Central School District, as a partner of the Baldwinsville Clinic.

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MEDICAL MEETINGS

Physical Medicine and Rehabilitation

The American Congress of Physical Medicine and Rehabilitation will hold its spring session, eastern section, on April 23 at the Hotel Lenox, Boston, Massachusetts, in conjunction with the New England Society of Physical Medicine, the Section on Physical Medicine of the Medical Society of the County of Kings, the New Jersey Society of Physical Medicine, the New York Society of Physical Medicine, and the Pennsylvania Academy of Physical Medicine and Rehabilitation.

Among the speakers will be Dr. Hans J. Behrend, consultant in physical medicine and rehabilitation at Goldwater Memorial Hospital, New York City, on "Recent Views on Ultrasonic Therapy"; Dr. Jack Meislin, chief of the Department of Physical Medicine and Rehabilitation, Montrose, New York, and special lecturer, College of Physicians and Surgeons, Columbia University, Department of Physical Therapy, New York City, on "Special Problems Confronting the Physiatrist in the Treatment of Physical Conditions in Psychiatric Patients." For further information, contact Dr. Herman L. Rudolph, chairman, 400 North Fifth Street, Reading, Pennsylvania, or Dr. Jacob L. Rudd, secretary, 371 Commonwealth Avenue, Boston 15, Massachusetts.

Four-City Radiological Meeting

The annual four-city radiological meeting, composed of members of the Central New York Roentgen Ray Society, the Rochester Roentgen Ray Society, the Toronto Radiological Society, and the Buffalo Radiological Society, will be held in Buffalo, on Saturday, April 23. Dr. Samuel Sanes, chief medical examiner of Erie County, will speak on "The Medical Investigation of Crime" at a banquet at the conclusion of the meeting. Interested physicians may contact Dr. Clayton G. Weig, secretary-treasurer of the Buffalo Radiological Society, 135 Linwood Avenue, Buffalo 9, New York, for further information.

Pediatric Section Meeting

The Pediatric Section of the Medical Society of the County of Kings and the Academy of Medicine of Brooklyn, will hold their annual Resident's Night on April 25, at 8:45 P.M. at 1313 Bedford Avenue, Brooklyn. A film, "Rehabilitation of a Post-Polio Child with Paralysis of All Four Extremities," will be shown by Dr. Abram Kanof of the Departments of Pediatrics and of Physical Medicine and Rehabilitation of the Jewish Chronic Disease Hospital. Dr. Harold Ratner, of the Jewish Hospital of Brooklyn, will speak on "Adrenal Hyperplasia with Acute Insufficiency," with a discussion by Dr. Benjamin Kramer; Dr. Enriqueda Melly, of Wyckoff Heights Hospital of Brooklyn, will speak on "Favism in a Five Year Old Child," with discussion by Dr. Vincent de Paul Larkin; Dr. Gustave Gavis, of the Kings County Hospital, University Division, will speak on "Abdominal Crisis in a Patient with Cooley's Anemia Combined with Sickle Cell Trait," discussed by Dr. R. Janet Watson, and Dr. Harold H. Wagner, of Beth-El Hospital, will speak on "Riley-Day Syndrome or Familial Autonomic Dysfunction in a Three Month Old Child," discussed by Dr. Harry R. Litchfield.

Alpha Omega Alpha

The annual Alpha Omega Alpha lecture of the State University of New York, College of Medicine at New York City, will be delivered by Dr. Arthur J. Patek, Jr., associate clinical professor of medicine at Columbia University's College of Physicians and Surgeons, who will speak on "Laennec's Cirrhosis; Present Day Concepts in Treatment." The lecture will take place in Hoagland Hall, 335 Henry Street, Brooklyn, on April 26 at 5:15 P.M.

Medical-Dental Meeting

A medical-dental meeting will take place on April 26 at 9:00 P.M. at the auditorium of Unity Hospital, 1545 St. Johns Place, Brooklyn. Dr. Joseph J. Eller, dermatologist at New York City Hospital, will speak on "Removal of Acne Scars, Tattoo Marks, Pigmentations, and Other Skin Defects by the New High-Speed Rotary Abrasive Stone Wheels," and will also report on "Freon Mixture," a new noncombustible refrigeration anesthesia for dermabrasion.

Discussion will be opened by Dr. Carroll S. Wright, professor of dermatology at Temple University, Philadelphia, and Dr. L. M. Fruchtbaum, Unity Hospital. Abraham Berger, D.D.S., oral surgeon, Unity Hospital, will preside.

New York Cancer Society

The eighth meeting of the New York Cancer Society will take place on May 3 at the New York Academy of Medicine, Hosack Hall, Fifth Avenue at 103rd Street, New York City. Dr. Charles Huggins, director of the Ben May Laboratories for Cancer Research at the University of Chicago, will speak on "Present Status and Future Horizons in Cancer Research."

Brooklyn Academy of General Practice

The Brooklyn Academy of General Practice will

[Continued on page 1256]

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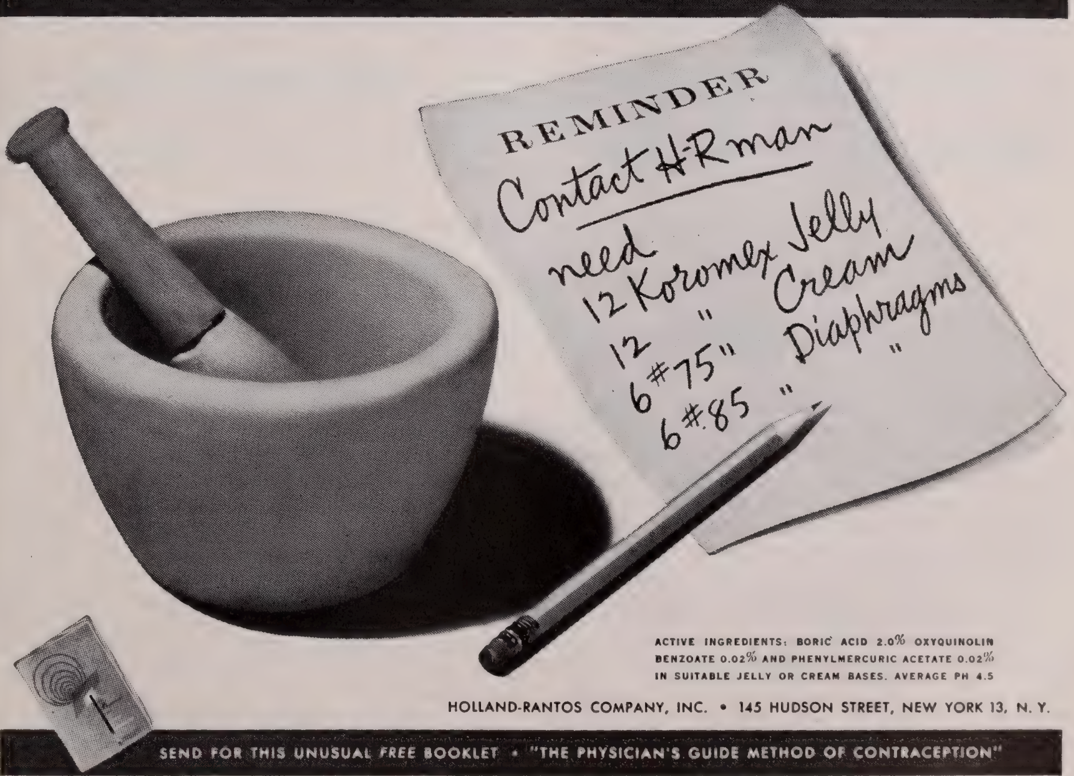

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[Continued from page 1254]

hold a symposium on practical therapeutics and office procedures for the general practitioner at the Hotel Granada in Brooklyn, on May 4. Speakers will be Dr. Walter C. Alvarez, emeritus, Mayo Clinic, on "Gastroenterology in the Aged"; Dr. William Likoff, Hahnemann Medical College, on "Cardiac Auscultation"; Dr. Leo Criep, University of Pittsburgh, on "Management of the Asthmatic Patient"; Dr. Alejandro F. Castro, Georgetown University, on "Office Proctology"; Dr. Edmund Novak, John Hopkins University, on "Office Gynecology," and Dr. O. E. Van Alyea, University of Illinois, on "Modern Management of Common ENT Problems." The symposium is open to all physicians without fee.

American Proctologic Society

The 54th annual meeting of the American Proctologic Society will be held at the Hotel Statler, New York City, from June 1 through 4, it has been announced by Dr. A. W. Martin Marino, of Brooklyn, president of the Society. All meetings are open to the medical profession. Sessions on June 1 will feature lectures on basic sciences by Dr. Henry T. Randall, clinical director of the Memorial Hospital-Sloan Kettering Division of Cornell University Medical School, who will speak on "General Principles of Water and Electrolyte Balance in Gastro-Intestinal Tract Surgery"; Dr. Benjamin G. Shafiroff, associate professor of clinical surgery at N.Y.U. Medical School, discussing "Autonomic Nervous System of Colon and Rectum"; Dr. E. A. Rovenstine, professor of anesthesia, N.Y.U. Medical School, who will discuss "The Pharmacology of Local Anesthetic Agents," and Dr. Frank L. Meleney, professor of clinical surgery, College of Physicians and Surgeons, Columbia University, speaking on "The Rationale for the Prophylactic and Therapeutic Employment of Antibiotics as an Adjunct to Surgery of the Alimentary Tract."

American Neurological Association

The eightieth annual meeting of the American Neurological Association will be held at the Palmer House, Chicago, from June 13 through 15.

Nutrition Institute

The ninth annual Community Nutrition Institute will be held June 20 to July 2 on the main campus at Syracuse University. Among the speakers tentatively planned for the institute are Dr. Elias Savitsky of New York City, who will speak on "The Individual and the Group," and Dr. John Browe, director of the Nutrition Bureau, Division of Medical Services, New York State Department of Health, on "Methods of Evaluation." The Institute presents a public health approach to nutrition problems for nutritionists, physicians, nurses, dentists, dietitians, social workers, college teachers, and high school teachers. Representatives of these groups will discuss the most recent developments in nutrition. The Institute is sponsored jointly by the College of Home Economics at Syracuse University and the Nutrition Bureau of the New York State Department of Health, and is administered by University College, the adult education division of Syracuse University. Co-directors are Miss Anne Bourquin, chairman of Syracuse University's Division of Foods and Nutrition, and Dr. Browe.

American Heart Association

The American Heart Association is holding its annual meeting in New Orleans from October 22 through October 26, and headquarters will be the Jung Hotel. Those who wish to present a paper at one of the scientific sessions, to be held October 22 through October 24, should submit an abstract, not exceeding 300 words, in duplicate, to the Medical Director, American Heart Association, 44 East 23rd Street, New York 10, New York, not later than July 1.

Rapid Decompression Causes No Lasting Injuries

Studies of Air Force experiment volunteers show that repeated exposure to rapid decompression at high altitudes apparently causes no long-term damage to the lungs. Two former Air Force physicians said the studies indicate latent ill effects on health probably are not a hazard in commercial jet-powered passenger planes. However, "certain protective measures" should be taken in these jets in case of sudden loss of cabin pressure at very high altitudes. This sudden loss can cause acute injuries.

Drs. William W. Pryor, Durham, North Carolina, and Gerald Marks, Philadelphia, reported in the November 27 *Journal of the American Medical Association* on their work while at the Aero Medical Laboratory, Wright Air Development Center, Ohio. The men they studied had been subjected repeatedly to rapid and explosive decompression, comparable to being raised from ground level to a height of one and one-half to two miles in less than three seconds. Some of the subjects underwent changes comparable to being raised to about three miles in less than one second.

They said that tests had been made on immediate injury—such as bends—but that no investigations had been made of possible injuries that might show up later. Because commercial jet planes require cabin pressurization of some magnitude, they felt a study of possible late effects of decompression was of "still more importance."

The men tested were from twenty-three to forty-two years old, in good health, and had been involved in decompression work from one to six years. Physical examinations showed no important abnormalities and chest x-rays were normal. A series of tests on lung capacity and breathing compared favorably with normal levels. The physicians said "it was not possible" by conventional tests to detect "any evidence" of damaged lung function in the men.

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to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

An Invitation

Dear Doctor:

The Medical Society of the State of New York is holding its annual convention in Buffalo the week of May 8. At the same time the Woman's Auxiliary will be meeting for its 19th annual convention at the Hotel Statler.

It is the earnest desire of the Buffalo doctors' wives that you will find it possible to bring your wife to Buffalo so that we may make her acquaintance. We also think that she will enjoy herself and gain valuable information at the workshops on public relations, legislation, mental health, child safety, and civil defense which will be addressed by outstanding speakers.

The principal business event will be the meeting of the House of Delegates which opens Monday afternoon and continues Tuesday morning and Wednesday. The Auxiliary board of directors will convene on Monday and Thursday mornings.

Through talks by Dr. Dan Mellen, president of the State Society, Dr. Walter P. Anderton, secretary and general manager, Dr. Andrew A. Eggston, chairman of the Advisory Committee, other officers of the State Medical Society, and the directors of its various bureaus, those attending will be able to secure a digest of the latest activities of the State Medical Society. They will also tell us how we can best be of assistance to our physician-husbands.

To entertain your wife socially we are opening our convention Sunday evening with a reception for all doctors and their wives. On Monday a supper party will be held. Tuesday at noon a luncheon will be given in honor of Mrs. George Turner, president of the Woman's Auxiliary to the American Medical Association. Mrs. Turner hails from El Paso, Texas, and we are very proud and pleased that she will be able to be with us. Wednesday we are honoring all past-presidents of the State Auxiliary at a tea.

We are working very hard to make this convention in Buffalo, May 8 through May 12, one long to be remembered by the doctors' wives from all over the State. Will you do your part? Engage the services of a housekeeper, a baby-sitter, or what have you, *now*. Plan *now* to bring your wife to Buffalo!

More detailed information including the program and place of registration will be found in the program section of the April 1 issue of the NEW YORK STATE JOURNAL OF MEDICINE.

Anticipating the pleasure of seeing you and your wife in Buffalo, I remain.

Very truly yours,
MRS. JOSEPH W. MADDEN
Convention Chairman

Urges Spiritual Rebirth Within Medicine

A.M.A. Trustee Julian P. Price of Florence, S.C., delivered a paper before the pediatric group at the recent A.M.A. Clinical Meeting in Miami. It was only one of more than 100 papers delivered during the week, but it had an intriguing title: "The Man Behind the M.D." His paper, in brief, urged physicians to join in a spiritual rebirth within medicine.

From a newspaper standpoint, his talk caught on like wildfire. One of the Miami papers gave it prominence on page one. Several papers, including the *Nashville Banner*, used it as the basis for editorials. It really rang the bell with the public.

Dr. Price said that in appraising the health of the nation, he believed that "the physical and mental health of our nation is relatively good, but that there is evidence of spiritual disease." "Since the disease is spiritual," he said, "the treatment must also be spiritual." He added that the symptoms were not hard to find.

Dr. Price listed among them "laxness of morals in our national government in recent years. . .the hold which organized vice has upon legislative and social life. . .increase in crime in our teen-age population. . . bribery and unethical conduct in amateur athletics. . .the mad search for pleasure which causes our people to spend four times as much for beverages as they do for religious and welfare activities. . . ."

He called upon his fellow physicians to combat this "disease" by taking part in government, devoting particular interest to public education, working with boys and girls, and charitable and philanthropic organizations, and having healthy, happy homes of their own.

"The only remedy which is of any avail—and to this history bears testimony—lies in a change of heart. It is my sincere belief that the greatest need of our country today—and of our profession—is a spiritual rebirth, a return to God and to his eternal principles. And the rebirth must come in the heart of the average citizen—and in the heart of the average doctor of medicine."

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BOOKS REVIEWED

Surgical Urology. By R. H. Flocks, M.D., and David Culp, M.D. Illustrated by Paul Ver Vais. Octavo of 392 pages, illustrated. Chicago, Year Book Publishers, 1954. Cloth, $9.75. (A Handbook of Operative Surgery.)

This handbook of operative urologic procedures is of excellent graphic content; its text is concise but thorough and certainly measures up to the fine standard of the operative handbooks published by the Yearbook Publishers for the other branches of surgery.

The operations presented are those in most frequent use, and their details reflect the extensive surgical experience of the authors in the University Hospitals of Iowa. The volume is well indexed and will supply ready reference to urologists and other surgeons who must operate on the urinary tract in the course of their procedures. Residents and interns in training will benefit greatly from a thorough study of the text.

The more recent operations for diversion [illegible] the urinary stream are not discussed, but as they are still in limited usage, perhaps it would be better to include their presentation in a later edition. This book can be enthusiastically recommended.—Sidney R. Weinberg

Doctor—It Tickles. By Henry Gregor [illegible]. Illustrated by Lawrence Lariar. Octavo [illegible]) pages, illustrated. New York, Prentice-Hall, [illegible]. Cloth, $2.95.

The humor of this book is undoubtedly intended for entertainment only, but it might easily be misconstrued by those readers of a fundamentalist tendency. It also affords small comfort to the unfortunate individual who may be obliged at some time to require surgery or other medical attention. The truly miraculous attainments of m[illegible] medical science are carefully ignored by the [illegible], but some of the minor faults are expanded and magnified out of all proportion to fact. It is rema[illegible] that satire of this nature rarely appears conc[illegible] the pseudomedical cults which are rampant [illegible]. Such would probably be considered sacrileg[illegible] not humor.—Jerome Weiss

Science and Man's Behavior. The Contrib[illegible] of Phylobiology. By Trigant Burrow, M.D. [illegible]cluding the complete text of: *The Ne[illegible] Man.* Edited by William E. Galt, Ph.D. [illegible] of 564 pages, illustrated. New York, Philos[illegible]al Library, 1953. Cloth, $6.00.

This book is a complete statement of the splinter group in psychoanalysis founded by the author. The basic tenets parallel Jung in a sense. However, Burrow has placed his emphasis on "phylic" and social disturbances as a biologic factor in the individual emotional illnesses of man. From this point of view the Burrow approach was perhaps the original group therapy project. The value of the book lies primarily in its historical significance and use as a reference.—Sam Parker

Ciba Foundation Symposium on the Kidney. Arranged jointly with the Renal Association. Editor for the Renal Association, A. A. G. Lewis, M.D. Editor for the Ciba Foundation, G. E. W. Wolstenholme, M. B. Assisted by Joan Etherington. With 125 illustrations. Octavo of 333 pages. Boston, Little, Brown & Co., 1954. Cloth, $6.00.

This symposium was arranged jointly by the Ciba Foundation and the Renal Association.

The text covers the proceedings of five sessions of the symposium. Essays deal with the structural and functional relationships of the kidney, the regulation of acid-base balance and other tubular functions, and the participation of the kidney in electrolyte balance and body fluid volume control.

To be appreciated, the book should be read from cover to cover.—Harry Mandelbaum

Regional Block. A Handbook for Use in the Clinical Practice of Medicine and Surgery. By Daniel C. Moore, M.D. Quarto of 373 pages, illustrated. Springfield, Illinois, Charles C Thomas, 1953. Cloth, $11.

The author's approach to the subject is interesting and new. He has visualized the difficulties of the beginner in the esoteric subject of regional anesthesia and has designed his book with the idea that the neophyte should not become discouraged by trying to master the complete texts that formerly were the only books extant on the subject but should be encouraged by a text that presents to him just one method of performing a procedure and only one. The procedures described are those which in the author's hands have yielded 90 per cent successful blocks.

This is a praiseworthy idea in the reviewer's opinion, especially since the author has supplemented his text with excellent illustrations and step-by-step details. It is refreshing to see a book which does not have "lifted" illustrations from the older texts as though these were indispensable. It is also good to see that he has omitted the dangerous procedures (gasserian, vagus, carotid body blocks) since the beginner should not attempt them until he has had years of training in anatomy and much experience on the cadaver.

[Continued on page 1262]

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[Continued from page 1260]

Dr. Moore has brought out in his book many dicta which peculiarly are his own, for example, "no paraesthesia, no anesthesia" in regard to some blocks (sciatic) and the opposite in regard to others (femoral block).

When one reads the book *in toto* there is a good deal of tiresome repetition, particularly in regard to the step-by-step details of the blocks. However, in his preface the author stated that there is good reason for this repetition as the book is designed so that "a doctor may learn one block technique without reading the entire book." This latter statement appears a good deal idealistic as it is hard to see how a beginner would pick up a book and "just begin." All procedures in regional anesthesia and surgery for that matter must be based on previous study and assiduous application of principles and not merely on a "how to" book. However, it has been the author's experience and the reviewer's too that there is need for a simplified text, and this book supplies it. The illustrations are excellent, the printing except for an occasional typographic error is good, and the index is adequate.

It is recommended to all interested in regional anesthesia particularly to the part-time man who attempts an occasional block and to the beginner in the specialty of anesthesiology who would like a text which gives him concise and easy-to-understand instruction in the more common procedures of regional anesthesia.—F. Paul Ansbro

Primer of Allergy. A Guidebook for Those Who Must Find Their Way Through the Mazes of This Strange and Tantalizing State. By Warren T. Vaughan, M.D. With illustrations by John P. Tillery. Fourth edition. Revised by J. Harvey Black, M.D. Duodecimo of 191 pages, illustrated. St. Louis, C. V. Mosby Company, 1954. Cloth, $4.25.

This represents the fourth edition of Vaughan's extremely popular *Primer of Allergy* and the second revision by Black. It is designed to answer the many questions arising in the mind of the allergic patient concerning the nature of his illnesses. Since it was written primarily for the patient, the style of presentation of material is not technical, and bibliography is omitted entirely. For this type of information the patient is referred to the more voluminous publication, *Practice of Allergy*, by the same authors. However, despite its elementary style the practitioner will find this primer extremely interesting and instructive reading.

There are many changes in this edition. Most important among these is the addition of a chapter on drugs. The presentation of material carries with it a note of a "military campaign" against "a hidden enemy," the allergen. There are many illustrations, most of them in a light vein but exceedingly well done. The book contains many practical tables, forms, and instructions which will prove of great value to the patient. This primer is more readable and instructive than most which have appeared in this field. It is one which the patient will be able to understand and appreciate.—M. Walzer

Clinical Chemistry in Practical Medicine. By C. P. Stewart, Ph.D., and D. M. Dunlop, M.D. Fourth edition. Octavo of 320 pages, illustrated. Edinburgh, E. & S. Livingstone (Baltimore, Williams & Wilkins Co.), 1954. Cloth, $5.00.

This is the fourth revised edition of a textbook of clinical biochemistry with emphasis on the more important tests. Simpler tests and methods of analysis of value to the practitioner are described in the appendix. The introductory chapter deals with material for analysis, interpretation of results, and significance of normal values. One of the chapters is devoted to procedures available for investigation of endocrine disorders and significance of 17-ketosteroid and pregnandiol excretion. The final chapter on nutritional deficiencies is devoted to an outline for procedures to develop reliable tests and stresses the limitations in this field. This text is intended for practitioner and student.—W. Alan Wright

Clinical Aspects of the Autonomic Nervous System. By L. A. Gillilan, M.D. Illustrated by the author. Octavo of 316 pages. 42 illustrations. Boston, Little, Brown & Co., 1954. Cloth, $6.50.

This book is an excellent evaluation of the literature on the autonomic nervous system by an author who on the basis of her own investigation and dissection is thoroughly familiar with the subject. It correlates the gross surface anatomy of the central nervous system with the underlying autonomic cerebral centers and nervous pathways by description and by easily understandable drawings. The physiologic and clinical significance of the topography of the peripheral autonomic nervous system is elucidated. Adequate attention is given to the pharmacology of the drugs having an effect upon the autonomic nervous system. The autonomic innervation of the visceral organs and organ systems is described in detail. Throughout the book the author admirably succeeds in her correlation of morphologic appearance with function, thereby making a firm foundation for clinical application of the anatomy.

Not only is the book written in clear and interesting language but it is illustrated by simple and easily understandable drawings based on painstaking original dissection by the author. All these should make this monograph an indispensable textbook for the undergraduate student and a welcome aid for the physician to refresh and broaden his knowledge.—E. Singer

The Medical Clinics of North America. Mayo Clinic Number. July, 1954. Octavo, illustrated. Philadelphia, W. B. Saunders Company, 1954. Published Bimonthly (six numbers a year). Cloth, $18 net; paper, $15 net.

The Mayo Clinic volume of the *Medical Clinics of North America* consists of a 34-clinic symposium on bronchial and pulmonary disease. It is an unusually successful review of almost every aspect of this subject. It cannot fail to be of value to every doctor.—Milton Plotz

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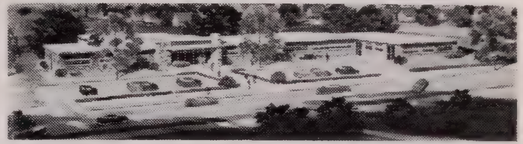

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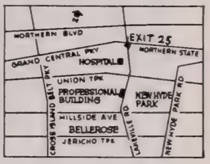

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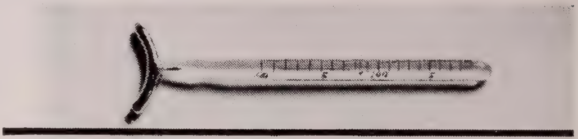

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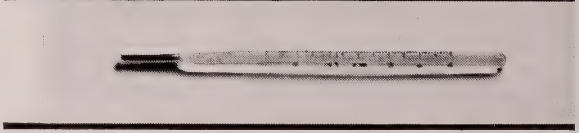

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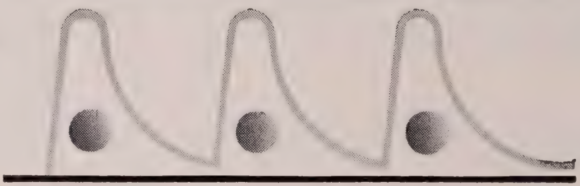

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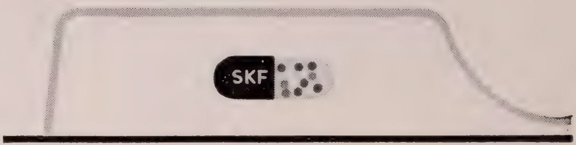

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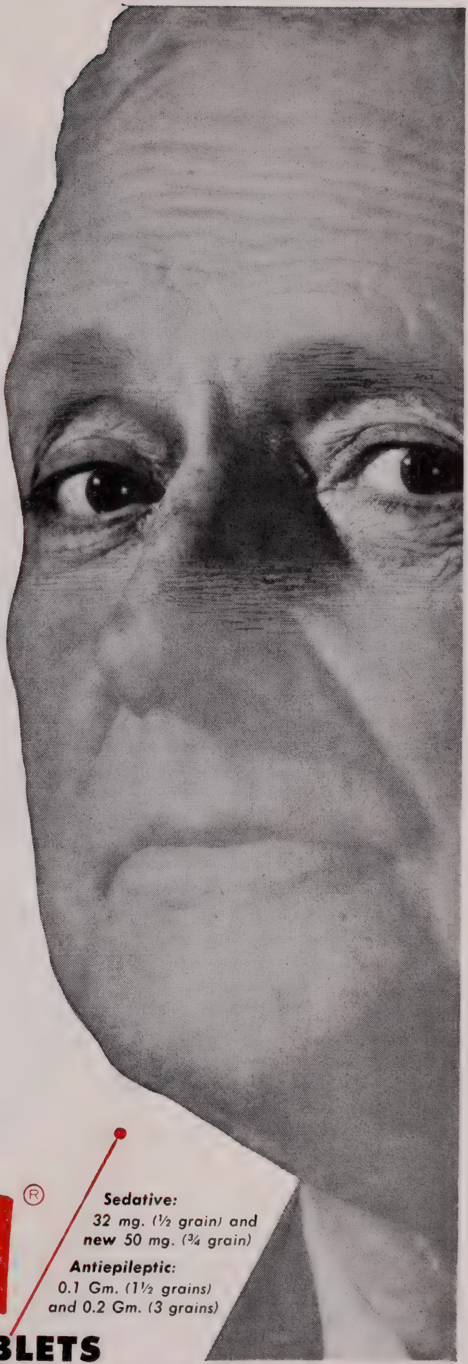

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1. Rukes, J. M., et al.: Metabolism 3:481, 1954.
2. Peterkin, G. A. G.: Brit. M. J. 1:522, 1954.

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VOLUME 55 MAY 1, 1955 NUMBER 9

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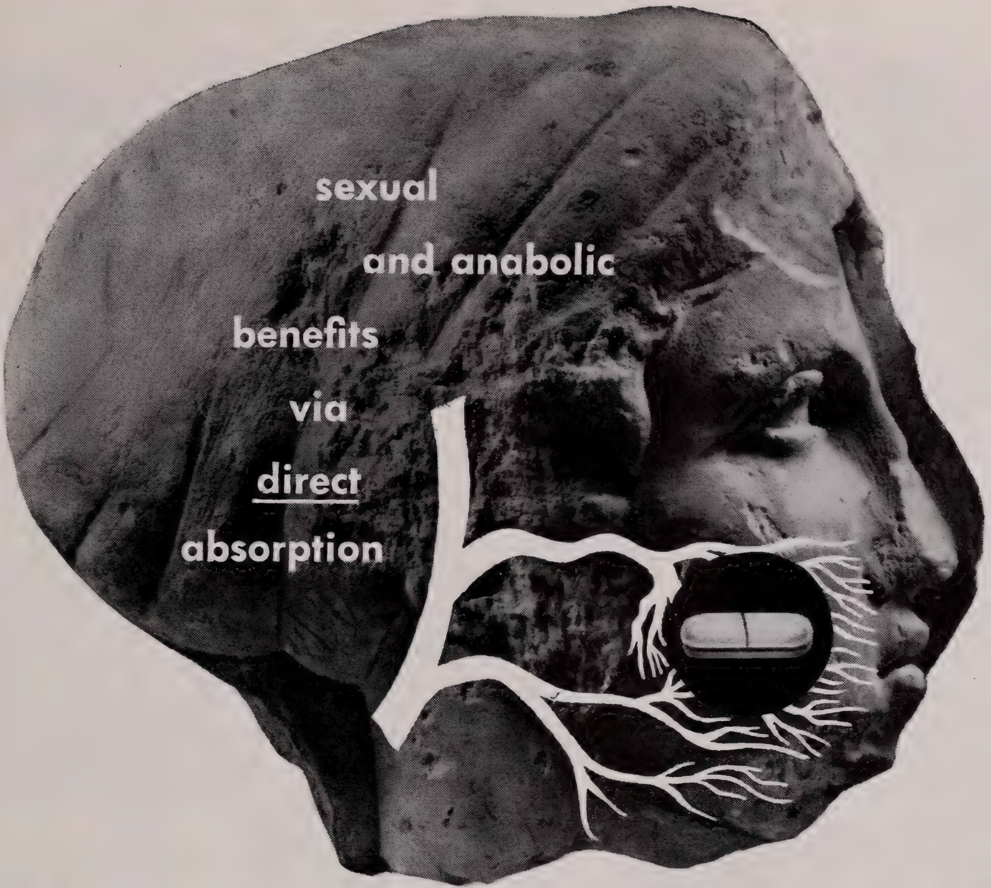

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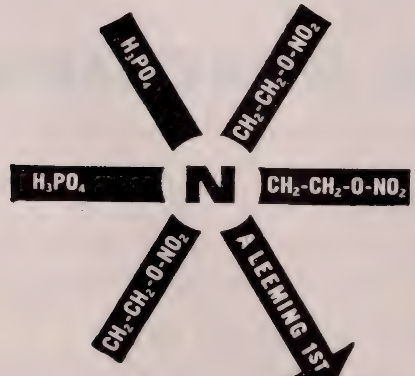

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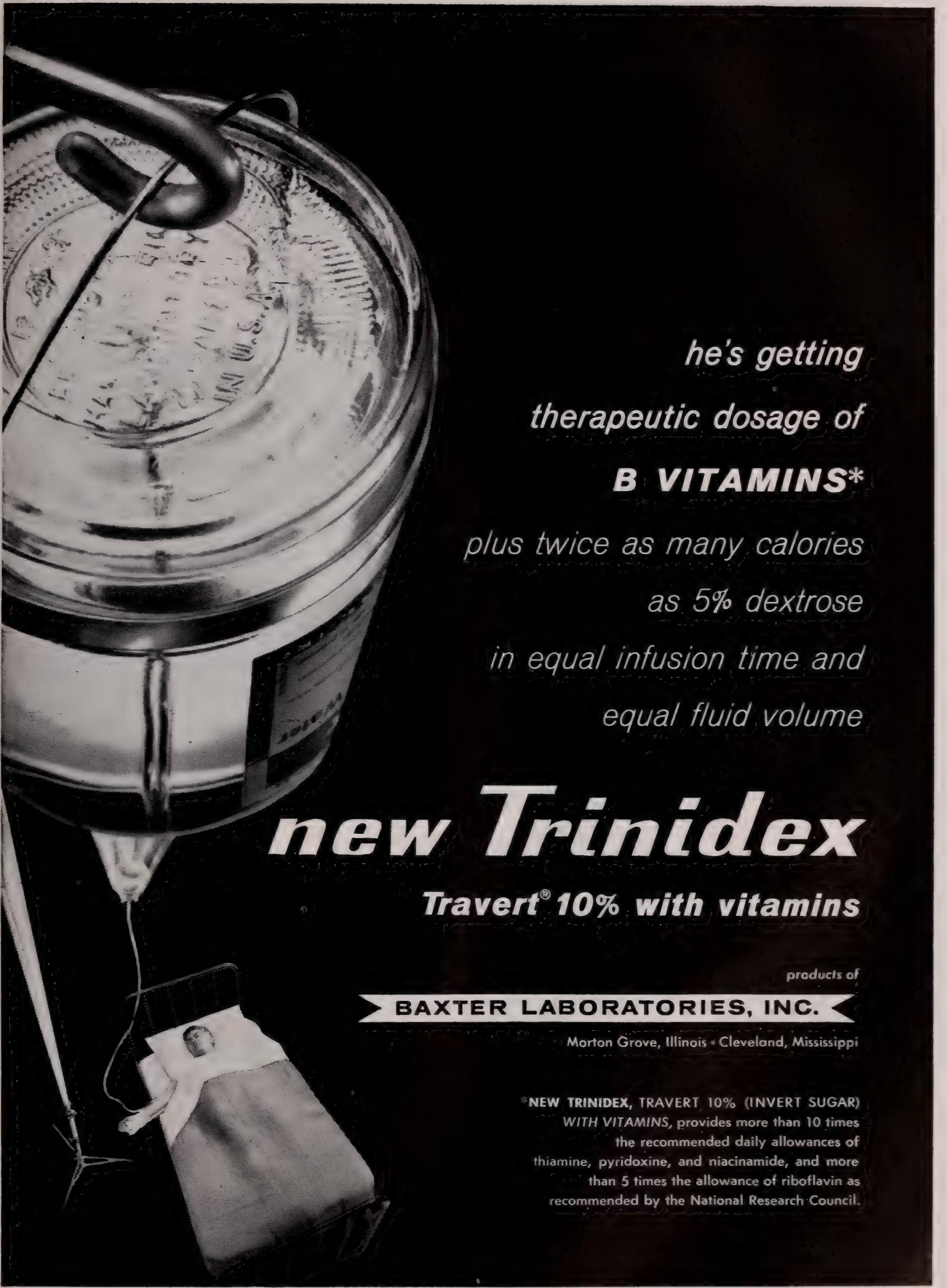

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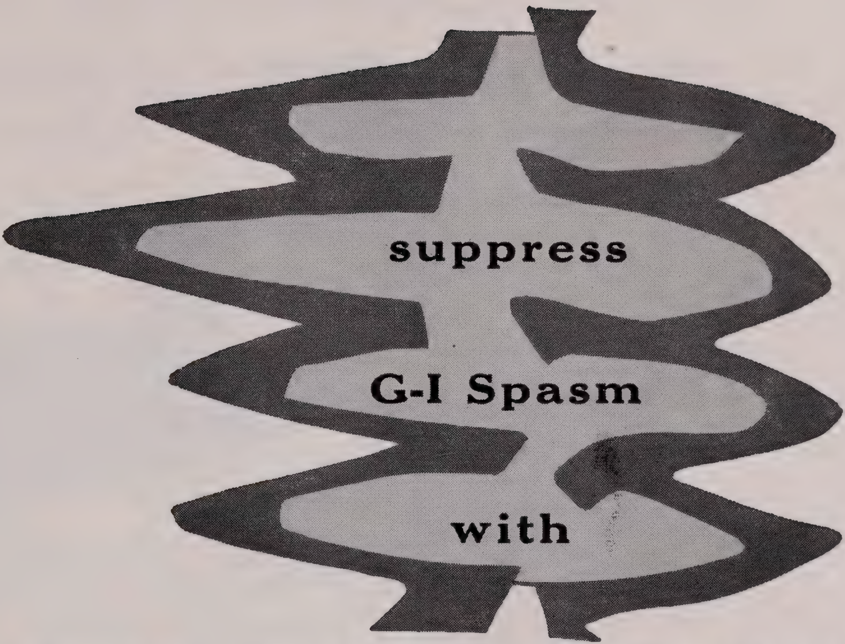

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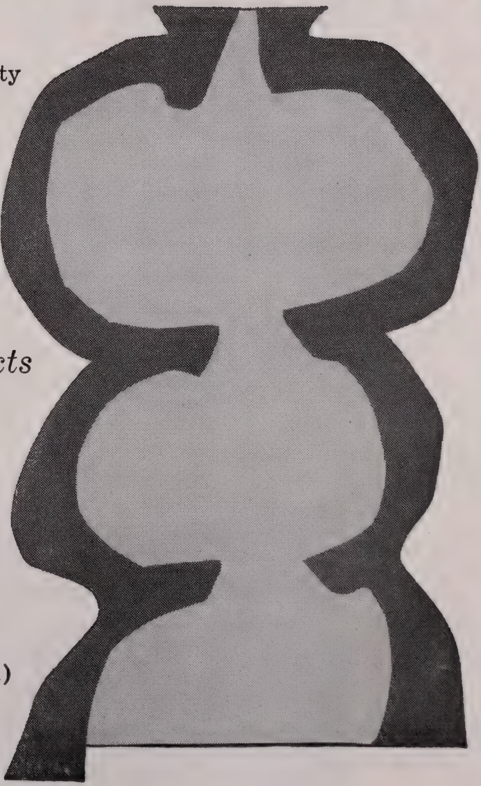

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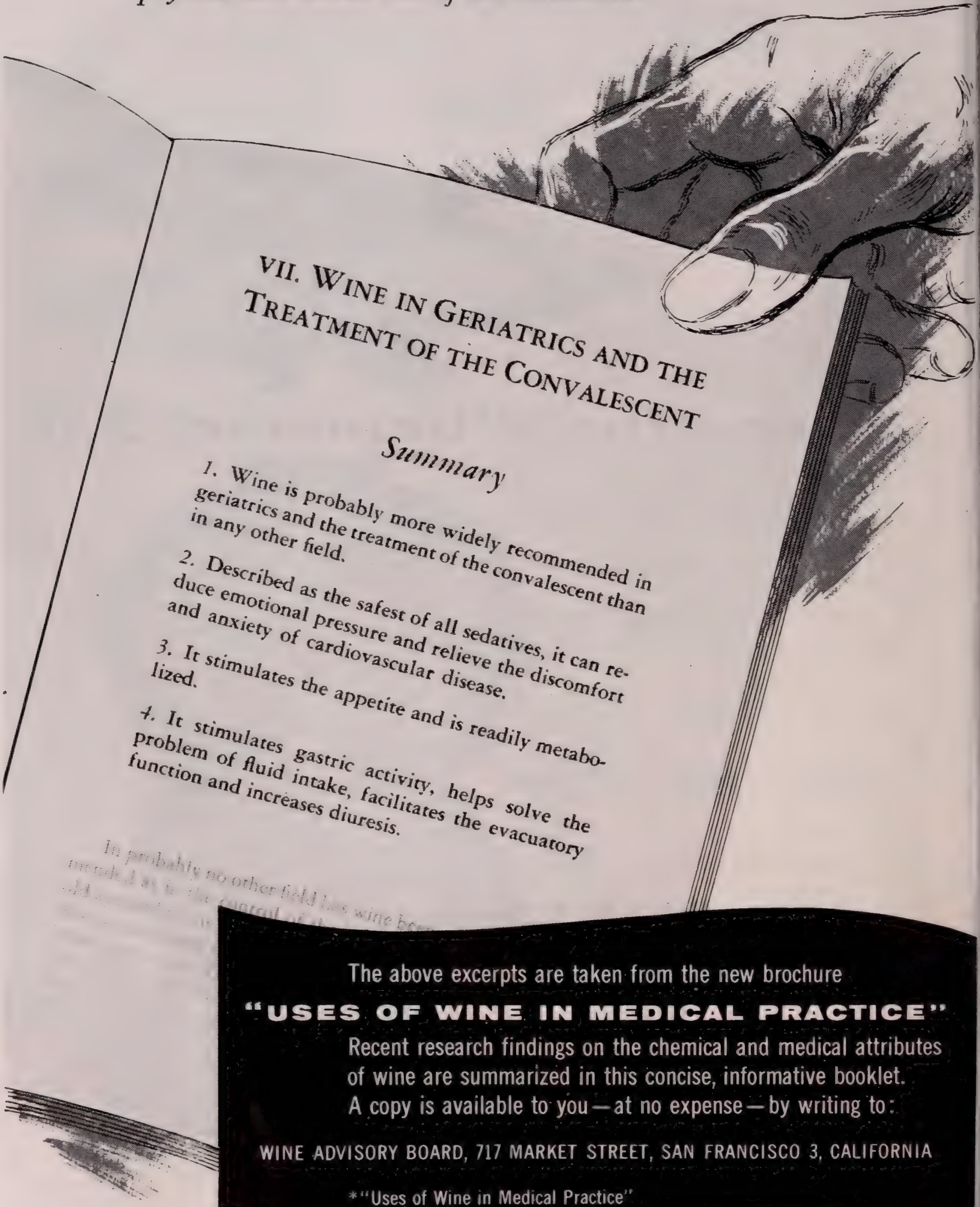

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(1) Lawrence, E. D., W. J. Surg., Ob. & Gyn., 58, 236-7, 1950.

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S.K.F.'s antidepressant analgesic

for optimum results in
headache

always prescribe
2 'Edrisal' tablets per dose

Each 'Edrisal' tablet contains Benzedrine* Sulfate (racemic amphetamine sulfate, S.K.F.), 2.5 mg.; acetylsalicylic acid, 2½ gr. (0.16 Gm.); phenacetin, 2½ gr. (0.16 Gm.). Available on prescription only.

Smith, Kline & French
Laboratories, Philadelphia
*T.M. Reg. U.S. Pat. Off.

Lederle

GRAVIDOX*

Pyridoxine-Thiamine *Lederle*

For preventing and treating nausea and vomiting of pregnancy

Pyridoxine (B_6) and Thiamine (B_1) have proved more effective in combination than either alone in the prevention and treatment of hyperemesis gravidarum. GRAVIDOX, in tablet and parenteral form, combines these vitamins, providing a nutritional approach to the problem. GRAVIDOX may also be useful for the prevention and relief of nausea and vomiting associated with radiation sickness.

Each GRAVIDOX tablet contains: Thiamine HCl—20 mg., Pyridoxine HCl—20 mg. Each cc. of GRAVIDOX parenteral solution contains: Thiamine HCl—50 mg., Pyridoxine HCl—50 mg.

Average dose: 5 to 12 tablets daily, in divided doses, at times when vomiting is less likely to occur; or 1 cc. parenteral solution 2 or 3 times weekly.

LEDERLE LABORATORIES DIVISION AMERICAN *Cyanamid* COMPANY Pearl River, New York

*REG. U. S. PAT. OFF.

When diarrhea follows indiscreet eating, prescribe…

Cremosuxidine®

SULFASUXIDINE® SUSPENSION WITH PECTIN AND KAOLIN

MAJOR ADVANTAGES: Has pronounced antibacterial action. Adsorbs and detoxifies intestinal irritants. Soothes the mucosa.

Adult dosage: 1½ to 2 tbsp. six times a day. *Pediatric dose* in proportion.

SHARP & DOHME

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DIVISION OF
MERCK & CO., INC.

use **FURADANTIN**® FIRST

brand of nitrofurantoin, Eaton

for true economy in urinary tract infections

1. **Fast clinical and bacteriologic cures.**
2. **Helps shorten or eliminate hospitalization.**
3. **Helps get patients back to work sooner.**

Furadantin works this fast →

In 30 minutes: antibacterial concentrations in the urine.

In 24 hours: a turbid urine is frequently clear.

In 3 to 5 days: complete clearing of pus cells from the urine.

In 7 days: sterilization of the urine in the majority of cases.

Furadantin exerts powerful antibacterial action against a wide range of gram-positive and gram-negative organisms, including bacteria notorious for their resistance.

With Furadantin there is **no** proctitis . . . **no** pruritus ani . . . **no** crystalluria . . . **no** moniliasis . . . **no** staphylococcic enteritis.

Average adult dose: Four 100 mg. tablets daily, taken with meals and with food or milk before retiring.

50 and 100 mg. tablets. Furadantin Oral Suspension, 5 mg. per cc.

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

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NORWICH • NEW YORK

THE NITROFURANS—A UNIQUE CLASS OF ANTIMICROBIALS PRODUCTS OF EATON RESEARCH

When you specify the Pfizer antibiotic of your choice *Stress Fortified* with the B-complex, C and K vitamins recommended by the National Research Council, be sure to write **SF** on your prescription

The minimum daily dose of each antibiotic *(1 Gm. of Terramycin or Tetracyn, or 600,000 units of penicillin)* Stress Fortifies the patient *with the stress vitamin formula* recommended by the National Research Council:

Ascorbic acid, U.S.P.	300 mg.	Calcium pantothenate	20 mg.
Thiamine mononitrate	10 mg.	Vitamin B_{12} activity	4 mcg.
Riboflavin	10 mg.	Folic acid	1.5 mg.
Niacinamide	100 mg.	Menadione (vitamin K analog)	2 mg.
Pyridoxine hydrochloride	2 mg.		

Pfizer

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℞
Terramycin-SF
caps #16
Sig: One capsule,
q.i.d.

℞
Tetracyn-SF
caps #16
Sig: One capsule,
q.i.d.

℞
Tetracyn-SF
Oral Suspension
2 oz.
Sig: 2 teaspoonfuls,
q.i.d.

antibiotics *Stress Fortified*
with vitamins include:

Terramycin®-SF
Brand of oxytetracycline with vitamins
CAPSULES 250 mg.

Tetracyn®-SF
Brand of tetracycline with vitamins
CAPSULES 250 mg.
ORAL SUSPENSION (fruit flavored)
125 mg./5 cc. teaspoonful

Pen-SF*
Brand of penicillin G potassium with vitamins
CAPSULES 200,000 units

℞
Pen-SF
caps #18
Sig: One capsule,
t.i.d.

**Trademark*

In Spastic and Occlusive Vascular Diseases

TENSODIN

TENSODIN is indicated in angina pectoris and other coronary and peripheral vascular conditions for its antispasmodic, vasodilating and sedative effects. The usual dose is one or two tablets every four hours. No narcotic prescription is required.

Each TENSODIN tablet contains ethaverine HCl (non-narcotic ethyl homolog of papaverine) ½ gr., phenobarbital ¼ gr., theophylline calcium salicylate 3 grs.

Tensodin,® a product of E. Bilhuber, Inc.

BILHUBER-KNOLL CORP. Orange, New Jersey

THIASTIGMINE®

EFFECTIVE THERAPY FOR PROMPT RELIEF IN THE TREATMENT OF

NEURITIS NEURALGIAS HERPES ZOSTER

For Intramuscular Use

SUPPLIED

KIRK No. 339 10 cc. multiple dose rubber capped vial.

KIRK No. 347 1 cc. ampul in boxes of 12 and 25.

C. F. KIRK LABORATORIES, NEW YORK 11, U. S. A.

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FOR YOUR PATIENTS WITH

Fat intolerance dyspepsia

Irritable bowel syndrome

Gallbladder dysfunction

OXSORBIL Capsules will permit the inclusion of suitable dairy and vegetable fats in the patient's diet.

POLYSORBATE 80 MAKES THE DIFFERENCE

This well balanced choleretic, cholagogic formula comes in two forms.

OXSORBIL® P.B. **OXSORBIL®**

(contains phenobarbital and belladonna for patients also requiring spasmolysis and sedation)

Plain

Bottles of 100 capsules
Literature on request

I.V.C®
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Upjohn

Cortef* for inflammation, neomycin for infection:

Neo-Cortef** *ointment*

(Topical) *Supplied:*

0.5% (5 mg. Cortef acetate per gram)
1.0% (10 mg. Cortef acetate per gram)
2.5% (25 mg. Cortef acetate per gram)
All 3 strengths in 5 Gm. and 20 Gm. tubes

Each gram contains:

Hydrocortisone acetate	5 mg. or 10 mg. or 25 mg.
Neomycin sulfate (equiv. to 3.5 mg. neomycin base)	5 mg.
Methylparaben	0.2 mg.
Butyl-p-hydroxybenzoate	1.8 mg.

(Eye-Ear) *Supplied:*

1.5% (15 mg. Cortef acetate per gram)
In 1 drachm applicator tubes

Each gram contains:

Hydrocortisone acetate	15 mg.
Neomycin sulfate (equiv. to 3.5 mg. neomycin base)	5 mg.

*REGISTERED TRADEMARK FOR THE UPJOHN BRAND OF HYDROCORTISONE (COMPOUND F)

**REGISTERED TRADEMARK FOR THE UPJOHN BRAND OF HYDROCORTISONE (COMPOUND F) WITH NEOMYCIN SULFATE

The Upjohn Company, Kalamazoo, Michigan

Meat...

Dietary Cholesterol and Vascular Sclerosis

Recent studies reaffirm the "hypothesis that atherosclerosis is fundamentally a metabolic disease subject to important dietary influences"[1] and do much to refute contentions that foods containing cholesterol should be avoided in general diets.

Arterial disease resembling that in human subjects was produced in Cebus monkeys fed diets high in cholesterol and low in sulfur amino acids. Within 2 to 8 weeks after initiation of the regimen serum concentration of cholesterol rose to levels of 300 to 800 mg. per 100 ml. "The hypercholesterolemia could be largely prevented by feeding 1 gram per day of dl-methionine or l-cystine as supplements to the diet." Also, the elevated cholesterol levels "could be restored to normal by feeding 1 gram of dl-methionine but only partially restored by 0.5 gram of l-cystine daily."

According to the investigators, the "vascular lesions were in the ascending aorta but extended from the valves of the left ventricle to the proximal portions of the carotid and femoral arteries . . . The aortic lesions were chiefly characterized by the presence of lipid-laden phagocytes and increase in collagen and elastic fibers. The lipids were in part cholesterol derivatives."

Cholesterol, an essential metabolite produced in intermediary metabolism,[2] is biosynthesized from dietary protein, fat, and carbohydrate.[3] Normally, its synthesis is exquisitely controlled to insure adequacy as well as to protect against an oversupply.[4] Furthermore, considerable evidence indicates that an increased cholesterol intake is not an etiologic factor in alleged aberrations of cholesterol metabolism such as atherosclerosis.

In widely variable amounts, cholesterol occurs in foods of animal origin—meat, poultry, fish and marine foods, eggs, milk products—all foods of great nutritive value.[3] Present knowledge in no way warrants alteration in the customary consumption of these foods because of their contained cholesterol.

Skeletal muscle of beef, lamb, pork, and veal provides but small amounts of cholesterol, approximately 0.06 Gm. per 100 Gm. moist weight of meat.[5] Since atherosclerosis may interfere sharply with normal nutrition, the patient should consume diets rich in protein foods (such as meat), vitamins, and fruit.[6] In addition to high quality protein, meat supplies valuable amounts of needed B vitamins and essential minerals.

---

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The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

American Meat Institute

Main Office, Chicago...Members Throughout the United States

Establishing desired eating patterns

Obedrin®

and the 60-10-70 Basic Diet

With Obedrin and the 60-10-70 Basic Diet, the overweight patient receives specific, proved aids to control overeating. Loss of weight is accomplished more comfortably, while the patient develops new and better eating habits.*

OBEDRIN CONTAINS:

Methamphetamine for its anorexigenic and mood-lifting effects.

Pentobarbital as a corrective for any excitation that might occur.

Vitamins B_1 and B_2 plus niacin for diet supplementation.

Ascorbic acid to aid in the mobilization of tissue fluids.

Obedrin contains no artificial bulk, so the hazards of impaction are avoided. The 60-10-70 Basic Diet provides for a balanced food intake, with sufficient protein and roughage.

*Eisfelder, H. W.: Am. Pract. & Dig. Treat., *5*:778 (Oct. 1954).

FORMULA:

Semoxydrine HCl (Methamphetamine HCl) 5 mg.; Pentobarbital 20 mg.; Ascorbic acid 100 mg.; Thiamine HCl 0.5 mg.; Riboflavin 1 mg.; Niacin 5 mg.

Write for 60-10-70 Diet Pads, Weight Charts, and samples of Obedrin.

The S. E. MASSENGILL COMPANY

Bristol, Tennessee

SULFONAMIDE

valentabs*

Children's Buffered Sulfa Suspension Tablets

From infancy to 15 years

Total disintegration within 30 SECONDS

- Grooved, heartshaped design
- Candified for palatability
- Available in a complete line of sulfonamides

TRIPLE SULFA, JR., 2 grain (white) Valentab No. 3
SULFADIAZINE, JR., 2 grain (yellow) Valentab No. 7
SULFABUF, JR., .25 gram (blue) Valentab No. 16

Write for free samples and literature.

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Pharmaceutical Manufacturers for over Half a Century

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BALNEOTHERAPY?

Osteoarthritics, rheumatoids, the menopausal and other sufferers often respond readily at Sharon Springs, colorful mountain spa in Central New York.

Qualified resident physicians supervise interim care under your orders. Indicated treatments include sulphur and Nauheim baths, hot fomentations, scotch douche and massage—all administered by trained physiotherapists.

Wide range of accommodations. Moderate rates. Good transportation.

WRITE FOR BOOKLET JM

White Sulphur Baths, Inc.
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Telephone: 2211

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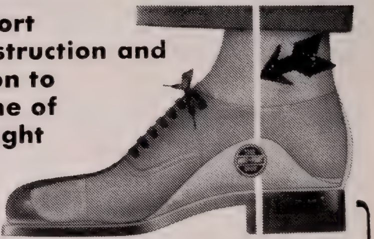
Association of American Spas

Foot-so-Port Shoe Construction and its Relation to Center Line of Body Weight



1. The highest percent of sizes in the shoe business are sold in Foot-so-Port shoes to the big men and women who have found that Foot-so-Port construction is the strongest, because . . . .

- The patented arch support construction is guaranteed not to break down.
- Special heels are longer than most anatomic heels and maintain the appearance of normal shoes.
- Insole extension and wedge at inner corner of the heel where support is most needed.
- Innersoles are guaranteed not to crack, curl, or collapse. Insulated by a special layer of Texon which also cushions firmly and uniformly.

2. Foot-so-Port lasts were designed and the shoe construction engineered with the assistance of many top orthopedic doctors. We invite the members of the medical profession to wear a pair — prove to yourself these statements.

3. We make more pairs of custom shoes for polio feet and all types of abnormal feet than any other manufacturer.

FOOT-SO-PORT SHOES for Men, Women, Children

There is a **FOOT-SO-PORT** agency in all leading towns and cities. Refer to your Classified Directory

Foot-so-Port Shoe Company, Oconomowoc, Wis.

PENTOXYLON®

...and in a matter of weeks

angina loses its terror

- Reduces nitroglycerin need
- Reduces severity of attacks
- Reduces incidence of attacks
- Increases exercise tolerance
- Reduces tachycardia
- Reduces anxiety, allays apprehension
- Lowers blood pressure in hypertensives
- Does not lower blood pressure in normotensives
- Produces objective improvement demonstrable by ECG.

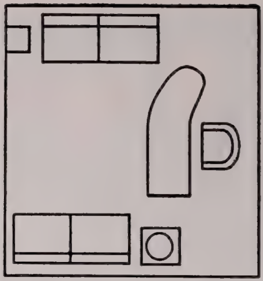
Each tablet of Pentoxylon combines the tranquilizing, stress-relieving, bradycrotic effects of 1 mg. Rauwiloid and the prolonged coronary vasodilating effect of 10 mg. pentaerythritol tetranitrate (PETN). The combination provides a new completeness of treatment previously unavailable to patients with angina. The contained Rauwiloid serves to overcome tachycardia—to permit better coronary filling without increasing cardiac work. This effect, together with the lasting coronary relaxation afforded by PETN, combine to reduce nitroglycerin needs, increase exercise tolerance, reduce anxiety, allay apprehension and produce objective improvement demonstrable by ECG.

Development of full effectiveness of Pentoxylon requires about 2 weeks of therapy, though benefits have been observed after 24 hours.

Dosage: Initially, 1 tablet q.i.d. Available in bottles of 100 long-acting tablets.

Descriptive literature on request

Riker LABORATORIES, INC., LOS ANGELES, CALIF.



Roomy, handsome desks like this can be fit into any number of interchangeable plans made up for you at no additional cost by Regan's complete Decorators' Service.

Doctor — does your office create confidence?

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Patients are put at their ease by an environment that combines beauty with comfort and dignity. That is why so many doctors rely on Regan's 28-year experience and "under one roof" resources for furnishing harmoniously integrated new offices or "toning up" their reception and consultation rooms with superbly attractive yet sensibly priced functional furniture, floor coverings, and draperies . . . within any budget, large or small.*

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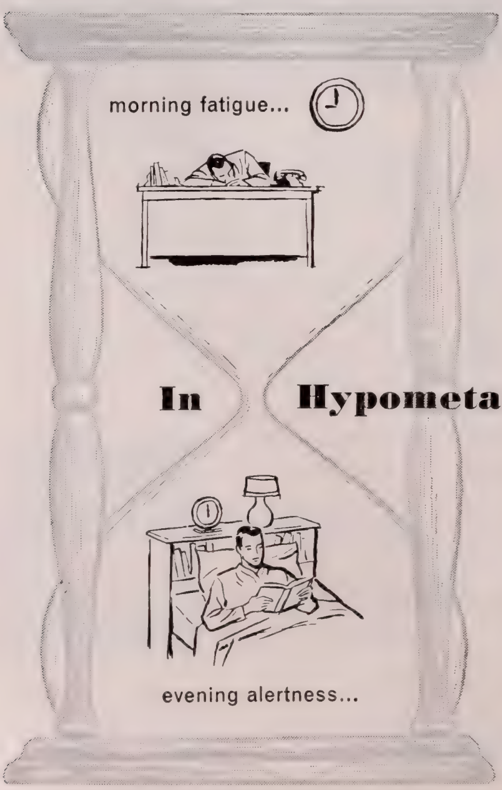
morning fatigue...
evening alertness...

When a patient complains of morning fatigue and evening alertness, a diagnosis of hypometabolism should be considered. If, in addition, the patient has two or more of the following symptoms: cold intolerance, brittle nails, dry skin, lack of perspiration or menstrual difficulties, the diagnosis is probable. A slow pulse and a low awakening body temperature make the diagnosis even more secure.

(Watson, B. A.: N. Y. State J. Med. 54: 2049, 1954.)

In Hypometabolic States... ℞ ...thyrar®

prepared exclusively from beef sources . . . provides whole gland medication at its best. Superior uniformity assured by chemical assay and biological test.

Standardized equivalent to Thyroid, U.S.P.; tablets of ½, 1 and 2 grains. Bottles of 100 and 1000.

THE ARMOUR LABORATORIES
A DIVISION OF ARMOUR AND COMPANY
KANKAKEE, ILLINOIS

Eosinophil Count...

Common Denominator?

NON-TOXIC

Ray-Formosil

BUFFERED FORMIC ACID AND
COLLOIDAL SILICIC ACID INJECTION

now found to be a potent

ALARM AGENT

"Alarm Agent"

Recent clinical studies reveal that Ray-Formosil parallels ACTH and Cortisone as an "alarm agent" in its effect on circulating eosinophils. Intramuscular injections of the usual therapeutic dose of Ray-Formosil (2 cc.) produced an average drop of 67% in both normals and arthritic patients.

Hypothesis:

Eosinopenia characteristically follows administration of compounds established as effective anti-arthritic agents (including gold and salicylates, in addition to ACTH and Cortisone) Ray-Formosil also causes eosinopenia. Such action may be a common denominator of agents which affect adrenal cortex activity.

Safe, Effective:

An estimated 3½ million injections of Ray-Formosil have been given during the past 20 years without a single report of toxic reactions. **An analysis of nearly 4000 recent case histories** from the files of 36 clinicians revealed that 85% were effectively relieved of pain, swelling and joint inflammation.

Inexpensive:

Only 30c a treatment ampul, Ray-Formosil therapy is inexpensive—an additional and important advantage to both the physician and the patient.

Dosage:

2 cc. injected intramuscularly *in the region of the affected parts* at 2-to-5-day intervals for several weeks, then 2 cc. once weekly.

Supplied in 2-cc. ampuls in boxes of 25 ($9.00), 50 ($16.50), and 100 ($30.00).

Available through your usual source of pharmaceuticals or direct from the manufacturer.

RAYMER
PHARMACAL COMPANY
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Serving the medical profession for over a third of a century

Easy fatigability, palpitation, vertigo are some of the less clearly defined symptoms of estrogen deficiency which may occur long before or after menstruation ceases.

"Premarin"® (conjugated estrogens, equine) is preferred by thousands of physicians for effective estrogen replacement therapy.

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New York, N. Y. • Montreal, Canada

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MEYENBERG GOAT MILK

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comes in 2 forms!

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it's new!

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GOAT MILK
Processed from Pure Whole Goat Milk
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HIGHEST QUALITY
The same high quality that has made Meyenberg Evaporated Goat Milk famous is available in the new Meyenberg Powdered.

LOWER PRICE—Processing economies are passed on to your patients in lower prices.

BETTER TASTE—The special processing required to obtain Meyenberg Powdered results in a product that tastes just like dairy-fresh milk!

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GOAT MILK
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The popular Meyenberg Evaporated Goat Milk will continue to be available, Vacuum-Packed in enamel lined cans, and ready in an instant for your patients' use.

MEYENBERG GOAT MILK—POWDERED AND EVAPORATED Goat Milk—the natural product for use in cases of cow's milk allergy—comes to you in its finest quality under the Meyenberg brand—trusted and recommended by the medical profession for over 20 years.

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Meyenberg Goat Milk is free of crude fibers associated with other cow's milk substitutes—as a result Meyenberg Goat Milk cannot cause diarrhea.

Delicate systems can more readily digest Meyenberg Goat Milk.

Specify Meyenberg Goat Milk first.
Meyenberg Powdered 14 oz. • Meyenberg Evaporated 14 fluid oz.
Both available throughout the United States.

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Meth-Dia-Mer Sulfonamides

for highest potency • wide spectrum*
highest blood & tissue levels • safety
minimal side effects • economy

*Council-accepted Triple Sulfas possess an exceptionally broad antibacterial spectrum—one unsurpassed by any single sulfa drug. They have been proved effective beyond comparisor against a great many pathogenic species, both Gram-positive and Gram-negative.

Broad-spectrum activity is only on of the virtues that distinguish the Triple Sulfas. Because of their established efficiency, great safety, and outstanding economy, their usc increases daily.

Triple Sulfas, alone or in combination with certain other agents, are available from leading pharmaceutical manufacturers under their own brand names. This message is presented in their behalf.

All sulfas are not Triple Sulfas!
ASK ANY MEDICAL REPRESENTATIVE ABOUT THE TRIPLE SULFA PRODUCTS HIS COMPANY OFFERS!

in rheumatoid

more effective therapeutic agent than older corticosteroids

Three to five times as potent as oral cortisone or hydrocortisone, milligram per milligram, Meticorten provides enhanced anti-inflammatory and antirheumatic action without the major undesirable effects associated with older corticosteroids.

Within 24 hours after administration of Meticorten, joint pain decreases, and stiffness and local heat diminish. Improvement in functional capacity and mobility follows quickly.[1,2] Excellent results are obtained even in patients no longer responding to cortisone or hydrocortisone.[1,2]

And in intractable asthma, Meticorten controls symptoms rapidly, markedly increases vital capacity, and permits patients to resume normal activities promptly.[3,4]

Dosage and Administration

Meticorten is available as 5 mg. scored tablets in bottles of 30 and 100. In the treatment of rheumatoid arthritis, dosage of Meticorten begins with an average of 20 to 30 mg. (4 to 6 tablets) a day. This is gradually reduced by 2½ to 5 mg. until maintenance dosage of 5 to 20 mg. is reached. The total 24-hour dose should be divided into four parts and administered *after meals and at bedtime*. Patients may be transferred directly from hydrocortisone or cortisone to Meticorten without difficulty.

arthritis

"...free of significant metabolic, water or electrolyte disturbances."[1]

The higher therapeutic ratio of METICORTEN permits marked clinical benefits unaccompanied by many of the major undesirable actions characteristic of cortisone and hydrocortisone.[1-4]

METICORTEN

PREDNISONE (metacortandracin)

Schering

- avoids sodium and water retention
- avoids weight gain due to edema
- no excessive potassium depletion
- better relief of pain, swelling, tenderness; diminishes joint stiffness
- lowers sedimentation rate even where cortisone or hydrocortisone ceases to be effective—"cortisone escape"
- most effective in smallest dosage

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METICORTEN,* brand of prednisone (metacortandracin).
*T.M.

SCHERING CORPORATION · BLOOMFIELD, NEW JERSEY

ACHRO

in Lederle's EXCLUSIVE,

Each capsule contains:

ACHROMYCIN Tetracycline Lederle	250 mg.
Ascorbic Acid U.S.P.	75 mg.
Thiamine Mononitrate	2.5 mg.
Riboflavin	2.5 mg.
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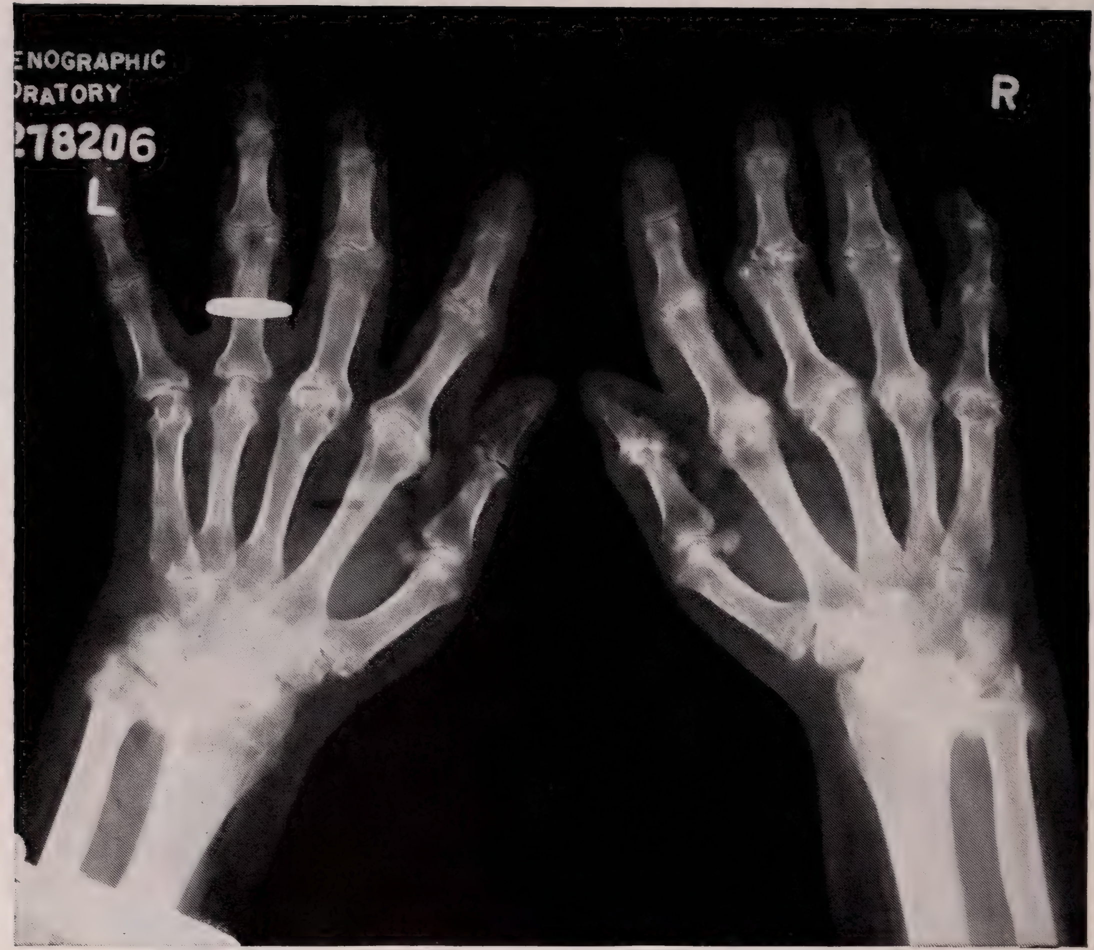

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References: 1. Fremont-Smith, P.: In press. 2. J.A.M.A. 141:124, 1949. 3. M. Times 81:41, 1953.

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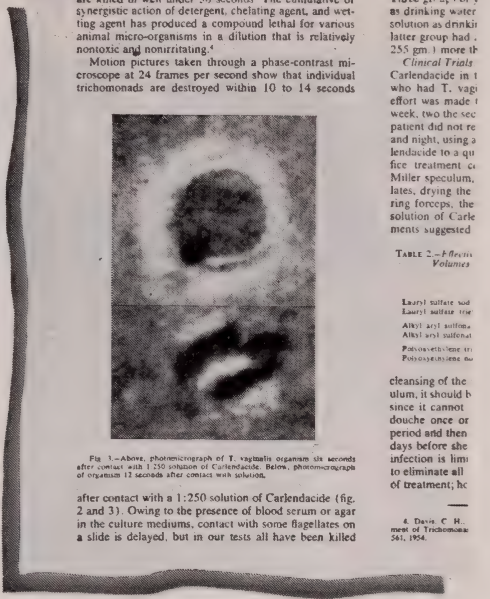

are killed in well under 30 seconds. The cumulative or synergistic action of detergent, chelating agent, and wetting agent has produced a compound lethal for various animal micro-organisms in a dilution that is relatively nontoxic and nonirritating.[4]

Motion pictures taken through a phase-contrast microscope at 24 frames per second show that individual trichomonads are destroyed within 10 to 14 seconds after contact with a 1:250 solution of Carlendacide (fig. 2 and 3). Owing to the presence of blood serum or agar in the culture mediums, contact with some flagellates on a slide is delayed, but in our tests all have been killed

Fig. 3.—Above, photomicrograph of T. vaginalis organism six seconds after contact with 1:250 solution of Carlendacide. Below, photomicrograph of organism 12 seconds after contact with solution.

In his new *J.A.M.A.* article, Dr. Carl Henry Davis reviews his experience with the new trichomonacide which he and C. G. Grand, research physiologist, developed under the name of "Carlendacide." Now available as VAGISEC jelly and liquid, it has been shown on clinical trial to clear up even stubborn cases of vaginal trichomoniasis. "Adequate office and home treatment can effect a cure of T. vaginalis infections, if limited to the vagina, within four weeks."[1]

Synergistic action. VAGISEC liquid attacks the trichomonad with three surface-acting chemicals.[2] The *chelating agent* tears out the calcium of the calcium proteinate from the cell membrane of the trichomonad. The *wetting agent* lowers surface tension and removes waxes and lipid materials from the cell membrane. The *detergent* denatures the protein. With the cell membrane destroyed, the cytoplasm imbibes water from its surroundings, swells up and explodes.[3] *Synergism accomplishes this within 15 seconds!*

Thorough peneration. VAGISEC jelly and liquid penetrate the cellular debris and mucoid material that line the vaginal wall and reach hidden trichomonads that lie buried among the rugae. They dissolve mucinous material and explode hidden trichomonads as well as trichomonads on the surface of the vaginal wall.[4]

Trichomonads destroyed in 15 seconds. No other agent or combination of agents kills the trichomonad in this specific fashion, or with the speed of VAGISEC liquid.[2] Dr. Davis studied this action under the phase-contrast microscope and actually *saw* individual trichomonads destroyed within 15 seconds of contact with a 1:250 solution.[1]

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The Davis technic.† The Davis technic is a combination of office treatment with VAGISEC liquid and prescribed home treatment with both VAGISEC jelly and liquid.[1] Dr. Davis says that office treatment is an essential part of the technic.

Write for: reprint of Dr. Davis' article,[1] file card giving complete details of Davis technic, and pad of patient instruction sheets for home treatment. Address Julius Schmid, Inc., 423 West 55th Street, New York 19, N. Y.

Bibliography

1. Davis, C. H.: J.A.M.A. 157:126 (Jan. 8) 1955. 2. Davis, C. H.: Am. J. Obst. & Gynec. 68:559 (Aug.) 1954. 3. Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955. 4. Davis, C. H.: J.A.M.A. 92:306 (Jan. 26) 1929.

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1. MERLIS, S.: Diamox: A Carbonic Anhydrase Inhibitor—Its Use in Epilepsy. Neurology. 4:11, 863-866 November 1954.

2. BECKER, B.: Decrease in Intraocular Pressure in Man by a Carbonic Anhydrase Inhibitor, Diamox. Am. J. Ophth. 37:1, 13-15 January 1954.

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EDITORIALS

Highlights of the Annual Meeting

The Annual Meeting of the Medical Society of the State of New York will be held at the Hotel Statler, in Buffalo, May 9 to 13. It is to be hoped that all who can will come and that all previous attendance records will be broken.

The House of Delegates of the State Society, presided over by Dr. Frederic W. Holcomb, of Kingston, Speaker, will convene for its regular annual meeting on Monday morning, May 9. At its last session, scheduled for Wednesday morning, May 11, there will be elections of officers, councillors, and trustees and of delegates to the American Medical Association.

Several questions of vital importance to the membership will be debated on the floor of the House of Delegates as all will appreciate who have studied carefully the annual reports in the April 1 issue of the JOURNAL. Younger members of the Society may not know and older ones may have forgotten that any member of the Society in good standing may attend the sessions of the House of Delegates, even though he is not a delegate. It is hoped that members present at the meeting will visit the House of Delegates to see for themselves how the business of the Society is conducted and to observe how the mechanics of handling resolutions and debate on the floor are managed.

This year among other important issues to be discussed will be the question of a change of meeting place. Previously, the Society has met one year in New York City and the succeeding year in Buffalo. Purely for financial reasons it is now proposed to meet three years successively in New York City and the fourth year in Buffalo. This change would avoid a considerable financial loss to the Society, as set forth in the report of the Council published in the April 1 issue of the JOURNAL.

A second important question is the recommendation to raise the annual dues by $5.00. Both of these questions are of paramount importance to every member. Each relates importantly to the maintenance of the Society's solvency and continuing work of education and service to the physicians and the public of the Empire State.

On its opening night the convention of the Medical Society of the State of New York will make medical history as the nation's first such meeting to witness a closed-circuit scientific television presentation. One of the new Videclinic series, the telecast will be shown on a giant screen and is entitled "New Approaches to Mental and Emotional Illness." It will be restricted in New York State to the convention.

The Videclinic is also scheduled to bring "live" reports from New York City and various hospitals in the nation, together with film sequences from England, Belgium, and the United States. The presentation in Buffalo will also mark the first time for a telecast of this nature in the history of "The Queen City of the Great Lakes." Videclinic will be sponsored by its originators, Smith, Kline, and French Laboratories, manufacturers of pharmaceutical products.

In addition, a series of color television programs of operative and clinical procedures will be presented by the State Medical Society under SKF sponsorship. These also will be shown on a giant screen. Beginning Monday, May 9, the color programs will be shown daily at 9 A.M. through Thursday, May 12.

A section on allergy will be an innovation during the scientific program at this 149th annual convention. The new section meeting will be conducted on Wednesday morning, May 11. Papers to be presented include "Prophylaxis in Allergic Disease in the Newborn," "The Role of Infection in Asthma," and "Urticaria."

Round table discussions, which proved so popular at the last two annual conventions, will again be a feature of the scientific program. They will be held on Tuesday and Wednesday mornings, May 10 and 11, and on Thursday evening, May 12.

Open to the public during the convention will be a session on the history of medicine, to take place Tuesday evening, May 10. No attendance tickets will be required.

Papers of interest to both the general practitioner and the specialist will be given at the general sessions, to be conducted each afternoon from Monday, May 9, through Friday, May 13.

Section and session meetings are slated for the mornings of Wednesday, Thursday, and Friday, May 11, 12, and 13. Scientific and technical exhibits and scientific motion pictures are also to be featured.

This year, the technical exhibitors will again be on the 17th floor of the hotel just beyond the registration desk, while the House of Delegates meeting will be held in the ballroom on the lobby floor. In their free time, delegates are urged to visit the scientific and commercial exhibits to see what is new and to encourage by their interest those exhibitors who so materially assist in defraying the costs of the Annual Meeting.

At the May 9 meeting the Medical Society of the State of New York, acting upon the selection of its Council, will present the award as "Outstanding General Practitioner of the Year 1954" to Dr. Antonio Pisani, of New York City, who died last October. The award will be received in

Dr. Pisani's behalf by his three physician sons.

On Wednesday evening, May 11, members will attend the State Society's annual meeting, banquet, and dance. The physicians will be joined by their wives, who will be attending the annual convention of the Woman's Auxiliary to the State Medical Society. The Woman's Auxiliary convention is also to take place at the Statler during the Society convention.

Principal speaker at the banquet will be the Very Reverend Philip E. Dobson, S.J., president of Canisius College. Dr. Walter Scott Walls, president of the Medical Society of the Country of Erie, will be the toastmaster.

The president's medal will be awarded to Dr. Dan Mellen, outgoing State Medical Society's president.

Dr. Renato J. Azzari, of the Bronx, will succeed Dr. Mellen.

"Physician-in-Waiting?"

Under the title, "Medically Approved—," there appeared in the *Journal of the Medical Society of New Jersey*[1] an editorial, commenting on an aspect of advertising to the public, which we reproduce in full for the benefit of our readers:

> "Medically Approved" is the magic phrase in advertising today. Buy this relaxing chair: your doctor recommends it. Our brand of toilet paper is certified by leading dermatologists to be kind to your skin. So with cigaret holders which filter out the poison, air conditioners which control your climate, and background music which soothes your nerves. A triangular pillow is approved by neurologists as aiding relaxation and a mattress has been accoladed by orthopedists as leading to better posture. There is even a new seat cushion which interposes its foamy self between your ischial tuberosities and the seat of your chair. This too bears the unofficial approval of an anonymous and—just possibly—nonexistent doctor. So fashionable is this today, that only a reckless retailer would open a store without a physician-in-waiting to give his sanction to the shoes, cigarets, scallions, and light bulbs which he might sell.
>
> In a way it is a double tribute to the physician. A tribute first because it suggests that the layman does respect the opinions of his doctor. And a tribute in another way too: it would be so easy for the practitioner to wander slightly off the reservation and accept a fee for endorsing something. So easy, that it is heartwarming to note how few M.D.'s really do it.

In nearly all the media of advertising to the public one can pick out, as the editorial says, certain products the manufacturers of which use the direct or implied endorsement of the medical profession in their copy. Indeed, there seems to have been developed, in addition to the real one, a phantom profession whose always goodlooking personnel of "doctors," "nurses," and "attendants" flit about against noble institutional backgrounds while writers, script men, and commentators offstage put honeyed words into their mouths or give, in their names, "organ recitals" in which nearly every viscus or structure in the human anatomy and nearly every physiologic function is delicately described as benefited by a product of some sort.

This phantom world of medicine is a hardworking empire and relieves the actual medical profession of a great deal of drudgery and temptation.

Of course it is a "tribute to the medical profession" that it should be selected as one to which the public pays respectful attention, even though the implied endorser is merely a phantom member of a phantom profession, a "physician-in-waiting," a citizen of the world of make-believe. The real physician today is far too busy sustaining a real

[Continued on page 1312]

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[1] J. M. Soc. New Jersey **51**: 452 (Nov.) 1954.

PRESIDENT'S PAGE

DAN MELLEN

This is my last message to the membership of the Society as your president. I want to thank you all for the opportunity of serving you and to express my appreciation of the assistance and support you have so generously given me throughout my term of office.

The year has been a busy and, I hope, a productive one. The activities of your Society have increased and broadened respecting services to the membership and to the public so that it has become necessary to take stock of our resources and to weigh them carefully against the obligation of the Society to maintain and, if deemed wise, to extend them. Rising costs of nearly everything have created a problem because control of these increased costs is beyond the power of the Society to regulate and, in certain instances, even to forecast with certainty. New activities have been undertaken, as, for instance, the Blood Banks Association of New York State; older activities, such as the JOURNAL and the *Directory*, both direct benefits to each individual member of the Society, have cost more to produce and to improve; the deficits caused by holding the Annual Meeting upstate every other year have increased operating costs materially.

Little can be done about the *Directory*. It is perhaps the most complete of all state directories in the variety and quantity of information provided. Through the years its content of informative material has grown in response to the requests of the membership for additional listings until it has reached its present size. Admittedly it is expensive to produce, but no study yet made has shown how to produce it as well but more cheaply.

The JOURNAL continues to improve in appearance and content. Its net advertising revenue and dues allocation enable it to operate well within its income and even to return to the Society an unexpended balance each year.

Other activities of the Society, as represented by its bureaus of public relations, medical care insurance, workmen's compensation, and legislation, together with its postgraduate educational work as carried on by the Council Committee on Public Health and Education, have continued to function well with relation to various governmental and civic agencies, the press, and our own membership.

It is to be hoped that the annual reports of your officers and committees will have had careful study and considered action. The Society must continue to expand its activities and to study new and necessary fields of service both to its members and the public. We stand on the threshold of a rapidly developing atomic age which promises new facilities and new problems for the profession of medicine. To meet these increasing responsibilities calls for inspired leadership and necessarily expanded resources. It is my hope, as I relinquish my stewardship, that you will continue in the future as you have in the past to progress to greater heights of service to mankind. For "Where there is no vision, the people perish."

Dan Mellen

FACTS ABOUT NUTRITION

Prepared by the School of Nutrition, Cornell University, Ithaca

NORMAN S. MOORE, M.D., *Editor*

It has long been known that a large intake of some minerals is necessary—calcium and phosphorus, for instance—especially during pregnancy and lactation. The requirements for other minerals are less. Within the last decade it has become increasingly evident that many minerals are required in small amounts to activate important enzyme systems. Some of these systems, if not activated, can result in a change from the healthy to an unhealthy state. The review here considers only discussion of minerals proved so far to be necessary in the diet of man. As enzyme chemistry advances, the inclusion of more trace minerals undoubtedly will be found important, just as was found in the case of vitamins.

Trace Minerals in Nutrition and Health

TODAY the importance of trace minerals for nutrition and health is being talked about in a way similar to vitamins. A mysterious value is implied. What ones are actually needed by the human body? What ones are likely to be deficient in food supply and, thus, need attention? This editorial deals with these questions.

There are a dozen or more minerals regularly found in body tissues which occur in such small amounts they are classed as trace elements. The fact that an element is commonly found in the body is obviously not proof that it is essential. Such proof requires evidence that some failure of structure or function occurs in the absence of the mineral from the diet. This evidence is hard to obtain when one is dealing with substances which are needed only in the order of a few parts per million in the food. Today we are able to class several trace minerals as essential, but we are not sure that the list is complete.

The adult body contains 100 to 150 mg. of copper which is essential for hemoglobin formation although not a constituent of it. In copper deficiency a microcytic hypochromic anemia results because the enzyme system necessary for the utilization of iron does not function. In fact, copper is a constituent or activator of several enzymes, such as fatty acid dehydrogenase, ascorbic acid oxidase, and tyrosinase. Thus its deficiency has been found to result in a variety of symptoms in experimental animals. The adult human requirement is 1 to 2 mg. daily.

Manganese occurs from 0.5 to 2.5 parts per million in various organs and tissues including bone. Its essentiality for animals has been proved, and its roles in baser enzyme systems indicate that it must be essential for man also. For example, in its deficiency the activity of phosphatase which functions in bone formation is greatly lowered. On the basis of balance studies it is evident that the human requirement is only a few milligrams per day.

Zinc deficiency has been described in rats and mice. It is a constituent of a protein found in human leukocytes and also of the enzyme, carbonic anhydrase, which plays a vital role in eliminating carbon dioxide from the body. Zinc also functions in other enzyme systems essential for normal metabolism. It seems reasonable to consider zinc an essential dietary constituent for man. A daily requirement of 0.307 mg. zinc per Kg. of body weight has been proposed for the preschool age child.

The facts regarding the essential role of iodine and the amount which meets body needs are well known and require no discussion.

Cobalt presents a special case. It is a constituent of vitamin B_{12}, and this represents its only known function. In the case of cattle and sheep, bacteria in the rumen utilize cobalt to synthesize vitamin B_{12} which is required in the metabolism of these species. When pastured on certain soils, ruminants develop specific deficiency symptoms because the forage does not contain the cobalt needed for synthesis of the vitamin and because the vitamin itself is not present in foods of plant origin. In other species there may be a limited intestinal synthesis of the vitamin which of course calls for a source of cobalt. Apart from these special cases there is no evidence that dietary cobalt has any value. There is no evidence that metabolic processes inside the body can utilize cobalt to make vitamin B_{12}. Thus the element as such cannot be considered a dietary essential for man.

Fluorine occurs regularly in bones and teeth to the extent of 0.02 to 0.05 per cent. This occurrence, coupled with the benefit derived from its topical application or from fluoridated water in preventing dental caries, suggests that fluorine is a dietary essential. No one has been able, however, to produce experimentally any specific deficiency symptoms in animals from diets nearly devoid of the element, and there is no convincing evidence that the beneficial effect on teeth from its ingestion is the result of its metabolism following absorption from the digestive tract. Thus, there is no proof that fluorine is a dietary essential.

Molybdenum has recently been found to be a constituent of the enzyme, xanthine oxidase, which plays an essential role in protein catabolism. Thus this element may be considered an essential one, but the amount needed for the purpose is certainly minute.

Various other trace elements have been found to activate enzymes, but none has been found the sole activator of an enzyme system essential for metabolism in man or animals.

The brief discussion has shown that we have only a limited understanding as to the specific amounts required of the minerals essential in traces. It is also true that we have only limited knowledge as to their quantitative occurrence in foods. From the data available as to human needs and human food supplies and from the much larger body of corresponding data for animals, it seems improbable that our usual diets are likely to be deficient in the trace elements here discussed. Lack of specific knowledge on this point, however, has led to the suggestion, largely by commercial interest, that as a matter of insurance people should regularly supplement their diets with trace elements, including some for which no essential function has been found in any animal species.

This idea is wrong. In the case of some of the elements the danger of consuming too much is just as great as any danger of not eating enough. An excess of molybdenum, which is now being included in some supplements provided for human use because of its enzymatic role, has long been a practical problem in animals getting their feed from certain restricted soil areas. Further, feeding a small excess of a given trace element can cause harm by creating an imbalance with respect to another. While a trace of zinc is essential in the carbonic anhydrase enzyme system, a small excess interferes with another enzyme system because an imbalance with respect to copper results. The case is similar with respect to manganese.

The story briefly presented here reflects the large gaps in our knowledge of trace minerals and indicates the need for further research. This is a greatly neglected field, compared with that of the vitamins which are also essential only in traces.—L. A. Maynard, Ph.D.

Editorials

[Continued from page 1309]

reputation for a real profession serving real people in trouble.

Endorsements of products advertised to the public as "medically approved" may well be left to professional ghosts. In some instances at least, the advertised benefits to the public seem to real physicians to be as elusive, unreal, and ephemeral as the professional phantoms.

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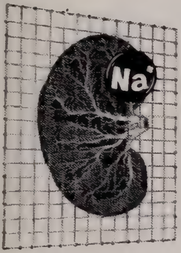

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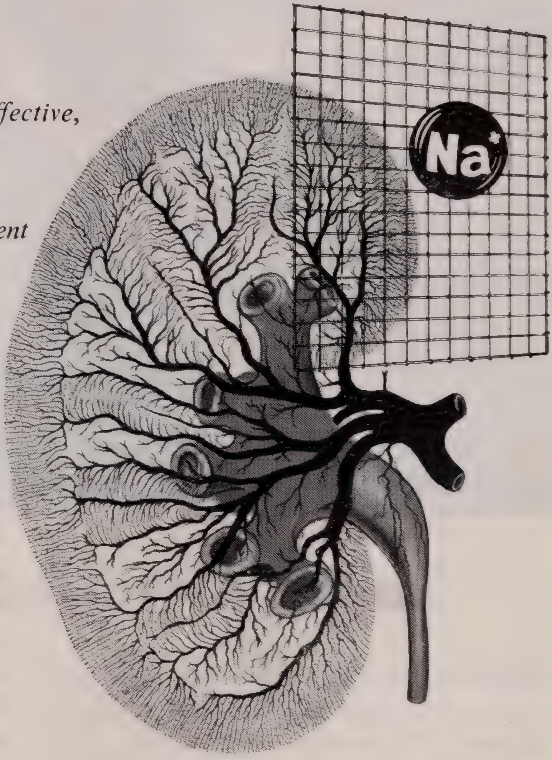
Effectiveness—Approximately 70 per cent of unselected edematous patients treated with Mictine have been found to respond with a satisfactory diuresis. This response is considerably greater when used in the control of the edema of congestive heart failure in patients with normal kidney function.

Clinical Field—Mictine is useful primarily in the maintenance of an edema-free state and in the initial and continuing control of patients with mild congestive failure. Mictine may be used also for initial and continuing diuresis in more severe congestive states, particularly when mercurial diuretics are contraindicated.



Increased sodium ion excretion following administration of Mictine indicates the inhibition, or "screening," of reabsorption of this ion, as well as increased elimination of water and chloride.

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SCIENTIFIC ARTICLES

Medicosocial and Economic Aspects of the Long-term Illness Problem

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It may well be expected that any symposium of this type on the subject of long-term illness may well raise more questions than it may answer. Those responsible for this session showed keen foresight in requesting that the speakers submit questions which may form the basis for round table discussions in the future. This speaker may perhaps be excused, therefore, if the talk expands upon the already submitted questions and adds several others, trusting that your later deliberations will come up with some of the answers.

Any talk on the social and economic aspects of a medical problem has to reach some definitions of the various factors involved. Here we would like to define such terms as "long-term illness" and "ability to pay." When we attempt to do so, we find that both are variables and very much dependent one on the other. Obviously, ability to pay decreases with the length of an illness and vice versa. The majority of middle income people can pay the costs of short-term illness without any real difficulty, while only the upper income groups or perhaps 10 per cent of the nation can get by an illness of several months or years without serious financial embarrassment.

A definition of medical indigency must likewise be a flexible one. The completely indigent are those who require financial assistance for the ordinary needs of life, including food, fuel, rent, and clothing, as well as any form of medical care. The first group of medically indigent generally recognized are those who can provide for the basic necessities of life but who cannot afford any extra unpredictable items such as medical care, possibly including a single physician's visit. Slightly up the economic scale and also recognized as medically indigent are those who can afford to pay doctor's home and office visits but could never meet the cost of even a brief period of hospitalization. Since neither of these first two groups of medical indigency could afford the costs of a hospital insurance policy, they must rely upon official public assistance programs to provide for their medical needs. Government-paid premiums, in full or in part, have been recommended to provide them with the regular medical care and hospitalization insurance policies, but no significant developments along these lines have been forthcoming.

Slightly further up the scale are families who can pay for a hospitalization period up to three months or so in duration, although to do so might force either a lowering in their standard of living or considerable debt. Here is a group for whom the common forms of hospital insurance provide a generally adequate solution. But for this group, and even for slightly higher economic groups who can afford hospitalization for three months without insurance, the occurrence of the need for long-term hospitalization beyond the scope generally covered by Blue Shield and Blue Cross programs may definitely result in an inability to pay the costs thereof. Recent years have seen the development of so-called major expense service policies and long-term cash indemnity policies, with benefits for disabilities caused by illnesses extending up to five years and for disabilities resulting from accidents extending up to a lifetime. However, these

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policies are limited in extent and quite expensive. Very few policies will cover such services as care in nursing homes, particularly over long periods of time, long-term care under home care programs, and the provision of expensive appliances, unusual and extraordinary drugs, and special corrective therapies. Long-term illness may thus be called the great economic leveler, especially when it occurs in the breadwinner of the family. Whether such leveling occurs after three months of illness, after six months, or after twelve months depends on many factors, including the services needed in terms of hospital care, nursing home or convalescent care, frequency of family physician's visits, need for consultants' or specialists' services, and the requirements for specialized therapies, drugs, and equipment. Also it depends upon the amount of income of the family, the continuance of that income during the illness, and the number of persons who are dependent upon such income. The average family income of about $300 per month cannot long keep up with prolonged hospital costs at the rate of $20 per day plus the costs of physicians' services and the provision of drugs and appliances. Previous savings are quickly exhausted.

Thus we see that what is long-term illness to one family may not be considered as such by other families so that a definition is hard to come by. The Commission on Chronic Illness has defined a chronic illness as one lasting more than one month. If hospitalization and other expensive care are involved, a month is indeed a long term for most American families.

We have recently completed a survey of nursing homes in upstate New York, similar to that done in Maryland by the Commission on Chronic Illness. It is interesting to note that 58 per cent of the patients in the sample studied had been in the nursing home for over one year, 40 per cent had been in the home for over two years, and 10 per cent had been in the home for over five years. With relatively few of even the cheapest and least adequate of the nursing homes reaching below a rate of $150 a month, it is easy to understand why the majority of the nursing home patients are paid for by local welfare agencies.

Public Assistance Program of Aid to the Disabled

This program of long-term illness plays a very major role in the public assistance program today. Whereas, in the 1930's, unemployment was responsible for the status of most recipients of relief, today it is chronic illness and disability that brings the larger number of persons to the local welfare agency. Thus, of the approximately 275,000 persons receiving aid in New York City in September, 1954, 55,000 were sixty-five years of age or more, 29,000 were classified in the category of Aid to the Disabled, 3,000 were blind, and 135,000 were eligible under the category of Aid to Dependent Children, which includes a large number of families in which the father is disabled. The remaining 53,000 were on the general assistance or Home Relief roll, but even in this group chronic illness rather than lack of employment opportunities is often the more important factor. Considering all cases, it is estimated that chronic illness, disability, or old age are present in 45 per cent of all individuals receiving public assistance, and considering Home Relief and Aid to Dependent Children recipients in family units, the estimate is that 70 per cent of all cases are indigent because of these factors.

The amount being spent by public assistance agencies for medical care has risen phenomenally over the past ten years. Whereas in 1947 State reimbursement to New York City for medical care amounted to only 3 per cent of the total reimbursement for public assistance, this has since risen to 11 per cent. Actually this is no reflection of the true amounts being spent for medical care because of the many agencies involved in the New York City program and the many nonreimbursable or otherwise unidentifiable items. Considering the total expenditures by upstate welfare agencies, the proportion of all expenditures made up by medical care often amounts to 30 to 40 per cent. About two thirds of this is for hospitalization. For the Old Age Assistance, Aid to the Blind, and Aid to the Disabled categories, current reimbursable expenditures now average about $140 per capita per year, compared to expenditures of $35 per capita in 1947 for the old age and blind groups.

Studying this situation and considering the continually increasing average age of the population, a special committee on social welfare of the Joint Legislative Committee on Interstate Cooperation reported in 1950 that, "As their numbers increase, the burden of maintaining them (the older, chronically ill persons) falls more heavily on the relatively diminishing number of productive workers, and unless the present rate of increase is checked, it may indeed become unmanageable. While the economic aspects of the problems are grave indeed, they are secondary in importance to the possible deterioration of individual and community morale which may take place unless a full-scale effort is made to turn back the tide of dependency at its source, through the fullest possible use of preventive and rehabilitative services."

One phase of the public assistance program which gives us a fairly detailed picture of the long-term illness problem is that of Aid to the Disabled. While the picture is that of long-term illness among the lowest economic group, it would appear that many of the findings of this program would apply to upper economic segments of the population as well.

This program, the full name of which is "Aid to the Permanently and Totally Disabled," was established in October, 1950, with the following objectives:

1. To ascertain that persons who are indigent because of a permanent and total disability receive adequate financial assistance and medical care, provided their financial need can be established by the local welfare district.

2. To separate this group of persons from those who are indigent because of other factors, such as personal or social problems, economic disruptions, costly but self-limited illnesses, or outright personality or behavior problems, for whom a completely different social approach is necessary.

3. To determine which of these disabled persons have potentialities for increases in their physical capacities to the point of being returned to self-support or support of their families, or at least to a significant increase in self-sufficiency. It is important not to lose sight of the significance of the latter goal of rehabilitation. Although the chances of a return to employment may be extremely remote, the conversion of a bedridden patient to an ambulatory person will do more than bring him considerable happiness and self-respect. It will reduce the costs of maintaining him in an institution or private nursing home, or, if he is living in his own home, his functional improvement may allow the person who has been taking care of him to be available for part or full-time employment.

While the word "permanent" implies an expectation of lifelong disability, the program does include those persons whose handicaps may have the potentiality of being decreased through various types of rehabilitation regimes. Persons having such potentialities are classified as Group II AD persons, and their cases are called up for review at yearly intervals. Persons whose disabilities are considered irreversible are not reviewed regularly from the medicosocial viewpoint unless the caseworkers note some unexpected change in status.

The determinations of eligibility, based upon medical and social factors, must be made according to Federal requirements by personnel of the State Department of Social Welfare. These personnel must be made up into review teams consisting of qualified physicians and medical social workers. In the upstate area the State maintains teams for each of its areas in Buffalo, Rochester, Syracuse, Albany, and the suburban New York area. For New York City, where the heaviest caseload exists, there is a staff of four medical social workers specifically assigned to this program, one supervising physician serving ten hours a week, and six additional physicians who serve from two to four two-hour sessions per week. These teams review the case histories submitted from the welfare centers of the New York City Department of Welfare on patients initially classified as potentially AD and determine whether the applicants meet the medical-social requirements for the AD program. If so, they classify such patients as Group I or Group II. For Group II patients recommendations are made regarding possible rehabilitation approaches. The latter cases are studied in more detail by the rehabilitation review unit of the New York City Department of Welfare where courses of action must be initiated.

The number of public assistance recipients on AD has been rising slowly ever since the inauguration of the program in 1950. Indeed, the program has been showing monthly increases, even at times when all other programs showed a standstill or a decrease. The number of persons now in the category reaches about 39,000 of which almost three-quarters or about 29,000 are in New York City.

The type of work that can be done in the rehabilitation of patients who have suffered from long-term illness has been well demonstrated by Myra Shimberg who directs the rehabilitation program in the New York City Department of

Welfare. Miss Shimberg reported recently at a regional meeting of the American Public Welfare Association on the rehabilitation of 616 public assistance recipients over a period of a number of years.

Yet we must recognize that we are doing little more than scratching the surface when we consider that only one half of the New York City cases have been classified as Group I. This means that the other half are considered as having some potentiality for improvement which should at least be thoroughly explored. This group of AD patients is limited in age to eighteen to sixty-five years. While one half of these are in the group from fifty-five to sixty-five years, there are 10 per cent who are under thirty-five years, 15 per cent who are between thirty-five and forty-four years, and 25 per cent who are between forty-five and fifty-four years. With one half of the patients below fifty-five years of age, there should be more than a handful of persons with whom to work. This is emphasized by the fact that only 12.7 per cent were considered to be housebound, while 87.3 per cent were capable of outside activity. Among the latter group there were 7.3 per cent who required personal help outside the home, 8.6 per cent who ambulated by the use of a device, and 71.4 per cent who could travel outside unassisted. Of the homebound only one third were completely bedridden.

Regarding the clinical categories seen in the group, the following figures have been obtained from the September, 1954, report for the New York City group. During that month there were 1,800 cases reviewed by the State teams, of which one half were new cases and the remainder re-evaluations. Of the total number about 25 per cent were persons suffering from some type of cardiovascular disorder, chiefly arteriosclerotic and hypertensive heart disease. Of these about one third were considered to have potentialities for return to work and increases in self-sufficiency. Obviously these recommendations were made for the younger groups particularly.

Over 25 per cent of the individuals had a form of respiratory disease, 90 per cent of which was tuberculosis. Seventy-five per cent of these were considered improvable, recognizing that long periods of time might be involved.

About 20 per cent were diagnosed as having some form of neuropsychiatric disorder with about 40 per cent having capabilities of improvement. About 12 per cent had an orthopedic disability with 40 per cent being considered improvable.

Here again we run into difficulty in defining a long-term disability which may make a person financially dependent. We must answer questions such as: Should a fifty-three-year-old white male, with no evidence of a metastasis of a laryngeal carcinoma removed four years ago and whose only physical defect is a tracheotomy opening, be considered as one having a long-term illness; is a fifty-five-year-old man with osteoarthritis whose physician claims he could hold a light-work type of job to be considered chronically ill because no job can be found for him; is a thirty-three-year-old female who has partial deafness and epileptiform convulsions to be considered to have handicaps of such a type as to make her unemployable?

The problem of light or limited work comes up repeatedly among these individuals. Physicians frequently state that a man previously engaged in heavy manual labor is still capable of doing a lighter type of work for a limited number of hours per day. A large percentage of these persons cannot be taught new skills, and adequate placement of them is most often difficult. The question arises as to whether private industry should adapt itself to receive persons of this type or whether indefinite employment in a sheltered workshop is a long-term answer. Certainly continued status in public assistance for persons who can do some kind of work cannot be left unchallenged.

May I emphasize once again that there is no reason to expect that these findings among the lower income groups are not generally prevalent among higher income groups as well. The better economic status may prevent them from coming to the attention of official or public agencies, but the burden they are placing upon relatives and friends may be considerable.

Preservation of Old Age and Survivors' Insurance Rights for Disabled Persons

Quite parallel to the program for Aid to the Disabled but operating at a higher economic level will be the new program created by the Old Age and Survivors' Insurance amendments of 1954 and dealing with the preservation of insurance rights for disabled persons. This section of the amendments concerns those persons who have become totally disabled for a period of six months or longer and are thus unable to make the necessary contributions ordinarily required to establish eligibility for benefits by their sixty-fifth birthday. Up to the present time a disabled worker who had not become permanently insured by having worked 40 quarters in a covered employment might lose all of his OASI credits if a disability causes him to drop out of covered employment prior to his sixty-fifth birthday. In other words, if permanent eligibility had not been previously established, it was necessary for the worker to reach his sixty-fifth birthday while currently eligible.

The new legislation preserves the worker's benefit rights by excluding the period of disability in determining his insurance status. Now if a worker without permanent eligibility becomes disabled at sixty-two years of age and the disability lasts until he is sixty-five years of age, he will at the latter age be eligible for benefits based on contributions made up to the time of the disability. The current eligibility that existed at sixty-two years of age is considered as still existent at sixty-five years of age, although the disability prevented employment during the interim.

Equally as important as the preservation of the insurance rights under this new program will be the provision of a mechanism for arranging for complete medical and psychiatric evaluations of these persons in conjunction with the determination of the disability, plus the inauguration of suitable rehabilitation regimes as indicated. However, with or without rehabilitation the preservation of the insurance right does provide a reasonable degree of financial security for those who are afflicted with a longstanding disability resulting from any physical or mental disorder.

Vocational Rehabilitation

A discussion of this type would be incomplete if a word were not said about the relation of the vocational rehabilitation program to disabled persons in the lower economic brackets. Adequate data have been forthcoming to show the considerable financial return in the form of taxes paid back to the government in relation to funds spent on the vocational rehabilitation of disabled persons. However, the extent to which vocational rehabilitation has affected persons in the public assistance category has become significant only in recent years. Only a few years ago the report from the Office of Vocational Rehabilitation stated that public assistance agencies were a relatively infrequent source of referral of suitable cases. However, according to a recent report, one out of every five persons rehabilitated under the State Vocational Rehabilitation programs, amounting to more than 12,000 persons, had been on public assistance rolls at the time they were accepted for rehabilitation services. This was considered to be an all-time high. Just one year before, in 1951, the figure had been one out of eight. The total number of persons successfully rehabilitated in New York State in the year ending June 30, 1953, was 4,114, of whom 2,488 resided in New York City. The need for considerably expanding this program was well emphasized during the recent congressional committee hearings on amendments to the Vocational Rehabilitation Law and has been given additional emphasis by our findings in the Aid to the Disabled program. The newly amended law providing for considerable expansion of the vocational rehabilitation program over the next five years is indeed a welcome event.

Summary

1. The medicosocial and economic aspects of long-term illness are relative rather than absolute and are related not only to income and the costs of illness but to such factors as the familial responsibilities of the breadwinner, including the number and ages of his dependents, the standard of living to which the family is accustomed, the past and anticipated future duration of the illness, and the availability of official and voluntary community programs which will help in the provision of necessary medical care and rehabilitation.

2. Medical indigency is also a relative term, and many middle income families are potentially medically indigent should long-term illness strike. Prevention of medical indigency related to long-term illness is dependent upon the extent to which community services may be made available to all at reasonable cost and upon the development of adequate insurance programs. The latter in turn calls for a considerable expansion of existing voluntary medical care insurance plans with or without government aid.

3. The nature of long-term illness and disability among persons eighteen to sixty-five years of age and many of its inherent problems have been pointed up by the experience of the Aid to the Disabled program among public assistance recipients. Additional information may be expected to be forthcoming as long-term illnesses and disabilities among covered workers of the OASI program are observed.

The Use of a Carbonic Anhydrase Inhibitor (Diamox) in Congestive Heart Failure

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FOLLOWING the observations that sulfanilamide causes an increase in the urinary excretion of sodium, potassium, and bicarbonate[1,2] which is due to inhibition of the enzyme carbonic anhydrase,[3] Schwartz[4] treated patients in congestive heart failure with sulfanilamide. Although sodium, potassium, and water diuresis occurred, the toxic effects due to sulfanilamide were severe enough to preclude the use of this drug as a therapeutic agent in congestive heart failure.

Synthesis of more potent carbonic anhydrase inhibitors has been undertaken recently and has resulted in production of Diamox (2-acetylamino-1,3,4-thiadiazole-5-sulfonamide).[5,6] Observations on the physiologic and pharmacologic effects of Diamox in experimental animals,[7,8] as well as clinical applications in various disease states, have been reported.[9-12]

The present study was undertaken to evaluate the effectiveness of Diamox in the treatment of patients with cardiac decompensation.*

Methods

Patients admitted to the hospital were placed on standard low-salt diets and partial or complete bed rest. All patients were taking digitalis before admission to the hospital, and this therapy was continued. Control periods during which the patients were observed for weight fluctuations and improvement due to the therapeutic measures instituted were obtained prior to the initiation of Diamox therapy. In some of the cases Diamox administration was substituted for injections of mercurial diuretics; in others Diamox was given in addition to mercurial diuretics, and in two cases Diamox was substituted for resin therapy.

The criteria used for evaluation of response to Diamox therapy were weight loss, diuresis, reduction in frequency of need for mercurial diuretics, and evidence of improvement in symptoms and signs of cardiac decompensation. Of the 16 patients studied, the cause of cardiac decompensation in nine was rheumatic heart disease and in seven hypertensive and/or arteriosclerotic heart disease (Table I).

Results

CONGESTIVE FAILURE DUE TO RHEUMATIC HEART DISEASE.—Nine patients with congestive heart failure due to rheumatic heart disease were divided into two groups according to the severity of the cardiac failure.

Group A consisted of three patients with pleural effusion and/or ascites and marked peripheral edema. Diamox was substituted for injections of mercurial diuretics or resins in these patients. Diuresis, decrease in peripheral edema, ascites, pleural effusion, or symptomatic improvement did not occur in any of these patients following institution of Diamox therapy.

Case 1.—L. M., a fifty-three-year-old white female with mitral and tricuspid valvular lesions resulting from rheumatic heart disease, had developed cardiac decompensation sixteen years prior to the present hospital admission. Cardiac compensation had been maintained satisfactorily by use of a restricted salt diet, digitalis, and mercurial diuretics until three years prior to admission to the hospital. At this time she developed dyspnea, orthopnea, pulmonary congestion, peripheral edema, and ascites which did not respond to the usual therapy.

The patient was hospitalized, and following the control period of observation, during which improvement did not occur, therapy with Diamox in a dosage of 250 mg. per day was started. The drug was administered for a period of four weeks without improvement in the patient's status. Weight gain continued, and no improvement in the degree of ascites, peripheral edema, or symptoms of congestive failure occurred. While taking Diamox, she was drowsy and slightly nauseated.

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* Dr. James D. Gallagher of the Lederle Laboratories Division, American Cyanamid Co., Pearl River, New York, kindly supplied the Diamox used in this study.

TABLE 1.—SUMMARY OF PATIENTS TREATED

Case	Age	Group	Diamox Daily Dose (Mg.)	Heart Disease Etiology	Symptoms and Signs	Response
1	53	A	250	Rheumatic heart disease	Ascites; dyspnea on exertion	No improvement
2	61	A	250	Rheumatic heart disease	Ascites; dyspnea on exertion	No improvement
3	47	A	250 to 750	Rheumatic heart disease	Pleural effusion; dyspnea on exertion	No improvement
4	26	B	250 to 500	Rheumatic heart disease	Dyspnea on exertion; orthopnea; paroxysmal nocturnal dyspnea	Diuresis; symptomatic improvement
5	34	B	250	Rheumatic heart disease	Dyspnea on exertion; orthopnea; paroxysmal nocturnal dyspnea	Initial diuresis but became refractory after 2 months
6	43	B	250 to 500	Rheumatic heart disease	Dyspnea on exertion; orthopnea; peripheral edema	No diuresis; maintained weight for 1 month; became refractory
7	45	B	250 to 500	Rheumatic heart disease	Dyspnea on exertion; orthopnea; paroxysmal nocturnal dyspnea	Slight diuresis; maintained weight; symptomatic improvement
8	31	B	250	Rheumatic heart disease	Dyspnea on exertion; orthopnea; paroxysmal nocturnal dyspnea	Maintained weight; symptomatic improvement
9	38	B	250	Rheumatic heart disease	Dyspnea on exertion; orthopnea	Diuresis; symptomatic improvement
10	63	C	250	Arteriosclerotic heart disease	Ascites; pleural effusion; dyspnea on exertion; orthopnea	Maintained weight; symptomatic improvement; became refractory
11	63	C	250 to 500	Arteriosclerotic heart disease	Ascites; peripheral edema; dyspnea on exertion	No improvement
12	68	C	250	Arteriosclerotic heart disease	Ascites; dyspnea on exertion	No improvement
13	55	D	250	Hypertensive and arteriosclerotic heart disease	Dyspnea on exertion; mild orthopnea	Mild diuresis; maintained weight; symptomatic improvement
14	57	D	250	Arteriosclerotic heart disease	Dyspnea on exertion; orthopnea	No diuresis; maintained weight; symptomatic improvement
15	60	D	250	Arteriosclerotic heart disease	Dyspnea on exertion; orthopnea; paroxysmal nocturnal dyspnea	Diuresis; symptomatic improvement
16	63	D	250	Arteriosclerotic heart disease	Dyspnea on exertion; orthopnea; paroxysmal nocturnal dyspnea	No improvement

Group B consisted of six patients with predominant symptoms of left heart failure (paroxysmal nocturnal dyspnea, orthopnea, and shortness of breath on exertion). Following the control period of observation, during which none of these patients improved, therapy with Diamox was instituted.

An initially good response, estimated by induction of diuresis, weight loss, and control of symptoms, appeared in four of these patients. Three of these four patients continued to be well controlled on Diamox therapy during the period of hospitalization. After discharge one of these patients was lost to follow-up, but the other two remained well controlled for a period of two months while continuing to take Diamox. Subsequently, however, both patients expired, one at another hospital, reportedly following a surgical procedure, and the other of cardiac failure, rheumatic carditis, and subacute bacterial endocarditis. The fourth patient became refractory to Diamox but responded with diuresis to reinstitution of mercurial diuretics.

The two remaining patients of this group did not improve while on Diamox therapy, and the drug was discontinued after several weeks of treatment. These two patients were in a much older age group than the four who responded well, and heart disease had been present for a considerably longer period of time.

Case 2.—L. A., a twenty-six-year-old white female with aortic and mitral valvular lesions, presented with cardiac decompensation of approximately four months duration. During this period the patient had been treated with a low-salt diet, digitalis, and frequent injections of mercurial diuretics but with poor control of signs and symptoms of decompensation. The patient was hospitalized, and following the control period of bed rest, low-salt diet, and digitalis without improvement, she was given Diamox in a dose of 500 mg. daily. There was a prompt increase in urinary output, weight loss, and diminution of the signs and symptoms of congestive heart failure. Subsequently Diamox dosage was decreased to 250 mg. daily with continuance of improvement.

She was discharged from the hospital on maintenance Diamox therapy in a dose of 250 mg. daily. The patient remained at a stable weight and was free of symptoms or signs of congestive heart failure; mercurial diuretics were not needed. Two months later she was admitted to another hospital where she expired, reportedly following a surgical procedure.

CONGESTIVE HEART FAILURE DUE TO ARTERIOSCLEROTIC HEART DISEASE.—Seven patients with congestive heart failure resulting from arteriosclerotic heart disease were treated with Diamox. These patients were divided into two groups.

Group C consisted of three patients with pleural effusion and/or ascites, peripheral edema, and orthopnea and dyspnea on exertion. Diamox was substituted for mercurial diuretics in these patients, while all other factors were maintained unchanged. Improvement occurred in one of these three patients following the institution of Diamox therapy.

Case 3.—B. L., a sixty-four-year-old white male with arteriosclerotic heart disease, had signs and symptoms of cardiac decompensation which had been present for approximately seven years. Compensation had been maintained by use of a low-salt diet, digitalis, and frequent injections of mercurial diuretics until a year prior to the present hospital admission. On admission to the hospital the patient was found to have marked peripheral edema, pleural effusions, and ascites. Bed rest, thoracentesis with removal of 1,000 cc. of straw-colored fluid, and an injection of Mercuhydrin did not result in improvement in the patient's status. The patient was started on Diamox therapy in a dosage of 250 mg. daily. An immediate and sustained diuretic response appeared, and the patient lost 7 pounds in weight during the following three-week period. The ascites and peripheral edema disappeared. He was discharged on therapy with Diamox in a dose of 250 mg. daily.

He remained symptom-free for a period of one month, at which time, of his own accord, he stopped taking the Diamox. Three weeks later he returned to the hospital complaining of marked exertional dyspnea, orthopnea, and a weight gain of 7 pounds.

Physical examination at this time revealed a right pleural effusion, bibasilar rales, hepatomegaly, and pretibial edema. Therapy with Diamox and mercurial diuretics for a period of two months did not cause improvement in the patient's condition.

Group D consisted of four patients with minimal to moderate signs and symptoms of cardiac decompensation resulting from arteriosclerotic heart disease. Diamox therapy was substituted for injections of mercurial diuretics in these patients, while other factors were maintained unchanged. Three of the four patients showed an excellent response to Diamox therapy. Prior to Diamox therapy three of these patients had required a mercurial diuretic weekly in order to remain symptom-free. After institution of therapy with 250 mg. of Diamox per day, these patients have maintained constant weight and remained free of symptoms of cardiac decompensation, even though mercurial diuretics were completely discontinued or were administered much less frequently than prior to Diamox therapy.

Case 4.—A. S., a sixty-year-old white male with arteriosclerotic heart disease, had been in mild cardiac decompensation for five years. During the initial four years he had been well controlled on diet, digitalis, and mercurial diuretics every two weeks. For the past year he required an injection of a mercurial diuretic every eight days to control repeated episodes of paroxysmal nocturnal dyspnea. Mercurial diuretics were discontinued, and therapy with Diamox in a dose of 250 mg. daily was started. Diuresis occurred after institution of Diamox therapy, and no recurrence of the episodes of paroxysmal nocturnal dyspnea has appeared. The patient has received only two injections of mercurial diuretics over a five-month period.

Undesirable Reactions

Three patients complained initially of mild drowsiness, but in each case with continued administration of the drug, either the drowsiness disappeared, or the patient became accustomed to it and was without discomfort or disability.

Numerous hematologic examinations and

urinalyses were done during the period of Diamox administration. Evidence of hematopoietic depression or renal impairment did not appear.

Dosage

Various dosages of Diamox, ranging from 250 mg. every other day to 1 Gm. per day, were administered to patients in this study. It was found that with a dose of 250 mg. daily, maximum diuresis was obtained in those patients who responded to treatment. There was no evidence that higher dosages of Diamox increased the effectiveness of the drug.

Summary

Sixteen patients with cardiac decompensation of varying degrees were treated with Diamox. These patients were grouped according to the severity of symptoms and signs of decompensation and etiologic basis for their heart disease. The patients with the most severe grade of cardiac decompensation or with pleural effusions and/or ascites in whom cardiac decompensation had been present for long periods of time, regardless of the etiology of their heart disease failed in the majority to respond to Diamox therapy.

Patients with milder degrees of heart failure in whom the cardiac decompensation was predominantly symptomatic more often showed a good response to Diamox therapy, regardless of the etiology of the heart disease. In many of these patients Diamox could be substituted wholly for previous injections of mercurial diuretics with the maintenance of constant body weight and absence of symptoms of cardiac decompensation. In others with the institution of Diamox therapy the frequency of need for injections of mercurial diuretics was significantly decreased.

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Oral Metrazol Treatment of Senile and Arteriosclerotic Psychoses

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(*From the Hudson River State Hospital*)

The following study reports results with oral Metrazol treatment in 20 institutionalized patients diagnosed as senile and arteriosclerotic psychoses.

In addition to its well-known effects on the entire cerebrospinal axis, especially the vasomotor and respiratory centers, Metrazol (pentamethylentetrazol) promotes glycogen formation in the cerebral cortex,[1] increases permeability of cell membranes,[2] and enhances synaptic transmission. It also seems to increase cerebral blood flow and to counteract generalized and cerebral anoxemia which according to more recent investigations constitute important causes in the genesis of mental manifestations in old age.

Freyhan and coworkers[3] investigated cerebral metabolism and circulation with the nitrous oxide technic in a group of six patients with arteriosclerotic psychoses and four with senile psychoses. According to the above-mentioned authors these psychoses are associated with and probably the result of a significant reduction in cerebral oxygen utilization on the basis of increased cerebrovascular resistance and its resulting reduction in the blood flow through the brain.

Houston[4] stressed the importance of mental signs in anoxemia which may be easily mistaken for primary neurologic disease. Mental confusion, emotional instability, errors in judgment, lack of concentration, headaches, or gross tremors often seen in elderly patients with arteriosclerosis are frequently caused by oxygen lack and may be principal evidence of its presence. According to Houston, treatment of anoxemia depends on clear visualization of oxygen lack in a particular case.

On the basis of theoretic considerations like the foregoing, two groups of authors have treated senile and arteriosclerotic patients with Metrazol. Chesrow, Giacobe, and Wosika[5] published their results with Metrazol in 32 cases of advanced arteriosclerosis who showed definite evidence of mental confusion. Many of the patients were so near a psychosis that their commitment to a state hospital had been considered. In some patients with hypertension definite lowering of the systolic and diastolic blood pressure was observed. Improvement was excellent in four, marked in eight, fair in ten, slight in four cases, and six patients remained unchanged. Nausea and vomiting in a few cases were overcome by reducing the dosage. The authors found that fatigue and mental confusion were reduced and mental and physical activity improved. They concluded that Metrazol is of definite value in geriatric practice.

In another paper Swenson and Grimes[6] reported on 50 male patients over sixty-five years suffering from various types of senile psychoses. They treated 25 patients with Metrazol and the other 25 with a placebo. The results were analyzed according to a specific rating scale which failed to reveal significant differences between treated and control group. However, certain clinical observations pointed to some improvement of sleep, social behavior, and motor behavior of the patients treated with Metrazol.

Smigel and coworkers[7] selected 32 geriatric patients, 20 of whom completed a three-month course with Metrazol. They observed improvement of the red blood count and hemoglobin, marked drop in blood pressure, and general improvement of the mental state including disappearance of disorientation in more than 50 per cent of patients.

Jensen and Leiser[8] achieved moderate to marked improvement in 50 per cent of 29 patients with arteriosclerotic psychoses. Their studies revealed oral Metrazol treatment to be most efficacious in the more deteriorated patients but to have little effect in others.

In contradistinction to the latter findings are the conclusions drawn by Fong[9] that those patients derive the greatest benefit who have the shortest duration of illness. He treated for six months 35 patients with arteriosclerotic psychoses and found improvement in 16 patients. In his series the blood pressure readings at the end of the treatment remained the same as at the start.

Mead and others[10] treated for only four weeks 24 unselected infirmary patients with different psychiatric diagnoses and severe physical illness. None of the patients was so overtly psychotic as to require special care. Working with a control group and employing psychologic test batteries in addition to psychiatric evaluation, they found that Metrazol was "without value when administered to elderly patients."

Levy[11] treated 30 male state hospital patients of various diagnostic categories, more than 20 diagnosed as either arteriosclerotic or senile psychoses, with cytochrome C, Metrazol, and nicotinic acid, alone or in combination. Metrazol plus nicotinic acid, given in elixir form for twenty-one days, proved to be most effective. Studying the behavioral changes according to the revised Malamud-Sands Worchester Rating Scale, the author found the results to be best in the spheres of "feeling" (72 per cent improved), sociability (52 per cent improved), and personal habits (48 per cent improved). He pointed to the preventive potentialities of the elixir or "possibly similar acting drugs" with the aid of which "many of these patients would not inevitably have to be committed to psychiatric institutions and could be permitted to live in the community with safety and without harm to others."

In reviewing treatment results it is to be noted that only two authors report negative or almost negative results. All others obtained various degrees of improvement.

However, several factors render the comparison of the positive results difficult: The psychiatric diagnoses are at variance. There are considerable discrepancies regarding duration and severity of psychoses and length of treatment. Also the criteria employed by the various investigators in the evaluation of treatment results lack uniformity.

There is no agreement as to who benefits most from treatment—the acutely or chronically, the mildly or severely psychotic. There are even some contradictory data concerning effects of the drug on physical and laboratory findings, which are so much easier evaluated than the psychiatric condition. Neither has the mode of action by which the drug brings about improvement been entirely clarified. It seems that for all these reasons most authors agree that further study is necessary.

The present study describes results with Metrazol treatment of 20 female patients.

Material and Methods

Of the 20 selected patients six were diagnosed as psychoses with cerebral arteriosclerosis and 14 as senile psychoses. Some of the senile patients showed signs of arteriosclerosis in addition.

The ages of the patients ranged from sixty-nine to ninety years. The duration of the psychotic reactions before hospitalization varied from one month to ten years, the duration of hospitalization from six months to ten years.

Seven patients were bedridden because of general weakness, and the remaining 13 were ambulatory.

Preliminary studies included mental and physical examination and the following laboratory tests: electrocardiogram, x-ray of chest for heart size and configuration, complete blood count, sedimentation rate, fasting blood sugar, urea nitrogen, creatinine, icteric index, and urinalysis All examinations except chest x-ray were repeated after termination of treatment.

Metrazol was administered orally for the duration of three months in doses of 3 grains (two tablets) four times daily. None of the patients received any other drugs during the entire period of treatment except for one patient who was treated with penicillin for three days because of intercurrent cellulitis.

Side-effects occurred in six cases. Vomiting was encountered in four patients, in two during the first days of treatment and in the other two after four weeks. It ceased in all cases when the drug was reduced to half the dose ($1^1/_2$ grains four times daily).

Insomnia in two patients was alleviated by omitting the evening dose. Anorexia in one patient subsided after brief discontinuation and subsequent reduction of the dosage.

Results

Eight patients improved, four both physically and mentally and four patients mentally only The mental improvement was slight in all eight patients. Five patients became worse physically, and two of these five died; the cause of death was not related to the drug in either case.

Table I illustrates in condensed form the conditions of the eight slightly improved patients before and after treatment.

In reviewing the table it is noted that the age

TABLE I.—Brief Review of Improved Cases

Case	Age	Diagnosis	Duration of Psychosis	Hospitalization	Status of Patient	
					Before Treatment	After Treatment
1	79	Psychosis with cerebral arteriosclerosis	2.8 years	8 months	Marked sensorial impairment including disorientation in all three spheres; confused	Sensorial impairment and confusion unchanged
					Irritable, moody, and belligerent	Emotionally more stable, usually friendly and outgoing, contented
					Bedridden	Ambulatory
9	83	Senile psychosis	5.6 years	2.5 years	Mute	Occasional utterances
					Negativistic, uncooperative	Passively cooperative
					Despondent and dejected	Some interest in surroundings, friendly and frequently smiling
13	82	Psychosis with cerebral arterioscleriosis	16 years	6 years	Wetting and soiling	Wetting and soiling
					Requiring constant care	Cooperative to care
					Resistive, malicious	Friendly and satisfied
					Tendency to strike nurses and attendants	Without antagonism; relatives much impressed with change
15	84	Senile psychosis	4.8 years	5 years	Disoriented and confused	Disoriented and confused
					Auditory hallucinations	Auditory hallucinations
					Episodes of shouting and yelling	
					Depressed and agitated	Calm, contented, friendly
					Wetting and soiling	Clean
					Bedridden	In chair at bedside
16	76	Psychosis with cerebral arteriosclerosis	10.5 years	5 months	Confused, irrelevant speech	Confused, rambling speech
					Restless and agitated	Quiet
					Wetting and soiling	Clean
					Uncooperative	Cooperative
17	82	Senile psychosis	2 years	1 year	Aphasic	Aphasic
					Out of contact	Responds to environmental stimuli, recognizes relatives
					Unclean	Unclean
					Bedridden	Ambulatory
					Ankle edema grade 1	Ankle edema subsided
18	86	Senile psychosis	2.2 years	2 years	Sensorium impaired	Sensorium impaired
					Delusional	Delusional
					Confused	Less confused
					Restless, irritable, argumentative	Quiet, friendly, contented
					Untidy and unclean	Cleaner in appearance and habits
19	86	Senile psychosis	6 years	2 years	Disoriented and confused	Disoriented and confused
					Restless and overactive	Restlessness and overactivity subsided
					Striking other patients	Socialization improved
					Untidy	Personal hygiene improved
					Pitting ankle edema grade II	Ankle edema eliminated

of six of the slightly improved patients was higher than eighty years; one patient was seventy-nine years and the youngest in the group seventy-six years old. All patients showed pronounced regression. No dramatic changes could be expected.

Intellectual functions did not improve notably in a single case, and only in one patient did confusion clear to some extent. However, there was some improvement of the emotional reactions in nearly all cases. The depressed patients became friendly and cheerful, and others lost their instability and irritability. There was lessening of overactivity, improvement in cleanliness and personal habits, and cessation of fecal and urinary incontinence in two cases. Nearly all patients who improved showed some gain in general interest and became more receptive to their environment so that nursing care was considerably facilitated.

One may raise the objection that a placebo may have had the same effect and that the greater interest and the increased observation which the patients in this study experienced played the deciding role in the behavior changes of the improved cases. However, most patients were so great a nursing problem because of their illness that environmental factors such as the foregoing seemed negligible. The impression was gained, therefore, that the slight improvement observed in eight patients could essentially be attributed to the Metrazol effect.

Effects of the drug on physical and laboratory tests during treatment are also described below in some detail.

TABLE II.—BLOOD PRESSURE CHANGES

	Effects of Treatment on Blood Pressure			
	Systolic		Diastolic	
Case	Before	After	Before	After
1	140	118	72	68
2	154	140	72	70
3	150	130	90	65
4	166	190	82	90
5	156	160	62	60
6	154	120	105	70
7*	205	. . .	88	. .
8	110	130	32	65
9	136	125	72	70
10†	126	115	81	55
11	128	140	82	75
12	142	140	100	90
13	172	142	76	60
14	142	128	58	68
15	128	130	64	68
16	130	130	70	82
17	158	142	62	65
18	185	150	90	80
19	120	120	86	70
20	144	128	72	85

* Patient died.
† Patient died 18 days before termination of treatment.

BLOOD PRESSURE.—Metrazol exerted a favorable influence on blood pressure values, although some allowance has to be made for the possibility of spontaneous fluctuations. Decrease of systolic pressures resulted more frequently than decrease of diastolic pressures. Blood pressures before and after treatment are compared in Table II.

From the table it is evident that pressures decreased more than 10 mm. Hg systolically in 11 cases and diastolically in seven cases. Of these latter seven diastolic decreases two were to abnormally low values. There was only one systolic pressure which increased to hypertensive level after treatment, while in three cases diastolic pressure rose from subnormal to normal values. Other investigators have reported similarly impressive findings.

ELECTROCARDIOGRAM.—In seven patients the electrocardiogram was within normal limits. Four patients were uncooperative to examination. Nine cases had pathologic findings, including ectopic disturbances in five and conduction disturbances in four cases.

Control examinations after termination of treatment did not reveal any improvement of abnormal readings.

X-RAY EXAMINATION OF HEART.—In 11 cases chest x-rays showed different degrees of cardiac enlargement, and six patients had calcification of the aortic arch. No control studies were performed.

BLOOD COUNT AND SEDIMENTATION RATE.—No significant changes were observed.

BLOOD SUGAR.—The fasting blood sugar levels in all patients were within normal limits before and after termination of treatment.

UREA NITROGEN AND CREATININE.—The urea nitrogen increased from normal to slightly elevated values in four cases. In four other cases slightly abnormal values became normal.

Creatinine increased slightly in two cases, and in one case a slightly elevated reading became normal. All other patients showed normal values.

ICTERIC INDEX.—Pathologic elevations after treatment occurred in five cases. The rises were very pronounced in two patients (from 3 to 20 and 5 to 30 units, respectively). Chesrow *et al.*[5] observed similar changes and questioned whether Metrazol had anything to do with these changed values.

URINALYSIS.—No findings of reportable interest were observed.

BODY WEIGHT.—Only four patients gained while 14 patients lost weight, three as much as 21, 16, and 11 pounds, respectively. Because of the marked increase of urinary output in our cases, it was felt that the weight loss resulted mainly from a pronounced diuretic effect of Metrazol and that the hot weather at the time of treatment promoting perspiration was a contributory factor.

The diuretic effect of the drug seemed undesirable with the exception of two patients in mild congestive failure in whom ankle edema was eliminated. However, the aforementioned findings suggest that Metrazol may be of value in the treatment of patients with congestive heart failure whenever mercurial diuretics are contraindicated.

Summary

1. Six patients with arteriosclerotic and 14 with senile psychoses were treated with Metrazol (pentamethylentetrazol) for the duration of three months. Their ages ranged from sixty-nine to ninety years.

2. Side-effects occurred in six patients and disappeared after temporary discontinuation of the drug and subsequent reduction of the dosage.

3. Eight patients showed slight improvement, seven remained unchanged, and five became worse. The improvement of the eight patients was attributed to the drug.

4. The most impressive effect of Metrazol on the physical findings was decrease of blood pressure in cases of hypertension.

5. In none of the improved cases were any dramatic mental changes observed; impaired intellectual functions and confusion remained essentially unmodified. There was, however, considerable improvement of emotional reactions, the drug alleviating emotional instability, reverting depressions, and promoting to some extent socialization, personal hygiene, and general interest.

6. In these psychoses based on chronic, degenerative, and essentially irreversible pathologic processes and, therefore, refractory to the majority of therapeutic procedures, any agent which exerts some beneficial influence, however slight, has to be welcomed.

Further evaluation of Metrazol in similar series of cases seems to be indicated.

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The Role of Veterans Administration Regional Clinics in the Treatment of Tuberculous Veterans

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The treatment of tuberculosis has been radically altered in the past ten years, primarily due to the development of specific agents against Mycobacterium tuberculosis. This form of therapy has been responsible in large measure for the progressive decrease in mortality and reduction in morbidity from tuberculosis in recent years. The effectiveness of these agents, when combined with bed rest, has made it possible also to expand the application of surgical procedures for definitive collapse or resection of residual necrotic lesions which are not amenable to further medical treatment. Many more patients with active tuberculosis can now achieve arrest of the disease, with return to normal life, than in the past. Also many persons with extensive disease, who formerly would have remained hospital bed occupants until their death, are now salvaged and returned to a restricted form of active life. It is being increasingly realized that specific antituberculous therapy should not be limited to short periods of time, as was the practice formerly, but, depending on the nature and extent of the disease, should be maintained for long periods, frequently measured in terms of years. Such long-term therapy has been made feasible by our better understanding of some of the factors responsible for the development of resistance by tubercle bacilli to the various agents employed. We have learned that both the toxic effects resulting from long-term administration of these substances, as well as the development of bacterial resistance to them, may be significantly reduced by administration of smaller daily doses, by intermittent drug administration, and by combination therapy including two or more drugs. These modifications of the original methods of treating tuberculosis with specific antimicrobial agents, as well as the introduction of newer substances, have made it practicable and safe to continue therapy not only for several weeks or months but even for one or more years following hospital discharge.

This trend in the direction of long-term, specific therapy is likely to be expanded as the success of these methods becomes established. Therefore, it is probable that in time an ever greater proportion of the active treatment of tuberculosis will be carried out on an outpatient status than is the practice at present. Since tuberculosis clinics are likely to assume an increasingly important role in the treatment of this disease, the clinic facilities must be adequate, and the clinic staff must be of the same higher caliber as the hospital staff if ambulatory tuberculous patients are to be continued on the same high plane of medical treatment which they have received in the hospitals. It is also necessary that records be kept in the clinics according to the same standards that prevail in hospitals. To this end, medical charts, essentially similar to hospital charts, should be maintained in tuberculosis clinics. In addition, every tuberculosis clinic should keep a complete tuberculosis case register since this is the key to accurate control and supervision of ambulatory tuberculous persons. As long as patients with tuberculosis are treated in a hospital, control of their whereabouts and their medical treatment is relatively easy to maintain. However, after patients leave a hospital, they may be dispersed over large areas which may even pass beyond state boundaries. It then becomes exceedingly important, not only for the benefit of the individual patients, but also for the welfare of the communities in which they reside, that there be close supervision of their clinical status, treatment, and activities following hospital discharge. Such control of the posthospital care of tuberculous patients can be facilitated if the clinics establish and have constant recourse to the tuberculosis case register.

In the Veterans Administration there are regional tuberculosis clinics which are responsible for the proper follow-up and treatment of all veterans with service-connected forms of tuberculosis residing within their territorial jurisdiction. The treatment and follow-up examinations are carried out either by the staff of the clinics or by authorized fee-basis physicians. Professional medical charts, similar in many respects to hospital charts, are kept on each patient. In addition, a uniform tuberculosis case register system has been set up for all clinics by the Tuberculosis Division of the Veterans Administration, Washington, D.C. To insure continuity of control in the event that the ambulatory patient changes his permanent residence to another area, a copy of the register card is then transferred to the clinic which will become responsible for his subsequent supervision. To provide for continuity of information from hospital to clinic, provision has likewise been made for uniform tuberculosis case reports to be forwarded by the hospital to the appropriate clinic following admission and again at the time of discharge. A discharge medical summary is also forwarded by the hospital to the supervising clinic for incorporation in the veteran's outpatient treatment folder. Essential data can be extracted both from the periodic tuberculosis case reports and the hospital medical summaries and can be entered onto the respective tuberculosis case register cards on file at the clinic.

The register cards have visible colored tabs which provide a ready code for various significant medical and administrative items, such as the date of the veteran's next clinic visit, the status of his pulmonary tuberculosis, the presence of extrapulmonary forms of tuberculosis, the bacteriologic findings of sputum and gastric examinations, the agency where regular supervision is carried out, and the veteran's status as to rehabilitation. Therefore, a periodic review of the case register will furnish at a glance invaluable information concerning each patient and will thus afford such over-all information for the clinic caseload as a whole. The value of the case register, moreover, is not limited to the information which may be gleaned from the visible symbols on each card. Other invaluable, although concise, medical and administrative data may be obtained by a review of the information written on these cards at each visit of the patient to the clinic. Therefore, a periodic, closer review of the case register will supply additional information which will reveal the success or weakness of various phases of the tuberculosis program of the clinic.

Among the many functions and responsibilities of the tuberculosis clinic and the benefits resulting from these activities are the following:

1. Continuation on an outpatient basis of collapse therapy or specific antimicrobial therapy which had been initiated in a hospital. In many instances the later stages of hospitalization may be shortened if reliable supervision of the patients following discharge can be assured.

2. The clinic has the important responsibility of supervising and regulating the activity of tuberculous patients after completion of prescribed hospital treatment and of guiding those with arrested tuberculosis during the various phases of rehabilitation.

3. By periodic interviews, physical examinations, bacteriologic examinations of sputum and gastric contents, as well as roentgen examinations of the chest, reactivation can be detected during the earlier stages, and proper measures can be instituted to insure prompt treatment. In this way patients are spared more prolonged periods of hospitalization which might be necessary if the reactivated disease were discovered at a more advanced stage. Fewer operative procedures or less extensive surgical procedures may also be the consequence of earlier recognition of tuberculous activity. The patient's family and community are also protected from undue exposure which would result if active lesions remained undetected until they produced significant symptoms.

Arrested tuberculous patients often experience difficulty in finding suitable employment because of the fear of both employers and employes that the disease may become active again and be communicated to others. It is important, therefore, to exercise strict, periodic supervision over the inactive cases to insure that newly developed or reactivated disease will not indeed remain unrecognized for any length of time.

4. In the Veterans Administration a well-managed tuberculosis clinic can be responsible for immeasurable saving of money to the government in the form of reduced periods of expensive hospitalization and total disability with the associated benefits which must be paid out to veterans with service-connected tuberculosis.

5. The tuberculosis clinic also plays the key role in establishing the diagnosis of all suspicious pulmonary lesions detected on routine mass roentgen surveys of the chest.

6. In addition, the tuberculosis clinic can serve as the consulting chest clinic for all difficult chronic pulmonary problems.

Conclusions

1. Regional tuberculosis clinics are indispensable to the successful management of the tuberculosis program of the Veterans Administration.

2. They may prove to be of similar value in the administration of the tuberculosis programs of other organizations, both public and private, whose activities extend over wide geographic areas.

What? ANNUAL CONVENTION
Medical Society of the State of New York

When? *May 9 to 13, 1955*

Where? *Hotel Statler, Buffalo*

Factors Influencing the Treatment of Megacolon in Children

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IN THE past ten years the understanding of megacolon has been increased by two notable additions to our knowledge. Before 1945 it was recognized that obvious organic lesions of the rectum or anus could produce chronic partial obstruction and result in symptomatic megacolon. All other instances of megacolon were generally said to be idiopathic and were termed Hirschprung's disease. Work at the Children's Medical Center in Boston[1] and at the Presbyterian Hospital in New York,[2] confirmed and amplified by observations at the Hospital for Sick Children in London,[3] indicated that about half of the cases of so-called idiopathic megacolon really belong to a disease entity, the basic factor of which is achalasia of the rectum. Those children have congenital deficiency of the parasympathetic ganglion cells of Meissner's and Auerbach's plexuses in the distal colon; by leaving the sympathetic stimuli unopposed, the rectum is converted into a tube which causes functional obstruction to the fecal outflow because it cannot participate in the peristaltic propulsion of its contents. This results in dilatation and hypertrophy of the colon proximal to the constricted rectum. Inasmuch as both of the cases described by Hirschprung[4] had such a constricted rectal segment, it is reasonable to continue to apply the eponym to rectal achalasia. When it became possible thus to recognize true Hirschprung's disease, it was found that there remained a considerable number of cases of megacolon, the cause of which was still not clear but which differed from Hirschprung's disease in many respects. Idiopathic megacolon still seems an acceptable term for this condition.

The second noteworthy advance followed when it became apparent that to cure Hirschprung's disease one had to resect the entire achalasic segment of bowel. To accomplish this and still preserve the anal sphincter, Swenson and Bill[5] described the basic pull-through operation which has since been modified by Hiatt[2] and others.

Since there are now available methods for correcting the various causes of megacolon, one must have clearly in mind the different types of the condition so that the appropriate treatment may be applied.

Hirschprung's Disease

Since achalasic megacolon results from a congenital defect, its effects are present from the time of birth (Fig. 1). These children may not have the first passage of meconium for several days, and almost invariably their early life is marked by severe and progressive abdominal distention, colicky pain, and vomiting. The natural history of the disease is one of chronic illness, retarded development, recurrent episodes of intestinal obstruction, and finally death in early childhood from intestinal obstruction or perforation of the bowel. By vigorous nonsurgical methods, the most effective of which is the enema, progress of the condition may be retarded to a large degree, but inasmuch as the achalasia remains, more than transient relief is never attained.

The diagnosis is established by recognition of the contracted state of the rectum and lower sigmoid colon and dilatation and hypertrophy of the colon proximal to it. Digital rectal examination and sigmoidoscopy shows the rectal ampulla to be empty and of small caliber. The contracted state of the rectum is also demonstrable by x-ray examination after barium enema (Fig. 2). The technic of careful, slow introduction of barium as described by Swenson, Neuhauser, and Pickett[1] must be practiced, or the distended sigmoid may obscure the constricted portion.

When the diagnosis of Hirschprung's disease is established, the Swenson pull-through operation is indicated. Any procedure which does not remove the entire achalasic segment of bowel will result in failure (Fig. 3). In his early cases Hiatt[2] found that the degree of success of the operation varied inversely with the amount of constricted

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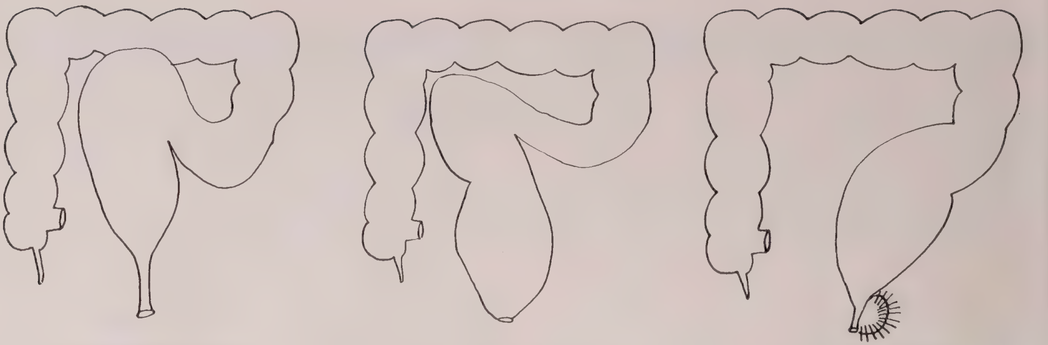
Presented at a meeting of the Central New York Surgical Society, Syracuse, March 25, 1954.



A. HIRSCHPRUNG'S

1. Absent ganglion cells
2. Achalasia of rectum
3. Neonatal onset
4. Severe morbidity
5. High mortality untreated
6. Rectum appears normal
7. Resection of entire rectum indicated

B. IDIOPATHIC

1. Onset later in childhood
2. Less distention
3. Less morbidity
4. No mortality
5. No achalasia
6. Rectum dilated
7. Conservative treatment

C. ORGANIC

1. Organic obstruction
2. Onset at any age
3. Symptoms caused by primary lesion
4. Treatment of primary lesion

Fig. 1. (*A*) Diagrammatic representation of the features of true Hirschprung's disease. The contracted renal segment deserves particular attention. (*B*) Diagrammatic representation of the attributes of so-called idiopathic megacolon. Dilatation extending down to the sphincters is an important differential characteristic. (*C*) Diagrammatic representation of the characteristics of organic megacolon. The obstructing lesion indicated near the anus may occur at any level of the bowel.

Fig. 2. X-rays taken after barium enema showing contracted segment of rectum in a child with true Hirschprung's disease.

rectum that remained. The operation has been well described.[2,5]

This author's preference, briefly stated, is the following modification. The patient is placed in exaggerated lithotomy position and the skin prepared and suitably draped so that the abdomen and perineum can be attacked simultaneously by two teams. Through a transverse lower abdom-

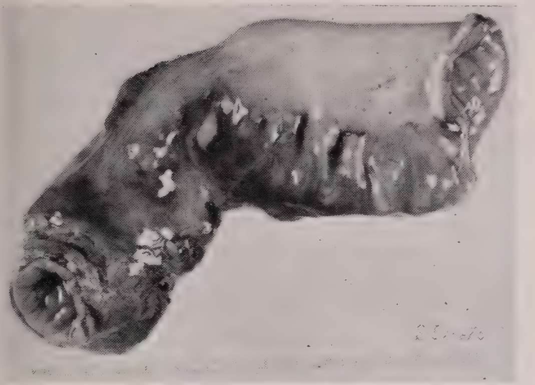


FIG. 3. Resected bowel from a patient with true Hirschprung's disease. The transition between the dilated, histologically normal bowel and the contracted achalasic rectum is shown clearly.

inal incision the mesenteric attachments of the descending colon are divided and the colon freed so that the constricted area and a generous amount of dilated bowel can be removed and the point of division will reach comfortably to the anus. Free mobilization of the colon often requires release of the splenic flexure from its attachments. By meticulous sharp dissection the rectum is then freed from its fascia propria in such a way that the nerve supply to the bladder and genitalia will not be disturbed. When the dissection has reached the level of the anal sphincter, one member of the operating team adjourns to the perineal end of the table and by grasping the interior of the rectum with long clamps everts that structure through the anus. The eversion continues until the entire achalasic segment and as much of the dilated bowel as was previously chosen protrudes. Both layers of everted bowel are then incised, and a two-layer anastomosis about 2 cm. proximal to the pectinate line is performed. The anastomosis is then returned to the anal canal. A drain protruding from the hollow of the sacrum is a wise precaution against failure of the anastomosis.

Idiopathic Megacolon

As the name implies, idiopathic megacolon comprises those cases for which a satisfactory explanation cannot be found (Fig. 1). In most instances there is a history of constipation from early childhood, but it rarely dates back to the neonatal weeks. The constipation is usually not so severe as in Hirschprung's disease and usually responds to laxatives and enemas. The patients are not so sick as their contemporaries with achalasia, and abdominal distention is not so pronounced. Although episodes of colicky pain may occur, there is almost never frank intestinal obstruction. The disease is not lethal. One is usually impressed by the parent's preoccupation with bowel habits.

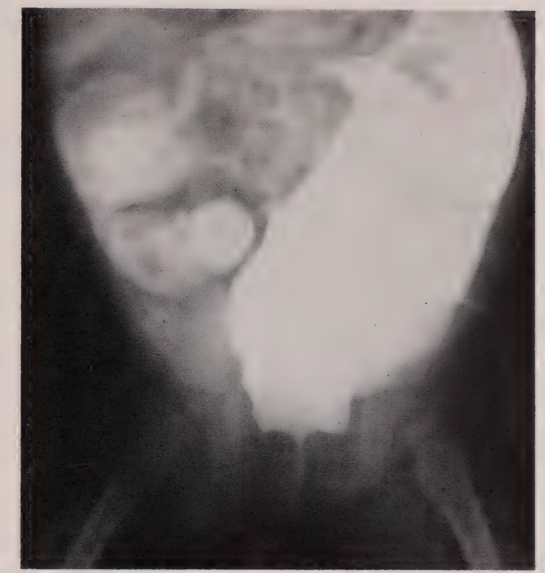


FIG. 4. X-ray taken following barium enema in a child with idiopathic megacolon. The dilatation of the entire rectum should be noted.

Digital rectal examination reveals a dilated ampulla usually containing fecal impaction. The anal sphincter is usually very tight, occasionally so tight that examination can only be performed under anesthesia. X-ray examination after barium enema will demonstrate saccular or tubular dilatation of the colon down to the sphincter (Fig. 4). It is true that many such children have an abnormally long, redundant sigmoid and descending colon, but evidence is not conclusive that the redundancy is primary rather than the result of hypertrophy.

When this condition is encountered, conservative treatment usually proves satisfactory. Dilatation of the anal sphincter may be necessary, but the important part of the treatment consists of concentrated attention on proper bowel training. Aside from establishing an elaborate ritual for the child, the parent's conditioning to the procedure must be carefully supervised. Lee and Bebb[6] have described a regimen of bowel training which is usually effective.

After adequate bowel training has been accomplished, it will rarely be necessary to resect a portion of redundant colon; in any case the abdominoperineal operation is not indicated.

Organic Megacolon

Symptomatic or organic megacolon is the term applied to dilatation of the colon secondary to prolonged partial obstruction by an obvious lesion intrinsic or extrinsic to the bowel (Fig. 1). This condition can occur at any age, and the clinician's attention is usually first brought to the obstructing lesion rather than to the enlarged colon. In early infancy congenital atresia of the left side of the colon may be the cause. Benign or malignant tumors either intrinsic or extrinsic to the bowel may produce it, as may a painful lesion, such as anal fissure, which results in severe sphincter spasm.

Treatment should be directed toward the obstructing lesion. If that be removed, the hypertrophied bowel will return to normal.

Summary and Conclusions

It is apparent from this discussion that megacolon in children presents a problem in diagnosis that may be difficult of solution. The noteworthy achievements of recent years have increased our understanding by defining the cause of Hirschprung's disease, by separating it from the other types of megacolon, and by providing a technical method for its correction. The abdominoperineal operation with its para-anal anastomosis is a formidable procedure, however, and it was not designed to correct all types of megacolon. Therefore, unless each case is considered according to its individual characteristics, satisfactory resolution of the patients' difficulties will not be attained.

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MEDICAL SOCIETY OF THE STATE OF NEW YORK

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Leukorrhea Therapy of 510 Cases

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THE immediate goal in the treatment of vaginal infections of nongonorrheal etiology is the permanent elimination of the patient's symptoms without seriously objectionable discomfort. Of paramount importance in attaining this goal is (1) the eradication of the invading organism, (2) the restoration of the normal vaginal flora, (3) the restoration of the normal pH, and (4) the prevention of a relapse of the original infection. These objectives should be considered in evaluating any therapeutic regime used in the treatment of the main etiologic organisms causing vaginal infections. The infections considered in this paper are trichomoniasis, moniliasis, and mixed bacterial vaginitis.

Elimination of the offending organism is attained in modern therapy through the topical application of agents which have specific or nonspecific activity. In trichomoniasis it is common practice to employ iodoquinoline compounds, organic arsenic compounds, and organic silver salts; agents which possess nonspecific actions such as hexylresorcinol and a combined paste containing sulfathiazole, lactic acid, and acetic acid are also used.[1–11] For moniliasis gentian violet from 1 to 5 per cent, benzalkonium chloride 1:5,000, ricinoleic acid, boric acid, oxyquinoline 1 per cent, and propionic acid gel are often prescribed.[12–23] In bacterial vaginitis antibiotics or sulfonamide-containing gels have been used with much success, and with antibiotic media such as aureomycin and Terramycin there would appear to be a nonspecific action against Trichomonas vaginalis.[24–28] In the event that a mixed infection is encountered, it has been deemed necessary to use a combination of medicaments to attain the desired result.

Normal vaginal flora and a normal vaginal pH of necessity must be considered simultaneously since one does not occur without the existence of the other. However, the vaginal pH is of greater importance therapeutically since after the elimination of pathogens the restoration of a normal hydrogen ion concentration is more readily accomplished than the alteration of the bacterial flora. There is considerable evidence that the correction of the vaginal pH will in itself eliminate T. vaginalis as a pathogen.[29–31] The alteration of the hydrogen ion concentration of the vagina has been attempted by acidulated douches of vinegar or lactic acid or alkaline douches of bicarbonate of soda. The addition of a glycogen in the form of tablets or suppositories of natural and invert sugars has both altered the pH and allowed normal organisms to flourish again.[32]

The elimination of the offending organism is a time-consuming and complicated procedure, frequently meeting with failure. Moreover, determination of a satisfactory prevention of relapse is disclosed only after careful and prolonged follow-up.

If a single form of therapy could be used for all divisions and be equally effective for each, it would far surpass any other method currently in use. We have tested glycobiarsol (Milibis),* a new compound, in the treatment of vaginitis. It is bismuthoxy-para-N-glycolylarsanilate, a bismuth derivative of p-N-glycolarsanilic acid, and it contains in stable form approximately 15 per cent arsenic and 42 per cent bismuth. The following is a description of the rationale for the use of this drug and the results obtained.

During the course of parasitologic studies in hamsters Berberian and Dennis[33] observed that glycobiarsol not only eradicated experimental Endamoeba criceti infections from the intestinal tracts of these animals but also caused the disappearance of T. muris, a normal habitant. Because of the marked trichomonacidal activity demonstrated by this compound and the close biologic relationship between T. muris and T. vaginalis, it was postulated that this new drug might be of value in the treatment of human trichomoniasis. This compound was subjected to additional in vitro experiments to determine its activity quantitatively against T. vaginalis. Bacteria-free cultures of T. vaginalis were mixed with serial dilutions of glycobiarsol, and the mixtures were adjusted to pH 5.8 to 6, which is compatible with the survival and multiplication of this flagellate. At a concentration of 1:2,000 glycobiar-

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* Milibis, brand of glycobiarsol, Winthrop-Stearns Inc., New York City.

TABLE I.—150 CASES OF VAGINITIS WITH CONFIRMED LABORATORY DIAGNOSIS

Disease	Clinical Results			Pathogens After Therapy	Side-effects	Number
	Good	Fair	Poor			
Trichomoniasis	40	7	3	11	0	50
Moniliasis	41	8	1	12	0	50
Mixed and bacterial	38	8	4	16	2	50
TOTAL	119	23	8	...	2	150
Per cent	79.3	15.4	6	...	1.5	100

TABLE II.—360 CASES OF CLINICALLY DIAGNOSED VAGINITIS

Disease	Clinical Results			Retreatment	Side-effects	Number
	Good	Fair	Poor			
Trichomoniasis	91	20	8	31	1	119
Moniliasis	96	31	5	40	3	132
Mixed and bacterial	78	24	7	31	4	109
TOTAL	265	75	20	102	8	360
Per cent	73.7	20.8	5.5	..	2.2	100

sol was found to be trichomonacidal in vitro; higher dilutions were trichomonastatic and suppressive.

Procedure and Results

For clinical use glycobiarsol was supplied in four forms: vaginal suppositories (250 mg. in a gelatin-glycerin base), vaginal tablets (250 mg.), insufflation powder, and vaginal tampons impregnated with 250 mg. However, this report will consider only those cases treated with the vaginal suppositories alone.

Treatment was standardized. The patient was instructed to insert one suppository in the vagina every other day, preferably on retiring; a vinegar douche was taken on alternate days. The total dose was five glycobiarsol suppositories, and the duration of treatment totaled ten days. It was noted early in this investigation that glycobiarsol was effective not only against Trichomonas but was apparently active also in controlling monilial infections. Therefore, it was decided to treat all forms of vaginitis with this new drug, regardless of the causative agent or agents.

The first 50 cases of each type of vaginitis were subjected to bacteriologic laboratory confirmation and laboratory follow-up. The results were so favorable (Table I) and the laboratory and clinical results correlated so well that in subsequent cases clinical diagnoses and clinical results alone were used with only occasional laboratory studies. By mixed and bacterial vaginitis is meant those cases of vaginitis in which both trichomonads and Candida were found on laboratory examination or those in which neither Candida nor trichomonads but only bacterial growth was revealed.

Table I summarizes only those cases that have been studied in the laboratory, while Table II shows those cases in which only clinical results were considered with occasional laboratory confirmation of the clinical diagnosis.

Of a total of 169 cases of trichomoniasis 131 cases (77.5 per cent) were completely relieved by one course of therapy, while only 11 cases (6.5 per cent) failed to improve. An additional 27 cases (16 per cent) were improved by the first course of therapy, and many of these cases were completely relieved by the second course of therapy. From the laboratory standpoint in the 50 cases thus followed, 78 per cent showed elimination of the pathogen after the first course, while 2 per cent more were clinically asymptomatic despite the continued presence of trichomonads in the vaginal secretions.

Monilial cases totaled 182 cases, many of them among pregnant women. Of these 137 cases (75 per cent) experienced complete relief from symptoms following the first course of therapy. An additional 39 cases (21 per cent) had moderate relief from their primary course with about 5 per cent failing to respond to several courses of therapy. Pathogens persisted in 12 cases, including four cases that were clinically well, giving a laboratory cure rate of 76 per cent.

Of a total of 159 cases of mixed and bacterial infections, 116 cases (73 per cent) were asymptomatic after completion of the first course of therapy. Twenty per cent had a moderate abatement, and 10 per cent had no abatement of symptoms after repeated courses of therapy. The laboratory showed the disappearance of the pathogen in 68 per cent of the cases.

A follow-up examination after the ensuing period was obtained in 88 per cent of the cases. The average length of follow-up in trichomoniasis was twenty-eight days, in moniliasis twenty-one days, and in mixed and bacterial infections thirty-three days. In ten cases side-effects were recorded, comprising a reaction rate of slightly less than 2 per cent. The extremely rare side-effects have consisted of a sensation of burning and itching within the vagina itself. On examination of these patients nothing specific was found, but these patient still had their full-blown infection. Within twenty-four hours after stopping therapy the uncomfortable symptoms completely disappeared without the use of any other medication.

The laboratory follow-up of patients consisted of the determination of the vaginal pH and the nature of the predominating organism in addition to the direct examination of the vaginal secretions for trichomonads and the culturing of the vaginal secretions for Candida and bacteria. Following therapy the average pH was 4.5, and no pathogens were found in the great majority of cases. The predominant organism was Bacillus vaginalis. The average period of follow-up was sufficiently long for us to feel that relapses were not going to occur and that any future infection would be a reinfection.

Four of our hospital employes volunteered to insert a glycobiarsol suppository and then to submit to frequent vaginal examinations in order to determine the length of time required for complete dissolution of the suppository. These four volunteers were examined every half hour after the insertion of the suppository until the suppository had completely melted. The longest time taken for completion of the melting was six hours, and the shortest time was three hours with the average time four to four and one-half hours. It is because of this time factor that it is recommended that the suppository be inserted on retiring since the long dissolving time increases the opportunity for extrusion of the suppository.

Spermatocidal Test

Frequently leukorrhea or vaginitis is partially incriminated as a contributing cause of sterility.[34,35] Since a substance that is potent enough to affect both trichomonads and Candida might also be potent enough to kill or immobilize sperm, it was decided to test this possible effect. Therefore, ejaculates submitted to the laboratory for evaluation were mixed with varying concentrations of glycobiarsol after the routine examinations had been performed. Concentrations as high as 1:100 were found to have absolutely no effect on the degree of motility of the sperm, nor did the sperm die more quickly. Huhner examinations done by the Gynecologic Department following the use of a glycobiarsol suppository revealed living and active sperm.

Summary

A new therapeutic routine is presented using glycobiarsol (Milibis), a new drug in the form of vaginal suppositories, with excellent results in the treatment of an old and troublesome complaint, leukorrhea. The treatment pattern using a total of from five to ten suppositories (one every other night) is simple with no esthetic discomfort to the patient and with rare and inconsequential side-effects. The uniformity of good results obtained in the treatment of 510 cases of symptomatic leukorrhea caused by trichomonad, monilial, or mixed bacterial infection makes extensive and uncertain laboratory work of lesser importance in the management of this frequent complaint.

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Announcement

The following letter is printed for the information of members of the Medical Society of the State of New York:

Medical Society of the State of New York
386 Fourth Avenue
New York 16, New York

Gentlemen:

It is called to your attention for the information of the members of your Society that the New York City Excise Tax on Gross Receipts imposed under the General Business and Financial Tax Law is due May 15, 1955. The tax is levied for the *privilege* of carrying on or exercising for gain or profit within the City of New York any trade, business, profession, vocation or commercial activity during the period commencing July 1, 1954, and ending June 30, 1955, or any part thereof. The tax is computed on the gross receipts for the *base period* (measuring period) set forth in the law. The base period may vary according to the circumstances of the case. The calendar year 1954, however, constitutes the base period where the taxpayer was engaged in business or in the practice of his profession during the whole of such calendar year.

In filing General Business Tax returns on Form 55B, physicians are required to report thereon as Item 4 the gross receipts (gross fees) from the practice of their profession. Dividends and interest received from investments and profits derived from stock and bond transactions should not be included in the measure of the tax when filing General Business Tax returns if such transactions are occasional transactions of a nature extraneous to the taxpayer's regular activities. In reporting gross receipts, no deduction may be taken for salaries, rent, and other office expenses. This year the tax is to be computed at the rate of $^1/_5$ of 1 per cent, which is the same as the rate in effect last year.

No tax is imposed when the gross receipts do not exceed $10,000, and no return need be filed in such cases. There is, however, no specific exemption of $10,000 provided by law, and all persons having gross receipts in excess of $10,000 must report the entire amount thereof.

The return must be filed on or before May 15, 1955, with the City Collector in the borough in which the taxpayer maintains his office. A remittance for the total amount of tax due, drawn to the order of the City Collector, must accompany the return when filed. Form 55B for filing such return will be mailed to all taxpayers who have filed returns in prior years. This office will be pleased to furnish further information or assistance in the preparation of returns.

Morris W. Weiner
Special Deputy Comptroller

The City of New York
Office of the Comptroller
Bureau of Excise Taxes
120 West 32nd Street
New York 1, New York
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CLINICOPATHOLOGIC CONFERENCE

NEW YORK MEDICAL COLLEGE AND FLOWER-FIFTH AVENUE HOSPITALS

DEPARTMENTS OF MEDICINE AND PATHOLOGY

Conducted by LINN J. BOYD, M.D.

SEPTEMBER 24, 1954

Case Presentation

Medical Resident: A nineteen-year-old Chinese male entered the hospital on April 1, 1954, for radical excision of a pilonidal cyst and associated sinus tracts. Rather extensive resection was required, but the operation was performed without difficulty and recovery was uneventful. He was discharged thirteen days after admission.

Exactly four months later he was readmitted because of poor vision, headache, fever, and low backache of one week duration. Following his previous hospitalization he had remained well until one week before returning to the hospital. At that time pain recurred at the site of the earlier operation, and the wound began to break down. His temperature rose to 103 F., and then weakness, failing vision, and headache developed.

The only significant features in the past history were (1) an allergy to a wide variety of substances since childhood associated with attacks of bronchial asthma and urticarial eruptions and (2) treatment for nondescent of the testicles in early childhood.

Physical examination at the time of his second admission disclosed a well-developed, well-nourished Chinese male appearing in mild distress. The blood pressure was 110/98, pulse 68, respiration 20, and temperature 98.6 F. Apart from an expiratory wheeze at the left apex and a large midline scar over the sacrococcygeal region, where an abscess had already been excised and packed, the examination was negative. The wound was draining a small amount of bright red blood.

Dr. Linn J. Boyd: Perhaps the case will prove more interesting if we interrupt at this point and allow it to unfold exactly as it occurred. Dr. Wattiker, as the surgeon who operated on the pilonidal sinus, do you have any comment to make?

Dr. Bernard J. Wattiker: There is nothing to add except that when this patient was seen a second time, there was progressive sloughing of the sacral wound until the entire site broke down, and a large area was covered by a gray pyogenic membrane.

Dr. Boyd: Was the original surgical specimen examined?

Dr. Francis D. Speer: The tissue was examined and failed to disclose anything of interest beyond a pilonidal cyst with the usual chronic inflammation. I might add that subsequently we re-examined the specimen and, by way of anticipation, material from the wound received recently and failed to note anything out of the ordinary.

Dr. Boyd: As the attending physician, do you have anything to add, Dr. Bergen?

Dr. Otto M. Bergen: The present illness began with fever, vague headache, and pain near the old incision. It seemed probable that an infection existed in this area. The temperature fell to normal after the administration of aureomycin. However, the wound opened at one point, and there was a necrotic membrane at the edges suggesting the formation of an abscess. The antibiotic was continued and local soaks ordered, but the inflammatory process extended so that Dr. Wattiker incised, drained, and packed the abscess cavity. Hospitalization was advised on the grounds that reoperation might be necessary, but consent was not obtainable at this time.

Medical Resident: On admission to the hospital and for the next three days, the patient remained afebrile on aureomycin. The hemoglobin was 15 Gm. per cent, and the white blood count of 9,500 cells did not suggest that the infection had extended beyond the site of operative intervention. Blood cultures taken at the time and repeated subsequently showed no growth.

The failure of the patient to respond and some actual clinical deterioration necessitated a re-evaluation. On the fifth day of hospitalization the hemoglobin had fallen to 13.3 Gm., the red cells to 4,500,000 and the white blood cell count to 4,000. The leukopenia affected the granulocytes almost exclusively. Only 3 per cent of them were polymorphonuclears; 88 per cent of the cells were abnormal white cells suggesting rather primitive lymphocytes. A few days later the white blood cell count was 1,600, with no polymorphonuclears noted while counting 200 cells. The white cells seen consisted of 62 per cent of these peculiar cells, 22 per cent immature lymphocytes, 10 per cent prolymphocytes, and 6 per cent blast cells.

In the interim the patient became seriously ill. Additional therapy consisted of combiotic, three times a day, and intravenous 5 per cent glucose in water containing 500 mg. of Terramycin. Then the combiotic was reduced and 800,000 units of SR penicillin given four times a day. Cortisone, four times a day, was also tried in 50-mg. doses. Nevertheless, the hemoglobin fell further (10.1 Gm.), and the erythrocytes were now below 4,000,000. The platelets numbered 45,000. The heterophil antibody titer, which had been ordered when the abnormal white cells first appeared, was 1:7. Incidentally the erythrocyte sedimentation rate did not exceed 42 mm. in sixty minutes. Apart from a mild albuminuria, which soon disappeared, the urine did not disclose anything of interest.

Dr. Bergen: The problem with which we were confronted required a differential diagnosis between an agranulocytosis, acute leukemia, or toxic depression of the bone marrow as the result of a severe infection which did not respond to antibiotics and was accentuated by untoward response of an allergic patient to various therapeutic agents.

In regard to the question of allergy, the following point should be mentioned. Just after the combiotic was reduced and penicillin started, it was decided to give a unit of plasma. Thirty minutes after the plasma had been given, the blood pressure fell to 90/70, and cyanosis, dyspnea, and tremor of the extremities developed. This was interpreted as an anaphylactic reaction. Benadryl was administered intravenously and Neo-Synephrine intramuscularly. These seemed to abort the episode. On the following morning the patient developed a rather extensive purpuriform rash over the chest. In respect to the possibility of an acute leukemia, it may be added that the patient did not show any lesions of the mucous membranes; there were no oral lesions or gingivitis despite careful and repeated search and no lymphadenopathy. Funduscopic examinations made to discover any signs of leukemic retinitis failed to disclose any reason for the reported diminution of visual acuity.

At this time it appeared that the correct diagnosis could not be reached clinically; it had to be made by the laboratory. Consequently, bone marrow studies were ordered.

Perhaps I may be permitted to continue so that my participation in the case will be finished.

A few hours after the sternal puncture was performed, the patient experienced shaking chills. The pulse rose to 128, the temperature to 103.4 F., and respirations (46 per minute) were labored. The blood pressure remained at 94/74. This episode appeared to be interrupted after ten minutes by oxygen through a nasal catheter, Benadryl, and Neo-Synephrine. It ended with a drenching sweat after which the temperature rose to 106.2 F.

During the next three days the wound became covered with dirty gray granulation tissue. Episodes of epistaxis were followed by prolonged oozing from the nose. Nausea, vomiting, diarrhea, and tarry stools became increasingly troublesome, and the low back pain now required hypnotics for relief. The patient continued to grow weaker and expired fifteen days after admission.

Dr. Boyd: What did the bone marrow show?

Dr. Louis Greenwald: Before describing the bone marrow, I should mention that when I saw the boy, he was in the throes of a shaking chill. He was lying on his left side and could assume a supine position only with difficulty bcause of the infected wound over the sacrum. He appeared very ill, but there was no evidence of adenopathy or of ulcerative or hemorrhagic buccal lesions. The liver and spleen were not palpable. Scattered small petechiae were visible on the chest and a few large purpuric areas over the trunk.

The peripheral blood at this time showed the following: hemoglobin 9.5 Gm.; erythrocytes 3,090,000; white blood cells 4,500; platelets 30,000. The differential count disclosed 12 per cent myeloblasts, 1 per cent promyelocytes, 1 per cent neutrophilic myelocytes, and 86 per cent micromyeloblasts and lymphocytes.

The bone marrow smears were very satisfactory and showed the following: a very cellular marrow, consisting of a few fairly typical myeloblasts with basophilic cytoplasm, large nuclei and nucleoli, and many small mononuclear cells with nucleoli which were interpreted as micromyeloblasts. There were many small lymphocytes, and only a rare megakaryocyte was seen. There was a complete absence of erythropoiesis, and neutrophilic myelocytes or more mature granulocytes were rarely seen.

The rapid course of events in this patient's illness with fever, suppuration of a sacral wound, the picture of sepsis, marked leukopenia with granulocytopenia, thrombopenia, appearance of anemia, the presence of blast cells in the peripheral blood, and the bone marrow findings are all typical of acute leukemia (myeloblastic).

A majority of these patients present mouth lesions in the form of ulceration or hemorrhages which this patient did not show. Not until just before death did he develop epistaxis and evidence of gastrointestinal bleeding.

Because of the administration of antibiotics such as Terramycin or aureomycin, it was thought by some observers that the patient had aplastic anemia as has been reported due to Chloromycetin.

With the development of a leukopenia of 1,600 white cells and granulocytopenia, agranulocytosis was also considered. The presence of blast cells in the peripheral blood tends to rule out aplastic anemia and also agranulocytosis. In the latter condition anemia and thrombopenia do not occur.

Overwhelming sepsis was also considered, but with suppuration one would expect some degree of granulocytosis and a marrow consistent with infection, namely, a granulocytic one.

The patient had an anaphylactic shock following plasma transfusion, and Dr. Bergen raised the question whether the purpura may have been on an allergic basis. It is possible except that we know that the patient had a thrombocytopenia and subsequently developed epistaxis and gastrointestinal bleeding.

Diagnoses

Clinical.—*Agranulocytosis; acute leukemia or toxic depression of the bone marrow due to infection.*

Hematologic.—*Acute leukemia (myeloblastic).*

Anatomic.—*Acute leukemia with hyperplastic changes in the bone marrow, spleen, and deep lymph nodes suggesting lymphoid leukemia with hemorrhage, pneumonitis, and sepsis as terminal events.*

Pathologic Report

Dr. Boyd: What were the interesting features of the necropsy?

Dr. Speer: This necropsy examination was performed by Dr. Aaron Plachta who will present his findings and demonstrate the organs. When he finishes, I will show two or three microscopic slides from the case.

Dr. Aaron Plachta: This obese oriental male showed extensive petechial hemorrhages on the chest and abdomen, and on opening the body cavities subpleural, peritoneal, and subserosal hemorrhages were numerous. There was a moderate hydrothorax and hydropericardium. The heart weighed 425 Gm. and was essentially normal except for moderate subendocardial hemorrhages which are seen here. The lungs weighed 280 Gm. and showed extreme congestion and edema. Sections revealed many small foci of hemorrhage and of pneumonitis separated by areas of emphysematous and atelectatic alveolar tissues.

In the abdomen the lower small bowel and the colon contained tarry, blood-tinged fecal matter. The spleen was enlarged, weighing 660 Gm. On section the red pulp was firm and dark, and the lymphoid follicles were not visible. The liver weighed 2,466 Gm. and on section showed congestion, many petechial hemorrhages, and foci of fatty metamorphosis. The pancreas showed nothing unusual. All the abdominal lymph nodes were enlarged, moist, and hemorrhagic.

The kidneys were swollen and moist, presenting numerous subcapsular hemorrhages. Each weighed about 225 Gm. The rest of the genitourinary tract was normal except for numerous submucosal petechial hemorrhages. The combined weight of the adrenal glands was 15 Gm., and their cut surfaces showed the usual architecture. Numerous small hemorrhages were present.

The bone marrow of the ribs, sternum, and vertebrae was soft, fleshy, and very hemorrhagic.

Dr. Speer: The slides of the bone marrow, lymph nodes, and kidneys are most interesting in this case.

This is a "squeeze preparation" of the marrow showing a moderately hypercellular, hemorrhagic marrow (Fig. 1). Most of the cells are mononuclear with moderate-sized, notched nuclei resembling lymphoid cells. As you see, polynuclear cells and large blast cells are absent, and megakaryocytes are very rare.

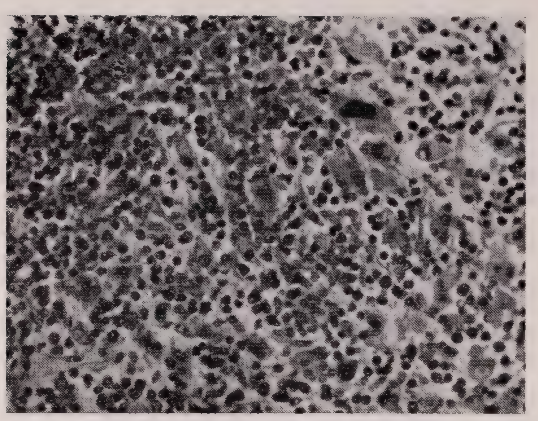

Fig. 1. Bone marrow of rib showing the small mononuclear cells (micromyeloblasts) and the rare, agranular, pyknotic megakaryocytes (*high power*).

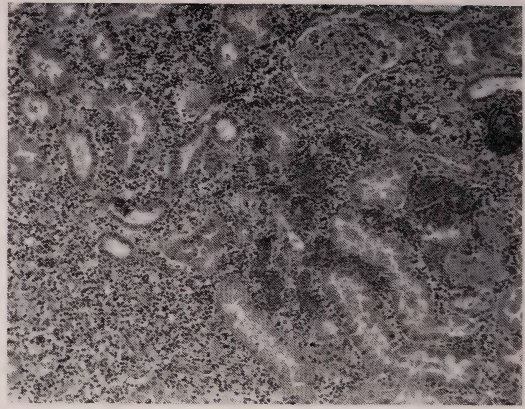

Fig. 2. Kidney showing the massive cortical leukemic infiltration and focal hemorrhages (*low power*).

The lymph node here projected is enlarged and shows hemorrhagic sinusoids (*slide*). The lymphoid cords are crowded with small lymphoid cells. The lymphoid follicles are absent, and there is moderate perinodal mononuclear cell infiltration.

The high power projection of the kidney seen here shows massive interstitial infiltration of mononuclear cells with slightly lobulated nuclei. Here are areas of extensive periglomerular infiltration (Fig. 2).

In conclusion the gross and microscopic findings of this case indicate an acute leukemia with hyperplastic and hemorrhagic changes in the bone marrow, spleen, and deep lymph nodes. The termination of the case is one of hemorrhage, pneumonitis, and sepsis. The necropsy findings suggest a lymphoid leukemia, but Dr. Greenwald has identified the small cells in the peripheral blood and in the bone marrow as micromyeloblasts.

Dr. Harry D. Leinoff: I think this opportunity might be taken to mention the abuse rather than the use of antibiotics. Many antibiotics, even penicillin, are not entirely nontoxic, especially when given to patients already exposed to their use. This patient seems to have been given a number of such preparations without adequate justification. Could any of the clinical or necropsy changes be related to them?

Dr. Speer: I do not think that any of the necrosing or hemorrhagic changes seen at necropsy could be attributed to the antibiotics. Moreover, because of the marked leukemic infiltrations of the kidneys in this case, an unrecognized uremia probably complicated its terminal phases.

Dr. Greenwald: While it may be conceded that antibiotics should be given only when definitely indicated, it may be pointed out that in leukemia they have value in combating infections which may enter through oral ulcerations, furuncles, and the like.

Medical Student: What is your attitude toward blood transfusions in cases of acute leukemia?

Dr. Greenwald: Ten years ago we were very hesitant about blood transfusions in acute leukemias. It seems, however, that the incidence of untoward reactions is much less common than formerly, and we have lost much of our fear. If there is blood loss due to severe hemorrhage or hemolytic anemia and blood volume is reduced, transfusion is indicated, and whole blood may be given as often as necessary, 1 or 2 units or more in twenty-four hours, for example. In chronic leukemia with anemia but without evidence of bleeding, packed red cell transfusions are preferable; 250 cc., repeated daily if necessary, should be tried until the hemoglobin is brought up to about 10 Gm. Under this program some patients are maintained for one or two months, and the procedure may be repeated with careful attention to typing, crossmatching, the Rh factor, and Coombs testing. One of our patients, a male, seventy-five years old, with chronic lymphatic leukemia has received 30 transfusions during the past one and one-half years with only one transfusion reaction, the temperature reaching 104 F. which readily subsided.

Medical Student: Would you comment upon other therapy?

Dr. Greenwald: X-ray therapy is contraindicated in acute leukemia. Nitrogen mustard

(HN_2) and triethylene melamine (TEM) are also contraindicated, particularly when there is leukopenia and thrombopenia. These agents are strong depressants of the bone marrow. Urethane in our experience has not been of any value. Apparently the most valuable chemotherapeutic agents are the folic acid antagonists, especially Aminopterin, A-methopterin, and 6-mercaptopurine, a purine antagonist. These substances exert a profound depressing effect on the bone marrow, and great caution must be exercised in their use. They produce pancytopenia, hemorrhage, mucosal ulceration, and aplasia of the bone marrow.

The results in adults have not been encouraging. In infants and children the antifols have produced remissions of acute leukemia for weeks and months. The blood picture as well as the bone marrow returns to normal. Fever, bleeding, and adenopathy disappear. The child appears to be quite well, but this is only temporary, and relapses occur when the patient becomes refractory.

In regard to ACTH and cortisone it may be said that they are less toxic than the drugs mentioned above, and the results are more prompt. Cortisone can be conveniently given by mouth. If there is vomiting, an intravenous infusion of 10 to 20 units of ACTH can be given slowly over a period of eight to ten hours in 1,000 cc. of glucose. When effective, improvement occurs within a week with a fall of fever, decrease of bleeding, a sense of well-being, a fall in the white blood cell count if this has been high, a disappearance of blast cells, an increase of the platelets and of hemoglobin.

It appears that hormone therapy is most beneficial in acute lymphoblastic leukemia and that a clinical remission may occur in about 70 per cent of patients previously untreated. In acute monoblastic and myeloblastic leukemia, hormone therapy fails.

Army Researchers Study "Yokohama Asthma"

An Army medical research team has isolated and studied a peculiar new respiratory disease which American GIs named "Yokohama asthma." It was first reported in Yokohama in 1946 and so many cases appeared that in 1950 an Allergy Investigation Section was set up to study the unusual illness. Army officers eventually discovered it was also common in other similar areas of Japan.

A report on studies of the disease was made by researchers in the November *Archives of Industrial Hygiene and Occupational Medicine*, published by the American Medical Association.

"Yokohama asthma" differs from the asthma or hay fever found in the U.S. and the only cure has been to remove the patients from the Yokohama area. Almost half of 200 patients checked during a nine-month period in 1951 had to be sent home. They experienced dramatic relief "shortly after leaving the harbor area of Yokohama."

The illness generally starts with a lingering chest cold during autumn or early winter of the first year of living in Yokohama. Breathing trouble is disturbing but not alarming, until the second year when breathing becomes very difficult between 1 and 3 A.M. By the third year the patient usually is in a condition of status asthmaticus: crisis or shock marked by breathing difficulty to the point of exhaustion and collapse. There are exceptions, with some patients suffering status asthmaticus after a few months of living in Yokohama, or showing no symptoms until several years after arrival. The disease strikes persons who have never before had asthma or hay fever, and age seems to make no difference, since many children of army personnel in Japan also suffered the illness.

U.S. Army hospital physicians at Yokohama found the disease is also an important medical problem among Japanese and occurred among British, French, and other foreign personnel living in Japan before World War II. A long study showed that probable cause of the illness is a combination of weed, tree, and grass pollen and industrial contaminants. The geography of the area and heavy smog seemed to be important factors. The researchers said "by smelling the air late in the afternoon in the vicinity of the United States Army Hospital in Yokohama, one could predict with considerable accuracy the number of patients who would seek medical attention that evening." Other areas where the disease occurred had several features in common with Yokohama: "proximity to a harbor usually surrounded by low hills, sundry manufacturing facilities, and the occurrence of 'heavy smog' during the winter months."

The report was made by Lieut. Col. Tyron E. Huber, Surgeon General's office; Maj. Sheldon W. Joseph, Brooke Army Hospital, Fort Sam Houston, Texas; Maj. Edward Knoblock, Walter Reed Army Medical Center, Washington, D.C.; Lieut. Paul L. Redfearn, United States Army Forces Far East, and James A. Karakawa, Washington, D.C.

CASE REPORTS

Misdiagnosis of Neuroblastoma

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(*From the Department of Pathology, Queens General Hospital*)

The purpose of this paper is fourfold: (1) to draw attention to the fact that neuroblastomas are not infrequently misdiagnosed, (2) to discuss the present methods of diagnosis, (3) to discuss the pitfalls of bone marrow interpretation, as illustrated by a case report, and (4) to emphasize the need for early diagnosis.

Neuroblastoma is a poorly differentiated tumor of the nervous system which is usually highly malignant.[1] It originates from the neuroblast, a cell arising from the ectoderm of the primitive neural crest. The tumor is found most frequently in the adrenal medulla and sympathetic nervous system, although many other sites in the body from which the primary growth occurs have been reported.[2] Grossly the tumor varies in size. It is smooth and round with a highly vascular, encapsulated surface. On cut section it is highly cellular and has a yellowish-gray appearance. Due to hemorrhage there may be some dark necrotic areas scattered throughout the tumor (Fig. 1).[3] When the original tumor grows slowly, symptoms and physical findings may be localized at first to the primary site. However, the growth usually metastasizes early via (1) direct extension, (2) the lymphatics, and (3) the bloodstream, and then the clinical picture is one in which the metastases predominate.[4] In these latent cases it is not difficult to understand why neuroblastomas may be misdiagnosed. The similarity of symptoms and signs of various metastatic diseases is often misleading. Some of the diseases with which neuroblastoma is often confused are leukemia, Wilms's tumor (embryonal carcinosarcoma), Ewing's sarcoma, lymphosarcoma, chloroma, adrenal cortical tumors, sympathogonia, and ganglioneuroma (benign).

Clinically it is primarily a disease of infants and children, although it may rarely occur in adults. It can occur in either sex. The symptoms are variable depending upon the sites involved. Abdominal enlargement is usually the first complaint. There may be urinary symptoms (kidney encroachment), cardiac symptoms (retropleural involvement), hemorrhagic tendencies, and signs of neurologic or bone disease. There may be nonspecific symptoms such as weakness, pallor, weight loss, anorexia, headache, and vomiting. The patients are usually anemic, and the white blood count is normal or low.

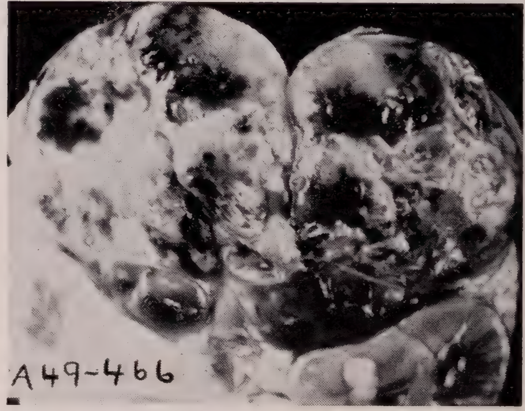

FIG. 1. Cut section of neuroblastoma showing fibrous stroma with extensive hemorrhage into it.

Diagnosis

The present methods of diagnosis include history and physical examination, x-ray interpretation, histopathologic study of biopsy material, tissue culture analysis, and bone marrow examination.

There is no characteristic radiographic picture. X-ray evidence in support of the diagnosis is related either to the primary site or to the metastases. If the malignancy arises in the abdomen, a flat film may show calcified areas in the growth. Intravenous pyelography may reveal lateral and downward displacement of the kidney. Metastases to the skull are sometimes identified by suture separation or destruction of the orbital or skull bones. If the tumor has disseminated to the long bones, the lesions are frequently bilaterally symmetric. They consist of bone destruction with endosteal and periosteal proliferation. There is often difficulty in distinguishing these metastases from bone marrow encroachment by other malignancies, e.g., Ewing's sarcoma. X-rays may sometimes show the onion-peel splitting of layers in periosteal reaction. Willis[4] believes that Ewing's sarcoma and neuroblastoma are identical pathologically.

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Histopathologically, neuroblastoma consists chiefly of round or oval cells, which may appear polygonal when crowded together. The cells have very little cytoplasm and hyperchromatic nuclei. The cell margins are indistinct, and the cytoplasm may contain vacuoles. The nuclei are arranged peripherally and the cytoplasm centrally, often with neurofibrillae forming centrally, giving a pseudorosette appearance. The cells bear a resemblance to lymphocytes and are arranged in broad sheets with septate planes which are part of the tumor process. Neuroblastomas are also characterized by the development of a matrix of neurofibrils that can be seen with the phosphotungstic acid stain. The fibrils are found best in the central portion of the rosettes. In only one third to one half of the cases the cells are found in clusters.

Murray and Stout[5] in 1947 developed a method for prompt diagnosis of neuroblastomas by means of tissue cultures. When live tumor tissue from a biopsy was cultured in clotted plasma, the following characteristics were noted for neuroblastomas (they had eight cases of neuroblastomas along with many other types of tumors under study):

1. The cells produced typical neurites which are projections of filamentous processes and which grow out similar to axones. These may be visualized.
2. There is also necrosis of the outer rim of the clump (in vitro), which is not the case in lymphosarcomas, for example.
3. Also the neuroblasts have an affinity for neutral red in supravital staining.

Bone marrow examinations have been considered a reliable method of diagnosis. However, these cells of large hyperchromatic nuclei and scant cytoplasm are not infrequently confusing. Piney *et al.*[6] presented a review of cases in which neuroblastoma was not recognized on bone marrow examination. Kato and Wachter[7] published a case in which the diagnosis of round cell sarcoma was made on the basis of bone marrow interpretation and which subsequently proved to be a neuroblastoma. Barden[4] observed a similarity between Ewing's sarcoma and neuroblastoma on radiologic as well as bone marrow examination. Some observers feel that phagocytic reticulum cells (macrophages) in the region of the neuroblasts aid in establishing the diagnosis since this may not be found in other similar diseases.[6] Other authors[8] have observed the similarity between leukemia and neuroblastoma. Below is a case report which illustrates such a pitfall.

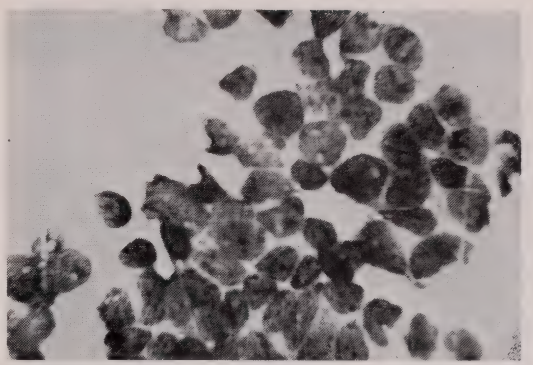

FIG. 2. Large hyperchromatic nuclei and scant cytoplasm seen on bone marrow examination.

Case Report

M. G., a two and one-half year old, white female, was admitted to Queens General Hospital with a chief complaint of back pain and sore throat. Two weeks before admission the child was noted to have some bruises on her hips and knees. The mother presumed the child had fallen. Two days prior to admission she was crying, irritable, had a temperature of 100 F., and complained of pain in her back and knees. Past history revealed that the child was a full-term normal spontaneous delivery, had had measles, and was subject to frequent temper tantrums.

Physical examination revealed a well-developed, well-nourished, white female, who was irritable and displayed moderate back spasm. Temperature was 100 F. (rectal). The skin was warm, and there were bruises over the right elbow, both knees, and iliac crests. Liver, spleen, and kidneys were not palpable. There were no masses felt. Spinal tap on admission revealed 40 lymphocytes. Nine hours after admission the back spasm increased, and the patient developed neck and hamstring spasm. A presumptive diagnosis of poliomyelitis was made, and the patient was transferred to the contagious pavilion.

During the child's hospital course she ran a sporadic, low-grade fever. On the sixth hospital day her neck and back spasm continued. She was noted to have ecchymoses over her left eye, and her skin was sallow. Hemoglobin was 8.5 Gm. per 100 cc.; red blood count was 2,800,000 per cu. mm.; white blood count was 3,800 per cu. mm. with a differential of 54 lymphocytes, 34 polymorphonuclear leukocytes, 3 normoblasts, and 8 monoblasts. Clotting time (Lee-White) was four minutes; capillary fragility test (Rumpel-Leede) was negative. Platelets were decreased in number, and the bleeding time was prolonged. On the fourteenth hospital day the patient was noted to have pallor, enlarged lymph nodes, an enlarged liver, ecchymoses, and purpura over her body. A bone marrow examination was done and interpreted as showing acute myeloblastic leukemia. The cells contained large

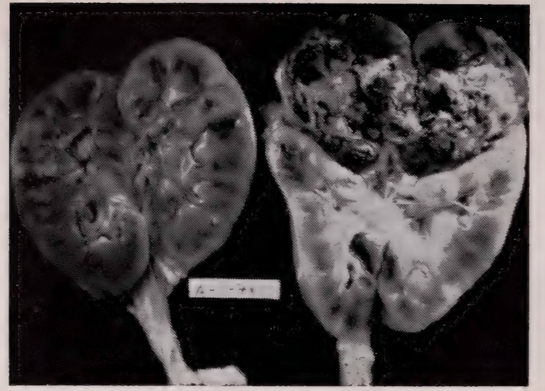

FIG. 3. Tumor mass at superior pole of left kidney.

hyperchromatic nuclei and scant cytoplasm (Fig. 2). On the sixteenth hospital day the temperature spiked to 104 F., and the patient expired on the nineteenth day after admission. She had received 300 cc. of whole blood and two days of penicillin therapy just prior to her death. Unfortunately, x-rays of her long bones and skull were not obtained.

Postmortem examination revealed a well-developed, well-nourished, white female, who had ecchymoses of both eyelids. There were several discrete, soft lymph nodes felt in the left anterior cervical region and right axilla. The liver was four fingerbreadths below the right costal margin. The midportion of the great curvature of the stomach showed many submucosal petechiae. There were scattered petechiae in the small bowel also. The external surface of the liver showed many confluent, white, raised areas. There were scattered petechiae under the capsule. Cut section revealed an obscured lobular architecture and marked infiltration of whitish-gray material, into which there were many small hemorrhages. The kidneys were of usual size and position. At the superior pole of the left kidney, but lying outside the renal capsule, there was a round tumor mass, measuring 5 cm. in diameter (Fig. 3). Cut section showed fibrous stroma with extensive hemorrhage into it (Fig. 1). There were many small, round, white, raised areas throughout the renal cortex, consistent with multiple abscesses. There were several hemorrhages into the medullary portion of the kidney. The left adrenal was not identified except as the hemorrhagic tumor at the superior pole of the left kidney. The right adrenal was normal in size, shape, and position. Permission for examination of the head was not obtained.

Microscopic sections showed extensive replacement of lymph nodes, liver, and bone marrow by tumor tissue. The lungs showed focal hemorrhages and early interstitial pneumonia. The kidneys showed moderate interstitial hemorrhages of the medullary portion. The adrenal cortex showed moderate compression and congestion of cells with granular degeneration. The adrenal medulla was largely replaced by extensive fresh hemorrhages and by many nests of basophilic staining cells which were within a net of fibrils. The cells showed considerable variation in size and staining quality. These did not invade the adrenal cortex. The final diagnosis was neuroblastoma.

Comment

The findings in our case of widespread petechiae, enlarged liver, fever, adenopathy, pallor, free bleeding hemorrhages around the orbits, low white blood count, anemia, low platelet count, and prolongation of bleeding time were all highly suggestive of leukemia.[9] On bone marrow examination the large cells were interpreted as myeloblasts by the hematologist. In retrospect they were seen to be metastatic neuroblasts.

The need for early diagnosis is illustrated by the work of Wyatt and Farber.[10] They reported a series of 40 cases of neuroblastomas, 25 per cent of whom were alive from three to eight years after the diagnosis was made. Although the diagnosis carries a grave prognosis, it is not necessarily a hopeless situation. Farber feels that the tumor should be removed as quickly as possible and that one should not usually wait for preoperative irradiation since the tumor may disseminate in the interim. He feels that radiation therapy is indicated after surgery. He has noted that some neuroblastomas may mature and become benign ganglioneuromas. Others have undergone spontaneous hemorrhage and necrosis and disappeared. Even in the presence of metastases, when surgery is not indicated, radiation has proved a valuable adjunct. Although no "cures" have been effected when there were metastases to bone, radiation has still alleviated many of the symptoms. The tumor is markedly radiosensitive.

Summary

A case of neuroblastoma that was misdiagnosed as acute myeloblastic leukemia is presented. A search of the literature reveals that neuroblastomas are not uncommonly misinterpreted as other diseases. Some of the similarities with other diseases are mentioned. An awareness of the diagnosis should be maintained, especially on bone marrow examination, since the prognosis is not so hopeless as was formerly imagined.

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Airblock (Pneumothorax and Mediastinal Emphysema) in a Premature Infant

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ALTHOUGH Laennec[1] described pneumothorax and pneumomediastinum over one hundred years ago, this entity in the neonatal period has been poorly documented in the literature until recently. In 1939 Hamman[2,3] and Macklin[4-6] focused attention on this condition by describing the mechanism leading to its production. During the next decade 35 cases of airblock in the newborn infant have appeared in the American literature.[7-19] Only five of these cases were premature infants,[12,15,19] and one of the latter had a fatal termination. Since our patient is the fifth surviving premature infant to be recorded, we deem it worth while to emphasize consideration of this syndrome in the differential diagnosis of dyspnea and cyanosis in the premature infant.

The successful treatment of this syndrome by needle aspiration has been pointed out by Gumbiner and Cutler[9] and by Heald and Wilder.[16] When this method proves ineffective, thoracotomy with continuous underwater drainage may prove a lifesaving measure. This has not been stressed sufficiently in recent articles. The dramatic response to this form of therapy in the case reported herein illustrates the need for immediate diagnosis and surgical intervention when progression of this syndrome threatens the patient's life.

Case Report

P. L., a female premature infant, was delivered precipitously on November 12, 1953, during the eighth month of pregnancy while her mother was being brought to the delivery room. The birth weight was 3 pounds, 13 ounces. She cried almost immediately after birth, and it was not necessary to use artificial resuscitation.

The physical examination revealed a slightly cyanotic premature infant. Breath sounds were heard over both lung fields. The skull, heart, abdomen, and extremities were normal, and there were no gross abnormalities or defects. The upper respiratory passages were gently aspirated with a soft rubber catheter, and the infant was placed in an incubator. The slight cyanosis disappeared within a few hours. Her general condition was considered good.

Twenty-two hours postpartum, moderately severe cyanosis and acute respiratory distress were observed by the nursery room staff. Examination revealed a semicomatose and almost moribund infant. The respiratory rate was 80 per minute. Medium fine rales and rhonchi were heard, and breath sounds were diminished throughout both lung fields. There were slight intercostal and infrasternal retractions, but a precordial bulge was not noted. Percussion failed to outline the cardiac silhouette or elicit hyperresonance or dullness. The cardiac rate was 100 per minute, but no murmurs were heard, and the liver was not enlarged.

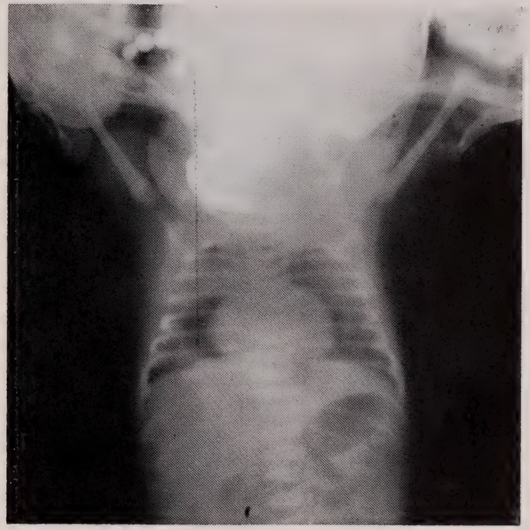

FIG. 1. Pneumothorax and mediastinal emphysema shortly after 40 cc. of air were removed from the pleural cavity.

The larynx was visualized with the aid of an infant laryngoscope, and a large plug of mucus was removed from the trachea. In spite of the latter measure and supportive high concentrations of oxygen, the cyanosis and respiratory embarrassment did not improve. A portable roentgenogram of the chest was taken almost immediately and disclosed a mediastinal emphysema and a pneumothorax of the right side, with a shift of the heart to the left.

An emergency thoracic surgical consultation was requested. Because it was felt the infant might expire, needle aspiration of the tension pneumothorax was attempted in the meantime by the attending pediatric staff. A needle connected to a three-way stopcock was inserted into the pleural space at the level of the third right intercostal area in the midaxillary line, and 20 cc. of air were withdrawn. The needle point was then carefully directed downward, and another 20 cc. of air were removed. After this procedure the respiratory rate and cyanosis de-

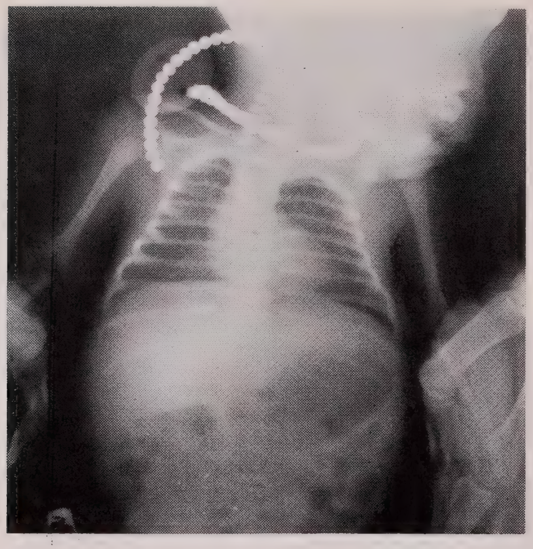

FIG. 2. Normal roentgenographic film ten days later.

creased slightly, and the breath sounds were more audible. The roentgenographic changes were consistent with the clinical improvement but still revealed a large amount of air in the pleural cavity and in the mediastinum (Fig. 1). A short time later a closed thoracotomy with continuous underwater drainage was performed by the thoracic surgical department. Bubbles of air were seen to escape into the water for some time, and shortly thereafter marked general improvement was noted. The cyanosis and dyspnea disappeared, and the cardiac rate rose to 130 per minute. Alevaire, penicillin, streptomycin, and oxygen were given as supportive therapy.

The following day the drainage catheter fell out, and the infant was removed from the nursery for additional roentgenographic films. However, she became cyanotic and dyspneic, and it was necessary to return her to the nursery. Color and breathing immediately returned to normal after she was placed in the incubator and given high concentrations of oxygen.

Three days after the thoracotomy the pneumothorax and mediastinal emphysema were completely resolved, and her general condition was considered satisfactory. Oxygen was discontinued the same day and the antibiotics seventy-two hours later. No further complications developed, and the infant was discharged weighing 5 pounds, 8 ounces (Fig. 2).

A checkup in clinic three months later revealed a well baby with normal growth and development.

Comment

The exact nomenclature to be applied to this syndrome awaits final classification. Most of the confusion arises from the fact that different sites are involved by extension of the pathologic process. Because lung, mediastinum, pleural and pericardial sacs, and subcutaneous tissue may be invaded by the abnormal amounts of air, various descriptive terms have been used as a diagnosis. Thus, malignant interstitial emphysema of the lungs, acute pulmonary interstitial emphysema, and pulmonic interstitial emphysema have denoted involvement of the lung itself. Pneumomediastinum, mediastinal emphysema, and spontaneous interstitial emphysema of the mediastinum have been applied by several authors to collections of air in the mediastinum. Pneumothorax, spontaneous pneumothorax, and pneumothorax lenta have been used to indicate pathologic air in the pleural space. Classification and reference have been complicated by the multiple combinations of phrases appearing in the titles of articles. We are in agreement with Salmon *et al.*[14] that the terms are awkward and long, that abbreviations such as PIE for pulmonary interstitial emphysema, ME for mediastinal emphysema, and PT for pneumothorax should be employed in the general discussion and that a single encompassing phrase such as Macklin's airblock should designate the syndrome as a whole.

The pathogenesis of airblock was first described by Macklin.[4] His work, experiments, and theories have been reviewed in detail by several authors and later were elaborated on by Salmon and his coworkers.[11,14,20] Their conclusions can be briefly summarized. The pathology begins with multiple minute ruptures in the alveolar bases which permit air to escape into the pulmonary perivascular sheaths. Following the lines of cleavage the air dissects along the latter channels to the hilum of the lung and into the lung parenchyma. Frequently, a break in the hilar tissue admits air into the mediastinum with a resultant ME. If the air pressure is sufficiently great, extension may take place into the retroperitoneal space, into the pleural or pericardial cavities, or into the subcutaneous tissues.

In the premature infant the abnormal amounts of air in the potential body spaces and cavities are frequently best demonstrated by roentgenographic films. Since the clinical picture may be deceptive, a roentgenogram should be taken immediately in all cases of neonatal dyspnea and cyanosis. The tendency to procrastinate, because of the patient's critical condition, may prove fatal. The exact findings will depend on the quantity, degree of expansion, and direction the air has taken into the various spaces in which it is not normally present. Gumbiner and Cutler[9] have stressed lateral views of the chest to demonstrate ME. Several authors have observed that this view may be misleading if a PT is also present. In our case it was possible to demonstrate both conditions in the anteroposterior films (Fig. 1). Unfortunately, the initial portable roentgenograms were blurred because of the rapid respirations and could not be reproduced, and lateral films were not taken because of the extremely poor condition of the patient.

The cyanotic and dyspneic neonatal premature usually presents a difficult problem in differential diagnosis. Since the precordial bulge, distant heart sounds, and subcutaneous emphysema frequently associated with airblock of the newborn were absent in our patient, the syndrome was not suspected. Atelectasis, hyaline membrane disease, aspiration pneumonia, endocardial fibroelastosis or congenital malformation of the heart with failure, and intracranial hemorrhage were considered prior to viewing the roentgenographic films. Fortunately, a portable roentgenogram taken within an hour after onset of symptoms revealed the true nature of the difficulty. In retrospect, the limited respiratory excursions should have suggested the possibility of airblock. We are also convinced that failure to establish the diagnosis would have resulted in fatal termination of the case.

Recent articles have commented on the high incidence of artificial resuscitation in neonatal airblock. Whether this correlation is statistically valid cannot be determined at this time because of the small number of reported cases and the increasing number of methods and devices used to initiate respiration. The wide fluctuation of pressure sometimes associated with mechanical methods might easily rupture some of the alveolar bases and thus play a prime role in the pathogenesis. In referring to attempts at artificial respiration in his own case, Effron states, "It is interesting to speculate whether this manoeuvre caused an atelectic lung to rupture some of its alveoli and then produce a pneumomediastinum. It is difficult to determine in these cases whether the presence of a pneumomediastinum necessitated some form of artificial respiration, or whether the attempted resuscitation forced the air into the mediastinum." Although the upper respiratory passages in our patient were suctioned at birth, it was the staff's clinical impression that the pressure differential could not conceivably have damaged lung tissue. It is entirely possible that later laryngoscopic examination and tracheal suction converted prior lung pathology into an airblock. However, a third and more likely possibility is the tracheal mucous plug. The latter might have acted as a ball valve resulting in pulmonary emphysema, with subsequent rupture of the alveolar base as a compensatory mechanism. Since the patient survived, the question of original lung pathology and exact etiology must remain in doubt.

When there is little evidence of respiratory distress, therapy may consist of careful observation and watchful waiting. It is the opinion of Salmon *et al.*[14] that most cases of airblock probably fall into this category. If moderate symptoms of respiratory difficulty develop, supportive treatment with increased concentrations of oxygen are indicated. In these patients spontaneous absorption of air may take place provided that there is no further progression of the pathologic process. Needle aspiration should be attempted if the cyanosis and dyspnea are severe and progressive. When a progressive tension PT occurs, it may be necessary to perform a closed thoracotomy with continuous underwater drainage. The latter procedure was done by our thoracic surgical service with complete recovery of the patient. Surgical intervention was decided on when it was felt that further delay might prove fatal. We are in agreement with Lowman and Culotta[15] that aspiration can be a lifesaving measure.

Summary

1. A case of neonatal airblock associated with pneumomediastinum and pneumothorax in a premature infant is presented.
2. The terminology, pathogenesis, roentgenographic findings, differential diagnosis, and treatment are briefly discussed.
3. The necessity for immediate confirmatory roentgenographic films is emphasized.
4. The importance of needle aspiration and thoracotomy with continuous underwater drainage in severe cases of airblock is stressed.

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Persons hardest to convince they're of retirement age are children at bedtime.

Neurofibromatosis

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NEUROFIBROMATOSIS, better known as von Recklinghausen's disease, is a comparatively rare condition. The earliest report of the disease appeared in 1849 by Robert Smith. Its nature, however, remained obscure until 1882 when von Recklinghausen described its pathologic features. While the integument and the peripheral nerves are the most common structures involved, the disease also has a predilection for the central nervous system including the spinal cord, the gastrointestinal tract, and the osseous structures. The extensive involvement of the cutaneous and the subcutaneous structures with large plexiform neuromas, which our patient presents, has not been observed too frequently and has prompted a report of the case.

Case Report

The patient was a seventy-five-year-old Negro female who entered the hospital on May 21, 1954, with a history of precordial pain and palpitation associated with vomiting. Past history revealed a normal birth and development with no previous significant medical or surgical diseases. Her family consisted of four brothers and two sisters, all of whom were now dead. She related that at the age of twelve years she noticed for the first time small tumors on the chest which grew progessively larger with the passing of years and by the time of adulthood involved the entire body. She also stated that the tumor arising on the right buttock had progressively assumed grotesque dimensions during the past twenty years causing her considerable discomfort and necessitating the wearing of a support. The tumors were painless and except for the cosmetic effect had not impaired her health. She volunteered the information that her father, two brothers, and a son by marriage have had similar tumors.

Physical examination revealed an elderly, emaciated Negro female appearing chronically ill and presenting numerous, rounded, cutaneous, and subcutaneous tumors on the face, trunk, and extremities (Fig. 1). These tumors were of soft consistency, painless to palpation, and varied in size from a pea to that of an orange. Some were sessile, and many were pedunculated. In addition, café au lait patches were observed over the anterior chest. Projecting from the right buttock was an elephantoid growth which extended to a level of the knees when the patient assumed the erect position (Fig. 2). The examination was otherwise negative except for a paroxysmal tachycardia which by electrocardiographic study proved to be an impure flutter. The gastrointestinal tract including the colon was studied radiographically for evidence of the disease but was apparently negative for pathology. X-ray studies of the long bones and skull likewise revealed no evidence of von Recklinghausen's disease. The chest x-ray showed no pulmonary pathology and no cardiac enlargement, and the mediastinum, which is not too infrequently the seat of neurofibromas, was essentially normal. The other laboratory data revealed normal figures for urea nitrogen, creatinine, and blood sugar. The serology showed a 3 plus Kolmer and a positive VDRL on two occasions. The serum calcium was 10 mg. per cent, and the phosphorus showed a reading of 2.2 mg. per cent. The blood examination showed a hemoglobin of 70 per cent with 5,000,000 red blood cells. White blood cell count was 10,000 with a normal differential. Urinalysis showed a concentration of 1.018 with no evidence of sugar or albumin and negative microscopic findings.

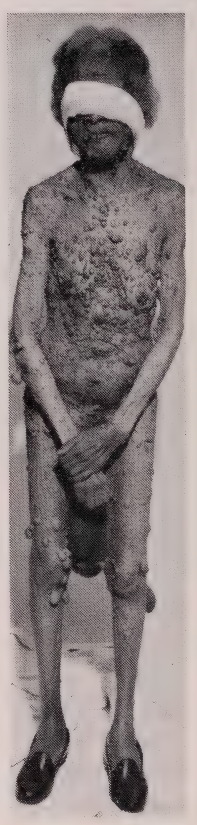

FIG. 1. Diffuse fibromatous tumors with large plexiform neuroma of the right buttock.

Comment

A review of the literature reveals that the disease manifests itself at a comparatively early age. Its growth may become accelerated during puberty or gestation. The cutaneous tumors may remain stationary or show steady progress until old age. The disease is principally characterized by multiple cutaneous and subcutaneous tumors with café au lait blemishes. Large plexiform neuromas, such as our case illustrates, are seen very infrequently. Various writers [1-5] have stressed the familial and hereditary nature of the disease, and this is in accord with the findings of the case herein reported. The cutaneous tumors take their origin from the peripheral nerves or major nerve trunks. While the condition is mainly benign, reports by previous authors indicate its capacity for sarcomatous degeneration.[1] The skin tumors cause no disturbance in the nervous function but may cause atrophic changes in the areas supplied by the affected nerve.

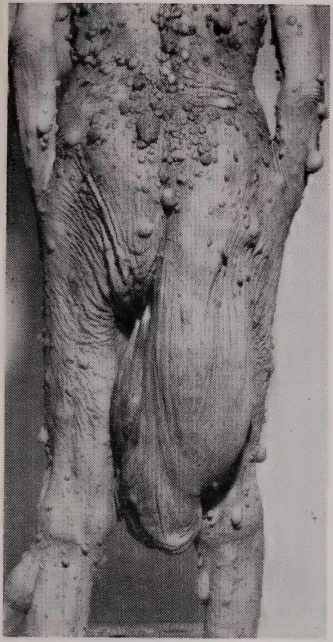

FIG. 2. Large plexiform neuroma of the right buttock.

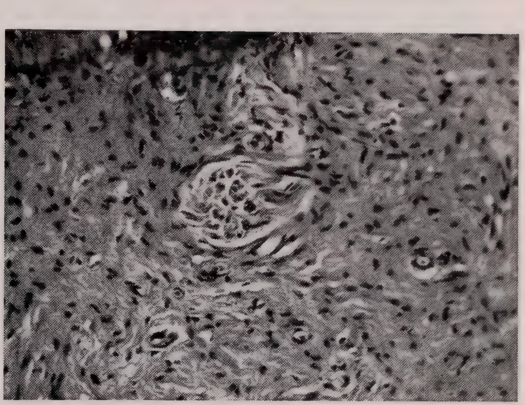

FIG. 3. Whorls of connective tissue fibers and fibrocytes with occasional small nerve trunks.

While the disease has a predilection for the cutaneous and subcutaneous structures, reports indicate involvement of the brain and spinal cord where they frequently cause compression phenomena.[4] Neurofibromatous lesions have also been found in the gastrointestinal tract and here take their origin from the intrinsic nerves. The endocrine system with the pituitary and the adrenal glands are other sites where typical lesions of von Recklinghausen's disease have been found.

The disease is considered to be due to faulty neuroectodermal development. The peripheral tumors are predominantly composed of connective tissue with some neurofibrils (Fig. 3). The lesions in the central nervous system are thought to be glial in origin. The original concept of von Recklinghausen that neurofibromas are derived from the connective tissue sheaths of the nerves is still accepted by most pathologists today.

Summary

An unusual case of von Recklinghausen's disease with extensive cutaneous and subcutaneous manifestations is described. The case also illustrates familial and hereditary features which previous authors have noted. The disease is compatible with long life except when occurring in the brain or spinal cord where it may give rise to compression phenomena.

The authors wish to thank Mr. E. Entin for the photographs appearing in this article.

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Labor Complicated by Previous Ankylosis of the Hip for Tuberculosis

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THE literature is scanty concerning labor in women with acquired abnormal pelves due to either trauma, specific disease, or neoplasm. When tuberculous coxitis occurs in early life, it nearly always causes an obliquely contracted pelvis. Eastman[1] states that serious dystocia may occur in these cases, even though the pelvic contraction is not pronounced, and recommends cesarean section in cases of unengagement. Wilkinson,[2] reporting on five cases of tuberculosis of the hip and pregnancy, concluded that a patient with a fixed hip or even two fixed hips may have a normal labor. Seddon and St. Clair Strange,[3] studying 176 cases of sacroiliac tuberculosis, found that in nine cases of well-healed hip tuberculosis pregnancy was allowed to go to term, and the patients were delivered spontaneously. Voeglin and McCall[4] report two cases of hip tuberculosis with delivery by cesarean section in one and forceps in the other.

We wish to add two cases of labor complicated by previous spontaneous or operative ankylosis of the hip for tuberculosis.

Case Reports

CASE 1.—G. J., age twenty-two, was gravida 1, para 0. Menarche began at the age of twelve and was of the twenty-eight-day type with a four-day flow. Her last menstrual period was September 25, 1952; expected date of confinement was July 2, 1953.

Between the ages of nine and thirteen she had had several operations at the Hospital for Joint Diseases for tuberculosis of the left hip with resulting ankylosis.

Her prenatal course was uneventful, and she was admitted to the Bronx Hospital for evaluation on June 19, 1953, two weeks before term. Pelvimetry by the method of Snow* revealed a contracted inlet and mid-pelvis and a complete fusion of the left hip (Fig. 1).

Because of the pelvic contraction (true conjugate 9.2 cm.), it was decided to do an elective section one week before term. However, the patient went into spontaneous labor on June 22, 1953. Examination at that time revealed a vertex presentation, unengaged. A two-flap cesarean section was done under spinal anesthesia, and a living 6-pound, $8^1/_2$-ounce male infant was delivered. The patient had an uneventful puerperium.

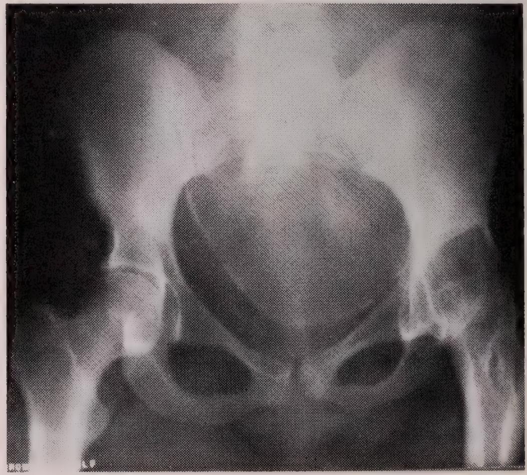

FIG. 1. Fusion of the left hip in Case 1.

At the six weeks postpartum follow-up on August 8, 1953, the abdominal scar was well healed; the uterus was anterior and well involuted.

Comment.—This is a case of ankylosis of the hip in early childhood with subsequent cesarean section for cephalopelvic disproportion due to a contracted pelvis.

CASE 2.—T. E., age twenty-three, was gravida 1, para 0. Menarche began at the age of fourteen and was of a thirty to thirty-one-day type with a five-day flow. Her last menstrual period was September 11, 1952; expected date of confinement was June 18, 1953.

At the age of four the patient had had a fusion of the right hip for tuberculosis.

Her prenatal course was uneventful. She was admitted to the hospital on June 27, 1953, having moderate pains.

Rectal examination revealed a vertex presentation, unengaged; cervix thin, one finger dilated. Pelvimetry demonstrated a large gynecoid pelvis, fusion of the right hip, and tilting of the pelvis with compensatory scoliosis of the dorsolumbar spine (Fig. 2).

After thirty-four and one-half hours of labor a vaginal examination showed the vertex to be still unengaged; cervix was three fingers dilated, and the membranes were intact. The Hillis sign was negative. The patient had received sedation and intravenous fluids.

Because of cephalopelvic disproportion a two-

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* *Clinical Roentgenology of Pregnancy* by Snow[5] gives a table of normal basic values for the female pelvis.

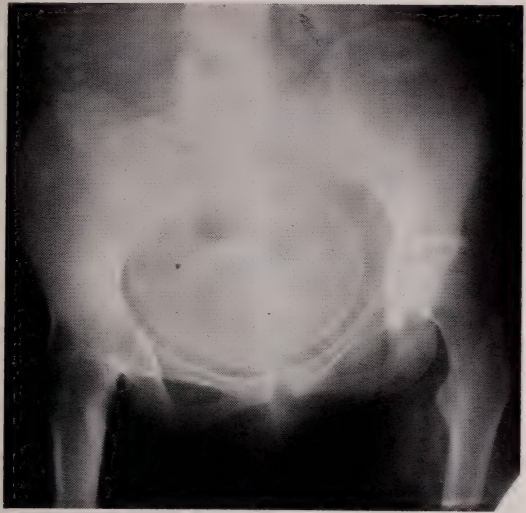

FIG. 2. Fusion of the right hip in Case 2.

flap cesarean section was performed under spinal anesthesia, and a 9-pound, 1-ounce living male was delivered from a right occiput posterior position. The patient had an uneventful postoperative course.

Comment.—This is a case of ankylosis of the hip in early childhood with subsequent cesarean section for cephalopelvic disproportion due to a large baby.

Summary

Two cases of labor complicated by previous hip ankylosis for tuberculosis ending in cesarean section are reported.

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Civil Defense Medical Supplies for Target Cities

Lieut. General C. R. Huebner, New York State Civil Defense Director, announced today that ten of New York State's 11 target cities now have stored within their city limits State Aid Station Outfits—complete medical equipment, from litter-cots to surgical instruments, for operating aid stations after an atomic attack.

These SASOs, as the outfits are called, are part of Civil Defense medical supplies worth $14,000,000 being stockpiled throughout the State for use in a disaster.

Target cities (those cities most likely to be attacked by an enemy) in New York State are: New York City, Albany, Troy, Schenectady, Binghamton, Utica, Syracuse, Rochester, Buffalo, Niagara Falls, and North Tonawanda. Each has been given an allotment of SASOs for use after attack. The SASOs distributed to the target cities represent 30 per cent of 2,902 outfits purchased by the State for stockpiling. The remaining 70 per cent, according to Gen. Huebner, will be stored in State stockpiles outside target cities.

In making the announcement Gen. Huebner said, "Target cities have been asked to store State Aid Station Outfits within their city in buildings which can be used as aid stations. If the city is attacked, some of these SASOs may be destroyed, but that is a risk we must take. Some will remain intact and can be placed in operation immediately. The additional outfits alloted to target cities will be sent from State depots automatically under standing orders, when word is received that a city has been attacked.

Each aid station outfit contains 75 different items of medical supply, in quantities sufficient to treat up to 300 injured persons. Total cost of each SASO is $1,863. Included are: first aid kits for stretcher teams to use when treating the injured in the field; varieties of ten basic surgical instruments with which physicians can give extensive emergency care; dressings and bandages, including four special types of dressings for burn victims; drugs and antibiotics, including penicillin, aureomycin, and terramycin; a small stove, pan and fuel for sterilizing surgical instruments, and many other items including medical record tags, soap, signs, cups, pencils, tongue depressors, blankets, and litter-cots.

Number of SASOs alloted to each target city for storage within their city limits, and the number of outfits which will automatically be sent to each target city if it is attacked, are shown in the following table:

Target City	Number of SASOs Allocated for Storage within City Limits	Number of SASOs to be Sent into City if Attacked
New York City	435	1,016
Buffalo	153	358
Rochester	82	190
Syracuse	54*	125
Albany	33	75
Schenectady	23	55
Utica	25	58
Troy	18	44
Niagara Falls	22	50
Binghamton	20	45
North Tonawanda	6	15

*Have not been accepted or stored by city.

Development of Voluntary Nonprofit Medical Care Insurance Plans

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The Medical Society of the State of New York during the past forty years has shown keen interest in the economics of medicine and had the foresight to recognize socioeconomic changes in medicine, as they affected the doctor and the patient, as early as the annual meeting of the House of Delegates in April, 1915.

It was recommended at that meeting by Dr. Grover W. Wende, president of the State Society, that a standing committee of five members be created to be known as the "Committee on Medical Economics." The purpose of this committee was to watch for the appearance of any movement affecting the economic life of the membership and to begin at once an investigation when such a movement was discovered and report the findings and recommendations of the committee at least annually to the House of Delegates.

At the December 15, 1915, meeting of the Council a committee was appointed to propose amendments to the Bylaws to provide a medical economics committee. These amendments were adopted at the May, 1916, meeting of the House of Delegates. Dr. James R. Rooney was the chairman of this committee.

We find that prior to May, 1916, a bill was introduced in the Legislature of the State of New York, by Senator Mills, which would enable every employe whose income was not over $100 a month to be given the right to have the care of physicians, medicines, etc., when he became ill or injured; Dr. James R. Rooney opposed the enactment of this proposed law and asked for a commission to investigate the whole question of health insurance.

The first Committee on Medical Economics was approved at the May, 1916, Council meeting and Dr. Samuel J. Kopetzky was appointed chairman.

At the House of Delegates meeting in April, 1917, Dr. Samuel J. Kopetzky, chairman of the Committee on Medical Economics, reported that the committee had two functions: (1) educational, to arouse the medical profession to an interest in compulsory health insurance, and (2) to make an independent study of health insurance from the medical standpoint and to be prepared to lay down the fundamentals of the medical provisions in such a law, should its passage become imminent.

We find in May, 1919, under the report of the president, that Dr. Thomas H. Halstead discussed the Davenport-Donohue bill for compulsory health insurance and found it very objectionable to the medical profession. The House of Delegates that same year was instructed to introduce a resolution in the House of Delegates of the American Medical Association opposing the scheme of compulsory health insurance.

Also, in the House of Delegates meeting of May, 1921, the committee reiterated their position by stating in part that "the Medical Society of the State of New York is emphatically opposed to 'State Medicine' and to any scheme for health centers, group medicine, and diagnostic clinics, either wholly or partly controlled, operated or subsidized by the state or national government; and that the Delegates from the Medical Society of the State of New York present this resolution to the House of Delegates of the American Medical Association in June."

At the May, 1925, House of Delegates meeting the Committee on Medical Economics reported it was their opinion that compulsory health insurance was a dead issue and that the stand against it by the medical profession in New York State undoubtedly had a more far-reaching influence and did more to unify the profession than any other one thing in the history of medicine. However, the Legislation Committee at the House of Delegates meeting in 1926 reported that the health insurance bill of four years ago was reintroduced and got no further than the Assembly, and at the June, 1929, meeting it was resolved that the president be empowered to appoint a special committee to consider the problem (cost of medical care) and report to the Council of the Medical Society of the State of New York for the purpose of giving that information to the public.

It is interesting to note that the May, 1932, House of Delegates received a report that the Committee on Medical Economics felt there should be some ready means or method for the citizen, who desires to remain in the self-respecting and self-supporting class, to provide for himself and his family if the emergency overtakes him when he has no ready cash. "We conceive that in this way, in a measure, we may combat one great argument for socialized sick care. The importance of it justifies further consideration." The House recommended that the committee continue its study regarding available types of saving and community service plans where an individual could save money for unexpected illness. Apparently this is the first time that the idea of medical care insurance appeared in the thinking of the Medical Society of the State of New York.

At the Council meeting of April, 1933, it was resolved that the House of Delegates authorize the appointment of a special committee of five by the president for the purpose of studying and preparing a plan of medical service for the people of New York State. This was referred to the executive committee and tabled.

At the May, 1933, House of Delegates meeting the House authorized the appointment of a special committee of five to study and prepare a plan for medical service for the people of the State of New York. This was referred to the executive committee of the Council, and the president of the Society appointed the committee with Dr. Arthur W. Booth as chairman.

Again at the May, 1935, meeting of the House of Delegates it was resolved that the House of Delegates reaffirm its opposition to all forms of compulsory sickness insurance, particularly expressing its opposition to the so-called Epstein Bill proposed by the American Association for Social Security, as introducing a hazardous principle of multiple taxation with inordinate costs.

At the May, 1937, House of Delegates meeting a report of the Council was given in which medical expense insurance was defined as a form of insurance whereby an individual, by making payments of stated premiums, purchased a definite sum of money in cash which was thus made available to him for the payment of individual physician's charges for professional services. The House recommended endorsement of the report.

Dr. Frederic E. Elliott, chairman of the Committee on Medical Economics, reported at the February, 1938, Council meeting that the suggestions of the Society had been adopted in the tentative draft of the original section of Article IX-c of the Insurance Law under which voluntary nonprofit medical-dental indemnity and hospital service corporations could operate. The Council instructed its Legislation Committee to support legislation for an amendment to the Insurance Law which would permit nonprofit cash indemnity medical insurance plans. The amendment to the law became effective June, 1939.

At the Council meeting of January, 1939, a report of conferences between the Associated Hospital Service, Inc., of New York City and State and metropolitan county medical society representatives was given regarding the feasibility of medical expense insurance being written by the Hospital Service Corporation. A special committee was appointed consisting of representatives of the State Society and the Associated Hospital Service of New York, Inc., to study this matter, and at the April, 1939, House of Delegates meeting the report of the Council stated in part that "nonprofit agencies for hospital care should not undertake to supply medical care insurance either in or outside of the hospital."

A Medical Expense Insurance Subcommittee was formed under the Council Committee on Public Relations and Economics in 1939, Dr. Herbert H. Bauckus, chairman. He reported at the December, 1939, meeting of the Council that the first three plans to incorporate under Article IX-c of the Insurance Law would soon approach the State Department of Insurance for permission to operate. These companies were the Western New York Medical Plan, Inc., Buffalo; Medical and Surgical Care, Inc., Utica; and Medical Expense Fund of New York, Inc., all nonprofit plans underwritten by their own participating physicians. Approval was required from each local county medical society before they could offer service in those respective counties.

These brief sketches over a period of twenty-five years show what has transpired within the State Society and indicate definitely its tremendous interest in opposing any compulsory health insurance scheme and that it is now upon the threshold of a new era in offering to the public a program which will enable it voluntarily to provide for medical care costs through voluntary nonprofit plans. It is particularly interesting also to note that during this period of twenty-five years, no commercial insurance company was interested to volunteer to enter into this field of medical care insurance.

At the end of 1940 the voluntary plans in New York State had a membership of 4,100 and paid to the doctors for their services $10,700. During the next five-year period two new plans were organized: Medical Expense Fund of New York, Inc., and Community Medical Care, Inc., New York, combined to form United Medical Service, Inc., as of July 1, 1944, with operating offices in New York City, and the Central New York Medical Plan, Inc., Syracuse, was formed. At the end of that period membership had increased to 268,000, and payments to doctors had reached one million dollars.

In this five-year period the pressure for socialized medicine from both government and the public was constantly growing stronger, and the only rebuttal that the medical profession had to offer was a program of their own making—Blue Shield medical care plans.

In its report to the 1944 House of Delegates the Planning Committee for Medical Policies stated in part that "in its opinion the time had come for the State Society to stimulate these plans, facilitate their expansion, and exercise supervision over the whole program and recommended the establishment of a Bureau of Medical Care Insurance by the State Society under a full-time director, and with necessary personnel." The Reference Committee on Planning Committee for Medical Policies concurred in the recommendation to establish a Bureau of Medical Care Insurance as outlined in the report to the House, and this was adopted by the House. In February, 1945, the Bureau of Medical Care Insurance was established by the State Society, and George P. Farrell of Buffalo was engaged as full-time director of the Bureau.

Pressure for socialized medicine increased steadily during the next five-year period. However, at the end of 1950 membership in the New York State Blue Shield plans had increased to over 2,700,000, and payments to doctors exceeded 13 million dollars. During this same period two additional Blue Shield plans were organized: the Genesee Valley Medical Care, Inc., Rochester, and Northeastern New York Medical Services, Inc., Albany.

The 1946 House of Delegates adopted a recommendation that through the Bureau of Medical Care Insurance greater integration of interest be sought among the New York State Blue Shield Plans working toward uniformity throughout the State. The Subcommittee on Medical Expense Insurance of the Council Committee on Economics, Dr. A. H. Aaron, chairman, recommended to the 1947 House of Delegates the establishment of Standards for Approval by the Medical Society of the State of New York of New York State medical care plans, and these were unanimously adopted. The original standards have been amended by action of the House of Delegates on two occasions. The purpose of the standards was to protect the interests of the public and the doctor.

The basic principles of the standards are as follows: approval of the county medical societies in whose area a plan operates; a majority of the governing body of a plan shall be physicians who are acceptable to the local county societies or the Medical Society of the State of New York; free choice of physician by the plan member; payment for a doctor's services shall be made direct to a participating physician on filing of claim for such services; and to obtain approval each plan shall submit to the Bureau of Medical Care Insurance information at least quarterly on a uniform reporting form so that all phases of the plan's activities may be analyzed and quarterly reports made to the plans, the Council, and secretaries of component county medical societies regarding progress; approval or duration of approval of a plan will not be granted where accommodation in a hospital is the sole and only basis for remuneration of the physician regardless of the patient's income.

Two voluntary nonprofit medical care plans which have applied to the State Society for approval have not qualified according to the Standards for Approval.

The information required of a plan to qualify for approval has been used in compiling comprehensive annual progress reports on the activities of each plan and have been published in the NEW YORK STATE JOURNAL OF MEDICINE. The annual and quarterly reports have become invaluable to the plans and the medical profession for they indicate trends in utilization which affect the costs of medical care.

At the October, 1948, meeting of the Council of the Medical Society of the State of New York, a report of the Council on Medical Service of the American Medical Association opposing the formation of a national health insurance company under the auspices or direction of Blue Cross-Blue Shield was adopted. The Subcommittee on Medical Expense Insurance was instructed to notify all of the Blue Shield medical care insurance plans in New York State to that effect.

The Council Committee on Economics reported the recommendation of the Subcommittee on Medical Expense Insurance to the Council at its March, 1949, meeting that a State-wide contract be established to offer surgical, in-hospital medical benefits, including fractures and maternity; that surgical care be rendered in the hospital, home, or physician's office; and that maternity care be confined to in-hospital cases, the contract to embrace service and indemnity features, the point of distinction being income limits with tentative income ceilings of $2,500 for an individual and $4,500 for the family of two or more.

The Subcommittee on Medical Expense Insurance submitted a report to the Council at the February, 1950, meeting on a meeting held with Blue Shield plan presidents for the purpose of discussing contract provisions and schedule of allowances for the uniform State-wide contract. The chairman pointed out that the subcommittee has no power and that matters discussed and acted upon at the meeting should be presented before local area groups for study and action. On December 13, 1950, at a joint meeting of the Subcommittee on Medical Expense Insurance and Blue Shield plan presidents, it was voted to submit an amended uniform State-wide contract to each county medical society for consideration and report. Twenty-seven county medical societies indicated acceptance in principle of the uniform State-wide contract on a service basis. At the November 13, 1952, meeting of the Subcommittee on Medical Expense Insurance, Dr. Carlton E. Wertz, chairman, advised the committee that because of the inability of the Western New York Medical Plan, Buffalo, and Medical and Surgical Care, Utica, to enter into a service type contract, any State-wide contract would necessarily have to be one of indemnity. Subsequently, an indemnity contract embodying most of the provisions of the proposed service type contract and schedule of allowances was drafted and submitted to the plans, together with an optional rider to provide x-ray, anesthesia, pathology, and physical therapy.

At the close of 1952, all areas in New York State were covered by a Blue Shield nonprofit voluntary medical care insurance plan. The latest plan to begin operations was the Chautauqua Region Medical Service, Inc., Jamestown, New York.

At the end of 1954 membership in the seven New York State Blue Shield Plans was in excess of 4,800,000, and payments to doctors exceeded $34,750,000.

During the past eight years commercial insurance companies have entered the field of offering group surgical and/or medical insurance on an indemnity basis. It is important to point out why they cannot fill the socioeconomic needs of the people in the same respect that Blue Shield can, because (1) they operate for profit, (2) they do not offer to small groups of employes or individuals the same benefits as Blue Shield under similar conditions, (3) they indemnify the subscriber and not the doctor, and (4) they cannot provide service benefits to the insured member.

Under consideration by the Subcommittee on Medical Expense Insurance at the present time is the inclusion of catastrophic coverage, to be added as a rider to existing Blue Shield contracts, for the care of long and costly illnesses. This is being studied by the Bureau of Medical Care Insurance. Lack of this coverage is one of the chief complaints in the report to the President by the President's Commission on the Health Needs of the Nation recently made; also the inclusion of anesthesiology, pathology, x-ray, and physical therapy in Blue Shield plans which do not provide them.

The Bureau of Medical Care Insurance has been active in keeping the medical profession and Blue Shield Plans apprised of the activities of Health Service, Inc., the national Blue Cross insurance corporation, and Medical Indemnity of America, Inc., the national Blue Shield insurance corporation. The purpose of these two corporations is to offer uniform coverage to employers whose employes are located in different areas of the United States. Local Blue Shield plans have an invested interest in Medical Indemnity of America, Inc.

In conclusion, from the facts it becomes evident that the Blue Shield Plans in New York State are only beginning to accomplish their objectives. It is reasonable to assume that within the next five years in this State there will be six million members and that payments made directly to doctors will be in excess of 50 million dollars annually. Because payments are made directly to the participating physicians, which is not the case in commercial companies, there is eliminated any possibility of the physician not receiving full compensation for his services.

During the past seven years the average income of workers has been above normal. However, in the event of a recession millions of the doctor's patients who have Blue Shield will continue it, thereby guaranteeing to the doctor compensation for his services. This is particularly significant in Blue Shield plans because in commercial programs a subscriber who leaves a group through which he is enrolled can no longer continue his protection.

This brief résumé regarding the economics of medicine in the Medical Society indicates that from 1915 to 1940 a definite program was formulated, and the fourteen-year period from 1940 to 1954 shows tremendous accomplishment in offering voluntary prepaid medical care insurance to the public. If medicine wishes to protect its economic interests and the distribution of medical service and to offer a program which will prevent socialized medicine, it cannot afford to relinquish to any outside interests what it has fought for over the last forty years.

Weather is Important to Well-Being

Blaming the weather for "blue" moods and bad colds is not at all unscientific. The weather was blamed for the common cold as long as 2,000 years ago and scientific investigation has shown that Hippocrates was right, Dr. Noah D. Fabricant said.

In fact, weather changes are reflected in all of the body's processes, and can have an effect on emotions, colds, asthma, heart disease, and even suicide. The weather can often be "the straw that breaks the camel's back," Dr. Fabricant said in the January *Today's Health* magazine, published by the American Medical Association.

There's an explanation for it. Tests have shown that "every change in weather involves a physiologic adjustment in everyone." For instance, colds increase when temperature drops because the membranes of the nose and throat become altered and fall easy victim to invading germs. In fact, scientists have said that the form of the nose depends on the climate—the colder the climate, the narrower the nose. Eskimos have narrower noses than Africans.

At least somebody is trying to "do something about the weather," Dr. Fabricant said. Taming the weather has become a foremost interest of many engineers, architects, meteorologists, and physicians. Some planners are convinced that buildings could be placed to serve as windbreaks, streets laid out to avoid wind channels, and houses built to reject rather than absorb heat. One way to prevent the shock of going from an air-conditioned room into the heat, or from a heated room into the cold, is to have a closer adjustment between the two atmospheres.

"Some physicians believe that a number of diseases will respond to controlled weather and climatic conditions," he said. "Though more than a beginning has been made toward deflating the common cold nuisance, it is reasonable to expect that in the future attention to controlled atmospheric conditions will play a role in ameliorating colds."

SPECIAL ARTICLE

What Should Doctors Know About Hospital Costs, and How May They Obtain This Information?

JAMES GREENOUGH, M.D., ONEONTA, NEW YORK

(*Vice-Chairman, Special Committee on Hospital and Professional Relations, Medical Society of the State of New York*)

The doctor cannot survive without the hospital. Neither can the hospital survive without the doctor. Not only is this reciprocal relationship self-evident, but as a corollary the best care of the patient will be obtained when the hospital and the physician work in harmony.

When we ask ourselves how this harmony may be achieved, it is apparent that the answer is closer understanding and closer relationship between hospital management and the professional staff. The board and the superintendent must appreciate the problems of the staff, associated with professional conduct, ethics, competence—all the factors which influence the medical care each physician may give his patients. The members of the staff must realize the problems of management. If each doctor is to get the greatest benefit from the hospital for his patients, he must recognize that efficient management is to a great extent his responsibility.

Management has to provide an adequate plant. Plant investment, the value of buildings and equipment, endowment fund, and general fund constitute the capital structure of the hospital. To man and to make this plant function, management, as you well know, sets up various departments or accounts. These vary in different institutions but usually consist of (1) overhead—administration; (2) maintenance of plant—dietary, laundry, housekeeping, heat and light or utilities, maintenance repairs, and depreciation; and (3) diagnosis and therapy—medical and surgical services, nursing care, medical records and library, social service, x-ray, laboratory, physiotherapy, and pharmacy.

Hospital costs have risen greatly in the past twenty-five years. Several factors are responsible for this increase:

1. Advances in diagnosis and therapy have greatly multiplied the supplies necessary to render good medical care.
2. Increased employment throughout the country has decreased the available labor supply. Hospitals must now compete with all other employers to obtain labor, and consequently the unit price has advanced.
3. More intricate and complicated diagnostic and therapeutic procedures require a higher type of labor than in the past, as exemplified by laboratory and radiologic technicians, physiotherapists, nurses, and nursing supervisors.
4. More labor is required to make a hospital function. An article in *Hospital Accounting*, February, 1954, page 20, points out that hospital personnel has risen in a few years from 39 to 70 per cent of hospital costs.
5. Reduction in the length of the working week to forty or forty-four hours.
6. Depreciation of the value of the dollar, which is common to all activities.

The physician wants his patient to have the best possible service. It shortens the patient's morbidity, reduces his mortality, and by satisfying him cements the patient-doctor relationship. At the same time the physician wants to keep hospital costs down. He, as well as the layman, has to pay hospital bills. From personal experience he knows how financially crippling hospital charges may be, and from daily contact with his patients he realizes it even more than a layman. Knowledge of the costs of the various services the hospital provides will help the doctor accomplish both aims—improvement in service and reduction in costs.

Industry, realizing the rising cost of labor, is aiming to increase the efficiency of personnel rather than to increase its numbers. Doctors are a high class of hospital personnel and control most of the other personnel. Increasing the physician's efficiency in hospital administration will pay large dividends.

Let me quote from the Summary Report of the Commission on Financing Hospital Care: "The total cost of direct service to hospital patients is largely determined by the attending physicians on hospital staffs. Recognition by physicians of the economic factors involved in their use of hospital facilities and consideration of these factors together with the medical needs of the patient would do much to help reduce the costs of hospital care to the pa-

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Presented at the Institute on Hospital Administration, New York City, February 10, 1955.

tient and the community." And—"Individual medical staff members determine by their decisions the immediate quality and the direct cost of hospital care."

A well-run hospital must have a reasonable cost-accounting system, although unfortunately this presents a number of problems due to tradition, varying size and activities of different hospitals, and variations in localities. To tell the members of the staff the costs of services and to formulate rates for services, the cost of each service must be known with fair accuracy.

Let's see what each staff member may do to reduce hospital costs. I suggest a few pretty evident examples. You can probably think of many more.

1. Costs of drugs, sutures, gauze, and similar supplies: Ready acceptance of a few standard items by all members of the staff will be more easily obtained if they understand the expense involved in carrying an unnecessarily large inventory of similar or almost identical items because each man wants his own particular favorite. The amount of gauze, sutures, solutions used or wasted in the operating room, delivery room, or on the wards may be greatly reduced by the cooperation of staff members. Most doctors on the staff have little knowledge of the cost of drugs, especially the new expensive ones like the latest antibiotics, rolls of adhesive, "four by fours," abdominal pads, intravenous solutions, sutures, and ligatures. Lists of costs would be very enlightening to some members of the staff. The saving of a few cents a day in supplies by each staff member would amount to a large sum of money by the end of a year.

2. Point out to the staff the added expense of a census that varies greatly from day to day. The administrator or a member of the board could easily, in a short talk, impress upon the staff members the difficulties entailed in having the personnel work at over capacity and the waste of time when the average personnel has not enough work to keep busy. It would be nice to lay off and rehire at short notice, but this cannot be done, and if it were possible, it would destroy efficiency. The staff could try to arrange admissions and operations to level off these inequalities and allow the hospital personnel to work at full capacity and reduce cost.

3. Explain to the staff why admissions and discharges at certain times increase costs in the administrative department. Ask for their cooperation in trying to see that someone will pay each patient's bill. Ask the doctors to obtain authorization from the welfare department *before* the patient is admitted whenever possible. The staff could try to have elective patients talk with the admitting office some time before admission. If the physicians realized the amount of uncollectible bills and how this figure could be reduced by their cooperation, surely they would help the administrator in any way that they could.

The members of the staff should realize how much it costs to call in personnel such as x-ray and laboratory technicians for overtime when by a little forethought this would not be necessary. They should know how much it costs to keep the operating room waiting; not only does it cost money to the hospital, but it reduces efficiency.

How is this information to reach the members of the staff? If the board and the administrator know the costs of each service, that is the easiest problem of all. The information should come spontaneously and tactfully from the board and administrator. As you all know, when you want cooperation, much more is accomplished by pointing out obvious truths than by issuing autocratic orders.

The superintendent meets with the board and with the staff periodically. One or more senior members of the staff should attend each meeting of the board. They do not need to vote, but listening to the discussions, asking a few questions, and occasionally making a suggestion will enable these members of the staff to understand the problems of management far better. They, in turn, can bring information back to the staff. In a similar manner one or more members of the board with the superintendent should attend all staff meetings where the business of the staff is discussed. Professional staff meetings are not of much importance to members of the board. However, the presence of board members at some staff meetings enables them to see some of the staff problems and to point out to the staff from time to time what the physicians can do to improve hospital service and reduce costs.

One other very important method for improving staff-board relationships and, again, getting better service for less cost is to appoint joint subcommittees of board and staff to study finance, housekeeping, maintenance, purchasing, professional care, ancillary services, etc. By working hand in hand on difficult hospital problems, board and staff members learn to get along. And who profits? The patient!

I work in a small hospital of about 100-bed capacity, but, as I said before, the principles I have advocated will work in a hospital of any size with appropriate variations. Since the war our hospital has made the changes which I have outlined. In 1946 the chief of staff was invited to attend all meetings of the board without voting privileges. In 1952 the immediate past chief of staff was similarly invited to attend. In 1947 the president or vice-president and one other member of the board were invited to attend business meetings of the staff. In 1951 several joint subcommittees of board and staff were appointed. Each committee had one or two members of both board and staff. They studied finance, budget, and rates; purchasing;

professional care of patients; diets and kitchen; housekeeping, and maintenance of plant. With each of these steps the board and staff have had closer and more pleasant relationships. A deficit of $20,000 to $30,000 a year has been changed to a surplus of $35,000 last year. All this has resulted while the hospital rates are still below the average in the surrounding area. Meantime, the services have all been markedly improved.

An esprit de corps has developed in the board, the staff, and the hospital personnel which has resulted in a campaign, now going on, to raise funds for a million-dollar addition to the hospital. Of course, doctors should know the costs of hospital care, and close cohesion of staff, board, and administrator is the only method by which they can learn these all-important facts.

11 Lawn Avenue

Lab Reports Study on Tar, Nicotine in Cigarets

It's not only the kind of cigaret you smoke but how short you smoke it. This finding was reported by the chemical laboratory of the A.M.A. which made the last series of reports on cigarets, cigaret smoke, filters in the April 9 *J.A.M.A.*

If you're concerned about how much nicotine and tar gets to your mouth when you smoke, you almost have to have a chart in your hand. If you want the least amount, you'd do well to smoke a king size laminated asbestos-paper filter cigaret but only if you put it out while the butt is about 1$^1/_2$-inch long. If you smoke it any shorter, you get more nicotine and tar than you do from a regular size.

Other filtered king-size cigarets let a little more nicotine and tar through. A regular length no-filter brand screens out still less, but you can smoke it down to about 1 inch and get less nicotine and tar than if you smoked a king size and threw it away when it got to the 1$^1/_2$-inch stage. This means, the laboratory said, that you can't get more protection and a longer smoke at the same time, in spite of what the advertisements say.

It doesn't seem to make much difference whether you smoke a regular cigaret or some filter tip kind since tobacco itself is as good a filter as some of the tips. But a length of filter made from cellulose acetate fiber, asbestos-paper, or activated charcoal with paper is a more efficient screener than the same length of tobacco at the end of a regular brand.

In earlier reports of the series, the chemical laboratory found:

(1) A laminated asbestos-and-paper filter removes more nicotine and tars than other types, but most of the common types of filters allow as much or more nicotine and tars to reach the mouth than a regular unfiltered cigaret.

(2) So-called "denicotinized" cigarets, made from tobacco with lower nicotine content, allow less nicotine to reach the mouth than regular cigarets, but have much heavier tar concentrations.

(3) A cigaret holder using a cigaret as filter is most effective, followed by a holder using a cylinder of silica crystals. Other holders studied appeared ineffective in screening nicotine and tar.

Here's the order in which the chemical lab placed the cigarets tested, beginning with the one which allows the least amount of nicotine through to the mouth:

(1) Denicotinized brands; (2) cellulose acetate fiber filter; (3) activated charcoal with paper filter king size, and laminated asbestos-paper filter king size; (4) no-filter king size; (5) no-filter regulars; (6) cotton filters, and (7) two brands of no-filter regulars.

The list holds true only if you smoke king size cigarets about two-thirds through. If you smoke them any shorter, they give you just as much or more nicotine and tar than a regular size. Some of the cigarets change places in the list when it comes to tars. Here's the order for tar, beginning with the least amount:

(1) Laminated asbestos-paper filter king size; (2) activated charcoal with paper king size; (3) cellulose acetate fiber, regular or king; (4) no-filter king size; (5) cotton filter; (6) some denicotinized brands; (7) no-filter regular length, (8) and other denicotinized brands.

Department of

MEDICAL CARE INSURANCE

Conducted by GEORGE P. FARRELL, *Director*

Ninth Annual Progress Report on New York State Blue Shield Plans

The Bureau operates under the direction of the Society's Council Committee on Economics and its Subcommittee on Medical Expense Insurance. The statements in this report reflect the operation of the plans for the year ending December 31, 1954, and comparisons with previous years.

Membership.—At December 31, 1954, membership totaled 4,867,293, an increase of 555,829.

Earned Premium Income and Benefits to Members.—Net earned income on premiums received amounted to $49,214,498, an increase of $6,290,760, and incurred benefits to members were $35,043,006, an increase of $4,575,251.

Payments to Doctors.—Claim payments to doctors amounted to $34,790,635, an increase of $5,329,038.

Surplus and Maternity Reserves.—Total surplus at December 31, 1954, amounted to $23,281,494, an increase of $7,381,625. Reserves for deferred maternity benefits amounted to $5,576,806,

TABLE I.—Comparison of Total Surplus (per Contract and per Member) and Reserve for Deferred Maternity Benefits (per Family Contract) for Years Ending December 31, 1954, 1953, 1952, and 1951

Location	Total Surplus	Per Contract	Per Member	Maternity Reserve	Per Family Contract
New York					
1954	$17,630,817	$11.07	$5.07	$4,090,000	$6.49
1953	12,047,367	8.49	3.94	3,700,000	6.72
1952	7,337,585	5.75	2.70	3,555,000	7.40
1951	4,297,329	3.63	1.74	3,012,000	6.81
Buffalo					
1954	$ 1,919,168	$ 9.58	$3.93	$ 580,000	$4.35
1953	1,187,163	6.39	2.63	525,000	4.27
1952	861,672	5.51	2.25	445,000	4.22
1951	443,149	3.11	1.25	380,000	3.89
Rochester					
1954	$ 1,702,024	$12.27	$4.98	$ 393,497	$4.15
1953	1,107,709	8.77	3.58	333,254	3.89
1952	608,831	5.73	2.35	328,099	4.58
1951	209,329	2.27	.93	374,598	6.02
Syracuse					
1954	$ 437,744	$ 7.55	$3.05	$ 125,123	$3.56
1953	323,214	7.92	3.15	98,868	3.86
1952	197,327	6.64	2.63	86,007	4.51
1951	96,277	5.00	1.93	47,503	3.61
Utica					
1954	$ 806,414	$10.26	$4.41	$ 229,207	$5.49
1953	705,795	9.26	3.99	229,207	5.69
1952	570,522	7.52	3.37	229,207	5.44
1951	482,759	6.83	3.15	204,207	5.28
Albany					
1954	$ 745,076	$ 8.03	$3.46	$ 138,000	$3.67
1953	508,336	5.96	2.53	137,000	3.85
1952	275,616	4.24	1.82	104,000	3.88
1951	183,699	3.30	1.39	97,000	4.04
Jamestown					
1954	$ 40,251	$ 5.36	$2.32	$ 20,979	$7.36
1953	20,285	3.30	1.46	13,944	6.21
1952	3,271	1.05	4.75	6,634	6.10
Totals					
1954	$23,281,494	...	...	$5,576,806	...
1953	15,899,869	...	...	5,037,273	...
1952	9,854,824	...	...	4,753,947	...
1951	5,711,542	...	...	4,115,308	...

Note: Maternity Benefits are also included on Husband and Wife contracts in the Utica Plan. Allowances for normal obstetric delivery are as follows: New York $75, Jamestown $90, Buffalo $65, Rochester, Syracuse and Utica $60, Albany $50.

an increase of $539,533.

Medical and Surgical Care, Inc., Utica, has segregated from Unassigned Surplus $24,000 for Special Investment Valuation.

United Medical Service segregated from Unassigned Surplus $694,949 which was transferred to the surplus account for Epidemics and Other Contingencies, making a total of $1,865,318 as of De-

TABLE II.—COMPARATIVE CLAIM INCIDENCE (FREQUENCY WITH WHICH CLAIMS OCCUR) PER 1,000 PARTICIPANTS PER ANNUM (BY TYPES OF CONTRACTS) FOR YEARS ENDING DECEMBER 31, 1954, 1953, 1952, AND 1951

Location	Surgical	Surgical and In-Hospital Medical	Surgical-Medical (Home, Office, Hospital)
New York			
1954	105.2	134.9	1,456.7
1953	101.7	126.0	1,343.3
1952	96.1	122.2	1,229.3
1951	85.5	106.4	966.8
Buffalo			
1954	274.5	313.8	..
1953	254.8	273.7	..
1952	233.6	345.4	..
1951	216.6	343.9	..
Rochester			
1954	212.8	..	..
1953	189.2	..	..
1952	171.3	..	..
1951	155.1	..	..
Syracuse			
1954	313.3	257.7	521.1
1953	280.5	228.4	467.7
1952	200.6	..	373.6
1951	174.9	..	417.7
Utica			
1954	210.9	278.3	..
1953	216.2	279.1	..
1952	228.4	247.2	..
1951	226.7	282.0	..
Albany			
1954	..	184.0	..
1953	..	147.9	..
1952	..	168.5	..
1951	..	148.4	..
Jamestown			
1954	164.1	..	..
1953	142.9	..	..
1952	148.9	..	..

NOTE: The variation of claim incidence per 1,000 members per annum in plans offering the same type of contract is generally due to additional benefits such as x-ray and anesthesia.

TABLE III.—COMPARISON OF EARNED PREMIUM INCOME, INCURRED CLAIM AND ADMINISTRATIVE EXPENSES, AND CLAIM AND EXPENSE RATIOS TO EARNED PREMIUM INCOME FOR YEARS ENDING DECEMBER 31, 1954, AND 1953

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown	Totals
Earned Premium Income								
1954	$34,980,730	$4,817,297	$4,118,329	$1,447,432	$1,499,506	$2,174,397	$176,808	$49,214,499
1953	31,053,789	3,891,049	3,495,942	1,079,767	1,410,805	1,869,994	122,392	42,923,738
Increase	$ 3,926,941	$ 926,248	$ 622,387	$ 367,665	$ 88,701	$ 304,403	$ 54,416	$ 6,290,761
Incurred Claim Expense								
1954	$24,342,837	$3,519,519	$3,111,933	$1,112,582	$1,161,588	$1,673,358	$121,189	$35,043,006
1953	21,616,307	2,947,089	2,570,844	795,568	1,049,263	1,408,115	80,569	30,467,755
Increase	$ 2,726,530	$ 572,430	$ 541,089	$ 317,014	$ 112,325	$ 265,243	$ 40,620	$ 4,575,251
Administrative Expense								
1954	$ 5,517,988	$ 548,757	$ 398,128	$ 191,802	$ 262,497	$ 241,325	$ 25,433	$ 7,185,930
1953	4,799,283	435,783	326,731	137,895	247,374	205,415	17,539	6,170,020
Increase	$ 718,705	$ 112,974	$ 71,397	$ 53,907	$ 15,123	$ 35,910	$ 7,894	$ 1,015,910
Claim Expense Ratio to Earned Premium Income								
1954	69.59	73.06	75.56	76.87	77.46	76.97	68.54	71.20
1953	69.61	75.74	73.54	73.68	74.38	75.30	65.83	70.98
Administrative Expense Ratio to Earned Premium Income								
1954	15.77	11.39	9.67	13.25	17.51	11.10	14.38	14.60
1953	15.45	11.20	9.35	12.77	17.53	10.98	14.33	14.37

cember 31, 1954. Also segregated from Unassigned Surplus was $227,695 and transferred to the Surplus Account for Special Investment Valuation, making a total of $357,430 as of December 31, 1954. During 1954 six million dollars were segregated for potential future claims for older age subscribers and one million dollars for additional claims for minor surgery.

Additional information has been compiled and is available upon request.

This report covers Blue Shield Plans approved by the Medical Society of the State of New York.

TABLE IV.—Income, Gain, and Loss for Year Ending December 31, 1954

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown
Earned Premium Income	$34,980,730	$4,817,297	$4,118,329	$1,447,432	$1,499,506	$2,174,397	$176,808
Claims and Expenses Incurred	29,860,825	4,068,276	3,510,061	1,304,384	1,424,085	1,914,683	146,622
Gain from Underwriting	$ 5,119,905	$ 749,021	$ 608,268	$ 143,048	$ 75,421	$ 259,714	$ 30,186
Underwriting Adjustments							
Deferred Maternity Benefits	−$ 390,000	−$ 55,000	−$ 60,244	−$ 26,255	$ . . .	−$ 1,000	−$ 7,036
Provision for Special Contingent Surplus	− 1,415,450	− 194,451	− 166,010	− 59,586	− 23,724	− 86,801	− 7,192
Increase in Reserve for Unreported Claims	. . .	. . .	. . .	− 12,141	. . .	− 37,000	− 4,165
Profit and Loss Items	− 11,639	− 7,994	1,217	125	2,558	− 2,405	. . .
Total Underwriting Adjustments	−$ 1,817,089	−$ 257,445	−$ 225,037	−$ 97,857	−$ 21,166	−$ 127,206	−$ 18,393
Net Gain from Underwriting	$ 3,302,816	$ 491,576	$ 383,231	$ 45,191	$ 54,255	$ 132,508	$ 11,793
Gain from Investments	507,754*	45,038	45,073	9,753	22,641	17,431	980
Gain from Underwriting and Investments	$ 3,810,570	$ 536,614	$ 428,304	$ 54,944	$ 76,896	$ 149,939	$ 12,773
Surplus Adjustments							
Provision for Epidemics and Other Contingencies	$ 694,949	. . .	. . .	. . .	. . .	. . .	. . .
Organization Deposit Repayments	. . .	$ 940	. . .	. . .	. . .	. . .	. . .
Increase in Unassigned Surplus	$ 3,115,621	$ 537,554	$ 428,304	$ 54,944	$ 76,896	$ 149,939	$ 12,773

* 124,725, provision for addition to Special Investment Valuation Reserve, not included in Investment Gain.

TABLE V.—Surplus (per Contract and per Member) for Year Ending December 31, 1954

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown	Totals
Special Contingent Surplus[a]	$ 6,158,073	$ 857,923	$ 559,285	$199,952	$377,318	$336,058	$12,498	$ 8,501,107
Other Surplus[b]	9,222,748	. . .	. . .	. . .	24,000	. . .	. . .	9,246,748
Unassigned Surplus[c]	2,249,996	1,061,245	1,142,739	237,792	405,096	409,018	27,753	5,533,639
Total Surplus	$17,630,817	$1,919,168	$1,702,024	$437,744	$806,414	$745,076	$40,251	$23,281,494
Special Contingent Surplus								
Per Contract	$ 3.87	$4.28	$ 4.03	$3.45	$ 4.80	$3.62	$1.66	$ 3.92
Per Member	1.77	1.76	1.64	1.40	2.06	1.56	0.72	1.75
Unassigned and Other Surplus								
Per Contract	$ 7.20	$5.29	$ 8.24	$4.10	$ 5.46	$4.41	$3.69	$ 4.26
Per Member	3.30	2.18	3.35	1.66	2.35	1.90	1.60	1.90
Total Surplus								
Per Contract	$11.07	$9.58	$12.27	$7.55	$10.26	$8.03	$5.36	$10.73
Per Member	5.07	3.93	4.98	3.05	4.41	3.46	2.32	4.78

[a] A percentage of earned premium income (4%) required by the State of New York Insurance Department, to meet emergencies which may arise from overutilization, epidemics, etc. This surplus can only be used with the permission of the Insurance Department.

[b] Reserves segregated for special contingent liabilities.

[c] Residue of assets after establishment of all necessary reserves for known liabilities and Special Contingent Surplus.

TABLE VI.—COMPARATIVE NUMBER OF PAID CLAIMS (BY CONTRACT) FOR YEARS ENDING DECEMBER 31, 1954, AND 1953

Location	Surgical	Surgical and In-Hospital Medical	Surgical-Medical (Home, Office, Hospital)	Total Claims
New York				
1954	149,917	230,009	183,995	563,921
1953	148,537	166,667	142,589	457,793
Increase	1,380	63,342	41,406	106,128
Buffalo				
1954	89,502	44,082	. . .	133,584
1953	91,313	15,703	. . .	107,016
Increase	−1,811	28,379	. . .	26,568
Rochester				
1954	69,131	. . .	. . .	69,131
1953	54,101	. . .	. . .	54,101
Increase	15,030	. . .	. . .	15,030
Syracuse				
1954	1,606	21,376	19,858	42,840
1953	1,598	10,476	19,042	31,116
Increase	8	10,900	816	11,724
Utica				
1954	11,501	34,557	. . .	46,058
1953	12,862	31,572	. . .	44,434
Increase	−1,361	2,985	. . .	1,624
Albany				
1954	. . .	38,667	. . .	38,667
1953	. . .	27,372	. . .	27,372
Increase	. . .	11,295	. . .	11,295
Jamestown				
1954	2,558	. . .	. . .	2,558
1953	1,473	. . .	. . .	1,473
Increase	1,085	. . .	. . .	1,085
Totals				
1954	324,215	368,691	203,853	896,759
1953	309,884	251,790	161,631	723,305
Increase	14,331	116,901	42,222	173,454

TABLE VII.—CLAIM DATA (PAID BASIS) FOR YEAR ENDING DECEMBER 31, 1954

Plan Location and Type of Contract	Earned Premium Income	Claim Cost	Per Cent of Claim Cost to Earned Premium	Number of Claims	Average Cost per Claim	Claim Incidence per 1,000 Members per Annum
New York						
Surgical	$12,570,700	$ 9,041,378	71.92	149,917	$60.31	105.2
Surgical, In-Hospital Medical	19,101,141	12,850,010	67.27	230,009	55.87	134.9
General Medical	3,308,889	2,399,199	72.51	183,995	13.04	1,456.7
Total	$34,980,730	$24,290,587	69.44	563,921	$43.07	. . .
Buffalo						
Surgical	$ 2,881,372	$ 2,225,635	77.24	89,502	$24.87	274.5
Surgical, In-Hospital Medical	1,935,925	1,253,884	64.77	44,082	28.44	313.8
Total	$ 4,817,297	$ 3,479,519	72.23	133,584	$26.05	. . .
Rochester						
Surgical	$ 4,118,329	$ 2,986,578	72.52	69,131	$43.20	212.8
Syracuse						
Surgical*	$ 49,297	$ 50,762	102.97	1,606	$31.61	313.3
Surgical-Medical*	518,016	378,188	73.01	19,858	19.04	521.1
Surgical, In-Hospital Medical	880,119	670,982	76.24	21,376	31.39	257.7
Total	$ 1,447,432	$ 1,099,932	75.99	42,840	$25.67	. . .
Utica						
Surgical	$ 312,312	$ 276,545	88.55	11,501	$24.04	210.9
Surgical, In-Hospital Medical	1,187,194	862,722	72.67	34,557	24.96	278.3
Total	$ 1,499,506	$ 1,139,267	75.98	46,058	$24.73	. . .
Albany						
Surgical, In-Hospital Medical	$ 2,174,397	$ 1,677,644	77.15	38,667	$43.39	184.0
Jamestown						
Surgical	$ 176,898	$ 117,108	66.23	2,558	$45.78	164.1
Totals	$49,214,498	$34,790,635		896,759		

* Contracts on an indemnity basis and not offered to new groups.

NOTE: The variation of claim incidence per 1,000 members per annum in plans offering the same type of contract is generally due to additional benefits such as x-ray and anesthesia.

TABLE VIII.—COMPARATIVE MEMBERSHIP AND INCREASES (BLUE SHIELD AND BLUE CROSS) AND PER CENT OF BLUE SHIELD MEMBERS TO BLUE CROSS MEMBERS FOR YEARS ENDING DECEMBER 31, 1954, 1953, AND 1952

Location	1954		1953		1952	
	Members	Increases	Members	Increase	Members	Increase
New York						
Blue Shield	3,479,483	421,684	3,057,799	337,917	2,719,882	230,369
Blue Cross	5,758,757	348,258	5,410,499	230,061	5,180,438	256,985
Per Cent	60.42	...	56.52	...	52.50	...
Buffalo						
Blue Shield	487,785	36,833	450,952	67,167	383,785	30,670
Blue Cross	689,796	11,805	677,991	49,493	628,498	13,421
Per Cent	70.71	...	66.51	...	61.06	...
Rochester						
Blue Shield	341,326	32,162	309,164	49,907	259,257	34,198
Blue Cross	455,443	26,925	428,518	19,503	409,015	6,661
Per cent	74.94	...	72.15	...	63.39	...
Syracuse						
Blue Shield	143,272	40,755	102,517	27,407	75,110	25,291
Blue Cross	370,888	9,925	360,963	7,247	353,716	5,364
Per Cent	38.63	...	28.40	...	21.23	...
Utica						
Blue Shield	182,809	6,039	176,770	5,780	170,990	17,805
Blue Cross	201,153	2,072	199,081	874	198,207	13,977
Per Cent	90.88	...	88.79	...	86.27	...
Albany						
Blue Shield	215,295	14,878	200,417	49,120	151,297	19,444
Blue Cross	322,413	−6,166	328,579	26,435	302,144	9,052
Per Cent	66.78	...	60.99	...	50.07	...
Jamestown						
Blue Shield	17,323	3,478	13,845	7,085	6,760	4,927
Blue Cross	48,580	3,550	45,030	1,804	43,226	2,718
Per Cent	35.66	...	30.75	...	15.64	...
Watertown						
Blue Cross	23,744	229	23,415	−408	23,823	...
Totals						
Blue Shield	4,867,293	455,829	4,311,464	544,383	3,767,081	362,704
Blue Cross	7,870,774	396,698	7,474,076	335,009	7,139,067	308,178
Per Cent	61.84	...	57.68	...	52.77	...

TABLE IX.—COMPARATIVE MEMBERSHIP (SUBSCRIBERS AND DEPENDENTS) FOR YEARS ENDING DECEMBER 31, 1954, AND 1953

Location	1954	1953	Increase	Per Cent of Increase
New York				
Subscribers	1,592,905	1,419,150	173,755	12.24
Dependents	1,886,578	1,638,649	247,929	15.13
Total	3,479,483	3,057,799	421,684	13.79
Buffalo				
Subscribers	200,383	185,891	14,492	7.79
Dependents	287,402	265,061	22,341	8.43
Total	487,785	450,952	36,833	8.17
Rochester				
Subscribers	138,696	126,280	12,416	9.83
Dependents	202,630	182,884	19,746	10.79
Total	341,326	309,164	32,162	10.40
Syracuse				
Subscribers	58,001	40,808	17,193	42.13
Dependents	85,271	61,709	23,562	38.18
Total	143,272	102,517	40,755	39.75
Utica				
Subscribers	78,617	76,206	2,411	3.16
Dependents	104,192	100,564	3,628	3.61
Total	182,809	176,770	6,039	3.42
Albany				
Subscribers	92,838	85,253	7,585	8.90
Dependents	122,457	115,164	7,293	6.33
Total	215,295	200,417	14,878	7.42
Jamestown				
Subscribers	7,514	6,133	1,381	22.52
Dependents	9,809	7,712	2,097	27.19
Total	17,323	13,845	3,478	25.12
Grand Totals				
Subscribers	2,168,954	1,939,721	229,233	11.82
Dependents	2,698,339	2,371,743	326,596	13.77
Total	4,867,293	4,311,464	555,829	12.89

MEDICAL COLOR TELEVISION TODAY

IN VIEW of the color telecasts to be shown at the forthcoming Annual Meeting of the Medical Society of the State of New York and the increasing number of medical programs that are being televised, it would seem appropriate to examine the present status of the first medical TV series of them all. While it may come as a surprise to some readers, the medical profession witnessed a five-day, twenty-five-hour program of televised operations and clinics as far back as June, 1949. The occasion was the annual meeting of the American Medical Association; the program was the first colorcast ever seen by the public.

The medical profession comprised this unique audience for two principal reasons. The first is to be found in an urgent need of modern medicine—a need created by the greatly enlarged area of study medicine has assumed over the past half-century, and by the increased number of students who have swelled both its undergraduate and postgraduate ranks. The constant factor in this otherwise changing situation has been the necessity of providing students with closeup views of clinical demonstrations and operative procedures. The second reason lies in the initiative of Smith, Kline & French Laboratories, a Philadelphia pharmaceutical firm that recognized this dilemma and saw a solution. After a trial black-and-white medical television program and much consultation with interested physicians, SKF concluded that color television was the method best qualified to bring closeup views of a wide range of clinical subject matter to large groups of medical students. Going to the Columbia Broadcasting System, whose experimental work in the field was known, SKF contracted for the building of a television camera, camera control unit, and 20 receivers capable of accommodating an audience of 1,000 persons. The equipment arrived early in 1949 and worked very satisfactorily in preliminary tests.

Color television's premier performance was overwhelmingly successful, with 20,000 doctor-visits being paid to the four-day program. Participants and audience alike undoubtedly noted many things regarding the first medical color TV production which will still hold true in the Buffalo colorcasts. The emphasis placed on making "visual" those points important to the effectiveness of a presentation would have been evident to any clinical participant. The camera's ability to provide graphic visual reinforcement, whether through demonstration of patients or of clinical material, was and is a cardinal asset of the medium. Surgeons learned that when the camera was in the operating room, it did not in the least interfere with their normal operating procedure; in fact, the additional lights necessary for a sharp television picture often aided their work.

In the eyes of the audience, certainly the most impressive feature of those first programs was their color. The realism lent by color was so striking that the wives of two physicians fainted while watching a televised operation. But running a close second in impressiveness were the closeup pictures given by the camera. Watching an operation, members of the medical audience had a view of the surgical field impossible to obtain from an amphitheater and better than that available to most of the members of the operating team.

Although the early version of medical color television was thought to be satisfactory enough at the time, the present program bears as much resemblance to the original telecasts as a young man bears to his appearance as an infant. Continuous development has added new features and has improved technics of basic importance present in the earlier telecasts. A participant in the Buffalo TV program will have three cameras serving him, not one. Two cameras, highly mobile studio types, allow the utilization of many more production technics than was possible when the unique but unwieldy surgical camera was used to televise an entire program. Formerly, the surgical camera remained stationary while the clinical subject matter passed before it. Now the participant not only has more scope in his studio movements, but can show patients, slides, graphs, and clinical material in whatever order and at whatever pace he desires. Thus, while the production of a TV clinic has become more elaborate, the presentation shown on the screen appears more complete and—paradoxically—natural.

The participants have responded readily to the challenge which television puts to one's imagination. It is no easy chore to take subject matter ordinarily conveyed entirely by speech, as in an orthodox platform presentation, and translate much of it to a visual form or context. One physician in a clinic dealing with hepatitis gradually gave his patient a jaundiced appearance by the use of green filters and a studio spotlight. The audience laughed, as he expected they would, but his point undeniably made a lasting impression. Surgeons in several operative presentations in the New York State television program will take advantage in the production technic enabling fellow surgeons to comment on the operation from vantage points in the studio or in the operating room itself.

Nor has the audience been overlooked in the search for program improvement. Greatly magnified views of operations and clinical demonstrations have been made available by the addition of two projection-type receivers, each equipped with a $4^1/_2$ by 6-foot screen. The screens provide a picture 27 times larger than that given by the small-screen receivers used previously, and together can accom-

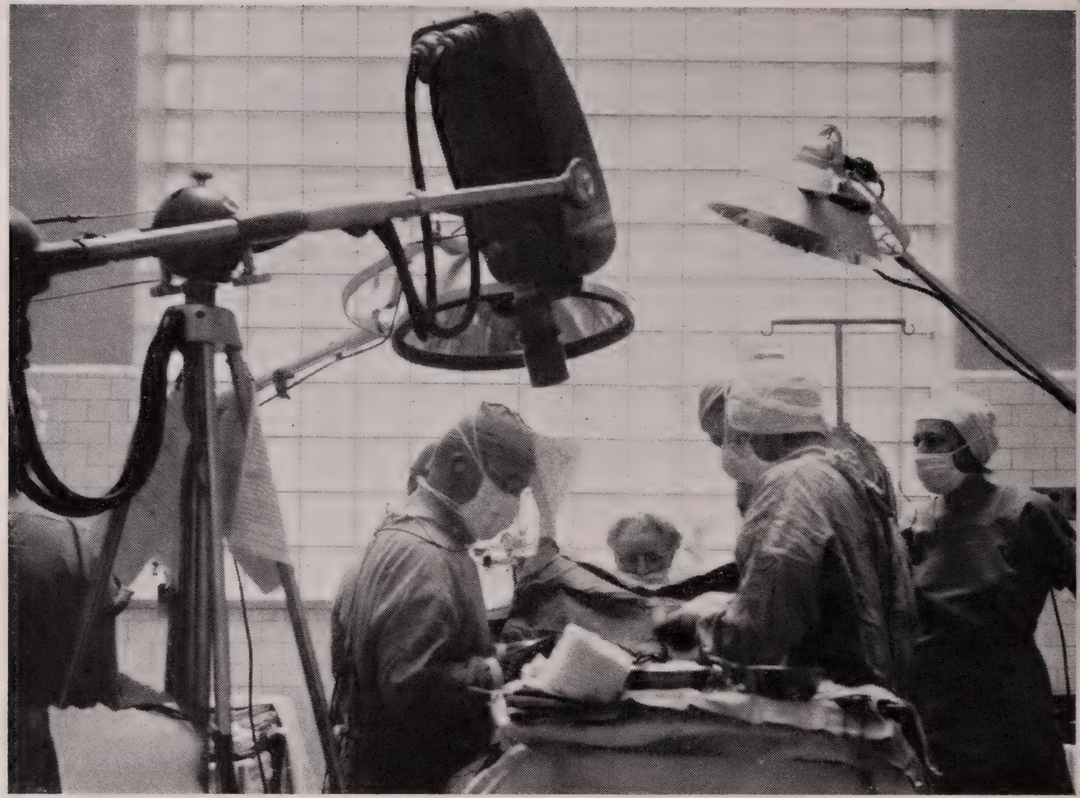

Fig. 1. A typical operating room scene as color television watches a surgical procedure. The chief surgeon (center, foreground) receives instructions from the medical director through the earpiece visible in the picture. Cords attached to the surgeon's back are connected to the earpiece and to a microphone worn inside his mask which enables the surgeon to talk directly with the audience. The color camera (above, center) points directly down on the operative site, giving the audience an almost unobstructed view of the procedure.

modate an audience of more than 1,400 persons. The audience's view of an operation is equalled only by the view of the operating surgeon. At a recent medical meeting, where an eye operation was being televised, the eye as seen on the screen was 4 feet wide and 3 feet high. With such improved reception facilities, the picture is viewed without eyestrain or inconvenience.

The uses of medical color television have only begun to be explored. Certainly its performance on the postgraduate level has been a marked success, with 320,000 doctor-visits recorded at 72 meetings in this country, Canada, and France. The closed-circuit medium possesses some special advantages for postgraduate gatherings. Its program can be adapted readily to the interest of the particular group for whom it is televising, yet within that area it can handle topics differing widely in their method of presentation.

Being "live," the telecasts have an immediacy not found in films. Most important of all, because of the size of the screens and of the audience they can serve, virtually every registrant at a meeting is assured a view of clinics and operations that cannot be obtained by any other means.

Impressed by its effectiveness in postgraduate teaching, many medical schools have already installed color TV facilities and many more are planning to do so. The medium presents both an answer and a challenge. Only time can tell how successfully medical color television will meet future needs of medical teaching, but the promise is there.

Babies haven't any hair;/Old men's heads are just as bare;/ Between the cradle and the grave/ Lies a haircut and a shave.—Samuel Hoffenstein

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the February, 1955, meeting of the Council of the Medical Society of the State of New York.

The Council met February 10, 1955, from 9:15 to 11:35 A.M. at the Manhattan Club, Madison Square, New York. Dr. Dan Mellen, president, presided.

Secretary's Report

Executive Committee.—Dr. Anderton reported that the executive committee had considered the following communications:

1. A request from the Amalgamated Meat Cutters and Butcher Workmen of North America "to help them get Congress to probe poultry."

"As a result of discussion and study by Dr. Curphey's committee last time, you instructed the secretary to write to the Commissioner of Health and the Commissioner of Markets. This is to report that the Commissioner of Agriculture and Markets replied and explained about the inspection and care of poultry."

2. A letter of February 7, 1955, from Mr. Leon Singer, of Blumberg, Singer, Heppen and Blumenthal, regarding the establishment of an award in honor of the late Dr. Albion O. Bernstein. The executive committee recommends to the Council that a committee consisting of the president, the chairman of the Board of Trustees, the counsel, and the secretary and general manager be appointed to study this proposal and report to the Council.

It *was voted* to approve the recommendation.

The executive committee recommended that the Council vote to change the name of the Finance Committee to the "Budget Committee."

The Council so *voted.*

Dues Remissions.—The Council voted to remit annual State dues of three members for 1954 and of 33 members for 1955 because of illness, of two members for 1954 and of 52 members for 1955 because of military service; to request remission of American Medical Association dues for three members for 1954 and for 60 members for 1955; and to request exemption from further payments of national dues for eight members who are more than seventy years old.

General.—Dr. Anderton submitted the report of the Nominating Committee. (This was published in the April 1, 1955, NEW YORK STATE JOURNAL OF MEDICINE.)

He reported: "The Joint Committee of the Medical Society of the State of New York and the New York State Society of Anesthesiologists held its first meeting on January 28. On January 27 the Joint Commission of New York State for the Improvement of the Care of the Patient held its first meeting, in the offices of United Medical Service. Our society was represented by Dr. W. Guernsey Frey, Dr. Louis M. Rousselot, and your secretary. Dr. Joseph A. Geis was unable to attend."

Dr. Anderton recounted his activities during the preceding month.

His report continued: "Because my duties as secretary of the Blood Banks Association of New York State have increased to a point of interfering with my work as secretary of the State Society, I have submitted my resignation from the board of directors and post of secretary of the Blood Banks Association."

The Secretary's report *was approved.*

The Treasurer's report was accepted.

Reports of Committees

Budget.—The Council went into executive session.

When the Council arose from executive session, the secretary reported: "Mr. President, during the executive session the Council considered the report of the Budget Committee by Dr. Dattelbaum, which was very thoroughly discussed by many members of the Council. The report shows that on June 30, 1955, the budget would include total expenditures of $515,080, with an excess of expenditures over income of $30,292. The report, which was approved, recommends that the Trustees be requested to advise the House of Delegates to increase annual dues in the amount of $5.00, which would raise the dues from $25 to $30 a year, and also requests that the Trustees approve the budget as advanced by the Council."

It *was voted* to adopt the report.

Constitution and Bylaws.—Dr. Frederick W. Williams, chairman, stated: "The committee reports that there are a few amendments to bylaws that have been processed and approved for the County of Albany and an entirely new set of bylaws for the County of Franklin. These, too, have been processed. Therefore, I move that the Council approve these amended bylaws for Albany County and Franklin County with the slight changes that were made by the committee."

It *was voted* to approve.

Economics.—Dr. Renato J. Azzari, chairman, presented the following report of Mr. George P. Farrell, director of the Bureau of Medical Care Insurance: "Your director attended a joint meeting of Blue Cross and Blue Shield Executives at the Associated Hospital Service, New York City, on January 20, 1955. The purpose of the meeting was primarily to discuss a report by the Joint Subcommittee of the Blue Cross and Blue Shield Commission regarding extended health insurance benefits, also the action to be taken by New York Blue Cross and Blue Shield plans regarding the termination of coverage of Brotherhood of Railroad employes which is to be underwritten by the Travelers Insurance Company on a national basis.

"In reviewing the brochure of the Joint Commission on extended health insurance benefits, it is my opinion that the extension of health benefits as far as Blue Cross is concerned, resolves into extending coverage for a longer period of time than their basic contract provides. From the medical angle it requires extensive study regarding what medical care costs would be in a prolonged illness because it would be necessary to render care both in and out of the hospital; also the problem of whether medical service will be paid for on a fee-for-service basis or the insured's protection will be represented by a maximum liability of $5,000 or $10,000 regardless of charges for any specific extended benefit.

"This same matter was discussed by the Subcommittee on Medical Expense Insurance on January 27 in Syracuse. This will be reported at the next Council meeting.

"On February 17, 1955, Dr. Dwight V. Needham, secretary of Blue Shield Plans in District III, is calling a meeting of Districts II and III Blue Shield Plan presidents and executive directors to discuss this fully because member plans will be asked to take definite action at the Conference of Blue Shield Plans, March 20 to 24, 1955.

"Discussion was given to retention of the Brotherhood of Railroad employes group when present coverage under Blue Cross and Blue Shield plans will be replaced by the Travelers Insurance Company. It was agreed by all plans except Buffalo that in this case, at the time the Travelers' coverage becomes effective, those employes who desire can continue Blue Cross and Blue Shield coverage on a direct-pay basis. It was felt that many will so desire because dependent coverage under the Travelers' contract is not so adequate as under present Blue Cross and Blue Shield contracts.

"Considerable discussion was given to terminal maternity benefits. This has been under discussion, and a standing committee to study it is to report its findings to the State of New York Insurance Department. If the report is not acceptable to the Department, it is to be referred to the special committee for further study.

After discussion it *was voted* to approve the report.

Legislation.—Dr. James Greenough, chairman, presented the following: "On January 13, 1955, there was a meeting of the executive committee of the Legislation Committee. Dr. Anderton and Mr. George P. Farrell attended. There was discussion of how to support our bills for free choice of physician and free choice of medical expense insurance plans. The bills are in preparation and should be introduced by today. Every resource of the committee will be applied to this program. Work on other bills, especially the malpractice insurance for interns and residents in municipal hospitals and the injunction bill, was planned.

"To further our support of the free choice bills steps have been taken:

"1. The material in support of free choice is being reviewed for distribution to State officials, officers of county and State medical societies, the Auxiliary, allied professions, and leaders of groups insured without free choice.

"2. New groups exploring group insurance will be urged to demand free choice.

"3. Existing medical expense insurance plans will be encouraged to offer as comprehensive coverage as possible at rates which will be on a par with any other plan.

"Subcommittees are considering problems presented by laws relating to disposition of dead bodies.

"A meeting of psychiatrists and psychologists with members of the Departments of Education and Mental Hygiene is tentatively scheduled for February 10.

"The chiropractors have introduced a bill for licensure which will be opposed.

"Work is progressing on an amendment to the Motor Vehicle Law protecting physicians drawing blood from suspected drunken drivers from liability for assault.

"At this date, January 30, there have not been many bills introduced in the Legislature which are of great importance to the Medical Society. The bulletins are discussing all important bills."

The report *was accepted.*

Dr. Greenough stated: "I received a telegram from the First District Branch. They wish to know what we are doing about the chiropractic bill, about which Dr. Smith will report. They also want to know about the Condon Bill on free choice of plan and the McCullough Bill on free choice of physician. We introduced both and are working on them. I have here a statement which is to be mailed. That was the wish of the executive committee of the Legislation Committee, on which sit three members of the Coordinating Council. We are working with the Auxiliary. We are trying hard to obtain action on the free choice bills."

Executive Officer.—Dr. Harold B. Smith stated: "Again I call your attention to the bulletins which contain most of this information. These Medical Society-sponsored bills have been introduced: the 'free choice of physician' bill by Senator McCullough; the 'free choice of plan' bill by Senator Condon and Assemblyman Stephens; the municipal intern malpractice insurance indemnity bill by Senator McCaffrey; bill to abolish the Workmen's Compensation Medical Practice Committee by Senator Donovan and Assemblyman Horan.

"Medical Society-sponsored bills which have been turned over to legislators for introduction but have not yet been introduced are the workmen's compensation place of arbitration bill and the injunction bill. This afternoon I will meet a committee representing the State Funeral Directors and the Hospital Association and others to consider the matter of a bill to amend the Autopsy Law.

"I have discussed the possibility of an amendment to Section 71-A of the Vehicle and Traffic Law with Mr. Dillon of the New York State Sheriffs Association. We hope to be able to introduce a bill which would indemnify physicians against liability arising from taking blood for alcohol determination pursuant to this section.

"Several bills that would provide for health insurance plans for State civil service employes have been introduced. A bill empowering villages to provide health insurance for their employes has made progress, and we are endeavoring to have it amended to guarantee free choice of plan.

"Senator Peterson and Assemblyman Russo introduced a bill sponsored by the State Charities Aid Association to create a commission to study the various healing arts licensing laws and problems. This was supported by the Society two years ago, but not last year.

"Senator Peterson also has introduced a chiropractic bill which is substantially the same as last year's.

"Senator Wicks and Assemblyman Waters have introduced a bill liberalizing the sale of proprietary drugs, and this bill must be considered in connection with the resolution passed by our House of Delegates, relating to proprietary drugs, which is opposed to the sale of dangerous and proprietary drugs in other shops than pharmacies.

"Many bills have been introduced with regard to improving training facilities and education for mentally defective children at the local level. They are a type which is hard to evaluate but primarily seem to be within the competence of those people working in the Mental Hygiene Department and the mental health field.

"Bills have been introduced to limit medical licensing examinations to two a year, instead of three. Another forbids the soliciting of patients by certain means, which is to supplement the present law that just relates to advertising for patients by stereopticon slides and other enumerated means.

"As usual, there are a number of other bills which the Medical Society probably would not want to see passed; for instance, bills which would have the two-year statute of limitation for malpractice actions commence only after negligence has been discovered instead of from the time of the act of negligence, as it now exists. Also a bill which would permit service of subpoena by mail on physicians in workmen's compensation cases instead of personally. There is another bill which would permit private hospitals to employ unlicensed interns on the same basis as now is permitted to voluntary hospitals and one which would require physicians to turn over x-ray pictures to patients. Many of these latter bills will not make progress, but they are the type which, if they should make progress, will be quite alarming.

"So far as medical legislation is concerned, it can be said that things are just starting, and most of this year's legislation problems are yet before us."

The report *was accepted.*

Office Administration and Policies.—Dr. John J. Masterson, chairman, reported: "A meeting of the Office Administration and Policies Committee was held yesterday, February 9, 1955.

"Various personnel matters were approved.

"It was noted that the Bronx County Medical Society has declined to collect American Medical Association dues. It is, therefore, necessary for employes of the State Society to handle Bronx work that is now done in the offices of each of the other county societies. It was moved, seconded, and passed that the Council request the Bronx County Medical Society to collect the American Medical Association dues, following the same procedure as the other sixty county societies in the State."

After discussion the report *was accepted.*

Publication.—Dr. Masterson, chairman, read: "Meeting of the Publication Committee held on February 9, 1955.

"It was decided to purchase a new Webster dictionary.

"There was discussion of publishing the 'History of Medicine of New York State' and because of expense it was decided to authorize Dr. Moore to contact foundations for the purpose of obtaining funds.

"It was suggested that the issue of the JOURNAL containing House of Delegates' minutes be changed from September 1 to October 1. It was felt that with many doctors away for the summer, not returning until about Labor Day, their desks are filled with reading matter and that the minutes receive very little attention. The committee believes that if the minutes were published in the October issue, members would be more apt to read the proceedings of the House of Delegates, and making the change would be worth while from the point of view of reader interest. It was decided that this matter be given consideration for the next month or two.

"The editor suggested that an editorial be printed in the JOURNAL regarding the holding of three annual meetings in New York City to one in Buffalo. The committee approved.

"At the January meeting Dr. Redway reported that an article on proctology had been published in the NEW YORK STATE JOURNAL OF MEDICINE of March 15, 1954. Subsequently the *American Journal of Proctology* published a similar article under the heading of 'Surgical Seminar—Atlas of Proctological Surgery.' It appeared that this article had been taken from the NEW YORK STATE JOURNAL OF MEDICINE, but no credit had been given. Dr. Redway reported that Mr. Martin had pointed out how the copyright law had been violated. Dr. Redway prepared a letter to the editor of the *American Journal of Proctology* with the objections of the NEW YORK STATE JOURNAL OF MEDICINE. Mr. Martin approved this letter. It was, therefore, moved, seconded, and passed to approve its mailing to the *American Journal of Proctology.*

"There was discussion of a communication which questioned our acceptance of advertising of "Bufferin" in the JOURNAL. The editor stated that he had received information that the *Journal of the American Medical Association* had accepted "Bufferin" advertising. After discussion it was decided to fulfill the contract with the pharmaceutical manufacturer and, in the future, not to accept advertising for pharmaceutical products which are advertised directly to the public.

"Dr. Anderton proposed that the State Society try to obtain folders for members of the House of Delegates similar to those given to members of the American Medical Association's House of Delegates. These folders are provided by W. B. Saunders Company. It was the sense of the meeting to try to obtain such folders for members of the House of Delegates. It was also decided to give visitors at the JOURNAL exhibit at the next annual meeting a 4-page folder carrying a facsimile of the JOURNAL cover, similar to the folder used at the 1954 meeting.

"The committee approved the suggestion of the editor to record the Public and Professional Relations conference during the annual meeting next May, any expense involved to be charged to the Public and Professional Relations Bureau. Dr. Winslow, chairman of the Public and Professional Relations Committee, had approved.

"Samples of Christmas cover designs for the December 15, 1955, issue were exhibited. The meeting agreed that a holly design in green, on the left side of the cover, be used.

"Dr. Redway reported the William S. Merrill Company desired to print a booklet of clinical pathologic conferences published during 1954 in the JOURNAL. This request was approved, provided any advertising meets approval of the Publication Committee.

"It was noted that there is a possibility of an increase of 16 pages of advertising in the JOURNAL and that, to maintain the 60:40 ratio of text and advertising, additional text material would be required. The committee approved.

"It was reported that *Cosmopolitan Magazine* desired to reprint an article on 'Liquid Nitrogen in Dermatology' from the February 1 JOURNAL. It was noted that the author's permission would be required and that, if he refused, the Publication Committee would also.

"The editor's report was accepted as distributed.

"The business manager reported regarding total gross JOURNAL advertising.

"A request from a member for a second copy of the 1953 *Directory* was denied on the grounds that the quantity of directories remaining is not sufficiently large and that the publication date of the new *Directory* is expected to be this coming May.

"Dr. Redway read a letter from Dr. Joseph H. Isenstead, which was a continuance of correspondence previously received. The letter objected to the statement in the Council minutes that he had 'criticized' a JOURNAL article in connection with certain uses of cortisone. After reading Dr. Isenstead's original letter, the committee voted that it considered his letter of September 23, 1954, was a criticism of the JOURNAL article.

"It was moved, seconded, and passed to exchange the JOURNAL with *Surgery, Gynecology and Obstetrics* and with *International Abstracts of Surgery.*"

After discussion the Council *voted* to accept the report.

Public Health and Education.—Dr. Theodore J. Curphey, chairman, stated that he had attended four meetings since his last report to the Council. He continued: "At the joint meeting of the Committee with the State Health Department the following matters were discussed:

"1. Retrolental fibroplasia and the application of recent research in hospitals of New York State: Evidence shows that this condition in premature infants can be attributed to high oxygen concentrations to which they are exposed at a time when the eye structures are immature. The State Health Department proposes to write a letter dealing with this matter, to be distributed to hospitals of the State, subject to the approval of the Council.

"2. State Aid for Premature Infant Care Program: This concerns that part of the Governor's message dealing with new legislation, enabling the provision of State aid to those hospitals able to qualify for the care of premature infants. The average cost per hospital day is in the vicinity of $25. The committee approves of this plan, seeing that it is in line with the present program of State aid for the handicapped, e.g., hard of hearing, physical rehabilitation, etc.

"3. Proposed Revision of Regulation 35, Chapter II, of State Sanitary Code dealing with nurseries for the newborn: The State Health Department submitted to the committee the third draft of the proposed revision dealing with precautions for the control of diarrhea of the newborn. This outlines the duties of administrators of hospitals and those of health officers. The revision is an attempt to provide more complete regulations for this condition and to aid in reducing infractions.

"The revised draft was studied by Dr. Charles Gordon and Dr. Thurman Givan who were present at the meeting, and, following their approval, the committee recommended that it be referred to the Council for approval.

"4. Proposed Regional Committee on Maternal Health: Dr. Gordon's Subcommittee on Maternal and Child Welfare has been conferring with Dr. Yankauer of the State Health Department relative to a proposed State-wide study of maternal deaths on a regional basis. There are about 60 to 70 such deaths yearly in the State. The details of this study are to be perfected at a forthcoming meeting of the Subcommittee on Maternal and Child Welfare.

"5. Polio Vaccine Project: Dr. Larimore of the Health Department supplied the committee with a copy of the statement of plans developed at the recent Poliomyelitis Vaccine Conference in New York City. Commissioner Hilleboe was one of the two representatives of the American Public Health Association. The conference was held at the invitation of the National Foundation for Infantile Paralysis to consider administrative policies relative to distribution and administration of vaccine purchased by the Foundation. Dr. Larimore pointed out that the results of the 1954 tests will probably be available around the middle of April, 1955. If and when the vaccine is licensed by the National Institutes of Health, it will be supplied by the National Foundation to State health officers in amounts sufficient to provide for vaccination of (*a*) children who took part in the 1954 field trial but who did not receive vaccine (*b*) children enrolled in the first and second grades of all public, private, and parochial schools in the spring term of 1955.

It is expected that the 1955 vaccine will be ready for distribution in early May. The Polio Foundation has spent nine million dollars in preparing the vaccine for distribution. The drug houses have also invested a like amount for private sale and distribution. The American Medical Association has pledged its cooperation, and the State Health Department is asking the State and county medical societies for continuation of the fine and enthusiastic support that it received last year in the field trials. There are approximately 850,000 children in the State to be immunized. The committee agreed to inform the physicians of the forthcoming program through the channels of publicity of the State Medical Society."

Dr. Curphey reported further that he had spent a week end in Chicago at the Congress on Medical Education. He described the session on television in medical education. It received much critical discussion which "would be summed up by saying that the medical profession is not yet ready to use television as a general medium for education without more research into its potentialities." Describing the discussion of "the problem of the foreign graduate in medical education," Dr. Curphey quoted a number of statistical facts. He praised the active part taken in this program by Dr. Stiles Ezell, secretary of the New York State Board of Medical Examiners.

Dr. Curphey continued: "The Council might recall that last month we presented a progress report on study of the suggestion by the Health Department in respect to putting a bill into the Legislature creating a State commission to formulate and execute a State-wide plan for continuation of medical education. The committee recognized the importance of this problem and made every attempt to canvass most of the opinion with which we could get in contact, from the American Medical Association, other state postgraduate groups like the group in Massachusetts, the deans, and various other groups. We had our last meeting yesterday. According to instructions from this Council, there were present the committee composed of the chairmen of the Legislation Committee and the Public Health and Education Committee, representatives from the general practitioners, and some deans. We spent a great deal of time discussing the dangers and advantages, and this is the recommendation that my committee would like to make: that the committee recognizes the need for a survey of the existing potential postgraduate facilities with a view to their integration; that the committee recommends that enabling legislation be tabled until the next legislative session; that the survey would preferably be made under the auspices of the State Society; and that financial support might be sought from one of the foundations."

It *was voted* to approve and to adopt the report as a whole.

Public Relations—Dr. Floyd S. Winslow, chairman, presented the following. "After a period of indoctrination and training at headquarters, Mr. John Schuyler, the new field man, began visiting the county medical societies in his territory. Restored to its full complement of three representatives, the field staff, consisting of Mr. Schuyler, Mr. Tracey, and Mr. Walsh, stressed two important projects in contacting public relations chairmen and other officials. The first was the presentation of the American Medical Association's new 'County Medical Public Relations Manual.' The second was the implementation of the 'Guide for Cooperation' between the medical profession and the media of public information.

"Much interest continued in the Guide outside of New York State. Requests for copies were received from Fitzsimmons Army Hospital, Denver, Colorado; South Carolina Medical Association; the Medical Society of the State of North Carolina; and the American Hospital Association.

"Another matter stemming from the Guide was the review of an article on hernia by a panel of surgeons appointed by the Coordinating Council of the five county medical societies in New York City. The panel found the article unacceptable, and the writer was so advised.

" 'Telephone Cues for Medical Personnel,' a leaflet published by the Bureau several years ago, also continued to attract nation-wide attention. The Bureau received requests for about 1,000 copies following the publication of a notice in *Nurses Notes*, sent out by Squibb.

"Renewed interest in basic public relations projects was expressed by county medical society officials during the visits of field representatives. Many requested assistance in presenting programs over radio stations and in promoting speakers bureaus. Continuing interest also was shown in training courses for physicians' office personnel.

"At the request of the chairman of the Session on Public Relations, the Bureau has assisted in preparing this program for Buffalo next May.

"Through news releases publicity was given to postgraduate lectures in the following counties: Broome, Cortland, Fulton, Jefferson, Nassau, Ontario, and Suffolk.

"The Bureau continued to aid the Woman's Auxiliary. In addition to mailing announcements and mimeographed materials, some of the activities included cooperation in preparing health poster contest news articles and in securing information in connection with the Child Safety Campaign, the NEW YORK STATE JOURNAL OF MEDICINE, and the *Distaff*.

"As result of an article published in the January issue of *Newsletter*, requests from several parts of the country were received for a sample form designed to facilitate comprehensive health examinations and to assist in making every doctor's office a 'cancer detection center.'

"Cooperating with the Committee on Legislation to secure passage of 'free choice laws' at this session of the State Legislature, the Bureau featured a special appeal to State Medical Society members, prepared by Dr. Greenough.

"There has been much favorable response to the American Medical Association's offer to make available through the Bureau to senior students in medical schools in this State its recent publication, 'A PR Pattern for a Successful Practice.' The Bureau ordered 1,000 copies for distribution to medical school deans upon request. Already five deans have requested 530. In hope that the remaining four schools in the State will take advantage of this opportunity to inculcate sound public relations principles in their students, your chairman has addressed a letter to their deans."

Dr. Winslow supplemented his report with two items. The first was a request that the Council approve the bureau's plans for cosponsoring an exhibit with the American Medical Association at the Hall of Springs, Saratoga Spa.

Approval was voted.

The second was a report of the committee's action in regard to an article which appeared in the January-February issue of the *Bulletin of the American College of Surgeons.*

After discussion, it was voted to write to the American College of Surgeons and ask it to present facts to corroborate statements made in the article.

Veterans Administration, Liaison with.—Dr. Herbert H. Bauckus, chairman, read excerpts from his annual report to the House of Delegates. These related to the amount of fee-basis service being rendered to veterans by physicians in New York State, the amount spent on care in Veterans Administration clinics, and the extent to which services of the coordinators of Veterans Medical Care Plan of New York, Inc., are being used.

The facts led him to suggest that the Plan be discontinued in view of its cost and the reduction in its use. Because of the possibility that veterans and physicians in rural areas will still need the mediation hitherto provided by the Plan with regard to fees, authorizations, etc., Dr. Bauckus suggested that the Liaison Committee be continued and that it provide such assistance through the Medical Care Insurance Bureau. He stated that he would make that suggestion at the joint meeting, on February 10, of the board of directors of the Plan and the Liaison Committee. He expected that the Liaison Committee would make further recommendation to the Council.

He reminded the Council that a contract with Veterans Administration for the year July 1, 1955, to June 30, 1956, would be presented for approval and that action would need to be taken before May 31, 1955.

After discussion the report *was accepted.*

Woman's Auxiliary, Advisory to.—Dr. Andrew A. Eggston, chairman, had no formal report but observed that the Woman's Auxiliary was a very dynamic group and a great aid to many of the programs that the State Society wishes to advance.

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, presented the following report: "Dr. D. J. Kaliski attended the joint session of the Council on Industrial Health of the American Medical Association and the directors of Industrial Medical Associations at the Shoreham Hotel, Washington, D.C., on January 23 through January 26, 1955.

"Representatives of state medical societies met members of the Council on Industrial Health of the American Medical Association on Sunday when reports were made by representatives of states in which industrial health programs are in effect.

"Programs were held on 'Occupational Health—Major Factor in Community Health,' 'Industrial Medicine and the Economics of Medical Care,' 'Improving Communications Between Medicine, Management, and Labor,' and 'Impact of the Atomic Energy Industry on Community Health.'

"An interesting program on the essentials and goals of a desirable modern workmen's compensation program was presided over by Dr. Henry H. Kessler of Newark, New Jersey, and was participated in by members of the medical profession, bar, labor, and management.

"Another interesting program was presided over by Dr. William A. Sawyer of Rochester, chairman of the Committee on Medical Care for Industrial Workers of the American Medical Association, and Dr. Leo Price on "Guiding Principles for Evaluating Management and Union Health Centers' and on the scope of nonoccupational health programs for industrial workers. This was discussed by representatives of practically all the states in which health centers have been operating, and an agreement was reached on basic principles of ethics and relationship to the organized medical profession.

"On January 3, 1955, an arbitration session was held in Mineola, attended by your director. Another session will be held there later.

"We were informed by the executive secretary of the Broome County Medical Society that members of the southern tier division of the Podiatry Society of the State of New York under the auspices of local podiatrists were holding a foot health program in Endicott and vicinity. Examination of the feet of 900 Harpursville school children by a team of 16 podiatrists was the first phase of a five-part foot health program. Information was requested concerning the legal scope of the activities of podiatrists under the Education and Workmen's Compensation Laws, and your director replied to Mr. John Sargeant, outlining the ethical and legal limitations of such a program by podiatrists."

Dr. Dorman amplified his report as follows: "In addition, the Compensation Board has given us a copy of a letter to the insurance companies, stating that they are now upholding the views of our director of the Bureau of Workmen's Compensation which is that any specialist treating a case within his field, regardless of its extent, is entitled to a specialist's fee. If it is in a field outside of his own, he is only entitled to the general practitioner's fee. That position has now been maintained by the Compensation Board."

The report as a whole *was adopted.*

CORRESPONDENCE

Physician's Liability in Blood Test for Alcoholic Intoxication

EDITOR'S NOTE.—*For the information of our readers we publish an opinion from the legal counsel of the Medical Society of the State of New York. This opinion was requested by Dr. Allen A. Pierce, chairman of the Public Relations Committee of the Chautauqua County Medical Society, through the office of Dr. W. P. Anderton, Secretary of the Medical Society of the State of New York.*

Dr. Allen A. Pierce, Chairman
Public Relations Committee
Medical Society of the County of Chautauqua
Fredonia, New York

Dear Dr. Pierce:

I have your request through Mr. John Schuyler, field representative, that you be notified and advised by the State Society in regard to a physician's liability when he draws blood from the vein of a person who is suspected of alcoholic intoxication. This means (*a*) when the blood is drawn with the accused person's consent, (*b*) when it is drawn against the accused person's consent, and (*c*) when it is drawn neither with or without consent.

Your inquiry is being referred to Mr. William F. Martin, legal counsel, with the hope that you will hear from him before February 11, 1955, the date of the next meeting of the Medical Society of the County of Chautauqua.

Yours sincerely,
W. P. ANDERTON, M.D.
Secretary

Medical Society of the State of New York
386 Fourth Avenue
New York 16, New York

Dr. Allen A. Pierce, Chairman
Public Relations Committee
Medical Society of the County of Chautauqua
Fredonia, New York

Dear Dr. Pierce:

Dr. Anderton has sent to us his letter to you of January 31, 1955.

We have had a somewhat similar inquiry from the Medical Society of the County of Erie. In the *Bulletin of the Medical Society of Erie County* (volume 31, number 7, July, 1954), the society published our reply.

We are of the opinion that if the driver is *arrested* and if he *refuses* to submit to the chemical test, the test should not be undertaken by the doctor. Stating it another way, unless two elements are present, namely, the arrest of the driver by the officer and consent by the driver, the test should not be undertaken. If it is undertaken despite the absence of these two factors, the physician will most probably subject himself to a civil action for assault.

Section 71-a does provide "that any person who operates a motor vehicle or motorycle. . .shall be deemed to have given his consent to a chemical test of his breath, blood, urine or saliva" for the purpose of determining the alcohol content of his blood, provided the test is administered at the direction of a police officer having reasonable grounds to suspect such person of driving in an intoxicated condition.

If there were no further provision in the statute and in the absence of judicial interpretation of the statute, one might fairly conclude that incident to the statutory imposed consent, there is implied consent to the withdrawal of blood. But the statute in the very same paragraph, namely, Subdivision 1 of 71-a, provides "if such person refuses to submit to such chemical test, the test shall not be given. . . ."

Here then is explicit language banning the test in the absence of consent. Obviously to perform the test in the presence of a refusal would violate the express language of the statute that "the test shall not be given."

In a recent decision Mr. Justice Eager (Matter of *Schutt* v. *Mac Duff,* 205 Misc. 43), in considering a proceeding to annul the determination of the Commissioner of Motor Vehicles revoking the motor vehicle drivers license of the petitioner Schutt, who had refused to submit to a blood test, said concerning the provision of the section in question, ". . . it is premised upon the *consent* of the licensee to submit to the test when demanded. The licensee is expressly given the option of refusing" (Underscoring ours).

A further indication that a doctor may subject himself to a possible assault charge will be found in the opinion of the attorney general of the State of New York (Opinions 1941, p. 143). The attorney general in this opinion was considering a different section of the Vehicle and Traffic Law, namely, 70, Subdivision 5, which made the evidence of the amount of alcohol in a defendant's blood admissible in evidence. While that section considered by the attorney general is not at all similar to 71-a, yet it is interesting to note that he said at page 144 of his opinion: "There is the further and troublesome question of a possible assault on the person of the defendant involved in extracting saliva, blood or urine by force."

Referring to Section 70, Subdivision 5, which he was considering, he said at page 145, "But the Statute does not expressly authorize using force to obtain such evidence. It is highly questionable whether any such implied authority may be read into it, involving as it must, what may constitute a bodily assault to extract urine, saliva or blood, from an unwilling person. The safeguarding of the body of a defendant from harm or attack, is an important element in the administration of criminal law. I must advise you therefore, that until the Legislature grants more specific authority, your police should not use compulsion or bodily force to obtain the evidence referred to."

Thereafter, in 1953 the Legislature enacted Section 71-a, which we are discussing, and as we have pointed out before, this section specifically bans the test if the driver "refuses to submit."

It is our opinion that in the absence of arrest for driving while intoxicated and a consent by the driver to the test, the physician may very well subject himself to liability for assault if he performs the test.

Of course, if a person consents to the test, then no assault is committed.

We also call your attention to the fact that counsel to the Erie County Medical Society, Joseph G. Guariglia, advised the comitia minora of Erie County that, in the light of the opinion received from us, the test should not be undertaken in any case if the doctor requested to withdraw samples of blood has reason to believe from observation that the driver is in fact intoxicated. According to the Erie County *Bulletin* it was pointed out that the intoxication of the driver would make it impossible for him to give the required consent to the test.

We trust that the foregoing has answered your inquiries. If not, we would be happy to hear from you.

Very truly yours,
MARTIN, CLEARWATER & BELL
Counsellors at Law

30 Broad Street
New York 4, New York

Addendum

Since the rendition of the opinion to Dr. Pierce, the State Medical Society has received a letter from Dr. J. Tannenberg, director of the Wyoming County Laboratory, and a letter from Dr. James H. Arseneau of the Wayne County Medical Society, posing additional inquiries concerning this subject.

Dr. Tannenberg, who apparently was unfamiliar with the opinion rendered to Dr. Pierce or to the Erie County Medical Society concerning this subject, is of the belief that a warning—by whom he does not state—given to physicians not to participate in collecting blood from persons who are suspected of driving while intoxicated could result in "very bad publicity for the physicians" and is "completely unwarranted." He states, "If a person is in a comatose or semicomatose condition, this may be due to a number of conditions, insulin shock, diabetic coma, cerebral accident, physical exhaustion, or alcohol. In my opinion no physician should hesitate to collect blood from a person who is comatose or semicomatose to ascertain the reason for this condition. However, the result of such an examination should be held confidential until the particular person has recovered and he is in a position to decide whether or not he wishes the results be given to the law enforcing agencies, if alcohol is found to be the cause."

The question for counsel to decide is not whether unfavorable publicity may ensue but to determine whether a physician may render himself liable for withdrawing blood from a person, suspected of driving while intoxicated, when requested by a police officer.

We are not here dealing with a physician who is called to *treat* a person who is in a comatose or semi-

[Continued on page 1378]

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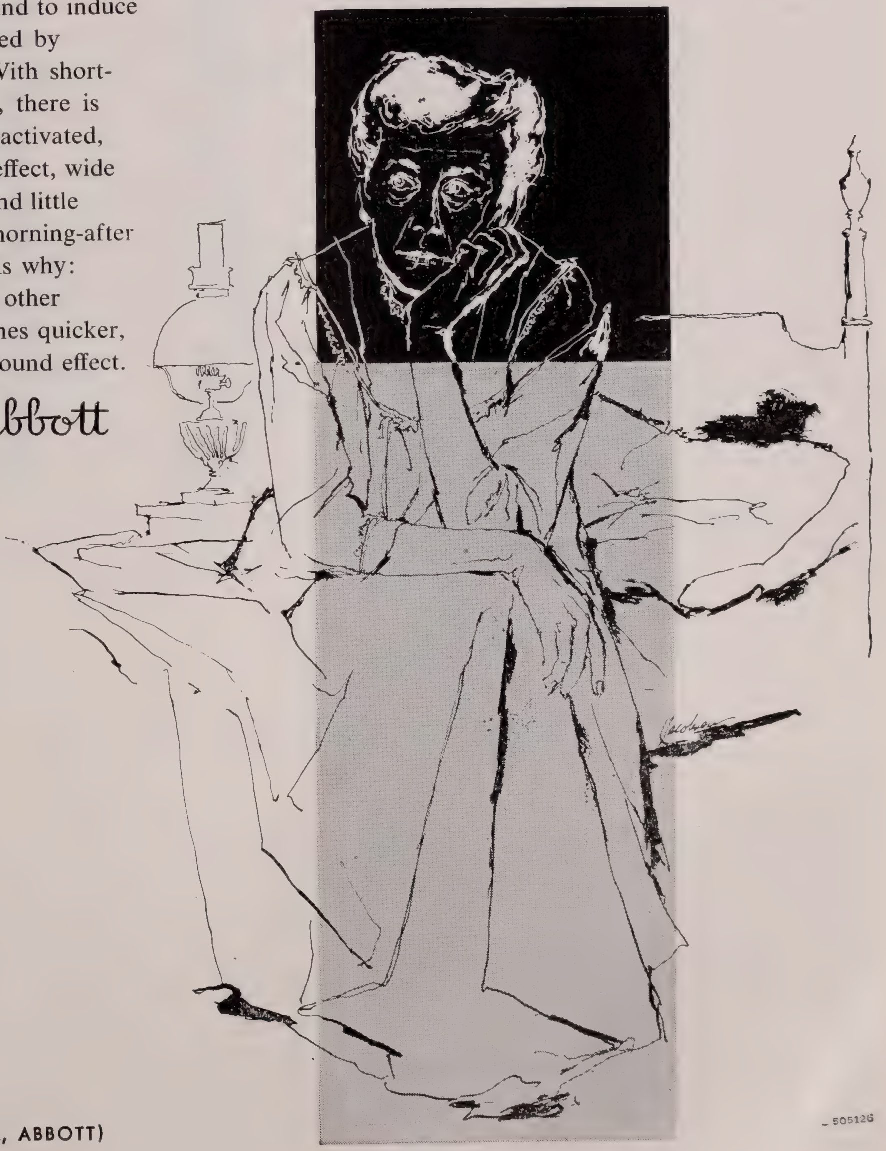

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comatose condition, as, obviously, under such circumstances, the relationship of physician and patient would exist. In such circumstances whatever the physician learns in order to enable him to treat the patient is confidential and cannot be revealed without the patient's consent. The question is whether a physician may subject himself to liability if he is called upon by a police officer *not to treat* but to perform a test to determine the alcoholic content of a person's blood for the purpose of proving that that person while driving a car was intoxicated. In such circumstances the relationship of patient and physician does not exist. The physician under such circumstances must not deviate from the statutory provisions and their interpretation as set forth in the opinion to Dr. Pierce which is published above.

Dr. Arseneau has advised the State Society of an article which is to be published elsewhere by Jack B. Weinstein, Esq., counsel for the Joint Legislative Committee of Motor Vehicle Problems, which formulated and secured the passage of legislation relating to chemical tests for intoxication. Dr. Arseneau quotes from the article prepared by Mr. Weinstein as follows:

> "Here again, once it is realized that the driver does not need explicitly to agree to take the test but that he has only an option to refuse, it is apparent that there is no problem. If the driver does not refuse to take the test, it ought to be given. If he refuses, it ought not be given. There is of course the possibility that he will be so drunk as not to be legally capable of exercising his option to refuse, but that problem need not concern the doctor, and he ought not to give the test if there is a refusal. . .which makes it quite clear that the bill was specifically designed to avoid the possibility of any claim of assault. If the statute is complied with, there is no need to fear an action for assault."

Your counsel agrees that the driver need not explicitly agree to take the test, if Mr. Weinstein means that the driver does not object to the withdrawal of the blood by the physician. His failure to object would constitute implied consent.

Mr. Weinstein makes it clear, however, that if the driver refuses, "it ought not be given." Mr. Weinstein further states in his article: "There is of course the possibility that he will be so drunk as not to be legally capable of exercising his option to refuse, but that problem need not concern the doctor. . ." It is my opinion that the problem presented under such circumstances *does* concern the doctor.

Mr. Justice Eager in the *Schutt* v. *Mac Duff* opinion referred to in my opinion to Dr. Pierce states that the section in question is "premised upon the consent of the licensee [that is, the driver] to submit to the test when demanded. The licensee is expressly given the option of refusing." (words in brackets ours). If a driver's senses are so befogged by alcohol that he is unaware of the nature of the demand made upon him to submit to the test, it would seem to me that a serious question would arise as to the validity of consent and the so-called nonexercise of the option to refuse to submit to the test. At the very least, this situation is not free from doubt.

Mr. Weinstein further states that it is quite clear that the bill was "specifically designed to avoid the possibility of any claim of assault. If the statute is complied with, there is no need to fear an action for assault." From what I have written, it is apparent that I do fear that an action for assault might be brought and that the members of the medical profession should be alerted to the possible pitfalls inherent in this situation.—William F. Martin

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Management of Drug Addiction

To the Editor:

I have noted with considerable interest the article by Dr. Hubert S. Howe concerning the management and prevention of narcotic addiction in the February 1, 1955, issue of the New York State Journal of Medicine. Dr. Howe in his article mentions the hospitals operated by the Public Health Service at Lexington, Kentucky, and Fort Worth, Texas. It should be noted that there is a hospital for the treatment of preadult drug users in New York City.

Riverside Hospital on North Brother Island is operated by the City of New York. There is partial reimbursement by the State of New York. It is available for the treatment of drug users under twenty-one years of age, who are residents of New York State. The hospital has been in operation since July 1, 1952, and has treated approximately 690 persons since it was opened. The location of this hospital near the homes of the patients makes it possible for the treating staff to work with the relatives of the patients, to obtain the cooperation of community agencies, to plan for job placement and other aspects of the patient's living, and also makes it possible for patients to be seen in an After Care Clinic on a continued treatment basis following their discharge from ward care.

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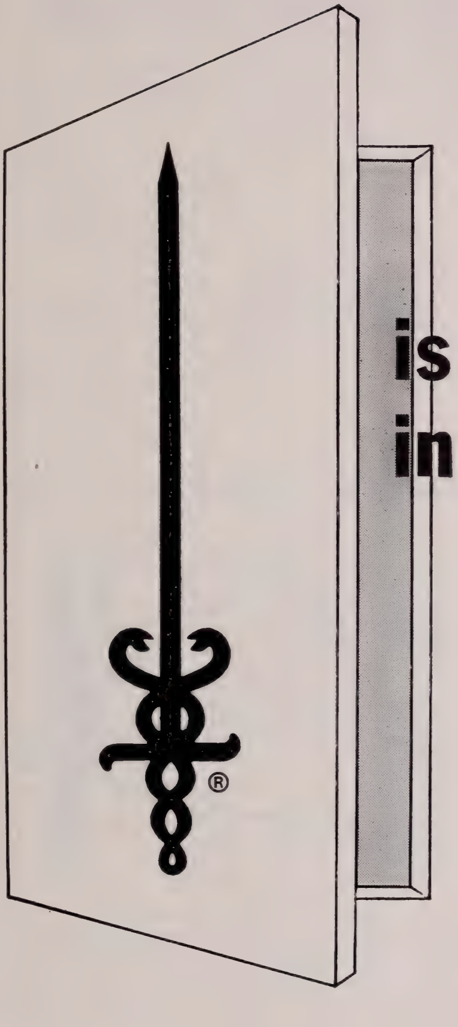

is there a doctor in the house?

There certainly is in our house.

Where there is activity against cancer, there is the physician. It is no secret to any of you that the doctor contributes long hours to the needy cancer patient in clinics, in hospitals, in homes. It is your office of which we boast when we say "every doctor's office a cancer detection center."

Less well known is the fact that hundreds of your colleagues, as directors of the American Cancer Society nationally, in Divisions, and with Units, bring the best medical thought to our attack on cancer by education, by research, and by service to patients. The entire professional education program is planned for doctors by doctors.

The occasion for this brief salute is April, the Cancer Control Month. This year, 1955, marks the tenth anniversary of the reorganization of the American Cancer Society and the launching of the post-war attack on cancer. Much has been achieved—far more remains to be done.

We are grateful for your help in the past—and we rely on your continued support. We count heavily on the doctor in our house.

American Cancer Society

[Continued from page 1378]

The staff of the hospital includes psychiatrists and other physicians, nurses, psychiatric social workers, psychologists, occupational therapists, professional recreation leaders, a vocational rehabilitation counsellor, and clergy. In addition, the Board of Education has established a special school, P.S. 619 Bronx, on North Brother Island which works exclusively with patients of Riverside Hospital. The treatment of the patients in the hospital includes all of the services available. The individual needs of each patient and the progress of the patient in therapy are supervised by the staff psychiatrist. The multiple disciplines are integrated by a team approach, patients being assigned to treatment teams, each of which includes a member of each of the professional staffs listed above.

This pioneering project is being observed by many individuals and agencies throughout the country who are interested in public health and the problem of drug addiction.

Rafael R. Gamso, M.D.
Medical Superintendent

Riverside Hospital
North Brother Island
Foot of East 134th Street
New York 54, New York

The Vertebral Nerve in the Posterior Cervical Syndrome

To the Editor:

The paper of Dr. Murray M. Braaf and Dr. S. Rosner entitled "Symptomatology and Treatment of Injuries of the Neck" which appeared in the Journal[1] makes no reference to the *vertebral nerve.* Barré (1925) regards the posterior cervical sympathetic system, which consists of the vertebral nerve and the sympathetic plexus surrounding the vertebral artery, as the source of a wide variety of bizarre symptoms and signs which are very similar to, if not identical with, many of the manifestations enumerated by Braaf and Rosner in their article.[2,3]

The vertebral nerve originates from the stellate ganglion and ascends in the transverse foramen. The nerve supplies innervation to the vertebrobasilar vascular tree (Fig. 1).

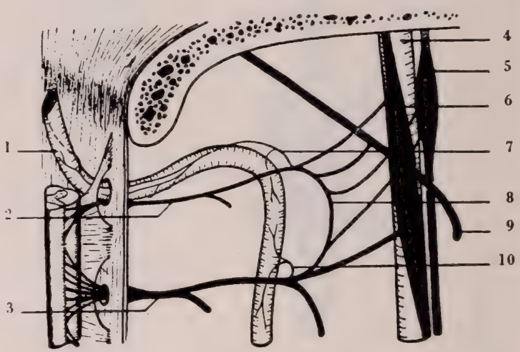

Fig. 1. Innervation of the upper portion of the vertebral artery: (1) vertebral artery, (2) first cervical nerve, (3) second cervical nerve, (4) internal carotid artery, (5) vagus nerve, (6) superior cervical ganglion, (7) superior vascular nerve, (8) loop connecting the first and the second cervical nerves, (9) hypoglossus nerve, (10) inferior vascular nerve.

The loop linking the upper two cervical nerves receives autonomic nerve fibers from the vagus nerve (5), the superior cervical ganglion (6), and the hypoglossus nerve (9). From the loop arise the superior and the inferior vascular nerves (6 and 10), the fibers of which accompany the vertebral artery into the skull. (*Courtesy of Dr. Guy Lazorthes*)

Lesions in the cervical portion of the vertebral column, including periosteum, ligamentous and capsular structures, as well as in other anatomic structures in the neck, such as skin, muscles, tendons, etc., may stimulate elements of the posterior cervical sympathetic system. This tends to lead to vasoconstriction in the vertebrobasilar vessels and their branches with consequent reduction in the blood flow to the lateral part of the bulbopontine region, i.e., the area of the brain which harbors the nuclei of the fifth, sixth, seventh, eighth, ninth, tenth, and eleventh cranial nerves. In consequence of the diminished supply of blood to the bulbopontine region, the nuclei may suffer damage and thus become responsible for the cerebral manifestations following injuries of the neck.

The anastomosis in the parietal region between the cervical nerves (major occipital nerve) and the branches of the first division of the trigeminal nerve (supraorbital nerve) could explain the contribution of both nerve groups to the symptomatology of the posterior cervical syndrome produced by involvement of the upper cervical vertebrae.[4]

Eugene Neuwirth, M.D.

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[1] Braaf, M. M., and Rosner, S.: New York State J. Med. **55**: 237 (Jan. 15) 1955.

[2] Gayral, L., and Neuwirth, E.: *ibid.* **54**: 1920 (July 1) 1954.

[3] Neuwirth, E.: *ibid.* **54**: 2583 (Sept. 15) 1954.

[4] Sobotta, J.: Atlas der deskriptiven Anatomie, München, J. F. Lehmann Verlag, 1931, III. Abt., Fig. 640.

IN **CONCEPTION** CONTROL

prescription to fit the patient

No one method of conception control is applicable to all patients. For some, the "diaphragm-and-jelly" technic serves best, for others "jelly-alone" is adequate. Responsibility for selecting the more desirable of the two methods often rests solely with the physician. Not infrequently, if the patient is permitted to share in the decision, a higher degree of successful contraception will be attained.

From the physician's point of view: When the life and health of the patient depend upon prevention of pregnancy, the diaphragm-jelly method becomes first choice. If certain anatomic difficulties exist such as relaxed pelvic floor,[1,2] extensive cystocele,[1-3] extensive rectocele,[1-3] intact hymen,[3] short anterior vaginal wall,[2] third degree retroversion of the uterus,[2] acute anteflexion of the uterus[2] or complete prolapse,[3] proper placement of the diaphragm usually will not be feasible. Safer than jelly applied to an improperly fitting diaphragm is jelly-alone inserted into the vagina. Inability to learn the diaphragm technic also necessitates jelly-alone.

From the patient's point of view: The highly fertile multiparous patient who considers her family complete will seek the extra protection of a diaphragm. Women motivated by a morbid fear of pregnancy will prefer to reduce the risk of conception by using both a mechanical device and a spermaticide. Conversely, if there is no urgent need to avoid conception,[4,5] or if there is an unwillingness to use the diaphragm, jelly-alone will be the patient's choice because of its simplicity. Practical considerations, such as crowded living conditions or inaccessible toilet facilities may necessitate jelly-alone.

Dependability of each technic: Diaphragm-and-jelly offers the most dependable conception control,[1,3,6-8] with reliability of 95% to 98%.[6,7] Jelly-alone will provide a high degree of protection in nonparous women and in women of low parity.[4] Among 325 women who used jelly-alone (RAMSES Vaginal Jelly*) for 3 months to 3 years, the overall unplanned pregnancy rate was 16.7 per 100 patient-years of exposure. Over 35% of the women who become pregnant admitted negligence or failure to use the method properly. Thus the actual pregnancy rate was 10.82 per 100 patient-years of exposure.[4]

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Bibliography: **1.** Reich, W. J., and Nechtow, M. J.: Practical Gynecology, Philadelphia, J. B. Lippincott Co., 1950. **2.** Tietze, C.; Lehfeldt, N., and Liebmann, H. G.: Am. J. Obst. & Gynec. 66:904, (Oct.) 1953. **3.** Greenhill, J. P.: Office Gynecology, ed. 5, Chicago, The Year Book Publishers, Inc., 1948. **4.** Finkelstein, R.; Guttmacher, A., and Goldberg, R.: Am. J. Obst. & Gynec. 63:664 (March) 1952. **5.** Barnes, J.: Lancet 2:401 (Aug. 22) 1953. **6.** Gamble, C. J.: Ann. New York Acad. Sc. 54:840, May 2, 1952. **7.** Novak, E.: Textbook of Gynecology, ed. 3, Baltimore The Williams and Wilkins Co., 1948. **8.** Council on Pharmacy and Chemistry of the A.M.A.: New and Non-official Remedies for 1954, Philadelphia, J. B. Lippincott Co., 1954.

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NECROLOGY

Blume Shribman Arbor, M.D., of the Bronx, died on March 21 at the age of forty-seven. Dr. Arbor graduated from Boston University Medical School in 1929. At the time of her death, Dr. Arbor was an assistant in the Mental Hygiene Clinic of the Lebanon Hospital Outpatient Department.

Dahir Elias Abu-Khair, M.D., of Brooklyn, died on March 25 of a heart attack at his home at the age of sixty-two. Dr. Abu-Khair graduated from Loyola University School of Medicine, Chicago, in 1933.

Henry Clement Allen, M.D., of Gowanda, died on March 9 at his home at the age of sixty-four. Dr. Allen received his medical degree from the University of Michigan Homeopathic Medical School in 1916 and served during World War I with the U.S. Army Medical Corps overseas. He was attending obstetrician at the Tri-County Memorial Hospital, consulting physician at the Gowanda State Hospital, assistant health commissioner of Cattaraugus County, and school physician for Gowanda. Dr. Allen was a member of the Buffalo Academy of Medicine, the Cattaraugus County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Ubaldo Louis Bizzarri, M.D., of New York City, died on April 4 at his home at the age of fifty-two. Dr. Bizzarri received his medical degree in 1927 from the Royal University of Naples. A Licentiate of the American Board of Pediatrics, he was assistant attending pediatrician at the Flower and Fifth Avenue Hospitals, associate attending pediatrician at Seaview and Metropolitan Hospitals, and assistant chief of child cardiology at the Welfare Island Dispensary. Dr. Bizzarri was a member of the New York County Medical Society and the Medical Society of the State of New York.

J. Edward Grant, M.D., of Northville, died on March 13 at the age of eighty-two. Dr. Grant was graduated from the College of Physicians and Surgeons of Columbia University in 1900. He was a member of the Fulton County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Bernard A. Mohan, M.D., of Buffalo, died on March 10 in the Mercy Hospital, Buffalo, after a short illness at the age of fifty-eight. Dr. Mohan graduated from the University of Buffalo School of Medicine in 1922 and had practiced in Lackawanna before coming to Buffalo twenty-seven years ago. Until five years ago he was chief obstetrician at Mercy Hospital. At the time of his death he was a member of the Erie County Medical Society and the Medical Society of the State of New York.

Harold Neifeld, M.D., of Brooklyn, died on March 23 at the University Hospital, New York City, at the age of fifty-six. Graduated from the Medical College of Virginia, Richmond, in 1924, Dr. Neifeld was a member of the American Congress of Physical Medicine, the American Trudeau Society, the International Academy of Proctology, the New York Society of Physical Medicine, the New York Trudeau Society, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Kaufman Schlivek, M.D., of New York City, died on March 31 at his home at the age of seventy-four. Dr. Schlivek was graduated from the College of Physicians and Surgeons, Columbia University, in 1904 and interned at Mount Sinai Hospital, New York City. Dr. Schlivek had practiced for more than forty years before his retirement in 1951. A Diplomate of the American Board of Ophthalmology and a Fellow of the American College of Surgeons, he was a member of the American Academy of Ophthalmology and Otolaryngology, and the New York Academy of Medicine and was consulting ophthalmologic surgeon at Mount Sinai Hospital and consulting ophthalmologist at the New York Eye and Ear Infirmary, and St. Joseph's Hospital, Far Rockaway.

Dr. Schlivek was a former clinical professor of ophthalmology at the College of Physicians and Surgeons, Columbia University. He was a member also of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Herbert Ordway, M.D., of Longmeadow, Massachusetts, formerly of Saratoga, died on April 1 in Springfield, Massachusetts, at the age of sixty-six. Dr. Ordway was graduated from Yale Medical School in 1912 and interned at City Hospital, Welfare Island. During World War I, he served as a lieutenant in the U.S. Army Medical Corps in France and in 1919 was appointed associate physician of the Mount McGregor Sanitarium of the Metropolitan Life Insurance Company in Saratoga. In 1925 he was made physician in charge, a position he kept until the Sanitarium was closed in 1945.

Dr. Ordway was a Fellow of the American College of Physicians and a Fellow of the American College of Chest Physicians. He had served several terms as president of the Saratoga County Medical Society and at one time was consultant at Saratoga Hospital, director of the Glens Falls Hospital, a member of the board of the Potter Institute in Livingston, director and president of the Saratoga County Tuberculosis and Public Health Committee,

[Continued on page 1384]

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[Continued from page 1382]

and an official of the American Sanitarium Association. He was a member of the Saratoga County Medical Society and the Medical Society of the State of New York.

Israel Strauss, M.D., of New York City, died on April 4 at the age of eighty-one. Dr. Strauss was graduated from the College of Physicians and Surgeons, Columbia University, in 1898 and interned at Mount Sinai Hospital. He was a founder and president of Hillside Hospital, Queens. He had practiced for over fifty years and was consulting neurologist at Mount Sinai Hospital and consulting neuropsychiatrist at Morrisania and Maimonides Hospitals. Dr. Strauss was a member of the American Neurological Society, the American Psychiatric Society, the New York Academy of Medicine, the New York Society of Clinical Pyschiatry, the Association for Research in Nervous and Mental Diseases, the New York Neurological Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Charles Schintzius, M.D., of Boonville, died on March 27 following an automobile accident at the age of fifty-five. Dr. Schintzius was graduated from the University of Buffalo School of Medicine in 1926. Dr. Schintzius was a member of the staff of the Lewis County, Faxton, and St. Luke's Memorial Hospitals. At the time of his death, he was a member of the Aero Medical Society, the Utica Academy of Medicine, the Oneida County Medical Society of which he was also a former president, the Medical Society of the State of New York, and the American Medical Association.

Herman Henry Van Horn, M.D., of Jordan, died on March 10 after a long illness at his home at the age of seventy-six. Dr. Van Horn was graduated from the College of Physicians and Surgeons of Columbia University in 1914, following which he served for a time as a member of the faculty of Dartmouth Medical College.

Dr. Van Horn was a member of the American Society of Clinical Pathologists, the Oswego County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

MEDICAL NEWS

Research Society—The Research Society of the State University of New York College of Medicine at New York City met on April 13 at the Kings County Hospital in Brooklyn. "Relationships Between Personality as Manifested in the Rorschach and Modes of Perceiving in Normal Children," was discussed by Hanna F. Faterson of the Department of Psychiatry; "Neural Mechanism Responsible for Parkinson's Syndrome," by Dr. Harry A. Kaplan, Department of Neurosurgery, and "Transurethral Resection of the Vesical Neck for Relief of Diabetic Neurogenic Dysfunction of the Bladder," by Dr. Sidney R. Weinberg, Department of Surgery.

Society of Medical Jurisprudence—The 689th regular meeting of the Society of Medical Jurisprudence was held on April 11 at the New York Academy of Medicine. Dr. George I. Swetlow, F.A.C.P., LL.B., Trial Counsel, member of the New York Bar, professor of medico-legal jurisprudence at Brooklyn Law School, and consultant neurologist to the Cumberland Street Hospital, spoke on "The Mind in the Courtroom."

Association for the Advancement of Psychoanalysis—The regular meeting for the Association for the Advancement of Psychoanalysis was held on April 27 at the New York Academy of Medicine. Dr. Alexander R. Martin spoke on "A Philosophy For Psychoanalysts."

Sex Education Pamphlets Available—Sex education pamphlets being prepared by the Joint Committee on Health Problems in Education of the National Education Association and the AMA will be available about May 15 and may be obtained from either AMA's Order Department or the NEA headquarters in Washington, D.C. The pamphlets are designed primarily for parents, teachers, and youth leaders, and are entitled: "Parents' Privilege," for parents of preschool and early school age children; "A Story About You," for children nine to twelve years; "Finding Yourself," for boys and girls ages sixteen through twenty; and "Facts Aren't Enough," for adults who have responsibility for children.

Tax Manual For Physicians—The AMA Law Department's reference manuals on income taxes are now available from the American Medical Association. "Federal Income Tax Liability of Physicians" is a 40-page booklet useful for filling out next year's forms. Subjects include business expense deductions, business entertainment expenses, principal

[Continued on page 1386]

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[Continued from page 1384]

new provisions of the 1954 tax code affecting physicians, and tax aspects of a medical partnership.

Fellowship in Rheumatic Fever—The New York State Department of Health has made available a special grant of Federal C.C. funds to provide a fellowship in rheumatic fever of one year's duration for a physician with a good general or pediatric background who lacks specific training in this field. Priority in selecting the candidate will be given to a physician wishing to make full-time teaching, research, or public health a career and who has an interest in children's rheumatic fever and related programs. For further information, interested applicants should write to the Medical Director, Irvington House, Irvington-on-Hudson, New York.

Teaching Day Seminar—A Teaching Day Seminar on respiratory diseases was held on April 21, at the Mercy Hospital Auditorium in Watertown, under the auspices of the Jefferson County Academy of General Practice, the Jefferson County Medical Society, the Medical Society of the State of New York, and the New York State Department of Health.

Nathan B. Van Etten Hospital—The first unit of the Bronx Municipal Hospital Center to be completed, the seven-story, 500-bed Nathan B. Van Etten Hospital, was opened recently at Morris Park and Seminole Avenues. Although built as a tuberculosis facility, the hospital initially will admit general care patients also. The hospital is named for the late Dr. Nathan B. Van Etten, a former president of the American Medical Association and the first president of the Bronx County Medical Society. Dr. Van Etten was also a past president of the New York Society of Jurisprudence, the Medical Alumni of New York University, the Greater New York Medical Association, the Medical Society of the State of New York, and the Bronx Tuberculosis and Health Association.

David Anderson-Berry Prize—A David Anderson-Berry silver-gilt medal, together with a sum of money amounting to about 100 pounds, will be awarded in 1956 by the Royal Society of Edinburgh to the person, who, in the opinion of the Council, has recently produced the best work on the therapeutical effect of x-rays on human diseases. Applications for this prize are invited. They may be based on both published and unpublished work and should be accompanied by copies of relevant papers. Applications must be in the hands of the General Secretary, Royal Society of Edinburgh, 22, 24 George Street, Edinburgh 2, Scotland, by March 31, 1956.

Finger Lakes Neuropsychiatric Society—The spring meeting of the Finger Lakes Neuropsychiatric Society was held on March 24 at Craig Colony, Sonyea. Dr. Benjamin Pollack, assistant director of Rochester State Hospital, addressed the society on the effect of the administration of Thorazine to over 500 patients in a mental hospital.

New York Academy of Medicine—The New York Academy of Medicine held its stated meeting on April 7 at the Academy. A symposium on "The Doctor in Court" was conducted, with Bernard Botein, associate justice, Appellate Division, New York Supreme Court, First Department, and William F. Martin, Esq., counsel, Medical Society of the State of New York, who both spoke on "The Role of the Physician as an Expert Witness in Civil Actions," and Dr. Milton Helpern, chief medical examiner, City of New York, and Dr. Gregory Zilboorg, associate professor of clinical psychiatry, New York Medical College, who both spoke on "The Role of the Physician as an Expert Witness in Criminal Actions."

Personalities

Elected

Dr. James A. Brussel, assistant commissioner, New York State Department of Mental Hygiene, as chairman of the Committee on Inter-State Transportation of Mental Patients, at the Wilmington, Delaware conference on April 28 and 29 . . . Dr. John Hirschfeld, president, Dr. Margarete Kotrnetz, vice-president, and Dr. James Huyck, secretary-treasurer, of the medical staff of Herkimer Memorial Hospital. . .Dr. Frederick A. Schroeder, president of the Rockland County Chapter of the New York State Academy of General Practice, as a member of the board of United Medical Service, Inc., New York's Blue Shield Plan.

Awarded

Dr. Alex B. Novikoff, Waldeman Medical Research Foundation, Port Washington, $9,886 to continue his study of biochemic changes in relation to cancer, and Dr. Eric Ponder, director of research at Nassau Hospital, Mineola, $4,000 for his study of lymphocytes, by the Nassau Committee of the American Cancer Society. . .Dr. Howard A. Rusk, director of the Institute of Physical Medicine and Rehabilitation at New York University-Bellevue Medical Center and associate editor of the *New York Times*, the Phi Delta Epsilon medical fraternity 1954 distinguished service award.

Appointed

Dr. David H. Chapman, recently discharged from the service with the rank of major, as full-time pathologist at the St. Lawrence State Hospital at Ogdensburg. . .Dr. Samuel Z. Levine, chief pediatrician at New York Hospital and professor of pediatrics at Cornell University Medical School, as a member of the New York City Board of Health.

[Continued on page 1388]

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Speakers

Dr. Robert Blum, instructor in medicine at the Buffalo University School of Medicine, on "The Management of Diabetes With the Newer Forms of Insulin," before the Rensselaer County Medical Society on May 17 at the Samaritan Hospital in Troy. . .Dr. Sidney Fierst, clinical assistant professor of medicine at the State University of New York College of Medicine at New York, before the Jefferson County Medical Society at the Black River Valley Club in Watertown, on May 17, on "Ulcerative Colitis and Enteritis". . .Dr. John Filippone, associate professor of medicine at Albany Medical College, and Dr. Allan Stranahan, assistant professor of surgery at Albany Medical College, in a symposium on "Mitral Stenosis" before the Ulster County Medical Society on April 5. . .Dr. Milton Helpern, chief medical examiner of New York City, on "Automobile Accident Injuries," before the Syracuse Trauma Committee and the Regional Chapter of the American College of Surgeons on April 5 in Syracuse. . .Dr. Leon Moses, professor at Columbia University, College of Physicians and Surgeons, Department of Psychiatry, Psychoanalytic Clinic for Training and Research, New York City, before the hospital staff of the Veterans Administration Hospital at Northport, on March 24, on "Psychogenic Factors in Essential Hypertension". . . Dr. Walter J. O'Connor, assistant professor of pediatrics, on "Care and Feeding of Premature Infants," on April 2; Dr. Richard L. Day, professor of pediatrics and head of the department, on "Recent Advances in the Treatment of Erythroblastosis Fetalis," on April 9; Dr. Robert E. Kahn, assistant professor of pediatrics, on "Cardiovascular Diseases in Children," on April 16, and Dr. R. Janet Watson, associate professor of pediatrics, on "Anemias of Childhood," on April 23; all from the staff at the State University of New York College of Medicine at New York, and all before the Suffolk County Medical Society in Central Islip. . .Dr. George T. Pack, New York City, the Frederic Bancroft Lecture, before the alumni of Beth David Hospital in New York City on May 4, on "Cancer of the Stomach," and on "The Definition of Adequate Surgery for Cancer Treatment" on May 10 before the Steubenville, Ohio, Academy of Medicine. . .Dr. Sander Rado, clinical professor of psychiatry and director of the Psychoanalytic Clinic for Training and Research at Columbia University, before the hospital staff of the Veterans Administration Hospital at Northport on March 29, on "Depressive Reaction". . .Dr. Arthur M. Reich, clinical professor of obstetrics and gynecology at New York Medical College, before the Rockland County Medical Society on May 4 at the Summit Park Sanatorium in Pomona, on "The Treatment of Obstetrical Bleeding". . .Dr. Howard Rusk, professor and chairman of the Department of Physical Medicine and Rehabilitation at the New York University College of Medicine and director of the Institute of Physical Medicine and Rehabilitation at the New York University-Bellevue Medical Center, the Sir Robert Jones Lecture on April 4 at the Hospital for Joint Diseases in New York City, on "The Advantage of Disadvantage."

New Offices

Dr. Gerard U. Cacio, general practice in Youngstown. . .Dr. Ann Florsheim, general practice in Cassadaga.

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Dr. James M. Cronk, as health officer of Hyde Park, after fifty-five years.

MEDICAL MEETINGS

Westchester Academy of General Practice

The second annual scientific assembly of the Westchester Academy of General Practice will be held on May 4 at the Roger Smith Hotel in White Plains. Subject of the meeting will be "Recent Advances in Therapy," and speakers will be: Dr. Linn J. Boyd, professor and director of the Department of Medicine, on "Acute Pulmonary Edema"; Dr. David Scherf, professor of clinical medicine, on "Anti-Hypertensive Drugs"; Dr. Milton J. Raisbeck, associate professor of medicine, on "Selection of Cases for Cardiac Surgery," and a panel discussion on "Treatment of the Cardiac," by Drs. Boyd, Scherf, and Raisbeck. Also: Dr. Thomas Hodges McGavack, professor of clinical medicine, will speak on "The Steroids"; Dr. Kurte Lange, associate clinical professor of medicine, on "Medical Management of Peripheral Vascular Disease," and Dr. David Lehr, associate professor of medicine, on "The New Antibiotics."

Ira I. Kaplan Lecture

The annual Ira I. Kaplan lecture will be featured on May 12, at 5:00 P.M. at the meeting of the Radiation Therapy Alumni Association of Bellevue Hospital. Dr. Gray H. Twombly, professor of gynecology, College of Medicine at New York University, will speak on "The Anatomy of the Female Pelvis in Relation to Cancer of the Cervix," with a discussion by Dr. Albert A. Plentl, assistant professor of obstetrics and gynecology at Columbia University College of Physicians and Surgeons.

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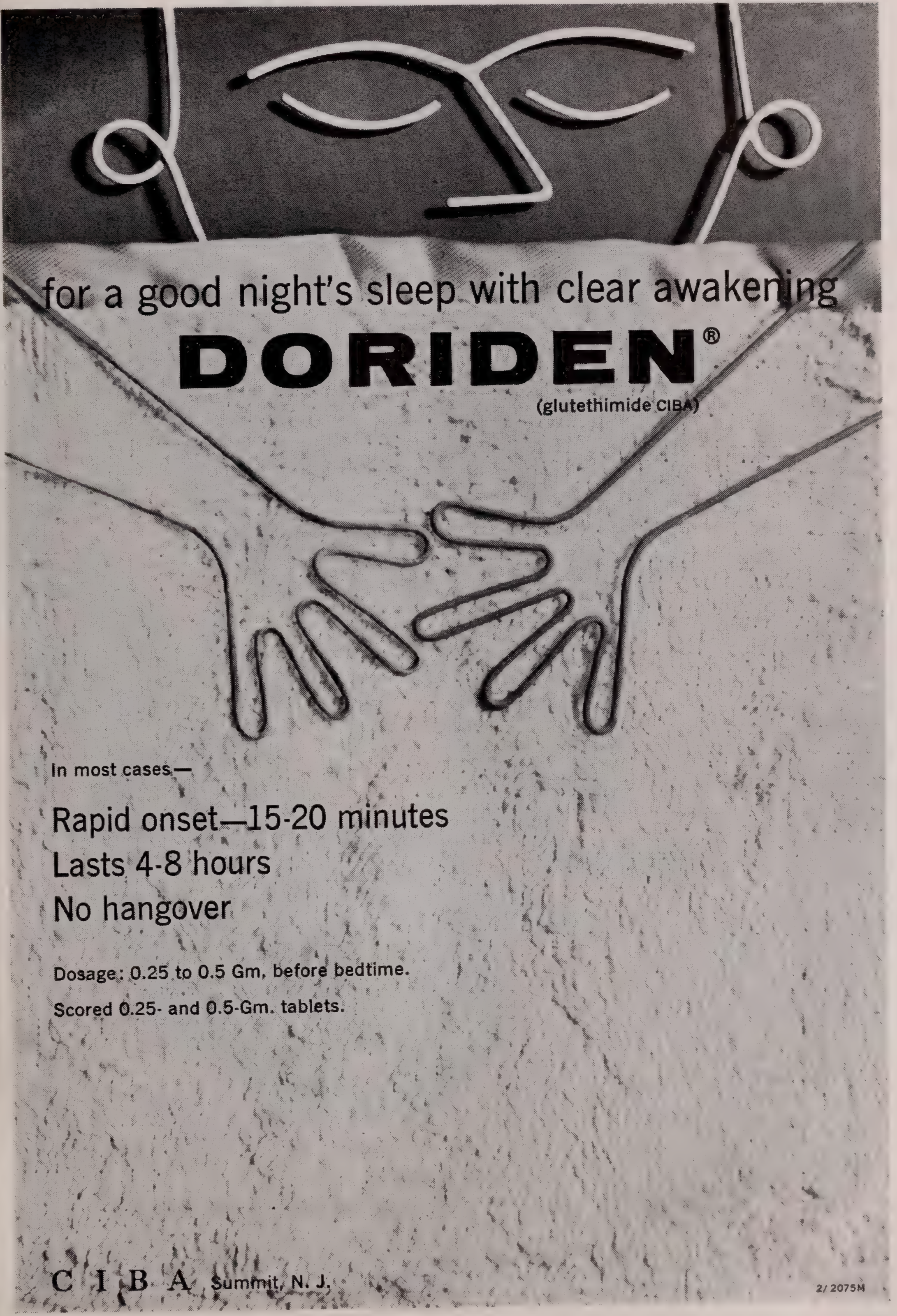

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VOLUME 55 MAY 15, 1955 NUMBER 10

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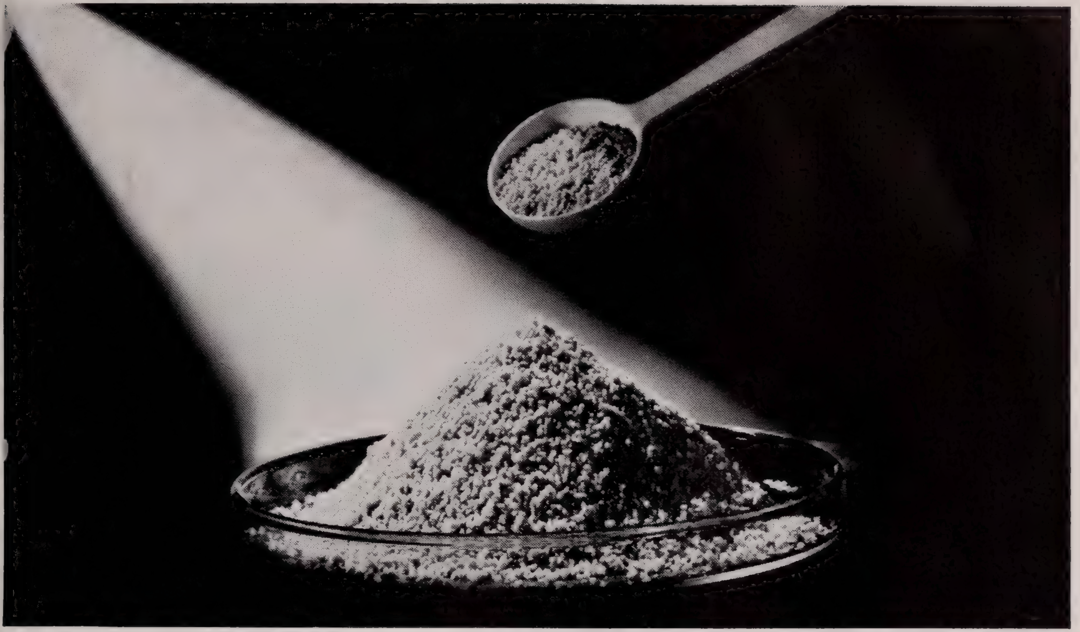

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Bibliography: 1. Duff, G. L., and Payne, T. P. B.: J. Exper. Med. *92*:299 (Oct. 1) 1950. • 2. Schettler, G.: Klin. Wchnschr. *30*:627 (July) 1952. • 3. Gertler, M. M.; Garn, S. M. and Lerman, J.: Circulation *2*:205 (Aug.) 1950. • 4. Ahrens, E. H., and Kunkel, H. G.: J. Exper. Med. *90*:409 (Nov. 1) 1949. • 5. Boyd, E. M.: Proc. & Trans. Roy. Soc. Canada *31*:11 (May) 1937. • 6. Gertler, M. M., and Oppenheimer, B. S.: Geriatrics *9*:157 (April) 1954. • 7. Kellner, A.; Correll, J. W., and Ladd, A. T.: J. Exper. Med. *93*:385 (April 1) 1951.

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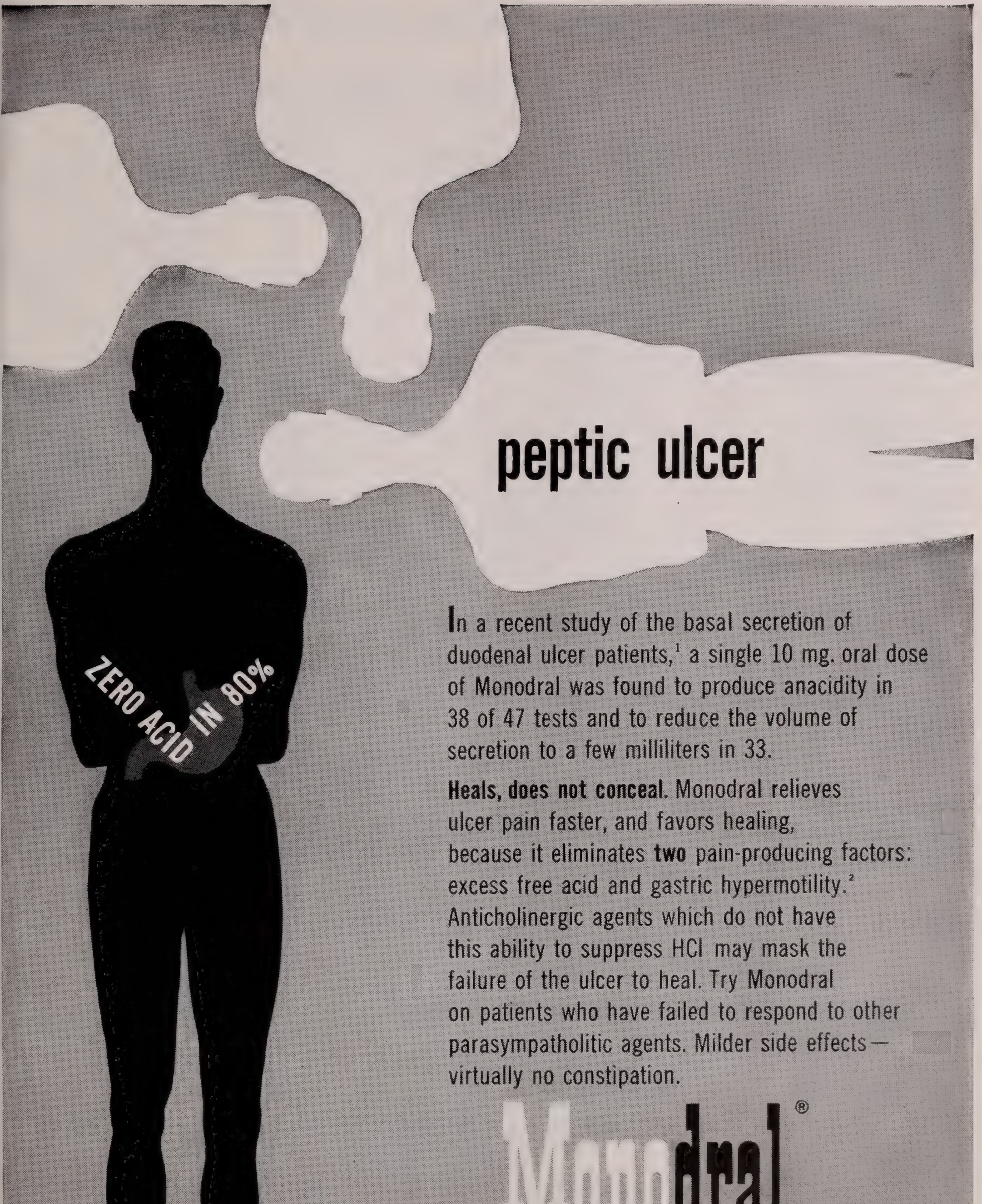

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1. McKenna, R.D.: Royal Victoria Hospital, Montreal, Canada: Personal communication.
2. Ingegno, A.P.; and Kertzner, Leonard: New York Jour. Med., 54:1185, Apr. 15, 1954.

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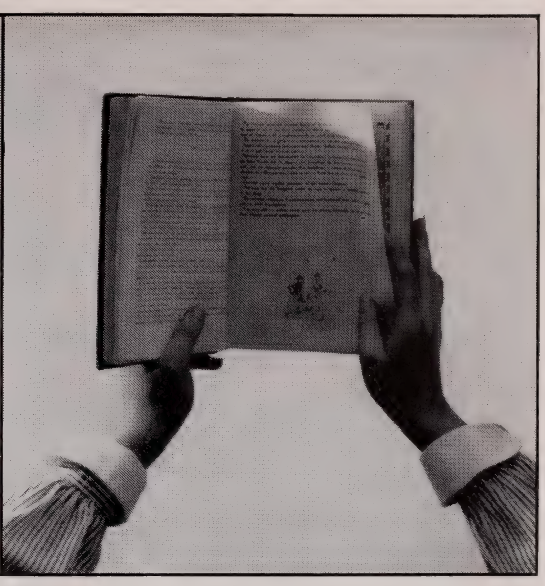
Of two patients with poison ivy...

one aggravates the dermatitis venenata by vicious scratching; the result: excoriation and infectious eczematoid dermatitis.



the other is not disturbed by itching. The dermatitis venenata is permitted to clear rapidly and without annoying complications.

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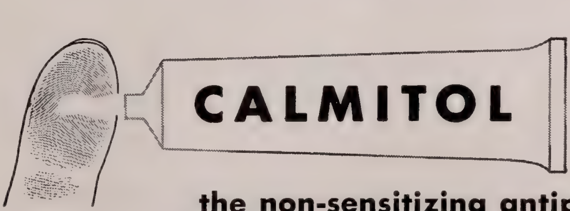
Nonsensitizing and free of the dangers of "rebound dermatosis," Calmitol is "preferred"[1] by physicians for its safe and prolonged antipruritic action.



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1½ oz. tubes and 1 lb. jars

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1. Lubowe, I. I.: New York State J. Med. 50:1743,1950.

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(*Continued from page 1402*)

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control of tension peaks

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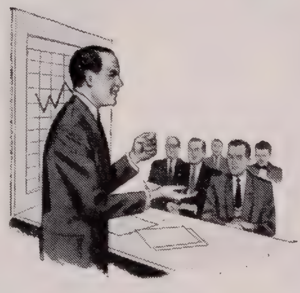

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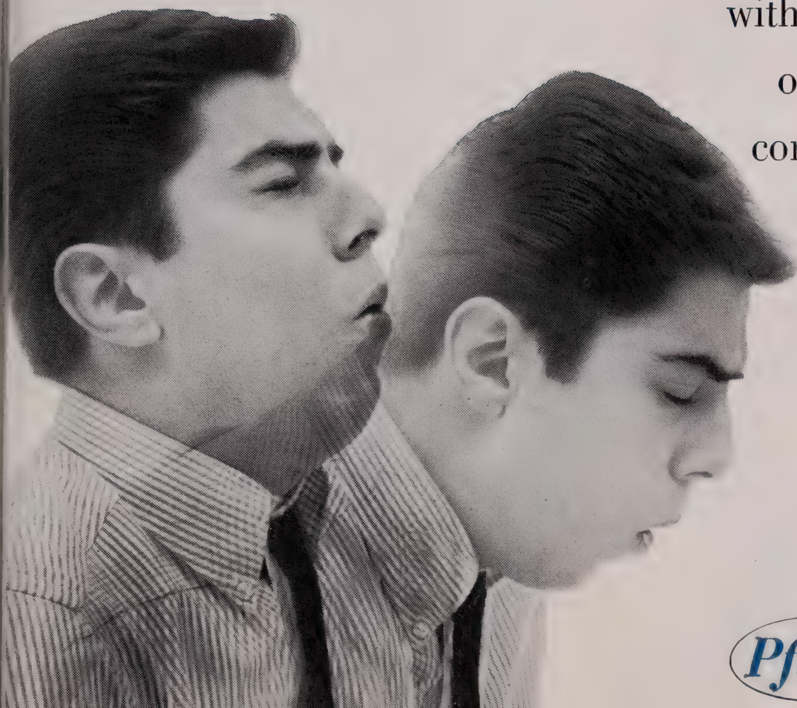

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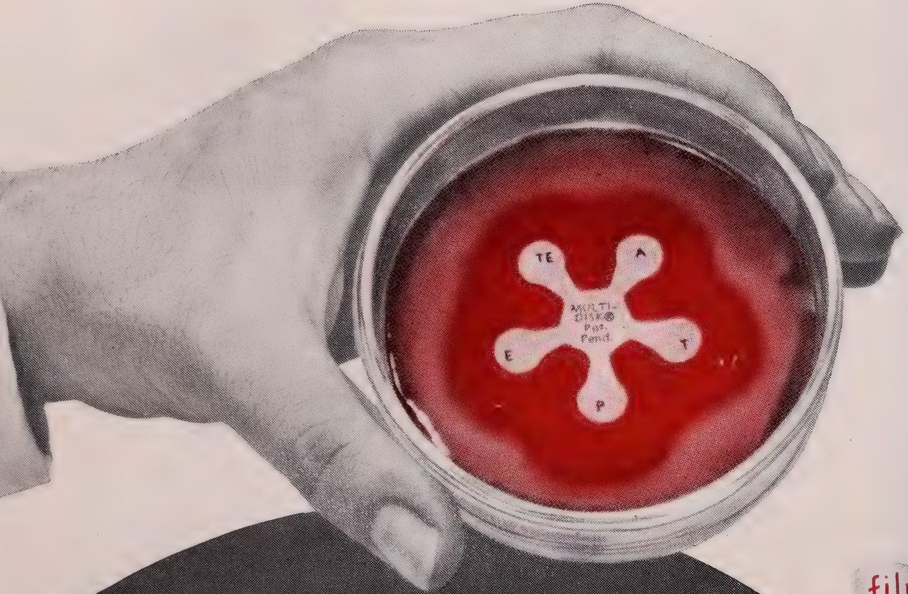

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1. Finnerty, F. A., Jr.: The Value of Rauwolfia Serpentina in the Hypertensive Patient, Am. J. Med. **17**:629 (Nov.) 1954.
2. Moyer, J. H., in discussion of Galen, W. P., and Duke, J. E.: Outpatient Treatment of Hypertension with Hexamethonium and Hydralazine, South. M. J. 47:858 (Sept.) 1954.
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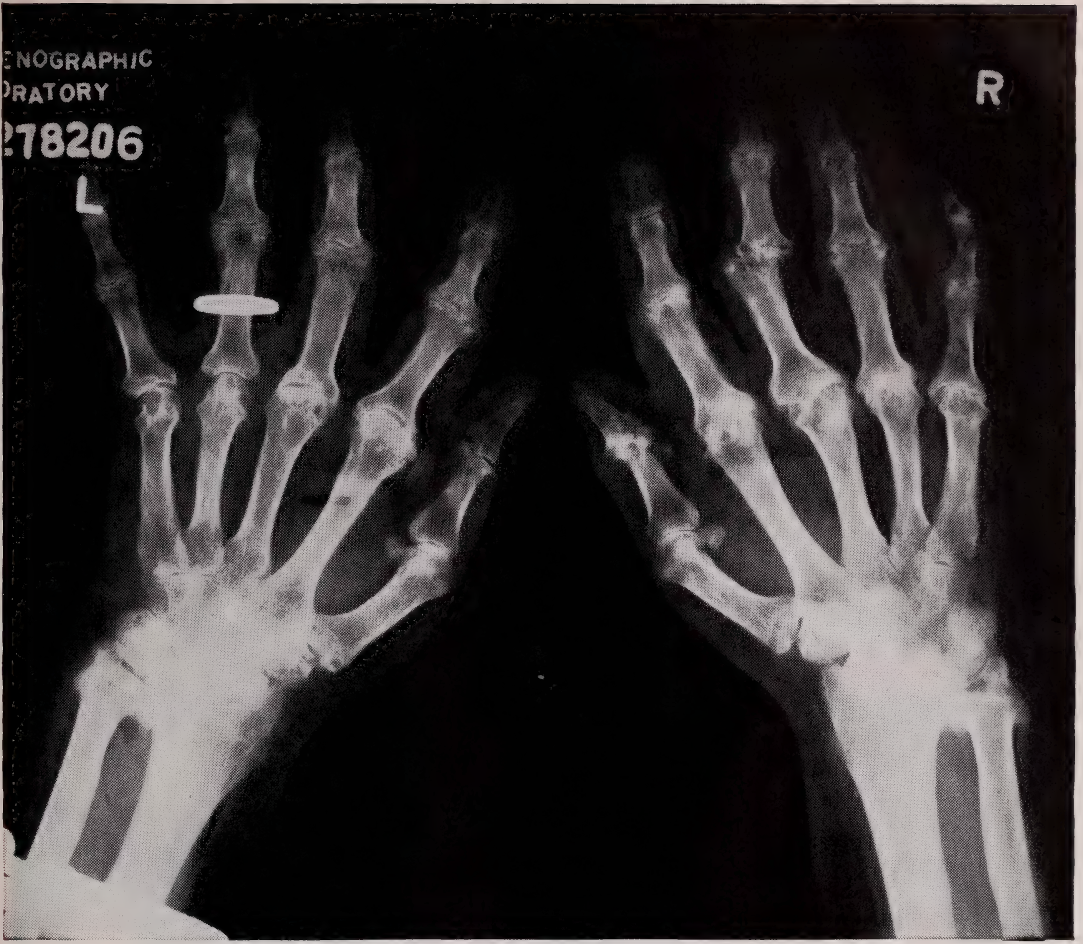

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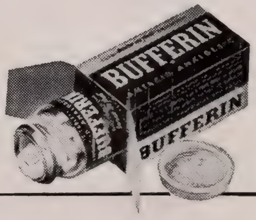

References: 1. Fremont-Smith, P.: In press. 2. J.A.M.A. 141:124, 1949. 3. M. Times 81:41, 1953.

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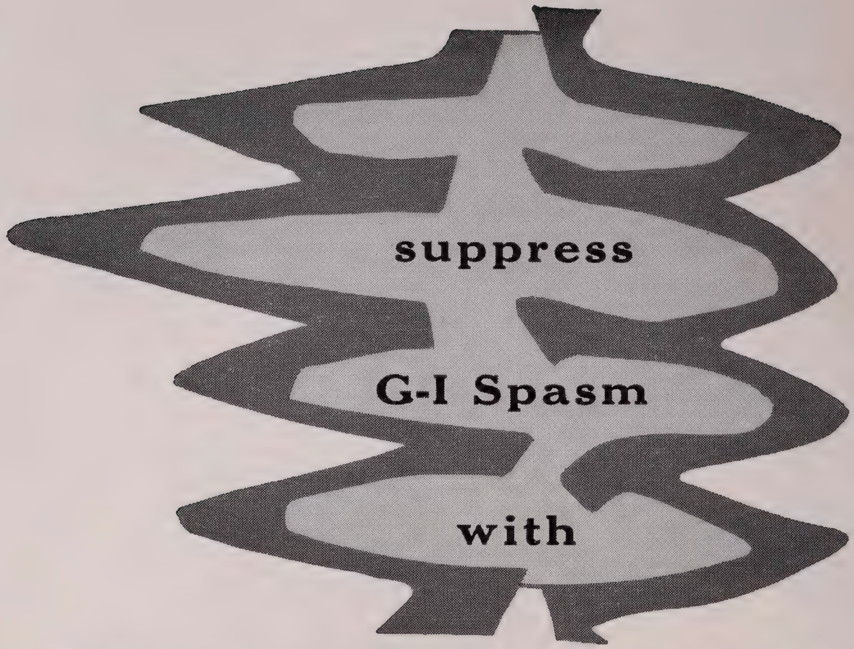

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Without Atropine Side Effects

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Trasentine® hydrochloride
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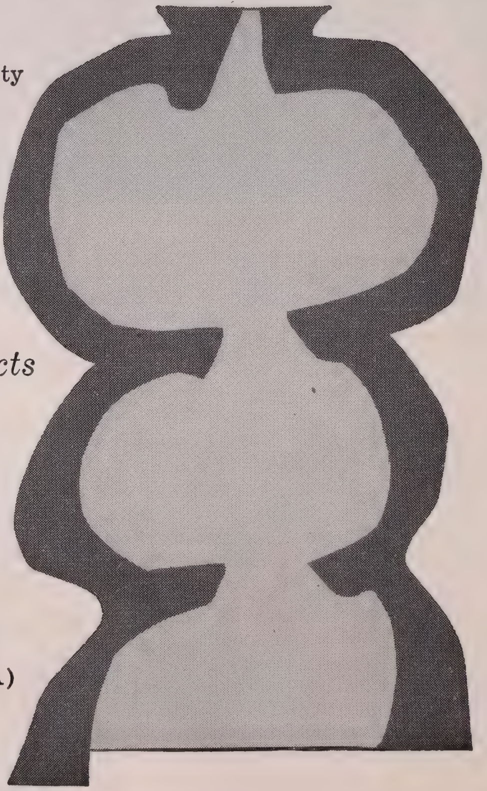

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C I B A *Summit, N. J.*

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Are ACTH and cortisone (or hydrocortisone) practically one and the same?

A

No—There Is A Difference!

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Only the therapeutic effects of ACTH and cortisone are practically alike. However, there is a decisive antagonism between ACTH and cortisone regarding function and tissue structure of the adrenal cortex.

ACTH therapy stimulates the adrenal cortex to produce larger amounts of steroids with a proportionate increase of the secretory tissue to prevent exhaustion.

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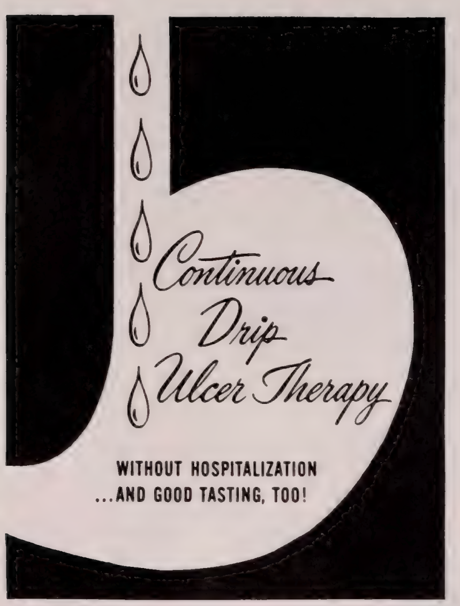

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A recent clinical study* of 46 ambulatory non-hospital patients treated with Nulacin† and followed up to 15 months describes the value of ambulatory continuous drip therapy by this method. Total relief of symptoms was afforded to 44 of 46 patients with duodenal ulcer, gastric ulcer and hypertrophic gastritis.

The delicately flavored tablets dissolve slowly in the mouth (not to be chewed or swallowed). They are not noticeable and do not interfere with speech.

Nulacin tablets are supplied in tubes of 25 at all pharmacies. Physicians are invited to send for reprints and clinical sample.

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*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. *22*:67 (Mar.) 1955.

†Mg trisilicate 3.5 gr.; Ca carbonate 2.0 gr.; Mg oxide 2.0 gr.; Mg carbonate 0.5 gr.

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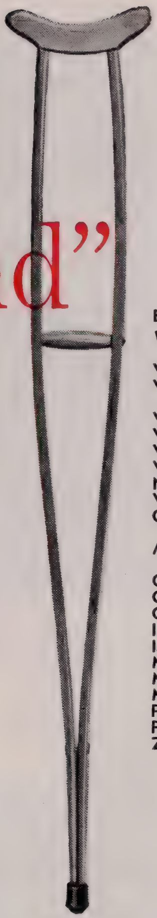
11 minerals, 9 vitamins—for prompt nutritional recovery following illness. All in one soft gelatin capsule.



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Vitamin D (Irradiated Ergosterol)	1,000 U.S.P. Units
Vitamin B_1 (Thiamine Mononitrate)	10 mg.
Vitamin B_2 (Riboflavin)	5 mg.
Vitamin B_6 (Pyridoxine Hydrochloride)	0.5 mg.
Vitamin B_{12} U.S.P.	5 mcg.
Niacinamide U.S.P.	100 mg.
Vitamin C (Ascorbic Acid)	150 mg.
Calcium Pantothenate	1.5 mg.

Minerals

Calcium (from Dicalcium Phosphate)	103.0 mg.
Cobalt (from Cobaltous Sulfate)	0.1 mg.
Copper (from Cupric Sulfate)	1.0 mg.
Iodine (from Potassium Iodide)	0.15 mg.
Iron (from Ferrous Sulfate)	10.0 mg.
Magnesium (from Magnesium Sulfate)	6.0 mg.
Manganese (from Manganous Sulfate)	1.0 mg.
Molybdenum (from Sodium Molybdate)	0.2 mg.
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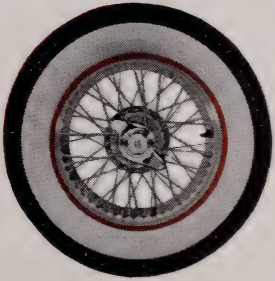

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Vitamin B_{12} U.S.P.	1 mcg.
Thiamine Hydrochloride U.S.P.	3 mg.
Riboflavin U.S.P.	3 mg.
Pyridoxine Hydrochloride U.S.P.	0.5 mg.
Niacinamide U.S.P.	25 mg.
Ascorbic Acid U.S.P.	50 mg.
Calcium Pantothenate	5 mg.
Mixed Tocopherols (equivalent to 2.3 Int. Units Vitamin E Activity)	5 mg.

Minerals

Calcium (from Dicalcium Phosphate)	213 mg.
Cobalt (from Cobaltous Sulfate)	0.1 mg.
Copper (from Cupric Sulfate)	1 mg.
Iodine (from Potassium Iodide)	0.15 mg.
Iron (from Ferrous Sulfate)	10 mg.
Manganese (from Manganous Sulfate)	1 mg.
Magnesium (from Magnesium Sulfate)	6 mg.
Molybdenum (from Sodium Molybdate)	0.2 mg.
Phosphorous (from Dicalcium Phosphate)	165 mg.
Potassium (from Potassium Sulfate)	5 mg.
Zinc (from Zinc Sulfate)	1.2 mg.

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CLINICAL DATA ON REQUEST

*Combes, F. C. & Canizares, O.: New York St. J. Med. 52:706, 1952; Marsh, W. C.: U. S. Armed Forces M. J. 1:1045, 1950.

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1 mg.
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Average Dosage: 2 to 6 tablets
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BRAND OF MECLIZINE HYDROCHLORIDE

...the first motion-sickness preventive effective in a single daily dose

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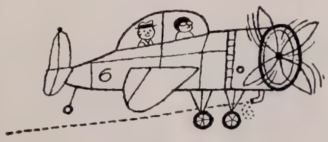

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Geriatric Vitamin-Mineral Supplement Lederle

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EACH GEVRAL *CAPSULE CONTAINS:*

Vitamin A	5000 U.S.P. Units
Vitamin D	500 U.S.P. Units
Vitamin B_{12}	1 mcgm.
Thiamine Mononitrate (B_1)	5 mg.
Riboflavin (B_2)	5 mg.
Niacinamide	15 mg.
Folic Acid	1 mg.
Pyridoxine HCl (B_6)	0.5 mg.
Ca Pantothenate	5 mg.
Choline Dihydrogen Citrate	100 mg.
Inositol	50 mg.
Ascorbic Acid (C)	50 mg.
Vitamin E (as tocopheryl acetates)	10 I. U.
Rutin	25 mg.
Purified Intrinsic Factor Concentrate	0.5 mg.
Iron (as $FeSO_4$)	10 mg.
Iodine (as KI)	0.5 mg.
Calcium (as $CaHPO_4$)	145 mg.
Phosphorus (as $CaHPO_4$)	110 mg.
Boron (as $Na_2B_4O_7 . 10H_2O$)	0.1 mg.
Copper (as CuO)	1 mg.
Fluorine (as CaF_2)	0.1 mg.
Manganese (as MnO_2)	1 mg.
Magnesium (as MgO)	1 mg.
Potassium (as K_2SO_4)	5 mg.
Zinc (as ZnO)	0.5 mg.

Other Lederle geriatric products include: GEVRABON* Vitamin-Mineral Supplement liquid with a wine flavor; GEVRAL* Protein Vitamin-Mineral-Protein supplement powder; and GEVRINE* Vitamin-Hormone capsule.

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"Easy-to-swallow" AMCHLOR is processed in such a manner that each enteric-coated tablet contains 1 Gram of ammonium chloride and yet is not much larger than the 7½ gr. enteric-coated tablet. Thus the same dose can be given with only one-half the number of tablets.

FROM COAST TO COAST both physicians and patients are showing a decided preference for **AMCHLOR.**

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THE ONE GRAM enteric-coated tablet
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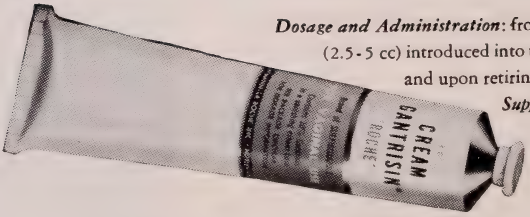
1. wide antibacterial spectrum, plus high solubility, plus low incidence of sensitization.
2. acid pH (4.6) providing unfavorable medium for vaginal pathogens.
3. aesthetic appeal—pleasant white vanishing cream.



Dosage and Administration: from one-half to one applicatorful (2.5-5 cc) introduced into the vagina twice daily (in the morning and upon retiring).

Supplied: 3-oz tubes, with or without applicator.

Caution: If patient develops sensitization, treatment should be discontinued.

GANTRISIN®—brand of sulfisoxazole (3,4-dimethyl-5-sulfanilamido-isoxazole)

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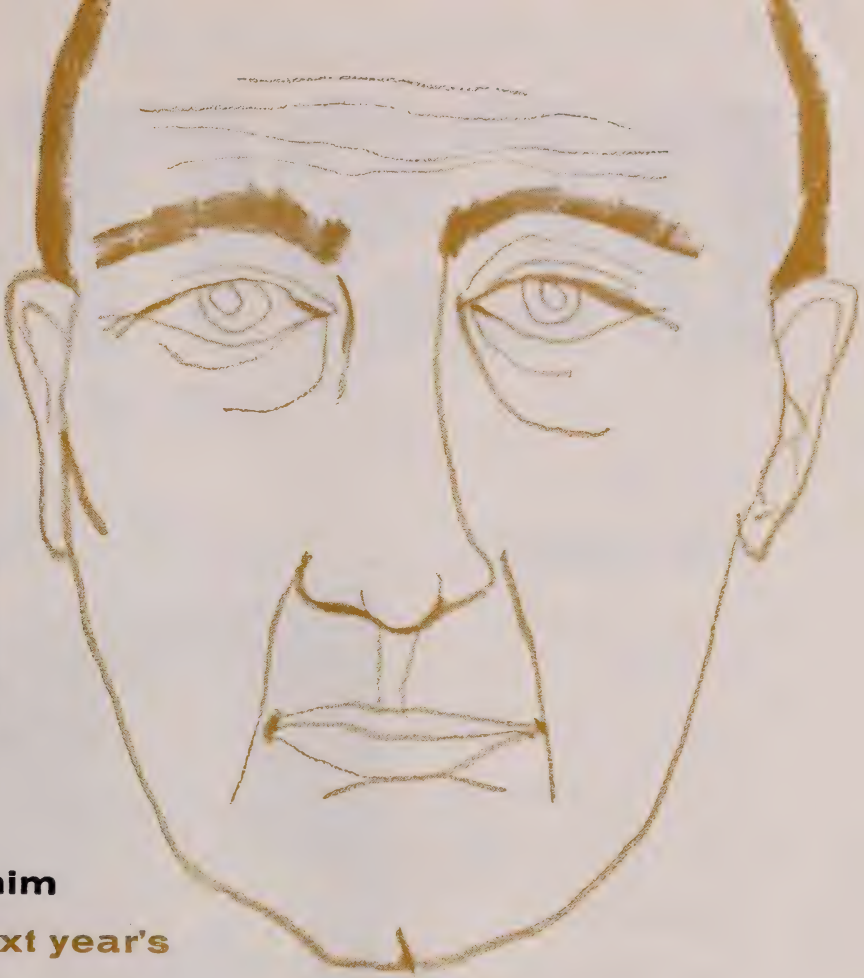

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GERIPLEX is specifically formulated to help safeguard health and vitality in middle and in later life. Each easy-to-take GERIPLEX Kapseal supplies valuable mineral nutrients, eight important vitamins, plus the starch-digestant, Taka-Diastase® and rutin.

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1. Grayzel, H. G., Heimer, C. B., and Grayzel, R. W.: New York St. J. M. 53:2233, 1953.
2. Heimer, C. B., Grayzel, H. G., and Kramer, B.: Archives of Pediatrics 68:382, 1951.
3. Behrman, H. T., Combes, F. C., Bobroff, A., and Leviticus, R.: Ind. Med. & Surgery 18:512, 1949.
4. Turell, R.: New York St. J. M. 50:2282, 1950.

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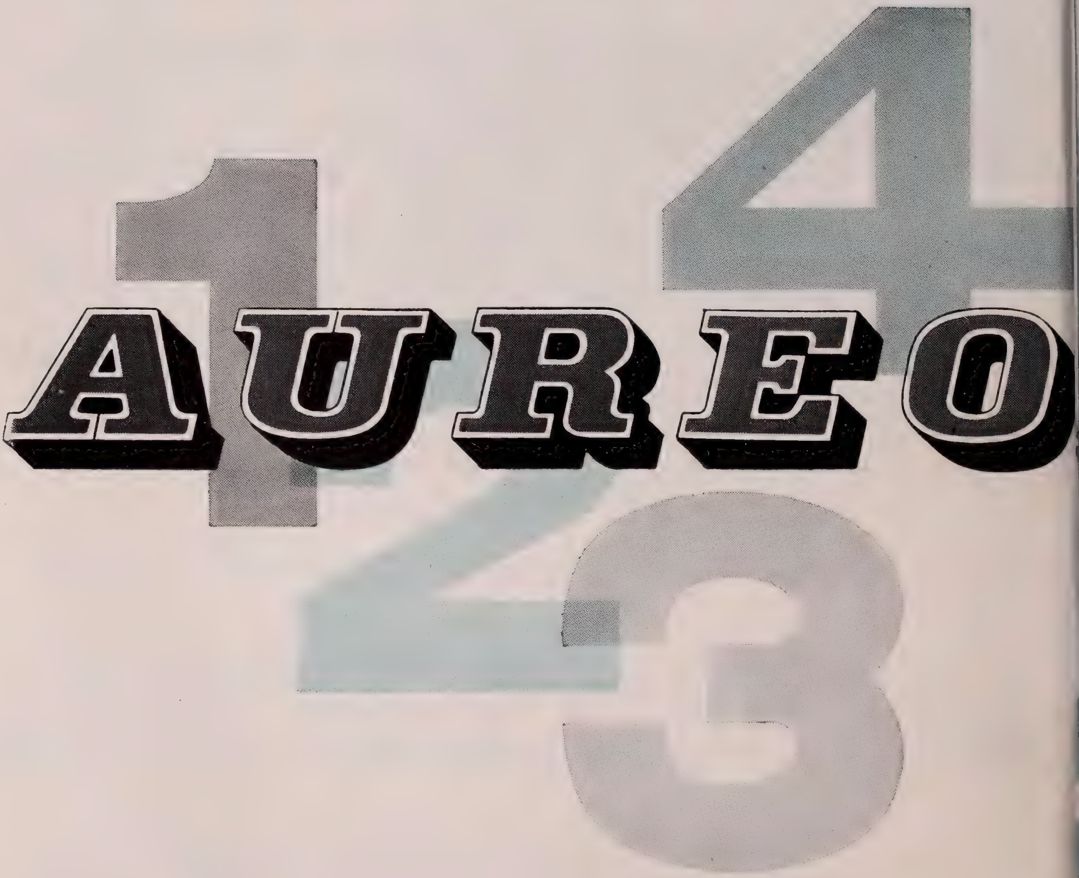
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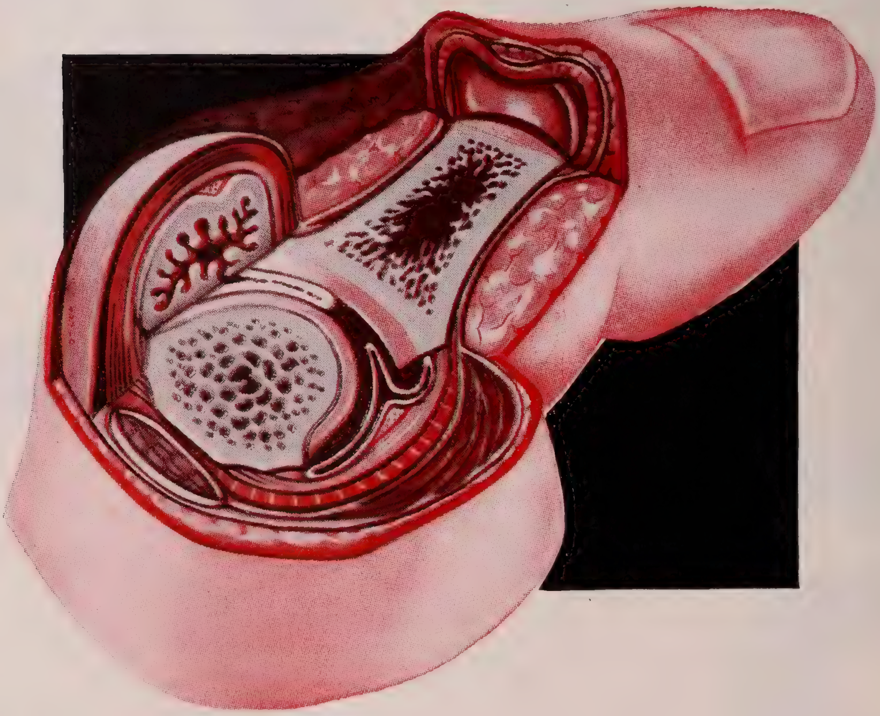
*Bunim, J. J.: Research Activities in Rheumatic Diseases, Pub. Health Rep. 69:437, 1954.



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mon, E. E. P., and Schaffer, N.: Ann. Allergy *12*:85, 1954.

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EDITORIALS

Doctors in the Sky

The recent book under the above title by Robert J. Benford, M.D., Colonel, Medical Corps, U.S.A.F.,[1] is an account of the beginnings of organized aviation medicine in the United States and its subsequent development. In effect, it is a well-earned tribute to the vision and organization ability of "Mr. Aviation Medicine," " 'the father' of the Aero Medical Association," the founder of the School of Aviation Medicine, and editor for twenty-five years of the *Journal of Aviation Medicine*,[2] Dr. Louis Hopewell Bauer.

Resigning his commission in the Army Medical Corps in 1926, he became the first medical director of the new Aeronautics Branch of the Department of Commerce. His first tasks in this capacity were the formulation of physical standards for the licensing of civilian pilots and the selection of physicians throughout the country "qualified to conduct the new examinations." To accomplish this he founded the Aero Medical Association and became its first president.

Doctors in the Sky is a narrative history of the Aero Medical Association and tells how and why the society was founded and traces its growth in 1929 from a small group of 35 physicians to the "prominent international organization it has become today."

Colonel Benford has compiled a notable historical volume and a fitting tribute to the founders of aviation medicine.

---

[1] Charles C Thomas, publisher, Springfield. Illinois, 1955.
[2] March, 1930, vol. 1, no. 1.

Editorial Comment

United Medical Service—Blue Shield Pacemaker. What can make the doctor's bill more welcome than three words—"paid in full?"

When the individual (or family) resources are low, when "income" is cut off and living costs go on, no amount of gratitude for good medical care can pay the doctor. Only money can settle the account and, incidentally, keep gas in the doctor's car.

Almost like magic Blue Shield has made "paid in full" medical care available to those who are self-sustaining yet have only a small income. It has been estimated that during 1954 United Medical Service, the metropolitan Blue Shield plan, paid several millions of dollars for the care of patients who otherwise would have been treated in free wards with no remuneration to the doctors.

The Blue Shield allowance has been of great assistance to those members whose incomes are above the "paid in full" level if the doctor's fee is more than that provided in the schedule of allowances.

If the income is below a specified level, it is "paid in full" for service covered by the Blue Shield Contract, and when the income is above the level, it is an allowance furnished by Blue Shield. The amount of payment is the same in either case. The specified level was first $1,800 for the individual and $2,500 for family members; it is now $2,500 for an individual and $4,000 for family. A proposal is under discussion to make it $4,000 for an individual and $6,000 for the family member.

Much has been published regarding the generosity of our doctors and tneir agreement to furnish services for the lower income Blue Shield Members on the "paid in full" basis. Too little has been said about the accruals to doctors from the payment of the fair and reasonable fees by lower income patients. Let's take a look at another related field; perhaps it is not so much generosity as a matter of good sense.*

Twenty years ago our Workmen's Compensation Law was amended to permit "free choice" of doctor by injured workers. The amended law provided that doctors would enroll through the county medical societies and agree to certain regulations, including prohibition of collection of additional fees from the injured workman and acceptance of a schedule of fees recommended on behalf of the State Medical Society and promulgated by the labor commissioner. More than 90 per cent of the doctors of our State have accepted the terms and are enrolled as participating physicians. In this large field of practice doctors accept "paid in full" payment for services.

Shortly after Blue Shield came out of the legislative incubator as Article IXc of the insurance law, the doctors of New York were asked, "Would you participate in a voluntary insurance plan aimed to provide medical care for nonoccupational injuries and illnesses of workers and members of their families under the terms which now apply in the Workmen's Compensation Law?" The answers were, "Yes."

Now, Blue Shield calls it "service benefits" when the subscriber's income qualifies for full settlement of the doctor's bill by payment of the scheduled allowance. Why not say "paid in full medical care" instead of "service benefits?" Everyone readily understands what "paid in full" means; so many do not know what the other is about.

Any doctor who violates the "service benefit"—"paid in full"—provisions of the Blue Shield contract cheats the subscriber, himself, and his colleagues because no voluntary plan can long survive such abuse. The future freedom of our profession rests upon the mission of Blue Shield.

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* See History of Medicine in New York State, page 1487.

The Doctor in CIVIL DEFENSE

Medical Defense Committee of the Medical Society of the State of New York and the Office of Medical Defense, New York State Department of Health

J. G. FRED HISS, M.D., SYRACUSE, NEW YORK, *Chairman*

Schoolroom Emergency Blood Laboratories

In Columbia County on the second Wednesday evening of every month, 16 Americans leave their everyday occupations, don laboratory coats, and become workers on a Civil Defense Emergency Blood Service Team. Starting at 7:30 P.M. they turn a schoolroom, a clubroom, or perhaps a fire station into a laboratory, and from 8 to 10 P.M. they are busy determining the hemoglobin, blood groups, and Rh types of their fellow citizens. The team is a part of the Emergency Blood Service program of the New York State Emergency Medical Service.

If an attack should occur, hundreds of thousands of pints of whole blood will be needed to preserve life, even though the Federal and State governments have stockpiled large quantities of blood derivatives and blood substitutes. Emergency blood collection centers will be set up in all sections of the State as soon as it is known that an attack has occurred anywhere in the State. Whole blood will be collected as rapidly as possible and shipped into the disaster area. Hundreds of persons must be trained to group and collect blood in these blood collection centers.

During the initial phase in the disaster area, medical services forces will be concerned with the administration of whole blood in temporary installations that will lack adequate facilities for blood grouping and crossmatching of recipients. Only group O blood will be administered in the disaster area until blood-grouping and crossmatching facilities are established. After the establishment of adequate laboratory facilities in the disaster area, group-specific blood will be used. Part of the preattack program of the Blood Service is to compile rosters of blood donors who are willing to be called in an emergency.

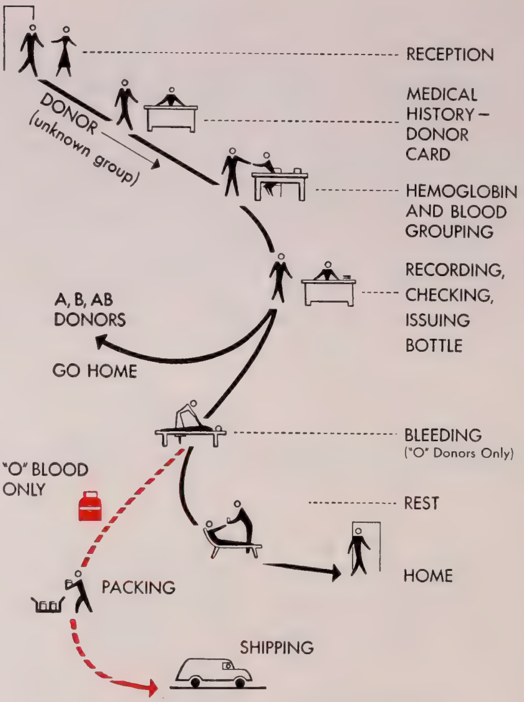
Dr. Hugh Henry, a general practitioner in Germantown, New York, is Civil Defense Blood Service Officer for Columbia County. Two and one-half years ago, he undertook to train a Blood Service team and compile a donor roster for the county. To date there are about 700 names on the list.

Recruitment and Training

The first members of Dr. Henry's team were recruited at a mass civil defense meeting called by the civil defense director to recruit volunteers for all civil defense services for the county. The 30 persons who signed up for the Medical Service attended a Blood Service training course held in the Germantown High School. The course was given by Dr. Henry with the assistance of Mrs. Harry P. Snyder, Jr., a professional technician from Columbia Memorial Hospital laboratory, and guest lecturers. The training program followed that recommended by the New York State Civil Defense Commission using the texts, *Technical Manual for Emergency Blood Services*, *Guide for Technicians and Collectors*, and *Guide for Laboratory Aides*, prepared for the New York State Civil Defense Commission by the New York State Department of Health, Albany, New York.

Part of the equipment for this kind of training is furnished by the State, but some must be obtained in the community. When setting up the program, Dr. Henry approached the Columbia

County Board of Supervisors for funds for the additional equipment. They agreed, and Dr. Henry says, "They have been paying bills for us ever since." Modern viewing boxes, large hand lenses to examine the reaction, and laboratory coats were among the equipment bought with county funds. The equipment and records are kept at the Germantown High School. The sera used for blood typing is stored free of charge by the Germantown Cold Storage Company.


RECEPTION
MEDICAL HISTORY – DONOR CARD
DONOR (unknown group)
HEMOGLOBIN AND BLOOD GROUPING
RECORDING, CHECKING, ISSUING BOTTLE
A, B, AB DONORS
GO HOME
BLEEDING ("O" Donors Only)
"O" BLOOD ONLY
REST
HOME
PACKING
SHIPPING

Team Plan During First Phase After Attack

Dr. Henry describes the progress of the training by saying, "At first sessions were held once a week. When the group became more proficient, sessions were held once every two weeks, and students practiced on each other. As soon as the group became quite skilled, meetings were held once monthly on the second Wednesday of each month, and blood typing of the public was started."

The Blood Team at Work

Dr. Henry works through clubs and organizations to reach the public for volunteer blood donors. First he contacts a group, such as the P.T.A., Home Bureau, Lions Club, Elks Club, etc., and asks them if they would be willing to participate in the program. A week before the meeting of the blood-typing team, he speaks before the participating club to explain the purpose of the blood program and to interest the members in volunteering as blood donors. He advises them that the members of the team are not paid for the many hours they spend doing this work and that the program is sponsored by the State Civil Defense Commission.

The club sponsoring the Blood Service meeting arranges for space in which the meeting will be held and promises an attendance of 50 to 70 persons twelve years of age or older. Before the meeting is held, members of the club, through personal contact or telephone calls, recruit persons who are willing to be placed on the blood donor roster list and who promise to attend the meeting where their blood group will be determined.

On the evening of the meeting the team travels to the meeting place and sets up their equipment. They bring everything they need with them, even card tables on which the team works. Since this is the only team in Columbia County, they have traveled up to 20 miles to hold a meeting, paying the cost of the transportation themselves, and have covered all the communities surrounding Germantown. Until more teams are trained in other sections of the county, the team from Germantown will continue covering as much of the county as possible.

The working team usually consists of 11 people with the volunteers working in shifts and interchanging positions. The team consists of one receptionist, three recorders, six technicians, one mass recorder, and one professional technician. A physician is also present at each meeting.

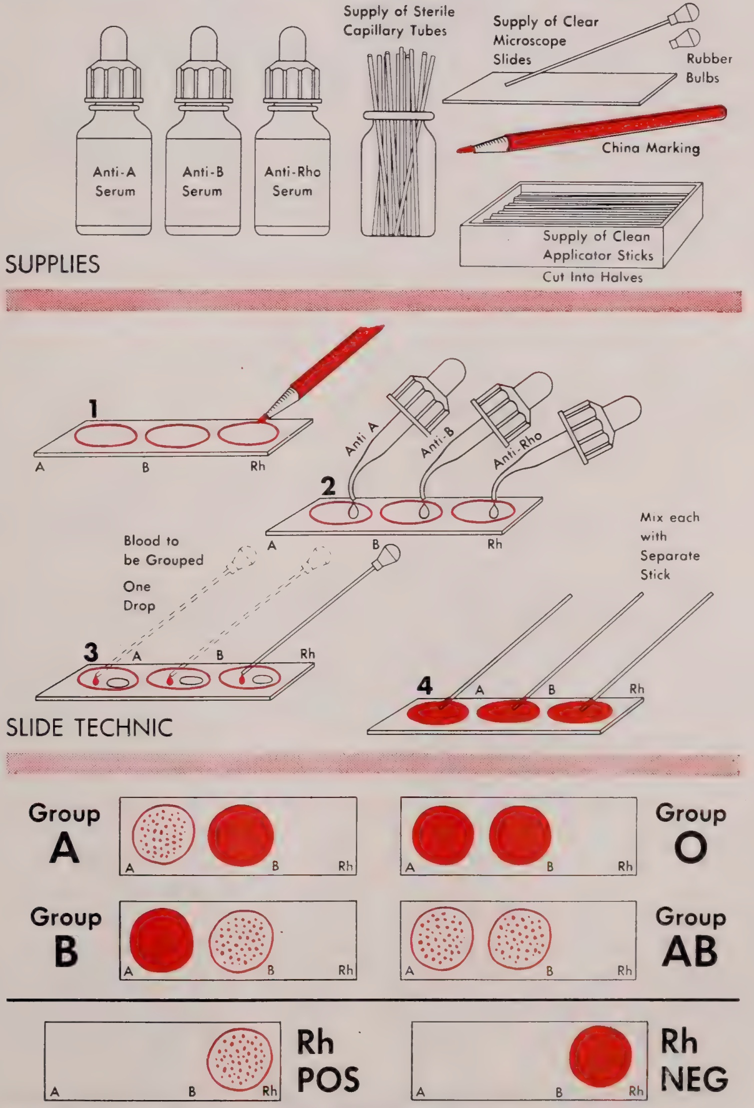
The receptionist is considered a necessity to make the operation work smoothly. She directs the people, tells them where to sit, helps with coats, and generally keeps things in order. Donors are directed first to the table where the three recorders sit. The name, address, telephone number, and simplified medical history of each donor is taken, and he is presented with a donor card. The donor then sits down and waits for the receptionist to direct him to one of the three tables where the technicians work. At each of these tables there are two technicians; one takes the blood for the hemoglobin determination, the other does the blood grouping. The results of the tests are checked by the professional technician, then entered on the donor card. At the end of the procedure the mass recorder writes the information on the blood donor roster, and the physician signs the donor card.

The physician is available for personal interview by any of the persons present to explain the procedure, the significance of the tests, and answer any questions. Physicians in the county who have given their services so far are Dr. Carl V. Whitbeck, Dr. Arthur F. McEvoy, Jr., Dr. James Orr, Dr. Patricia Wanning, Dr. Harry A. Pattison, Dr. Joseph Bellamy, Dr. Thomas Seymour, and Dr. Henry.

At the end of each meeting there is a short evaluation for the members of the team on what was done. Also, after the meeting, training sessions are held for those interested in learning venipuncture. Nine members of the team have now done several successful venipunctures and have taken blood.

Members of the Blood Service team come from many walks of life. Most of them are women, but there are also several men in the group. There are housewives, machine operators, kinder-

Determination of Blood Groups and Rh Types


Anti-A Serum
Anti-B Serum
Anti-Rho Serum
Supply of Sterile Capillary Tubes
Supply of Clear Microscope Slides
Rubber Bulbs
China Marking
Supply of Clean Applicator Sticks Cut Into Halves
SUPPLIES
1
A
B
Rh
Anti A
Anti-B
Anti-Rho
2
A
B
Rh
Blood to be Grouped
One Drop
3
A
B
Rh
Mix each with Separate Stick
4
A
B
Rh
SLIDE TECHNIC
Group A
A
B
Rh
Group O
A
B
Rh
Group B
A
B
Rh
Group AB
A
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Rh POS
A
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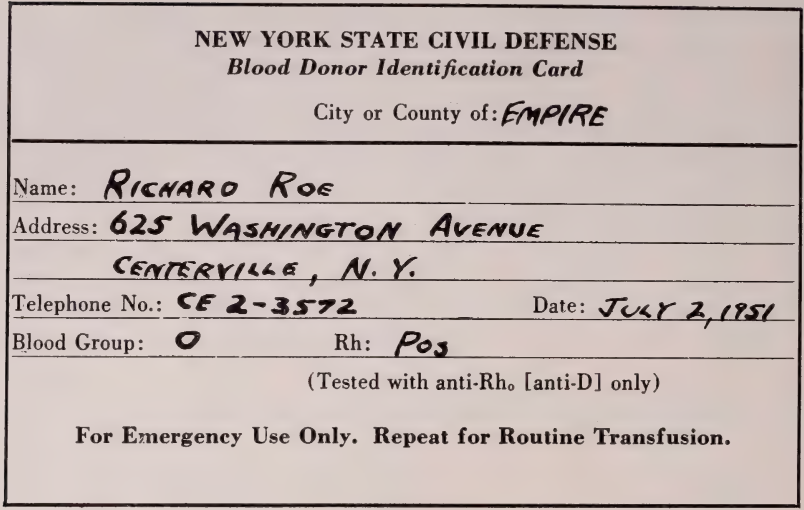
Rh NEG
A
B
Rh

REACTION OF UNKNOWN BLOOD WITH KNOWN TEST SERA



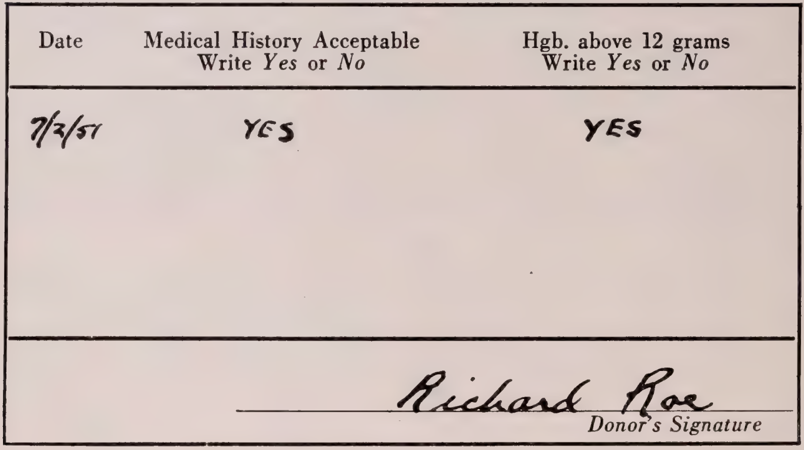
NEW YORK STATE CIVIL DEFENSE
Blood Donor Identification Card

City or County of: EMPIRE

Name: RICHARD ROE
Address: 625 WASHINGTON AVENUE
CENTERVILLE, N. Y.
Telephone No.: CE 2-3572 Date: JULY 2, 1951
Blood Group: O Rh: POS

(Tested with anti-Rh$_0$ [anti-D] only)

For Emergency Use Only. Repeat for Routine Transfusion.



Date	Medical History Acceptable Write *Yes* or *No*	Hgb. above 12 grams Write *Yes* or *No*
7/2/51	YES	YES

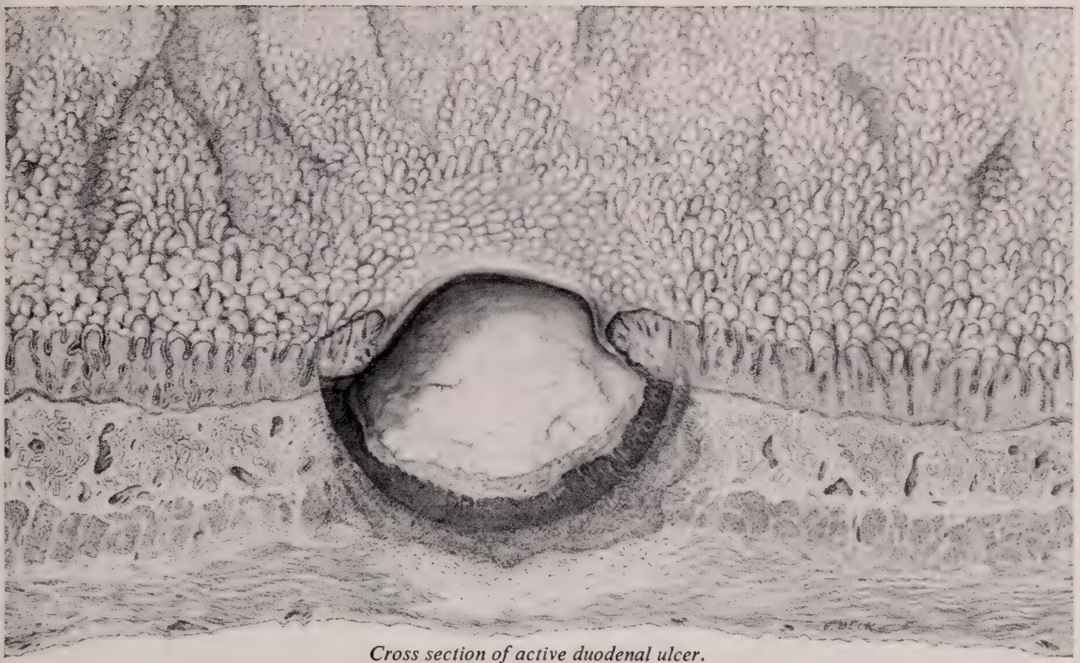
Richard Roe
Donor's Signature

garten teachers, secretarial workers, and a librarian. One of the women is sixty-five years old. Some of them can fill all the positions on the team; however, the ones who prefer not to handle blood are used as receptionists and recorders. The member of the team who is responsible for the blood donor roster also assumes the responsibility for all newspaper publicity. Through her efforts there is usually a story in the local paper announcing the meeting and an article with pictures after the meeting.

Dr. Henry is a busy general practitioner whose practice extends some 20 miles from Germantown. He came originally from Jamaica, British West Indies, and graduated from McGill University, Canada, but he says that he always intended to practice in the United States. After medical school he was associated with several private hospitals in Long Island before coming to Germantown where he has been for twenty-three years. His family consists of his wife and two sons, one in medical school at McGill and the other studying naval architecture at Massachusetts Institute of Technology. Almost a member of the family is his 40-foot yacht, "The Wanderer," which he has had since 1937.

Southern Columbia County is a dairy and fruit district. "Home of Good Fruit" is the slogan. Here live people spending many hours a year preparing themselves to help their fellow citizens if and when their help is needed. It is only a start for Columbia County—many more people trained in blood grouping and blood collecting are needed there, as in every other county in the State. However, if we should be attacked, there will be many injured people receiving blood who will owe their lives to this team in Germantown which has worked so faithfully for two and a half years.

PRO-BANTHĪNE® IN DUODENAL ULCER



Cross section of active duodenal ulcer.

Dramatic Remission of Ulcer Pain

Pain of ulcer is associated with hypermotility; the pain is relieved when abnormal motility is controlled by Pro-Banthīne.

"In studying[1] the mechanism of ulcer pain, it is obvious that there are at least two factors which must be considered: namely, hydrochloric acid and motility.

". . . our studies indicate that ulcer pain in the uncomplicated case is invariably associated with abnormal motility. . . .

"Prompt relief of ulcer pain by ganglionic blocking agents . . . coincided exactly with cessation of abnormal motility and relaxation of the stomach."

Pro-Banthīne Bromide (β-diisopropylaminoethyl xanthene-9-carboxylate methobromide, brand of propantheline bromide) is a new, improved, well tolerated anticholinergic agent which consistently reduces hypermotility of the stomach and intestinal tract. In peptic ulcer therapy[2] Pro-Banthine has brought about dramatic remissions, based on roentgenologic evidence. Concurrently there is a reduction of pain, or in many instances, the pain and discomfort disappear early in the program of therapy.

One of the typical cases cited by the authors[2] is that of a male patient who refused surgery despite the presence of a huge crater in the duodenal bulb.

"This ulcer crater was unusually large, yet on 30 mg. doses of Pro-Banthine [q.i.d.] his symptoms were relieved in 48 hours and a most dramatic diminution in the size of the crater was evident within 12 days."

Pro-Banthine is proving equally effective in the relief of hypermotility of the large and small bowel, certain forms of pylorospasm, pancreatitis and ureteral and bladder spasm. G. D. Searle & Co., Research in the Service of Medicine.

---

[1] Ruffin, J. M.; Baylin, G. J.; Legerton, C. W., Jr., and Texter, E. C., Jr.: Mechanism of Pain in Peptic Ulcer, Gastroenterology *23*:252 (Feb.) 1953.

[2] Schwartz, I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: A Clinical Evaluation of a New Anticholinergic Drug, Pro-Banthīne, Gastroenterology *25*:416 (Nov.) 1953.

SEARLE

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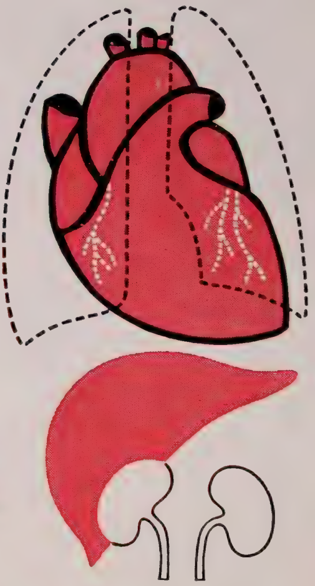

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BRAND OF CHLORMERODRIN (18.3 MG. OF 3-CHLOROMERCURI-2-METHOXY-PROPYLUREA IN EACH TABLET)

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NEOHYDRIN can be prescribed every day,
seven days a week as needed

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MERCUHYDRIN® SODIUM
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SCIENTIFIC ARTICLES

The Transfusion of Blood, Components, Plasma, and Extenders

JOHN G. GRUHN, M.D., NEW YORK CITY*

(From the Montefiore Hospital Blood Bank and the Committee on Research and Scientific Procedures of the Blood Banks Association of New York State, Inc.)

Blood and blood products are among the most important therapeutic agents used in hospital practice today. Almost five million units of blood were collected for civilian use in the United States during 1954. It is the purpose of this review to summarize data on hemotherapy of practical value to every physician who uses blood.

The practice of transfusion was made possible by the discovery of the ABO types of Landsteiner in 1900 but was most cumbersome until Lewisohn utilized citrate as an anticoagulant and established the technic of indirect transfusion in 1915. Although the first hospital blood bank was established by Fantus in Chicago in 1936, modern blood banking technics did not develop until the impetus of the second world war stimulated additional progress. The discovery of the Rh factor by Wiener in 1940 with subsequent discoveries of clinically important blood groups and technics for providing compatible blood made safe mass transfusion possible. The development of ACD (sodium citrate, citric acid, dextrose) anticoagulant preservative solutions by 1947 made blood storage and modern banking methods practical.[1–7]

The Unit of Blood

A standard conventional unit of blood is not 500 cc. but 480 cc. of blood admixed with 120 cc. of ACD solution. If we assume a "normal" donor hematocrit of 42.5, a standard unit of blood will contain:[8]

	Volume (Cc.)	Sodium (mEq.)
Red cell mass	205	Insignificant
Plasma	275	38.5
Total blood	480	. . .
ACD solution B (NIH)	120	16.2
Total unit volume	600	54.7

ACD is a sodium citrate, citric acid, dextrose solution which insures maximally satisfactory preservation of red cells for twenty-one days. In calculating blood replacement needs, only the actual volume of cells and plasma should be considered. The ACD solution volume is soon lost from the circulation and can be excluded from replacement calculations except under very unusual circumstances when massive rapid transfusion therapy is necessary.

The amount of sodium in a unit of blood is approximately 50 mEq. as compared to 75 mEq. for 500 cc. of normal saline. When sodium intake restriction is essential, half or more of the supernatant plasma and ACD solution can be removed from the blood bottle, and the cells can be packed by the blood bank.

Components of Blood

Blood is a heterogenous, not a homogeneous, tissue consisting of multiple components conveniently classified into two major groups: (1) the cells and (2) the plasma proteins. Brief consideration of the survival time of the various components under conditions of routine storage and in vivo in the recipient after transfusion should facilitate more rational use of blood components.

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* Present address: St. Joseph's Hospital, 2117 Carson Street, Pittsburgh 3, Pennsylvania.

TABLE I.—SURVIVAL TIME OF BLOOD COMPONENTS

Component	Routine Storage	Special Storage Conditions	After Transfusion
Red blood cells	21 days	. . .	120 days
White blood cells	. . . .	. . .	Not transfusible
Platelets	Very short	. . .	Up to 7 days
Albumin	Over 21 days	Years	Half life 17 ± days
Antihemophilic globulin	Short	Years	90% metabolized in 15 hours
Prothrombin	Over 21 days	. . .	Approximately 36 to 72 hours
Factor V*	Short	. . .	Approximately 12 to 28 hours
Factor VII*	Over 21 days	. . .	Approximately 12 to 28 hours
Fibrinogen	Over 21 days	Years	Half life 4 to 6 days
Globulins	Over 21 days	Years	Up to 30 days

* Prothrombin "accelerators."

THE CELLULAR COMPONENTS

Red Blood Cells.[9,10]—Conventional blood bank practice is largely concerned with the procurement, preservation, and use of red blood cells. It is possible to store red cells in vitro twenty-one days in ACD solution at 40 F. prior to use. The permissible length of storage has been determined by the approximate normalcy of post-transfusion survival of stored cells. It is a convenient rule-of-thumb to assume that cells stored up to one week will survive normally in a normal recipient, that approximately 10 per cent of cells stored for from seven to fourteen days and 20 per cent of cells stored from fourteen to twenty-one days will hemolyze within twenty-four hours following transfusion. Cells which survive more than twenty-four hours will survive normally. The normal maximum life span of a transfused red cell is one hundred twenty days. Approximately 0.85 per cent of transfused cells will be destroyed per day unless an abnormal cell destruction mechanism develops in the recipient. It should be appreciated that the use of fresh cells is never necessary. There is, however, an obvious advantage to using blood under seven days old in cases which require repeated transfusion over protracted periods.

White Blood Cells.[11,12]—The very short lifespan of leukocytes together with the fact that experimentally transfused white cells are promptly removed from the recipient's circulation makes leukocyte transfusion impossible in clinical practice. Since the leukocyte count cannot be raised by transfusion, transfusion is of no avail for agranulocytosis per se.

Platelets.[13,14]—Platelets do not usually survive storage in ordinary blood bottles. Detectable rises of platelet counts in recipients cannot be achieved even by the transfusion of fresh blood with routine equipment.

Several special methods for collecting blood, for preparing platelet-containing plasma, and for concentrating platelets for effective therapeutic use have recently been described. At least one method is simple, economical, and adaptable for use in any hospital. This involves the collection of blood into plastic bags. Sodium ethylenediamine tetra-acetic acid is used as the anticoagulant instead of citrate solution.

Platelet transfusion technics have established the normal lifespan of the human platelet in vivo as five to seven days.

Platelet transfusions are clinically indicated for bleeding diatheses due to thrombocytopenias and thrombasthenias. It should be emphasized that the patient's hemorrhagic syndrome, not the platelet count, should be treated. Thrombocytopenia may be the result of diminished production or of increased destruction of platelets. In the former type transfused platelets may survive in vivo for five to seven days, whereas in the latter they may not survive three hours. Such transfusions only transiently correct symptoms and do not correct the underlying disease. The transfusion of fresh blood in plastic bags may exert a favorable effect on symptoms, bleeding time, or prothrombin consumption time, even when the platelet count is not altered. Such transfusions may be of considerable value before and during surgery on thrombopenic patients. In all instances ACTH or cortisone, which favorably affect the vascular factors of hemostasis, should also be used. Unsolved problems and limiting factors in the use of platelet transfusions have been comprehensively reviewed elsewhere.

THE PLASMA PROTEINS[15–17]

Most of the proteins with which the clinician is concerned survive in vitro longer than the twenty-one-day period of routine storage or can be fractionated or concentrated to ensure storage survival for years, with several exceptions such as antihemophilic globulin. Data on the survival in vivo after transfusion of these components are given in Table I. The following discussion will highlight the most important aspects of the therapeutic use of these components.

Human Serum Albumin.[18]—Albumin is clinically important because it is the plasma protein which largely maintains the osmotic pressure of the blood. The following indications for albumin have been cited: (1) shock and acute blood volume depletion, (2) burns, (3) cerebral edema, (4) cirrhosis with hypoalbuminemia, (5) nephrosis with hypoalbuminemia, and (6) hypoproteinemia.

Albumin is rarely used in civilian practice for shock therapy because of the usually greater availability of blood, plasma, or expanders and because of its comparatively higher cost. Large protein losses in selected cases of burns may justifiably warrant albumin therapy. Hypoproteinemia due to nutritional deficiency is usually better managed by other regimes. Many neurosurgeons regard albumin as the agent of choice for the therapy of cerebral edema. The use of the albumin from the blood of 200 donors might be required to rid, transiently, a single patient of nephrotic edema. The use of such enormous doses of albumin is rarely warranted. The use of albumin in chronic liver disease may be desirable in selected cases, especially when surgical intervention is contemplated. Normal human serum albumin (salt poor) is available in 5 and 12.5-Gm. packages for use as a 25 per cent solution.

Antihemophilic Globulin.[19–21]—Although not all hemophilic-like states are due to specific deficiency of antihemophilic globulin (AHG), this discussion will be confined to this protein.

AHG deteriorates rapidly in blood or plasma stored at the usual storage temperature for blood but keeps well if plasma is rapidly frozen or lyophilized after withdrawal from donors. AHG is found in Cohn's fraction 1, which is not commercially available. Fresh blood and fresh plasma are adequate sources wherever donors are available. Various agencies prepare freshly frozen plasma for the Hemophilia Foundation* in 125-cc. units. Generally whole blood loss is not great in hemophiliacs, and fresh plasma, frozen plasma, or specially lyophilized plasma is the agent of choice in therapy. The average adult dose is 250 cc. repeated as needed. Plasma is preferable to fractionated AHG because of the lesser incidence of hepatitis and the lesser likelihood of inducing refractory states. AHG in any form (plasma, fraction, or blood) should not be used prophylactically.

Recently hemophilic-like states, which may be difficult to distinguish from hemophilia due to AHG deficiency, have been described. Deficiency states due to PTC (plasma thromboplastic component) or PTA (plasma thromboplastin antecedent) can be treated by stored plasma since these thromboplastic components are stable.

Prothrombin and Prothrombin "Accelerators."[22-24]—In practice prothrombin and "factor" deficiencies, as detected by a prolonged one-stage prothrombin time, are usually due to anticoagulant overdosage, biliary obstruction with hemorrhagic manifestations, severe parenchymal liver disease, or rare "factor" deficiencies.

In general, it is surprising how transfusion therapy is relatively ineffective in correcting such deficiencies. The volumes of blood or plasma used must be large and repeated frequently, while the beneficial effect is rarely gratifying. Prothrombin deficiency is best treated first with newly available oily emulsions of vitamin K_1 oxide suitable for intravenous use. Plasma may then be used as needed.

Fibrinogen.[25–27]—During the past few years a hemorrhagic tendency ("fibrinolytic purpura") due to hypofibrinogenemia, resulting either from liberation of excessive thromboplastin or from the activation of a fibrinolysin, has been recognized, particularly in certain obstetric emergencies, following extensive pulmonary or pancreatic surgery, and in metastatic prostatic carcinoma. Cases of acquired diminution of fibrinogen are now more common than cases of congenital afibrinogenopenia. Detection of clinically significant fibrinogen deficiency or fibrinolysis is not difficult. Gross deficiency may be associated with incoagulable blood. The characteristic finding is clotting with *dissolution* rather than retraction of the clot. Fibrinogen has recently become available as a fractionated product.

Gamma Globulin.[28,29]—The use of gamma globulin for modification or prevention of measles, prevention and attenuation of infectious hepatitis (but not homologous serum jaundice), and for passive immunity against poliomyelitis are beyond the scope of this review. Its use in the newly recognized clinical entity, agammaglobulinemia, has recently been described.

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* Hemophilia Foundation, 60 East 42nd Street, New York City.

Indications for Blood

Major indications for the use of blood include (1) replacement of acute blood loss, (2) management of certain anemias, (3) management of chronic depletion syndromes, and (4) management of normovolemic medical shock.

Acute Blood Loss.[30–32]—The causes and sources of acute blood loss are legion. The reduction of blood volume due to blood loss is the chief factor governing the severity of the clinical picture of shock and the most important cause of early death in shock. Clinically acute blood loss has traditionally been gauged by blood pressure drop, pulse rate rise, and related signs. These criteria usually serve to guide emergency volume replacement until a state of clinical well-being with normal blood pressure and pulse is achieved. It is well to remember, however, that the withdrawal of 500 cc. of blood from an average donor in ten minutes produces no notable change of blood pressure or pulse. It has been estimated that vital signs may still be normal after an acute 20 per cent volume loss and that usually a 30 per cent volume loss is required to induce the classic clinical signs of shock in a patient in the horizontal position. Quantitative replacement is a logically desirable goal of therapy, especially if hemorrhage is likely to recur. Blood volume determinations should be done after clinical well-being is established to supplement clinical judgment of the adequacy of replacement.

Management of Anemia.[3,33]—Two broad categories of anemia require transfusion therapy. The first category of urgent problems includes the following:

1. Anemia due to hemorrhage too severe to warrant conservative therapy, especially if hemorrhage is likely to recur.
2. Specific anemias (such as pernicious anemia) too severe to warrant conservative replacement therapy.
3. Anemia which may aggravate heart disease.
4. Anemia prior to surgery.
5. Severe anemia in pregnancy near term.

The second category includes chronic cases for which no other specific therapy is available: severe anemia associated with cancer, uremia, or sepsis; aplastic, hypoplastic, myelophthisic, myelosclerotic, and similar refractory anemias; certain hemolytic anemias.

Indications for Packed Cell Mass.—In most cases of anemia there is a specific deficiency of red cell mass, and there is often a compensatory plasma volume increase which maintains a normal total blood volume. Thus, usually only cells and not additional plasma are required. Cell mass is obtained by removing some supernatant plasma and preservative solution from sedimented or centrifuged cells in the blood bottle. Most banks pack cells to a hematocrit of 50 or 60 per cent to insure a reasonable rate of flow through an 18-gauge needle. Packed cell transfusion is preferable to whole blood transfusion whenever there is a predominant deficit of hemoglobin.

Packed cell transfusions are mandatory when a maximum red blood cell mass increase must be accomplished with a minimum increase of osmotic pressure or plasma volume, i.e., for anemia associated with congestive heart failure, for anemia which may aggravate heart disease, for rapid correction of large red cell mass deficits prior to surgery, or for urgent management of any very severe anemia.

Transfusion in Severe Anemia.—Patients with severe depletions of total circulating hemoglobin often have compensatory plasma volume increases so that their total blood volume is approximately normal. Such patients may respond poorly to transfusions of whole blood by developing acute congestive failure. In such instances it is wise to administer *slowly* small transfusions of not more than *250 cc. of packed cells* at a time with the patient in the *sitting position* in bed. The patient should be carefully observed during the entire procedure for signs of circulatory overload. In rare instances it may be necessary to bleed "low hematocrit" blood from one vein, while simultaneously replacing "packed cells" from a donor in another vein.

Management of "Chronic Depletion Syndromes."[34,35]—Acute volume losses and their sequelae were obvious to the earliest observers, but the significance of chronic depletion states was not clearly apparent until the development of methods of blood volume determination. Clark *et al.*[34] and Beling[35] directed the attention of surgeons to syndromes characterized by weight loss and grave depletion of total volume, total circulating hemoglobin mass, total circulating plasma volume, and total circulating plasma protein. They recognized that concentration values for hemoglobin, red blood cells, serum proteins, and hematocrit were not reliable indices of the total circulating volume or mass of the constituent measured. The diagnosis of chronic deficits is important clinically since such volume deficits are correlated with an increased susceptibility to shock during surgery which is correctable by proper replacement therapy.

MANAGEMENT OF NORMOVOLEMIC SHOCK.—This awkward term covers the marked hypotensive states associated with myocardial infarction, overwhelming infections, and similar conditions. Symptomatic transfusion therapy generally produces poor results at best, is still controversial, and is being abandoned in favor of the use of pressor amines.

Contraindications to Blood and Blood Products

The lack of a definite indication is a specific contraindication to hemotherapy.[2,3,5–7,36,37]

Premature transfusion before establishment of definitive diagnosis may obscure the correct diagnosis of specific deficiency anemia or may result in temporizing with an overt anemia due to an occult neoplasm.

Blood should not be used for anemias which will respond to specific medication unless the anemia is too severe to warrant withholding transfusion. Severe anemia may aggravate or precipitate congestive heart failure. Cardiac output, however, does not usually rise significantly until hemoglobin values drop below 8 Gm. per cent. Vitamin B_{12}, iron, and thyroid as indicated are cheaper and safer than transfusion.

It is more important to keep patients comfortable than to keep the laboratory value for hemoglobin normal in certain chronic anemias. Most patients with sickle cell anemia go through life with an average hemoglobin of 6 or 7 Gm. per cent. It is neither desirable nor wise to resort to transfusion for such patients. The severe anemia associated with Mediterranean syndromes (Cooley's anemia) with few exceptions does not require transfusions until hemoglobin levels drop to 7.5 Gm. per cent or below according to Smith,[33] but they require repeated transfusions for life.

In cases of anemia associated with cancer, deficits should be fully replaced if the case is operable. If the case is inoperable, it is wise to recognize that the whole patient will not be restored to normal by efforts to maintain a normal hemoglobin level. Hemoglobin levels of 8 to 10 Gm. per cent are usually adequate for comfort.

Similarly in cases of anemia due to aplasia, myelofibrosis, myelophthisis, uremia, and leukemia it is wise to be content with hemoglobin levels less than 10 or 12 Gm. per cent. In many diseases the body hemostat (if the term may be used in a sense similar to thermostat) is set for lower than theoretically normal values. Physicians have learned not to treat every hyponatremia vigorously; they must also learn not to treat every hemoglobin depression vigorously.

It is not generally appreciated that transfusion may depress spontaneous erythropoiesis in normal recipients and in certain chronic diseases. Depression of spontaneous erythropoiesis by transfusion in pernicious anemia was demonstrated decades ago. Retardation of spontaneous erythropoiesis by repeated transfusions for Cooley's anemia has been conclusively demonstrated recently. The possible occurrence of erythropoietic shutdown in many chronic anemias in which the marrow has been functioning on a barely minimal level prior to transfusion remains largely to be explored.

The use of transfusion as a "tonic" is reprehensible. The so-called "cosmetic" transfusion given because of demands by the patient or family falls in the same category.

In hospitals dealing with many far-advanced terminal cases of cancer or chronic degenerative diseases, transfusion is sometimes used in hopeless cases as a futile gesture for terminal shock or uncontrollable bleeding.

Blood should be used as sparingly as possible in acquired hemolytic anemias to avoid increasing the rate of hemolysis. Dependable criteria for predicting which cases will respond well or poorly to transfusion remain to be elucidated.

Transfusion of whole blood is generally not justified for nutritional purposes.

Very rarely, the inability of the blood bank to procure compatible blood is a contraindication to transfusion.

Indications for Plasma

The major indication for plasma is as an emergency volume expander for acute blood loss and acute shock.[2,38] Plasma is also indicated for acute volume losses, predominantly of plasma, such as may occur with burns or peritonitis. The use of plasma for its content of antihemophilic globulin or of components of the prothrombin complex has already been discussed. Its use for active or passive immunization except as gamma globulin is beyond the scope of this review. Plasma is sometimes used for the rapid correc-

TABLE II.—Blood Transfusion Reactions

Type	Incidence (Per Cent)
Chills and fever (pyrogenic)	1 to 3
Erythema, urticaria, pruritus (allergic)	1 to 3
Hemolytic reactions	Less than 0.1
Circulatory overload	?
Hepatitis	0.3 to 0.5

tion of hypoproteinemia of patients who require extensive surgery and are unable to eat but is not to be commonly used for nutritional purposes because of the availability of other regimes for feeding the critically or chronically ill, the high cost, and the risk of hepatitis in the past.

The incidence of hepatitis following the use of conventionally lyophilized irradiated plasma has varied from 1 to 20 per cent in contrast to an average incidence of 0.3 to 0.5 per cent for whole blood.[39–41] The size of plasma pools has been the most important variable accounting for the difference in the incidence of hepatitis due to plasma. It has lately been demonstrated that the usual source of virus is an asymptomatic carrier who gives no history of liver disease and may exhibit normal liver function tests. On the basis of inoculation studies in human volunteers it has been estimated that from 0.2 to 0.5 per cent of the general population carry hepatitis virus in the blood. Recently, Allen[39] has demonstrated that pooled plasma stored in the liquid state at room temperature for six months or longer is free of virus if the pool is taken from routine donors. If plasma is drawn from patients obviously sick with homologous serum hepatitis, the attack rate in volunteers is very greatly reduced but not wholly eliminated by long room temperature storage. No important physicochemical changes are known to occur during several years of storage at room temperature that would affect the usefulness of such plasma for antishock or nutritional therapy.

Plasma Volume Expanders

Plasma volume expanders are materials used primarily for emergency volume replacement in shock therapy.[42] The most effective expanders available today are Dextran and gelatin products. Polyvinylpyrrolidone is still restricted for investigational use. Volume expanders available commercially provide approximately the same effective oncotic pressure effects as equivalent volumes of plasma but exert an effect more transiently for from twelve to eighteen hours. They are *not* substitutes for blood or plasma. They do *not* provide the oxygen-carrying capacity of hemoglobin or the other components of plasma (such as nutrients, antibodies, coagulation factors, etc.).

The following advantages of expanders have been cited:

1. They are as effective as plasma for acute shock.
2. They do not transmit hepatitis.
3. Expanders are instantly available.
4. Expanders are much cheaper than plasma.
5. Expanders can be produced synthetically, require no donors (and thus donors are available for blood programs), are easy to stockpile under vastly different climatic conditions, require no crossmatching, and do not interfere with subsequent crossmatching.

Reactions to Transfusion

From 2 to 5 per cent of all transfusions of blood are followed by some untoward reaction.[2,3,5–7] The most important immediate reactions are due to (1) hemolysis, most commonly from incompatibility, and (2) circulatory overload. The com-

TABLE III.—Blood Groups in Man (Adapted from Mollison[3])

System	Group	Spontaneous Occurrence of Antibody*	Antibody May Cause: Hemolytic Transfusion Reaction	Antibody May Cause: Hemolytic Disease of Newborn
ABO	Any	Regular	Common	Infrequent
RH	. . . †	Very rare	Common	Common
Kell-Cellano	Kell	Not yet described	Uncommon	Rare
	Cellano	Not yet described	Not yet described	Very rare
MN Ss	M	Rare	Rare	Not yet described
	N	Rare	Rare	Not yet described
	S	Not yet described	Rare	Not yet described
	s	Not yet described	Not yet demonstrated	Very rare
Duffy	Fy^a	Extremely rare	Rare	Not yet demonstrated
Lewis	Le^a	Extremely rare	Very rare	Not yet demonstrated
P	. . .	Occasional	No	No
Lutheran	. . .	Extremely rare	No	No
Kidd	. . .	Not yet known	No	Not yet known

* Spontaneous: occurrence in persons who have never been transfused or injected with human blood and who have never been pregnant.

† The Rh mosaic is not detailed here.

TABLE IV.—BLOOD GROUP ANTIBODIES (ADAPTED FROM ROSENFIELD[43])*

	Optimum Conditions for Detection					Discovery	
	Temperature	Medium					
System	(Degrees C.)	Saline	Albumin	Trypsin	Coombs	Date	Investigator
ABO	22	(+)	+	+	(+)	1900	Landsteiner
Rh	37	±	+	(+)	(+)	1940	Landsteiner and Wiener
Kell-Cellano							
Kell	37	±	±	±	(+)	1946	Coombs, Mourant, Race
Cellano	37	±	±	±	(+)	1949	Levine, Backer, Wigod, Ponder
MN Ss							
MN	22	(+)	+	–	+	1927	Landsteiner and Levine
S	22	±	±	+	(+)	1947	Walsh and Montgomery
s	37	±	±	+	(+)	1951	Levine, Kuhmichel, Wigod, and Koch
Duffy (Fy^a)	37	±	±	–	(+)	1950	Cutbush, Mollison, Perkin
Lewis†							
Le^a	22	(+)	+	(+)	+	1946	Mourant
Le^b	22	(+)	+	(+)	+	1948	Anderson
P†	4	(+)	+	+	±	1927	Landsteiner and Levine
Lutheran							
LU^a†	37	(+)	+	+	±	1946	Callender and Race
Kidd†							
JK^a	37	±	–	–	(+)	1951	Allen and Diamond

* KEY:

(+)	Preferred
+	Almost always positive
±	May be positive or negative
–	Almost always negative

† Not yet identified:
Le^c
p
Lu^b
Jk^b

NOTE: Wiener doubts proof of existence of anti-d (hr^0).

TABLE V.—COURSE OF HEMOLYTIC REACTION (ADAPTED FROM MUIRHEAD[44])

A. "Reaction Shock" (1st Day)	B. Renal Insufficiency (1st to 12th Day)	C. Salt-Losing Diuresis (8th to 16th Day)
Hemolysis and Hypotension	Tubular Damage	Tubular Regeneration and Recovery
1. Usually sudden onset	1. Oliguria, heme casts, proteinuria	1. Copious diuresis, of sudden onset. of great magnitude; usually of short duration (few days)
2. Apprehension, tingling skin, tightness of chest, backache	2. Azotemia	2. Severe dehydration and electrolyte depletion; may be fatal
3. Dyspnea, cyanosis	3. Hypertension	3. Recovery
4. Hypotension—evanescent without blood loss	4. Elevated serum potassium	
5. Mental confusion	5. Depressed sodium, chloride, carbon dioxide	
6. Chill, fever (8 to 45 minutes, 2 to 6 F. within 2 hours)	6. Rising titers of antibodies	
7. Hemorrhagic tendency		
8. Hemoglobinemia, hemoglobinuria	*Uremia has been the most common cause of death*	
9. Jaundice		
10. Depressed antibody titer		
	THREE PHASE MANAGEMENT	
Adequate compatible blood for anemia and hypovolemia	1. Limit intake of fluid to a volume equal to estimated insensible loss and urinary output (1,000 to 1,800 cc. plus urinary output) 2. Adequate dietary intake 3. Prevention of acidosis or severe electrolyte derangement	Adequate water and salt replacement

monest immediate reactions are chills and fever, erythema, urticaria, and pruritus (Table II). The most important delayed reaction is viral hepatitis which has already been discussed.[39-41]

HEMOLYTIC REACTIONS.[43,44]—Massive hemolytic reactions are the most important cause of death due to transfusion. The most important cause of massive hemolysis is the use of incompatible blood. Compatibility is usually assured by (1) ABO and Rh$_0$ typing and (2) the use of a crossmatching technic, such as that of Rosenfield,[43] which will detect every clinically significant blood group isoantibody known to date. Tables III and IV summarize pertinent data concerning the known blood groups relevant to the transfusionist. Other causes for hemolysis include improper blood storage at improper temperatures or use beyond the legal (twenty-one-day) dating period and coincident use of hypotonic or hypertonic solutions. The course of a hypothetic typical hemolytic reaction is outlined in Table V.

The presence of any of the symptoms or signs in column 1 of Table V, especially chills and fever, requires immediate cessation of the transfusion and immediate investigation of the possible occurrence of hemolysis. It is not generally appreciated that hemolytic reactions are difficult to distinguish early from simple benign febrile reactions on clinical grounds alone. This can usually be promptly settled by examining fresh serum from the recipient for hemolysis. Ten cubic centimeters of blood should be withdrawn into a dry syringe and centrifuged in a dry tube. A free plasma hemoglobin level of 20 mg. per cent (the lowest level detectable to the naked eye as a pink color) will be reached if only 8 cc. of blood are hemolyzed in vivo. Furthermore, a urine sample should be procured approximately two hours after the reaction has occurred. Hemoglobinuria usually develops if the plasma hemoglobin reaches 130 mg. per cent. If hemolysis is demonstrated, the cause must be sought. Repeat compatibility tests should utilize blood from the donor bottle to exclude error in labeling of the donor pilot tube and a post-transfusion specimen from the patient to exclude error in labeling the pretransfusion specimen.

The use of incompatible blood is usually due to human errors in identifying, labeling, typing, crossmatching, and administration of blood. More rarely the presence of rare antibodies or the use of so-called "universal O blood" containing a high titer of immune anti-A may be responsible. The so-called "emergency crossmatch" is potentially dangerous. It is wiser to use plasma or plasma extenders and to have a reserve stock of low-titer O blood which can be used for urgent emergencies without crossmatching, in preference to dependence on inadequate emergency procedures.

CIRCULATORY OVERLOAD.—Circulatory overload due to transfusion is not rare in hospital practice. All patients should be evaluated for susceptibility to overload prior to transfusion. Suggestions for preventing overload have already been discussed under the indications for packed cell mass and transfusion in severe anemia. The signs are those of acute congestive failure with acute pulmonary edema. The clinical picture is rarely mistaken for asthma or air embolus. Prompt phlebotomy is the mainstay of therapy. Digitalis, morphine, and pressure oxygen may be used as indicated after phlebotomy.

CHILLS AND FEVER.—Chills and fever may be due not only to hemolytic reactions as previously discussed but to "pyrogens" or bacterial contaminants.[45,46] Most instances of chills and fever are due to pyrogens. These are heat-stable products of bacterial contamination probably produced by bacteria introduced at the time of blood collection. Although the organisms almost always die before transfusion, the pyrogenic endotoxins persist in the blood. Simple pyrogenic reactions may be treated symptomatically with aspirin.

Published rates of bacterial contamination of stored blood have varied from 2 to 10 per cent. Generally clinically significant reactions from such units of blood are limited to mild febrile reactions. Rarely bacterial contamination may cause catastrophic consequences. The clinical picture is that of profound shock, associated with cutaneous hyperemia, along with chills and fever. These reactions are usually due to bacteria which grow well at refrigerator temperature. When such reactions are suspected, smears and cultures from the donor bottle and blood cultures from the patient should be promptly secured for study. Pressor amines and massive antibiotic therapy may be of value. Fortunately we have not encountered a single catastrophic instance of bacterial contamination in over 25,000 transfusions.

ALLERGIC REACTIONS.—It is not generally appreciated that most allergic reactions are due to the transfer of an antigen rather than the passive transfer of antibody from the donor. Urticaria, erythema, pruritus, and other allergic reactions are not completely preventable. If anaphylactic shock, asthma, or laryngeal edema threatens, blood should be discontinued. The development of cutaneous erythema, wheals, and pruritus does not usually contraindicate the continued administration of blood. Such skin reactions may be treated with epinephrine and/or antihistaminics, and the blood can be continued or, if discontinued, may be reused in one-half hour. Investigation usually discloses that severe allergic reactions occur in recipients with an allergic background. Although routine use of antihistaminics in blood is unwarranted, prophylactic use is indicated for patients with an allergic background or a history of previous allergic or febrile reactions.

Summary

Practical aspects of transfusion therapy of value to every physician who uses blood have been reviewed.

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Vascular Anomalies Discovered on Chest X-ray Survey

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MASS chest x-ray surveys for the detection of pulmonary tuberculosis lead to the discovery of anomalies and diseases not only of the lung,[1] but also of the mediastinum,[2] cardiovascular system, and bony skeleton. Although many references are available describing pulmonary lesions, relatively few reports discuss the cardiovascular anomalies discovered on mass surveys.[3-6]

This paper is concerned with anomalous vascular shadows found on surveys conducted by the Bureau of Tuberculosis of the New York City Department of Health. Through the kindness of Dr. I. Steinberg we were fortunate to have the cooperation of the Department of Radiology, New York Hospital-Cornell University Medical Center. Most of our patients were referred to the latter for angiocardiography. Angiocardiographic studies were done in order to differentiate between vascular and nonvascular shadows in the mediastinum and to investigate shadows in the lung fields which appeared to be vascular in nature. The following cases illustrate the method of investigation.

Case Reports

CASE 1.—Male, age twenty-one. Chest films showed abnormal right upper mediastinal border (Fig. 1A). History and physical examination were noncontributory.

On fluoroscopic examination both hili were pulsating. The right upper paramediastinal mass pulsated synchronously with the aorta. The mass seemed to be in the area of the ascending aorta.

Angiocardiogram showed a left superior vena cava carrying blood from the upper extremities to a normally positioned right atrium. The cardiac chambers were not remarkable. The aorta arose farther to the right and arched prominently to the right in its ascending portion. This created the right crescent-shaped paramediastinal density. The remainder of the aortic arch was not remarkable.

Impression was congenital heart disease, left superior vena cava; unusual prominence of ascending aorta; suspected enlargement of the left ventricle.

CASE 2.—Male, age thirty-three. Chest film showed homogeneous density adjacent to the aorta near left hilus (Fig. 1B). There was a vague history of heart trouble; nonproductive cough and paroxysmal nocturnal dyspnea were present.

Blood pressure was 130/84 on both sides. Systolic blow was heard at base, loudest over the pulmonic area, and also in the left scapular area. There were prolonged expiration and expiratory wheezes. Wassermann test was negative.

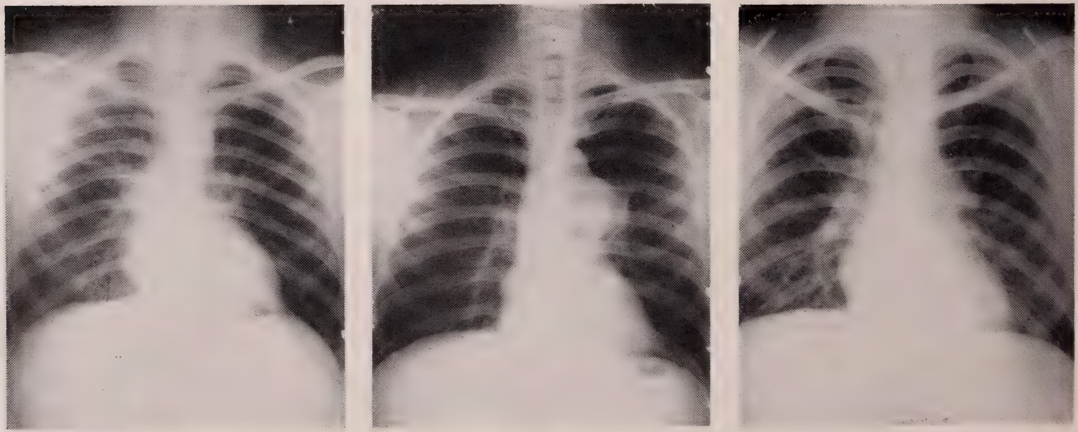

FIG. 1. *Case 1*—Abnormal right upper mediastinum (A). *Case 2*—Homogeneous density adjacent to the aorta near the left hilus (B). *Case 3*—Prominent left hilus (C).

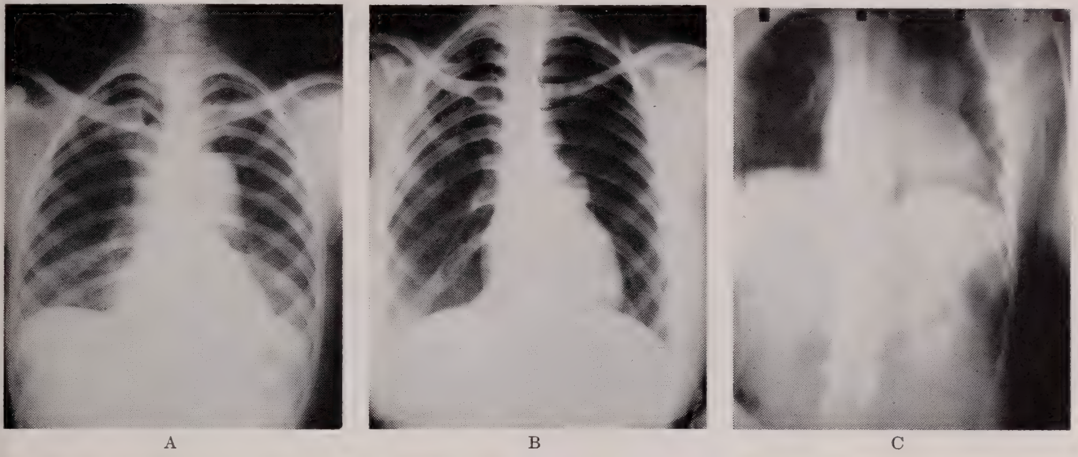

FIG. 2. *Case 4*—Prominent aortic arch (A). *Case 5*—Convex shadow near left hilus in second intercostal space (B); tomogram reveals a well-circumscribed mass (C).

Fluoroscopic examination showed pulsating mass at left hilus. Mass did not appear to be part of the aorta and yet was not seen in region of main pulmonary artery. It was seen in left anterior oblique position and was situated anterior to the ascending aorta.

Dilatation of main stem of pulmonary artery and its right and left main branches was seen on angiocardiogram; there was no intracardiac shunt. Pulmonary conus was normal. This usually reflects the presence of pulmonary stenosis and is less commonly seen in other types of congenital heart disease.

Catheterization revealed right auricle mean pressure 5, right ventricle 46/6, pulmonary artery 28/15.

Impression was pulmonic stenosis with post-stenotic dilatation of the pulmonary artery. The intracardiac pressure findings supported this diagnosis.

CASE 3.—Male, age thirty. Chest film showed prominent left hilus and abnormal outline of mediastinum above it (Fig. 1C). History and physical examination were noncontributory.

Angiocardiogram revealed slight deformity of innominate vein at a point just above the aortic arch and an anomalous vessel entering the left innominate vein. Angiocardiogram could not be completed because the patient did not breathe properly.

Impression was possible venous anomaly causing prominence of the left hilus.

CASE 4.—Female, age thirty-six. Chest film showed prominent aortic arch and dense round shadow within aortic arch (Fig. 2A). Physical examination was negative, blood pressure 140/100.

Fluoroscopic examination demonstrated prominent aortic arch. The thoracic aorta appeared widened.

On angiocardiogram the mediastinal prominence was seen to be made up of an anomalous aortic arch. The right heart was normal.

CASE 5.—Female, age thirty-three. Chest film showed convex shadow in left hilus in second intercostal space (Figs. 2B and 2C). Past history was negative. Chief complaint was indefinite pain in the chest. Blood pressure was 140/85. Pulses were equal over radial arteries. A loud systolic murmur was heard in the second intercostal space to the left of the sternum.

Fluoroscopic examination revealed that the left hilar mass pulsated and was located anteriorly. Left hilar shadow was shown to be nonvascular, and branches of the left pulmonary artery were not distorted on angiocardiogram.

Operation disclosed a well-encapsulated benign thymoma. Following operation the loud systolic murmur disappeared.

CASE 6.—Male, age forty-nine. Chest film showed large shadow occupying the upper two thirds of the mediastinum (Fig. 3A). Past history included lues for which patient was receiving antiluetic treatment at time of his admission to Health Department. Chief complaint was dyspnea and cough of two months duration. Physical examination revealed pulsatile mass, visible and palpable, in suprasternal notch. Pulses were equal. Blood pressure was 170/80.

Fluoroscopic examination revealed pulsatile mass in region of aorta.

X-ray showed large mass protruding from the upper two thirds of the mediastinum into the right lung field. The trachea was displaced to the left. In left anterior oblique projection the mass extended upward and outward into the right upper lung field.

Aneurysmal dilatation of the ascending aorta, 75 mm. in diameter, was seen on angiocardiogram.

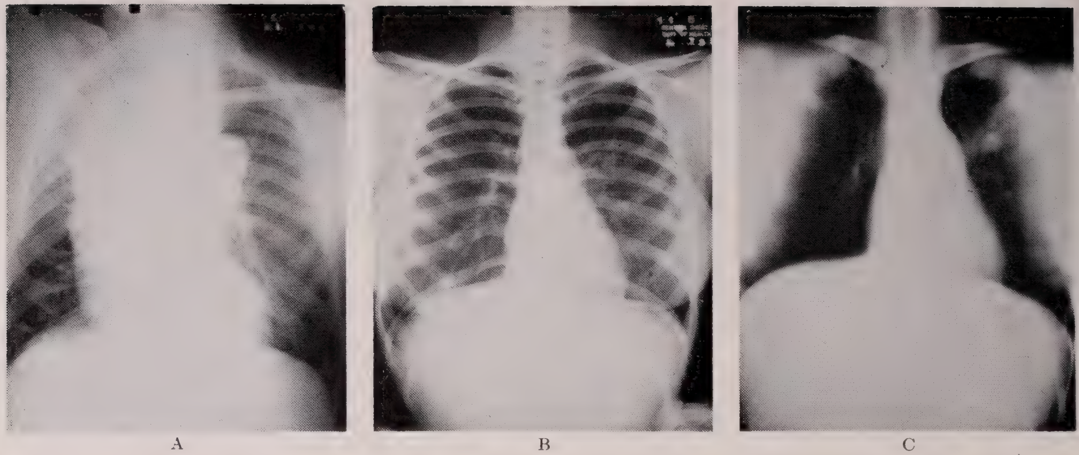

Fig. 3. *Case 6*—Large shadow occupying the upper two thirds of the right mediastinum (A). *Case 7*—Nodular shadow adjacent to left hilus (B); tomogram shows nodular vascular-like densities leading to left hilar area (C).

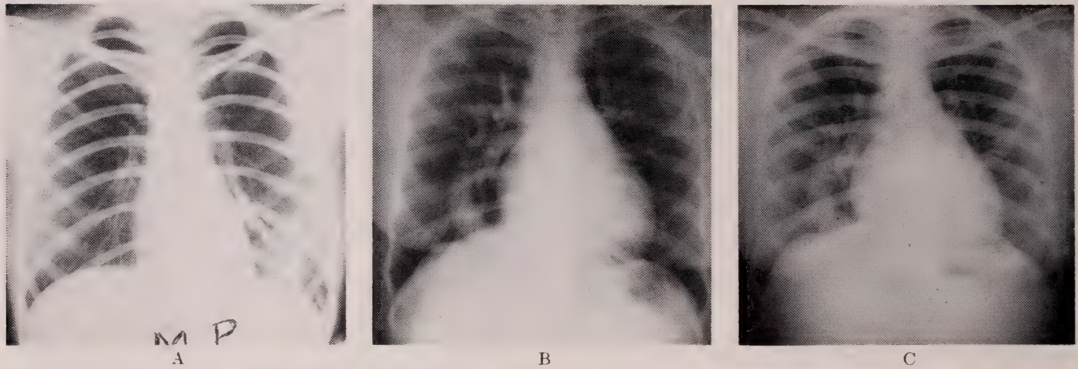

Fig. 4. *Case 8*—Mottled infiltrations over left base (A). *Case 9*—Angiocardiogram shows contrast medium in the curvilinear density in the right lower lung field (B); abnormal shadow in right lower lung (C).

The right superior mediastinal prominence did not opacify sharply as did the fusiform dilatation of the ascending aorta, but on comparison with conventional films a double density along the lateral margin appeared to be seen. If this was real, it represented a saccular aneurysm of the ascending aorta.

Impression was syphilitic aortitis with fusiform aneurysm of the ascending aorta and probable saccular aneurysm arising from the upper portion of the ascending aorta.

Case 7.—Female, age seventeen. Chest film showed density adjacent to the left hilus (Figs. 3B and 3C). History was noncontributory. Minimal cyanosis of the fingers was seen on physical examination. Laboratory findings included tuberculin test 1:100 negative, red blood cells 4,500,000, hemoglobin 96 per cent.

Fluoroscopic examination demonstrated that density near left hilus did not pulsate.

Tomograms showed nodular densities in the left upper lobe with vascular-like structures leading towards the hilus.

Angiocardiogram demonstrated arteriovenous aneurysm in the anterior segment of the left upper lobe, drainage apparently occurring via a pulmonary vein entering the left atrium.

Impression was that the nonpulsatile density adjacent to the left hilus was an arteriovenous aneurysm in the left upper lobe.

Case 8.—Female, age twenty-nine. Chest film showed mottling at left base (Fig. 4A). Physical examination showed cyanosis of lips; clubbing of fingers; blood pressure 104/70 on the right and 108/70 on the left arm. Heart was negative. A systolic bruit could be heard below the left scapula. Bronchogram was negative. Hemoglobin was 17.8 Gm., red blood cells 6,800,000.

Fluoroscopic examination revealed confluent densities above left diaphragm.

A hemangioma of the left lower pulmonary vessels was visualized on angiocardiogram.

Case 9.—Female, age thirty-six. A curvilinear density in the right lower lung field parallel to the right heart border was seen on the chest film.

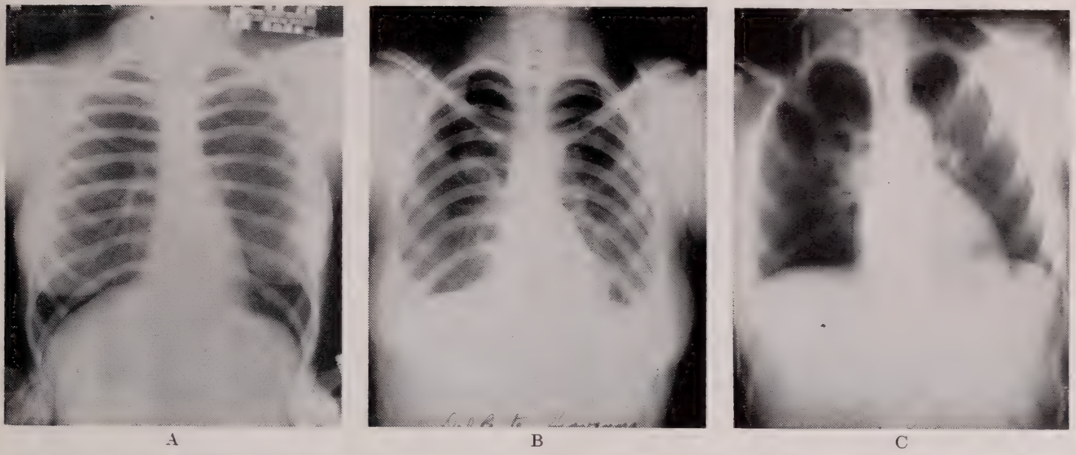

Fig. 5. *Case 10*—Nodule in third right intercostal space (A). *Case 11*—Shadow in second right intercostal area (B); tomogram 8-cm. cut shows two distinct round shadows (C).

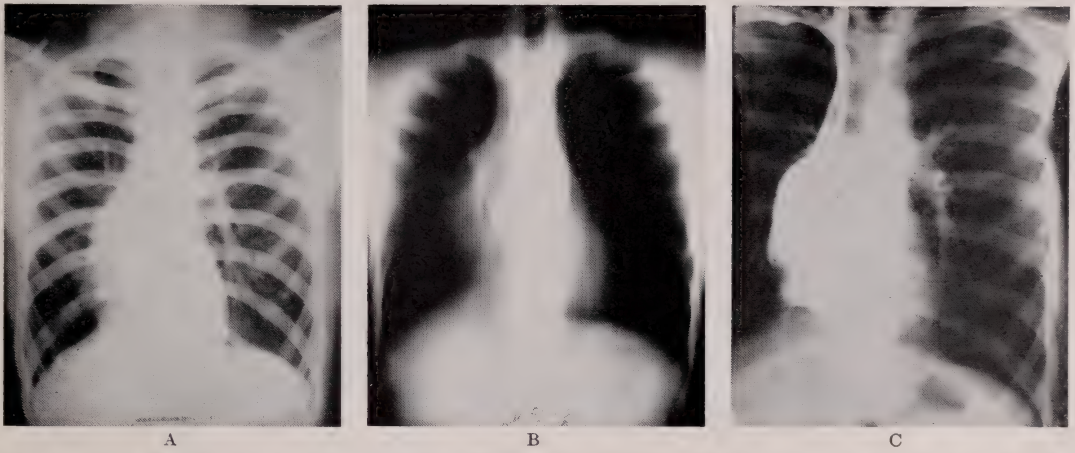

Fig. 6. *Case 12*—Abnormal outline of right mediastinal border (A). Tomograms reveal shadow best on the anterior cuts (B). Angiocardiogram shows that the right parahilar area is continuous with the heart (C).

The contrast substance was seen in the right pulmonary artery and its branches three seconds after beginning of injection for angiocardiogram. At four and one-half seconds a small amount was seen in the curvilinear shadow, which attained a maximum density six seconds after beginning (Figs. 4B and 4C). This curvilinear band filled with contrast medium on return flow from the lungs and represented an anomalous pulmonary vein. There was right ventricular enlargement.

We have observed three more cases like the above.

Case 10.—Female, age sixteen (sister of case 7). Chest film showed a nodule in the third right intercostal space (Fig. 5A). Past history included chorea and pneumonia. Physical examination was negative; Mantoux test 1:100 negative; fluoroscopy negative. X-ray demonstrated round nodule in the third right intercostal space.

A small arteriovenous aneurysm was found on angiocardiogram. This was apparently situated in the lateral aspect of the dorsal apical segment of the right lower lobe.

Case 11.—Female, age eighteen. Chest x-ray showed a shadow in second right intercostal space adjacent to the hilus (Figs. 5B and 5C). Family history was negative. Physical examination did not reveal a bruit over the lung, telangiectatic areas, or lymph node enlargement. Blood pressure was 120/80, Mantoux 1:1,000 negative.

Fluoroscopy revealed a soft focus, nonpulsatile, near right hilus, best seen in the left anterior oblique position.

Tomogram at 7 and 8-cm. cut showed two distinct round shadows, one adjacent to right hilus and another one near right main bronchus. These shadows were thought to be lymph nodes, but angiocardiography revealed the presence of an arteriovenous fistula of the lungs.

CASE 12.—Male, age sixteen. Chest film showed abnormal outline of right mediastinal border (Fig. 6A). History was noncontributory. Physical examination was negative, blood pressure 120/80.

Fluoroscopic examination was suggestive of right atrial enlargement.

Tomograms revealed shadow most clearly on 14 and 16-cm. cut (Fig. 6B).

Angiocardiogram demonstrated that shadow noted in right parahilar area was continuous with the heart and was part of the cardiac shadow (Fig. 6C).

Impression was congenital enlargement of right atrium.

Comment

Survey cases are reported in which after physical examination, tuberculin testing, x-ray, and bronchography a precise diagnosis could not be made. Of the various methods tomography was most helpful in the demonstration of vascular shadows leading into an abnormal density. If tomography does not establish the diagnosis, then angiocardiograms should be done. One must realize, however, that angiocardiography is not entirely free of risk. For this reason we recommend this examination only after the methods outlined above have not helped to make an accurate diagnosis. Under certain circumstances this risk is accepted if the knowledge gained by angiocardiography may determine the treatment of the patient.

Summary

Chest survey cases are reported in which angiocardiography was of value in determining the nature of obscure shadows in the mediastinum and lungs in asymptomatic patients.

125 WORTH STREET

The author wishes to thank Mr. V. Gill for technical assistance.

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Academy Recommendations on City Health Department

This is a copy of a report bearing on the 1955–1956 budget of the Health Department of the City of New York, which has been sent to The Honorable Robert F. Wagner, Mayor of the City of New York.

Following are the recommendations of the report:

1. Every effort should be made to accelerate the program of evaluation of both salaries and duties of professional personnel within the Health Department and of the inauguration of an enlightened system of selecting professional personnel. Furthermore, the head of the Health Department should be allowed a greater voice in the selection of professional personnel for key positions. The needs of a department are better known to a department chief than to anyone outside the department.
2. The most modern and most effective approach to the control of tuberculosis be instituted in New York City by (*a*) assuring the use of the best possible methods for the early detection and diagnosis of tuberculosis; namely, mass x-ray surveys and thorough follow-up technics, and by (*b*) making most effective use possible of drug therapy and ambulatory care.
3. Recognition be taken of an increasing need for child health services by providing an expanded and augmented clinic program for children of all ages. Particular attention needs to be paid to infants from one month to one year of age, to preschool children, and to the adolescent group.
4. The laboratory service of New York City be maintained at a high level by providing and maintaining suitable buildings and equipment and by employing top-flight personnel to carry out the important services of detection and diagnosis of disease.

The report, issued on behalf of The New York Academy of Medicine, was approved by its Committee on Public Health Relations.

The Value and Limitations of the Portable Ballistocardiograph

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THE development of the portable electromagnetic or direct ballistocardiograph by Dock and his coworkers[1] gave a great stimulus to the clinical application of ballistocardiography in the study of heart disease. Starr's[2,3] original work with the table model ballistocardiograph of the high frequency type had established the value of this instrument in clinical research and diagnosis. However, the table models were too costly and bulky for routine clinical use, and it was the portable instrument that accelerated the development of clinical ballistocardiography.

Studies with both the table and portable instruments revealed a high percentage of abnormal ballistocardiograms in the study of patients with coronary artery disease. With the passage of time there accumulated evidence that there might be extracardiac factors which could also produce ballistocardiographic abnormality in normal aging persons over fifty years of age[4,5] and that this trend was increased by overweight.

The Dock portable instrument gave tracings that seemed comparable to those obtained by Starr's table, but there arose a serious question as to the suitability of the direct ballistocardiograph for accurate clinical study. It soon became apparent that small differences in the way that the portable apparatus was set up, particularly in the alignment of the magnet and the coils, gave rise to marked variation in the patient's tracings. Calibration of the portable instrument was difficult, and the improvements on Dock's original method of a blow of short duration to the body did not entirely overcome this shortcoming. However, practical experience demonstrated that the portable ballistocardiograph, even though unstandardized, could detect qualitative differences in the relation of the waves to one another and their deviation from the normal pattern.

Clinical Application

In January, 1950, we began the use of the portable electromagnetic ballistocardiograph in a study of apparently normal persons without heart disease who were undergoing periodic health examination and contrasted these findings with those from a group having cardiovascular disease. The age range in both groups is particularly significant: from forty to sixty-five years with the highest proportion being in the decade forty-five to fifty-five years. Only four women were included in this study. The portable electromagnetic ballistocardiograph was of the Dock design with a 50-microfarad condenser across the leads from the coils (Fig. 1).[6] All tracings were of the head-foot type; no lateral or vector tracings were recorded. A simultaneous electrocardiogram lead was used to identify the waves of the ballistocardiogram, although in the case of normal tracings good clinical results were obtained by the ballistocardiogram alone.

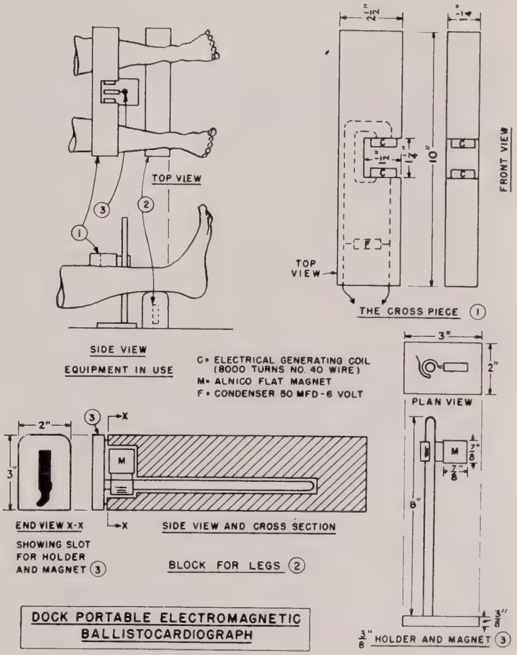
TOP VIEW
③
②
①
SIDE VIEW
EQUIPMENT IN USE
2½"
1"
1½"
1¼"
10"
C
F
FRONT VIEW
TOP VIEW
THE CROSS PIECE ①
C = ELECTRICAL GENERATING COIL (8000 TURNS NO. 40 WIRE)
M = ALNICO FLAT MAGNET
F = CONDENSER 50 MFD-6 VOLT
3"
2"
PLAN VIEW
2"
3"
③
X
M
END VIEW X-X
SHOWING SLOT FOR HOLDER AND MAGNET ③
SIDE VIEW AND CROSS SECTION
BLOCK FOR LEGS ②
8"
7/8"
3/8"
3/8" HOLDER AND MAGNET ③
DOCK PORTABLE ELECTROMAGNETIC BALLISTOCARDIOGRAPH

FIG. 1

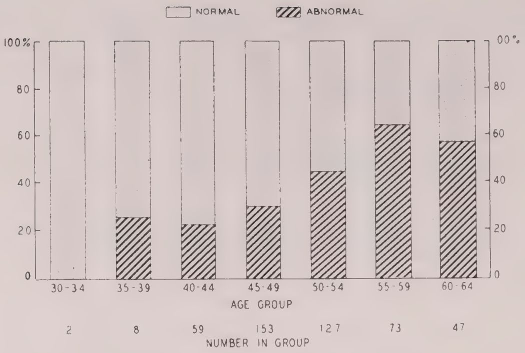

FIG. 2. Study of ballistocardiograms of 469 apparently normal persons by age groups. (NOTE: Normal cases include a total of nine variable cases; abnormal cases a total of three borderline cases.)

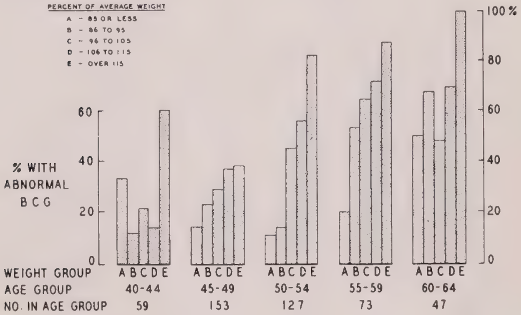

FIG. 3. Effect of weight on ballistocardiograms of 469 apparently normal persons by age groups. (NOTE: Normal cases include a total of nine variable cases; abnormal cases a total of three borderline cases. Two cases in thirty to thirty-four age group, neither abnormal, and eight cases in thirty-five to thirty-nine age group, two abnormal, are not shown.)

Brown's classification[7] of ballistocardiograms into four grades of increasing abnormality proved a practical means of determining normal and abnormal tracings. Because the tracings in individual cases did not seem to be as consistent as those reported with the fixed machines, we made it our practice to consider as abnormal only those tracings classified as Grade 2 and above. The qualitative rather than an exact quantitative method of classification, such as that later described by Scarborough,[8] was necessary because of the difficulty we encountered in calibration of the portable instrument. It has been Starr's contention that the calibration problem is important because one cannot determine if the portable instrument is working properly.

The Ballistocardiogram in Normal Persons

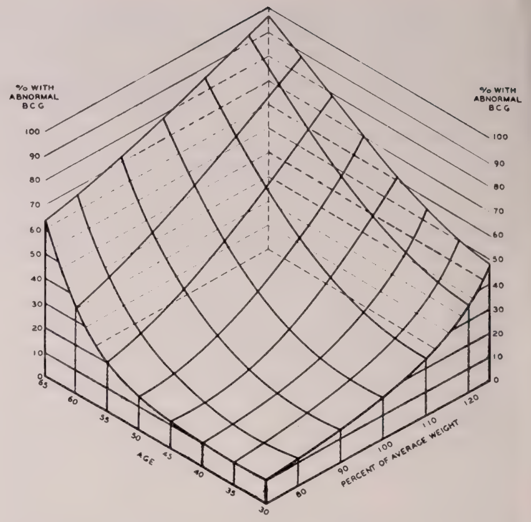

FIG. 4. Correlation of abnormal ballistocardiograms with age and weight; based on analysis of 469 apparently normal persons.

The normal group consisted of 469 individuals with a negative history, normal physical examination and fluoroscopy of the heart, and a normal electrocardiogram. Figure 2 shows the increasing incidence of abnormal ballistocardiograms with advancing age, reaching the peak in the group fifty-five to fifty-nine years when the abnormal tracings are as high as 65 per cent. This refers to the original ballistocardiogram in each case; the great majority were accomplished in the first year of the study in 1950. The remainder were recorded in the second year and only a few in the last two years.

Overweight increases the trend toward an abnormal ballistocardiogram and apparently adds to the changes which occur with advancing age. Using a weight classification based on per cent of average weight, such as described by Simonson and Keys[9] in their study of electrocardiographic variations, the effect of weight on the ballistocardiograms of normal persons is graphically presented in Fig. 3. A normogram giving the correlation of abnormal ballistocardiograms with age and weight based on an analysis of these 469 apparently normal persons is illustrated in Fig. 4.

Follow-up of the 269 persons with a normal ballistocardiogram on the original examination disclosed the progressive development of abnormal tracings with advancing age in almost 45 per cent in a four-year period, 1950–1953 (Table I). The variability of the ballistocardiogram between normal and abnormal from year to year and at times even in immediate recheck

TABLE I.—Normal Clinical Examination and Follow-up Normal Ballistocardiogram in 269 Cases, 1950–1953

Age Group	Ballistocardiogram Remained Normal	Became Abnormal	Variable
30 to 34	2	. .	. .
35 to 39	3	. .	. .
40 to 44	15	6	34
45 to 49	40	33	. .
50 to 54	36	40	. .
55 to 59	15	18	. .
60 to 64	4	23	. .
Total	115 (42.7%)	120 (44.6%)	34 (12.7%)

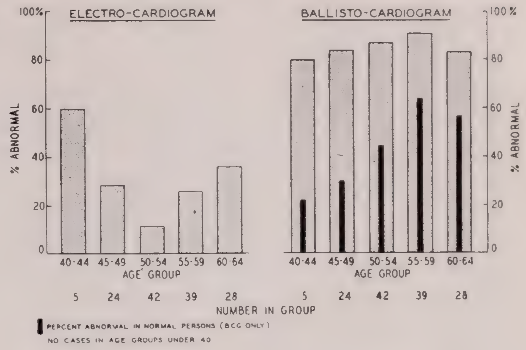

Fig. 5. Study of electrocardiograms and ballistocardiograms of 138 cases of cardiovascular disease by age groups.

tracings was observed in nearly 13 per cent. Since the tracings were taken under basal conditions, a greater portion of the variability was attributed to technical difficulties, such as poor positioning of the magnet or lack of proper relaxation of the patient. On the yearly recheck it became increasingly difficult to interpret whether so-called deterioration in the patient's ballistocardiogram was due to small differences in the way the apparatus was set up or to actual change in his cardiovascular status. In some cases reduction in weight caused an abnormal tracing to revert to normal.

In the 115 cases who retained a normal ballistocardiogram for four years, not one case of cardiovascular disease was noted. The majority of these were under fifty years of age. On the other hand, in the 311 normal persons with abnormal tracings there developed evidence of myocardial damage in 12 cases (with subsequent recovery in four), and in five cases actual coronary thrombosis (no deaths) occurred. The total incidence of subsequent myocardial damage, 17 cases, was approximately 5 per cent in this group, nearly all of whom were over fifty years of age. No case of subsequent heart disease developed in the small group with variable ballistocardiograms.

To evaluate properly the incidence of subsequent heart disease in apparently normal persons with abnormal ballistocardiograms (5 per cent), this figure should be compared with that of another group with abnormal cardiovascular physical findings in whom there subsequently developed further cardiac damage both with normal and abnormal ballistocardiograms. This group was also mainly over fifty years of age.

The Ballistocardiogram in Cardiovascular Disease

The high correlation between cardiovascular disease and abnormal ballistocardiogram tracings is portrayed in Fig. 5 and reaches almost 90 per cent in the age group fifty-five to fifty-nine years. By contrast the percentage of abnormal electrocardiograms in this group is less than half that of abnormal ballistocardiograms. There were only 15 persons with a normal ballistocardiogram out of 138 cases with cardiovascular abnormalities. These were individuals with arteriosclerosis of the aortic arch, essential hypertension, and a few of bundle branch block without other evidence of cardiac disease. Included in this group were two persons with a normal ballistocardiogram who had recovered from coronary thrombosis. In addition, there were five cases with variable ballistocardiograms. In the remaining 118 cases with abnormal ballistocardiograms the cardiovascular abnormalities were essentially grouped as follows: coronary artery diseases 37 per cent, hypertension alone and with arteriosclerosis 33 per cent, arteriosclerosis of the aortic arch without hypertension 22 per cent, and rheumatic heart disease 8 per cent.

Because of the small number of persons with a normal ballistocardiogram in this group, the effect of overweight in producing an abnormal ballistocardiogram could not be evaluated.

Follow-up study in the 15 cases with normal ballistocardiograms disclosed that one, a male, age forty-two years, with essential hypertension but an abnormal standard "2-step" exercise electrocardiogram test, went on to develop coronary thrombosis in eight months. Of the five with variable ballistocardiograms, two cases, males, ages forty-eight and fifty-three years, with arteriosclerosis of the aortic arch without hypertension also developed coronary thrombosis

TABLE II.—Ballistocardiograph Follow-up, Terminated in Death, 1950–1953

Case	BCG Grade	Original Diagnosis	Follow-up (Years)	Weight*	Age	Final Diagnosis
1	22	Hypertension and arteriosclerosis	3	C	58	Cerebral thrombosis
2	22	Normal physical examination	3	D	54	Carcinoma of colon
3	22	Coronary sclerosis	1	E	62	Coronary thrombosis
4	24	Chronic myocarditis	1	C	64	Coronary thrombosis
5	22	Coronary sclerosis	2	E	53	Coronary thrombosis
6	22	Hypertensive heart disease	3	D	54	Myocardial failure
7	22	Normal physical examination	1	B	61	Carcinoma of colon
8	23	Hypertension and arteriosclerosis	1	C	53	Myocardial failure
9	22	Hypertensive heart disease	2	C	42	Carcinoma of lung
10	22	Carcinoma of lung	1	E	53	Carcinoma of lung
11	23	Essential hypertension	1	A	53	Cancer of esophagus

* Key—Percentage of average weight: A—85 or less; B—86 to 95; C—96 to 105; D—106 to 115; E—over 115.

in four months and nine months, respectively. Interestingly, both of these cases had normal double "2-step" exercise electrocardiogram tests on the original examination. The development of subsequent myocardial damage in these 20 cases with either a normal or variable ballistocardiogram was approximately 15 per cent. In the 118 cases with abnormal ballistocardiograms there were 32 persons, nearly all over fifty years of age, who developed further myocardial damage on the electrocardiogram, an incidence of 27 per cent. This included 14 cases of coronary thrombosis with three deaths.

In reviewing the incidence of cardiac damage or progression of cardiovascular disease in all four groups, that is (1) the normal persons with normal ballistocardiograms, none; (2) normal persons with abnormal ballistocardiograms, 5 per cent; (3) cardiovascular abnormality with normal ballistocardiograms, 15 per cent; and (4) cardiovascular abnormality with abnormal ballistocardiograms, 27 per cent—it should be noted that there was a greater percentage of older persons over fifty years of age in both the normal group with abnormal ballistocardiograms as well as in the group with cardiovascular disease. This advancing age level is a factor that must be considered in the increased incidence of subsequent heart disease in all groups.

The cases in this follow-up study that terminated in death are summarized in Table II. It should be noted that in those cases with an abnormal ballistocardiogram who died with some type of cardiovascular disease, the original clinical diagnosis indicated heart disease in each case.

TABLE III.—Comparison of Portable and High-Frequency Table Ballistocardiographs

Age Group	Abnormal Portable BCG Abnormal Table BCG	Abnormal Portable BCG Normal Table BCG
40 to 44	. .	1
45 to 49	13	16
50 to 54	33	26
55 to 59	13	19
60 to 64	23	16
	—	—
Total	82	78

Comparison of Portable and Table Model Ballistocardiographs

The major shortcomings of the portable ballistocardiograph, namely, the technical problems associated with variable and sometimes bizarre tracings and the difficulty in calibration, led us in July, 1953, to explore the high-frequency table ballistocardiograph described by Brown[10] of Rochester.

A comparison of these two instruments over a six-month period indicated that at least half of our cases with an abnormal portable ballistocardiogram had a normal tracing with the table type machine (Table III). This trend appeared to increase with advancing age. It may well be that the portable instrument is more sensitive to early changes. Our follow-up experience with a larger group in 1954 discloses that the apparently normal individual will keep a normal ballistocardiogram to a more advanced age with the table instrument than with the portable one.

With the table ballistocardiograph, variability in tracings is rarely encountered and is only minimal. Calibration is achieved by a standardized technic, adding a 280-Gm. weight over a pulley to one end of the table in a footward direction. Also, exercise ballistocardiograms are easily obtained on the table instrument using the two-minute interval in the Master "2-step" exercise electrocardiogram test as the time to check the exercise tracing. It has been shown that anoxemia[11] and exercise[12] may cause a normal ballistocardiogram in a case of suspected angina pectoris to change to an abnormal tracing.

Comparison of Ballistocardiogram and "2-Step" Exercise Electrocardiogram Test

There has been a continuing search for measures that would assist in the early detection of latent coronary artery disease in apparently normal persons. The "2-step" exercise electrocardiogram test described by Master[13] has been advocated as a diagnostic adjunct in these circumstances. Our experience indicates that this procedure, in common with other cardiac function tests, may be of value in conjunction with a complete clinical examination, but by itself as an abstract laboratory procedure, such as in multiphasic screening, it has many limitations.

In the interpretation of the exercise electrocardiogram the P-R interval is taken as the control level. Opinion differs as to the amount of depression of the S-T segment which is significant of abnormal response.[14] We have adopted the following criteria for a positive exercise test:

1. A depression of the RST junction of at least 1 mm. in leads I, II, and III, or 0.75 mm. in V_4, even if it is present in the one minute tracing only. Depressions lasting beyond one minute, or deeper than 1 mm., are of even more definite significance.
2. Conversion of an upright T to an isoelectric or inverted T in leads I, II, or V_4. The reverse process, as well as the conversion of the diphasic T to an upright T, is also considered significant in these leads.
3. Appearance of extrasystoles or runs of coupled beats.

The double "2-step" test has been demonstrated to give a higher percentage of abnormal response than the single or standard test. It has also proved entirely safe, and we have used it routinely except when the history strongly indicates angina pectoris. A major shortcoming of the double "2-step" test has been the longer time required to conduct this examination in comparison to the routine electrocardiogram; a conservative estimate is ten minutes. At the onset of our study the portable ballistocardiograph appeared to offer a simpler method which might quickly and easily give us useful information concerning the presence of latent heart disease.

The limitations of the portable ballistocardiograph have been reviewed. Similarly, the "2-step" exercise electrocardiogram test has its shortcomings. It is well recognized and documented that coronary thrombosis can follow a normal "2-step" exercise test response. Briefly, our experience indicates that nearly 20 per cent false negative or normal tests occurred in our cases of asymptomatic hypertension and of arteriosclerosis of the aortic arch who subsequently sustained coronary thrombosis or myocardial damage within a four-year period after a normal "2-step" test. On the other hand, there was a progressive development of myocardial damage in 47 per cent of such persons who had an abnormal "2-step" exercise test. In the evaluation of specific complaints which may be suspicious of coronary artery disease, such as atypical angina, the double "2-step" test has proved very useful because a normal test is rarely found in the presence of active coronary artery disease.

Over the past four years it has been our experience that a normal double "2-step" exercise electrocardiogram test in a person with a normal clinical examination, including normal electrocardiogram, will ordinarily rule out latent artery disease. In 300 such persons in a four-year follow-up, we found only one case (fifty years of age) who developed an acute coronary thrombosis within fourteen months after a normal double "2-step" test. Another case who reverted to a normal double test one year after an abnormal response had been obtained also developed an acute coronary thrombosis twelve months later.

Our findings can be summarized as follows: In the group of 115 normal persons with normal ballistocardiograms, none of whom subsequently developed heart disease in the four-year follow-up, there were 70 who were tested with a "2-step" exercise electrocardiogram test, and only two demonstrated an abnormal response. The combination of a normal ballistocardiogram and a normal double "2-step" exercise test would appear to rule out "hidden" heart disease. By way of contrast, in the 354 normal persons with an abnormal or variable ballistocardiogram, out of 268 who had exercise electrocardiogram tests there were 36 abnormal responses, an over-all incidence of 13 per cent. More than 75 per cent of these tests were of the double type. Follow-up disclosed that 14 out of the 36 with an abnormal response developed myocardial damage (two with coronary thrombosis), an incidence of nearly 40 per cent. It should be noted that one case with a normal standard test also suffered a coronary thrombosis.

The combination of an abnormal ballistocardiogram with an abnormal double "2-step" exercise electrocardiogram test in apparently normal persons appears to be more often followed by the development of myocardial damage than in those who present only an abnormal ballistocardiogram.

Comment

The contention that abnormal ballistocardiograms in apparently normal individuals denote subclinical coronary artery disease remains to be proved. The abnormal ballistocardiogram cannot be compared in significance to the abnormal electrocardiogram.

A normal ballistocardiogram in the absence of clinical cardiovascular abnormality, which should include negative past and present history, physical examination, and electrocardiogram, is of value in that it apparently excludes masked coronary artery disease. No case of heart disease developed in a four-year follow-up in this group.

While there is a high correlation between cardiovascular disease and abnormal ballistocardiographic tracings, there seem to be extracardiac factors which produce ballistocardiographic abnormality in normal aging persons over fifty years of age. These may be in the aorta or the pulmonary or splanchnic circulation and may even be associated with changes in tissue elasticity. The trend to abnormal ballistocardiograph tracings in normal aging individuals is increased by overweight. The development of subsequent heart disease in normal persons with abnormal ballistocardiograms may be due in part to the age factor since many of these persons were over fifty years of age.

Further follow-up will be necessary to evaluate properly the significance of abnormal ballistocardiograph tracings in normal persons under fifty years of age. It will be particularly interesting to follow the course of these "normal" individuals who have an abnormal double exercise test response in addition to an abnormal ballistocardiogram. We consider that this combination, even in older persons, indicates a heart disease tendency, and we have undertaken a definite program of health counseling in such cases. This includes reduction or elimination of smoking, weight reduction where indicated, and a more balanced plan of daily living.

The portable ballistocardiograph has a major drawback in that slight differences in technic may lead to marked differences in tracings. There is also the difficulty in proper calibration which we believe will frustrate any attempt to place ballistocardiographic study on an accurate quantitative basis, such as was developed in the interpretation of electrocardiograms.

Summary

The portable ballistocardiograph may be useful as a screening technic in clinical study under conditions which require only the detection of qualitative differences in the relationship of ballistic waves to one another and their deviation from the normal pattern. A normal ballistocardiogram in the absence of clinical cardiovascular abnormality is of value in that it apparently excludes masked coronary artery disease. On the other hand, too much significance cannot be placed on abnormal ballistocardiograms in apparently normal persons over fifty years of age because we are unable to exclude changes associated with normal aging and overweight. Technical difficulties also limit the usefulness of the portable ballistocardiograph.

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The Roentgen Diagnosis of Nonopaque Foreign Bodies in the Bronchi

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ASPIRATION of a foreign body into the respiratory tract is not an uncommon occurrence. When the foreign body is opaque, there is usually no difficulty in making a correct diagnosis. However, a nonopaque foreign body may present considerable difficulty since it does not cast a distinct shadow on the roentgenogram. Fully 50 per cent of all foreign bodies aspirated are nonopaque, and 90 per cent of these occur in children below the age of three.[1] One must be alert to the problem, therefore, and be familiar with the correct method of interpreting the findings in these cases. It is the purpose of this article to describe the roentgen findings which are present when a nonopaque foreign body is aspirated into the bronchial tree.

Case Reports

CASE 1.—S. R., a white female, age two and one-half years, was admitted to the Elizabeth Horton Memorial Hospital at 1 A.M. in severe respiratory distress. According to the mother, the child had been perfectly well up until 11 P.M. that evening when suddenly she began to wheeze and cough violently. The cough was nonproductive and after a short time diminished somewhat in intensity. However, about one hour before admission the child had become cyanotic, and the cough had become more violent. On admission the temperature was 101 F. Respiration was labored, and at one point ceased for two minutes but, after laryngeal suction, commenced again. The child was put into an oxygen tent. A bedside film of the chest was taken and was interpreted as being normal (Fig. 1A). A second film was taken in expiration (Fig. 1B). A definite shift of the mediastinum towards the left with hyperaeration of the right lung field was then disclosed.

Bronchoscopic examination disclosed a pink glass bead lodged within the bronchus of the right lower lobe about 2 cm. below the carina. This was removed, and the child was discharged the following day in excellent condition.

CASE 2.—T. V. D., a white male child, age two years, was referred for roentgen examination of the chest on May 14, 1952. Three weeks before, the child suddenly began to wheeze and cough without apparent cause. An x-ray taken the following day was interpreted as being normal (Fig. 2A). A presumptive diagnosis of bronchial asthma was

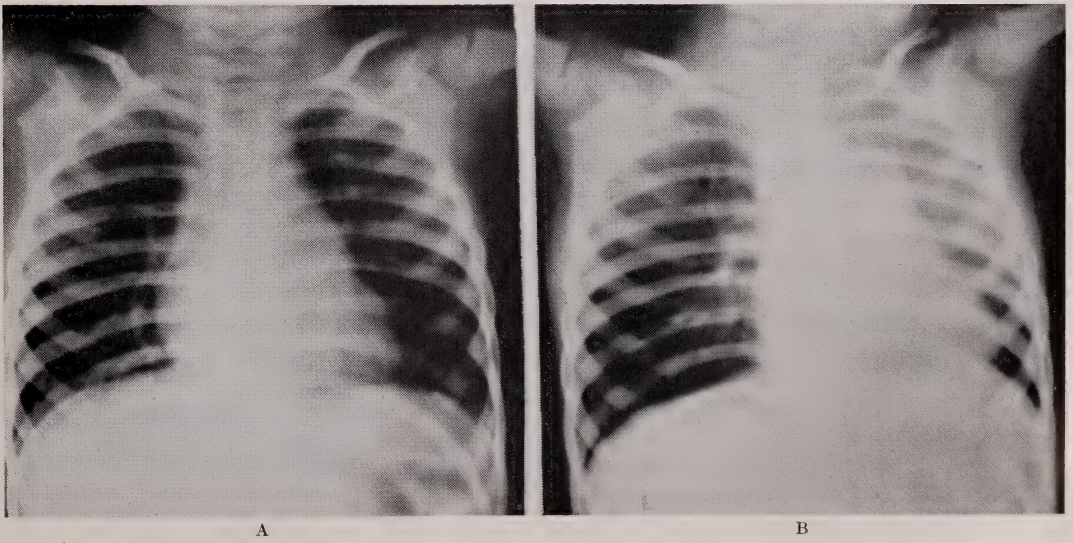

FIG. 1. *Case 1*—(A) Inspiration: normal lung fields. (B) Expiration: obstructive emphysema right lung and mediastinal shift to left. Glass bead in lower lobe bronchus.

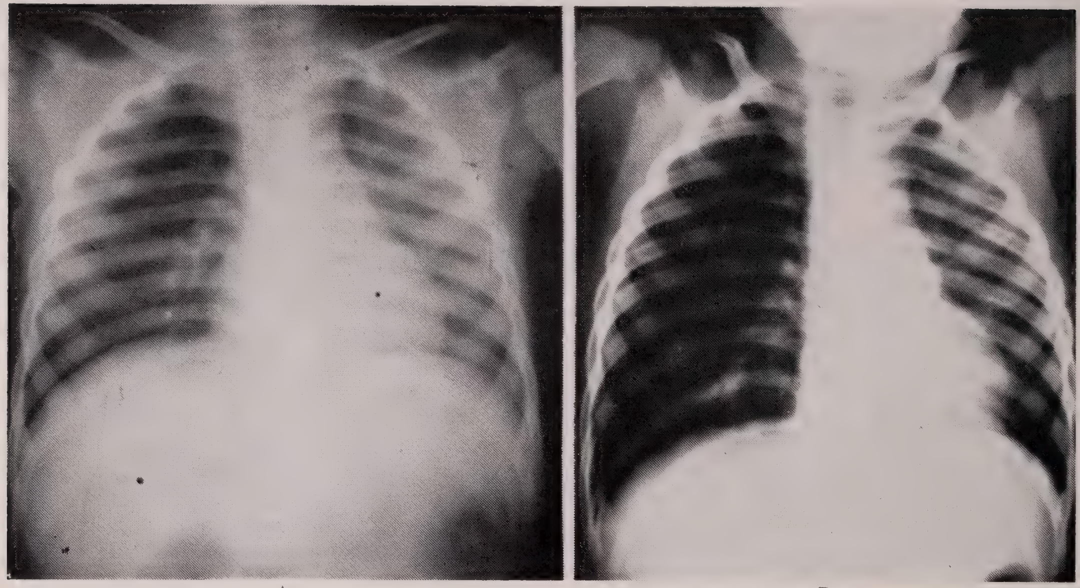

Fig. 2. *Case 2*—(A) Initial chest roentgenogram taken elsewhere, mistakenly interpreted as normal. Note hyperaerated right lung and slight mediastinal shift to left. (B) Roentgenogram taken ten days later shows markedly hyperaerated right lung and decided mediastinal shift to the left. Peanut in right main bronchus.

made. During the following three weeks the wheezing persisted, as did a harsh, nonproductive cough. The child became apathetic, weak, and developed an intermittent fever up to 101 F. Roentgen and fluoroscopic examination of the chest revealed marked hyperaeration of the right lung with decided mediastinal shift to the left (Fig. 2B). A review of the first roentgenogram taken elsewhere shows the same findings, although to a less marked degree.

Bronchoscopy was performed on May 15, 1952, and a peanut, which was still encased within its skin, was removed from the right main bronchus just below the carina. There was immediate disappearance of cough and wheeze, and the child was discharged two days later completely recovered.

The History

In an adult the history is most helpful and almost diagnostic in itself, but a negative history has no definite significance in excluding foreign body aspiration. There is usually a sudden attack of severe coughing, choking, and gagging while eating. In young children, however, the sudden onset of coughing and respiratory distress will not be associated with a food intake since most of the objects aspirated are picked up by the child and put into the mouth. The mother will usually state that the child was perfectly well until it suddenly began to cough and choke. In many instances these initial symptoms may subside and even disappear for a short period of time, producing what Jackson and Jackson have called the "symptomless interval."[2] Patients who have been reassured erroneously may carry a foreign body in their lung for a long period of time and, since a respiratory wheeze invariably results, are often treated as asthmatics. This wheeze is a prominent and important sign, particularly in children.[3] Nonopaque foreign bodies containing vegetable matter usually produce inflammatory reactions and are frequently completely masked; such patients are often misdiagnosed as "chronic pneumonias."

Physical Examination

It is understandable that the physical signs will be dependent on the location, size, shape, and nature of the foreign body. They may change rapidly from hour to hour or moment to moment. In fact, rapidly changing physical signs are very indicative of presence of foreign body in the respiratory tract.[4]

Inspection of the patient almost always shows a limitation of the expansion on the affected side,[5] even though the foreign body is of such a shape as to cause no bronchial obstruction. Respiration is rapid and shallow. Wheezing is usually heard and may be inspiratory, expiratory, or both. Cyanosis is only an accompaniment of a suddenly produced dyspnea and may be absent. Foreign body in the bronchus does not produce pain in itself.[6] A small foreign body may be aspirated and present no immediate physical findings until the onset of obstruction and infection. Depending on whether there is complete or partial obstruction of the bronchus by the foreign body, emphysema or atelectasis may result.

Emphysema of the affected segment of the lung ensues through a check valve mechanism in which the air bypasses the foreign body in inspiration but is blocked from exit in expiration. The emphysema may be localized to a segment of a lobe or an entire lobe, depending upon the size and location of the obstructing foreign body. A tympanitic quality on percussion, diminished breath sounds, and a shift of the heart and mediastinum will be found on physical examination.

Atelectasis of a segment or lobe results when the obstructing foreign body completely occludes the affected bronchus, preventing the air from entering or leaving the lung. Percussion will be impaired and flat; harsh and coarse rales will be heard, and the heart and mediastinum will be retracted on the affected side.

Roentgen Examination

It is imperative to obtain anteroposterior views in both inspiration and expiration. This is admittedly difficult in young children but can be obtained if the child is made to cry and one film taken at the end of the wail and another with the intake of a new breath. Lateral views of the chest may be taken in order to localize more easily the affected segment of the lung. Fluoroscopic examination is most helpful in observing the presence or absence of mediastinal shift in expiration and inspiration together with restricted motion of the diaphragm of the affected lung.

In obstructive emphysema the following roentgen signs are present at the end of a full inspiration: Unless inflation is marked, the affected lung either shows no abnormality or slightly increased transparency; the ribs are in their normal horizontal position with wide costal spaces, the mediastinum is in normal position, and the diaphragm is at its normal level. At the end of full expiration the affected area shows an increase in illumination, while that of the opposite, unaffected lung may show slight decrease from the normal. The most common error is the tendency to attribute disease to the normal, less radiant lung. The ribs over the affected area remain in their horizontal position with widened intercostal spaces; the mediastinum shifts away from the affected area; the diaphragm on the affected side is depressed and on the unaffected side is at the normal level. The degree of these signs depends on the size of the affected area and the length of the duration and degree of obstruction. The presence of an obstructive emphysema, even without a typical history in a young child, is sufficient to make a diagnosis of a bronchial foreign body.

The roentgen signs of atelectasis are the same whether the atelectasis is due to partial or complete obstruction of a bronchus, although they are usually more marked in the latter type. The lung distal to the point of obstruction shows a marked increase in density which is usually homogeneous in character. The mediastinum is displaced toward the affected side throughout both phases of respiration. The heart will be in the normal position only in those cases in which the lung fills with exudate, distal to the point of obstruction, forcing it to the midline.

The picture would then be that of consolidation or empyema, and differentiation from roentgen signs above is impossible. The diaphragm on the affected side is at a higher than normal level, and its motion is very limited. The ribs over the affected area remain in the expiratory position throughout respiration. A compensatory emphysema of the contralateral lung is nearly always present.

A small percentage of foreign bodies are unimpacted and move more or less freely from bronchus to trachea and back again. In these cases no marked abnormality is seen on roentgen examination, but a persevering roentgenoscopic study usually shows fleeting changes, as the foreign body temporarily lodges in one or the other of the bronchi, and may lead to the diagnosis. This type of foreign body is the most difficult of all to diagnose correctly.

The roentgen signs found after the foreign body has been present for a long time differ in no wise from those found in pulmonary abscess or bronchiectasis,

Differential Diagnosis

The conditions causing signs and symptoms which are most often confused with the signs and symptoms of a foreign body in the respiratory tract are bronchopneumonia, unresolved pneumonia, chronic bronchitis, asthma, common croup, pulmonary tuberculosis, and acute laryngotracheobronchitis. Roentgen examination should be made as early as possible in every case of suspected respiratory foreign body to confirm evidence received from the history and physical examination or to clear up doubtful findings; to study the size, shape, nature, and probable site of lodgment of the foreign body, thus shortening the bronchoscopy time; and, finally, to make a permanent record which may be studied repeatedly. The earlier the diagnosis and the removal of a respiratory tract foreign body, the better will be the prognosis.

Summary

Nonopaque foreign bodies in the lower respiratory tract are most often overlooked because of failure to consider them as a possibility, failure to make a thorough roentgenoscopic study, and because of improperly interpreted, poorly made roentgenograms.

The possibility of a nonopaque foreign body should always be borne in mind when examining children and infants for pulmonary disease.

Roentgen examination should be repeated in those cases where there is a positive history of the aspiration of a foreign body and the initial examination is negative.

The roentgen signs of obstructive emphysema and atelectasis have been described.

Two typical cases have been presented.

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Bronchoscopy in Cases 1 and 2 was performed by Dr. William J. Hicks, Middletown, New York.

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AMA Comment On Landess Decision

In Letter No. 316 of February 17, 1955, by Dr. George F. Lull, A.M.A. secretary, the following statement was included in the discussion of the opinion of the Judicial Council in the case of Dr. Ben E. Landess: "The whole case revolved around the claim that Dr. Landess was unethical because his name appeared in HIP advertising."

This statement is not a correct interpretation of the basic point involved in the Landess case. The question before the Judicial Council was whether Dr. Landess violated the principle of medical ethics pertaining to solicitation of patients by advertising.

In resolving this question, the Judicial Council stated in part:

"Since on the record before us HIP is organized and operates in accordance with law and may lawfully advertise, and since Dr. Landess had nothing to do with the preparation or distribution of the advertising, it is our opinion contrary to that of the state and county medical societies that the conduct of Dr. Landess does not violate the ethic relating to solicitation and advertising. . . .

"We do not mean to imply by our decision in this appeal that a physician can ethically associate himself with an organization which is either unlawful or one which indulges in improper or unethical advertising, nor absolve himself from appropriate disciplinary action by complacence of indifference."

Phenyltoloxamine—Dosage, Toxicity, and Clinical Application

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THE experience of administration of phenyltoloxamine, N, N-Dimethyl-2-(a-phenyl-o-toloxy)-ethylamine (Bristamin, Bristol), to 2,380 patients is reported in this paper. Of the total, 2,327 patients received phenyltoloxamine as part of a controlled research program investigating the possible therapeutic effect of this antihistamine in nonspecific upper respiratory infections[1] and the use of this antihistamine in conjunction with oral penicillin.[2] These 2,327 patients are included in this paper because of the data gained with reference to toxic reactions following its administration. Fifty-three patients with specific allergic disorders of the upper respiratory tract were treated with phenyltoloxamine.

Materials and Methods

The phenyltoloxamine dihydrogen citrate used in these observations was for several research purposes and was combined in many instances with other agents. The combinations are presented in Table I.

TABLE I.—PHENYLTOLOXAMINE DIHYDROGEN CITRATE AND COMBINATIONS USED IN RESEARCH IN 2,380 CASES

Type of Preparation	Unit Ingredients (Mg.)	Phenyltoloxamine 24-Hour Intake (Mg.)	Number of Cases
Phenyltoloxamine alone	25	100	20
		200	33
Phenyltoloxamine with	25	200	941
Acetylsalicylic acid	160		
Phenacetin	128		
Caffeine	32		
Phenyltoloxamine with	25	200	135
Salicylamide	320		
Phenyltoloxamine with	25	200	995
Potassium penicillin G	60		
Acetylsalicylic acid	160		
Phenacetin	128		
Caffeine	32		
Phenyltoloxamine with	25	200	91
Potassium penicillin G	60		
Salicylamide	320		
Phenyltoloxamine with	25	100	74
Potassium penicillin G	120	200	3
		300	5
Phenyltoloxamine with	50	200	76
Potassium penicillin G	120	400	3
		600	4

Phenyltoloxamine dihydrogen citrate was used alone in this project for the treatment of allergic nasopharyngitis. Most of the patients in this group had had one or more seasonal episodes of allergic rhinitis, and several had undergone specific allergy investigations. All patients seen with allergic manifestations had received previous antihistamine therapy. The patients in this category were divided into two consecutive groups for therapy. The first group of 20 patients was given phenyltoloxamine dihydrogen citrate in divided doses of 25 mg. four times per day for a total of 100 mg. in twenty-four hours. The second group of 33 patients was given phenyltoloxamine dihydrogen citrate in divided doses of 50 mg. four times per day for a total of 200 mg. in twenty-four hours.

The second phase of this research was designed primarily as a controlled experiment to determine the therapeutic effect of penicillin and antihistamines on nonspecific respiratory infections in contrast to acetylsalicylic acid compound. These latter experiments, which have been reported elsewhere,[1] failed to demonstrate any beneficial effects from the administration of phenyltoloxamine or oral penicillin to patients with nonspecific upper respiratory infections. In 1,496 cases receiving oral penicillin, only six side reactions occurred.[2] From a statistical point of view it is impossible to determine the protective value of phenyltoloxamine against penicillin reactions because of the paucity of reactions following oral penicillin therapy.

Toxicity

The administration of compounds containing phenyltoloxamine to a large group of patients served a dual purpose. As far as can be determined, there is no interaction between the various

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TABLE II.—SIDE REACTIONS

Phenyltoloxamine 24-Hour Intake (Mg.)	Number of Cases	Number of Reactions
100	94	0
200	2,274	1
300	5	1
400	3	0
600	4	1
TOTAL	2,380	3

chemicals used together in these experiments. With this fact in mind, it can be assumed that the lack of side-effects from a group of agents given simultaneously can be projected to each individual chemical involved.

Five cases of side reactions were observed in the entire group of 2,380 patients. Two of the side reactions were cases of urticaria attributable to penicillin. It is of considerable interest to note that the cases of urticaria subsequent to penicillin therapy developed in patients who were receiving 200 and 400 mg. of phenyltoloxamine dihydrogen citrate in divided doses every twenty-four hours. In our opinion it is extremely difficult to interpret the value of an antihistamine as a preventive of penicillin reactions. In the two cases of penicillin reaction in this series the symptoms developed ten and fifteen days, respectively, after combined penicillin-antihistamine therapy was stopped. After such a long time interval a measurable level of antihistamine would not be found in these patients and obviously, therefore, would not be available to act in the existing physiologic pathology.

The remaining three cases of side reaction (0.1 per cent) were manifested as a mild soporific state after 200, 300, and 600 mg. of phenyltoloxamine, respectively (Table II). The soporific state did not warrant the discontinuation of the drug. These three patients continued to receive 50, 75, and 150 mg. every six hours for a period of seventy-two hours. At the end of the research project considerable adaptation had apparently developed in that the sedation effect had become subjectively less severe.

Clinical Application

In the early stages of the application of phenyltoloxamine to allergic problems it was administered orally in divided doses of 25 mg. Of the first 20 patients receiving this amount of the drug, only two or 10 per cent of the patients had moderate relief from allergic symptoms. Following this early experience 33 patients were treated with 50 mg. of phenyltoloxamine four times per day. On this dosage 30 patients or 90 per cent experienced effective control of symptoms. Three patients failed to have satisfactory relief of symptoms. It is noteworthy that these latter patients gave a history of having only mediocre relief from several other accepted antihistamines.

Comment

Phenyltoloxamine had its origin in the basic investigations of Ungar and coworkers[3] who reported in 1937 that certain phenolic ethers were effective antagonists of histamine. From the original observations several known antihistamines, such as diphenhydramine and tripelennamine, have been developed. While experimenting with these phenolic ethers, Cheney and coworkers[4] developed a potent antihistamine, 2-benzylphenyl-beta-dimethylaminoethyl ether, which was given the generic name, phenyltoloxamine. The pharmacologic properties of this substance were studied and reported by Hoekstra and coworkers.[5] By in vitro and in vivo experiments these workers were able to establish the antihistamine nature of this chemical. It was further established by these workers that the toxic dose of phenyltoloxamine far exceeded the effective antihistamine dose. Rats in their laboratory were given up to 680 mg. per Kg. without manifest effect.

Seyler and Simon[6] studied the clinical application of phenyltoloxamine and reported it to be an effective antihistamine and one which was comparable to other available antihistamines.

Summary and Conclusions

1. A total of 2,380 patients were given phenyltoloxamine, either alone or in combination with other chemicals, in divided doses from 100 to 600 mg. every twenty-four hours.

2. Three patients developed moderate soporific effect following doses of 200, 300, and 600 mg., respectively (0.1 per cent). The soporific effect did not necessitate discontinuance of the medication.

3. Twenty patients with seasonal allergic rhinitis were treated with 25 mg. of phenyltoloxamine four times per day. On this dosage two patients or 10 per cent had relief from symptoms.

4. Thirty-three patients with seasonal allergic rhinitis were treated with 50 mg. of phenyltoloxamine four times per day. On this dosage 30 patients or 90 per cent had relief from symptoms.

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Hernia as a Cause of Colic in Infancy

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THE term colic denotes a symptom caused by paroxysmal abdominal pain. There have been many reasons enumerated for colic, and the condition occurs so frequently that at times it has been used loosely as a disease entity per se. Among the usual causes of colic[1,2] have been mentioned underfeeding and overfeeding, air swallowing with failure to eructate, allergy to milk or food, acute indigestion with flatulence, raw cow's milk permitting the formation of tough indigestible curds, foods with high carbohydrate content causing excessive intestinal fermentation, constipation, round worms, poisons such as lead, psychiatric factors, and, last but by no means least, some intra-abdominal lesion.

In describing the organic causes[3] appendicitis, intussusception, and volvulus are invariably mentioned, but interestingly enough, inguinal hernia is rarely if ever listed as an etiologic factor.

The purpose of this article is to report 11 cases of "colicky" infants who had inguinal hernias and whose symptoms subsided completely following herniorrhaphy. "Idiopathic colic" and "unexplained crying in babies"[4] are obviously undesirable terms, and efforts should be made constantly to reduce them to a minimum.

Several illustrative cases reveal how important it is to give credence to a mother's observation as well as one's own.

CASE 1.—B. G., a four-week-old infant, had been called a "colicky" baby because of intermittent severe episodes of screaming accompanied by the usual picture of colic—facies contorted with pain, abdomen tense and distended, legs and thighs flexed upon the abdomen, arms flexed and adducted with clenched hands. Formula changes and the usual remedial measures including heat, enemas, and phenobarbital had provided no relief. The baby's mother volunteered the information that during one or two of these episodes she saw a lump in the right inguinal region, although at the time of medical examinations on several occasions there was nothing positive to be seen. One of us (H.S.) saw the child at approximately four weeks of age during an attack of "colic" and found an incarcerated hernia for which immediate operation was advised. Following herniorrhaphy there was no recurrence of colic, and the mother has stated that it's almost as if she had a different baby.

CASE 2.—K. K., now ten months old, had a history of colic in early infancy which did not respond to changes in formula, heat, phenobarbital, enemas, or a pacifier. When seen by us, a small inguinal hernia was found. The parents were advised to have this repaired, and since operation the infant's complaints have stopped. The mother volunteered the information that the baby's general behavior has become tranquil, and he no longer has the anguished cry of pain that she used to dread.

CASE 3.—M. R., now ten months old, had a severe eczema and paroxysmal abdominal pain in early infancy. The eczema cleared after a soybean milk was substituted for cow's milk and offending solid foods were removed. However, the mother stated the colicky attacks proceeded unabated, and, if anything, were even more severe. She also stated that at times she saw a lump in his groin on the right side during an attack of colic. An inguinal hernia which was seen shortly after birth had become progressively larger. It was felt that frequent incarcerations were responsible for his periodic pain rather than a gastrointestinal allergy inasmuch as the baby's stools were normal and no stool eosinophilia was present at any time. Since operation there have been no recurrences of the abdominal discomfort.

Case 4.—A. M.'s mother had been advised to apply a wool yarn truss shortly after birth because of an inguinal hernia. This baby also had a history of colic beginning at about two weeks of age which did not respond to the usual remedial measures. When seen by us, operation was advised immediately because of the extremely large size of the hernia. About this time he developed a severe respiratory infection, and the operation shortly thereafter had to be performed as a semiemergency because of several severe bouts of incarceration accompanied by paroxysmal abdominal pain. Following operation all symptoms subsided.

Case 5.—B. F., two months old, had been considered a "gassy" and "colicky" baby who did not respond to the usual measures employed. In view of the presence of an inguinal hernia and the possible relationship to his symptoms, the parents were advised to have the hernia repaired before leaving for the summer vacation. They preferred to wait and shortly thereafter had to rush back to the city because of obvious incarceration. The baby has been fine since his herniorrhaphy with no further complaints attributable to "colic."

The remaining six cases in our series all followed a similar pattern.

Comment

One frequently hears the expression, "don't let boy babies cry a great deal because they'll develop a hernia." Actually, we have learned that the converse is true. In our series the babies cried a great deal because they already had a hernia and were being subjected to repeated attacks of incarceration. When the cause was corrected, the symptoms disappeared.

Of course, it is quite possible that the colicky attacks of these infants were not caused by their hernias but were merely coincidental. However, vomiting was noticed to accompany the pain on a few occasions, and some mothers in retrospect appeared to feel quite strongly that the hernias were incarcerated during the attacks of screaming when the explanation of incarceration was given them. Furthermore, the fact that the symptoms subsided completely following operation and did not recur is added evidence that the "colic" was due to repeated attacks of incarceration rather than to the usual functional causes.

It is important that every physician be alerted to the possibility of inguinal hernia as an organic cause of colic since this condition is by far a more frequent cause than either appendicitis or intussusception. As has been mentioned, the colic is caused by repeated bouts of incarceration, and the pain is relieved as the hernia reduces itself spontaneously. A lasting cure results with the surgical repair of the hernia.

In addition, it is equally important to realize that a mother's observation regarding a lump in the groin when the infant is screaming should be given due weight and respect, even though at the time of examination one finds only a relaxed inguinal ring. Contrary to what many physicians think, parents are excellent observers, and their remarks should not be dismissed with a patronizing attitude. One should remember, too, that one or two negative examinations for a hernia in a colicky baby does not automatically rule out this condition, and the mother should always be alerted to the possibility of its presence. It is the incarceration obviously and not the mere presence of the hernia which causes the excruciating pain, and a mass in the groin plus a screaming infant call for immediate attention.

Colic ordinarily occurs in the very young infant, and incarceration of hernias occurs with the greatest frequency in early infancy, decreasing as the baby grows older.[5] Appendicitis and intussusception, on the other hand, are most uncommon in young babies, and the incidence of the latter begins to increase after the first half year of life, at which time colic is uncommon.

Although what we are stating may seem obvious, it is pertinent as well as interesting to note that textbooks have failed to mention it, and the literature is equally devoid of articles associating hernia with colic in infancy.

It is relevant to point out the fact that the mortality from surgical correction of inguinal hernias is negligible, and the morbidity is slight. All the babies in this series of cases left the hospital on the day following operation and received 300,000 units of penicillin intramuscularly daily at home for three or four days. They were examined at home daily and at the office before final discharge. By sending the infant home on the day after operation, psychologic trauma to the parent (and possibly to the baby) was minimized, if not eliminated completely, and cross infection was avoided. Furthermore, mothers gave excellent continuous nursing care which might not have been possible during all times of the year at a very busy hospital. The postoperative course in every case was uneventful, and all wounds healed perfectly.

Summary and Conclusions

1. The term colic denotes a symptom caused by paroxysmal abdominal pain. Many reasons for colic have been cited, both functional and organic.

2. Among the organic causes appendicitis and intussusception are invariably mentioned, whereas inguinal hernia is almost never listed as an etiologic factor.

3. Eleven cases are reported which illustrate that inguinal hernia may cause colic in infants. The colic was produced by repeated bouts of incarceration, and the symptoms in every case ceased and did not recur following surgical repair of the hernia.

4. In investigating the cause of colic in infants, inguinal hernia should always be borne in mind. When present, the hernia should be repaired surgically since the attacks of colic may be due to periodic incarceration.

5. One should not be satisfied with one or two negative examinations for hernia in colicky babies. Mothers should be alerted to the possibility of this condition as a cause of colic, and their observations should be respected since they are generally excellent observers.

6. In enumerating the causes of colic in infants more emphasis should be given to inguinal hernia as an organic cause since this condition is far more common in early infancy than is either appendicitis or intussusception. Furthermore, inguinal hernias become incarcerated much more frequently in early infancy, at which time the incidence of "idiopathic colic" and "unexplained crying" in babies is highest.

7. The morbidity and mortality resulting from surgical repair of inguinal hernias in infancy is minimal. All of our cases left the hospital on the day following operation, and the course was uneventful in each instance.

8. By constantly isolating and correcting definite causes for colic in infancy, it is hoped that the term "idiopathic" will be lowered to an irreducible minimum.

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Heavy Coffee Drinking Probably Not Harmful

Drinking 20 to 30 cups of coffee a day probably wouldn't hurt you—unless you were not completely healthy to begin with.

Two consultants gave this opinion in answer to a query from a Connecticut physician in the March 19 issue of the *Journal of the American Medical Association.*

One consultant said caffeine in coffee may cause nervousness, tremor, flashes of light or hearing difficulty, insomnia, headaches, and a variety of other minor difficulties. But these "ordinarily are not serious and disappear promptly if the use of coffee is stopped." In persons with organic disease such as heart, nerve, or intestinal disorders, he said the effect could be harmful and the excessive use of coffee should be avoided.

The second consultant said caffeine and other substances in coffee certainly could be harmful to a peptic ulcer patient, and may cause some heart-circulation difficulties and even loss of weight (from increases in work output under the influence of caffeine). But he said anyone who has to ask his physician whether 20 or 30 cups of coffee are hurting him must not be experiencing any ill-effects.

Artificial Fever to Aid Penicillin in Chronic Sinusitis and Chronic Otitis Media

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PENICILLIN was introduced to the medical profession about a decade ago with strictly defined limitations to its field of usefulness. These limits confined its use to acute infections caused by most gram-positive and some gram-negative bacteria. Adherence to these limits produced an extraordinarily large percentage of dramatic, seemingly miraculous cures. This great, beneficial effect of penicillin, together with its apparent harmlessness, quickly built up the attitude in many physicians' minds that a patient could lose nothing and gain much from treatment with penicillin, and it began to be used more and more in infections without regard to their bacterial causes, locations, or acute or chronic status. Today, it is the drug of first choice in most infections, and it is probably the most widely used drug in the physician's pharmacopoeia.

The spreading use of penicillin brought out an increasing number of cases in which it was ineffective. When these cases were analyzed, it was found that some of them were caused by bacteria that had never been expected to be influenced by penicillin. Other cases were those in which the infection had become localized, with necrosis and pus formation, as in appendicitis. Another group of cases were those in which the infection was confined to a closed cavity as in empyema. Still another group was composed of cases in which the infection was surrounded by a dense, impenetrable wall, like chronic osteomyelitis. Another, and very large, group comprised cases where bacteria that had been previously amenable to penicillin developed resistance to it. This experience of physicians, in general, was paralleled by that of otolaryngologists in the treatment of otitis media and sinusitis where the failures could be attributed to a combination of these causes.

A survey of cases that were treated successfully with penicillin impressed me with the fact that in these cases not only were the bacteria penicillin sensitive and the infection fluid, i.e., not localized, but there was also fever present. In fact, it seemed that the higher the fever, the more striking the recovery. In cases of chronic sinusitis and otitis media there is no fever except in acute exacerbations, and in many cases the germs are penicillin resistant. I felt that if fever could be developed in these cases, penicillin would have more effect. Having in mind the beneficial effect of antityphoid vaccine in certain chronic eye infections, I felt that the same beneficial effect might be obtained by the use of antityphoid vaccine in combination with penicillin in cases of chronic sinusitis and otitis media. The benefit would result from two factors: (1) the antibiotic action of penicillin in the presence of fever and (2) the phagocytic action created by the protein in the antityphoid vaccine.

Material and Method

With this end in view I began the treatment of five cases of chronic sinusitis, five cases of subacute otitis media, and 19 cases of chronic otitis media; all patients were males. Triple typhoid vaccine was injected intravenously to create a febrile reaction, and penicillin was injected intramuscularly for the duration of the fever. Since there was no precedent for the use of triple typhoid vaccine in otorhinology, I followed, in the main, the practice among ophthalmologists of starting with a small dose, usually 7,500,000 bacteria, and increasing gradually in subsequent doses.

The first dose produced a severe febrile reaction that made it necessary usually to put the patient to bed. Subsequent, larger doses produced milder reactions, some hardly noticeable. There being no precedent for spacing the doses, they were spaced empirically, in the expectation that experience would chart a course for further treatment. The vaccine injections were usually given in the afternoon and were followed immediately by a single injection of 300,000 units of penicillin. The next day two doses of penicillin were given. If fever was present the third day, two more doses of penicillin were given.

Market preparations of antityphoid vaccine contain 1,500,000,000 bacteria per cc. It was diluted as follows to facilitate giving small doses:

0.1 cc. of the stock vaccine was withdrawn in a tuberculin syringe and mixed with 2 cc. sterile, distilled water; 0.1 cc. of this contained 7,500,000 bacteria, the first dose.

Besides the injections the patients were required to lavage the nose twice daily with warm normal saline solution, by sniffing it from the palm of the hand or using it in an irrigator bottle or the return flow syringe that I have described elsewhere.[1]

Results

Chronic Sinusitis.—Analysis of the five cases of chronic sinusitis listed in Table I shows that all five cases had lasted many years; all showed large amounts of pus in the nose; four had penicillin-resistant bacteria; all had received penicillin treatment in the past. In all cases the first vaccine injection produced the severest reaction and the greatest relief of symptoms. Two cases cleared up after one dose, two after two doses, and one required three doses. There was no failure. A symptom that is not listed in the table but which was present in all cases and can be called almost pathognomonic of chronic sinusitis infections was a dull, depressed, lethargic feeling. This was dissipated and replaced by alertness and a sense of well-being.

The following is a brief abstract of one case of chronic nasal sinusitis.

Case 1.—A male, age twenty-one, had had since childhood almost continuous purulent nasal discharge and frequent, long-lasting, dull, frontal and retro-ocular headaches. He had received a few penicillin injections. Tonsils and adenoids were removed at five years. Examination showed much pus in both sides of nose. Culture showed hemolytic Streptococcus albus, penicillin resistant. On December 19 he was given 7,500,000 antityphoid bacteria intravenously and 300,000 units penicillin intramuscularly. Temperature rose to 105.6 F. that day, 102.2 F. the next day, 100.2 F. the third day, and 99.6 F. the fourth day. He was given two doses of penicillin the second, third, and fourth days, a total of 2,100,000 units. Pus was scantier and thinner on the second day and was gone on December 27, eight days after start of treatment. Headaches were gone, and the patient felt better than he had in years.

Subacute Otitis Media.—The otitis media cases are listed in Table II. Results in the subacute cases were equally gratifying. All had received previous penicillin treatment, especially

TABLE I.—Chronic Sinusitis Cases

							Vaccine			Penicillin		
Case	Age	Duration	Symptoms	Operations	Previous Penicillin	Bacteria	Date	Million Bacteria	Febrile Reaction	Number of Doses	Million Units	Result
1	21	From childhood	Much purulent nasal discharge; many protracted frontal and retro-ocular headaches	Tonsils and adenoids removed at 5	Few doses	Hemolytic Str. albus*	Dec. 19	7.5	Severe, 105.6 F.	7	2.1	Pus, headache less second day; gone in 6 days; felt fine.
2	23	Many years	Much nasal pus; frontal and retro-ocular headaches; incomplete septal resection; synechiae	Tonsils and adenoids removed at 6; septal resection at 22; severed synechiae; revised septum	20 doses in past 5 years	Staph. aureus*	Aug. 23 25	7.5 7.5	105.2 F. 101 F.	6	1.8	Pus and headaches gone second day; felt fine.
3	21	Several years	Many frontal headaches; pus in nose; marked septal deflection	Tonsils and adenoids removed in childhood; septectomy now	Many doses	Staph. albus*	Dec. 1 7	7.5 15.0	104.9 F. 101 F.	14	4.2	Dec. 11 pus and headache gone.
4	22	Many years	Severe deep headaches; much pus in nose	......	6 doses in 3 years	Staph. aureus; beta Str. hemolyticus*	Dec. 7 13 20	7.5 7.5 15.0	104.2 F. 100.6 F. 101 F.	15	4.5	Dec. 23 pus and headaches gone; felt fine.
5	24	From childhood	Frequent colds; septal deflection; much pus	......	10 doses in 4 years	Corynebacterium species, nondiphtheria	Dec. 19	7.5	104.6 F.	5	1.5	Dec. 27 pus gone; felt fine.

* Penicillin resistant.

Case 10, which developed after a fracture of the base of the skull. All seemed at a standstill when they were first seen. Case 6 cleared up in six days after one dose, Case 7 in five days after one dose, Case 8 in twelve days after three doses, and Case 9 in eight days after one dose. Case 10 took six weeks and seven doses of vaccine, probably because the mastoid cells were infected after the skull fracture.

Uncomplicated Chronic Otitis Media.—Nine cases of uncomplicated chronic otitis media that had lasted from five months to thirty years are given in Table II. It has been known since the days of Politzer and his contemporary investigators that pus is present in the mastoid cells of all cases of chronic otitis media. This, in fact, is true even of acute otitis media cases. However, if the infection does not attack the bone and produce symptoms of mastoiditis, these cases are regarded as chronic otitis media and are so described. However, the fact that the infection is locked up in the bony cells of the mastoid brings them into the group of cases, mentioned in the introductory part of this article, which are less amenable to the action of penicillin because of that fact. Hence, the results are encouraging and gratifying. Of the nine cases all showed marked reduction in the amount of pus after the first vaccine injection. In seven cases the ears became dry. In four of these cases the perforations closed. Four of the nine cases left observation before their final condition could be evaluated, but all were improved, and three of them had dry ears. In two cases the treatment with penicillin had to be discontinued on account of severe skin rashes.

It must be noted that all otitis cases received local treatment in the form of irrigations with warm boric acid or saline solution twice daily.

Chronic Otitis Media Complicated by Mastoiditis.—These eight cases were the least amenable to treatment and can be put in the class mentioned in the introduction as being unaffected by penicillin on account of osteomyelitis (Table II). All had had previous penicillin therapy without effect. One case (23) had a few doses, but they had to be discontinued on account of rashes that developed. Three cases had had mastoidectomies previously (Case 21 had had two simple and one radical). Four mastoidectomies had to be done, even with the vaccine-penicillin therapy, illustrating the rule that antibiotics are not substitutes for surgery when it is

TABLE II.—Otitis Media Cases

Case	Age	Duration	Symptoms	Previous Penicillin	Bacteria	Vaccine—Date	Vaccine—Million Bacteria	Febrile Reaction	Penicillin—Number of Doses	Penicillin—Million Units	Results (Including Operations)
					SUBACUTE						
6	18	23 days	Both ears, profuse discharge	Many doses	Ps. aeruginosa	Sept. 23	7.5	Strong	2	0.6	Ears dry, perforations closed in 6 days
7	18	21 days	Both ears, profuse discharge	5 doses	A. aerogenes, Staph. albus	Dec. 6	7.5	Strong	3	0.9	Dec. 8 ears dry. Dec. 11 perforation closed.
8	19	14 days	Right ear, profuse discharge	4 doses	Staph. albus	July 19	7.5	Strong	1	0.3	July 31 ear dry, perforation closed.
						20	7.5				
						24	10.0	Weak	1	0.3	
9	21	21 days	Both ears, profuse discharge	3 doses	Staph. aureus	Nov. 28	7.5	Strong	2	0.6	Dec. 6 ears dry, perforation closed.
10	23	30 days	Fracture base of skull, profuse discharge right ear	Many doses	Staph. albus	Aug. 18	7.5	Strong	2	0.6	Oct. 4 ear dry; discharged from hospital well.
						21	15.0	Very weak	2	0.6	
						23	15.0	Very weak	2	0.6	
						25	15.0	Very weak	2	0.6	
						29	22.5	Very weak	2	0.6	
						Sept. 18	15.0	Moderate	2	0.6	
						29	7.5	Mild	2	0.6	

TABLE II.—*Continued*

Case	Age	Duration	Symptoms	Previous Penicillin	Bacteria	Vaccine		Febrile Reaction	Penicillin		Results (Including Operations)
						Date	Million Bacteria		Number of Doses	Million Units	
					CHRONIC, UNCOMPLICATED						
11	18	From childhood	Many attacks, this one 6 weeks; profuse purulent discharge both ears	Several doses	A. aerogenes, Ps. aeruginosa	Nov. 9	7.5	Very strong	3	0.9	Nov. 13 and 14 ears dry. Left observation.
12	22	Many years	Bilateral profuse purulent discharge	Many doses	Ps. aeruginosa	Dec. 15	7.5	Severe	7	2.1	Pus much less. Less reduction after second dose. Left observation.
						19	15.0	Mild	4	1.2	
13	17	5 months	Very profuse discharge on right; all drum gone, malleus visible	Few doses	Ps. aeruginosa, slight sensitivity to penicillin	July 20	7.5	Very severe	7	2.1	July 23 pus all gone; drum membrane seemed growing. Aug. 4 severe penicillin rash; no more pus; vaccine continued to spur growth of membrane. Aug. 23 only 1/8 inch opening. Left observation.
						27	7.5	Mild	7	2.1	
						31	10.0	Very mild	7	2.1	
						Aug. 3	15.0	Not noticeable	2	0.6	
						7	20.0	Mild			
						9	20.0	Mild			
						11	15.0	Moderate			
						14	15.0	Moderate			
						23	30.0	Severe			
14	20	7 months	Profuse purulent discharge left ear; small perforation back of malleus	Many doses	Ps. aeruginosa, A. aerogenes, Neisseria penicillin resistant	July 10	7.5	Severe	1	0.3	July 14 ear dry. July 18 and 19 ear dry. July 25 perforation closed.
						11	10.0	Moderate	1	0.3	
						12	10.0	Moderate	1	0.3	
						18	5.0	Moderate	1	0.3	
						19	7.5	Moderate	1	0.3	
						20	7.5	Moderate	1	0.3	
15	19	5 years childhood; 4 years now	Right ear: minute perforation behind malleus tip; profuse purulent thin discharge	Many doses	Staph. albus	July 31	7.5	Moderate	2	0.6	Aug. 1 ear dry till Aug. 17 when cold caused discharge. Aug. 21, 23, 25 ear dry. Sept. 6 perforation closed.
						Aug. 3	10.0	Mild	2	0.6	
						7	15.0	Mild	2	0.6	
						9	20.0	Mild	2	0.6	
						11	30.0	Mild	2	0.6	
						18	30.0	Mild	2	0.6	
						21	45.0	Mild	2	0.6	
						23	45.0	Mild	2	0.6	
						25	45.0	Mild	2	0.6	
						29	45.0	Mild	2	0.6	
16	21	2 to 3 years	Acute attack Aug. 29; myringotomy right ear Sept. 8	None	Staph. albus	Sept. 8	7.5	Severe	2	0.6	Sept. 11 dry. Sept. 13 slight discharge. Sept. 22 dry, perforation closed.
						13	10.0	Mild	2	0.6	
17	18	7 years	Profuse discharge left ear; large perforation, polyps	Few doses	Ps. aeruginosa	Sept. 8	7.5	Severe	4	1.2	Sept. 19 less pus; severe penicillin eruption; treatment discontinued.
						18	7.5	Moderate	4	1.2	

TABLE II.—*Continued*

Case	Age	Duration	Symptoms	Previous Penicillin	Bacteria	Vaccine		Febrile Reaction	Penicillin		Results (Including Operations)
						Date	Million Bacteria		Number of Doses	Million Units	
18	35	From childhood	Right drum, malleus gone; profuse thin purulent discharge	Many doses	Str. hemolyticus	Aug. 1	10.0	Severe	4	1.2	Aug. 10 ear dry. Aug. 15 cold; pus reappeared. Aug. 21 pus gone; treatment continued to stimulate growth of membrane. Sept. 12 ear still dry, slight growth of membrane. Left observation.
						3	15.0	Hardly noticeable after other injections	4	1.2	
						7	30.0		4	1.2	
						9	30.0		4	1.2	
						11	30.0		4	1.2	
						14	30.0		4	1.2	
						18	30.0		4	1.2	
						23	30.0		4	1.2	
						25	30.0		4	1.2	
						29	30.0		4	1.2	
19	22	Many years	Right ear, perforation in posterior inferior quadrant, large polyp, profuse discharge	Many doses	Str. albus	Sept. 29	7.5	Severe	2	0.6	Oct. 3 less pus. Oct. 4 less pus, polyp smaller. Oct. 5 no polyp, perforation closed. Oct. 10 perforation closed.
CHRONIC, COMPLICATED BY MASTOIDITIS											
20	17	From childhood	Right ear, acute mastoiditis, perforation, polyp, profuse thin discharge	Many doses	Ps. aeruginosa, Staph. albus	July 20	7.5	Severe	20	6.0	May 25 simple mastoidectomy Discharge continued; gone after first dose of vaccine. Perforation remained. Oct. 23 mastoiditis recurred; simple mastoidectomy performed; wound healed, discharge persisted. Dec. 13 ear dry, perforation remained. Dec. 19 ear dry, left observation.
						21	10.0	Very mild			
						24	15.0	Mild			
						27	22.5	Mild			
						Dec. 5	15.0	Severe	7	2.1	
						11	15.0	Moderate	5	1.5	
						13	30.0	Moderate	7	2.1	
						19	45.0	Mild	7	2.1	
21	22	From childhood	Right ear, history of 2 simple, 1 radical mastoidectomies; much pus, large polyp	Many doses	Escherichia species	Sept. 8	7.5	Severe	2	0.6	Sept. 6 snared polyp. Sept. 12 and 28 ear dry.
22	25	20 years	Painful, red swelling, $1^1/_2$ inches diameter, back of both ears; drums intact, never ran; much purulent discharge from eustachian tubes	Many doses	......	Oct. 10	7.5	Severe	7	2.1	Redness and swelling began to recede after first dose. Ecah reaction reduced size; only $^3/_4$ inch in size at end of treatment. Left observation.
						20	15.0	Moderate	7	2.1	
						Nov. 1	15.0	Moderate	7	2.1	
						13	15.0	Moderate	7	2.1	
						20	22.5	Moderate	7	2.1	
						Dec. 5	30.0	Moderate	7	2.1	

23	26	3 years	Mastoidectomy 2½ years ago; small perforation, much pus	Few doses, all caused rashes	Hemolytic Staph. aureus, B. subtilis penicillin resistant	July 25 27	3.75 7.5	Severe Mild	2	0.6	Several more vaccine injections given but penicillin had to be stopped because of rash. Vaccine alone had no influence on disease and mastoidectomy had to be done; discharge then stopped and perforation closed.
24	23	From childhood	Left ear, profuse discharge, large perforation	Very many doses	Ps. aeruginosa	Nov. 16 27 Dec. 5 18 19	7.5 7.5 15.0 15.0 30.0	Severe Mild Mild Mild Slight	7 7 7 2 7	2.1 2.1 2.1 0.6 2.1	Nov. 21 ear dry. Nov. 27 caught cold, discharge recurred. Ear continued running and mastoidectomy had to be done.
25	20	Many years	Right ear, profuse discharge, acute mastoiditis Oct. 13	Many doses	Staph. albus	Nov. 27 Dec. 4 11 18	7.5 15.0 30.0 30.0	Mild None None None	7 7 7 2	2.1 2.1 2.1 0.6	Myringotomy done; no relief. Oct. 16 mastoidectomy; wound healed; discharge continued. Injections had no effect on discharge and were discontinued.
26	35	Many years	Left ear, pain, profuse discharge, perforation upper posterior quadrant	Many doses	Corynebacterium species	Nov. 20 22 Dec. 18	7.5 15.0 15.0	Strong None Mild	2 7 2	0.6 2.1 0.6	Nov. 21 ear dry. Nov. 22 profuse discharge. Dec. 8 unabated; mastoidectomy. Dec. 19 wound healed, ear dry, perforation closed.
27	21	Several years	Left drum perforated, foul blue discharge. Local treatment from June 13 to July 10 no effect; mastoid tenderness developed	8 doses, 3.2 million units	Ps. aeruginosa	July 10 12	5.0 10.0	Severe Mild	2 2	0.6 0.6	July 12 scant discharge. July 13 ear dry. July 17 perforation closed.
CHRONIC, COMPLICATED BY SKULL FRACTURE AND MASTOIDITIS											
28	18	6 months	Fracture base of skull 6 months ago; bleeding from right ear. Mastoiditis; mastoidectomy performed; pus continued. Mastoiditis recurred	Many doses; 6 million units	Staph. albus	Dec. 11 14 19	7.5 7.5 15.0	Severe Moderate Mild	5 7 7	1.5 2.1 2.1	Sept. 27 second mastoidectomy. Oct. 17 wound healed, ear running. Ear dry for 3 weeks after third dose. Left observation.
29	24	4 months	Fracture base of skull 4 months ago; brain tissue oozed from right ear. Coma 2 months. Purulent discharge	Very many doses	Ps. aeruginosa, Staph. aureus	July 10 24 27 31 Aug. 8	7.5 5.0 7.5 7.5 7.5	Severe Moderate Moderate Mild Mild	1 2 2 2 2	0.3 0.6 0.6 0.6 0.6	July 24 ear dry. Remained dry for 4 months. Cold caused new discharge.

indicated. However, in spite of the unfavorable conditions two of the eight cases were completely cured with closing of the perforations. One case had no relief from the discharge even after vaccine-penicillin and simple mastoidectomy. The other five cases were definitely relieved.

CHRONIC OTITIS MEDIA COMPLICATED BY SKULL FRACTURE AND MASTOIDITIS.—In the two cases of chronic otitis media complicated by fractured skull and mastoiditis, the fractures started the trouble, and the infection existed four months in one case and six months in the other (Table II). The infections, therefore, were not so deeply rooted as in the other mastoiditis cases and so proved more responsive to treatment.

Comment

An over-all survey of these 29 cases shows that vaccine-penicillin therapy is of great merit in the treatment of chronic sinusitis and chronic otitis media. I was impressed, however, with the inconvenience caused by necessity of hospitalizing the patients after the first injection on account of the severity of the febrile reaction that followed even a small dose of vaccine given intravenously. I was also impressed with the mildness of the reactions that followed the subsequent injections that were given too soon. I have, therefore, modified my procedure. My present plan is to give the vaccine subcutaneously in the same doses. This produces sufficient reaction to be effective, yet does not require the patient to go to bed. The subsequent injections were more widely spaced at from seven to fourteen days depending on the reaction. I also use penicillin in doses of 600,000 units once daily. I instruct the patient to refrain from coffee, cocoa, and tea and to limit the ingestion of fluids as much as possible. This last is to maintain as high a level of penicillin in the blood as possible by slowing elimination of penicillin by the kidneys. This plan is more convenient to the patient and is quite effective.

36 WEST 40TH STREET

Reference

1. Unger, M.: Eye, Ear, Nose and Throat Monthly 28: 24 (Jan.) 1949.

Visual Loss for Compensable Eye Injuries

Visual loss for compensable eye injuries in New York State is based on corrected vision. When the corrected vision is 20/80 or less, it is considered industrial blindness.

Corrected vision of 20/70 = 70% loss
20/50 = 70% loss
20/40 = 50% loss
20/30 = $33^1/_3\%$ loss
20/30 + = 30% loss
20/30 − = 35% loss
20/25 = 20% loss
20/20 − 1 = 5% loss
20/20 − 2 = $7^1/_2\%$ loss
20/20 − 3 = 10% loss
20/20 − 4 = 15% loss

After a traumatic cataract has been removed, the loss is 100 per cent regardless of the corrected vision, because of the absence of binocular single vision. Award for the loss of visual field is based on the following schedule:

Absence of the entire upper field = $33^1/_3\%$
Absence of half of the upper field = $16^2/_3\%$
Absence of the entire lower field = $66^2/_3\%$
Absence of half of the lower field = $33^1/_3\%$

By using this formula smaller amounts can be determined. For example, in hemianopia with the loss of one half of the upper field and one half of the lower field the award will be $16^2/_3$ per cent for the upper field and $33^1/_3$ for the lower, a 50 per cent loss of vision.

—*Queries and Minor Notes, J.A.M.A., April 9, 1955*

MEDICAL CONFERENCE

St. Mary's Hospital

Rochester, New York

OCTOBER 15, 1954

Emotional Problems of Adolescents

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THE first time I gave this talk was in the new auditorium of the University of Buffalo School of Medicine. I went to the projection booth to give a young man the lantern slides that go with the talk, and he asked, "Doc, whatcha talking on tonight?" I said, "Emotional Problems of Adolescents," and he said, "Enh—I'll turn the monitor down."

So I had misgivings, but it turned out pretty well because many of the people in the audience weren't scientists. They were wives of doctors, social service workers, and a sprinkling of priests.

Besides being nonscientific, this talk is unique because it begins with poetry.*

O Adolescence, O Adolescence,
I wince before thine incandescence.
Thy constitution young and hearty
Is too much for this aged party.
Thou standest with loafer-flattened feet
Where bras and funny papers meet.
When anxious elders swarm about
Crying "Where are you going?" thou answerest
"Out,"
Leaving thy parents swamped in debts
For bubble gum and cigarettes.

Thou spurnest in no uncertain tone
The sirloin for the ice-cream cone;
Not milk, but cola, is thy potion;
Thou wearest earrings in the ocean,
Blue jeans at dinner, or maybe shorts,
And lipstick on the tennis courts.
Forever thou whisperest, two by two,
Of who is madly in love with who.
The car thou needest every day,
Let hub caps scatter where they may.
For it would start unfriendly talk
If friends should chance to see thee walk.

Friends! Heavens, how they come and go!
Best pal today, tomorrow foe,
Since to distinguish thou dost fail
Twixt confidante and tattletale,
And blanchest to find the beach at noon
With sacred midnight secrets strewn.

Strewn! All is lost and nothing found.
Lord, how thou leavest things around!
Sweaters and rackets in the stable,
And purse upon the drugstore table,
And cameras rusting in the rain,
And Daddy's patience down the drain.

Ah well, I must not carp and cavil,
I'll chew the spinach, spit out the gravel,
Remembering how my heart has leapt
At times when me thou didst accept.
Still, I'd like to be present, I must confess,
When thine own adolescents adolesce.

That's Ogden Nash of course, and it's called "Tarkington, Thou Should'st Be Living in This Hour" from his volume of poems, *Parents Keep Out.* Like all of Ogden Nash's poems, this one is amusing, but it also keenly expresses much of the difficulty that comes with adolescence and the changes that are taking place at that time.

It shows the adult attitude—the adolescent is

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* Originally published in *The New Yorker.* Copyright 1947 by Ogden Nash.

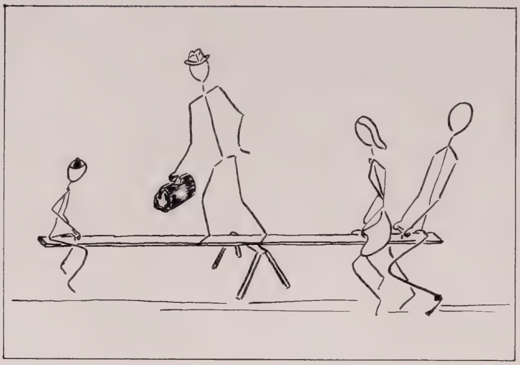

Fig. 1

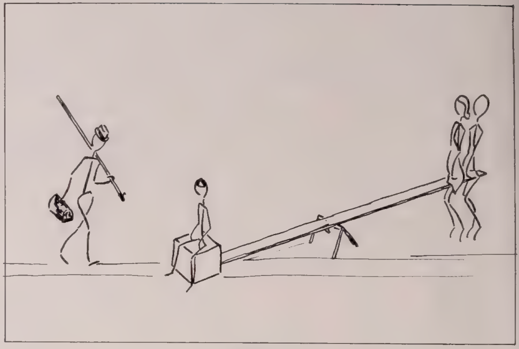

Fig. 2

still a child; and the adolescent's attitude, quite opposite—he is an adult. It holds the adult's desire to control the youngster and the adolescent's rebellion, his striving for independence, manifested by restlessness and a full capacity for very strenuous living.

It shows adult misinterpretations—misinterpretations that arise because the adult bases his impressions on his own experience during adolescence, and that's bad, you see, partly because he has forgotten what it was like to be an adolescent and partly because times have changed. It shows the adolescent losing touch with his parents and the parental joy when that touch is regained. And this in turn implies that the adolescent has little insight into his parents' problems.

Of course the poem ends on the optimistic note that adolescence does after all lead to adulthood, and the problem ends, but then, of course, the cycle is repeated. In sum, this poem represents that adolescence is a time of change, a time when relationships between children and adults, particularly their parents, are strained.

What's the doctor's job in all this? It's his job to try to keep balance between the adolescent and the parents. In this regard the family physician is especially suited for the role of counselor, mediator, and ambassador. Since he knows the whole family best, he can have the best steadying influence.

Most of the time he has to swing his weight in favor of the youngster in order to keep the balance (Fig. 1), but there are times indeed when, by some device, the youngster has the parents pretty much up in the air (Fig. 2). In the picture that's not a fishing rod the doctor is carrying. That's a kind of crowbar—something of the sort may be necessary.

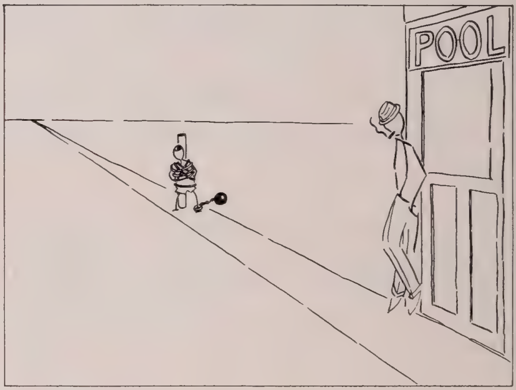

Fig. 3

The family physician may recognize that the adolescent's difficulties during this phase of life have had their origin in childhood. Adolescence simply brings the difficulties into the foreground, somewhat as shown in Fig. 3. The doctor knows he can't turn the clock back in order to unfetter the child in his earlier time of life, to prevent the developments that subsequently are objectionable to the parents. Still it is not too late sometimes for some changes to be made. Moreover, having observed this situation in one child, the physician may apply the experience, the knowledge he has gained, in order to prevent such developments for another family.

Emotional Growth in Adolescence

There are four principal influences upon emotional growth during adolescence. These are, first, a balance between the need for security and protection in the home, on the one hand, and the need for independence and emancipation from the home, on the other hand. The second and third influences on emotional change can be placed together; these are intellectual growth and physical growth. The fourth influence is the sex drive. Now let's take these up in turn.

The first one, you will remember, was the need for security balanced against the need for emancipation. The child does still need some security and protection in the home if for no other reason than to retain a sense of family loyalty. That's important. It is from this sense of family loyalty that we have built our civilization. At the same time the youngster needs, more than ever before in life, an opportunity for self-expression, an opportunity for independence, an opportunity to make his own decisions. He has difficulties principally because often enough he sees his parents as quite out of date, and that can be the parents' fault, of course.

A good example concerns a woman in our city who had three teen-age daughters, a rough situation. At the time these girls were teen-agers, the pattern of a spring weekend at high school went something like this: There might be a Saturday night dance at the school. Afterward a group might go for something to eat and drink at a nearby "Hot Shoppe," a perfectly proper place that sells nothing alcoholic. After this, there was nothing they liked better than to use a few family cars for a drive from Washington to Ocean City, Maryland. Now that is a good four and one-half hour drive from Washington, but that was just right. They would get to the ocean in time to see the sun come up, and the swimming was fine at that early hour.

This kind of program was somehow disturbing to the parents, among them the woman with the three teen-age daughters. She worried about what was going to happen. What about this staying up so late and driving so far—just a group of youngsters? She talked it over with a couple of her friends, and then the adults held a conference with the group of youngsters. The parents proposed that it would be nice sometime if they might go along on one of these trips. Not altogether suprisingly, the youngsters thought that was a good idea. (I suppose the youngsters were thinking in terms of somebody sharing the expenses.) In any event several of the parents went along on the next jaunt, and it worked out very well. It didn't rain, and they did get to the beach in time to swim while the sun was coming up. Everybody had a fine time, but the parents got awfully tired.

That was a valuable experience for the youngsters and the parents. First of all, the parents made the youngsters feel good by participating and showing interest in something the youngsters themselves had planned. The parents didn't make the plans; they asked permission to go along. Moreover, it reassured the parents that nothing very drastic happened (except the fatigue), and that was a good experience for the parents. It taught them that after all their children were self-reliant and could make that trip and swim without drowning or getting into other trouble.

Now let's look at the parents' side of this same problem. They too need emancipation from their youngsters. Still they want to keep some ties—again, for that sense of family loyalty. The trouble is that they readily develop a feeling that the country is surely going to the dogs. But that's nothing new. Their parents felt the same way about them.

The second and third influences on emotional development are physical growth and intellectual growth. In this connection the youngster measures his growth by what seems to be an unnecessarily strict comparison of his achievements with those of his agemates. This measurement of achievements is an index of success and recognition at this time of life and a strong influence upon choice of vocation.

Of course, the standards of measurement change from time to time. Everybody ought to know that, but sometimes we adults forget that achievements are evaluated differently today than they were twenty years ago. A good example, on the physical side, is the matter of bosom consciousness. At the time I went through adolescence, a woman was supposed not to look like a woman but like a John-Held-Junior drawing of a flapper. That was a creature who by choice was perfectly flat-chested. The bras of those days, far from being on the order of falsies, were binding influences. I don't have to tell you how times have changed; the standards are altogether different. Such change can be troublesome if parents don't recognize that a change has taken place. There has also been some change in the intellectual standards for measurement—a gradual trend toward a more materialistic, a more practical measurement of intellectual achievements. Perhaps that is part of our technologic growth.

The fourth influence is the sex drive. Here there is indeed need for an acceptable adjustment. This influence has always had manifestations that are quite acceptable, especially to parents. Boys and girls alike become cleaner and more mannerly during adolescence, partly because of the sex drive. But there are also unacceptable manifestations, and I will not dwell on them except to point out that it disturbs parents to hear about necking, whacking, or petting (courtesy of Kinsey), especially when there is reason to fear pregnancy might follow such manifestations of the sex drive.

The Physician as Counselor

In his role as family counselor, the physician should try to bend these influences to the advantage of all the family—this with the hope that emotional maturity will come quickly for the adolescent. His attitude necessarily is something like that of an army chaplain who kept a placard on his desk. It said, "If you have troubles, bring them to me. If you have none, please come and tell me how you do it."

The physician's strategy for filling the role of counselor can be based on the periodic health checkup. This mechanism has extraordinary prestige with patients. Unfortunately some doctors don't take full advantage of the periodic health checkup and don't get full benefit from it. No special qualities are needed to get full advantage, only an awareness of the usefulness of the method, the time, and an ability to handle people (something most family physicians have). Let's see how it works.

The doctor might start with the parents; they need a periodic checkup whether or not they have adolescent children. If they do have children, it is reasonable to include in the checkup some questions about the children. The doctor wants to know about the children's growth, how they sleep, their nutrition, progress in school, interests outside of school, evidences of maturity in various spheres, sex education, etc. In regard to sex education sometimes a revealing answer is obtained. I can recall more than once asking a mother, "How much information has been given to your youngster about sexual matters?", and getting this kind of answer, "Oh, I don't know—the usual thing. I guess they teach them a lot about that in school." That kind of answer implied two things. First, the mother hadn't personally told the youngster much about sex, and, second, she was not showing a proper interest in what was being taught in school. She was not participating in the child's life outside of the home. Otherwise she would have known more about it.

From the replies to these and other questions, the physician forms some opinion about how the parents are handling their adolescent youngsters, and he can decide promptly how to question and counsel the youngsters themselves if he has a chance to see them. Also he can watch for certain danger signs in the parents—a sense of rigidity, undue anxiety, and lack of interest or participation in what the child is doing outside of the home. He can also watch for bad interpersonal relationships among the adult members of the family, and on this basis he may choose to give some counsel to the family.

When the physician has the opportunity to examine an adolescent, he should appraise growth in all spheres—physical, intellectual, and emotional. To some extent this requires that the adolescent shall be influenced to talk. Sometimes that's a hard job and takes more than one visit. But often enough he is willing to talk about his achievements or his aspirations, and that's a good way to get started.

All the examining and questioning should be conducted with an attitude of encouragement. That's important for the adolescent. Please think back to your own adolescence. I believe you'll agree that nothing was better for you than to feel encouraged. Meanwhile, the doctor can be watching for danger signs in the adolescent—quarrelsomeness, nonorganic complaints, tantrums, detachment, or school failure or threat of it. On the basis of what he has learned, he may take a crack then at counseling the adolescent. I think we had better have a digression; this is getting too serious.

A DIGRESSION

Sam Ravenel is a pediatrician. He practices in the South. He was born in South Carolina and was raised on a rice plantation. He remembers as a boy when his father bought the first family automobile, a Model-T Ford. Fortunately there are still some people who remember that model. One day Sam's father was driving along a sandy, sunny road when he ran the car over a partly buried ploughshare, and it tore one of the tires, and the tire went flat. Of course in those days it was not a matter of simply changing a wheel. You took the tire off, you patched it and put it back on the rim. This car was equipped with "clincher" tires. They were the kind that were just the devil to get off the wheel. So, Sam's father sweated away trying to get the tire off the rim, and after fifteen or twenty minutes of futile effort, he straightened up and began to cuss. He just blistered the landscape for 100 feet around the car. While he was doing this, the family minister, unnoticed, came driving up in a horse and buggy and sat there listening to Mr. Ravenel. Finally when Sam's father paused to take a breath, the family minister said, "Mr. Ravenel, have you ever thought of using prayer instead of blasphemy to get what you want?"

Well, Sam's father allowed that he hadn't thought of that and didn't intend to try it at this particular time, but the minister said, "No, you misunderstand. You work on the tire, and I'll do the praying."

Sam's father had to work on the tire anyway, he had nothing to lose, so he went back to work, and the minister knelt down in the road and commenced to pray. Almost instantly the tire came off the rim. Well Sam's father and the minister looked at the tire and then at each other, and then the minister said, "Well I'll be goddamned."

There are several reasons for telling that story. The most important is that I like it. There is another reason for telling it—to introduce the thought, artificially you see, that consultations are important. It's a creepy approach to the idea that a family doctor cannot operate as a lone star in the management of adolescent problems. Of course he has to consult with the parents. More important than that, when things need fixing, he has to consult with other groups of people, particularly with school teachers and with people at the church the child attends.

Objectives and Methods of Counseling

In counseling an adolescent the physician uses encouraging realism to teach self-acceptance. He wants the youngster to learn that there are all kinds of people (a hard thing to learn). He wants also, most of all, to give the youngster some insight into how his parents are thinking; the parent's point of view may have escaped the youngster's attention.

All this applies nicely to the adolescent who is having minor emotional growing pains. Does it apply to the truly problem adolescent—the one who is in trouble because of thievery, vandalism, or other evidence that he has completely lost touch with some part of the adult society around him?

One rough aspect of this kind of problem is that often enough the parents will have made up their minds what to do before they ever talk it over with the family doctor. There is the parent who comes in and says, "We've been having trouble with our boy. He just will not respond to discipline. We have decided to put him in a military school. Don't you think that's a good idea, Doctor?"

Obviously, the parent's mind is made up. If the doctor opposes and it doesn't work out well, he's lost face. What is he to do? Fortunately, once in a while things work out all right. The youngster is put into a military school and soon gets better, not because he is undergoing a more rigid discipline, but because he has gotten away from his mother or father or both. However, that is not to recommend military school as a solution but to point out that a parent's preconceived notions make the doctor's task harder.

After he has learned all he can from parents and child in this kind of case, the doctor needs to talk particularly with school personnel. He may learn more there than he does talking to the youngster or to the parents. In any event he must then decide promptly (1) that he can safely try counseling parents and youngster or (2) that he is out of his depth and needs the help of someone who is especially adept at handling these really tricky problems. Promptness of referral is indeed important because a psychiatrist, for example, has a much better chance of success when he is consulted early.

In summary and conclusion, the family physician has an opportunity to serve as a counselor to all members of the family and particularly to adolescent youngsters. His best strategy for developing this role is by means of a periodic health examination. His method of counseling adolescents is common sense; he applies those things that have been helpful to him in handling other people well. And if he has been successful in handling other people, he will handle adolescents well, because they are people too.

Be not forgetful to entertain strangers: for thereby some have entertained angels unawares.—
NEW TESTAMENT, HEBREWS, XIII, 2

CASE REPORT

Idiopathic Pneumoperitoneum of Four and One-half Years Duration

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IDIOPATHIC pneumoperitoneum may be defined as the presence of air in the peritoneal cavity unassociated with previous operative, traumatic, diagnostic, or therapeutic procedures or with demonstrable lesions such as spontaneous perforation of peptic ulcer or other viscera. At operation or roentgenologic examination no communication with abdominal, thoracic, or other viscera or with the exterior can be demonstrated. Although a possible explanation for the pneumoperitoneum in each individual instance may be attempted, it is only conjectural, and the true etiology remains unknown and unproved.

There has been a sufficient number of reports in the recent literature to indicate that an awareness of this condition and proper investigation of patients with suspicious signs or symptoms would reveal many more instances of pneumoperitoneum. This is particularly important because the impression gathered from the data so far available suggests that we may have to revise our concept regarding the invariable seriousness and danger of spontaneous pneumoperitoneum.

The finding of air under the diaphragm has usually been interpreted as due to rupture of a viscus. As such it has been considered the forerunner of peritonitis and has been looked upon as a surgical emergency requiring immediate operative intervention. In contrast to this concept the cases of idiopathic pneumoperitoneum so far reported, including our own case, have all been relatively benign. Some have been discovered accidentally during treatment for pleurisy or pneumonia.[1–3] Most of them have not been operated upon and have recovered, and those cases which did have exploratory surgical intervention showed no evident perforation and recovered in spite of, rather than because of it. In none of them was peritonitis found at operation or suggested by laboratory tests. Conservative management, therefore, seems to be justified. This is especially true since many British and American surgeons have reported actual perforations which healed satisfactorily after laparotomy, although no procedure was done except for drainage of the peritoneal cavity. Also some cases of proved perforation have developed pneumoperitoneum without signs or symptoms of peritonitis.

In reviewing the possible causes that have been reported in association with idiopathic pneumoperitoneum, we have found the entrance of air into the peritoneal cavity via the fallopian tubes due to the use of a bulb for vaginal cleansing,[4] the use of effervescent douche powders, and the changes in intra-abdominal and intraperitoneal pressures due to the assumption of the knee-chest position, vomiting, etc.[5] Mention has also been made of psychiatric cases who had air under the diaphragm due to repeated insufflation through the vagina.[6] Seepage of air from a thin-walled emphysematous bleb in the lung or via the hiatal opening in the diaphragm are other mechanisms involved.[7] Meckel's diverticulum has been reported in association with pneumoperitoneum, but the causative relationship was not proved.[8] Pneumoperitoneum has also been reported in the newborn, apparently unrelated to any demonstrable lesion.[9]

One of the most plausible explanations for the cases of pneumoperitoneum with prolonged persistence of air under the diaphragm is the occurrence of an air inlet which either remains open or reopens at intervals. Warfield[10] and others have reported such "forme fruste" ulcerations so situated as to allow escape of gas only or so small as to be rapidly sealed off, and Singer[11] has described a similar mechanism which he terms "valvular pneumoperitoneum." Presumably the lesion is sufficiently selective to permit passage of air alone without concomitant seepage of gastric or intestinal contents with resultant peritonitis.

Recently the condition known as pneumatosis

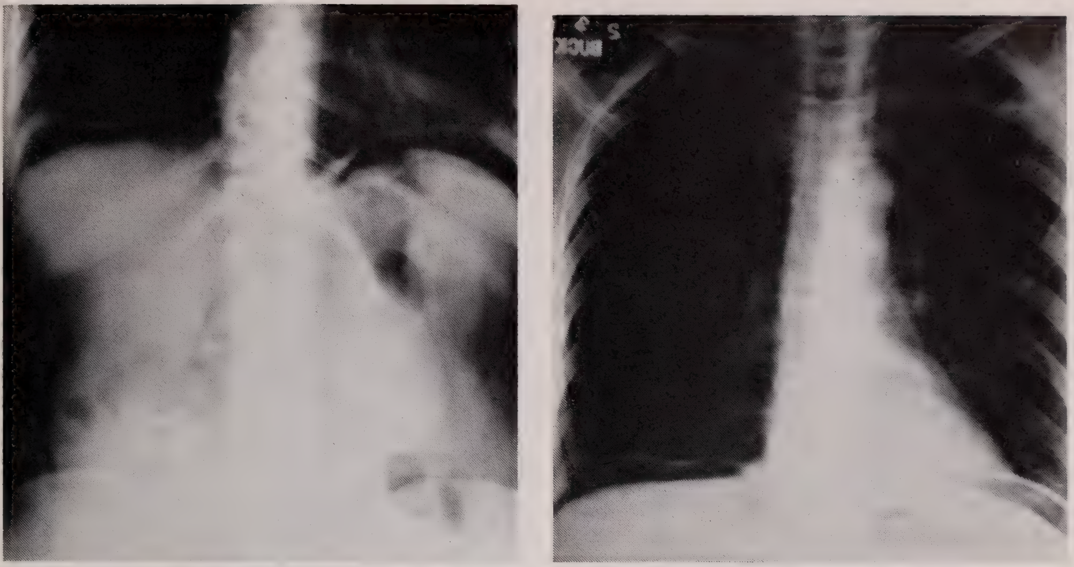

FIG. 1. February 3, 1950—Plain film of abdomen (*left*) and chest x-ray (*right*) showing bilateral pneumoperitoneum.

cystoides intestinalis has been reported with increasing frequency in the European and American literature. Cysts of various sizes, most often subserosal, variously thought to be of bacterial, viral, parasitic, dietary deficiency, or congenital origin, arise in the small intestine, occasionally in other parts of the gastrointestinal tract, and by their rupture produce pneumoperitoneum. Even tension pneumoperitoneum has been reported due to this condition.[12,13] It is estimated that 50 to 60 per cent of these cases are associated with ulcerating or obstructing lesions involving the pyloric area. The most accepted theory is that the cysts are produced by mechanical causes. Air enters the lymphatic spaces through an ulceration or abrasion of the mucous membrane and is driven along these distended lymphatic channels by the constant pressure of the pyloric obstruction or by peristalsis.

This disease has been gone into in some detail because of its very recent frequency associated with pneumoperitoneum in the American literature[6,14] and because our patient was suspected of having this condition in association with a frank duodenal ulcer or, possibly, an ulcer of the forme fruste type as the cause of her persistent pneumoperitoneum. Neither of these entities could be definitely proved at operation, although a considerable section of the small bowel had the appearance described by various authors as healed pneumatosis intestinalis.

Case Report

Mrs. S. H., age fifty-nine, was referred to the outpatient department of the Brooklyn Jewish Hospital because of recurrent abdominal pains. She was a refugee from a concentration camp in Germany where she had had an episode of hematemesis and was treated for peptic ulcer, although the history was atypical. There was no constant relationship to food intake, no definite localization of pain or tenderness, and no predictable relief with food, alkalies, or antacids. Physical examination was entirely noncontributory. She was referred for routine x-ray study of the gastrointestinal tract.

On January 3, 1950, examination of the abdomen fluoroscopically before the administration of a barium meal showed what appeared to be free air under both leaves of the diaphragm. Fluoroscopic as well as kymographic study of the diaphragm showed free motion on both sides. The lateral recumbent view showed shift of the air, but no definite fluid level could be ascertained. X-ray of the chest was normal except for evidence of bilateral pneumoperitoneum (Fig. 1).

The diagnosis of spontaneous pneumoperitoneum, in all probability due to a perforated viscus, was made, and the patient was admitted to the surgical service. Because the patient was not clinically in acute distress, immediate surgery was withheld. Intravenous therapy was instituted for several days after which she was placed on an ulcer regimen. Five days after admission a plain abdominal film still showed free air under both leaves of the diaphragm but less than on the first study. Two weeks after the original x-ray examination there was still a small amount of air under the left leaf of the diaphragm, and radiographic examination of the entire gastrointestinal tract, including serial study of the small bowel for diverticula, cysts, etc., was negative. There was no radiographic evidence of ulcer, but the patient was discharged with the clinical diagnosis, not proved, of perforated peptic ulcer. At no time during her hospital stay had she shown any clinical or laboratory evidence of peritonitis.

Follow-up x-ray studies on February 18, and May 2, 1950, and June 25, 1952, continued to show vary-

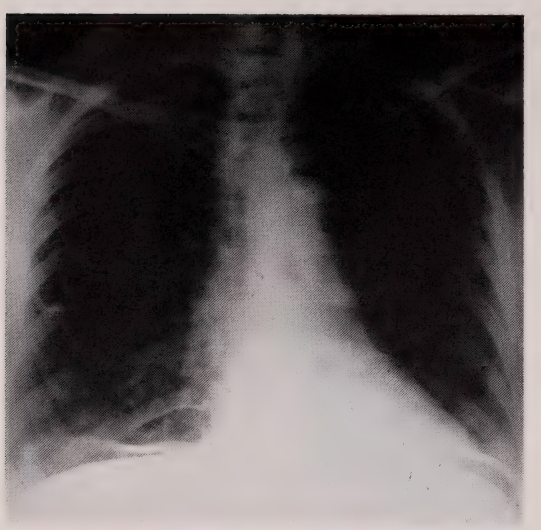

FIG. 2. March 4, 1954—Chest x-ray showing bilateral pneumoperitoneum.

ing amounts of free air under both leaves of the diaphragm. Repeat studies of the gastrointestinal tract showed "no evidence of intrinsic disease except for moderate five-hour gastric retention. The stomach filled well and showed no defect on either curvature. The antrum and bulb were normal."

A further study on October 24, 1953, more than three and a half years after the original demonstration of pneumoperitoneum, was reported as follows: "Flat plate and erect studies of the abdomen fail to demonstrate any evidence of intestinal obstruction. We can demonstrate air under both cusps of the diaphragm indicative of a perforated viscus. Examination of the upper gastrointestinal tract fails to demonstrate any pathology within the cardia, pars media, and antrum. The duodenal bulb never visualizes. There is no gastric residue in five hours, and the twenty-four-hour study is normal." On March 4, 1954, a chest x-ray still showed bilateral pneumoperitoneum (Fig. 2).

On March 21, 1954, she was readmitted to the hospital because of epigastric distress, abdominal distention and pain, vomiting, occasional diarrhea, and tarry stools. Fluoroscopic and x-ray examination again showed a five-hour gastric residue but no evidence of ulcer. Pneumoperitoneum was still present. Sigmoidoscopy was negative. The patient was placed on conservative ulcer management and discharged improved. Several months later the same symptoms recurred, and the patient was readmitted to the hospital for the third time for re-evaluation. A gallbladder study showed excellent visualization of the biliary sac and common bile duct. No stones were present. A gastrointestinal series with special attention to the small bowel for cysts was negative. The duodenal bulb was not well visualized. Study of the colon showed free flow of barium from rectum to cecum. The terminal ileal coils were well filled and within normal limits. Flat and erect studies of the abdomen on May 21, 1954, again revealed the presence of subphrenic air bilaterally.

In view of the history of recurring attacks of abdominal distress with vomiting, melena, abdominal distention, x-ray evidence of gastric residue suggestive of partial pyloric obstruction and poorly visualizing or nonvisualizing duodenal cap on several of the numerous studies, as well as the constant evidence of air under the diaphragm, it was felt that the patient had a duodenal ulcer with some communication with the abdominal cavity, complicated by intermittent bleeding. Because of the frequent recurrence of her complaints it was felt that she deserved surgical exploration. The possibility of an associated pneumatosis intestinalis, although not demonstrated by x-ray, was also considered, particularly because it has been stated that "a spontaneous pneumoperitoneum and a pyloric ulcer and stenosis occurring together are pathognomonic of pneumatosis."[6]

At operation on May 25, 1954, no evidence of either acute or chronic ulcer was found except for a slight thickening of the superior lateral surface of the duodenum towards the hepatoduodenal ligament. There were also adhesions in the hepatoduodenal area.

The only other abnormal findings noted in the entire exploration were in the distal small bowel in a 3-foot segment of the ileum which began about $1^1/_2$ feet from the ileocecal valve and extended for 3 feet proximal to it. This segment of bowel showed patchy areas of thickened, white serosa to a maximum thickness of perhaps 1 mm. The serosa had a peculiar edematous appearance as might occur in allergy.

Because of this possibility, intravenous Benadryl was injected and the bowel observed. The edema appeared to subside somewhat but did not disappear completely, and the patchy white areas remained. There were no adhesions between the loops of bowel or any other findings that would suggest a previous peritonitis. The patchy white thickenings on the serosal surface were not air sacs. When pressure was put on a loop of the bowel containing these patches and the loop of bowel was compressed occluding both ends, no passage of air into these subserosal thickenings could be seen. The exact nature of these thickenings was not definitely known, but the possibility of their being previous air sacs which had ruptured or been absorbed with only residual thickenings remaining was entertained. There was no lymphadenopathy of the mesentery of the small bowel.

No other cause for the persistent pneumoperitoneum could be found. It was not felt, however, that excision of this portion of the bowel for either therapeutic or diagnostic purposes was warranted, and the abdomen was closed. Unfortunately a biopsy specimen of one of these areas of thickening was not obtained.

The patient made an uneventful recovery. On June 7, 1954, just prior to her discharge from the hospital, flat and erect films of the abdomen revealed no free air under the diaphragm for the first time in almost four and one-half years (Fig. 3).

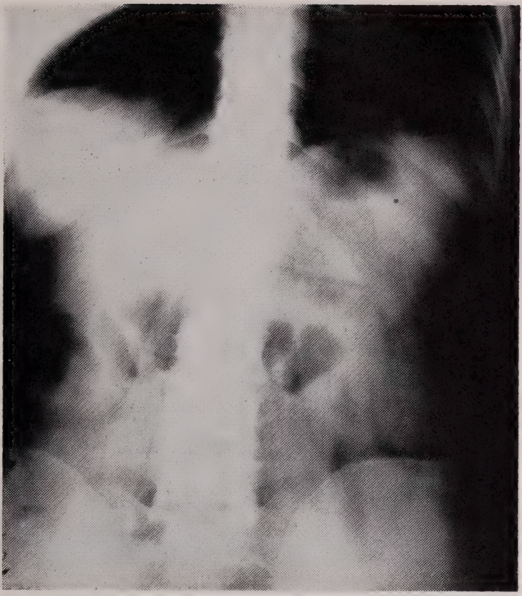

Fig. 3. June 7, 1954—Postoperative plain film of abdomen. No pneumoperitoneum for first time in over four and one-half years.

Comment

We believe that our patient in all probability was suffering from pneumatosis intestinalis which at the time of operation was in a healed or healing stage and that the persistent pneumoperitoneum was due to this cause. Although at operation no definite ulcer was found, the surgeon did describe adhesions involving the hepatoduodenal area and thickening of the duodenum which could account for the recurrent digestive symptoms, the clinical and x-ray evidence on several occasions of distention and partial obstruction, as shown by vomiting and five-hour gastric retention, and the frequent failure to visualize the duodenal cap.

The great majority of cases of pneumatosis cystoides have been reported in association with gastric or duodenal pathology such as ulcer or pyloric obstruction. This fact supports the most popular theory for the causation of the cysts, namely, mechanical forcing of air into the lymphatic spaces through ulcerated or injured mucous membrane. However, since only a very small percentage of ulcer cases have cysts, there must undoubtedly be additional factors which come into play such as some coexistent dietary deficiency or perhaps an allergic factor. This latter possibility has not previously been stressed but was strongly suggested by the edematous appearance of the small bowel in our patient and its partial response to intravenous Benadryl.

Such temporary conditions as dietary deficiencies or allergic states could explain why intestinal cysts are found in some patients with pyloric lesions and not in others. They could also explain the now well-established fact that the disease is usually self-limited and that it may come quickly and disappear just as quickly, leaving either thickened, cicatricial areas on the serosal surface, as in our patient, or showing absolutely no trace at all of their recent presence.

Mengis,[15] Dale and Pearse,[16] Jones,[13] and others have reported cases undergoing laparotomy for various conditions. At the initial operation no cysts were seen, but at autopsy or at secondary operation as shortly as three weeks later, typical pneumatosis cystoides was found. These reports indicate that the disease can develop in a relatively short time.

On the other hand, there are numerous case reports which indicate that the cysts may either disappear spontaneously leaving no manifestations of their original presence in as short a period as three weeks or that they may diminish in size due to absorption of gas with progression to complete fibrosis, obliteration of the cystic spaces, and eventual scarring, leaving grayish-white plaques on the wall of the gut.[14,17–23]

Since the disease is self-limited in most instances with a tendency to spontaneous cure, it usually requires no special treatment. The only surgery, if any, is directed to the correction of the primary cause. As was the decision in our own case, there is certainly no indication for resection of the affected bowel or even any attempt at removal of the cysts. In spite of the lack of specific treatment reports of clinical improvement following simple exploratory laparotomy are numerous. This was apparently also true in our case.

For the sake of completeness it must be pointed out that when the cysts are unusually numerous, large, or complicated by adhesions, volvulus of the bowel or intestinal obstruction due to compression has occurred, requiring emergency operation and even causing death. There is also some evidence that in some instances the disease may assume a chronic and prolonged course.

Summary and Conclusions

A case is presented of a female with x-ray evidence of pneumoperitoneum persisting for almost four and one-half years. Although she gave a history somewhat suggestive of peptic ulcer, the symptoms were atypical, and x-ray examination on nine different occasions failed to visualize an ulcer or any other gastrointestinal pathology except the occasional poor visualization of the duodenal cap and evidence of five-hour retention. On each occasion, however, air was demonstrated under one or both leaves of the diaphragm. There was no pulmonary pathology which could account for this condition. Pelvic examination was negative, and there was no history of douching or other instrumentation which might have introduced air into the peritoneal cavity. Study for ova and parasites was negative. All laboratory studies were normal. At no time in the entire period from January 31, 1950, to May 25, 1954, during which some degree of pneumoperitoneum was apparently constantly present, was there any evidence of peritonitis either clinically or by laboratory examination. She was frequently free of symptoms for long periods of time, requiring no visits to the clinic or private physician. This would appear to confirm the growing impression that spontaneous pneumoperitoneum per se is not a surgical catastrophe and requires no surgical intervention unless peritonitis or other surgical complication arises. It probably occurs much more frequently than heretofore suspected but, because of its benign character, may go undiagnosed unless specifically looked for. One of the lesser known causes for spontaneous pneumoperitoneum appearing in the literature more recently is pneumatosis cystoides intestinalis.

ADDENDUM: Since the presentation of this paper for publication, another case of pneumatosis cystoides has been reported from our hospital.[24] The presenting symptoms were alternating diarrhea and constipation. The diagnosis was first made by roentgenography and was confirmed by biopsy, performed by sigmoidoscope, of one of the blebs of the colon.

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Clarify Point Regarding Physicians Who Move

I have received several letters recently from physicians inquiring about what happens to their A.M.A. membership when they move from one state to another. To clarify the matter, I asked Mr. George Hall, member of our legal department and secretary of the A.M.A. Council on Constitution and By-Laws, to give me a memo covering interpretation. His memo follows:

"Prior to last June, a physician who, for any one of a number of personal reasons, found it advisable to move his practice from one state to another was allowed only six months to become a member of the new constituent society before running the risk of losing his A.M.A. membership. Since many component societies have waiting periods of one year, and sometimes more, it became virtually impossible for a physician to join a new constituent society within the six months' period. In recognition of this situation, the House of Delegates amended Chapter II, Section 2, of the By-Laws in June, 1954, to permit a member's name to be continued on the membership roster of the A.M.A. for a period of two years. This added time should obviate loss of A.M.A. membership in all but the most extreme cases.

"Although the By-Laws do not spell out administrative detail, the Secretary's office would remind physicians moving from one state to another that they must pay their A.M.A. dues during the two-year transfer period. Forfeiture of A.M.A. membership for nonpayment of dues is provided for in another section of the By-Laws and was affected by the change in Chapter II, Section 2. Such dues may be paid directly to the A.M.A. Secretary's office since no constituent society membership exists through which they may be forwarded."—*Secretary's Letter, March 28, 1955*

Comparative Study of the Development of Blue Shield and Workmen's Compensation

FREDERIC E. ELLIOTT, M.D., BROOKLYN, NEW YORK

THE question is asked, "Why am I paid for making an x-ray of an injured workman and not for a Blue Shield member?" The Workmen's Compensation (New York Labor) Law requires coverage of all medical service when the need arises from an occupational injury, which includes, of course, x-ray examinations. Blue Shield medical insurance, on the other hand, covers only such phases of doctor care as the buyer (employer) may choose; some Blue Shield groups now have coverage to pay for x-ray examinations. If you wish to know some of the "whys" and "how comes," read on.

The question puts the spotlight on a pertinent fact: Few of our colleagues who have taken up medical practice during the past decade or two know what has gone on in the economic environment of medical practice since the turn of the century. And even less is known by them of the earlier days from which our present ideas and problems have emerged.

Toward the end of the nineteenth century our profession was concerned with matters medical, not economic. The educational requirements for admission to most recognized medical colleges were of acceptable standards. The minimal requirement specified by the Education Law of New York was amended year by year from mere grammar schooling and one year in a medical college (1888–1900) to a required premedical of four years (high school) and at least four years of medical college instruction. It was in this era that the laws of New York were first set up to limit the treatment of human afflictions to "duly licensed and registered" doctors of medicine. In 1900 there were 400 hospitals in the United States compared with 8,000 today; there was no x-ray, little pathology, and anyone gave "ether or chloroform."

Concurrently with the advances of medical education came changes in our pioneer-colonial environments, each contributing an impact upon our profession. Progressively improved transportation and means of communication merged rural life with that of the metropolis. Industries multiplied to transform a nation of agriculture to a major effort in factory production. A marked increase in population was another factor. America was growing.

Both capital and labor organized. In the rush to keep up with new world opportunities, the members of our profession were carried along in rapid currents toward uncharted horizons; quite generally doctors were too concentrated upon individual daily affairs to take a look ahead. Many phases of life were like Topsy of *Uncle Tom's Cabin*—they "just grew up." Our profession focused attention upon the problems of health and medical care and not upon economics and social relations. Medical practice remained an individualistic enterprise.

At the turn of the century workmen who suffered personal injury were on their own. They had recourse to suits at law for recovery of losses but were very commonly frustrated by the employer's claim of "contributory negligence." To a considerable degree the payments to doctors for professional services of the injured worker rested upon the outcome of the patient's suit for recovery of his losses. Much time of many doctors was wasted when appearing as subpoenaed witnesses, and too often they received no remuneration for their services either as witnesses or doctors. Many doctors were impelled to decline care of such cases, and the number who shunned such practice increased progressively in the second and third decades. Often the doctor-witness suffered embarrassment by insinuating questions which implied that his testimony was colored by a financial interest in the outcome of the case. On the witness stand doctors are like fish out of water and are easy prey for lawyers who seek "to win" rather than establish true facts of a case. Today, doctors are compensated for testimony at "departmental hearings" and quite generally the doctors' written reports are accepted without personal appearance.

It was not until the 1914 session of the New York Legislature that the law of our State required "industry to bear the cost of care of its casualties." Many of the provisions of this "Labor Law" were spelled out in minute legal details. Not so, however, in "Section 13" which loosely and indefinitely required the employer to provide medical, hospital, and ancillary services. And the employers promptly turned over to the writers of insurance the administration of this responsibility.

Here was a new, unexplored opportunity for the insurance companies. Data upon which to estimate "costs" and premium rates were meager. Employers and their insurance carriers were naturally very concerned in keeping costs low. There was no accepted schedule of medical fees. The quality of care was secondary—just good enough to "get by" the Labor Commission.

And of course the carriers were expecting to establish a margin of profit for themselves. A "State Fund" was constituted to pick up accounts which no insurance company would write, and it also provided a measuring rod upon which to evaluate the operations of the independent insurance companies.

Clinics for the care of injured workmen sprang up singly and in "chains." Medical care became "commercialized" with all the demoralizing consequences of uncontrolled, unrestricted competition. Progressively the better elements of our profession declined to participate in this field of practice. The less capable and less scrupulous of our profession found employment in the clinics. A few of our eminent members participated because of "quantity of referrals" who were accepted at lowered fees.

In most cases when a doctor accepted a case and rendered a bill at the prevailing rate, his fees were arbitrarily cut. The insurance carrier cited the "clinic fee" to justify its proffered settlement. It was futile to argue. What was not generally known was that the fellows "on the inside" were quoting low fees, say $35 for a hernia, and then by "special arrangement" with the office staff of the company sent in claims for $50 to $100 for "after-care." Prolonged treatments of relatively minor cases were tolerated by the same indulgent consideration when billed by a clinic.

By the early 1930's competitive, commercialized medical care reached an all-time low of moral corruption. Employes of insurance offices were suspected of accepting persuasive gratuities as a *quid pro quo* in the settlement of clinic bills. The climax of competition was reached when one clinic staged a "Roman holiday dinner party" to which the top brass of the insurance industry was invited. The hospitality of this occasion was offensive to good moral senses.

On the day following this party a committee representing many of the larger insurance carriers waited upon the president of your State Medical Society. They admitted that affairs had gotten out of control, and they proposed that the Society take over medical care of injured workmen and that clinics be established State-wide under Society administration. The president placed this proposal in the lap of the Committee on Economics, which by chance was in session in a nearby hotel.

Three conclusions were immediately reached by the committee. First was the opinion that clinics operated under the State Medical Society would probably fail as completely as had one such institution operating in the New York office of one large insurance carrier; second, that good medical care could be best assured by giving the injured worker the right of "free choice" of doctor; and, third, that a schedule of minimum reasonable and fair fees be established and that fees below such levels be prohibited. Labor leaders recognized that good care and upright conduct could not be expected of "cut-rate" competition. On the Sunday following, a subcommittee of five composed the first draft of what eventually became "Section 13a" of the Labor Law.

A proposed amendment to the Labor Law was prepared and was approved by action of the House of Delegates. A special committee appointed by the Governor of the State took this draft apart and then put it back much as it had been, and this was made law, effective July 1, 1935.

The development of the "minimum fee schedule" is another chapter for telling at another writing. It was accomplished and has stood the test of nearly twenty years of use. In it were many admitted imperfections which have plagued the voluntary medical insurance plans of our State during the more recent years. X-ray examination fees were included in this schedule.

And now for the second leg of the question, "Why am I not paid for Blue Shield members?" After Section 13a of the Labor Law had been in operation and participation by the profession had become quite general, a questionnaire was mailed to each doctor in New York State: "Would you participate in a voluntary insurance plan aimed to provide medical care for the nonoccupational injuries and illnesses of workers and members of their families under the terms which now apply in the Workman's Compensation Law?" Within two weeks some 47 per cent of 25,000 doctors replied, and only six doctors said "no." It is out of this cradle of experience with scheduled payments for medical care that our New York Blue Shield has been reared.

After several conferences with the heads of the New York State Insurance Department it became evident that the proposed insurance enterprise would be possible only after amendment of the Insurance Law. The same Economics Committee which drew up the original "Section 13a" then composed a proposed amendment to the Insurance Law, the substance of which has since become "Article IXc" of the present statute.

When the draft of a proposed enabling act for the operation of a voluntary medical care insurance was agreed upon, it was included in the annual report of the committee. It was not approved by the House of Delegates. When proposed a second time, it was again rejected. Shortly thereafter, a fortuitous circumstance occurred. A "tentative draft" of a revision and codification of New York State Insurance statutes was printed (1938), the work of a joint committee of the Senate and Assembly of the State Legislature. Article IXc of this tentative draft proposed to license anyone or any corporation to hire doctors and contract to furnish medical care. Faced with a choice between the two versions of Article IXc, the position of our Society was reversed by the Council.

The citizens and the medical profession of New York owe an expression of deep gratitude to two gentlemen: Judge Foster Piper of Buffalo, who was chairman of the Joint Legislative Committee, and Mr. Louis H. Pink, who was then Superintendent of Insurance. At a public hearing, where advocates of panel medicine were quite vocal, Judge Piper said, "When I, or a member of my family have need for a doctor, I want to be free to make the choice." Mr. Pink said, "If this is what the doctors want, I'll go along with them."

Article IXc became law in the summer of 1939. Each corporation was limited to a field of 18 counties. In New York City a number of plans were born, only to "die on the vine." Of the original seven only two remain plus a new one operating as a closed panel system under the provision to enable incorporation of "cooperatives." In New York City one company was organized, under the aegis of the Blue Cross, which offered indemnity coverage parallel to the conventional "health and accident" contracts of the commercial type of insurance. Another was sponsored by the medical profession. Neither of the two were properly constituted to go it alone. The indemnity plan had good financial backing and a staff of sales representatives already in contact with the most likely prospects. The other proposed a broader coverage, nearer in line with what was furnished under the Workmen's Compensation Law; the doctors backed this plan. After some three years neither plan had progressed far. One plan didn't have the support of the doctors, and the other didn't have a staff of salesmen. In June of 1944 these two plans were merged to form United Medical Service. Elsewhere in our State other doctor-sponsored plans were established in affiliation with the local Blue Cross without opposition.

Prior to the Article IXc legislation the hospital insurance contracts (Blue Cross) included anesthesia, pathology, and radiology as hospital service functions. Under Article IXc this became an obvious breach of the law, which clearly provided that no one corporation "under this chapter shall furnish coverage for both hospital and medical services. Conflict over this issue continues at this writing, although it can be said that today the services of anesthetists are now largely free from controversy.

The House of Delegates, taking notice of the now forgotten "Cost of Medical Care" committee report (1930), which was the culmination of a decade of propaganda for compulsory health insurance, named a special committee to review and report on that study. The special committee submitted its conclusion in the form of seven propositions. Number 3 conceded anesthesia, pathology, and radiology to be "hospital service." Two years later, the Society rescinded the original proposition number 3 and composed a revised statement, which plainly declared the three services to be fields of "the practice of medicine." Despite due notice to all hospitals and the Blue Cross, "business has gone on as usual."

About 1946 a conference was proposed at which Blue Cross, Blue Shield, the State Medical Society, the Joint Council (of Anesthesiology, Pathology, and Radiology), and the Hospital Superintendents Association would be represented. The latter group declined to participate on the ground that these branches of medical care were already included in "hospital functions."

Not long thereafter, a resolution was passed by the New York State Association of Hospital Superintendents declaring anesthesia, pathology, and radiology as "the practice of medicine." By resolution of the House of Delegates of the American Medical Association recorded the same conclusion, but hospitals go on as before.

It now seems possible that utilization of x-ray and pathology services by the 5,700,000 Blue Cross members may result in reconsideration of the promotional worth of these to Blue Cross. Formerly these services were the source of a large income before the days of hospital insurance; today the admission of Blue Cross members to hospitals for "diagnosis" has become a source of financial loss.

Blue Cross and Blue Shield operate in the same field of human needs. Their services are complementary—one pays hospitals and one pays doctors—and public interests are served best when joint activities do not trespass upon the respective authority and responsibilities of each other. Hospitals, Blue Cross, doctors, and Blue Shield, must work as a team; the age of "master and servant" belongs in the long ago. Eventually these services will be relinquished to Blue Shield; it seems unlikely that the increase of cost of hospital insurance to cover these nonhospital functions can be tolerated. Some day the trustees of our hospitals will see a new light and look to their doctors for information and guidance.

At this date (December, 1954) Blue Shield in New York City offers "rider" coverage for anesthesia, pathology, and radiology. Until greater "experience data" have been accumulated these coverages are limited to sizable enrolled groups. In a proposed revision of contract provisions now pending (U.M.S.), anesthesia will be included as an integral part of the contract for all new groups.

In this rather sketchy presentation, note how the provisions of contracts for coverage of medical care have grown, step by step: first just surgical care, then surgical plus in-hospital medical care, and finally home and office care as provided in the General Medical plan. Each forward move has been taken with due caution against a mistake which might lead to financial disaster. A plan which does not meet its contract obligations can be of no real value to anyone. Our doctors have exercised great patience while the administrators of our Blue Shield have gone about the broadening of medical care coverage.

Now to answer the second leg of the initial query, "Why am I not paid for Blue Shield members?" The employers and groups who buy Blue Shield do so as a voluntary action—they are not coerced by a compulsory statute—and they buy as much of the package as available money makes possible. With increasing appreciation of what voluntary insurance can do, the buyers are asking for more. It seems to be only a matter of time until Blue Shield will be quite as complete as workmen's compensation. Blue Shield cannot pay for x-ray examinations until subscriber payments make it possible, and we all want this to come about voluntarily—not through a compulsory statute. Some Blue Shield members now have coverage for x-ray examinations. Look at the member's Identification Card. If your patient has Blue Shield x-ray, it will be noted on that card.

In conclusion, remember that the first "personal accident insurance" issued in the United States was dated about 1865. The coverage was limited to "travel injuries." As "experience" accumulated, most of the original contract exclusions were eliminated and the scope of benefits broadened. "Sickness" in the health-and-accident policies first appeared just prior to 1900. Blue Shield began about 1940, and the national enrollment of some 32 million Blue Shield members of today is an index of what we may expect just beyond the horizon of tomorrow. Just as you support your "Doctors' Plan," so will it support you.

122 76TH STREET

Things do not change; we change.—THOREAU

CORRESPONDENCE

Infant Mortality Study

To the Editor:

May we point out some reactions to the article, "Factors in Infant Mortality as Revealed by the New York Academy of Medicine Study," authored by Dr. Lawrence J. Caruso that appeared in the March 15, 1955, NEW YORK STATE JOURNAL OF MEDICINE.

This excellent article has pointed out the modus operandi of the New York Academy Infant Mortality Study, as well as the many correctable factors pertinent to lowering infant mortality. We are in complete accord with the factual material in Dr. Caruso's article and many of the valid conclusions that he has drawn therefrom. However, it must be remembered that the factual data and the conclusions they led to, with regard to the evaluation of maternal and newborn care in the hospitals having maternity services, date back to the year 1947. Eight years have elapsed, and the situation is considerably changed for the better, so that we believe that the publication of this article is untimely because it is outdated.

Since the adoption of the revised Section 110 of the Sanitary Code, which became effective July 1, 1953, the Maternity and Newborn Division of the New York City Health Department through its consultation services to the New York City hospitals has helped to implement the regulations of the Code. We have found extreme cooperation on the part of all hospitals in living up to the requirements of the Code. Major areas in which advances have been made have been in the integration of the labor and delivery suites and appointment of qualified directors of services who take active charge of their services. This latter point has led to strengthening of consultation policies and delineation of obstetric and newborn staffs in such a way that qualified obstetricians and pediatricians see all complicated cases and all complications are under their direct supervision. In evaluating actual patient care, the quality of records both for the obstetric patient and the newborn has been markedly improved in the eight years since Dr. Caruso's report. Likewise, there have been great strides made with regard to the care of premature infants. Institutes have been held under the joint auspices of the New York City Health Department, New York State Health Department, and teaching hospitals, in which pediatricians, obstetricians, and nurses have participated to their mutual benefit. The smooth functioning of the Premature Transport Service of the New York City Health Department has also greatly facilitated improvement in premature care.

A recent evaluation by the Maternity and Newborn Division of the New York City Department of Health of prenatal clinics and the quality of medical care given in them by municipal and voluntary hospital maternity services has shown a definite improvement in the quality of definitive patient care rendered. Particularly is this evident in the realm of improvement in patient-doctor ratio, counseling of the patient along nutritional and hygienic lines, and the performance of laboratory tests in the interest of the patient.

In conclusion, therefore, we believe that many of the weaknesses at hospital level existing in 1947 have been greatly improved by the joint cooperation of the hospital staffs and administrators, county society maternal and infant welfare committees, the Maternity and Newborn Division of the Health Department, and other interested agencies, with ensuing benefits to mother and infant. This improvement is a tribute to the obstetric, pediatric, administrative, and nursing professions at hospital level in this city and is continuing. While much still remains to be done, a great deal has been accomplished through the collaborative efforts of all concerned.

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HUGO M. CARDULLO, M.D., *Pediatrician-in-charge*
EDWIN M. GOLD, M.D., *Obstetric Consultant*
B. A. G. WEISL, M.D., *Obstetric Consultant*

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125 Worth Street
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Comment by Editor of Series

To the Editor:

I have read with interest the letter of March 30, 1955, from Drs. Jacobziner, Cardullo, Gold, and

Weisl of the New York City Department of Health, commenting on the article by Dr. Lawrence Caruso.

I quite agree with Dr. Jacobziner and his associates that the article is an excellent one, but I do not agree that its publication is "untimely because it is outmoded." It is true that the factual data and conclusions relate to surveys, made in 1947 by the Infant Mortality Committee of the New York Academy of Medicine, of hospitals giving lying-in care in New York City. But it is also true that the results of this study were not published until 1952 (New York, Columbia University Press, p. 188). Furthermore, the publication contains much of historical and practical value. The material is not readily available to all medical practitioners and others interested in the conduct of maternity hospitals. The essential details should therefore be made available, even at this date, to highlight the outstanding causes underlying substandard maternity and newborn infant care in lying-in hospitals of any community. The data give a baseline for later comparative studies. The emphasis in Dr. Jacobziner's letter should be reversed. The obstetric service of the hospital that exhibits the deficiencies is "untimely because it is outmoded," not the essential facts that point up the substandard service. The passage of time does not in any way detract from their fundamental importance and educational value.

Dr. Caruso has presented the basic data from the original study of the New York Academy of Medicine clearly and succinctly. The article should be read widely, not alone locally. Insight will be gained, through interchange of experience, into methods whereby maternity and newborn infant nursery services can be improved to effect a much needed lowering of perinatal morbidity and mortality rates throughout the country and to reduce even further maternal morbidity and mortality.

It is the policy of the Special Committee on Infant Mortality of the Medical Society of the County of New York to publish in the Proceedings of the Committee all lectures given at its open stated meetings. The lectures of the years 1949–1950, 1950–1951, and 1951–1952 were published separately by voluntary sponsors in booklet form and distributed to a limited group of practitioners. After an interval, and thanks to the understanding and cooperation of the editorial board of the New York State Journal of Medicine, it is now possible to bring to the medical profession at large all previously unpublished and current lectures given at the open meetings. These lectures emphasize the problem of the existing high perinatal mortality rates and present suggestions from leading authorities on ways to reduce this fetal and neonatal loss.

With regard to Section 110 of the Sanitary Code of the City of New York, it should be stated that the original regulations were adopted on December 14, 1937. It was a unique section in that for the first time maternity and newborn infant nursery services in hospitals giving lying-in care were placed under the direct supervision of the Department of Health of the City of New York. A period of trial ensued during which the practical value of the regulations was observed. Work on the first major revision and modernization of Section 110 of the Sanitary Code was begun about 1950. The final form became effective on June 1, 1953. The ground work had been previously solidly built by the accumulated experience of almost sixteen years. The facts did not become outmoded but gave added weight to the regulations incorporated into the final revision of the Code.

It is gratifying to know that those in hospitals responsible for the conduct of maternity and newborn infant nursery services now appreciate the objectives of the Code and lend their support and cooperation. The program outlined by Dr. Jacobziner and his associates to achieve a further improvement in the hospital and clinic care of mothers and their babies is admirable and well planned. It is a program in keeping with the high standards of the Department of Health of the City of New York. It should receive wholehearted community support.

Harold Abramson, M.D., *Editor*,
Proceedings of the Special Committee on Infant Mortality of the Medical Society of the County of New York

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Evaluation of Tyzine, A New Sympathomimetic Agent

To the Editor:

Allow me to report my experience with Tyzine which Dr. H. C. Menger recommends as a new topical vasoconstrictor [New York State J. Med. 55: 812 (Mar. 15) 1955].

I prescribed this medication, 2 drops in each nostril every four hours, for an infant one year old. On the second instillation of said drops the infant fell asleep and could not be roused for about twelve hours. I need not describe the disturbance this episode caused in the family.

Having once had a similar experience with ~~procaine~~ * Privine, I looked into the chemical structure and found both compounds to have a remarkable similarity. When the infant finally began to react normally,

*See p. 1933, July 1, 1955.

she suddenly began to manifest violent clonic movements of the arms and head, which gave me another headache for six hours. After six hours the child quieted down and was entirely well.

I report this case to remind those who prescribe this therapy to watch out for an idiosyncrasy. The drug has its merits, but still we should exercise care.

George S. Meister, M.D.

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Comment by Dr. Menger

To the Editor:

The basic reservation which Dr. Meister makes concerning my recent paper on Tyzine is a valid one. It now seems that in occasional cases Tyzine can produce systemic reaction. As with other widely used nasal decongestants, sedation of varying degrees may occur, chiefly in infants.

In my original series of 203 cases no such effects were noted despite careful inquiry. However, in a subsequent series of about 700 patients, which I hope to submit for publication in the near future, several cases with the soporific reaction were observed. Possibly it was simply a matter of chance distribution that the comparatively infrequent effect did not appear in the initial series. Communication with the manufacturer reveals a similar experience. The clinical investigations before marketing were said to involve approximately 2,000 patients. Sedative action was absent in that group in both children and adults. Only after the wide general usage attendant upon marketing of the preparation were such reactions found to occur. Again this chain of events may have been a matter of pure chance.

Another factor may have been an inequality of conditions under which the Tyzine has been used. Data accumulated by the manufacturing company and clinical experience show that most, if not all, reactions with this compound have been due to some overdosage, absolute or relative. Perhaps under investigational conditions more stringent precautions were used, with precise and emphatic instructions employed with regard to dosages and frequency of administration. It is conceivable that general use has been somewhat more relaxed. If patient or parent is not impressed with administration technics and amounts, permitting incorrect usage and excessive quantities "for good measure," difficulty may develop.

Tyzine shares with other nasal decongestants the propensity occasionally to produce sedation. The reaction, however, is apparently merely troublesome. Even with accidental massive overdosages, all cases reported to the company have recovered in short periods and with no residual effects. Judicious use of the agent can probably prevent or minimize the majority of soporific reactions. I understand from the manufacturer that they will shortly place on the market a special pediatric form which should further reduce the incidence of side-effects. Tyzine does continue to have greater freedom from local and systemic pressor reactions than other available agents. Thus it remains a valuable and superior agent.

Harold C. Menger, M.D.

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Open Safety Pins in the Esophagus

To the Editor:

In memory of one of our very famous American physicians, Chevalier Jackson, I submit a report of a case I referred to him in 1923 because I consider it one of the miracles of medicine. Dr. Jackson, before he died, wrote me that he had referred frequently to this case in his publications and lectures because it presented "heretofore unrecorded difficulties." No doubt many of the older M.D.'s are already familiar with this case, but it should be very interesting to the younger ones, who have not read about it.

A boy, aged nine months, of a Polish family in East Hampton, Long Island, who was a patient of mine, was scheduled for a phimosis operation at the Southampton Hospital. But early in the morning I was awakened by the telephone ringing, and a voice said "This is Nicky's mother. Don't operate on him, because he has swallowed some open safety pins which his brothers fed him." It just happened that a nurse in the hospital had found an open safety pin in this baby's diapers during the night and that she had noticed the baby refused to lie in any position but on his chest with his knees drawn up (Fig. 1).

X-ray films showed four, medium-sized, open safety pins in the esophagus (Figs. 2 and 3). The operation was cancelled, and the baby was quickly transferred to Dr. Chevalier Jackson, Philadelphia. On examination of films and with fluoroscopy he figured that the pins had been in the esophagus for nearly two months. Esophagoscopy revealed that the pins were interlocked and that it would be dan-

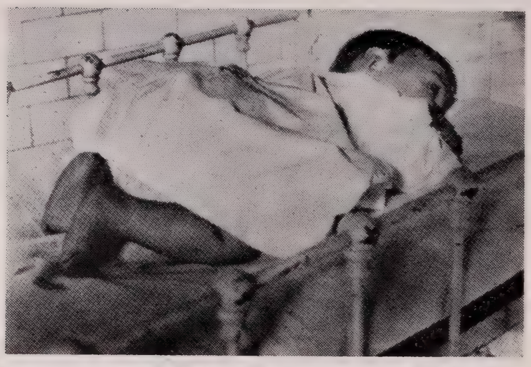

Fig. 1. Prone position preferred prior to operation.

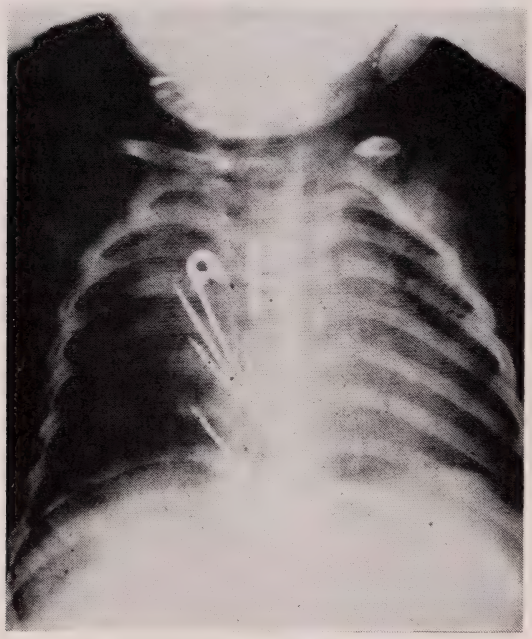

Fig. 2. X-ray shows four, medium-sized, open safety pins in the esophagus.

gerous to attempt their removal in the ordinary way for fear of perforation. So he pushed the two smaller pins into the stomach by direct vision, and the two larger ones were removed through the mouth by the esophagoscopic point-protected method of Dr. Jackson, the Tucker forceps being employed. Because of an unusually large pylorus the pins that had been guided into the stomach were passed successfully with the stools. In a personal letter he wrote that, "The reason for the accommodation of such huge safety pins was the normal elasticity of the esophagus. It is a redundant, resilient bag, and the large pins were widely open and stiff-springed. They put the esophagus on the stretch in the coronal plane." Having preferred the prone position as all these cases do before operation, after these pins were out, this patient preferred the dorsal position (Fig. 4).

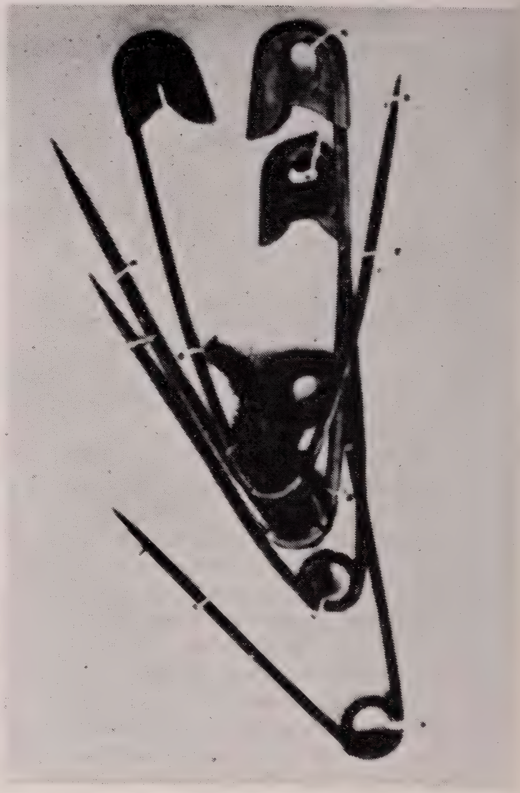

Fig. 3. Safety pins, actual size, reassembled in the interlocked position.

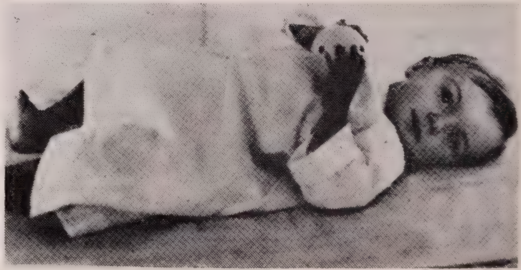

Fig. 4. Dorsal position, preferred after operation.

I am reminded at this point of another baby patient of mine who swallowed an open diaper safety pin which his mother left beside him on the bed and passed it safely. He undoubtedly put it in his mouth because he was just copying his mother. Dr. Jackson frequently emphasized this point of the bad example of mothers and nurses who hold pins in their mouths while dressing children.

For the interest of our readers I refer them to Dr. Jackson's article, "Four Open Safety Pins in the Esophagus," in the September 29, 1923, issue of *J.A.M.A.* (vol. 81, p. 1099) and to his article entitled, "What Does Your Baby Put in His Mouth," published in *Hygeia*, December, 1923 and 1937.

H. LAWRENCE DOWD

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The illustrations herein are reprinted from the *Journal of the American Medical Association*, September 29, 1923, vol. 81, p. 1099.

Smoking and Thumbsucking

To the Editor:

This communication refers to the paper by A. W. Sullivan, of Rochester, New York,[1] who regards "thumbsucking" from the dental standpoint but quotes the work of Margaret A. Ribble,[2] who says that infants benefit from sucking experience and are stronger than those infants who do not actively suck. She thinks sucking is an important factor in personality development.

I consider "smoking" (of cigars and cigarets, also of so-called "reefers," etc.) an adult form of thumbsucking. Freud,[3] you will observe, stated that excessive drinking or smoking may be an adult outgrowth of infantile sucking experience.

The tendency to "sexualize" nearly every matter related to neurotics and psychotics today may have obscured the fact that we are dealing with at least two factors, one nutritional and the other a personality element. We read in Jung[4] that hunger libido may extend beyond sex attitude.

And in Abraham we read "relieve by taking anything into the mouth,"[5] and "an inordinate desire to possess,"[6] "desire to smoke,"[7] and "utilization of mouth zone" in smoking.[8] There is an indication of an effort toward success in smoking as evolved with the basis of thumbsucking. This is not of necessity an oral sex libido.

I understand that the rhinencephalon has not retrograded in man. It is used now, I venture to say, for the instinct of aggression in business and social affairs and is removed from the more restricted field of sex libido. Here, smell, as originally taste, preserves its appearance to us in the phrase, "good taste" in conduct. Possibly the problem of improper use of narcotics should occasion our study of these complicated factors. The rhinencephalon and the area of Papez[9] associated with the emotional mechanism, the hypothalamus and the anterior part of the cingulate gyrus, should be carefully reviewed.[10,11]

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[5] Abraham, K.: International Psychoanalytic Library, no. 13, New York, Basic Books, Inc., 1953, p. 273.

[6] *Idem:* p. 398.

[7] *Idem:* p. 97.

[8] *Idem:* p. 105.

[9] Papez, J. W.: J. Neurol. & Psychiat. **38**: 725 (1937).

[10] Ward, A. C., Jr.: A. Research Nerv. & Ment. Dis., Proc. **27**: 446 (1947).

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Tick Fever May Be Found Anywhere

Travel speed and the popularity of western vacations make it possible for Colorado tick fever to show up in any part of the country, U.S. Public Health Service researchers have found.

In a recent study, virus from the tick which carries the disease was found in patients exposed in California, Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming. The disease has been found in persons from as far away as Florida, Maine, and New York.

The study of Colorado tick fever distribution was reported in the January 22 *Journal of the American Medical Association* by Dr. Carl M. Eklund, Glen M. Kohls, and James M. Brennan, from the U.S.P.H.S. Laboratory at Hamilton, Montana.

Their isolations of virus were the first reported in widespread areas outside of Colorado. They said they found virus-carrying ticks in all nine states where patients had been exposed, and in Canada.

The disease differs from Rocky Mountain spotted fever—also carried by ticks—in that it causes no skin eruption and recovery is invariable. Four or five days after exposure to ticks the patient has chilly sensations, headaches, nausea, and, occasionally, vomiting. Fever, headache, and backache last about two days, disappear for about two days, and then return for two or three more days.

NECROLOGY

Herbert Coleman Allen, M.D., of Yarnell, Arizona, formerly of Brooklyn, died on January 5 at Phoenix, Arizona, at the age of seventy-nine. Dr. Allen was graduated from the New York Homeopathic Medical School in 1896 and had retired from the practice of medicine in 1948. Before his retirement he had been a member of the Brooklyn Gynecological Society and consulting obstetrician at the Peck Memorial Hospital, of which he had been a member of the original staff as well as the first chief of the Department of Obstetrics. A Fellow of the American College of Surgeons, Dr. Allen was a member of the Kings County Medical Society, and the Medical Society of the State of New York.

Emil Alvermann, M.D., of Bath, died of a heart attack at the Bath Veterans Administration Hospital on March 18 at the age of forty-six. Dr. Alvermann graduated from St. Louis University Medical College in 1933. During World War II he served in the Medical Corps. At the time of his death, Dr. Alvermann was attending cardiologist at the Bath Veterans Administration Hospital and a member of the Steuben County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Joseph S. Brandstein, M.D., of the Bronx, died on April 7 at the age of fifty-eight. Dr. Brandstein graduated from Columbia University College of Physicians and Surgeons in 1921 and interned at Gouverneur Hospital. He was assistant adjunct physician at the Bronx Hospital and a member of the Bronx County Medical Society and the Medical Society of the State of New York.

Mark J. Daley, M.D., of Yonkers, died in St. Joseph's Hospital on April 11 at the age of sixty. Dr. Daley was graduated from McGill University Medical School in 1921. He was on the staff of St. Joseph's Hospital, Yonkers General Hospital, and St. John's Riverside Hospital, and consultant in neuropsychiatry at North Hudson Hospital, Weehawken, New Jersey. Dr. Daley was a member of the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Louis Friedman, M.D., of New York City, died on April 9 after a long illness at the Polyclinic Hospital at the age of seventy-nine. Dr. Friedman was graduated from the New York University Medical College in 1897. For a number of years he was chief visiting surgeon at Harlem and Sydenham Hospitals and had been affiliated with Polyclinic Hospital since 1898. At the time of his death, Dr. Friedman was consulting surgeon at Sydenham Hospital and a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Martin Gumpert, M.D., of New York City, died on April 18 of a heart attack at the Beekman Hospital at the age of fifty-seven. Dr. Gumpert received his medical degree in 1923 from the University of Berlin. The author of a text on venereal disease among children and several books dealing with geriatrics, Dr. Gumpert was a member of the American Geriatric Society, the American Public Health Association, and was serving as chief of the Geriatric Clinic of the Jewish Memorial Hospital. He was a member also of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

John Evans Hutton, M.D., of New York City, died on April 8 in Roosevelt Hospital at the age of fifty-seven. Dr. Hutton graduated from Syracuse University Medical School in 1921. A Diplomate of the American Board of Internal Medicine, he was also a Fellow of the American College of Physicians. At the time of his death, Dr. Hutton was a member of the New York Gastroenterological Society, honorary consulting physician at Gouverneur Hospital, associate attending physician at Roosevelt Hospital, and chief of gastroenterology at the Roosevelt Hospital Outpatient Department. Dr. Hutton was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

James Edward Maloney, M.D., of Brooklyn, died on April 11 at Franklin Hospital, Franklin, New Jersey, at the age of seventy-eight. Dr. Maloney was graduated from Albany Medical College in 1907. During World War I he had served as a major in the Army medical service in France, and until fifteen years ago, Dr. Maloney had served as a psychiatrist with the Veterans Administration in Washington.

William Narins, M.D., of New York City, died on April 7 after a brief illness in Mount Sinai Hospital at the age of seventy-five. Dr. Narins was graduated from Columbia University College of Physicians and Surgeons in 1905. A former chief of the tuberculosis clinic at Gouverneur Hospital and physician to the children at the Henry Street

Settlement, Dr. Narins was also physician for St. Augustine's Protestant Episcopal Church. He was a member of the New York County Medical Society and the Medical Society of the State of New York.

Joseph Shiffer, M.D., of Richmond Hills, Queens, died in Triboro Hospital on April 19 after an illness of several months at the age of fifty-six. Dr. Shiffer was graduated from Cornell University Medical College in 1923. He was assistant attending surgeon at the Lutheran Hospital and a member of the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Edwin Carl Smith, M.D., of Manlius, died on March 30 in Japan as the result of an accidental gunshot wound in the chest while on duty with the Army in Korea. He was thirty-two years of age. Dr. Smith graduated from the University of Rochester School of Medicine and Dentistry in 1947 and had been serving with the Army since July 4, 1954. At the time of his death, he was a member of the Onondaga County Medical Society and the Medical Society of the State of New York.

John David Smith, M.D., of Jay, died on March 26 after a long illness in the Physicians Hospital, Plattsburg, at the age of seventy-six. Dr. Smith graduated from the University of Vermont Medical School in 1906 and had practiced in Jay for forty-nine years. He had been supervisor of the Town of Jay since 1939.

George Calvin Swerdfeger, M.D., of Buffalo, died in Meyer Memorial Hospital on March 20 at the age of seventy-four. Dr. Swerdfeger was graduated from the University of Buffalo School of Medicine in 1903. From 1917 to 1951 he had served with the Buffalo Health Department as physician in the public schools and for about twenty years had been the physician in attendance at all city high school football games. For about fifteen years, Dr. Swerdfeger had served on the staff of the old German Memorial Hospital until it was discontinued in 1930. He was also a former member of the Erie County Medical Society.

Jacob Werne, M.D., of Jamaica, died on April 14 at the age of forty-nine. Dr. Werne was graduated from Baylor University Medical School in 1926. At the time of his death Dr. Werne was senior assistant medical examiner for Queens County. He was a Diplomate of the American Board of Pathology, a Fellow of the College of American Pathologists, a Fellow of the American College of Physicians, and a member of the New York Academy of Medicine, the New York Pathological Society, the American Pathological and Bacteriological Society, and the Society of American Clinical Pathology. Dr. Werne was attending pathologist at St. John's Long Island City Hospital, director of pathology at the Flushing General Hospital, director of the laboratory at Rockaway Beach Hospital, and consulting pathologist at Jamaica Hospital. Dr. Werne was a member of the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Herbert Buddington Wilcox, M.D., of Orford, New Hampshire, formerly of New York City, died on February 1 of a heart attack at Lake Charles, Louisiana, at the age of eighty. Dr. Wilcox was graduated from Columbia University College of Physicians and Surgeons in 1902 and interned at St. Luke's Hospital in New York City. From 1939 until 1946 he had served as a director of the New York Academy of Medicine and from 1904 until 1939 had practiced pediatrics in New York City. From 1904 until 1920 he was an associate in pediatrics at the College of Physicians and Surgeons and later was Carpentier professor of Diseases of Children there.

At one time Dr. Wilcox had been adjunct assisting attending physician at Bellevue Hospital, assistant attending physician of Bellevue's children medical division as well as director, physician to the Vanderbilt Clinic, attending physician at the Manhattan Eye, Ear and Throat Hospital, physician-in-chief at Babies Hospital, and attending pediatrician at New York Neurological Institute. He had also served as consulting pediatrician at Booth Memorial Hospital, New Rochelle Hospital, Sloane, Presbyterian, and Manhattan Eye, Ear and Throat Hospitals, at the Warwick New York State Home for Delinquent Boys, and the Summit, New Jersey, Orphans' Home.

Dr. Wilcox had been on the advisory boards of the New York Milk Committee and the New York Maternity Center Association, a trustee of the American Child Health Association, a member of the board of censors of the Medical Society of the State of New York, a vice-president and a trustee of the New York Academy of Medicine. He had also been a member of the Society of American Pediatricians, the New York Pathological Society, the New York County Medical Society, and the Medical Society of the State of New York.

Charles Russell Witherspoon, M.D., of Rochester, died on March 27 at his home at the age of eighty-two. Dr. Witherspoon was graduated from the University of Pennsylvania Medical School in 1898. He was a member of the attending staff of General Hospital, the oldest in point of continuous service, and with three other physicians established Rochester's first general hospital laboratory. He had been a member of the Pathological Society of Rochester, the Rochester Academy of Medicine, and had served on the board of the Rochester State Hospital since 1928, serving as president since 1947. Several years ago the Rochester Academy of Medicine conferred upon him an honorary life membership in recognition of his outstanding service to the community. He was a member of the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Fellowship—A Life Insurance Medical Research Fellowship covering the costs of a research project for one year has been awarded to Joseph Fink, a second-year medical student at the College. Mr. Fink will work with Dr. Frank C. Ferguson, Jr., chairman, Department of Pharmacology, and will do special research on "The Effects of Colchicine on the Heart and Autonomic Nervous System."

Retires—Dr. Arthur Knudson, professor and chairman, Department of Biochemistry, is retiring as chairman on June 30. Dr. Knudson has been professor and chairman since 1921 and from 1943 to 1952 he served as associate dean. He is an authority on the metabolism of cholesterol and is well known for his studies on vitamin D and its formation by ultraviolet and other irradiation. During World War II, Dr. Knudson was a member of the Committee on Nutrition for Industrial Workers and he also served on the premedical committees with the Army and Navy helping to screen premedical students for advanced study. Dr. John A. Muntz, Cleveland, Ohio, presently an associate professor at Western Reserve University School of Medicine, will succeed Dr. Knudson on July 1.

Cancer Teaching Day—New advances in cancer treatment and detection was the theme of the fourth cancer teaching day at the College on March 31. Participants in the teaching day were Dr. Kenneth B. Olson, professor of oncology and director of the division at the College; Dr. Sheldon C. Sommers, associate professor of pathology, Boston University School of Medicine; Dr. Knowles Lawrence, assistant professor of surgery; Dr. Herbert H. Wotiz, assistant professor of biochemistry; Dr. Aaron Miller, assistant in medicine; Dr. Henry M. Lemon, associate professor of medicine; Dr. Henry M. Dratz, instructor in surgery; Dr. John K. Meneely, Jr., instructor in medicine; Dr. Henry J. Bakst, professor of preventive medicine; Dr. Edward J. Marra, instructor in preventive medicine; Dr. E. R. Greer, instructor in medicine, Boston University School of Medicine; Dr. M. Moira Reynolds, instructor in biochemistry.

University of Buffalo School of Medicine

Fund for Medical Education—The annual participating fund for medical education was initiated February 22, 1954, for the purpose of strengthening the basic science departments. On February 22, 1955, 1,069 donors had pledged contributions totaling $99,000. As a result of these contributions the following appointments were made effective September 1, 1954: Dr. Douglas S. Riggs, professor and head, Department of Pharmacology; Harold Brody, Ph.D., assistant professor of anatomy; Robert J. Kieber, Ph.D., assistant professor of bacteriology and immunology; John V. Fopeano, Ph.D., instructor in biochemistry; Dr. George Rozsa, assistant professor of pathology.

Grant—A grant has been received by the school to establish the Lawrence D. Bell Professorship of Cardiovascular Research. Candidates for the chair are now being considered.

Promotions—The following have been promoted to the rank of professor: Dr. Irving Hyman, clinical professor of neurology; Dr. Bernard H. Smith, professor of neurology; Dr. Benjamin E. Obletz, clinical professor of orthopedic surgery; Dr. James P. Cole, clinical professor of orthopedic surgery; Dr. E. Dean Babbage, clinical professor of anesthesia; Dr. Richard N. Terry, clinical professor of anesthesia; Dr. Leon J. Leahy, clinical professor of surgery.

New York University College of Medicine

Reunion—The class of 1925 held its thirtieth reunion at a dinner in the Vanderbilt Hotel, New York City, on March 18. Dr. Elaine P. Ralli, director, Outpatient Services, Department of Hospitals of New York City, and Dr. John Mulholland, George David Stewart professor of surgery, and chairman, surgery study section of the National Institute of Health, entertained over 50 physicians and their wives at a cocktail party before the dinner.

Industrial Medicine—A full-time eight-week comprehensive course in industrial medicine for physicians will be given in the Post-Graduate Medical School of New York University-Bellevue Medical Center, September 26, 1955. Subjects being offered are: organization, administration, and economics of an industrial medical department; practice of preventive and constructive medicine in industry; clinical aspects of occupational diseases; industrial injuries and the elements of safety programs; toxicology and industrial hygiene for the physician. Applications should be sent to the Dean, NYU Post-Graduate Medical School, New York 16, New York.

Industrial Nursing—Beginning November 14, 1955, the Department of Industrial Medicine will offer a full-time one-week course in industrial nursing. The course is limited to 50 nurses and will be under the direction of Dr. David H. Goldstein, associate professor of industrial medicine and medical director, *The New York Times.* Selected topics which are designed for nurses will be offered in industrial medical departments concerning organization and record keeping, health programs, the interrelationships between doctor and nurse, employer and employe, occupational diseases and injuries, legal medicine, rehabilitation, and medical and surgical emergencies. A seminar will be held jointly with physicians in industry on doctor-nurse relationships.

Applications should be sent to the Dean; NYU Post-Graduate Medical School, 550 First Avenue, New York 16, New York.

New Library—The establishment of a new library on "Man's Place in Nature" within the main scientific library of the New York University-Bellevue Medical Center in the Medical Science Building, 550 First Avenue, was announced on March 24. It is hoped that this library will be one more effort to disseminate modern scientific knowledge widely and quickly so that it may be put to use for the general welfare of man in his daily life.

Research Grant—A grant of $100,000 has been awarded to the University by the Fannie E. Rippel Foundation, Newark, New Jersey, for support of research in the Institute of Cardiovascular Diseases and the Cancer Institute of the New York University-Bellevue Medical Center and for the purchase of related equipment.

State University of New York College of Medicine at New York City

Psychosomatic Forum—The College entertained the Psychosomatic Forum of New York City at the Kings County Hospital on March 31. Dr. Israel Zwerling, psychiatrist-in-charge, the State University Alcohol Clinic at Kings County Hospital, presented "A Comparative Study of Actively Drinking Patients with Alcoholism with Patients Successful in Maintaining Sobriety for Over Two Years"; Dr. Solomon Machover, clinical assistant professor of psychiatry, presented a "Personality Study of 42 Parkinson Patients," and Dr. Max Schur, clinical associate professor of psychiatry, presented a paper on "The Theoretic Implications of Symptom Itching."

University of Rochester School of Medicine and Dentistry

X-ray Motion Pictures—A new device permitting the taking of x-ray motion pictures with a greatly reduced dose of radiation to the patient is now in use at the University of Rochester Medical Center. Only three or four similar devices have been set up throughout the country.

Known as an image intensifier, it has been installed by Dr. James Sibley Watson, lecturer in radiology, and Sydney A. Weinberg, associate in radiology, under direction of Dr. George H. Ramsey, head of the Radiology Department at the medical school.

Embarrassed

Shortly after World War I, the late Queen Marie of Rumania visited our country, including my own city of Baltimore. As chairman of the reception committee, our Mayor appointed the late Dr. William S. Thayer, a distinguished internist, a charming gentleman, and an accomplished linguist. The royal party's tour of the city included the newly established Henry Phipps Psychiatric Institute of the Johns Hopkins Hospital.

The late Dr. Adolph Meyer, one of the most eminent psychiatrists of our time, was then the director of the Phipps Institute. Those who knew Dr. Meyer will agree that he was very erudite and profound, but I do not recall that anyone had ever discovered a spark of humor in him. Dr. Thayer walked into Dr. Meyer's office and said, 'Dr. Meyer, I would like to present to you Her Majesty Queen Marie of Rumania." And Dr. Meyer, without even looking up from his desk, said in his rather attractive Swiss accent, "And how long does the lady think she has been the Queen of Rumania?"—*E.M., Current Medical Digest, March, 1955*

MEDICAL NEWS

Association for the Advancement of Psychotherapy—The 133rd scientific meeting of the Association for the Advancement of Psychotherapy was held at the New York Academy of Medicine Building on April 29. Dr. Emil A. Gutheil spoke on "Pseudoneurotic Forms of Depressive Psychosis."

Albany County Medical Society—The April meeting of the Albany County Medical Society was held April 26 at the Wolfert's Roost Country Club in Albany. Dr. Charles Gardner Child, III, spoke on "The Present Status of Portal Decompression for Bleeding Esophageal Varices."

Multiple Sclerosis Research—The National Multiple Sclerosis Society has received an anonymous contribution of $102,000 for research. The gift will provide a two-year grant for two scholars and four fellows.

Navajos Aid TB Fund—Navajo Indian tribal council leaders have contributed a total of $20,000 to the tuberculosis hospital at Fort Defiance, New Mexico. Drs. Walsh McDermott and Carl Muschenheim, both of New York Hospital, have supervised a Cornell Medical School team there since 1952, and have helped lower the Navajo death rate by using new drugs.

Nassau County Ophthalmological Society—The Nassau County Ophthalmological Society held a scientific meeting on April 25 in Hempstead, at which the paper of the evening was "Diabetic Retinopathy," by I. S. Tassman.

New York Research Society—The Research Society of the State University of New York College of Medicine at New York City held its eighth meeting on May 11 at Hoagland Hall, 335 Henry Street, New York City.

"The Effect of Pyrogens of Discrete Tubular Functions" was discussed by Drs. J. L. Brandt, B. Zumoff, H. Ruskin, L. Castelman, and S. Zuckerman, from the Department of Medicine; "Clot Density Determination of Fibrinogen in Acute Myocardial Infarction" was discussed by Drs. B. Volk, S. Losner, and P. Crastnopol, from the Department of Laboratories, Jewish Chronic Disease Hospital, and Department of Surgery, and "Observations on the Expansion of the Lungs of Infants" was discussed by Drs. S. James and P. Gruenwald, of the Department of Pediatrics.

Report on Water Fluoridation—The New York State Department of Health observed the tenth anniversary of its Newburgh-Kingston fluoridation study with ceremonies in Newburgh on April 21.

The study was undertaken to determine the effects of water fluoridation in reducing dental decay. Fluorides were added to the drinking water in Newburgh to bring the concentration to the desired level of one part of fluoride for every million parts of water.

The water in the city of Kingston was kept fluoride free. In addition to annual dental examinations, the children in both cities have undergone intensive physical examinations, as well as laboratory and bone x-ray examinations. The study was initiated and directed by Dr. David B. Ast, director of the State Health Department's Bureau of Dental Health.

Rochester Regional Council—The fifth annual teaching day was held in the Dunn Memorial Auditorium at St. Joseph's Hospital in Elmira on May 4, under the auspices of the Rochester Regional Council.

The program was given by physicians from several of the member hospitals.

Bush Memorial Banquet—The tenth annual Bush Memorial Banquet and lecture was held on May 4 at the Mark Twain Hotel in Elmira. Dr. John W. Draper of New York City was the guest speaker, and his topic was "Management of Traumatic Lesions of the Urinary Tract."

Jefferson County Medical Society—The regular monthly meeting of the Medical Society of Jefferson County was held on April 19, at the Black River Valley Club in Watertown.

Dr. William W. Faloon, assistant professor of medicine, State University College of Medicine at Syracuse, spoke on "Liver Disease and Liver Function Tests."

Cerebral Palsy Lectures—The University of Buffalo School of Medicine sponsored the second annual United Cerebral Palsy Association lecture on April 20. Dr. Eric Denhoff, medical director, State School for Cerebral Palsy, Providence, Rhode Island, spoke on "Management of the Child With Cerebral Palsy," and "The Problem of Cerebral Palsy," and held a teaching clinic in cerebral palsy. The lectures were held in the auditorium of the nurses' residence of Children's Hospital in Buffalo.

Personalities

Elected

Dr. William H. Kammerer, president; Dr. Jack R. Dordick, vice-president; Dr. Bernard Rogoff, secretary-treasurer; Drs. Morris Ziff and Rubin Klein, executive committee, and Dr. Charles M. Plotz, re-elected to the executive committee, of the New York Rheumatism Association, on April 12, at Cornell University. . .Dr. Israel S. Wechsler, consulting neurologist at Mount Sinai Hospital, president of the renamed Conference on Jewish Social Studies. The group was formerly the Conference on Jewish Relations.

Awarded

Dr. Arthur J. Bedell, Albany, the Howe Ophthalmological Prize for his contributions in research and clinical ophthalmology, by the chancellor of the University of Buffalo. . .Dr. Bruno W. Volk, director of laboratories of the Jewish Chronic Disease Hospital, Brooklyn, and Dr. Abraham Saifer, chief of the biochemistry department, $7,000 by the United States Public Health Service for support of their research, "Protein Studies in Chronic Diseases."

Speakers

Dr. Theodore J. Curphey, chief medical examiner for Nassau County and director of pathology at Meadowbrook Hospital in Hempstead, at the Summit Park Sanitarium on April 27, on "The Medical Examiner System". . .Miss Mary M. Redmond, director of the advanced psychiatric nursing program, School of Nursing Education, Catholic University of America, Washington, D.C., before the members of the hospital staff of the Veterans Administration Hospital at Northport, Long Island, on April 12, on "The Psychiatric Nurse and Her Patients". . .Dr. Seymour Wilhelm, associate clinical professor of urology at the New York University College of Medicine, before the Geneva Academy of Medicine on April 18, on "Modern Treatment of Carcinoma of the Prostate."

Appointed

Dr. George D. Anderson, as resident physician in gynecology and obstetrics at New York Hospital. . . Drs. Bradley Brownlow, Elmira; Alexander Milyko, New York City; Russell Lane, Rochester, and Robert O. Jensen, Penn Yan, as interns at Mary Imogene Bassett Hospital in Cooperstown, on July 1. . .Dr. Theodore C. Jewett, Jr., assistant to the chief of surgical services at Children's Hospital in Buffalo. . .Dr. Basco M. Johnson, as chief of professional services at Sunmount Veterans Administration Hospital, Tupper Lake. . .Dr. Harry Miller, chairman, Drs. Ralph E. Isabella, Eugene Davidoff, Stuart MacMillan, and Ralph Reid, to the advisory committee on malpractice insurance and defense board of the Medical Society of the County of Schenectady. . .Dr. Zena Stanley-Schulman, Larchmont, as adjunct pediatrician at the Lenox Hill Hospital, New York City.

Honored

The late Dr. Ernest Boas, with a foundation establishing fellowships, lectureships, and an annual publication. . .Dr. Edward T. Whitney, surgeon-in-chief of the Boston Dispensary Rectal Clinic, New England Medical Center, with the 1955 Honor Award and gold medal, highest honor of the International Academy of Proctology, for his eminence as a teacher in his field of medicine, at an international medical meeting at New York City.

New Offices

Dr. Robert W. Ballard, associated with Drs. C. A. Hebblethwaite and R. G. Wedemeyer, at the Baldwinsville clinic. . .Dr. Arthur J. Hacker, general practice on June 1, in Ballston Spa, taking over the office of Dr. George D. Anderson. . .Dr. Maurice C. Landau, taking over the office and practice of ophthalmology of Dr. Leonard A. Hulsebosch at Rogers Building, Glens Falls. . .Dr. Ralph J. Ragosta, general practice in Meridian, taking over the practice of Dr. Frank C. Meyers.

MEDICAL MEETING

New York Infirmary Alumnae Day

An Alumnae Day will be sponsored June 2 by the Medical Alumnae Association of the New York Infirmary. There will be clinical and round table discussions in the morning and afternoon and lunch will be served at the hospital. The clinical program will be announced later. There will be an alumnae dinner and business meeting in the evening. The Alumnae Association of the New York Infirmary includes all doctors trained at the Infirmary and all those who have been members of the medical staff. For further information, write to Dr. E. Catherine Cline, secretary, Medical Alumnae Association, New York Infirmary, 321 East 15 Street, New York 3, New York.

Woman's Auxiliary
to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

Annual Convention of A.M.A. Auxiliary Planned

ALL members of the Woman's Auxiliary to the Medical Society of the State of New York and all wives of physicians attending the annual convention of the American Medical Association, June 6 to 10 in Atlantic City, New Jersey, are invited to participate in all general meetings and social functions of the Woman's Auxiliary to the American Medical Association, which will meet concurrently.

Headquarters for the national auxiliary convention will be the Hotel Haddon Hall, where registration desks will be open from 9 A.M. to 4 P.M. each day.

The convention program briefly summarized is as follows;

Monday, June 6—Round table discussions on legislation, public relations, newsletters, *Today's Health.*
Tea honoring Mrs. George Turner, A.M.A. Auxiliary president.
Fashion show.

Tuesday, June 7—Formal opening of convention: welcoming speeches, roll call, minutes, announcement of committees, address of president, reports of officers, report of board of directors.
Luncheon in honor of past presidents.
State reports—north central region.
Reports of chairmen of standing committees and presentation of budget for 1955–1956.
State reports—western region.
Report of nominating committee for 1955.
Presentation of election committee and tellers.
Election of 1956 nominating committee.

In the evening, members of the Woman's Auxiliary and guests are invited to attend the reception and ball in honor of the president of the American Medical Association.

Wednesday, June 8—General meeting—minutes and announcements.
State reports—southern region.
Reports of chairmen of standing committees.
Reports of chairmen of special committees.
State reports—eastern region (including New York).
Report of historian.
Report of central office.
Luncheon in honor of retiring president and president-elect.
Round table discussions on program, civil defense, mental health, nurse recruitment.

Thursday, June 9—General meeting—minutes and announcements.
New business.
Election of officers.
Installation of officers.
Inaugural address of new president.
Annual dinner of A.M.A. Woman's Auxiliary.

Mrs. Arthur L. Bennett, president of the New York State Auxiliary, is a member of the nominating committee for the national convention and will also act as chairman of the New York State delegation, which will include the following: Mrs. Thomas M. d'Angelo, Mrs. Harry Norton, Mrs. Albert Vander Veer, Mrs. Gerald Cooney, Mrs. Harold Johnson, Mrs. Arthur Holding, Mrs. William Rennie, Mrs. Harry Pohlmann, Mrs. Colgate Phillips, Mrs. Adolph Emerson, Mrs. Ezra Wolff, Mrs. Charles Yarington, Mrs. Walter Heldmann, Mrs. Fred Jones, Mrs. John Horner, Mrs. Robert Hurd, Mrs. John Neubert, Mrs. Albert Biglan, Mrs. Josph Zavisca, Mrs. Luther H. Kice, Mrs. Arthur Gaffney, Mrs. Leo Schiff, Mrs. Michael Schultz, Mrs. Eugene Wolff, Mrs. Frederic Holcomb, Mrs. Robert Hall, Mrs. Fred Geib, Mrs. Walter Street, Mrs. James D'Wolf, Mrs. William Godfrey, Mrs. Alton Thompson, Mrs. Carlton Potter, Mrs. Alfred Grussner, and Mrs. Rudolph Amyot.

BOOKS RECEIVED

(The following books were received during the month of March, 1955)

Psittacosis. Diagnosis, Epidemiology and Control. Edited by F. R. Beaudette, D.V.M. Octavo of 240 pages, illustrated. New Brunswick, Rutgers University Pr., 1955. Cloth, $5.00.

Surgery of the Small & Large Intestine. By Charles W. Mayo, M.D. Illustrated by Russell Drake. Octavo of 314 pages, illustrated. Chicago, Year Book Publishers, 1955. Cloth, $9.00.

Advances in Pediatrics. Editor, S. Z. Levine, M.D. Associate Editors, John A. Anderson, M.D., Margaret Dann, M.D., A. Ashley Weech, M.D., Myron E. Wegman, M.D., and Warren E. Wheeler, M.D. Vol. VII. 1955. Octavo of 351 pages, illustrated. Chicago, Year Book Publishers, 1955. Cloth, $8.00.

A Compend of Electrocardiography. By Harris Sklaire, M.D. Fourth edition. Duodecimo of 54 pages, illustrated. Rouses Point, N. Y., The Author, 1955. Cloth, $5.50.

The Medical Clinics of North America. Nationwide Number. March, 1955. Octavo. Illustrated. Philadelphia, W. B. Saunders Co., 1955. Cloth, $18 net; paper, $15 net.

Wartime Psychiatry. A Compendium of the International Literature. Edited by Nolan D. C. Lewis, M.D., and Bernice Engle, M.A. Octavo of 952 pages. New York, Oxford University Pr., 1954. Cloth, $15.

British Obstetric and Gynecological Practice. Edited by Sir Eardley Holland, M.D., and Aleck Bourne, M.B. In two volumes. Obstetrics volume, Sir Eardley Holland, Editor. Gynecology volume, Aleck Bourne, Editor. Octavo. 1,166 pages; 841 pages. Illustrated. Philadelphia, F. A. Davis Company, 1955. Cloth, $29.50 set.

Psychoanalysis. Practical and Research Aspects. By Willi Hoffer, M.D. Octavo of 102 pages. Baltimore, published for Vanderbilt University by Williams & Wilkins Company, 1955. Cloth, $3.50. (The Abraham Flexner Lectures. Series No. 12)

Childbirth. Theory and Practical Training. By Marjorie F. Chappell, D.N. (Lond.). Duodecimo of 128 pages, illustrated. Edinburgh & London, E. & S. Livingstone, Ltd. (Baltimore, Williams & Wilkins Company), 1954. Cloth, $2.50.

A Symposium: Adrenal Function in Infants and Children. Lytt I. Gardner, Editor. Octavo of 112 pages. Syracuse, Public Relations Office, State University of New York, Upstate Medical Center, 1954. Paper, $1.00. [The 13th M & R Pediatric Research Conference]

Current Therapy, 1955. Latest Approved Methods of Treatment for the Practicing Physician. Edited by Howard F. Conn, M.D. Consulting Editors, M. Edward Davis, M.D., Vincent J. Derbes, M.D., Garfield G. Duncan, M.D., Hugh J. Jewett, M.D., William J. Kerr, M.D., *et al.* Quarto of 692 pages. Philadelphia, W. B. Saunders Company, 1955. Cloth, $11.

A Textbook of Physiology. Edited by John F. Fulton, M.D. With the collaboration of Donald H. Barron, Ph.D., William D. Blake, M.D., John R. Brobeck, M.D., George R. Cowgill, Ph.D., Paul F. Fenton, Ph.D., *et al.* Seventeenth edition. Quarto of 1,275 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $13.50.

Christopher's Minor Surgery. Edited by Alton Ochsner, M.D., and Michael E. DeBakey, M.D. Contributors, John Adriani, M.D., James Harrill Allen, M.D., Frederick Fitzherbert Boyce, M.D., Guy A. Caldwell, M.D., Denton Arthur Cooley, M.D., *et al.* Seventh edition. Octavo of 547 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $9.00.

Recent Advances in Medicine and Surgery (19–20 April 1954). Based on Professional Medical Experiences in Japan and Korea, 1950–1953. In two volumes. Octavo. 530 pages; 421 pages. Illustrated. Washington, Army Medical Service Graduate School, Walter Reed Army Medical Center, [1954]. (Medical Science Publication #4)

The Road to Sexual Maturity. By Abraham N. Franzblau, M.D. Octavo of 279 pages. New York, Simon & Schuster, 1954. Half cloth, $3.50.

Practical Obstetric Problems. By Ian Donald, M.D. Octavo of 578 pages, illustrated. Chicago, Year Book Publishers, 1955. Cloth, $9.50.

Fluoroscopy in Diagnostic Roentgenology. By Otto Deutschberger, M.D. Quarto of 771 pages. 888 illustrations on 523 figures. Philadelphia, W. B. Saunders Company, 1955. Cloth, $22.

Ion Exchange and Adsorption Agents in Medicine. The Concept of Intestinal Bionomics. By Gustav J. Martin, Sc.D. Octavo of 333 pages. Illustrated with 15 line drawings and 11 photographs. Boston, Little, Brown & Company, 1955. Cloth, $7.50.

The Lung. Clinical Physiology and Pulmonary Function Tests. (Based on the 1954 Beaumont Lecture). By Julius H. Comroe, Jr., M.D., Robert E. Forster, II, M.D., Arthur B. Dubois, M.D., William A. Briscoe, M.D., and Elizabeth Carlsen, A.B. Octavo of 219 pages, illustrated. Chicago, Year Book Publishers, 1955. Cloth, $5.50.

Partners for Health. Long octavo of 40 pages, illustrated. New York, National Health Council, supported in the public interest by the Equitable Life Assurance Society of the United States, 1955.

Fifty-Eighth Annual Report of the Board of Visitors of Kings Park State Hospital, Kings Park, New York, to the Department of Mental Hygiene, for the Fiscal Year ended March 31, 1953. Octavo of 44 pages. State of New York, [Department of Mental Hygiene, 1954]

The Pharmacological Basis of Therapeutics. A Textbook of Pharmacology, Toxicology and Therapeutics for Physicians and Medical Students. By Louis S. Goodman, M.D., and Alfred Gilman, Ph.D. Second edition. Quarto of 1,831 pages, illustrated. New York, Macmillan Company, 1955. Cloth, $17.50.

Advanced Surgery of Cataract. By Daniel B. Kirby, M.D. Quarto of 271 pages. 138 figures and 96 illustrations (22 plates) in full color. Philadelphia, J. B. Lippincott Company, 1955. Cloth, $27.

Westchester County Department of Health Annual Report 1953. William A. Holla, M.D., Commissioner of Health, White Plains, N. Y. Quarto, n. p. White Plains, N. Y., [Westchester County Department of Health, 1953].

A Manual for Training the Disabled Homemaker. By Howard A. Rusk, M.D., Edith L. Kristeller, M.D., Julia S. Judson, M.S., Gladys M. Hunt, R.N., and Muriel E. Zimmerman, O.T.R. Quarto of 167 pages, illustrated. New York, The Institute of Physical Medicine & Rehabilitation, New York University-Bellevue Medical Center, 400 E. 34th St., New York 16, N. Y., 1955. Paper, $2.00. (Rehabilitation Monograph VIII)

Early Care of Acute Soft Tissue Injuries. By the Committee on Trauma. Quarto of 192 pages. Chicago, American College of Surgeons, 1954. Paper, $1.00.

An Outline of the Treatment of Fractures. By the Committee on Trauma. Fifth edition, revised. Octavo of 93 pages, illustrated. Chicago, American College of Surgeons, 1954. Paper, $1.00.

A Synopsis of Medicine. By Sir Henry Letheby Tidy. Tenth edition, revised. Duodecimo of 1,250 pages. Baltimore, Williams & Wilkins Company, 1954. Cloth, $7.50.

Primary Anatomy. By H. A. Cates, M.B., and J. V. Basmajian, M.D. Third edition. Quarto of 339 pages, illustrated. Baltimore, Williams & Wilkins Company, 1955. Cloth, $5.75.

Clinical Psychiatry. By W. Mayer-Gross, M.D., Eliot Slater, M.D., and Martin Roth, M.D. Octavo of 652 pages, illustrated. Baltimore, Williams & Wilkins Company, 1955. Cloth, $10.

Oral Surgery. By Sterling V. Mead, D.D.S. Fourth edition. Quarto of 1,478 pages. 872 text illustrations and 13 color plates. St. Louis, C. V. Mosby Company, 1954. Cloth, $25.

The Joints of the Extremities. A Radiographic Study. Notes on Non-routine Methods, Non-routine Ideas, and Less-common Pathology. By Raymond W. Lewis, M.D. Quarto of 108 pages, illustrated. Springfield, Charles C Thomas, 1955. Cloth, $8.50.

Ionizing Radiation and the Cell. Conference Chairman and Consulting Editor, Leslie F. Nims, Ph.D. Octavo of 197 pages, illustrated. New York, New York Academy of Sciences, 1955. Paper, $4.00. (*Annals of the New York Academy of Sciences*, v. 59, art. 4, pp. 467–664)

The Relation of Immunology to Tissue Homotransplantation. Conference Co-Chairmen, John Marquis Converse, M.D., and Blair O. Rogers, M.D. Octavo of 189 pages, illustrated. New York, New York Academy of Sciences, 1955. Paper, $4.00. (*Annals of the New York Academy of Sciences*, v. 59, art. 3, pp. 277–466)

Fourth Annual Report on Stress. By Hans Selye, Ph.D., and Gunnar Heuser, M.D. With 15 contributors. Editorial Assistant, Maria Schwappach. Octavo of 749 pages, illustrated. Montreal, Acta, Inc., 1954. Cloth, $10.

BOOKS REVIEWED

Biochemical Determinants of Microbial Diseases. By René J. Dubos, M.D. Octavo of 152 pages. Cambridge, Harvard University Press, 1954. Cloth, $3.50.

This monograph represents a series of essays on the biochemical and physicochemical factors in normal tissues which determine susceptibility or resistance to microbial diseases and which the author presented at the Massachusetts General Hospital and the University of California during 1953 and 1954.

In the first chapter "Infection into Disease," several citations are discussed to show that the determinants of pathologic processes lie in some physiologic disturbance or some extrinsic factor of the physicochemical environment in the host tissues rather than in the commonly accepted pathogenicity of microorganisms.

In chapter two, "The Fate of Microorganisms *in Vivo*," it is pointed out that the study of bacterial metabolism and physiology has contributed little to the elucidation of infectious processes. The understanding of the metabolic aspects of intracellular infections demands a new kind of biochemical knowledge of both the host and the parasite for which new technics have not yet been developed.

A presentation of why antibacterial drugs which are highly effective in vitro but ineffective in vivo is traced in part to the fact that drugs are screened in vitro under ideal "physiological" conditions (pH approximately neutral, absence of breakdown products of tissues and of unusual metabolites, adequate aeration, low oxygen tension, etc.) rather than under conditions which actually exist in vivo. Therefore, more knowledge is needed concerning the varied environments in vivo before phagocytosis, inflammation, and necrosis occur so that newer and more realistic methods of drug screening may be developed.

Chapter three, "Biochemical Disturbances Produced by Infections," presents information on the role of microbial catabolic products. Some of these products absorb large amounts of essential inorganic ions and organic complexes thereby affecting the normal nutrition of tissue cells.

The biochemical viewpoint of pyrogenic activity, Schwarzman phenomenon, inhibition of leukocytic migration, and toxic manifestations of antigen-antibody systems such as the Arthus phenomenon are clearly discussed.

Chapter four deals with "Selected Topics in Tuberculosis." The virulence of tubercle bacilli, toxins and toxemia, metabolic factors, and the fate of tubercle bacilli in vivo are presented with references to the more recent studies in the field of investigation.

Chapter five on "Immunity and Inflammations" discusses the host-parasite relationships. In the concluding paragraph the author states ". . .inflammation helps in overcoming infection probably more often than it enhances disease. The importance of inflammation as a protective mechanism against microbial diseases can be measured only on the evolutionary scale."

The monograph is replete with material which should be of interest to the clinician as well as the research worker.—MARTIN BURGER

Diagnosis and Treatment of the Acute Phase of Poliomyelitis and Its Complications. Edited by Albert G. Bower, M.D. Octavo of 257 pages, illustrated. Baltimore, Williams & Wilkins Company, 1954. Cloth, $6.50.

Much has been written concerning the management of poliomyelitis. Varied have been the opinions, yet in spite of the many technicalities advanced much progress has been made in the care of patients with this disease.

This little volume in clear fashion presents modern concepts in treatment. Those who die of the disease do so as a result of inadequate and poorly timed treatment of impaired respiration. It is pointed out that mortality rates can be lowered by a planned approach on the basis of an organized team employing the principles of early tracheotomy at the second tracheal ring, serial ventilation studies as a guide to early respiratory care, and rigid laboratory control of blood chemistries.

Chapters on these ideas are well presented and illustrated.—THURMAN B. GIVAN

Practice ot Allergy. By Warren T. Vaughan, M.D. Revised by J. Harvey Black, M.D. Third edition. Quarto of 1,164 pages, illustrated. St. Louis, C. V. Mosby Company, 1954. Cloth, $21.

This edition of Vaughan's book which was published originally fifteen years ago represents a second revision by Black. Dr. Black has brought the book up to date on the most recent developments in the field of allergy. He has made every effort to preserve the format and style of Vaughan's original work and to retain as much as possible the viewpoint of its first author. The many scientific advances in the field are critically analyzed and on controversial subjects all points of view are presented.

The book retains its original value as a source of reference for the internist and specialist. The bibliography is extensive, covering 58 pages of small print, and more than doubles the number of references included in the first issue. Durham has enlarged his excellent and exhaustive chapters on aerobiology and pollen surveys. Howell has improved the dermatologic phases of the book by revising his chapter on fungus infection and by contributing a section on the management of acute poison ivy dermatitis. A new chapter on pulmonary function studies has been contributed by James Holman.

Covering practically all of the important theoretical and practical phases of allergy, the book is divided into 16 parts and is comprised of 76 chapters. There are almost 1,100 pages of text. Included are 335 excellent photographs, illustrations, and diagrams. The text is supplemented by 107 well-organized tables.

This fine work remains well forward among the leading textbooks on allergy. It excels not only in the quantity and quality of the information which it contains but also in the effectiveness with which the material is presented. For the general practitioner seeking information on the practical phases of allergy, as well as for the specialist searching for detailed theoretical and technical information, this book is invaluable.—M. WALZER

Energy Metabolism and Nutrition. By Prof.

Raymond W. Swift and Prof. Cyrus E. French. Octavo of 264 pages, illustrated. Washington, D.C., Scarecrow Press, 1954. Cloth, $5.75.

This small volume by teachers in the Pennsylvania State University School of Animal Husbandry is replete with succinct information on the subject. It goes into the various methods of direct and indirect calorimetry from a critical angle citing their applications and limitations. The relevancy of the work to human nutrition is clear. One section of the book deals with experimentation which effectively brings out the usage of technics in many problems of physiology and biochemistry.—George E. Anderson

Psychosomatic Case Book. By Roy R. Grinker, M.D., and Fred P. Robbins, M.D. Octavo of 346 pages. New York, Blakiston Co., 1954. Cloth, $6.50.

This work is much more than a compilation of stories of patients with psychosomatic disorders. There are discussions of the complex formative dynamics as well as the difficulties in diagnosis and treatment. The therapeutic problems are discussed in detail and make it clear that improper handling may be disastrous. The book, therefore, will help the practitioner in understanding psychosomatic illness and will also discourage him from undertaking to treat many of these disorders.

The psychiatrist will find a great deal here to stimulate his interest in the field even though he may not agree with all the formulations.—Arthur J. Lapovsky

The Hepatic Circulation and Portal Hypertension. By Charles G. Child, III, M.D., and eleven collaborators. Octavo of 444 pages, illustrated. Philadelphia, W. B. Saunders Co., 1954. Cloth, $12.

This book is essentially a review of the past concepts and present views about the comparative anatomy, embryology, physiology, and gross and microscopic anatomy of the hepatic circulation. Surgical procedures have been critically evaluated. The 16 chapters and seven appendices are filled with useful information and they are all equally important. Chapter 2, the historical background, is a must reading for anyone interested in the liver and its diseases. The illustrations are fine, the diagrams well done. The book is scholarly, well indexed and documented, and is recommended to the student, research worker, specialist, and general practitioner.—Reuben Finkelstein

The Management of Mental Deficiency in Children. By I. Newton Kugelmass, M.D. Octavo of 312 pages, illustrated. New York, Grune & Stratton, 1954. Cloth, $6.75.

This book on the management of mental deficiency in children is divided into two parts, one part being devoted to diagnosis, the other to various syndromes. In addition, there are a series of clinical and pathologic illustrations as well as diagnostic differential tables.

The various chapters have been well thought out and the description of the various types of amentia clearly outlined. However, the reviewer doubts the wisdom of the utilization of terminology such as cerebral palsy amentia, epileptic amentia, etc., since it would be better for the reader not to associate these conditions with amentia. The majority of people with epilepsy and cerebral palsy are of normal mentality and the concept of amentia should be considered as a separate entity.—Stanley S. Lamm

Modern Occupational Medicine. Edited by A. J. Fleming, M.D., and C. A. D'Alonzo, M.D. Associate Editor, J. A. Zapp, Ph.D. Octavo of 414 pages. 44 illustrations. Philadelphia, Lea & Febiger, 1954. Cloth, $10.

This book is dedicated by the authors to a pioneer in the field of occupational medicine. The sections of the book which deal with the administrative phase of the occupational problem are informative and could be of advantage to those engaged in the field. The preventive methods employed represent the combined experience of a team which has spent many years specializing in industrial medicine. The book has limited appeal and fills a definite need for those engaged in the field.—Irving Greenfield

The Pineal Gland. A Review of the Physiologic Literature. By Julian I. Kitay, M.D., and Mark D. Altschule, M.D. Octavo of 280 pages, illustrated. Cambridge, Mass., published for The Commonwealth Fund by the Harvard University Press, 1954. Cloth, $5.00.

These authors have proof that the pineal gland has physiologic functions inhibiting the pituitary gland and thereby the adrenal cortex and gonads. It has the highest qualitative uptake of radioactive phosphorus of any tissue in the body.

This book is a classic and should be in every medical library.—Bernard Seligman

Urology. Edited by Meredith Campbell, M.D. With the collaboration of 51 contributing authorities. In three volumes. Quarto of 2,356 pages and 64 pages index. 1,148 illustrations. Philadelphia, W. B. Saunders Co., 1954. Cloth, $60 set.

These three volumes are in reality a system of present-day urology as edited by Dr. Meredith Campbell, Emeritus Professor of Urology of New York University, who contributed the section on embryology of the urogenital organs and treatment of urologic disorders of children. The other chapters were submitted by an outstanding list of associate authors from various urologic centers throughout the country. Therefore, the context of these volumes will prove to be an authoritative source book to all urologists and those in training for the practice of urology. It will be an invaluable reference for physicians in other branches of medicine who have associated urologic problems with which to deal. The subject matter has been well presented in a very readable text and is very adequately illustrated by photographs and diagrams.

These volumes run to approximately 2,500 pages and considering the cost of the books this system could have been introduced in a loose-leaf form so that the text could be periodically altered and kept up to date. Although instrumental and surgical treatment is very adequately presented, it is the reviewer's impression that the management of nonsurgical conditions did not receive the same detail. Be that as it may, Campbell's *Urology* will stand as one of the standard urologic texts for a long time.—Sidney R. Weinberg

Nervousness, Indigestion and Pain. By Walter C. Alvarez, M.D. Popular edition. Octavo of 235 pages. New York, Harper & Brothers, 1954. Cloth, $3.50.

Neither the author nor the contents of this book require praise by the reviewer. The material covers a life time of experience and observation in the evaluation of gastrointestinal symptoms. It emphasizes in a way what the reviewer has always believed—"Gastro-enterology is the application of the relationship of alimentary tract symptoms to the entire field of medicine." Here we have the functional element mainly, clearly, and most interestingly developed. My only criticism would be, and perhaps the author on second thought will agree with me, that the book had better been left as a guide post for the practicing physician.—Benjamin M. Bernstein

Emotions and Bodily Changes. A Survey of Literature on Psychosomatic Interrelationships, 1910–1953. By Flanders Dunbar, M.D. Fourth edition with supplementary material and additional bibliography. Octavo of 1,192 pages. New York, Columbia University Press, 1954. Cloth, $15.

Dr. Dunbar deserves and has received much credit for her popularization of that branch of medicine somewhat inaccurately called psychosomatic medicine. This is the fourth edition of her work and like the others it ranges over a tremendous area. Much of the advances noted seem appended to chapters previously written with little successful integration. No one reviewer can possibly have enough specialized knowledge to discuss authoritatively the book as a whole. The chapter on the cardiovascular system is diffuse and uncritical. The usefulness of the book would be enhanced by a shortening to not more than half its present contents and by a tighter style of writing. For those interested in the field, the enormous bibliography will doubtless be of some value. The layman and those who are not specialists should be somewhat wary of accepting all the material which they may read here. There is, however, a hard core of information which should be of value to those willing to dig it out.—Milton Plotz

The Only Child. A Guide for Parents and Only Children of All Ages. By Norma E. Cutts, Ph.D., and Nicholas Moseley, Ph.D. Octavo of 245 pages. New York, G. P. Putnam's Sons, 1954. Cloth, $3.50.

This book is based on 258 case histories of "only children" of all ages. There is also a study of only daughters and sons from those attending Mount Holyoke, Vassar, and Yale. The authors state that about one couple in six, of those who have children, have an only child. About one child in 20 is an only child.

In general, the problems of the only child are those of all children. There is, however, a greater tendency toward overprotection on the part of the parents. There is also the advantage of the parents being able to do more economically for an only child, but basically "the problems which an only child faces are essentially faced by all human beings." Well-adjusted parents who are devoted to each other and their child provide the best opportunity for a good future to any child.

This book is essentially for the layman.—Stanley S. Lamm

Office Gynecology. By J. P. Greenhill, M.D. Sixth edition. Octavo of 517 pages, illustrated. Chicago, Year Book Publishers, 1954. Cloth, $7.75.

This new edition is extensively revised and new chapters are added. As in previous editions, the text is especially valuable for practical information concerning the diagnosis and therapy of such gynecologic conditions which can be handled in an office or do not require more than brief hospitalization. The subject matter is covered in a clear and concise manner and is well illustrated.—Alexander H. Rosenthal

Beyond the Germ Theory. The Roles of Deprivation and Stress in Health and Disease. Iago Galdston, M.D., Editor. Octavo of 182 pages, illustrated. New York, Health Education Council, 1954. Cloth, $4.00. (A New York Academy of Medicine Book)

This is a worthy member of the succession of volumes originating in the New York Academy of Medicine-sponsored Eastern States Health Conferences. Like its predecessors, its contribution is more one of perspective than of fact. The collaborating authors, representing a diversity of scientific disciplines—medical and paramedical—identify with varying effectiveness the seeming common need for extending and applying ecologic principles.

The regular reader in this area might be impatient with certain information no longer new by contributors who have earned some respite from this annual obligation, but other sections, notably in parts III and IV, will provide refreshing compensation. The principal weakness of this volume—not without precedent—is the inadequate integration of the several chapter efforts resulting in a collection rather than a collation of papers. The title seems a point of departure instead of a central theme—but, perhaps, this obligation is implied in the word, "Beyond. . .," permitting a desirable flexibility of viewpoint. With no real reservation this book is recommended to all interested in the conceptualizing which should at least parallel and preferably anticipate progress in the actual practice of medicine.—Robert W. Hillman

Grenz Ray Therapy. Principles, Methods, Clinical Applications. By Gustav Bucky, M.D., and Frank C. Combes, M.D. Contributors: Ralph Howard Brodsky, D.M.D., Thomas Lee Bucky, M.D., Otto Glasser, Ph.D., Max A. Goldzieher, M.D., *et al.* Octavo of 204 pages, illustrated. New York, Springer Publishing Co., 1954. Cloth, $8.50.

In these days when the radiation therapy literature is so full of experimental and clinical experiences obtained in the use of multimillion volt x-ray equipment, betatrons, cobalt packs, and bigger and better atomic explosions it is an anticlimax and a pleasant one to read this little book based on the use of an x-ray beam generated by only 5–12 kv. The border ray (Grenz Ray) of Dr. Bucky is that part of the long wavelength section of the x-ray spectrum which is generated by 5,000 to 12,000 volts. It is a very soft, quickly absorbable form of energy. It is extremely superficial in its application. Your reviewer had the pleasure of listening to Dr. Bucky present his earlier observations and claims before the Berlin Medical Society in the late 1920's. The present material offered in this volume is not new, but it is concisely and modestly presented.

The original claims of endocrinologic or other biologic general effects of the "Grenz Ray" are omitted. The clinical results obtained by Grenz Ray therapy in superficial conditions are those which could be obtained by other forms of radiation. The obvious advantage of Grenz Ray therapy is its superficial absorption. The obvious disadvantages are the smallness of the field of treatment and the need for separate Grenz Ray equipment to obtain results clinically obtainable by careful and knowing application of other and more readily available forms of radiation.

Your reviewer cannot end this comment without emphasizing the importance of Dr. Bucky in the sphere of contemporary radiology. His original thinking, his mechanical devices, the improvement of the Potter diaphragm, etc., and generally his erudition in the field make him one of the outstanding radiologists of today.—Asa B. Friedmann

Manual of Proctology. By Comm. Emil Granet, (M.C.), USNR. Octavo of 346 pages, illustrated. Chicago, Year Book Publishers, 1954. Cloth, $7.50.

This is an excellent manual for the general practitioner and general surgeon to improve his knowledge and management of proctologic conditions. It is written very simply and is adequately illustrated. Dr. Granet gives a short résumé of the background of many of the treatments of proctologic diseases without going into obscure detail and theory. It is a good book for any physician. The personal experience of the author, as well as a thorough knowledge of his subject, are well reflected in this book.—A. J. Caliendo

Heart Disease and Industry. With Particular Reference to Workmen's Compensation Cases. By Meyer Texon, M.D. Quarto of 324 pages. New York, Grune & Stratton, 1954. Cloth, $7.50.

The author presents 100 case histories originally submitted to the Workmen's Compensation Board or the Federal Bureau of Employees' Compensation in which the causal relationship between a cardiac condition and an industrial accident was involved. He gives the conclusions reached and then evaluates them in relation to scientific facts. He does this very well, and in the opinion of this reviewer his conclusions are sound and his opinions conservative. He points out the disturbing trend in Workmen's Compensation decisions to base them on social considerations rather than on scientific fact and the law. It would be much better for our legislatures to face the facts honestly and enact laws to correct inequities rather than for the courts to twist or disregard scientific evidence in order to accomplish the same end.

This reviewer thinks the discussion of the causal relationship between an industrial accident and heart injury would have been much clearer if the terms coronary insufficiency, coronary occlusion, and coronary thrombosis had not been used. The real question is whether unusual and severe effort can produce myocardial infarction of any degree. Can the heart muscle be damaged? There is no evidence that effort can produce coronary occlusion in the true meaning of this term and the evidence that it can produce coronary thrombosis is very meager and not generally accepted. Furthermore the use of the term coronary insufficiency only tends to confuse all parties involved. There is good evidence that very infrequently prolonged and severe effort can produce myocardial infarction. This is the question which should be settled in compensation cases and on the basis of scientific fact alone.—Edwin P. Maynard, Jr.

You and Your Health. By Edwin P. Jordan, M.D. Octavo of 296 pages. New York, G. P. Putnam's Sons, 1954. Cloth, $3.95.

Dr. Jordan, who is the author of a daily column in many newspapers, is in a good position to know the questions asked by lay people concerning medical problems. In this book he has covered the major systems and in a lucid, simple style has described the major medical problems in each system. At the end of each chapter there are representative popular questions answered in a concise fashion to supplement the previously given information. The book does not attempt to be an "encyclopedia of home medical care" and it does not give hints for treatment. Rather, it attempts to explain the why and wherefore of the things a physician does. For this reason the book supplements the understanding between a physician and a patient rather than trying to interfere in this valuable relationship.—Milton B. Handelsman

Let's Eat Right to Keep Fit. By Adelle Davis, M.S. Octavo of 322 pages. New York, Harcourt, Brace & Co., 1954. Cloth, $3.00.

There is much of real value in this provocative volume, and much that is misleading. The author's enthusiastic hopes for nutrition in the future may be shared legitimately by all impressed by our present abysmal ignorance of this fundamental area and by its almost infinite potential for contributing to the treatment and, especially, the prevention of disease. One can also support a crusade to narrow the gap between current knowledge and its practical application. But one cannot endorse the huckster technic, the biased quotation of affirmative reports by "scientists," and the oracle-like indifference to contradictory evidence that characterize this medicine-wagon offering to the uninformed, undiscriminating consumer. Even reasonably established facts are likely to be questioned by the licensed practitioner of medicine when promulgated together with fallacies to which his more particular ethical standards do not permit him to be so indifferent.

It is perhaps the principal merit of this book that it serves to underscore the degree to which—largely through default—the prerogatives and obligations of the medical profession may be usurped by cultists and faddists who, often under the respectable mantle of health education, profitably interpret "medical science" to the public and motivate gullible followers in directions not always consistent with available information. It is not possible to recommend a book which, whatever its considerable focal merit, provides a ready panacea for virtually all body afflictions, by an author with apparently the greatest record of therapeutic success since Sir William Osler.—Robert W. Hillman

Coronary Heart Disease in Young Adults. A Multidisciplinary Study. By Menard M. Gertler, M.D., and Paul D. White, M.D. With the Aid, Advice, and Editorial Assistance of E. F. Bland, M.D., J. Fertig, Ph.D., S. M. Garn, Ph.D., J. Lerman, M.D., *et al.* Octavo of 218 pages, illustrated. Cambridge, Mass., published for the Commonwealth Fund by Harvard University Press, 1954. Cloth, $5.00.

The authors have conducted an excellent study on 100 patients with coronary heart disease who had experienced myocardial infarction before age forty. Each one of the patients of the large group of matched and unmatched controls was subjected to a meticulous examination including physical appraisal, family incidence, race, physique and morphologic characteristics, athletic activity and occupations, masculinity, endocrine findings, biochemic findings, cholesterol-phospholipid ratio, biochemical morphologic relations, diet, and oxidation reduction potentials of saliva.

There were many important findings. For example, the coronary patients in this group were predominantly endomorphic mesomorphs, hard-driving, goal-directed individuals who enjoy dangerous and strenuous undertakings. Masculinity plays an important role in this disease. The robust young male is particularly vulnerable. Biochemical findings showed that there is no threshold level of serum total cholesterol for coronary heart disease but that the lipid phosphorus ratio is important. As the lipid phosphorus goes down the colloidal stability of the total cholesterol decreases and deposition in vessel walls results. The phospholipids fail to rise with age and cholesterol goes up. Therefore the ratio is disturbed.

This is just a taste of the excellent material in this volume. The authors have added to our sum of knowledge and in addition have suggested promising and unusual leads for future investigators. The book is highly recommended.—Edwin P. Maynard, Jr.

The Year Book of Endocrinology (1953–1954 Year Book Series). Edited by Gilbert S. Gordan, M.D. Duodecimo of 390 pages, illustrated. Chicago, Year Book Publishers, 1954. Cloth, $6.00.

Gordan has produced another excellent review of outstanding articles in endocrinology of the past year which are vital to the clinician. Those biochemically and metabolically interested will find much to their satisfaction. The selection of articles and summaries have improved with time. The index could be better.—Bernard Seligman

Annual Review of Medicine. Edited by Windsor C. Cutting, M.D., Henry W. Newman, M.D., Associate Editor. Vol. 5. Octavo of 490 pages, illustrated. Stanford, California, Annual Reviews, 1954. Cloth, $7.00.

Drs. Cutting and Newman can be justifiably proud of the 1954 edition of the *Annual Review of Medicine.* There are 19 chapters, each devoted to a review of a limited field of medicine. The authors have been well chosen, the articles authoritatively written, the whole adding up to a volume which belongs in every medical library.—Milton Plotz

Fifty Years of Medicine. By Lord Horder. Duodecimo of 70 pages. New York, Philosophical Library, 1954. Cloth, $2.50.

This little volume is an expanded version of three Harben Lectures delivered at the Royal Institute of Public Health and Hygiene entitled: "The Birth of Scientific Medicine," "Enlarged Boundaries," and "The Present and The Future." It is an effective synthesis of historic fact, personal anecdote, and perceptive appraisal delightfully presented by a physician whose medical perspective has few peers in the English-speaking world. Whatever one's individual sympathies with respect to the health-economics policies for which the author has long been a leading spokesman, the value of his often very critical role must be universally recognized.

The relatively few references to the National Health Service encountered in much more basic sections will be appreciated as more than pure partisan negativism. The principal passages are not concerned with mere implementation, the controversial components of socialized medicine. They relate rather to the more fundamental ones of *social* medicine wherein this culturally oriented clinician effectively distinguishes between the stopgap palliation of certain current practices and the long-term preventive programs which comprise the principal hope of medicine—and of mankind. With all the fluent lucidity we have come to associate with our British colleagues, this medical philosopher, in not many pages, successfully extrapolates beyond past and present, to envision the problems, and especially the potentials, of biologic science integrated into the healing art.—Robert W. Hillman

Kinsey's Myth of Female Sexuality. The Medical Facts. By Edmund Bergler, M.D., and William S. Kroger, M.D. Octavo of 200 pages. New York, Grune & Stratton, 1954. Cloth, $3.75.

The authors, a psychoanalytic-psychiatrist and a gynecologist, present a detailed and merciless attack on Kinsey's nonmedical approach to the study of human sexuality. It will be recalled that Professor Kinsey's book has already been criticized by statisticians.

Vigorous exception is taken to what they term Kinsey's false premises and methodology.

Kinsey's approval of premarital coitus and homosexuality is discussed. This reviewer, a gynecologist who has read Kinsey's book too, but not easily, believes that a biologist's conception of the morality of sex which does not take into account man's spiritual nature cannot be right.

But this is not a review of Kinsey's book, but of this vigorous attack on it. Very readable, and recommended.—Charles A. Gordon

Geriatric Medicine. Medical Care of Later Maturity. Edited by Edward J. Stieglitz, M.D. Third edition. Quarto of 718 pages, illustrated. Philadelphia, J. B. Lippincott Co., 1954. Cloth, $15.

This is a real tome with 48 contributors who in 715 pages tell us what we know or think we know about the process of aging. It shows what a tremendous effort has been made to solve the mysteries of the hardening artery, the growing faltering step, the loss of the teeth, fading of hair and skin, and the thousand and one other symptom complexes which we call old age. The light is growing stronger, but there is still a darksome and awesome corner where no light can penetrate, and that is the aging mind and what makes it tick, or falter, or go out altogether.

Being a geriatric myself, having scored my Biblical allowance of threescore and ten, forty-seven of which have been devoted to the active practice of medicine, I can view all too vividly from a real ringside seat some of the processes which make us old. My patients have grown old with me and I can see them clearly as the years have taken their toll, but the toll that these same years have taken out of me I see "as in a mirror, darkly."

We are prolonging life, eight per cent of us are over sixty-five, so the Census Bureau tells us, but what are we doing for these veterans whom we have saved, and for what are we saving them? That is the real question for which the answer is strangely lacking even among these 48 contributors.

These derelicts who make up a large proportion of those in our nursing homes have been checked in there by their families because they are in the way, which they are, with the hope they may not outlive the pittance which their early activities accumulated for them and leave nothing for the mourning "heirs and assigns for ever," except an unpaid funeral bill. These homes are the saddest places in this whole wide world, because old folks know that they no longer belong to any one despite the fifteen minute "visits" which prospective heirs make once a week. This is the thing which makes the years hurt and causes older people to seek the Grim Reaper before their time and in spite of geriatrics.

There is a real socioeconomic problem here which far transcends whether hypercholesteremia may be a contributing cause to atherosclerosis and the various and sundry other aging processes, which the book so ably depicts with meticulous care. A little humanity thrown in occasionally in the care of the aging would go a long way to remove some of the thorns which beset this downhill path into the setting sun. If we but remember that we will all tread this same path if geriatrics continues to prolong our lives, we might pause a while to give this thought the somber consideration which it demands. Hand rails along the walls to aid the faltering step, ramps, escalators, and elevators to ease the threat to the aging heart, recreation, or better, useful employment where possible, to boost the morale, to make older people feel that they are doing something and not merely in the way, this is humanity, and this the books say nothing about. "Honor thy father and thy mother," Scripture commands, but then "The Bible is so old-fashioned"—but so true, so painfully true!

Certainly, geriatric medicine has done much to make old age bearable, but a few kind words, some real consideration and love *warmly expressed* in thought, word, and deed could make old age really happy and honorable. Suppose we all decide to try it on for size. It may fit.—Thomas F. Nevins

Electrocardiography. By E. Grey Dimond, M.D. Quarto of 261 pages, illustrated. St. Louis, C. V. Mosby Co., 1954. Cloth, $14.

Someone has called this book a blackboard talk on electrocardiography. Indeed the first section is almost that. The basis for the electrocardiogram and the development of vectors are handled in a clear and simple manner. This is the best section of the book. The second section is clinical in nature. There is an overemphasis on congenital heart disease. Myocardial infarction is discussed somewhat inadequately.

This book was intended for the medical student and general practitioner and the reviewer does not feel it is an adequate introduction to the subject. There have been far too many electrocardiographic texts recently and, unfortunately, most of them are at best mediocre.—Felix Taubman

[Continued on page 1512]

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1. Suarez-Murias, E. L.: Internat. Rec. Med. *166:*475 (Nov.) 1953. 2. Rees, L.: J. Ment. Sc. *99:*62 (Jan.) 1953. 3. Morton, J. H., et al.: Am. J. Obst. & Gynec. *65:*1182 (June) 1953. 4. Morton, J. H.: Internat. Rec. Med. *166:*505 (Nov.) 1953.

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[Continued from page 1510]

The Medical Clinics of North America. Boston Number. September, 1954. Octavo. Illustrated. Philadelphia, W. B. Saunders Company, 1954. Published bimonthly (six numbers a year). Cloth, $18 net; paper, $15 net.

The Boston number of the *Medical Clinics of North America* is devoted to a symposium on specific methods of treatment under the editorship of Dr. Chester Keefer. All make a distinct contribution to the literature and several are very well written indeed. In addition, there are two additional articles on the status of immunization in 1954 and the diagnosis of cardiac disturbances of emotional origin.—Milton Plotz

Eat, Think and Be Slender. By Leonid Kotkin. M.D., with the assistance of Fred Kerner. Octavo of 223 pages. New York, Hawthorn Books, 1954. Cloth, $2.95.

This is a well-written book—almost too well written. The unctuous tones of the practiced personal savior are all but audible in a smooth, reassuring recital of *the* answer to obesity—as if there need be but one answer. The hopeful layman is bound to be impressed, with little effort on his part. The properly critical physician will as readily subscribe to the importance of the psychogenic factors in the etiology of this condition, but he will be less enthusiastic about a concept which, like so many in related areas of "mental medicine," derives from retrospective evidence, venerated as scientific proof. And to his skepticism of this so simple solution of a major public health problem, he may well add a certain impatience with a physician-author who incorporates medical discussion and the names of conveniently located dining establishments under a title with undeniable sales appeal at the public book stalls.—Robert Hillman

The Year Book of Medicine (1954–1955 Year Book Series). Edited by Paul B. Beeson, M.D., Carl Muschenheim, M.D., William B. Castle, M.D., Tinsley R. Harrison, M.D., *et al.* Duodecimo of 711 pages, illustrated. Chicago, Year Book Publishers, 1954. Cloth, $6.00.

As it has for a number of years, the latest edition of the *Year Book of Medicine* presents a nice balance of the theoretical and the practical with frequent apt editorial comment. One can easily appreciate the enormous task of the editors by examining the list of authors whose papers are condensed in this small volume. It seems as though all the major medical publications are perused to skim off the cream of the many important papers published during the past year. This book represents a must for every general practitioner as well as specialist in medicine. Since no one can hope to read all the medical material published, this book will furnish the best in short form on all current topics and is to be highly recommended.—Paul I. Kearney

The Dynamics of Virus and Rickettsial Infections. International Symposium. Edited by Frank W. Hartman, M.D., Frank L. Horsfall, Jr., M.D., and John G. Kidd, M.D. Octavo of 461 pages, illustrated. New York, Blakiston Co., 1954. Cloth, $7.50.

This book contains the papers which were presented in 1953 at a symposium attended by more than 400 scientists under the auspices of the Henry Ford Hospital in Detroit. The chief objective of the meeting was to present an opportunity for exchange of ideas and information between workers in the field. The value of the book, which actually constitutes the proceedings of the meeting, is greatly enhanced by the fact that following each subject there is a lively discussion by the participants.

The first 22 papers presented are of greater value to the virus research worker than to the practicing physician. Papers 23 to 33 are of great interest to the worker in the field but are especially important to the physician. The first five papers concern themselves with the laboratory diagnosis of viral and rickettsial diseases. Various procedures for diagnosis including their reliability is discussed. The next five papers outline the methods of attack in prophylaxis and therapy of viral disease. These five papers should be read by every doctor particularly at this time when antibiotics are used indiscriminately for every disease purported to be caused by a virus.—Samuel Candel

Gastric Cancer. By Alfred H. Iason, M.D. Illustrations by Alfred Feinberg. Quarto of 315 pages, illustrated. New York, Grune & Stratton, 1953. Cloth, $7.50.

The various facets of the picture of gastric malignancy are enumerated and discussed. Consideration of basic anatomy and pathology is detailed and adequate. The presentation of surgical technics directly concerned with cancer of the stomach is supplemented by clear, easily understandable drawings.

This ambitious and somewhat didactic book with its excellent bibliography can be profitably utilized by the medical student and intern.—Edward Hirsch

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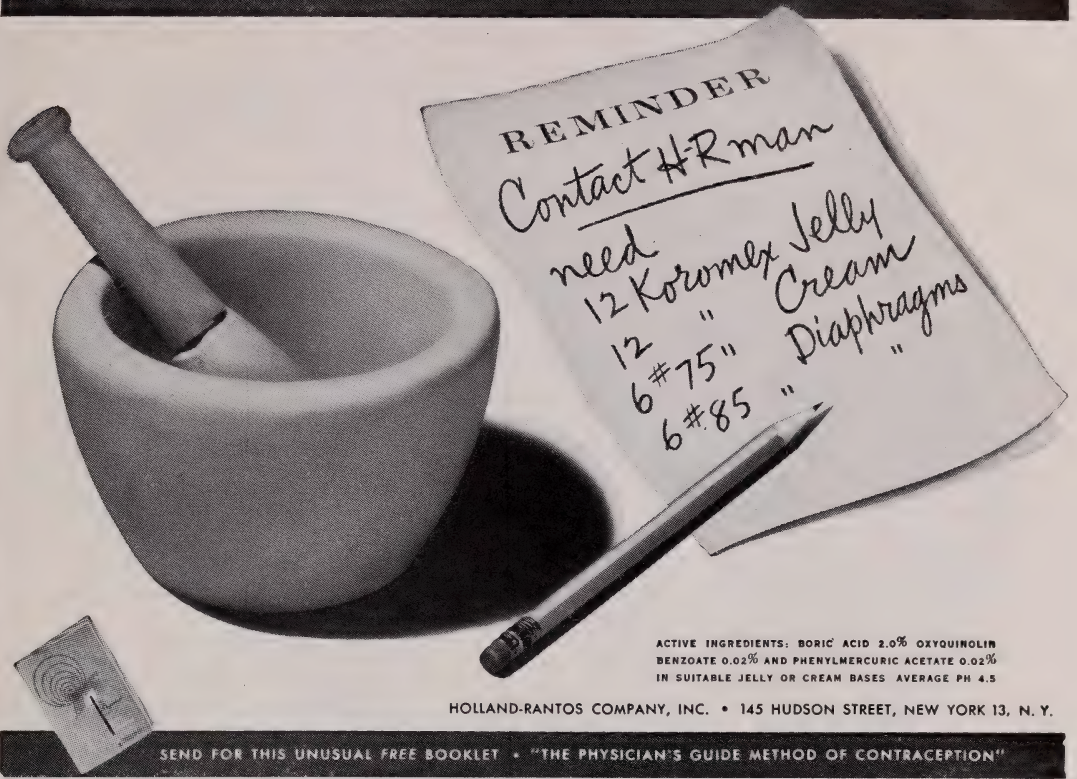
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MINUTES OF THE COUNCIL

The following is a summary of the minutes of the March, 1955, meeting of the Council of the Medical Society of the State of New York

The Council met March 10, 1955, from 9:15 until 11:55 A.M. at the Manhattan Club, New York City. Dr. Dan Mellen, president, presided.

Secretary's Report

Dues Remissions.—The Council voted to remit annual State dues of 19 members for 1955 because of illness, of one member for 1954 because of military service, and of 34 members for 1955 because of military service; to request remission of American Medical Association dues of one member for 1953 and of 43 members for 1955; and to petition the American Medical Association to relieve 11 members from the further payment of national dues because of age. The Council also rescinded its remission granted in January, 1955, of 1955 annual State dues of two members because of military service.

Executive Committee.—Dr. Anderton reported that the Executive Committee had considered the following communications on March 9:

1. A request from Dr. Edwin C. Johnson, of Albany, for transfer of membership from the Medical Society of the County of Essex to the Medical Society of the County of Schenectady, with letters of consent from the Medical Society of the County of Albany and the Schenectady County Medical Society. The executive committee recommended that the Council approve this request.

Approval *was voted.*

2. A letter dated March 2, 1955, from Dr. Frank LaGattuta, secretary of the Bronx County Medical Society, stating that the Comitia Minora of that Society had voted to reaffirm the policy of not assuming responsibility for collecting American Medical Association dues.

3. A letter of March 9 from Mr. John T. Quinn, secretary of the New York Chamber of Commerce, regarding the establishment of a modern system of management for the courts. The executive committee recommended that this be referred to the Committee on Legislation.

It was so *voted.*

General.—Dr. Anderton reported: "Most of the annual reports have been edited, and several have been proofread for the JOURNAL. There will be a few supplementary reports for the House of Delegates.

"Your secretary spent Saturday, February 19, 1955, with Dr. Herbert H. Bauckus, chairman of the Liaison Committee with U.S. Veterans Administration and president of Veterans Medical Service Plan of New York, in Chicago at a meeting under the auspices of the Veterans Affairs Committee of the American Medical Association. Representatives were present from a number of states. There was considerable discussion of service-connected and nonservice-connected veterans' disabilities and other related subjects. It was advocated that a joint committee be formed between each state medical association and the American Legion."

His other activities during the preceding month were also detailed by Dr. Anderton.

The secretary's report *was approved.*

Dr. Anderton added: "For the sake of the record, a copy of the findings of the Judicial Council of the American Medical Association in regard to the appeal of Dr. Ben Landess was distributed to all members of the Council and the Board of Trustees the day they were received in the office in New York City.

"On February 10 the trustees voted, on account of the delay in employing a consultant for the Industrial Health Bureau, there should be no such employment at this time and that the entire matter be referred back to the Council.

"Furthermore, in accordance with the wishes of the House of Delegates, the trustees have authorized their War Memorial Committee to learn how many children there are of our member veterans of the Korean War who lost their lives as actual casualties."

The treasurer's report was accepted.

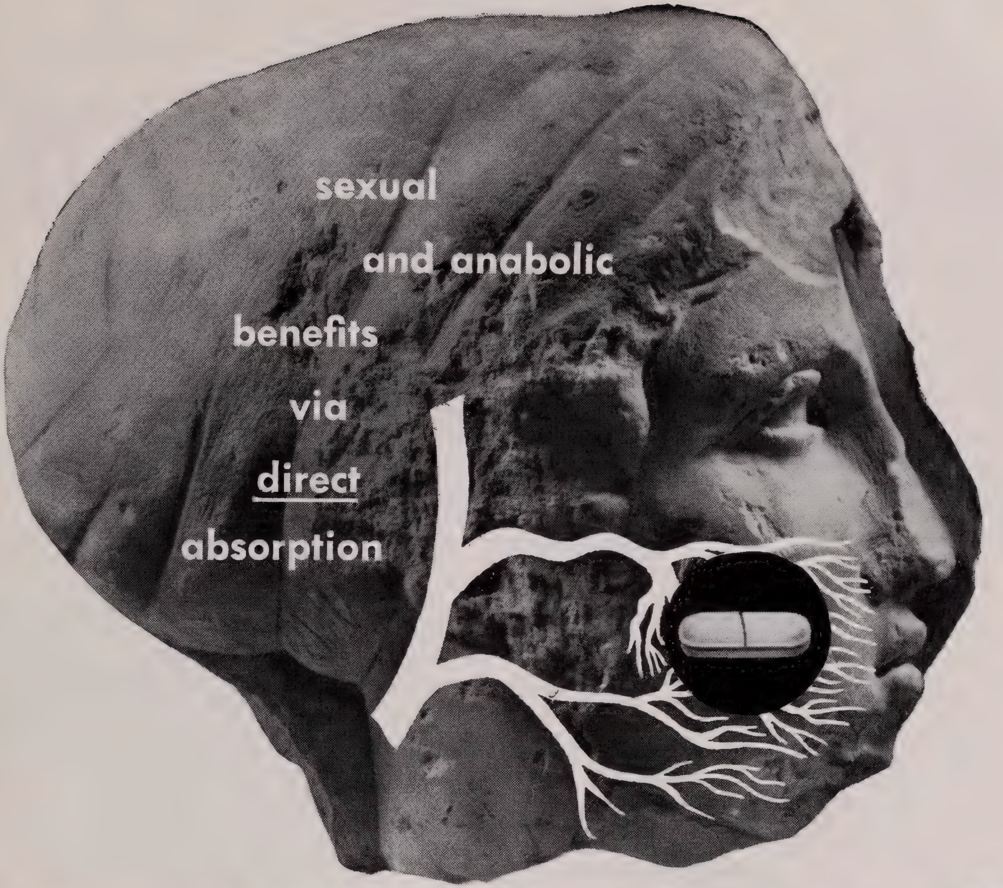
Reports of Committees

Blood Banks.—After a detailed report by Dr. J. Stanley Kenney, president of the Blood Banks Association of New York State, Inc., the Council *voted* to recommend to the Board of Trustees that $15,000 be advanced to take care of the present needs of the Association, stipulating that such loan should carry them through, at least, March and April.

The Council also *recommended* that the budget be increased $15,000 to cover this advance to Blood Banks Association.

Economics.—Dr. Renato J. Azzari, chairman, presented the reports of the director of the Medical Care Insurance Bureau and of the Subcommittee on Medical Expense Insurance of which Dr. Carlton E. Wertz is chairman.

[Continued on page 1516]



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[Continued from page 1514]

Mr. Farrell's report stated that on February 28 he spoke before the junior class of the Albany College of Medicine. He also had attended a special meeting of the Medical Society of the County of Schenectady on February 15, a joint meeting of District II and III Blue Shield Plan presidents and executive directors on February 17, and a joint meeting of representatives of Blue Cross and Blue Shield plans in Districts II and III on March 1, 1955. The main discussion at the March 1 meeting was about experience-rated contracts.

Reporting on a meeting of the Subcommittee on Medical Expense Insurance, held January 27, 1955, Dr. Wertz included most of the subjects covered in the annual report of the subcommittee (see pages 990, 991, and 992, NEW YORK STATE JOURNAL OF MEDICINE for April 1, 1955). He also made the following statement:

Two matters referred by Dr. W. P. Anderton to the subcommittee were considered: A letter from Dr. Max Gutmann, wherein he felt there should be free choice of physician in all prepaid medical care plans, and the subcommittee wrote Dr. Gutmann to the effect that a bill of this kind had been introduced in the 1954 Legislature which was defeated and that a similar bill was being introduced in the 1955 Legislature.

The second matter was a resolution referred by the Northeastern New York Radiological Society to the State Society. After discussion a motion was carried that it was the opinion of the subcommittee that this matter was a local problem and should be resolved locally by each plan and worked out with the roentgenologists in local areas.

The subcommittee felt that perhaps podiatrists this year would attempt to introduce legislation which would make it mandatory to pay for these services under Blue Shield plans. It was pointed out by the subcommittee that under the present constitution and bylaws of individual plans, even a change in legislation would not make the plans pay for these services.

Mr. Coleman, president of United Medical Service, speaking of experience of the plan with experience-rated contracts, stated that United Medical Service will realize approximately four million dollars of premium income from this type of business in 1954.

It was the feeling of the subcommittee (with regard to extended health benefits discussed in a brochure issued by the Joint Blue Cross-Blue Shield Commission) that extending coverage for medical care would require considerable study, both in relation to its cost and the extent to which medical care can be provided for prolonged illness. It was their feeling that this matter should be discussed fully by individual plans prior to the Annual Conference of Blue Shield Plans in Chicago, March 20 to 24, 1955.

The reports *were approved.*

Ethics.—Dr. Thurman B. Givan, chairman, reported: "Dr. Anderton received the following letter:

> Dear Dr. Anderton:
>
> A patient of mine was talking about *Not as a Stranger* the other day, and he brought up a question that I would like to write and ask you about, namely, is it ethical for a doctor to accept a discount on things he buys at a drug store? There is a practice in many towns of drug stores giving a 10 per cent discount to doctors and nurses. Is there anything unethical in this practice?
>
> Sincerely yours,
> James A. Stringham, M.D.

whose office is at 70 main Street, Canandaigua, New York.

"Dr. Anderton sent it to me, and Dr. Wolff, Dr. LaGattuta, and I have talked it over. We felt there was nothing unethical about that any more than any other discount that other people get, provided there is no kickback, and that probably the letter should be answered in that vein."

It *was voted* that the committee answer with power to act.

Hospital and Professional Relations.—Dr. Harold F. Brown, chairman, stated: "Our committee has had no meeting, but the Special Committee to Study Hospital and Professional Relations did have one a month ago at which was reported the progress being made with the hospital group. It is expected, before the House of Delegates meets, that a report will come from that body.

"I would like also to report that I wrote the American Medical Association concerning the propriety of hospitals billing for services rendered by physicians. I quote one paragraph of the reply:

> May I respectfully call your attention to Chapter I, Section 6 of the *Principles of Medical Ethics*, entitled "Payment for Professional Services,"

and it winds up (this is a letter from Edwin J. Holman, who is executive secretary of the Judicial Council):

> As long ago as 1931 the Judicial Council expressed the opinion that it is an unethical practice by a physician to permit a hospital to bill for medical services and retain the monies so collected for its own use.

"That is the latest official ruling from the American Medical Association. We all know what that refers to, and it is good to refresh our memories about it.

Industrial Health.—Dr. Anderton stated: "Chairman Di Natale is detained on account of his health, but yesterday there came to me a communication from the Blood Banks Association, Mr. A. Carl Messinger, director:

> Dear Dr. Anderton:
>
> You will remember that we discussed the possibility of a letter to be mailed to industrial organizations in New York City who have a physician or nurse as part of the organization.
>
> The attached letter is suggested for possible signature of the three members of the Industrial Health Committee, Dr. Peter J. Di Natale, chairman, Dr.

[Continued on page 1518]

IN "STUBBORN" VAGINAL TRICHOMONIASIS, BREAK THE

HUSBAND-WIFE

CYCLE OF RE-INFECTION

In recurrent vaginal trichomoniasis the husband should always be considered as a source of reinfection. "The male is the important transmitter of Trichomonas vaginalis infestation, while the female eventually becomes a reservoir of infection."[1]

Adam as well as Eve. "Although the vagina is the usual habitat of Trichomonas vaginalis Donné, this parasite has been recorded from the male urogenital tract many times."[2] Karnaky states: "The real focus has been the male generative organ."[3] This investigator found the parasite in the urethra, in the prostate or under the prepuce in 38 husbands among 150 whose wives had recurrent vaginal trichomoniasis.[4]

Husbands rarely show symptoms. In the male, symptoms are absent or usually of minimal degree.[5] Feo found Trichomonas vaginalis in 15.5% of 926 men, all "relatively free from symptoms."[1]

To forestall re-infection. Davis states: "Use of a sheath by the husband has long been advised during the period a woman is under treatment, and should be used permanently if he carries the infection."[6] In recurrent cases the husband should wear a condom at coitus for four to nine months, during which time the trichomonads will usually die out.[3] Bernstine and Rakoff[5] and Trussell[7] advise similar protection.

Prescribe known quality. To eliminate trichomonads "once and for all," take specific measures to win co-operation of the husband. In prescribing a condom, be selective and take advantage of Schmid product improvements.

When there is anxiety that the condom might dull sensation, the answer is to prescribe XXXX (FOUREX)® skins. Made from the cecum of the lamb, they feel like the patient's own skin, are premoistened and do not retard sensory effect. If cost is a consideration, prescribe RAMSES,® a transparent, tissue-thin, yet strong condom of natural gum rubber. SHEIK,® also a natural gum rubber condom, is even more reasonable in price.

Any husband, any wife, in your practice, would prefer to hand the druggist your *prescription* for a condom, rather than to ask for it "in public." Isn't that true? This is another instance of diplomacy in medicine to prevent an embarrassing situation. To assure finest quality and earn appreciation for your thoughtfulness, prescribe XXXX (FOUREX), RAMSES or SHEIK condoms by name. Prescribe Schmid protection for as long as *four to nine* months after the wife's infestation has cleared. The protection Schmid condoms afford is the very foundation of re-infection control.

References: 1. Feo, L. G.: Am. J. Trop. Med. *24*:195 (May) 1944. 2. Whittington, M. J.: J. Obst. & Gynaec. Brit. Emp. 58:614 (Aug.) 1951. 3. Karnaky, K. J.: J.A.M.A. *155*:876 (June 26) 1954. 4. Karnaky, K. J.: Urol. & Cutan. Rev. *42*:812 (Nov.) 1938. 5. Bernstine, J. B., and Rakoff, A. E.: Vaginal Infections, Infestations, and Discharges, New York, The Blakiston Co., 1953, pp. 256-258. 6. Davis, C. H.: West. J. Surg. *63*:53 (Feb.) 1955. 7. Trussell, R. E.: Trichomonas Vaginalis and Trichomoniasis, Springfield, Ill., Charles C. Thomas, 1947.

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[Continued from page 1516]

Anthony A. Lanza, and Dr. Melvin N. Newquist.

You will note that Dr. Lanza and Dr. Newquist are from New York City which is our scene of activity at the moment.

"I thought it was necessary to read this letter to the Council because a committee does not have power to write to outside organizations in the name of the State Society unless the letter has received approval of the Council.

Dear Doctor:

The Blood Banks Association of New York State has been organized under the auspices of the Medical Society of the State of New York.

The Association has developed a group plan for industry as well as the regular Blood Assurance Program for family and individual coverage. The pamphlet enclosed outlines the Assurance Program. It is suggested, however, that the group plan be discussed with a representative of the Association in the event that you may be interested.

Your State Medical Society is most interested in the success of the Blood Assurance Program, and we hope that you will give it your support.

For further information, you may write to Dr. J. Stanley Kenney, president, Blood Banks Association of New York State, 386 Fourth Avenue, New York 16, New York, or telephone the director at Lexington 2-2989.

Sincerely,
Industrial Health Committee
Medical Society of the State of New York

After discussion it *was voted* to table the matter until after Dr. Kenney reported.

Dr. Bauckus stated: "You heard the report of the secretary this morning in which he stated that the Board of Trustees had rereferred the matter of industrial health appointment to the Council. At present, as far as the trustees are concerned, it is again before you. We are not filling that position until we have further direction from the Council. The main reason for that is because of Dr. Lanza's illness."

After discussion it *was voted* to refer this to the Industrial Health Committee for study for one month and no longer.

Legislation.—Dr. James Greenough, chairman, reported: "The executive committee of the Legislation Committee met February 27 in Albany.

"The bills sponsored by the Medical Society are as follows:

"Senate Intro. 981 (Condon), Assembly Intro. 1559 (Stephens), which would amend the Insurance Law to provide free choice of medical expense indemnity plan when part or all of the premium is paid by a political subdivision of the State.

"Senate Intro. 1166, amended (McCullough), to provide for free choice of physician in medical expense indemnity plans.

"We are putting much effort behind these bills to attain passage. A memorandum has been sent to State officials, county and State medical society officers and legislation committees, the Auxiliary, allied professional groups, and to many interested groups of employes, as was indicated in Bulletin 8. I think you all received that bulletin containing a brief in regard to these bills by Dr. Smith. Members of the Insurance Committees of the Senate and Assembly are having our arguments in favor of passage explained to them.

"Other Medical Society-sponsored bills are Senate Intro. 1292 (Donovan), Assembly Intro. 1724 (Horan), to amend the Workmen's Compensation Law to abolish the Medical Practice Committee in counties of a million or more.

"Senate Intro. 1513 (McCaffrey), Assembly Intro. 2617 (Eggert), to amend the General Municipal Law to provide protection from malpractice liability for interns and residents in public institutions.

"Senate Intro. 1717 (Condon), Senate Intro. 2724 (Donovan); Assembly Intro. 2682 (McDonnell), Assembly Intro. 3379 (Mangan), to amend the Workmen's Compensation Law to hold arbitration hearings where services are rendered instead of where the workman resides.

"Senate Intro. 1895 (Marro), Assembly Intro. 3378 (Mangan), amending the Education Law to provide injunctive proceedings to restrain unlicensed practice of medicine, osteopathy, and physiotherapy.

"Senate Intro. 2240 (Milmoe), Assembly Intro. 2570 (Mrs. Strong), to amend the Public Health Law to allow *one* next-of-kin to authorize postmortem examinations.

"Senate Intro. 2867 (Morton), to amend the Motor Vehicle Law to protect physicians from charges of assault for drawing blood for alcohol content determination from drivers suspected of drunkenness, at the request of police officers. This is a bill that Erie County is very much interested in, and we told them we would help in any way we could because now a doctor could be held for assault in taking blood from a person who was not in a condition to give permission.

"The committee voted approval of Senate Intro. 753 (Marro), add 'solicited' to 'advertised' in Section 6514 of Education Law. This makes it unethical for a physician to solicit.

"Senate Intro. 1077 (Condon), to pay physicians attending hearings on workmen's compensation cases from the Special Fund when necessary. That is supposed to be done, but the law does not cover it so a bill was put in to allow such payments.

"Senate Intro. 1539 (Cooke), to allow the Commissioner of Mental Hygiene to inspect mental hygiene clinics and the like. We were told by the Mental Hygiene Department that if such a bill were passed, it would go a long way toward suppressing irregular and quack mental hygiene establishments.

"Senate Intro. 1613 (Metcalf), to raise the compensation of health officer from 15 to 25 cents per inhabitant. The Health Officers Association is anxious we should help. The executive committee felt we should, and I think the Health Department is ready to have this passed.

"We are opposing the following:

"Senate Intro. 778 (Peterson), Assembly Intro. 952 (Noonan), to amend the Education Law in relation to the practice of chiropractic.

[Continued on page 1520]

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[Continued from page 1518]

"Senate Intro. 1626 (Hatfield), Assembly Intro. 2295 (Stephens), to amend the Education Law in relation to the practice of naturopathy, a proposal to license 'naturopaths.'

"Senate Intro. 986 (Donovan), Assembly Intro. 1318 (M. Dwyer), to amend the Education Law to allow unlicensed interns and unlicensed residents, holding certificates of eligibility to take New York State examination for license to practice in proprietary hospitals. There was much discussion in the committee, but it was felt that this would open the door to proprietary hospitals to hire unlicensed individuals to the detriment of the public.

"Assembly Intro. 164 (Kelly), to create a temporary State commission to study the subject of licensing prescribers and vendors of hearing aids. They are not qualified to examine ears, and, therefore, should not be licensed to sell and prescribe hearing aids.

"Senate Intro. 904 (Wicks), Assembly Intro. 1205 (Waters), to amend the Education Law in relation to the sale of certain drugs, medicines, and chemicals. At the mandate of the House of Delegates, we oppose.

"Senate Intro. 1601 (Gittleson), Assembly Intro. 1941 (Lentol), to amend the Civil Practice Act to have the statute of limitation extend for two years after discovery of malpractice instead of two years from the alleged malpractice. This has caused much disturbance among malpractice insurance groups. They are also with us in trying to prevent the passage of this act. It is a very vicious procedure since it would practically remove the statute of limitations from malpractice suits.

"Senate Intro. 984 (Cuite), Assembly Intro. 1237 (Composto), amending the Public Health Law to provide that any person, firm, or corporation making a charge for x-rays shall turn the films over to the patient when no longer needed. That is a bad law. It would mean the destruction of many x-rays which might be of importance at a later date, not only for the benefit of the patient, but also in cases of compensation and litigation. If the x-rays were turned over to the patient, they could be lost or destroyed very easily. We have support from the Workmen's Compensation Board and also, I believe, from the insurance companies.

"Senate Intro. 1345 (Brydges), Assembly Intro. 1599 (M. Wilson), amending the Education Law by establishing a State Board of Physiotherapy Examiners instead of the State Board of Medical Examiners. At present the physiotherapists are licensed through the Medical Examining Board. They want their own board. We continue to oppose it

"Senate Intro. 1016 (Brydges), Assembly Intro. 1062, Assembly Intro. 1176, amending the Mental Health Law in relation to qualification of director of a State school for mental defectives on the grounds that many of the children who are mentally defective are often sick, and there are many psychiatric problems requiring a physician as director of the school. This bill would allow a nonmedical individual to be appointed as director of a State school for mental defectives.

"Senate Intro. 1079 (Condon)~~, Assembly~~ Intro. 1357 (M. Wilson), to amend the Workmen's Compensation Law to provide for service by registered mail on physicians of subpoenas to appear at hearings.

"Senate Intro. 2008 (Cuite), Assembly Intro. 2421 (Composto), to license x-ray technicians, we opposed on the ground that the present arrangement, whereby the X-Ray Society certifies x-ray technicians, is working well, and there would be no advantage in licensing them.

"Senate Intro. 2262 (Hults), Assembly Intro. 2604 (Burns), to license bioanalysts and bioanalytic laboratories without medical supervision.

"Senate Intro. 2263 (Hults), Assembly Intro. 2606 (Burns), to allow reimbursement by insurance companies to bioanalytic laboratories that did not have medical supervision.

"Senate Intro. 869 (Larkin), to amend village law in relation to licensing and regulation of occupations and businesses. The law looks as if it would make it possible for villages to license chiropractors or anything else. That apparently is not so because in the law there is a statement that it cannot conflict with the State law, but it would also add the licensing and regulation of all health activities, doctors, and everything else, to the villages as well as to the State. This seems unwise.

"Senate Intro. 1646 (Santangelo), to amend the Workmen's Compensation Law to provide rehabilitation clinics, on the grounds that the law is now adequate to provide rehabilitation, as stated by Miss Mary Donlon and, I believe, agreed to by Miss Parisi, but I am not certain of the latter.

"Senate Intro. 1407 (Rosenblatt), to add cost of medical care to disability benefits.

"Assembly Intro. 2681 (McDonnell), to allow private hospitals and nursing homes to incorporate.

"Senate Intro. 2835 (Milmoe), Assembly Intro. 3047 (Douglas), to allow the sale of magnifying spectacles without prescription. This is the same bill we opposed last year. It would enable anybody to go into a five-and-ten-cent store, pick up a pair of spectacles, decide he can see with them, and take them home. It would probably do a great deal of damage.

"We naturally opposed Assembly Intro. 3112 (Passannante), to repeal the Hatch-Metcalf Law that approves laboratories using living animals.

"The committee voted 'no action' on Senate Intro. 589 (Peterson), to create a temporary State commission to study laws relating to licensure in the healing arts.

"Work on the study of the present Medical Practice Act is continuing. After the rush of the legislative session, further exploration will be carried out.

"A successful meeting of psychologists and psychiatrists was held February 10 with Dr. Carroll V. Newsom, Associate Commissioner of Education. Both groups discussed certification or licensure of psychologists. No legislation will be offered this year. The psychiatrists are the ones appointed by Dr. Mellen as the subcommittee of the Legislation Committee. A good deal of progress was made.

[Continued on page 1522]

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1. Kulz, F. and Rosenmund, K.W., Klin. Wchnschr., *17*:344 (1938).
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[Continued from page 1520]

A second meeting will be held tomorrow to discuss definitive legislation, to see if the two groups can agree on a bill which would be satisfactory to both.

"The Subcommittee on Autopsies met February 10, and as a result the bill referred to above has been introduced. We hope the Funeral Directors Association will not oppose. It may pass. We had a tentative statement from them that they would not oppose this bill to allow an autopsy on the consent of one of the next-of-kin, and we are still working on it."

Executive Officer.—Dr. Harold B. Smith explained in further detail what was being done about five of the bills mentioned by Dr. Greenough.

The report as a whole *was accepted.*

Rural Medical Service Subcommittee of the Medical Licensure and Medical Service Committee.—Dr. Denver M. Vickers, chairman, reported that he attended the three-day session of the Council on Rural Health of the American Medical Association in Milwaukee on February 24, 25, and 26. The Committee on Rural Health, which was elevated to the status of a council six or seven years ago, now seems well established as an important part of the national organization.

The opening session was for physicians only, under the chairmanship of Dr. F. S. Crockett of Lafayette, Indiana. The program included comments from Dr. Gunnar Gunderson of the Board of Trustees of the American Medical Association, Dr. George F. Lull, secretary of the American Medical Association, and Dr. Thomas P. Murdock of the Board of Trustees. The discussion was largely on preparation for country practice. Different states are using different methods to get newly graduated physicians into general practice. Dr. Vickers described some of their methods.

He also stated that the remainder of the program was open. It included nurses, public health officials from state health departments, extension workers, teachers from state universities, representatives of the Grange, the Home Bureau, the 4-H Clubs, editors of farm journals, etc. The diversity of this group was surprising. He felt that the session was worth while and that it would be good if similar informal discussions could be held on other related subjects.

Nursing Education.—Dr. Raymond S. McKeeby, chairman, reported: "The Hospital Association of New York State met on February 25 and accepted the principles which I am going to read, and they have asked the opinion of this body as far as principles are concerned. They are more or less as follows, and I would like to have you consider these points. Then, if there are any disagreements or any thin ice in them which you feel we cannot accept as a whole, I would like to know:

"1. There are three levels of nurses needed in hospitals today: (*a*) practical nurses with one year preparation, (*b*) registered nurses with three years preparation, (*c*) collegiate nurses with four, five, or more than five years of preparation.

"2. Of the total of these three groups, the approximate ratio will vary somewhat from hospital to hospital, but a general average would be practical nurses 45 per cent, registered nurses 45 per cent, and collegiate nurses 10 per cent. It should be noted that degree programs at this time include slightly more than 10 per cent of all students.

"3. There is a serious shortage of nurses in all three categories.

"4. Recruitment efforts and attempts to obtain financial support should be directed toward all three types of program.

"5. Practical nurse schools can be sponsored by high schools or hospitals. There is no reason why practical nurse students cannot receive preparation side by side with registered nurse students in the same hospital.

"6. Practical nurses can effectively handle the bulk of actual bedside care in the hospital under proper supervision.

"7. Registered nurses prepared in hospital schools of nursing in the regulation three-year period can give treatments and medications; act as team leaders with practical nurses, student nurses, and nurse attendants in the team concept of nursing care; and take charge of wards as assistant head nurses and head nurses. In these latter positions they should have on-the-job training in supervisory and administrative technics. They do not need a college background. Some colleges are now offering job relations training courses on an extension basis, and this should be encouraged.

"8. Collegiate nurses can best fill teaching and administrative positions in schools of nursing and, to some extent, supervisory positions in nursing service.

"9. Consideration should be given to the development for the future of a shortened curriculum, with emphasis on service rather than theory, which would serve as a basic training for all registered nurses, some of whom might subsequently take further courses leading to college degrees or specialized experience.

"10. Some form of progression should be developed in the field of nursing education so that a nurse wishing to advance from one category to another could receive credit for the preparation she has already obtained, without having to start again at the beginning.

"The next two were not approved by the Hospital Association of New York State but were deferred to a further date. It was thought they could be better worded. I would rather leave them off the record, but I am going to read them to show what the thinking is."

. . . Discussion off the record . . .

"The next two are back on the record:

"13. Curriculum requirements established by the Education Department should be revised at frequent intervals to conform to changing medical practice.

"14. As long as the nursing shortage exists, the Board of Nurse Examiners should not press for

[Continued on page 1524]

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[Continued from page 1522]

curriculum and administrative changes in schools of nursing which continue to withdraw from the hospital more of the services of the student nurses.

"Dr. Elton R. Dickson and I studied these, and we feel that the principles laid down are practical for the time being and for the actual problem, the shortage of nurses. There may be certain changes; there may be certain ideas at various local levels where some principles cannot be entirely carried out, but we feel in general that it is a practical approach to our present nursing situation."

It *was voted* to adopt the report.

Office Administration and Policies.—Dr. John J. Masterson, chairman, stated that at its meeting on March 9 the committee agreed to suggest to Dr. Curphey that he might use the office recently vacated by the Blood Banks Association instead of the space he is using in Queens. At the request of the Blood Banks Association, who wish Mr. Messinger to spend more time in the field for the purpose of obtaining blood donors, the committee voted to permit the office manager of this Society to function also as office manager of the Association with the occasional assistance of his secretary and perhaps one other employe. It was suggested that any additional expenses in the way of overtime or supper money incurred, which is directly chargeable to these additional duties, be paid for by the Association.

It *was voted* to accept the report.

Publications.—Dr. Masterson reported: "The committee held a meeting yesterday, March 9, 1955.

"The editor's report was approved.

"The editor reported that he had received a request to release from copyright, for publication by the Macmillan Company, two Cornell University Conference articles which appeared in the August 15 and October 15, 1954, issues of the JOURNAL. It was decided to request the Council to authorize the secretary to sign the release.

"After discussion it was decided to include formulas in all pharmaceutic and biologic advertising in the JOURNAL.

"It was decided to follow the same policy with the *Directory* as with the JOURNAL regarding acceptance of advertisements of pharmaceutic products which are also advertised directly to the public, i.e., exclude them.

"It was reported that the Pitman Moore Company had requested a special position in the 1955 *Medical Directory* for their advertisement. This position is to precede immediately the Brooklyn biographic section. Approval was voted.

"After discussion it was the sense of the meeting to include in the preface of the 1955 *Medical Directory* the following statement: 'All communications in reference to the *Directory* should be addressed to Dr. W. P. Anderton, Secretary and General Manager.'

"Dr. Redway reported that he had received a letter from Dr. Alfred Cantor regarding an article on proctology which had appeared recently in the *American Journal of Proctology*.

"After discussion it was decided to continue the policy of not accepting abstracts.

"The editor reported that he had been successful in obtaining the assent of some of the medical schools in the State to supply medical news.

"There were presented, for discussion, samples of JOURNAL covers for the April 1 issue. It was the sense of the meeting that the words 'Convention Issue' be printed in red on the left of the front cover.

"After discussion, it was voted to print 26,200 copies of the 1955 *Medical Directory*.

"It was decided to accept the offer of the Reuben H. Donnelley Corporation to deliver medical directories in New York City, excluding the borough of Richmond, at 31 cents per copy. It was the sense of the meeting that if it proved practical from the financial point of view, the Donnelley Corporation would deliver directories in upstate cities.

"The business manager's report was accepted.

"Dr. Moore reported that, in accordance with instructions received from the committee, he had been in contact with three foundations for the purpose of obtaining funds for the publication of the 'History of Medicine of New York State.' It was his feeling, after these conferences, that we ought not to do anything further in this connection. It was, however, the sense of the meeting that a special issue of the JOURNAL be devoted to New York State medicine during the last one hundred and fifty years. The publication date of this issue would be so planned as to coincide with the time we are celebrating our sesquicentennial. Drs. Moore, Redway, and Zeman are to report later on this matter."

It *was voted* to accept the report.

Public Health and Education.—Dr. Theodore J. Curphey, chairman, reported that, since his January report, he had arranged 39 postgraduate lectures and teaching days in 19 counties and that on February 17 he attended a meeting of the Subcommittee on the Hard of Hearing and the Deaf. He stated:

"1. This meeting, chaired by Dr. Edmund P. Fowler, was attended by Drs. Greydon Boyd, Karl Gruppe, Gordon Hoople, and Stewart Nash; also Dr. Clarence D. O'Connor of the Lexington School for the Deaf and Mrs. Eleanor C. Ronnei of the New York League for Hard of Hearing, advisers. Dr. Charles A. Anderson could not be present.

"Each member reported on the progress in his area of the committee's plan to educate not only the physicians but the teachers and parents of children with hearing defects. The greatest problem seemed to concern the child with little hearing loss who lives beyond convenient reach of the speech centers. Once he is fitted with a hearing aid there is no follow-up with conservation of hearing instruction. However, it was pointed out by Mrs. Ronnei that if proper teachers are available, State financial aid can be secured under the Home Teaching Act to defray 50 per cent of the cost, with the local board of education supplying the remainder. Personnel shortage is a deterring factor.

"Interest was evinced in the 'Parents' Group'

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[Continued from page 1524]

which the League for Hard of Hearing has formed. The upstate members of the committee will seek to activate similar groups and will collaborate with Mrs. Ronnei in the preparation of informational pamphlets for parents and teachers.

"It was brought out that there exist certain inequities and disparities in the implementation of the new State law for the provision of hearing aids to indigent children. An attempt will be made to bring to the attention of the proper authorities the necessity for correcting the situation.

"2. Dr. Willis Weeden, chairman of the Subcommittee on Physical Medicine and Rehabilitation, has requested that the Council be made aware of the continued critical shortage of trained physical therapists, which prevents full utilization of rehabilitation services in the nation, the State, and particularly in the municipal hospitals of the City of New York. The committee has urged that steps be taken to alleviate the shortage, and Dr. Weeden has taken up the matter on several occasions with the Interdepartmental Health Council of the State administration. It is recommended that legislation be introduced to amend the State Education Law to (*a*) admit to licensure in New York State members of the Physical Therapy Registry of the American Congress of Physical Medicine and Rehabilitation; (*b*) establish reciprocity between New York State and other states which license physical therapists; (*c*) admit to licensing examination all persons eligible for membership in the Physical Therapy Registry of the American Congress of Physical Medicine and Rehabilitation; (*d*) admit to the licensing examination all graduates of physical therapy schools approved by the Council on Medical Education and Hospitals of the American Medical Association; (*e*) extend the current six months provisional appointments of physical therapists admitted to the licensing examination to twelve months."

Dr. Anderton stated: "The above report is distributed in the agenda, Mr. President, and Dr. Curphey has asked me to make a short additional statement regarding the meeting of his cancer subcommittee in Buffalo on March 20. This committee met after the Open House at the Roswell Park Memorial Institute, a wonderful place, in Buffalo.

"The committee has almost completed a questionnaire to be distributed to cancer prevention detection centers."

It *was voted* to approve the report.

Public Relations.—Dr. Floyd S. Winslow, chairman, presented the following: "Since the last meeting of the Council, your committee and the Public and Professional Relations Bureau began work of preparing for and publicizing our annual meeting.

"We mailed a request to participants in the scientific program to submit their papers promptly. Among the projects in preparation were articles for county medical society bulletins and premeeting press releases.

"The Bureau completed a 16-page brochure on 'How to Conduct Training Courses for Physicians' Office Personnel.' This was sent to county medical society public relations chairmen, executive secretaries, and others. Mr. Walsh, who has participated in several county medical society-sponsored courses, prepared the booklet. In early March he spoke on 'Public Relations as It Should Be Practiced in the Doctor's Office' at the Public Relations Conference for Physicians' Office Assistants, conducted by the Albany County Medical Society.

"Each of the three field representatives toured the county societies in his district.

"The Bureau assisted in preparation for three meetings to be held on March 10 and 11 at the Hotel Biltmore, New York City. The meetings are to review the 'Guide for Cooperation' with representatives of the media of public information.

"In connection with this Guide, a 'Medical Article Review Board' of five has been established to check medical accuracy of any article submitted to us. It consists of one representative from each of the five county medical societies in New York City and was nominated by the Coordinating Council of these societies.

"On March 2 Mr. Miebach attended the medical open house and Cancer Teaching Day of the Roswell Park Memorial Institute in Buffalo. He visited several county medical societies after the event.

"The Bureau continued to cooperate with the Woman's Auxiliary, as in preparation of the program for the annual convention. Materials were mimeographed for the secretary. A special article was reviewed and distributed for the State public relations chairman. Conferences were held with the president, president-elect, the *Distaff* editor, and several other chairmen. His annual report and a letter were drafted for the chairman of the Advisory Committee.

"The Speakers' Service continued to provide materials on the Administration's reinsurance proposal, the place of physicians' office personnel in our public relations program, and compulsory health insurance. Requests for films also were filled.

"The Bureau featured an article by Dr. James Greenough, chairman, Committee on Legislation, concerning the introduction at Albany of the 'free choice' and other State Society-sponsored bills, in the March issue of the *Newsletter*. The same issue publicized proposed plans for distribution of the Salk vaccine, if licensed."

Dr. Winslow read a letter from Dr. Robert S. Myers, assistant director, American College of Surgeons, in reply to a communication concerning an article by Dr. Edward H. Daseler.

It *was voted* to adopt the report.

Veterans Administration, Liaison with.—Dr. Herbert H. Bauckus, chairman, read the summary of his February report published in the minutes of the February meeting of the Council (see page 1369, NEW YORK STATE JOURNAL OF MEDICINE for May 1, 1955). A joint meeting of the Liaison Committee and the board of directors of the Veterans Medical Care Plan of New York, Inc., was held on February 10. Dr. Bauckus stated that after discussion the

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[Continued from page 1526]

meeting approved his report, "with the exclusion of that portion recommending that we do not sign the contract," but wished "an expression from the Council and the committee." The group also adopted a recommendation to the House of Delegates not to "sign a contract with the Veterans Administration unless coordinators are a part of that contract." Dr. Bauckus pointed out that the Council "several times in past years has reiterated the decision that we not have a contract without coordinators." He expressed the feeling that "in the last year especially, no attention had been paid to the directors of the plan or the plan itself" and that renewal of the contract might seem to indicate approval by this Society of "the gradual change from fee basis and free choice into so-called contract clinics and care by the government and the Veterans Administration itself." He stated that the joint group did not approve his suggestion of discontinuing the plan "unless, of course, the Council studied it and decided otherwise."

After discussion it *was voted* that the chairman submit a memorandum concerning this question to the members of the Council, to be acted on at the next meeting.

Dr. Bauckus also stated that he and Dr. Anderton attended a meeting of the American Medical Association Conference of Chairmen of State Committees on Veterans Affairs, in Chicago on February 19. He discussed the agenda regarding Veterans Administration medical care and read excerpts from the American Medical Association's "Washington Letter" of February 28 and "Secretary's Letter" of March 7. The latter commented on the Hoover Commission's advocacy of allowing Veterans Administration to treat nonservice-connected disabilities during first three years after separation from the armed forces.

Woman's Auxiliary, Advisory to.—Dr. Andrew A. Eggston, chairman, reported that he had sent a letter urging presidents of county societies not having auxiliaries to consider the advisability of stimulating the organization of an auxiliary. He stated that the 15 counties not having auxiliaries are Bronx, Chemung, Chenango, Delaware, Essex (Hamilton), Franklin, Lewis, Montgomery, New York, Otsego, Putnam, Rockland, Sullivan, Tioga, Washington.

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, reported: "The Workmen's Compensation Committee met in New York City on March 3, when various happenings of the past year were discussed, as well as the tentative report to the House of Delegates.

"The members were asked how the new compensation procedures were working in various parts of the State. In some areas they stated that many of the doctors did not realize that there were new procedures. In most places they had been running very smoothly with cooperation of the doctors and of the Workmen's Compensation Board. In one or two cases there had been misunderstandings with some of the referees, which can be straightened out.

"One of the questions which came up was the mailing of subpoenas to doctors. In many cases arrangements were made to have the doctor set aside the time to come to the hearing before the subpoenas were mailed. In every case the understanding with the chairman of the Workmen's Compensation Board is that there will be at least one month's notice if you receive a subpoena by mail, and there have been no over-all objections to that procedure."

It *was voted* to adopt the report.

New Business

Defense Reserve Program.—Dr. Gerald D. Dorman described some of the advantages of the proposed defense reserve program. He stated that legislation has been introduced in Congress to establish such a program and that public hearings are being held to determine public opinion. Pointing out that although it is not a matter on which the Society should act, since it is one which particularly concerns all physicians, he suggested that the members of the Council might wish to take individual action with regard to this legislation.

Life Expectancy Increases

According to the mortality in 1954, the average length of life of America's wage-earners and their families climbed to within a tenth of a year of the Biblical three score years and ten, statisticians of the Metropolitan Life Insurance Company report.

This record is derived from the experience among the Metropolitan's industrial policyholders. The average length of life (expectation of life at birth) of these insured persons is now 69.9 years, the statisticians said.

The current figure is one year greater than that for 1953, and five and one-half years above that of a decade ago.

Improvement has been more rapid for industrial policyholders than for the general population of the United States, the statisticians noted. In 1911 to 1912 the average length of life among these insured was only 46.6 years, or about six and one-half years less than that for the population as a whole; at present the two are on a par.

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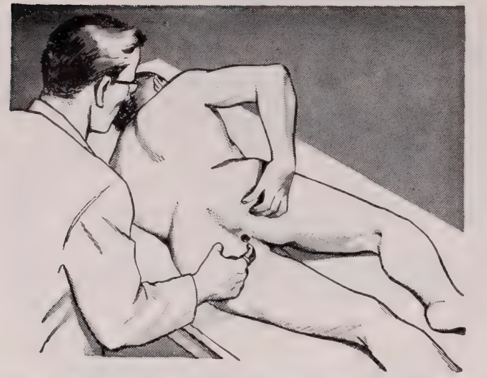
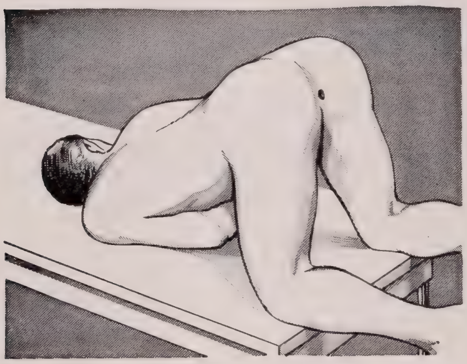
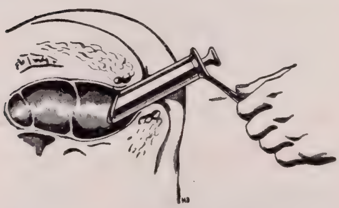


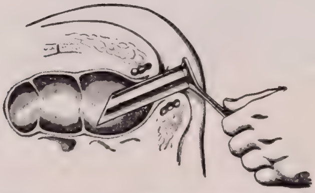
Sims position for digital and anoscopic examination, right knee across and in front of left thigh.



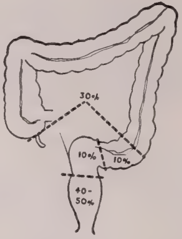
Shoulder-chest position on ordinary table for proctoscopic and sigmoid examination. Thighs slightly apart, at right angles to edge of table. Left shoulder under chest, face to right.

Anorectal examination — digital and anoscope or proctoscope.





After gentle digital examination of the walls of the rectum, the well-lubricated anoscope or proctoscope with its obturator is inserted within the anal canal in the direction of the table. The obturator is withdrawn and air enters the rectum, permitting a view beyond the length of the proctoscope.



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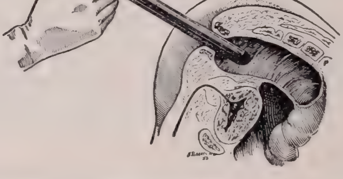
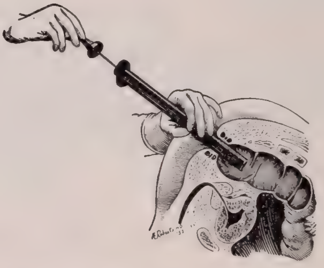
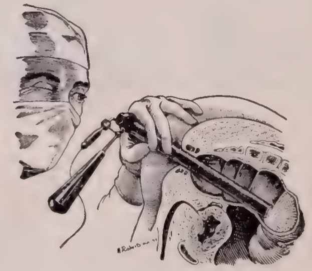
Sigmoidoscopic examination, with the patient in the knee-chest position.



Introduction of sigmoidoscope with obturator *just beyond the sphincter.*



Obturator is removed before advancing the sigmoidoscope.



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(Prepared by the Subcommittee on Cancer, Medical Society of the State of New York)

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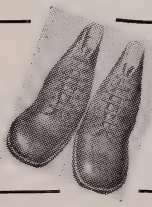

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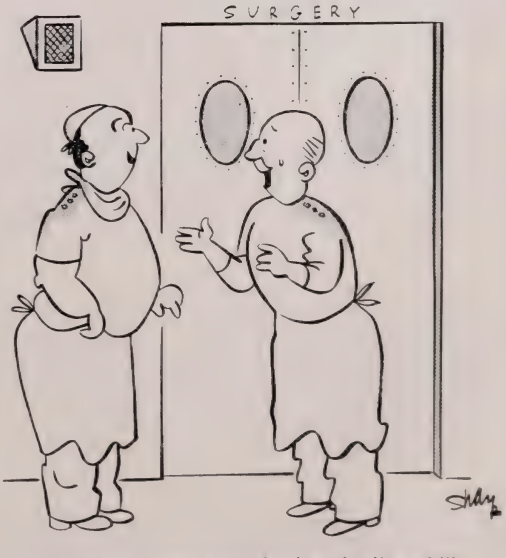

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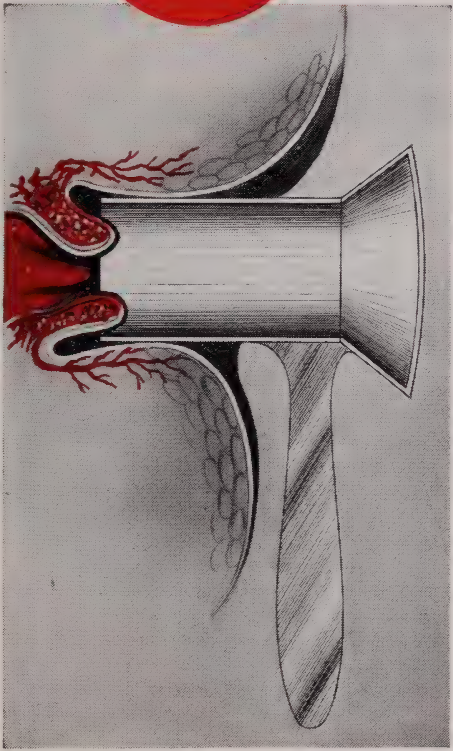

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1. Rukes, J. M., et al.: Metabolism 3:481, 1954.
2. Peterkin, G. A. G.: Brit. M. J. 1:522, 1954.

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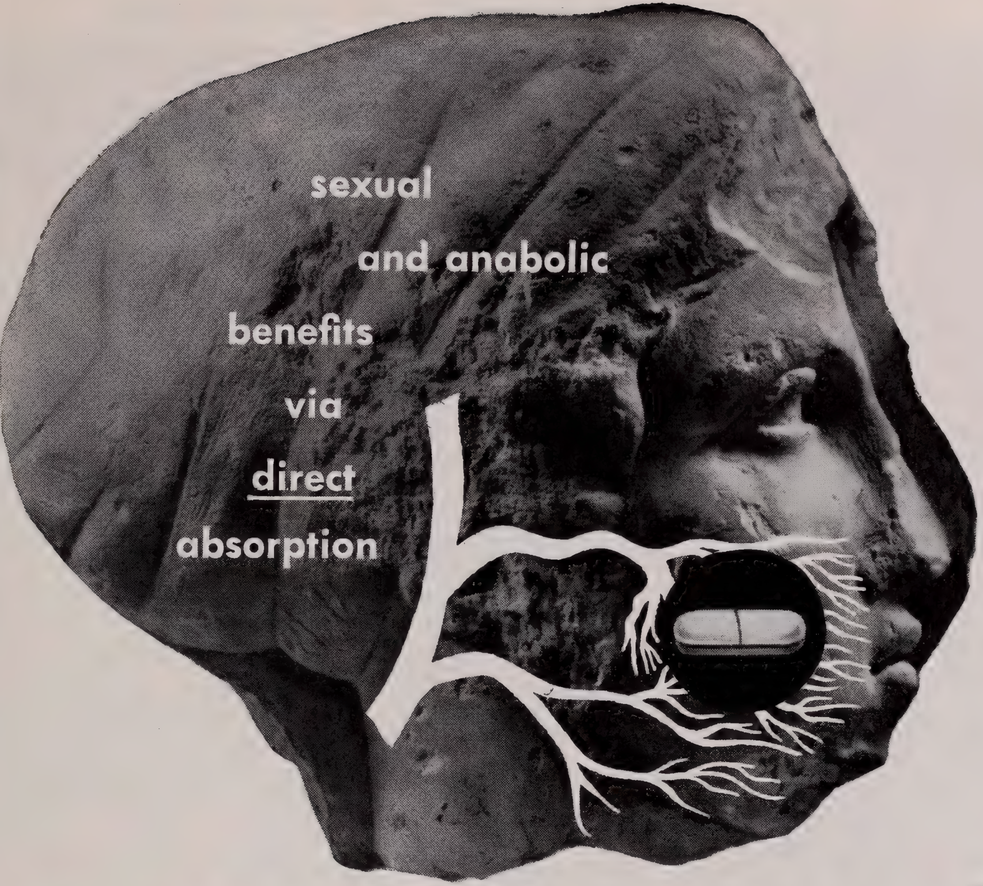

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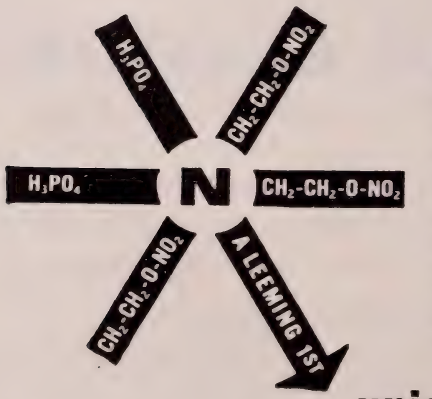

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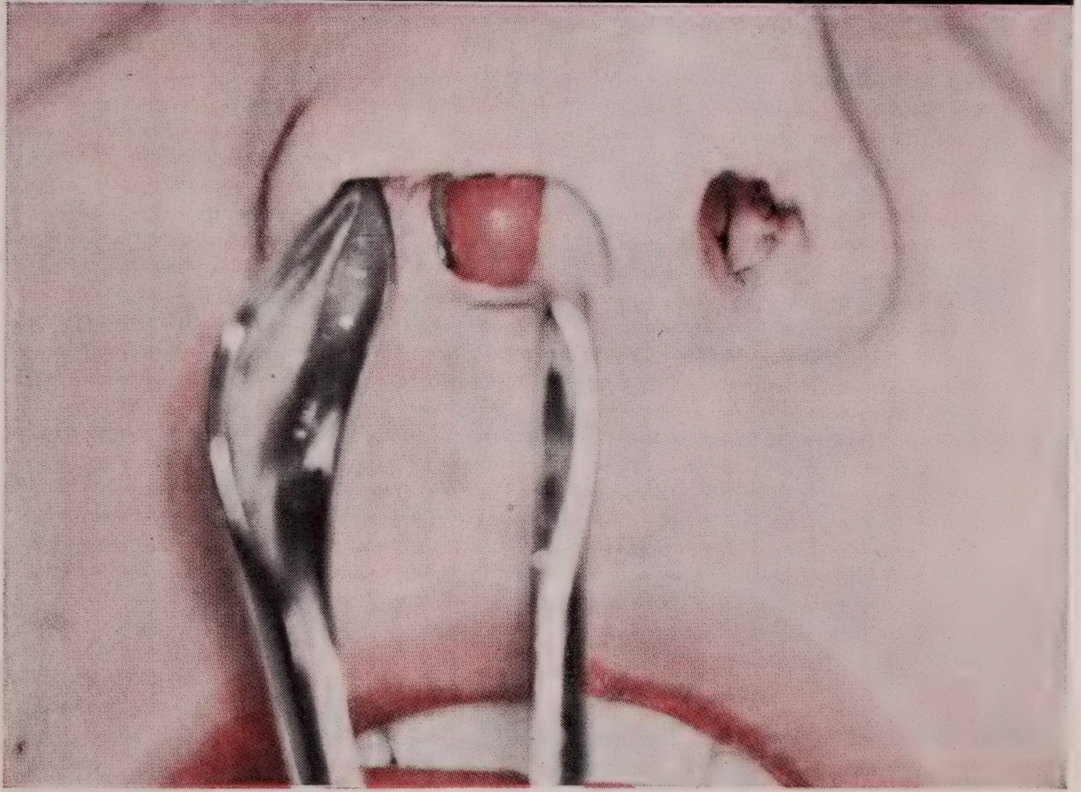

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[1] LULENS, F. D. W., *The Medical Uses of Cortisone*, The Blakiston Company, Inc., New York, pp. 331, 341, 1954.

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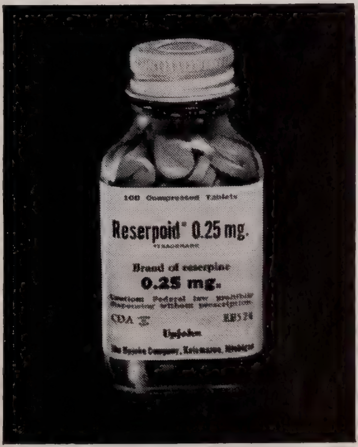
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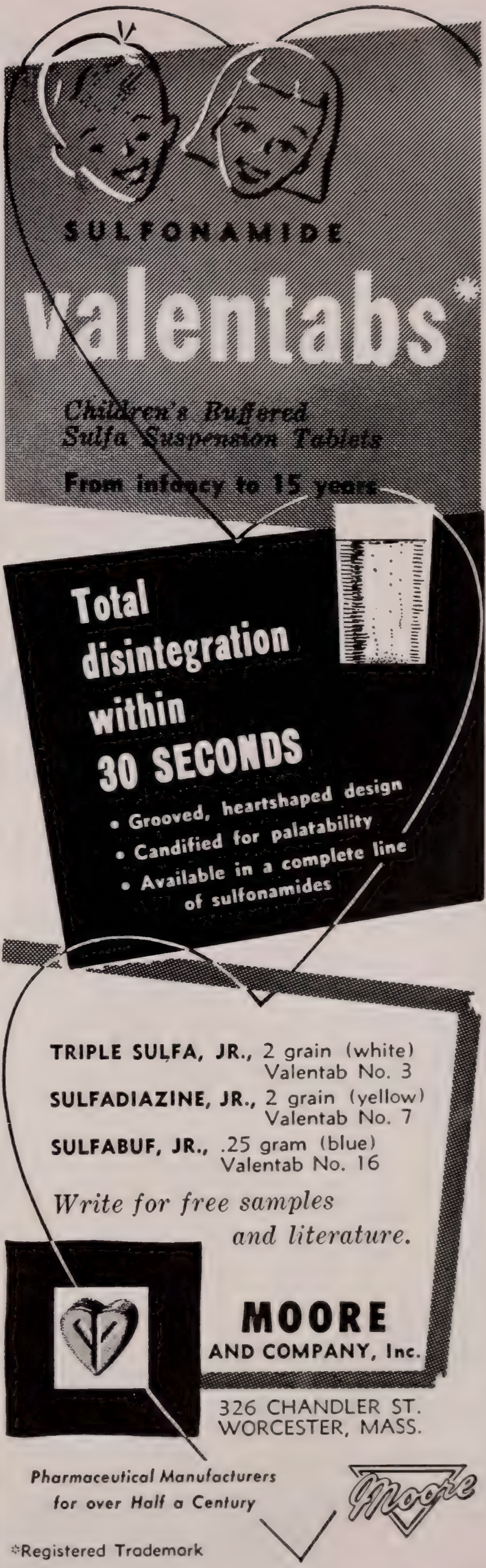

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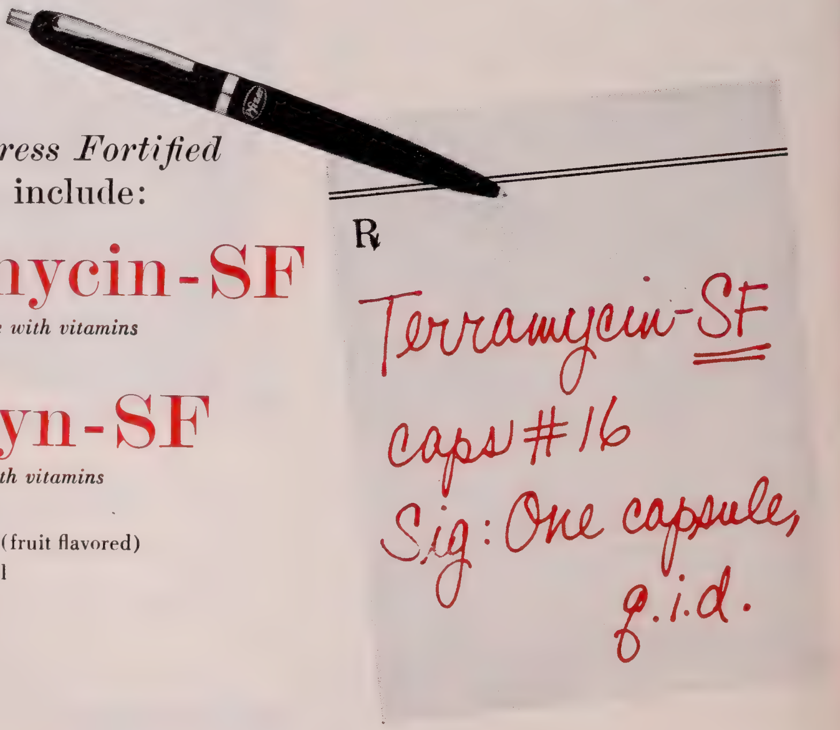

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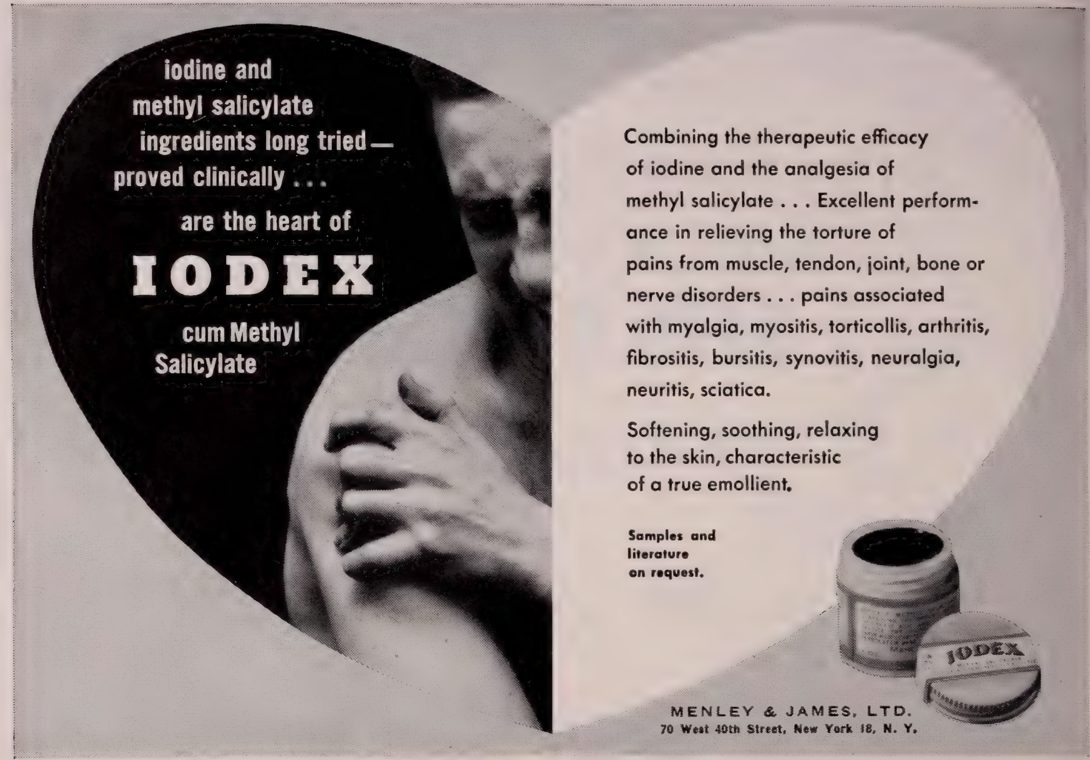

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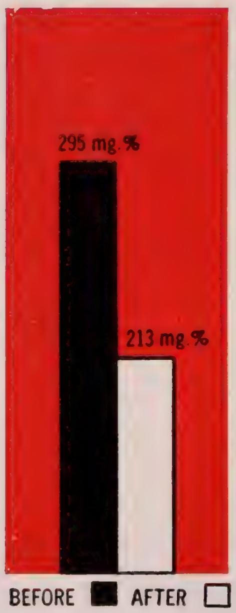

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1. *Albert, A., and Albert, M.: Texas State J. Med.* 50:814 *(Dec.)* 1954.
2. *Sherber, D.A., and Levites, M.M.: J.A.M.A.* 152:682 *(June 20)* 1953.

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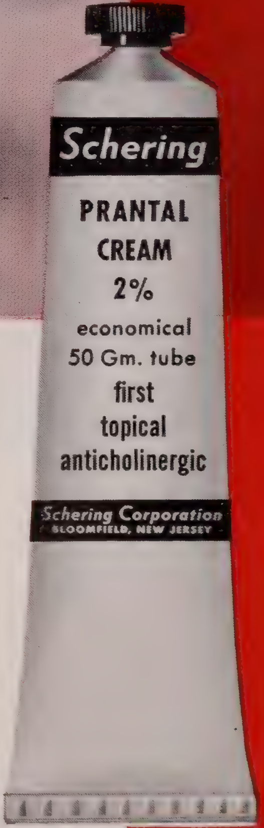
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Vagisec liquid penetrates to trichomonads buried among the vaginal rugae and imbedded in mucus and desquamated cells.

Trichomonads explode within seconds. "Motion pictures taken through a phase-contrast microscope at 24 frames per second, show that most trichomonads are destroyed within ten seconds after contact with a 1:250 solution. . . . Even in the presence of blood serum and mucinous material all are destroyed within 30 seconds."[1]

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Why they explode. Three chemical components of Vagisec liquid attack the trichomonad synergistically. A chelating agent complexes and takes away the calcium of the calcium proteinate. A wetting agent removes lipid materials. A detergent denatures the protein. The parasite imbibes water, swells up and explodes.

The Davis technic.† Dr. Carl Henry Davis, well-known gynecologist and author, and C. B. Grand, research physiologist, introduced this new trichomonacide as "Carlendacide." Over one hundred leaders in obstetrics and gynecology tested it clinically and found it a remarkably fast-acting, effective therapy. Doctor Davis recommends a combination of 1) Vagisec liquid in office treatment; 2) home treatment with Vagisec jelly at night and 3) douche with Vagisec liquid in the morning. "A few women have infected cervical, vestibular or urethral glands and require other types of treatment . . ."[1]

Vagisec jelly and liquid are non-toxic and non-irritating. In a recent collected study only about one per cent of women showed evidence of allergy to Vagisec liquid.[1]

Office Treatment. Expose vagina with speculum. Wipe walls dry with cotton sponges and wash thoroughly for about three minutes with a 1:250 dilution of Vagisec liquid. Remove excess fluid with cotton sponges. Dr. Davis recommends six office treatments.

Home Treatment. Patient inserts Vagisec jelly each night and douches with Vagisec liquid (2 teaspoonfuls in 2 quarts of warm water) each morning except on office treatment days. Continued douching two or three times a week helps to prevent re-infection. Pregnant women should have office treatments only.

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1. Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955.

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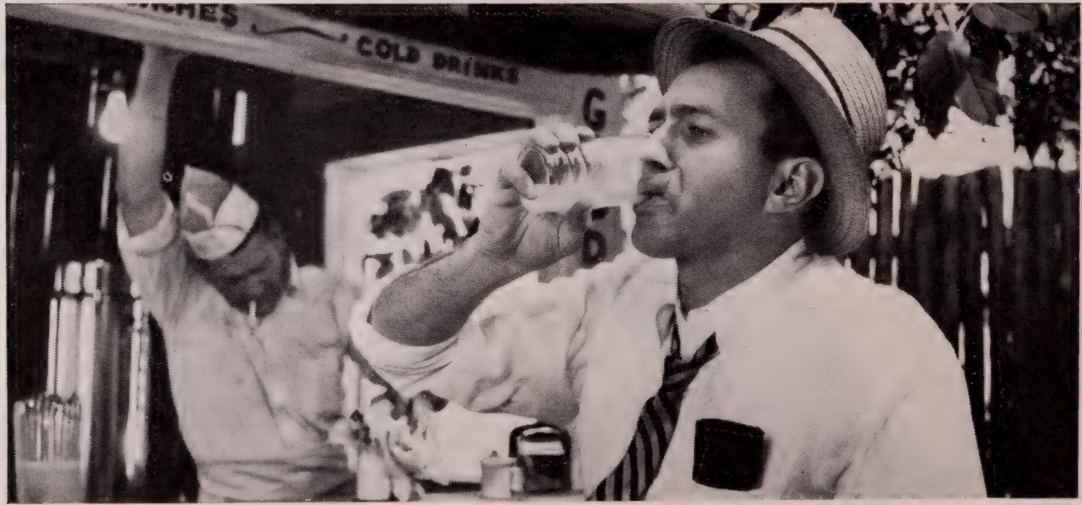

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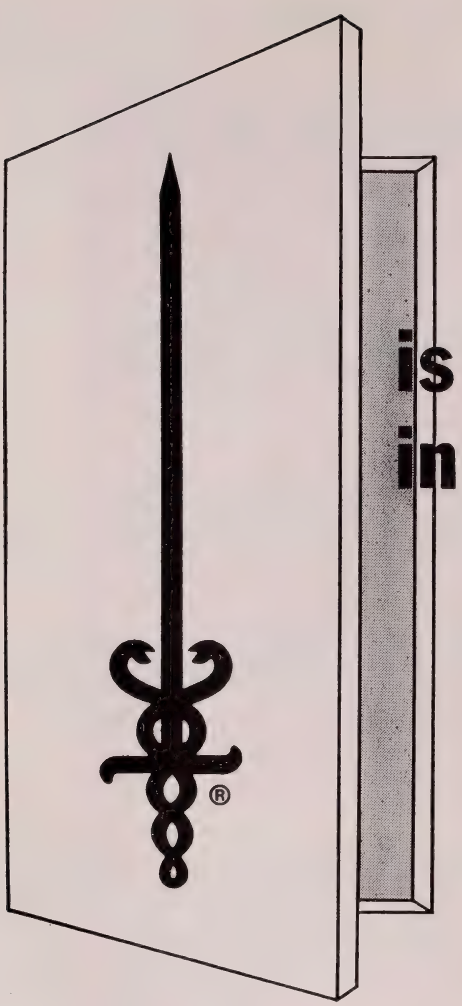

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1. Eisfelder, H. W.: Am. Pract. & Dig. Treat., 5:778 (Oct.) 1954.

2. Sebrell, W. H., Jr.: J.A.M.A., 152:42 (May) 1953.

3. Sherman, R. J., M.D.: Medical Times, 82:107 (Feb.) 1954.

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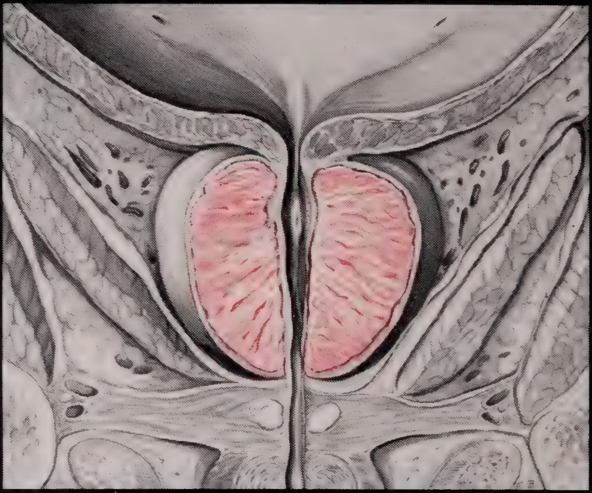

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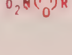

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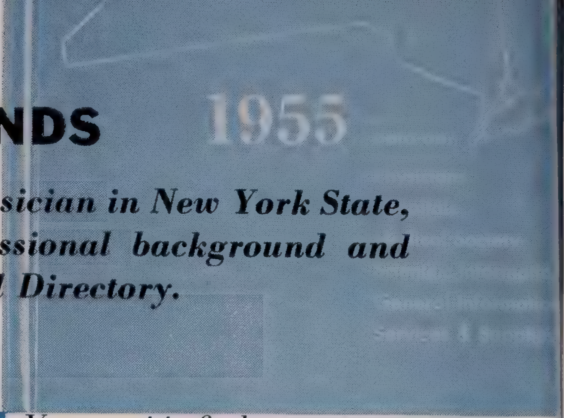

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A quick reference to the pages on abbreviations would show you that *Dr. John Paul Doe* is a Diplomate American Board of Ophthalmology (D-O), Diplomate American Board of Otolaryngology (D-OL), his qualifications under the New York State Workmen's Compensation law are Ophthalmology, Laryngology, Rhinology, Otology (SEF), he is a Fellow of the American Academy of Surgeons, he has completed service at Bellevue Hospital, he is Senior Otolaryngologist at Strong Memorial Hospital and Assistant Attending Physician Eye, Nose and Throat at General Hospital.

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Development of full effectiveness of Pentoxylon requires about 2 weeks of therapy, though benefits have been observed after 24 hours.

Dosage: Initially, 1 tablet q.i.d. Available in bottles of 100 long-acting tablets.

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in rheumatoid

more effective therapeutic agent than older corticosteroids

Three to five times as potent as oral cortisone or hydrocortisone, milligram per milligram, METICORTEN provides enhanced anti-inflammatory and antirheumatic action without the major undesirable effects associated with older corticosteroids.

Within 24 hours after administration of METICORTEN, joint pain decreases, and stiffness and local heat diminish. Improvement in functional capacity and mobility follows quickly.[1,2] Excellent results are obtained even in patients no longer responding to cortisone or hydrocortisone.[1,2]

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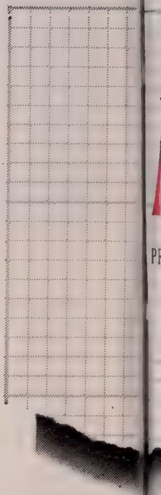
Dosage and Administration

METICORTEN is available as 5 mg. scored tablets in bottles of 30 and 100. In the treatment of rheumatoid arthritis, dosage of METICORTEN begins with an average of 20 to 30 mg. (4 to 6 tablets) a day. This is gradually reduced by 2½ to 5 mg. until maintenance dosage of 5 to 20 mg. is reached. The total 24-hour dose should be divided into four parts and administered *after meals and at bedtime*. Patients may be transferred directly from hydrocortisone or cortisone to METICORTEN without difficulty.



arthritis

"...free of significant metabolic, water or electrolyte disturbances."[1]

The higher therapeutic ratio of METICORTEN permits marked clinical benefits unaccompanied by many of the major undesirable actions characteristic of cortisone and hydrocortisone.[1-4]

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PREDNISONE (metacortandracin)

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- avoids sodium and water retention
- avoids weight gain due to edema
- no excessive potassium depletion
- better relief of pain, swelling, tenderness; diminishes joint stiffness
- lowers sedimentation rate even where cortisone or hydrocortisone ceases to be effective—"cortisone escape"
- most effective in smallest dosage

Bibliography

(1) Dordick, J. R., and Gluck, E. J.: Preliminary clinical trials with metacortandracin in rheumatic diseases. Comparative antirheumatic potency, metabolic activity and hormonal properties, J.A.M.A., in press. (2) Bunim, J. J.; Pechet, M. M., and Bollet, A. J.: J.A.M.A. *157*:311, 1955. (3) Barach, A. L.; Bickerman, H. A., and Beck, G. J.: Clinical and physiological studies on the use of metacortandracin in respiratory disease. I. Bronchial asthma, Dis. Chest, in press. (4) Schwartz, E.: Personal communication.

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DIAMOX suppresses both the frequency and the severity of seizures, without apparent direct sedative action. DIAMOX appears to produce a relative acidosis in a manner similar to the ketogenic diet, and may also have a direct effect on nerve tissue. (1)

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1. Merlis, S.: DIAMOX: A Carbonic Anhydrase Inhibitor—Its Use in Epilepsy. Neurology. 4:11, 863-866 November 1954.
2. Becker, B.: Decrease in Intraocular Pressure in Man by a Carbonic Anhydrase Inhibitor, DIAMOX. Am. J. Ophth. 37:1, 13-15 January 1954.

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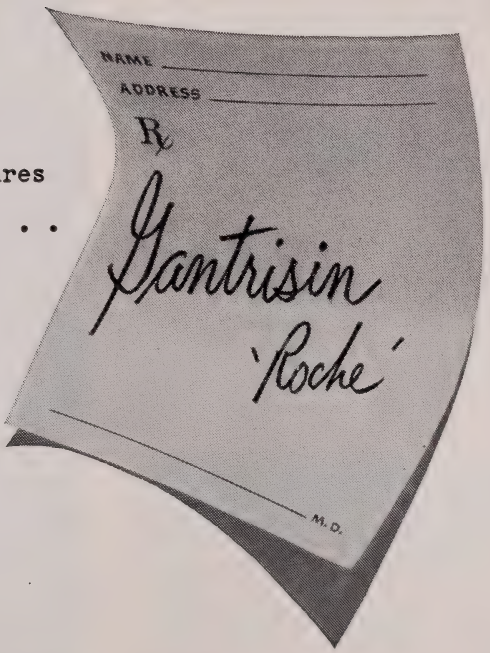

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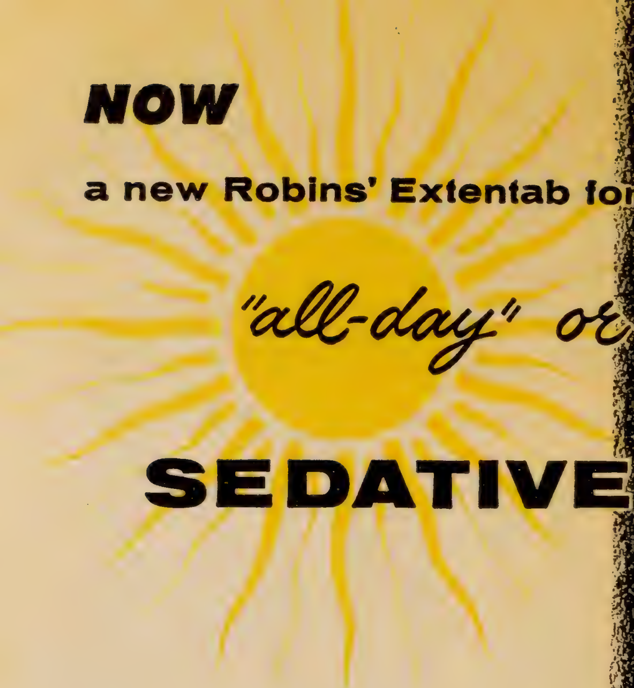

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[1] J. Pharmacol. Exper Therap., **100**:309, 1950.

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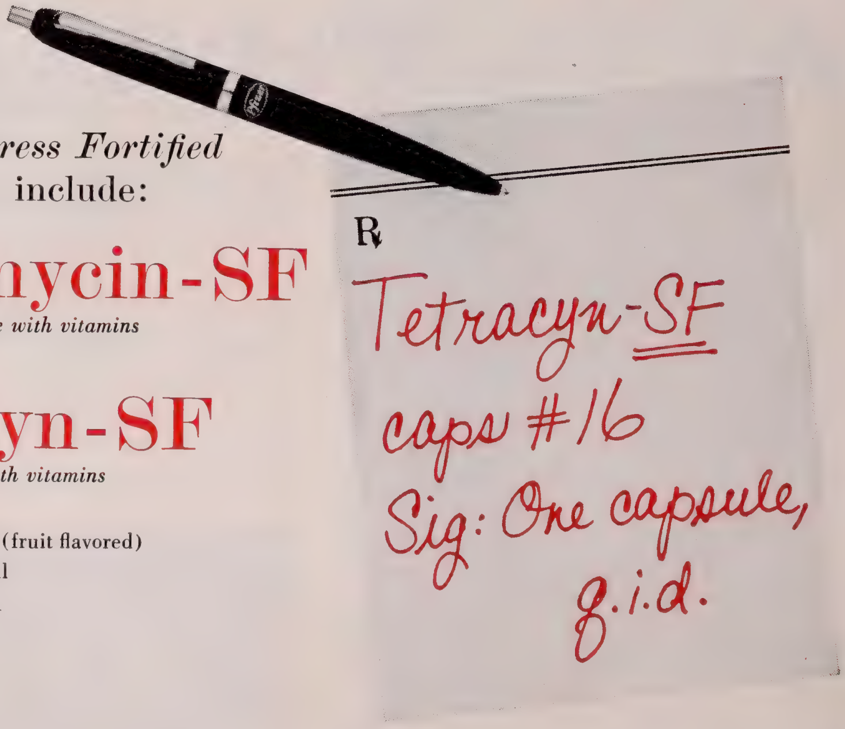

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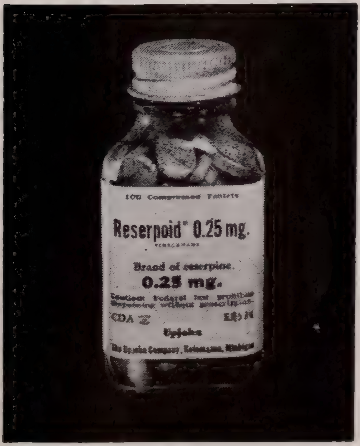
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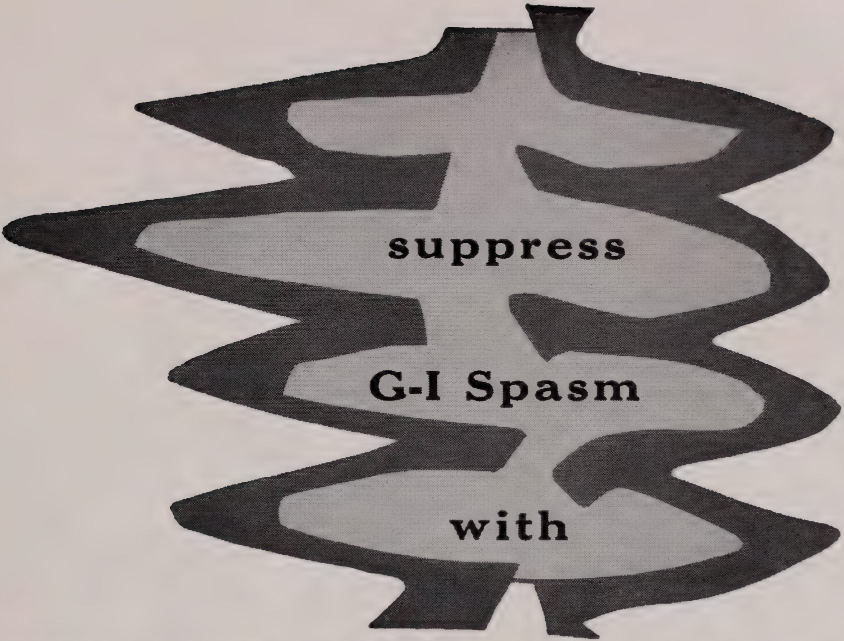

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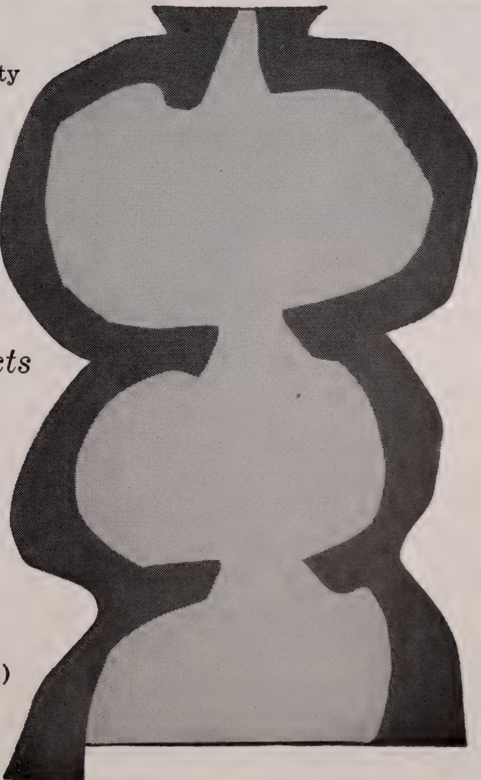

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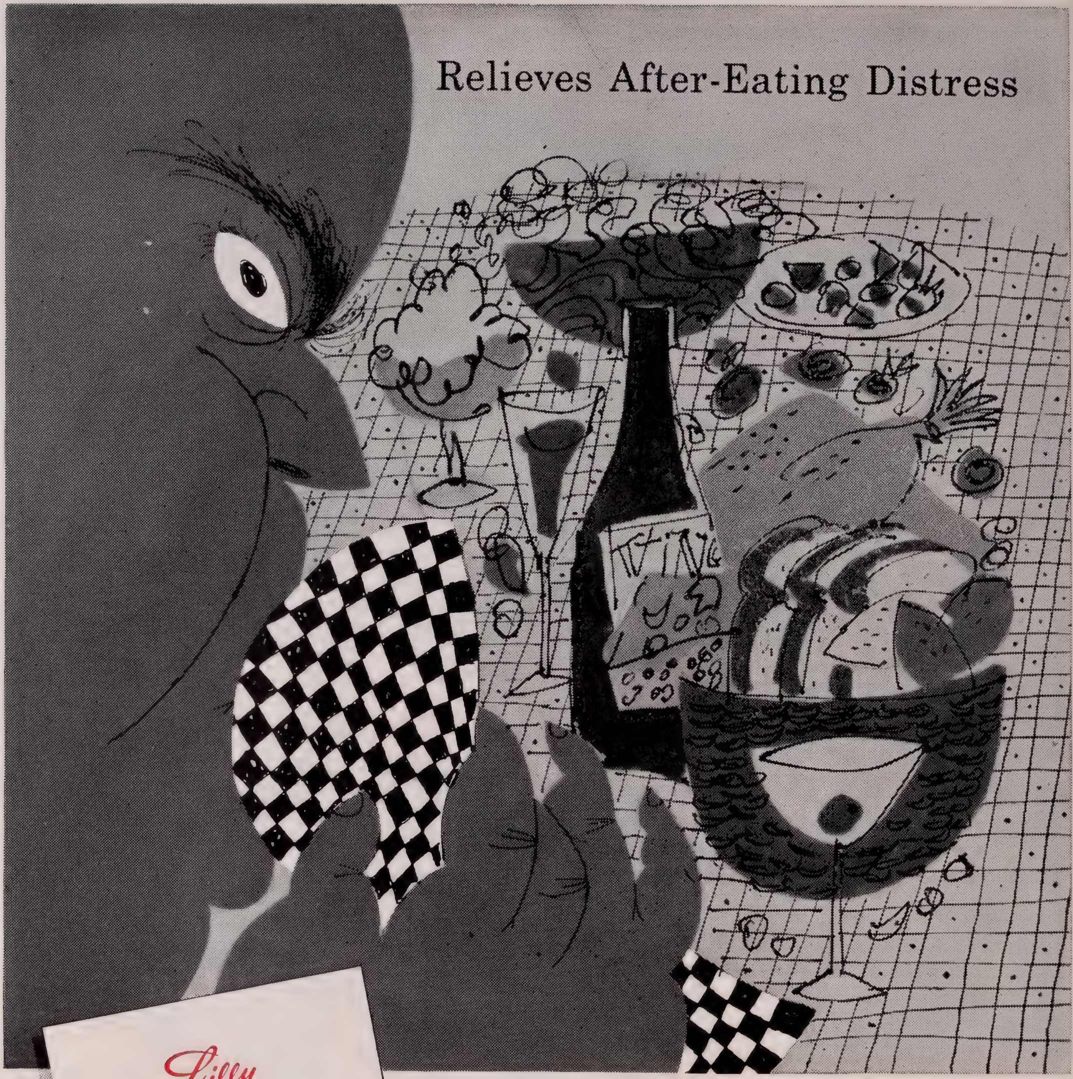

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EDITORIALS

Treatment of Cancer

It is the privilege of the editors of the Journal to present a distinguished series of articles on the early treatment of cancer. These have been prepared under the joint initiative of the Subcommittee on Cancer of the Council Committee on Public Health and Education of the Medical Society of the State of New York and the Bureau of Cancer Control of the New York State Department of Health. The articles deal with the pertinent facts of the treatment of cancer and are intended to clarify the apparent confusion that exists all too frequently concerning the therapeutic control of cancer.

In the issue of March 15, 1955, the Journal commented editorially upon the challenge of cancer and dealt statistically with the reported new cases and sites of occurrence among residents of New York State exclusive of New York City.[1]

We now direct our readers' attention to the new series commencing on page 1632 of this issue. The articles are brief and informative, and it is the hope of the editors and of the Publication Committee that they will attract the serious attention they deserve.

---

[1] New York State J. Med. **55**: 754 (Mar. 15) 1955.

Mandatory Reporting of Cerebral Palsy Discontinued

The evaluation of mandatory reporting of cerebral palsy conducted by the New York State Department of Health during 1954 revealed that the present reporting procedure was not accomplishing its objectives. Experience during the past few years indicates that needed information about cerebral palsy patients can more easily be obtained from the full-time health agencies throughout the State without recourse to a mandatory reporting system. The New York State Department of Health, therefore, recommended repeal of Section 2586 of the Public Health Law which requires reporting of cerebral palsy by physicians. This section of the Public Health Law has been repealed, and it is no longer necessary for physicians to report cases of cerebral palsy to the appropriate health officer. Attention of physicians is called to the notification, appearing on page 1584 of this issue, that, effective immediately, the reporting of cerebral palsy is no longer required. It should be noted that the reporting of cerebral palsy was never required in New York City.—G. W. L.

Editorial Comment

Common Errors in Reporting. According to the U.M.S. Bulletin,[1] 45,702 medical reports were received by U.M.S. during September, 1954. Of these some payments were delayed for the following reasons in the indicated number of cases:

No signature of doctor	324
Date or type of service omitted	321
Question as to pre-existing condition not clarified	339
No detail of surgery, or copy of operative report	109
Added information required in varicose vein cases	39
Added information re fracture	36
Total	1,168

For October 80.52 per cent of claims were paid within three work days, 96.65 per cent within ten work days, and 98.29 per cent within fifteen work days.

Attention of the membership is called to the character and frequency of these errors. They can be laid at the door of the doctor himself and seem to be due principally to his or her failure to check the form before mailing it in. Delay in payment might be avoided by a simple inspection of the report form by the doctor or a designated assistant familiar with the requirements.

It seems worth while also to remind physician members of any of the plans that U.M.S. and Blue Cross are separate organizations. The joint enrollment, publicity, and the collection of charges for coverage are for convenience of our public and economy of operations.

Service Benefit means that the payment made by U.M.S. is "in full" settlement for a scheduled care rendered a member whose annual rate of income qualifies for such consideration by a Participating Physician.

Indemnity means the payment made by U.M.S. is a financial assist when the member's income is above the "Service Benefit" level and for those services which are not included in the contract provisions for "service," such as maternity delivery $75, office visits $3.00, home visits $4.00, one consultation (under the General Medical Plan) $10.

The member pays any difference between the U.M.S. "indemnity" payment and the doctor's customary fee.

Radiology and pathology allowances (when provided by a rider) are also "indemnity," not "service benefits."

We call attention repeatedly to these facts for the information of new members and to remind older ones of certain errors which could easily be avoided with perhaps a little more attention to detail. We are reminded in this connection of Edward Lear's quatrain:

---

[1] U.M.S. Bulletin 9: 3 (Dec.) 1954.

> There was an old man who supposed
> That the street door was partially closed.
> But some very large rats ate his coats and his hats.
> While the futile old gentleman dozed.

Verbum sat sapienti . . .

Geriatrics and General Practice. Under this heading the *Journal of the Medical Society of New Jersey*[1] reviews the founding in June, 1942, of the American Geriatrics Society. The editorial stresses the great need today for geriatrics, "the youngest of the medical disciplines," since it encompasses "not only the treatment of diseases of the senium, but also such matters as rehabilitation, social aspects of aging, psychologic problems associated with seniority and so on."

The geriatrician must also be a general practitioner.

> In one day he may have to concern himself with an enlarged prostate, a senile psychosis, a decompensated heart, a severe pruritus, a cataract, a fractured hip, and a diabetes. Just as the pediatrician is the family doctor to the child, so the geriatrician is the family doctor to the aged. Geriatrics is not so much a specialty as an integration of specialties. Without a family doctor or general practitioner to captain the team, the corps of specialists would have the senior citizen fragmented into as many parts as his years.
>
> One of the bypaths of geriatrics is its preventive aspects. But to prevent certain diseases of the old means to do something to people in middle life. So the geriatrician has to reach back into earlier life and, in this respect, must be bolder than the pediatrician who has to set a cut-off date for himself.
>
> The child welfare movement, the child-centered home, and doting attitudes of parents towards their children have given to American boys and girls the happiest childhoods in the world. Neglect is one of the harshest indictments that can be returned against an American parent.
>
> Let us not, however, fall into the reciprocal sin. Let us not be guilty of neglect of parents. Companionship, affection, comfort, and a sense of usefulness are desiderata of old age. When the grown sons and daughters fail to provide their parents with those things, they are as guilty of neglect as if they had starved them. The children's charter is a precious document in the American heritage. It is time for some one to write a charter for grandparents. And these same words may well be engraved on that charter: companionship, affection, comfort, and a sense of usefulness. Small rewards indeed for a lifetime of service!

A charter for grandparents implies securing for this class of citizens certain inalienable rights of a nonpolitical character. As a grandfather, this writer can agree heartily with our contemporary's well-expressed objective. Our helpful suggestion is that *he* write such a charter; admittedly the task is beyond our ability to undertake, but we pledge in advance our support of such a document.

---

[1] J. M. Soc. New Jersey **52**: 106 (Mar.) 1955.

No one can be perfectly free until all are free; no one can be perfectly moral until all are moral; no one can be perfectly happy until all are happy.—Spencer

PRESIDENT-ELECT

Medical Society of the State of New York
1955–1956

James Greenough, M.D.

Dr. James Greenough, of Oneonta, was chosen president-elect for the year 1955–1956 by the House of Delegates of the Medical Society of the State of New York at its 149th Annual Meeting in Buffalo on May 11.

A native of Cambridge, Massachusetts, Dr. Greenough received his medical degree from Harvard Medical School, Boston, Massachusetts, cum laude, in 1919. He interned at Massachusetts General Hospital and at Huntington Memorial Hospital, both in Boston, and then came to New York City, where he was adjunct attending surgeon and chief of the First Division, Surgical, Outpatient Department at Bellevue Hospital, associate in surgery and anatomy at Columbia University College of Physicians and Surgeons, and attending surgeon at Seaview Hospital, Staten Island. From 1927 to 1929 Dr. Greenough was chief of surgery at Mary Imogene Bassett Hospital, Cooperstown, and from 1930 to the present, surgeon at Aurelia Osborne Fox Memorial Hospital, in Oneonta, where he has also served several terms as chief of staff and is now chief of surgery.

From 1942 to 1946, Dr. Greenough was chief of surgery at the Regional Hospital, Fort Monmouth, New Jersey, with the rank of lieutenant colonel in the Medical Corps of the Army of the United States. He is a Fellow of the American College of Surgeons, a Diplomate of the American Board of Surgery, an associate member of the Northeastern Section of the American Urological Association, a member of the council of the New York State Association of Tumor Clinics, a charter member of the Central New York Surgical Society, and a member of the Association of Military Surgeons.

In 1931 Dr. Greenough was elected president of the Otsego County Medical Society and for many years served as a delegate from Otsego County to the State Society House of Delegates. He served also as first and second vice-president of the Sixth District Branch and from 1952 to 1955 as a member of the Council of the State Society, acting as chairman of the Council Committee on Rural Health and of the Council Committee on Legislation. In addition, Dr. Greenough is active in community affairs, serving as police commissioner of Oneonta from 1937 to 1938 and as president of the Oneonta Kiwanis Club.

PRESIDENT'S PAGE

Renato J. Azzari, M.D.

I consider the mandate you have given me to serve as the head of one of the largest medical societies in the world as an outstanding opportunity to show my appreciation for what the medical profession has meant to me.

Now is the time to make definite plans to honor in 1957 the outstanding achievements of our past leaders and their colleagues during the last century and a half. I am well aware that the special sesquicentennial commission headed by Dr. A. H. Aaron, already has swung into action and is making excellent progress. I desire, however, to remind the membership at large that every county medical society and every individual member should play an active role in the preparatory phases as well as in the actual celebration. All of us should think about how well we can demonstrate the remarkable progress the medical profession has made in the State in the development of service to the people. For one of our fundamental purposes has been, and should always be, "to promote the betterment of public health."

Our efforts in behalf of the principle that a patient must be allowed to choose freely his own physician must not be relaxed. Time has proved that this principle of free choice is the best guarantee of the highest standards of medical care for the people. The intervention of a third party, be it the government or a private organization, results in the deterioration of medical standards. "Free choice of plan" and "free choice of physician" laws must remain primary objectives.

While it is unfair to label all proposed laws not acceptable to us as "socialized medicine," it is equally foolhardy to assume the attitude that the issue is "dead and buried." Our policy should be one of objective analysis followed by prudent judgment of every proposed law pertaining to health, while continuing to be ever watchful for the revival of compulsory health insurance in the guise of well-meaning social welfare legislation.

Another field in which our work needs to proceed with unabated vigor is medical public relations. A word of commendation is due to Dr. Floyd S. Winslow and his committee for the progress made during the past year, particularly in the realm of press relations. The "Guide for Cooperation," prepared by its subcommittee and approved by the House of Delegates last year, has proved to be a momentous step forward in press relations. Yet much has to be done if the goal of improved public relations is to be realized. Every member of our Society should become familiar with its common sense approach to publicity. Every county medical society can improve press relations by holding meetings with reporters and editors to discuss the Guide's application locally. Our chief hope in preventing erroneous published statements which mislead the public and discredit medicine is our sincere cooperation with representatives of the various information media through personal contacts. We on the State level have done much in this area and urge the county societies to follow suit.

The task of preventing disease belongs primarily to our profession. In these modern times, however, we need the assistance of many groups in carrying out our obligations. One of our best allies in this work has been, and I am sure will continue to be, the State Department of Health. All of us are cognizant of the fine results obtained through the cooperative effort of our Public Health and Education Committee, sparked by Dr. Theodore J. Curphey, and Commissioner Herman E. Hilleboe and his associates. Our mutual objective of better health for more people can be obtained through continued mutual understanding of each other's problems.

Most successful organizations, whether they are classified as business, educational, scientific, philanthropic, or otherwise, are providing guaranteed retirement income plans for their employes in this modern era. The establishment of such a plan would assure our employes of our sincere interest in their welfare and ourselves of their permanent faithful service. In the competitive market of today, we need such a plan to attract capable help as well as to improve relationships with our existing loyal personnel.

Whenever sound reasoning and practical experience indicate that a change is necessary for the welfare of the people and the medical profession, we should not hesitate to change unless ethical principles are clearly violated. We should, nevertheless, be evolutionary rather than revolutionary in any actions which we may take. We should proceed carefully but not timidly in keeping the practice of medicine abreast of modern developments.

Changing times are challenging times. Unless science is to remain stagnant and perhaps even to retrogress, we must accept the challenges of 1955. We must not be afraid to change. I am certain that if we follow the philosophy of ethical evolutionary change dictated by sound reasoning and practical experience, the practice of medicine in this State will continue its forward march of progress and reach new heights in scientific achievements.

Renato J Azzari

ANNOUNCEMENT

Reporting of Cases of Cerebral Palsy Discontinued

Attention of physicians practicing in this State is called to the recent legislation which repealed Section 2586 of the Public Health Law which required the reporting by physicians of cases of cerebral palsy. Effective immediately, the reporting of cerebral palsy is no longer required and the entire reporting procedure for this condition has been discontinued. Reporting of cerebral palsy was never required in New York City.

Discontinuance of reporting is in accordance with the recommendation of the State Department of Health, whose recent evaluation of mandatory reporting of cerebral palsy indicated that the procedure was not accomplishing its objectives and that the information desired could be secured in a much simpler manner from the local health agencies involved.

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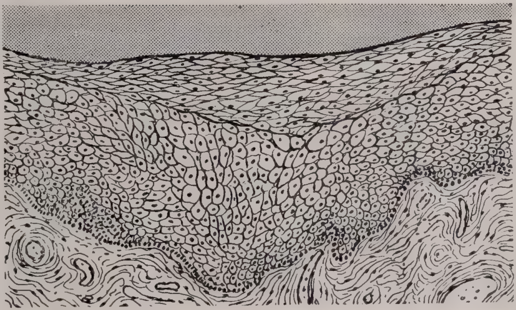
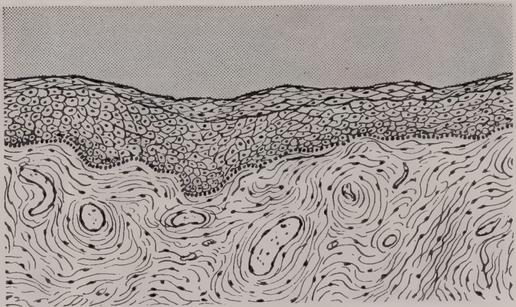
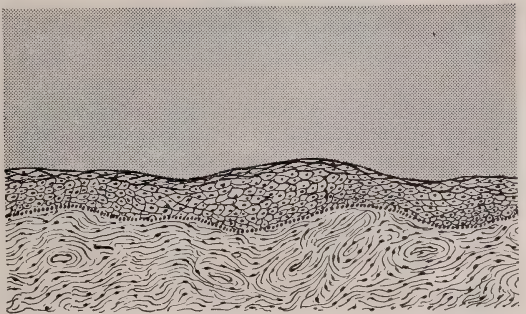


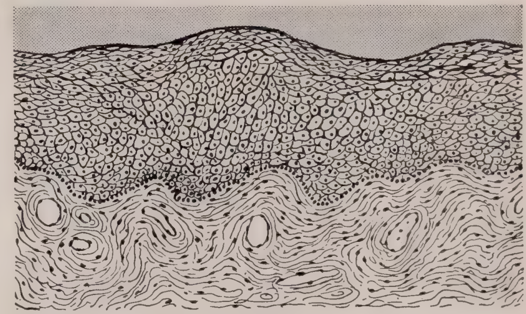
Adult vaginal epithelium maintained by estrogen activity.



During menopause, mucosa reverts to the infantile type.



Postmenopausal mucosa—thinning and atrophy of layers.



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*Sturnick, M. I., and Gargill, S. L.: New England J. Med. *247*:829 (Nov. 27) 1952.

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SCIENTIFIC ARTICLES

Aerosol Administration of Alevaire

II. Clinical Evaluation

ANDRE SMESSAERT, M.D., VINCENT J. COLLINS, M.D., AND VINCENT D. KRACUM, NEW YORK CITY

(From the Department of Anesthesiology, Inhalation Therapy Service, St. Vincent's Hospital of the City of New York)

ADEQUATE elimination of secretions during diseases of the respiratory tract is probably one of the oldest problems in medicine.

The mechanism of accumulation or inadequate excretion of pulmonary secretions is in most cases a complex one. There is an interplay between the formation of secretions and their removal. Secretions are normally removed from the deeper parts of the respiratory tract by ciliary movement and peristaltic motions of the bronchioles and bronchi and from the larger bronchi and trachea by coughing. Any impairment of these mechanisms will lead to retention of secretions with all its consequences. The ciliated epithelium may be damaged by disease, or its activity may be depressed by anoxia, medication, or anesthesia. The cough reflex may be impaired for many reasons which may be classified into three groups: (1) central depression from medication, anesthesia, pain, (2) insufficiency of the respiratory muscles due to paralysis or general debility, or (3) mechanical factors such as tight binders, posture, vocal cord paralysis, tracheostomy.

Besides pathologic changes in the mechanism of expulsion there are usually changes in the quality and quantity of the pulmonary secretions. The amount is increased by infection or irritation and the viscosity by dehydration, medication, or alteration of the secretory function. Finally bronchospasm, present in many conditions, complicates the situation by reducing the bronchial caliber, and this impairs an already deficient mechanism of elimination.

Many drugs and methods have been used with variable degrees of success in the therapy of conditions associated with problems of elimination of pulmonary secretions, but the results have been equivocal. Recently a new and promising concept has been suggested, namely, the reduction of the viscosity of tracheobronchial secretion by using surface-active agents in aerosol inhalation. Gruenwald[1] demonstrated in 1947 that surface tension is a major factor in the resistance of the neonatal lung to aeration. He showed that the effect of a surface-active substance reduces the pressures necessary to introduce air or fluid in the lung of the newborn to nearly one half and suggested that the addition of such substances to air or oxygen might aid in relieving the initial atelectasis of newborn infants.

Miller, Abramson, and Ratner[2,3] in 1948 and Ravenel[4] in 1953 observed that the use of a detergent called Alevaire in inhalation as an aerosol mist produced a definite liquefying effect on pulmonary secretions.

Description and Action

Surface-active compounds possess the properties of lowering surface and interfacial tension. They have emulsification, dispersion, detergent, and wetting powers in different degrees. The major group of these compounds are electrolytes. When dissolved in water, they are ionized and give a positive and a negative radical. They are formed by a hydrocarbon chain which is the lipophilic or hydrophobic group and a radical which is lipophobic or hydrophilic. The groups which may be combined to hydrocarbon chains as hydrophilic radicals are sulfates and sulfonates. A second smaller group of active compounds do not form electrolytes and are described as nonionic. Among these are the alkylaryl polyether alcohols which have a very low reactivity because of their composition. In addition, they are widely compatible with numerous other chemical groups.

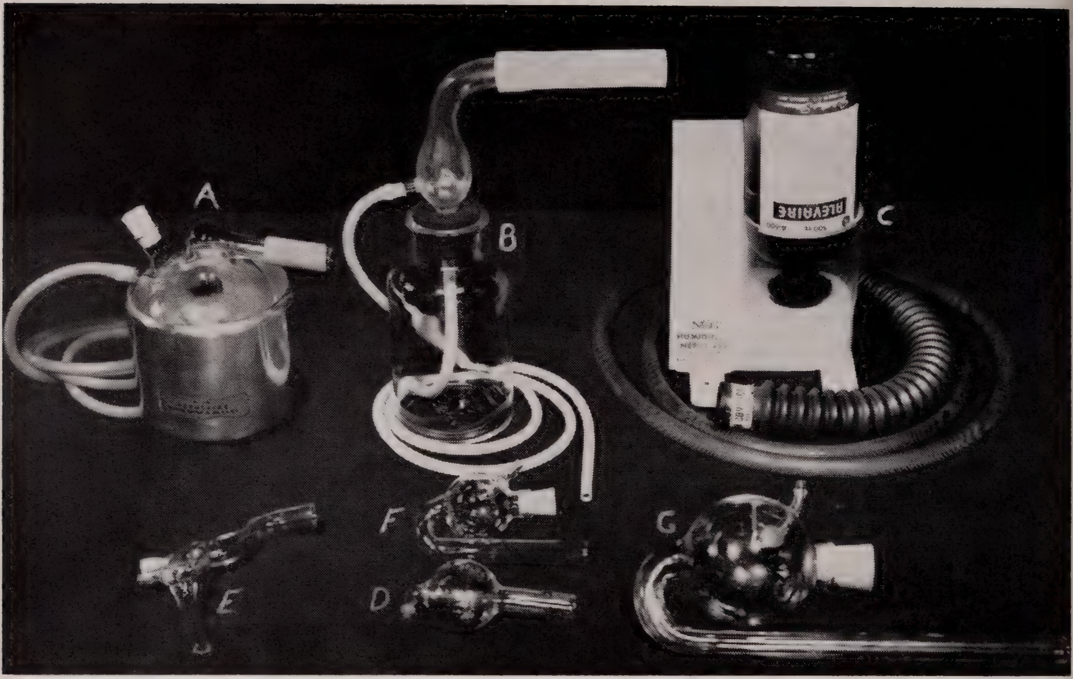

FIG. 1. Different nebulizers: (*A*, *B*, and *C*) standard type; (*D*, *E*, and *F*) 5-cc. type; (*G*) 25-cc. type.

It is known that many surface-active agents possess toxic and hemolytic properties, and for medical purposes it is necessary to use only agents devoid of such deleterious actions.

Alkylaryl polyether alcohols such as Triton WR-1352 and Triton WR-1339 have been shown to display not only satisfactory surface activity but also very little toxicity.[5] These compounds are nonhemolytic even in high concentrations, and upon intraperitoneal injection into mice Tritons WR-1352 and A-20 had an LD_{50} of more than 2,500 mg. per Kg. of body weight. It has been suggested that the degree of polymerization of these surface-active agents may be an important factor in their hemolytic activity with the more highly polymerized compounds showing the least activity. Other necessary properties must be stability and absence of unpleasant odors or excessive "soapiness."

For this study an 0.125 per cent aqueous solution of Triton WR-1339 was used in combination with sodium bicarbonate 2 per cent and glycerin 5 per cent.* Triton WR-1339 is an oxyethylated tertiary octylphenol formaldehyde polymer. This compound is nonionic, neutral, chemically stable, water and oil soluble, and unaffected by standing or sterilization. One of its chief advantages is that unlike many other detergents it is not hydrolyzed by tissue enzymes and thus retains its surface-active properties for a long time after administration. Its inertness makes it compatible with a wide range of antibiotics and other therapeutic agents. The glycerin in the solution acts as a stabilizer of the aerosol droplets. The sodium bicarbonate creates an alkaline medium favorable for the liquefaction of the mucus and enhances the antibacterial activity of added antibiotics such as streptomycin.

Several investigators have shown absence of both local and systemic toxicity of the aforementioned Tritons.[5,6] The effect of prolonged aerosol administration on the respiratory tract of the guinea pig was investigated; macroscopic and microscopic examination failed to show any pathology.

During this study the question was raised as to whether or not the agent could cause gastrointestinal irritation or diarrhea. Therefore, Alevaire was given orally to guinea pigs in doses of 1.5 cc. every three hours for two days, and no signs of diarrhea or other disturbances of any kind were noted. The animals were sacrificed, and examination of the gastrointestinal tract revealed no gross pathology with no evidence of irritation or diarrhea; instead normally formed feces were present in the colon, and microscopic examination showed only normal tissues.[7]

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* Alevaire, Winthrop-Stearns Inc., New York City.

The Tritons generally acceptable for use in medicine show a complete lack of toxicity in human beings, even in concentrations very much higher than those needed for normal therapeutic purposes. In order to determine the possible effect of Alevaire on the blood sodium levels of patients before receiving aerosol Alevaire, laboratory analyses were made on blood samples of 25 patients. Results indicate sodium levels ranging from 128 to 143 mEq. per L. with an average of 134.6 mEq. per L. both before and after treatment with Alevaire. Untoward effects were never observed, although several patients received the treatment over periods as long as six weeks.

Surface-active agents administered as aerosols are indicated in the treatment of numerous acute and chronic pulmonary conditions which are complicated by the retention and accumulation of secretions, such as neonatal atelectasis, bronchiectasis, bronchopneumonia, postoperative pulmonary complications, tracheostomy, and many others. The wetting agent may be prescribed either alone or as a vehicle for various drugs such as antibiotics or bronchodilators.

Technics of Administration

EQUIPMENT.—The aerosol method is the technic of choice for administration of wetting agents. To provide a medication in this form the agent used has to have definite properties which have been described above. The size of the droplets in the aerosol mist is a most important factor, and this depends on the type of nebulizer used. To be effective the droplets must range from 1 to 3 microns in diameter. The nebulizers listed below produce this particle size range in sufficient quantity for therapeutic value.[4] Equipment required includes (1) oxygen supply, (2) effective nebulizer, and (3) appropriate oxygen apparatus.[8]

For the oxygen supply any source of oxygen can be used, piped or in cylinder.

For continuous therapy the large reservoir type of nebulizer is preferable (Fig. 1A, B, and C). As an alternative any standard 5-cc. type nebulizer (Vaponephrine, O.E.M., or I.E.C.) may be equipped with a continuous drip apparatus (Fig. 1D, E, and F). For intermittent therapy the same equipment can be used, but it is not necessary to have a continuous drip setup. A 5-cc. solution in a small standard type nebulizer will last approximately twenty minutes; a 25-cc. type nebulizer can also be used for this purpose (Fig. 1G).

For infants any incubator approved for oxygen therapy can be used. The nebulizer may be adapted to the incubator in several ways; it may be connected to an oxygen vent, inserted in a porthole, or placed within the incubator proper. For children any standard oxygen hood or head tent will do, and the nebulizer should be used in the way described for the incubator. For adults an oxygen hood or head tent can be used and is the method of choice for unconscious patients; adapting a suitable nebulizer to the conventional O.E.M. mask is another effective method. To use the mask for this purpose the mica disk has to be removed from the inspiratory valve since this disk is designed to avoid rebreathing. However, when the mask is used for administration of wetting agents, it is only for intermittent therapy, and during this short period of time there is no danger of carbon dioxide accumulation. When the mica disk is removed, a standard nebulizer containing 5 cc. of wetting agent is attached to the oxygen inlet on the inspiratory valve, and the flow rate of oxygen is then adjusted according to the needs of the patient.

RATE OF ADMINISTRATION.—With a small nebulizer, if the flow of oxygen required by the apparatus is 8 L. per minute, the drip should be set at approximately 16 drops per minute; if the flow is 6 L., at 12 to 14 drops per minute. If the flow of oxygen is 8 L. per minute, 500 cc. of Alevaire in the large reservoir type nebulizer will last from twenty to thirty hours depending on the type of nebulizer used. With lesser flows of oxygen the duration will of course be longer.

DURATION OF ADMINISTRATION.—There is no contraindication to administration of a wetting agent for prolonged periods of time provided the tracheobronchial secretions are adequately removed. Duration of administration is determined by clinical response to the treatment. For newborns and small children treatment is usually continuous, and most conditions such as neonatal atelectasis, croup, bronchitis, etc., require from six to forty-eight hours. For adults continuous therapy is used in all cases where the patient is unconscious; in conscious patients continuous therapy (with hood or head tent) may be used also.

However, in our experience intermittent therapy is preferable in most acute or chronic conditions. Intermittent therapy is usually given by mask for periods of thirty minutes three or four times a day.

TABLE I.—CLINICAL RESPONSE TO AEROSOL ADMINISTRATION OF ALEVAIRE

Age Group	Number of Cases	Results			
		Good	Appreciable	Fair	Poor
Prematures	57	41	7	4	5
0 to 2 years	44	28	6	7	3
2 to 4 years	18	5	4	6	3
Adults	181	70	43	32	36
TOTAL	300	144	60	49	47
Per cent	100	48	20	16.4	15.6

Results

Surface-active agents in aerosol inhalation were administered to 300 cases representing pediatric, medical, and surgical problems. The cases were tabulated according to age and according to the effectiveness of the drug in each age group and then classified into four categories. These categories were arbitrarily noted as good, appreciable, fair (or equivocal), and poor (or negative).

To judge the therapeutic response, the following specific factors were considered: volume, color, and viscosity of sputum or secretions; temperature and pulse; changes in the respiratory effort and in the auscultatory signs; radiologic appearance before and after therapy, and, last, the general condition of the patient.

As noted in Table I, 144 patients of the total number treated or 48 per cent showed a marked and rapid subsidence of symptoms and a clearing of the respiratory tract. These were classified as good. Another 60 cases or 20 per cent showed an appreciable therapeutic response which differed from the preceding group in being not so rapid. Thus in approximately 70 per cent of all cases treated (204 patients), significant benefit was derived from the use of Alevaire aerosol. In only 47 cases or 15 per cent of cases could the therapy be considered a failure.

Analysis according to age indicates that the highest incidence of good response occurs in conditions affecting infants and children. In the premature group 72 per cent of the cases treated had a good response, and an additional 12 per cent had a significant response for a total of 84 per cent showing marked improvement accompanying the use of Alevaire. In infants and children up to two years of age 76 per cent had significant improvement.

The most gratifying results were those obtained in newborns premature or at term. In neonatal atelectasis results are impressive. This dreaded condition usually improved in a few hours, and it was really striking to see a cyanotic baby with gasping respirations and suprasternal retraction become relaxed and pink in such a short period of time. For infants the therapy is useful not only in neonatal atelectasis but also in acute conditions of the respiratory tract such as laryngitis, bronchitis, bronchiolitis, pneumonia, and asthma; other forms of therapy—antibiotics, sulfa drugs, humidification, etc.—were also employed in most cases, but it was the general impression that surface agents constituted a most valuable adjuvant and made recovery easier and faster in the treatment of croup and edema of the vocal cords in children of all ages. Alevaire has been more satisfactory and more effective than plain humidification.

In infants and children one is currently faced with acute conditions in the great majority of the cases, but in adults chronic conditions are more frequent. Problems of treatment are different. In the former cases the patient usually is placed entirely in an atmosphere saturated with aerosol; he is unable to cooperate or to resist and undergoes the therapy in a completely passive way. In adults the therapy is mostly administered by mask since the patients are usually conscious and their cooperation is necessary; some of them do not tolerate a mask or its moisture-laden atmosphere, and in some cases therapy had to be discontinued for this reason alone. However, this is exceptional, and some patience on the part of the physician coupled with intelligent explanation will gain the cooperation of the patient in difficult cases. It is also to be noted that adults are able to report their impressions on the progress of their treatment, and these comments help in its evaluation.

Among the acute conditions atelectasis has favorably responded to Alevaire therapy, especially when a patient is unconscious, as in barbiturate poisoning. In other acute conditions, mostly when the subject is unwilling or unable to cough, wetting agents have also been very helpful. In chronic respiratory conditions existing in adults this form of therapy can be most useful; here abundant and often viscid secretions create a serious problem and aggravate inadequate gas exchange in emphysematous or sclerotic lungs. In these cases it may take forty-eight to ninety-six hours before improvements are noted, but patience and perseverance are rewarded. Secretions and sputum become less viscid, easier to expectorate, and less abundant; coughing is less exhausting, and ventilation improves. Cases of chronic pulmonary disease, where other common forms of treatment had been tried unsuccessfully, have responded to this form of therapy after two days or more.

To illustrate some of the results, the following case histories are presented.

Case Reports

Case 1.—G., a premature male infant (thirty-two to thirty-three weeks), born in another hospital at 10:35 P.M. with a birth weight of 3 pounds, 15 ounces, was transferred to our premature unit the next day via Premature Transportation Service at 12:15 P.M. The baby was delivered in footling position uneventfully with the condition at birth classified as good. No resuscitation was necessary, and oxygen was started one-half hour after birth. On admission a physical examination showed a fairly active infant with a weak cry and rapid breathing at 84 respirations per minute with shallow respiratory movements, moderate suprasternal retraction, cyanosis of hands and feet, and the temperature 98 F. On auscultation the heart appeared to be normal, but the breath sounds were markedly diminished and almost absent over the entire right lung; the left side was clear with no rales heard.

A diagnosis of atelectasis of right lung was made; prognosis was considered poor. On admission the infant was placed in an incubator. At 2:30 P.M. a large amount of frothy mucus was obtained by suction of the pharynx. Alevaire aerosol by inhalation was started, and 50,000 units of penicillin were given intramuscularly. The temperature was then 100.2 F. At 4 P.M. the respiration was unlabored but still rapid and shallow; the color was improved and the baby more relaxed.

At 6 P.M. the breath sounds on the right side were much louder and distinct with no more suprasternal retractions. The color was good, and the extremities were no longer cyanotic, which was an altogether remarkable improvement during the three hours since the start of the therapy. At 12 P.M. the temperature was 96.2 F. with the color remaining good.

At 8 A.M. the next day the respirations were very much better, less rapid, and deeper. The child was very active, appeared hungry, cried frequently, and sucked on his fingers. Later on the child ate very well. The same therapy was continued for forty-eight hours, and further evolution was uneventful.

Case 2.—D., a premature male infant (twenty-eight to thirty weeks), was delivered at 10:45 A.M. as a frank breech. The delivery was very difficult since the cervix clamped down on the neck, requiring Dührssen's incision and the application of Piper forceps. The weight was 3 pounds, 6 ounces. The condition after birth was very poor with respiration shallow and irregular, suprasternal retraction, and occasional gasping; color was rather cyanotic; auscultation revealed diminished breath sounds and atelectatic rales bilaterally. A diagnosis of bilateral atelectasis was made with a guarded prognosis.

During the rest of the day the infant was kept in an incubator, and although color and respiration improved, he remained rather lethargic. In the morning of the next day his condition became worse; there was marked suprasternal and intercostal retraction, respirations were rapid and shallow with the chest barely moving, and auscultation still revealed very poor breath sounds with atelectatic rales. At 9 A.M. Alevaire aerosol was started, and penicillin and streptomycin were also given. At 12 NOON respiration was still rapid but deeper; color was improved, and the infant was crying rather vigorously now. At 9 P.M. there was continued improvement, the color was pink, the lungs were much better aerated, and the respiration was still rapid but regular.

On the next day color and activity were good. There was no respiratory distress, and the lungs were almost clear on auscultation. Gavage by polyethylene tube was started later. On the third day the patient was doing well, and therapy was stopped. He was discharged six weeks later weighing 5 pounds, 7 ounces.

Case 3.—D. D., age two years, had a history of one day duration of fever, cough, and laryngeal stridor. He was sent to the hospital because of continuous respiratory distress. The treatment so far had consisted of an injection of 300,000 units of penicillin and wet vapor inhalations.

On admission the temperature was 102.8 F. The pulse was 120 and the respirations 36. Auscultation revealed harsh breath sounds on both sides and coarse rhonchi. There was a continuous crouping cough causing serious respiratory distress; the pharynx was injected, and the tonsils were very large. A diagnosis of acute catarrhal croup was established.

On arrival the child was placed in a croupette with a humidifier, and he received penicillin and Terramycin. The condition did not change, however, and in the evening Alevaire aerosol was started. The patient spent a fair night with the cough becoming gradually easier and less frequent. The next day he was resting comfortably, his temperature was down to 99.8 F., there was no respiratory distress, and the lungs were almost clear on auscultation. All forms of therapy were discontinued the next morning, and the child was discharged on the fourth day after admission.

Case 4.—D. M., age fifty years, was found unconscious at 6 A.M. and rushed to the hospital. On admission she was comatose, the pupils were pinpoint and did not react to light. No corneal or pharyngeal reflexes were present, and there was no response to pain stimuli. There was stertorous breathing; blood pressure was 88/60, pulse 90, and respiratory rate 12. The husband had found an empty box which had contained Nembutal capsules, and the patient was a known addict to heroin and barbiturates. The diagnosis of barbiturate poisoning was established. Supportive therapy was immediately started, and she was intubated with an oropharyngeal Magill tube in order to secure a good airway for adequate suction. Penicillin was also given. The following day the situation was unchanged except for a rise in temperature to 102 F. The next day the temperature rose to 104 F., and a diagnosis of patchy atelectasis was established and confirmed by x-ray. Aerosol Alevaire therapy was started at 3 P.M., and the patient was put in slight Trendelenburg position with oropharyngeal suction every half hour. At 8 P.M. the chest findings were very satisfactory, and aerosol administration was stopped. On the fourth day she started to react, and the endotracheal tube was removed. The temperature was down to 102 F. with the chest findings satisfactory. During the next two days the temperature came down to normal; she regained consciousness and improved rapidly from then on.

Case 5.—C. T., age fifty-two years, a white male, was known to have had chronic pulmonary disease and asthma for several years. He was admitted with complaints of increasing difficulty in breathing and a chronic productive cough. Physical examination revealed hyperresonant lungs with wheezes and rhonchi throughout both sides, while other organs were essentially negative. The blood pressure was 120/80, pulse 84, respiratory rate 24, and temperature 99 F. A diagnosis of chronic emphysema, bronchiectasis, and bronchial asthma was established which was later corroborated by x-ray of the chest. Organisms isolated from sputum were found to be sensitive to Chloromycetin, and the patient was placed on this antibiotic and aminophylline. Oxygen was given by mask whenever necessary.

After five weeks of this treatment results were only fair to poor. On auscultation there were wheezes, mostly expiratory, rhonchi, and scattered sibilant and subcrepitant rales. The temperature was still around 100 F. with an occasional spike at 102 F. The patient was dyspneic and orthopneic, and he raised an abundant, heavy, mucopurulent sputum, almost a cup a day.

Aerosol Alevaire administered in an O.E.M. mask (thirty minutes, three times per day) was then started with 40 per cent oxygen. After forty-eight hours the sputum became thinner and more abundant, and it was raised without difficulty. The patient stated that he had a feeling of "looseness" in the chest. On the fourth day sputum became less abundant and more mucoid. The patient was tolerating the therapy very well. During the two following weeks continued improvement was noted, and the general condition and appetite became better. The sputum changed gradually from mucopurulent to mucoid, and the amount raised fell to $^1/_4$ cup per day. Auscultatory signs were very satisfactory; the temperature became stabilized between 98 and 99 F. Seventeen days after the start of the aerosol therapy the patient was discharged.

Summary and Conclusions

The principles of therapy by surface-active agents such as Alevaire are reviewed, and the properties and characteristics of these agents are outlined.

Adequate technics for use in newborns, children, and adults are described.

The clinical results in 300 cases with illustrative histories are presented. In our experience Alevaire is a most useful adjunct to other forms of therapy in respiratory tract diseases.

In conclusion it has been our experience that wetting agents properly administered are a valuable therapeutic adjunct in many acute and chronic conditions of the respiratory tract; they are harmless to the patient, have no contraindications, and can be used for prolonged periods of time. It should be emphasized that surface-active agents are not a substitute for drugs such as antibiotics, sulfa, and bronchodilators used currently in treatment of diseases of the respiratory tract, but when they are used as an adjunct to standard therapeutic measures, benefits are enhanced. In cases where usual forms of therapy had failed, surface-active agents have given favorable results, especially in newborns and unconscious patients.

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Approaches to the Prevention of Poliomyelitis

T. E. BOYD, PH.D., NEW YORK CITY

(*From the National Foundation for Infantile Paralysis*)

Within the last three years there have been reports of limited tests of several different poliomyelitis vaccines in man. There has been one large-scale field trial, not yet complete. Although vaccination has been studied in animals since 1910, the trend to direct test on man is quite recent. The only serious attempts at human vaccination made previously were in 1935, and they were terminated in the same year because of paralytic attacks occurring in 12 subjects shortly after the vaccines were given.[1]

The present optimistic attitude of research workers toward human vaccination has come about through two recent developments. There is now strong presumptive evidence, previously lacking, to justify a trial of vaccination in man on the scale necessary to yield a decisive result. Newly acquired knowledge and technics have facilitated the preparation of vaccines and preliminary testing of them to establish their suitability for a final trial.

It has gradually become clear that most persons, before reaching maturity, become serologically immune to poliomyelitis; that is, they experience infection, usually subclinical and harmless, by one or more of the three known virus types and in consequence develop antibody against the infecting type or types. In clinical cases the antibody is already present by the time the disease can be recognized. Paralysis may appear, and even grow progressively worse, in the presence of antibody. Thus there is little reason to believe that serum antibody has any effect on virus that has already invaded the central nervous system. The question is whether antibody, if present in time, can prevent the invasion from occurring at all. In other words, does serologic immunity connote practical immunity in the sense of resistance to paralytic infection?

So far as human data are concerned, there are only two substantial lines of evidence bearing on that question. One is, that as we compare different age groups in man, the incidence of clinical poliomyelitis and the percentage of subjects without antibody go together. With advancing age the incidence of disease falls as the antibody percentage increases.[2] The other evidence is the result of the gamma globulin field trial, on which the final report was published earlier this month.[3] However limited the practical usefulness of gamma globulin may be, the rationale for vaccination is greatly strengthened by the demonstration that gamma globulin gives any protection whatever. For it is known that the Salk vaccine, as well as others, can produce antibody levels higher and more stable than can be obtained with the largest practicable dose of gamma globulin.

There is confirmatory evidence from animal experiments on the ability of antibody to protect. From 1910 to 1950 the information from this source was somewhat misleading since the resistance of vaccinated monkeys was tested either by inoculation with virus directly into the brain or by the equally artificial method of applying virus to the olfactory nerve endings. It was eventually shown that monkeys can be protected by vaccination even under these conditions,[4] but it is now clear that such methods of inoculation bypass the defensive barrier that antibody ordinarily would provide. Protection against them requires extraordinarily high levels of antibody and a course of vaccination too strenuous to be lightly considered for man.

Recently, studies on immunity have been made with chimpanzees and cynomolgus monkeys, the only species known, aside from man, that can be readily infected with poliomyelitis virus by mouth. The infection pattern so produced in these animals is very similar to the natural pattern in man. They can be protected by poliomyelitis antiserum or by human gamma globulin against paralytic infection, provided the antibody is given shortly before or concurrently with the feeding of virus.[5-7] It should be noted that the antibody level required was not much above the minimum detectable by present tests. Similarly, the passive antibody conferred on human subjects of the gamma globulin field trial could not at any time have been much above the detectable threshold. In short, since relatively low levels

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of antibody evidently do give substantial protection and since vaccines can induce and maintain fairly high levels for a still unknown but substantial period of time, it seems reasonable to expect that vaccination will give protection over the same period.

It does not require a large-scale test on man to show whether a given vaccine will or will not induce antibody formation. That can be done with relatively few subjects, particularly if a selection is made of those who have no antibodies initially. To answer the main question—whether or not the vaccine protects—is necessarily a much greater undertaking. The effort can be justified only if preliminary tests have established not only the safety of the vaccine but also its antigenic potency.

The essential ingredient of a vaccine is the virus itself, and live, pathogenic virus must be excluded. The alternatives are, first, to inactivate the virus, that is, to render it incapable of multiplying in any host by treatment with some agent that will not at the same time inactivate it as an antigen. The second approach is to find in nature or try to develop by laboratory manipulation strains of virus that are antigenically similar to virulent strains but are themselves harmless to man.

Whether live or inactivated, a vaccine is not composed of virus alone. It represents quantitatively a minute amount of virus in a much larger volume of material from the medium in which it was grown. The virus grows only in living tissues, and no way has yet been found to eliminate completely nonviral antigens derived from the host tissue. The vaccines tried in 1935 were suspensions of spinal cord tissue from infected monkeys. These necessarily contained nerve tissue antigens, far exceeding in amount the virus present. Growth of the virus in cultures of nonnervous tissue, initiated by Enders and associates in 1949,[8] has provided not only a source of vaccine material in quantity but also a means of obtaining virus with only traces of nonviral antigen. The virus produced in infected cultures is released into the fluid medium and is further separated from tissue constituents by passage through a filter that blocks particles of cellular size. In preparation of the Salk vaccine it was stipulated that the infected tissue culture fluids should not contain more than 0.02 mg. per ml. of protein nitrogen if they were to be further processed as vaccines.

To consider inactivated vaccines first, it must be clear that since by definition and test an inactivated virus cannot multiply, the effect of such a vaccine must depend on the amount of antigen present in the vaccine as it is administered. The situation is different from that of a live vaccine, which generally acts by setting up a mild, limited infection, greatly increasing the amount of antigen over that originally introduced. Numerous agents have been tried for the inactivation of poliomyelitis vaccines. Most of them have not been adequately studied by reliable methods, but so far only three have been shown to inactivate the virus completely without at the same time rendering it inactive as an antigen and, therefore, useless as a vaccine. Treatment with formalin, with ultraviolet, or electron bombardment from a capacitron have been shown capable of yielding inactivated vaccines with some antigenic property. The antigenicity is lost if treatment is carried far beyond the point of inactivation of the virus. Electron bombardment was somewhat difficult to control within these limits, and vaccines prepared by this method have been tried only in animals.[9] So far as formalin and ultraviolet ar concerned, I know of no evidence that one of these agents is definitely superior to the other or that there is any particular basis for choice other than convenience.

Trivalent vaccines, representing the known virus types, have been prepared both by formalin and by ultraviolet treatment. Reports on the administration of the ultraviolet-treated vaccine to 30 human subjects indicate that most of them did respond with a rise of antibody.[10] There are published data on a considerably larger group of subjects who received a formalin-treated vaccine.[11] They suffice to show that three 1-cc. doses of vaccine, spaced at appropriate intervals and given to subjects with no antibody initially, can evoke production of it with serum titers frequently as high as those found in persons with a clinical history of the disease. It should be mentioned that the response to vaccination in persons initially possessing one or more types of antibody is more rapid and the titer rise higher than in subjects with no initial immunity. The optimum time interval between doses of vaccine and the duration of the antibody response are still not definitely known. Some of the first subjects vaccinated have been tested seven months after the last dose. Antibody had fallen during that interval only slightly from the maximum level observed at three weeks.

A brief outline of the main steps in preparation of the Salk vaccine may illustrate the controls that are necessary. Cultures of monkey kidney are grown in a synthetic medium of known composition under aseptic conditions, penicillin and streptomycin being added to the medium as an additional guard against bacterial contamination. Cultures are infected respectively with strains of virus representing the three known types. After two to four days the fluid is harvested and filtered to exclude bacteria and cellular particles. At this stage the fluid representing each virus type is separately titered for virus content. The titering is done by inoculating groups of fresh tissue cultures with serial dilutions of the fluid. Any fluid used as vaccine material had to titer at least 10^{-5}, that is, a 1:100,000 dilution of the original fluid had to infect at least 50 per cent of the tubes inoculated with it. Actual titers with different fluids ranged from 10^{-5} to about 10^{-7}. This step was necessary because the mere presence of virus in the vaccine material is not enough. There must be sufficient virus initially to leave a definite antigenic activity after treatment is complete, and it would be wasted effort to process material of low titer. At this stage also, quantitative tests of total nitrogen, amino nitrogen, and protein nitrogen were made, an upper permissible limit being set for each. The fluids were next separately treated with a 1:4,000 concentration of formaldehyde at 36 to 37 C. until inactivation was complete, and the treatment was continued for several hours beyond that point. The time required for inactivation varied somewhat with different lots and strains of virus and had to be determined in each instance by direct tests of residual infectivity. After inactivation was complete, the three vaccines, each representing a single virus type, were mixed in equal volumes, and further tests were made on the combined vaccine. These include the following:

1. Tests for safety: As a check on the completeness of inactivation of the virus, each lot was inoculated into 40 tissue culture tubes, into 12 monkeys intracerebrally, and six monkeys intramuscularly.

Additional tests were made by animal inoculation for the presence of other pathogenic organisms, specifically for B virus, the virus of lymphocytic choriomeningitis, and the tubercle bacillus. All these tests for residual active virus and for other pathogens were repeated at three different laboratories, and a final sterility test was made prior to release of the vaccine for use.

2. Tests for antigenic potency in monkeys: Normal monkeys received the trivalent vaccine, and the antibody response to each constituent was noted. A minimum standard for antigenic potency was prescribed. Each lot of vaccine used in the field trial was also given in advance to a limited number of human subjects.

The plan followed in the field trial has been published in full, and I will here comment on only two details. Sixteen different lots of the Salk vaccine prepared in commercial laboratories were used in this country. As has been indicated, each of these lots was a mixture of three type-specific vaccines. Each constituent had to meet minimum standards of initial virus titer and antigenic potency after formalin treatment, but in a given lot the Type 1 constituent, for example, might barely meet the minimum standard or might exceed it by a wide margin. It was, therefore, to be expected that the antibody response in the vaccinated children would vary somewhat from one lot to another in respect to each constituent by type. In case clinical poliomyelitis should appear in any vaccinated subjects during the period of observation, it would be important to know what the infecting type of virus was and how the vaccine given to that subject had compared with other lots used. It was also important to know the general nature of the antibody response for the entire group of vaccinated children and for those receiving each lot of vaccine. Accordingly, each lot was distributed to a limited and known geographic area. Arrangements were made to obtain bleedings on about a 2 per cent sample of the vaccinated and control children. This meant three bleedings on each of nearly 40,000 subjects. To test all these sera and to make special laboratory studies on cases that might occur, the services of 25 different laboratories in various parts of the country were enlisted and financial provision made to cover the costs of the work.

The actual vaccinations were so timed as to avoid, as far as possible, the season when infection is being disseminated. This precaution was perhaps suggested by the unhappy experience with the two vaccines tried in man in 1935. Of the paralytic cases that occurred in recently vaccinated subjects in that year, no one can know how many were infected by the vaccines themselves or how many were already infected when the vaccine was given. In the latter case the association may have been purely a matter of chance. On present evidence, however, we cannot exclude the possibility of a provoking effect from a poliomyelitis vaccine similar to that reported for other immunizing agents given during poliomyelitis epidemics.

The outlook for inactivated vaccines will be somewhat clearer when the result of the current field trial is known. If protection for the present season should be demonstrated, the further duration of the effect will remain to be learned. Further study must also be made to determine the number and time schedule of injections that will give effective protection with minimum effort and inconvenience.

The search for a live-virus vaccine should perhaps be encouraged by the fact that nature has so nearly solved the problem already. It is probably conservative to estimate that for every clinical case with signs of central nervous involvement there are at least a hundred harmless immunizing infections. The problem is to find, or to develop, strains of poliomyelitis virus that can be "safely" administered to man. I will not attempt to say what specific tests of safety should be required and met. A complete vaccine would require three nonpathogenic strains, one of each type.

There are many strains of virus already known with varying behavior and properties. An obvious question is how a strain should behave in laboratory experiments to qualify as a reasonable risk for direct trial in man. It seems fair to say that the leap from animal to human trial is more hazardous with a live than with an inactivated vaccine. Nevertheless, it can be successful as the history of the yellow fever vaccine proves.

The first live-virus vaccine tried on man was that of Kolmer[12] in 1935. The virus was treated with sodium ricinoleate, which was believed to reduce its pathogenicity without completely inactivating. The vaccine did produce paralytic disease in monkeys by intracerebral inoculation, but tests on monkeys indicated a low infectivity by subcutaneous or intracutaneous routes. After the experience with this vaccine, no other investigator has attempted production of a live-virus vaccine by chemical treatment.

Since the serious effects of poliomyelitis in man result from virus invasion of the central nervous system, the ideal live-virus vaccine would appear to be one that can produce the common type of mild infection, manifest only by intestinal carriage of virus and development of antibody. It should, however, be incapable of multiplying, or at least of setting up destructive lesions, in the central nervous system of man. Animal experiments can only give presumptive evidence that a given virus strain has these properties. The strains recently tried or considered for trial on man have been selected mainly because they have been found relatively or entirely nonpathogenic for monkeys or chimpanzees by direct inoculation into the brain or spinal cord.

Several strains of presumably reduced virulence have been developed from originally pathogenic strains by laboratory manipulation. I have not yet seen a detailed report of a live-virus vaccine trial which according to news stories was made earlier this year on several thousand human subjects in Morocco. Blanc and Martin[13] of the Pasteur Institute in Casablanca reported in 1950 the transmission and serial passage of several strains of poliomyelitis virus in rabbits. According to their report, after rabbit passage, the virus became relatively avirulent for monkeys but retained the ability to immunize them. According to the news stories referred to, it was the rabbit passage virus that was given, as an immunizing agent for man. Previously, numerous attempts by other investigators to propagate poliomyelitis viruses in rabbits had failed, and so far as I am aware no one else has confirmed the animal experiments of Blanc and Martin. It would be idle to express any kind of judgment on their work until there is confirmation from other sources and until a full account of their recent human trial is available.

Koprowski and associates[14,15] reported that a Type 2 strain of virus after repeated passage, first in mice and later in cotton rats, had largely lost its pathogenicity for monkeys by intracerebral inoculation. This virus, in the form of a suspension of infected spinal cord tissue of cotton rats, was given orally to 81 human subjects. None suffered any ill effect. Significant rises of Type 2 antibody were found in most of the subjects, and more than half were shown to have become intestinal carriers of virus. In 14 of the first group of 20 subjects inoculated, antibody in high titer was still present three years later.[16] More recently the same authors[17] have reported adaptation of a Type 1 strain to mice and development of a variant completely avirulent to monkeys by intracerebral inoculation. The Type 1 virus was fed to three human subjects. Two of them received it alone, one a mixture of

Types 1 and 2. None of the subjects initially had antibody against the virus types fed. All three developed antibody, and all three became intestinal carriers of virus. It is interesting that the subject who received the mixture developed antibody against both the viruses it contained and that both viruses were found in the stool. This seems to be the first direct evidence on the question whether interference would occur if heterotypic live viruses were used simultaneously in a vaccine.[18] The whole series of studies cited is of further interest in that infection of man by the feeding of virus was directly demonstrated for the first time. Finally, these investigators have shown by direct test that serologic immunity in man can be conferred through oral inoculation with poliomyelitis virus. Thus far the reported observations on Type 1 virus are limited to three subjects and none on Type 3 has been published. Moreover, it is not yet clear that the feeding of any of these presumably attenuated viruses to man is less hazardous than infection naturally acquired.

Sabin[18] has obtained strains representing all three virus types that produce no symptoms or lesions in cynomolgus monkeys inoculated intracerebrally and have given similar negative findings in limited numbers of chimpanzees inoculated intraspinally. These strains still produce lesions and paralysis in monkeys by intraspinal inoculation. With some of the strains these effects are limited; with others they are more extensive. All of these strains elicit antibody response in chimpanzees by oral or intramuscular inoculation. Simultaneous administration of all three induced antibody responses to all. The viruses of Types 2 and 3 were administered to two human subjects, both with a low titer of naturally acquired antibody initially. Both subjects became virus carriers and showed a rise of antibody titer.

There are several other virus strains not yet tried in man that have become, through laboratory manipulation, more or less avirulent toward monkeys or apes. Roca-Garcia, Moyer, and Cox[19] succeeded in adapting a Type 2 virus strain to growth in chick embryos. The virus after adaptation was found not to cause paralysis or death in Rhesus monkeys inoculated intracerebrally.[20] Thus far, adaptation of virus Types 1 and 3 to chick embryos has not been reported.

Enders and associates[21] have noted a marked reduction of pathogenicity for monkeys in a strain of Type 1 virus following a series of passages in cultures of human embryonic skin-muscle tissues.

Until the recent introduction of tissue-culture technics, there was no way of isolating naturally occurring strains unless they were pathogenic for monkeys. The identification of a poliomyelitis virus in suspected material depended on monkey inoculation, production of characteristic lesions in the nervous system, and proof that the infecting agent was present in association with the lesions. In September, 1954, Sabin[18] reported recovery from rectal swabs of apparently healthy children of several strains of virus that are nonpathogenic for monkeys by intracerebral inoculation. These strains do produce lesions in the spinal cord of the monkey when inoculated intraspinally. They multiply in cultures of nonnervous monkey tissue and were originally isolated by that means. These strains represent the nearest approach yet made to capture of naturally occurring avirulent viruses.

To summarize, although investigation has been carried somewhat further with inactivated than with live vaccines, there is reason to expect that human immunization by either method may eventually be possible. The relative advantages of the two methods remain to be ascertained.

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Urologic Origins of Backache

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Low back pain and backache, common subjective entities in medical practice, stem from a variety of causes. Whenever surveys of the skeletal, hemopoietic, digestive, female reproductive, and nervous systems reveal no demonstrable pathology, urologic investigation is in order.

The greater amount of backache noted in urology is of a referred nature, except the pain of vertebral metastases secondary to genitourinary neoplasms (renal, ureteral, and prostatic carcinoma) and from lesions of the external genitalia. The area of local as well as referred pain coincides with the area of distribution of the sensory fibers in the posterior roots of the spinal cord or corresponding segments. A stimulus entering the cord from visceral sympathetic terminals incites adjacent sensory cells to react and transmit the impulse to the cerebrum, as though it had originated in the area of peripheral distribution of the somatic nerves, whose cells lie in this same cord segment.

Regional referred backaches may be divided by area to emphasize their variety:

1. Dorsolumbar (midline, to right, or to left)
    - (*a*) Renal disease
    - (*b*) Perirenal disease
    - (*c*) Adrenal disease
2. Low lumbar (midline, to right, or to left)
    - (*a*) Nephritis
    - (*b*) Disease of testes, prostate, seminal vesicles, or bladder
    - (*c*) Lumbar or psoas abscess
3. Sacral
    - (*a*) Prostatic, vesicular, or testicular disease
    - (*b*) Urethritis
    - (*c*) Vesical disease
4. Coccygeal
    - (*a*) Prostatovesiculitis
5. Posterior surface of thigh or hip
    - (*a*) Disease of testes, prostate, or seminal vesicles
6. Pododynia (to right or to left)
    - (*a*) Urethral stricture
    - (*b*) Vesical or renal calculus
    - (*c*) Prostatovesiculitis

Backache of Renal Origin

Why should renal pain be distributed so diffusely? The tenth, eleventh, and twelfth dorsal and the first lumbar segments of the cord supply sympathetic and sensory nerve fibers to the kidneys. Renal capsule and perirenal tissues possess sensory nerve terminals of cerebrospinal origin. Pelvic and ureteral fibers stem from the sympathetic system. The renal parenchyma is insensitive and may be stimulated in any fashion with no sensory response so long as the ureter, pelvis, or capsular tissues are not involved. Ureteropelvic or capsular distention with changes in pressure and tension produce varying degrees of pain and backache.

Any surface pain below the diaphragm may be renal in origin by transference in the tenth, eleventh, and twelfth dorsal and first lumbar cord segments. Renal pain is not infrequently transferred across the cord, producing backache on the contralateral side.

Any attempt to diagnose renal lesions by pain characteristics is inaccurate. Backaches resulting from Dietl's crisis cannot be differentiated from those of renal or ureteral colic. Lumbar aches in renal tuberculosis, pyelonephritis, carcinoma, congestion, infarction, and perirenal disease are quite similar. Complete investigation of the kidney is necessary in these instances.

Backache of Ureteral Origin

In similar fashion ureteral lesions (calculus, blood clot, detritus, ureteritis, stricture, polyps, ureterovesical cyst, kinks, adhesions, extrinsic pressure) may produce diffuse back pain. This results from the fact that the upper ureteral nerves, issuing from the renal plexus from the first lumbar segment of the cord, are in intimate relation to the cord centers of testicular supply. Lower ureteral sympathetic fibers enter the inferior mesenteric, spermatic, and hypogastric plexuses so that lower ureteral disease is referred along the cerebrospinal nerves of lower lumbar cord segments. Sacral pain may result from the intermingling of the lower ureteral nerve plexus with the spinal segments supplying the bladder.

penis, and scrotum and may be referred to them or along perineal branches of the pudendal and inferior gluteal nerves. Consequently, lumbar pain may follow vesical, penile, or scrotal disease, and pododynia may occur in purely renal disease.

Backache of Vesical Origin

The bladder is supplied both from the cerebrospinal system (pelvic nerves) and the sympathetic (first, second, and third sacral segments). Many referred pains occur, often reflected in the segment of the cord sympathetic, by way of the cutaneous obturator, sciatic, and saphenous nerves, to an integumentary distribution over the lower extremities, the hips, and the thighs. Vesical overdistention may result in sharp lumbosacral pain.

Backache of Genital Origin

Sudden distention of the testicular tunics may cause severe pain referred to the lumbar or iliolumbar region but more commonly to the inguinal area. Testicular innervation is derived from the sympathetic eleventh and twelfth dorsal segments and the cerebrospinal genital branch of the genitocrural nerve. Epididymal inflammation may occasionally result in a throbbing backache over the lower lumbar and upper sacral vertebrae.

The prostate and seminal vesicles are major contributors to low backache. The nerve supply to the vasa deferentia and seminal vesicles is intimately associated with that of the prostate, and their respective plexuses anastomose freely with the cavernous and hemorrhoidal plexuses inferiorly and with the hypogastric and vesical plexuses superiorly. With nerve fiber terminals in the tenth, eleventh, and twelfth dorsal and first, third, and fourth sacral segments of the cord, reference of pain along the pudendal nerves in the back, down the thighs, or along the perineal branches is frequent.

In view of this diffuse nervous distribution, disease of the prostate and vesicles may occasion pains in any area below the diaphragm, although pain over the sacrum or lower back is the most frequent symptom. In many instances localizing urologic signs (hematuria, pyuria, local swelling, tenderness) aid in diagnosis, but in a large percentage complete urologic examination is the necessary recourse.

Conclusions

1. Low back pain and backache are of diverse origin, the greater portion of back pain in urology being of referred type.
2. Regional referred backaches may be divided to enable isolation of urinary tract areas of probable pathology, an arbitrary procedure.
3. The diffuse nerve supply of the genitourinary system must always be considered.
4. Urologic investigation should be performed when a definite extraurinary etiologic factor in backache is not ascertainable.

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Mammaplasty for Hypertrophy of the Breasts

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THE enlarged breast occurs far more frequently than is generally realized. More of these patients would be helped if it were not for reluctance on the part of the patient to present her problem to her family doctor and also the lack of specific information by the doctor on this subject. It is with this in mind that typical cases will be presented with a short discussion on breast plastic procedures and some comments on facts, fads, and fallacies related to breast plastic surgery.

Classification

Primarily the question arises as to what constitutes an enlarged breast qualifying for corrective surgery. Personal preferences must be appeased, but the cases vary from the massive enlarged breast at one end of the scale to the female with the flattened, pancake type of breast, a mushy affair, which can be rehabilitated into a virginal-appearing type of breast.

1. True hypertrophy: This is marked by an increase in the glandular structure and only by a slight increase in the fatty tissues. This breast grows rapidly at the age of puberty and reaches an enormous size.
2. Hypertrophy with fatty degeneration: These breasts become enlarged at an early age and gradually increase in size over the years. Glandular tissue is small, fatty tissue is extensive.
3. Hypertrophy with extensive cystic mastitis: These breasts may become very large and are filled with nodules of varying size which are quite painful.
4. Congenital hypertrophy with asymmetry of the breasts: This type is mentioned where the difference in the size of the breasts is very marked.

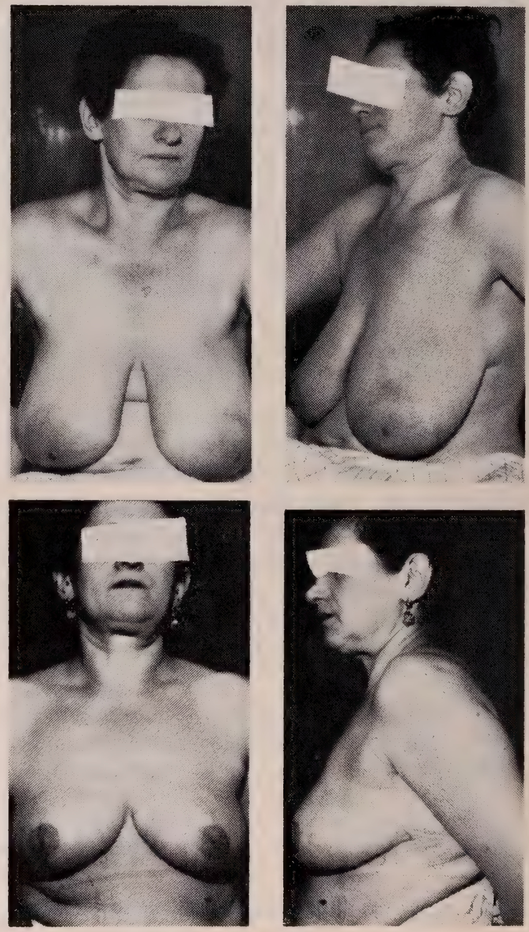

FIG. 1. This is a middle-aged female with massive hypertrophy. Repair was accomplished by a partial mastectomy and a free nipple transplant. Note the size of the breasts and their extent in relation to the umbilicus and hipline and the size of the areola-nipple complex (*top*). In the repair you will note that the scars are hidden in the inframammary fold, the nipple is much smaller now, and the breasts have a normal contour (*bottom*).

Types of Breast Plastic Operations

Plastic with Nipple Transplantation.—This is done in the case of massive hypertrophy where a partial amputation of the breast is done, and a new breast is manufactured. The nipple is removed as a split-skin graft and freely transplanted to a new site on the reconstructed breast (Fig. 1).

Plastic with Nipple Transposition.—This is done in the case of the smaller breast where part of the glandular and fatty tissue is removed, as

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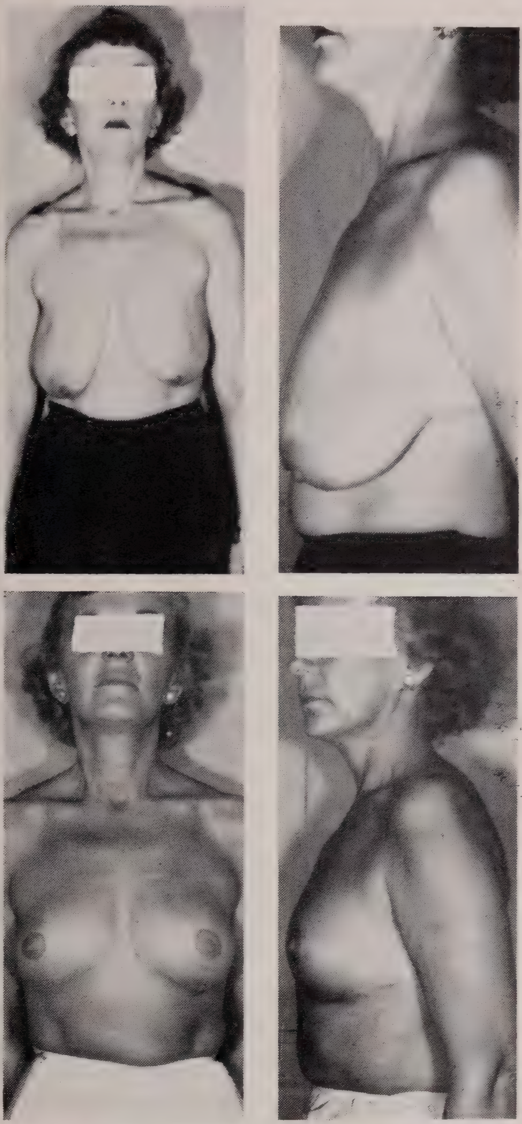

FIG. 2. This patient had a flabby, flat type of breast (*top*). The nipple was left attached to the breast, and after a partial resection of excessive breast tissue and skin, the whole breast was attached high up on the chest wall, a new nipple opening fashioned on the anterior breast flap, and the excessive skin was then excised after being draped about the new breast (*bottom*). Note the position of the old breast in relation to the waistline and the size of the old areola.

well as redundant skin. The nipple remains attached to the breast tissue, and the whole complex of breast and attached nipple is transposed to a higher site on the chest wall. The skin is draped about the newly constructed and smaller breast, and the nipple is brought out through a buttonhole in the skin (Fig. 2).

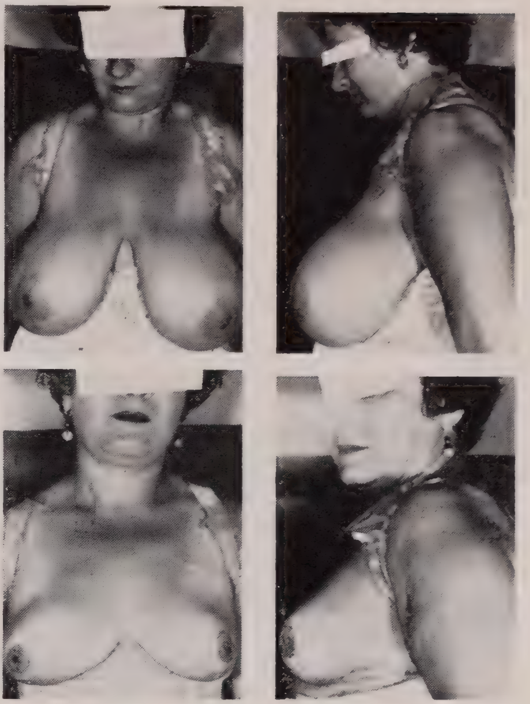

FIG. 3. This woman had a case of extensive and painful cystic mastitis (*top*). After varied medical therapy and consultation with many physicians and surgeons she was advised that a bilateral mastectomy was the only recourse. At surgery we were able to elevate a large thick anterior skin flap, excise all the breast tissue, and reconstruct a fairly normal-appearing breast with a free nipple transplant. The postoperative photographs were taken one month later so that some of the suture marks are still visible plus a black area in the central portion of the nipples where the papillae show some superficial necrosis (*bottom*). This eventually cleared. Her symptoms subsided completely.

Complete Adenomammectomy.—This operation is similar to that done for massive hypertrophy but is more radical insofar as all the glandular tissue is removed but sufficient fat and skin are left to reconstruct a new breast. The nipple is freely transplanted. This operation is indicated in cases of extensive cystic mastitis where the only recourse in the past for the removal of all the masses has been the surgical removal of one or both breasts (Fig. 3).

Indications for Surgery

The main indication for surgery is the degree of deformity. The weight of these large breasts is a definite handicap. Deep grooves will be noted on the shoulders where the brassiere straps cut in. Excessive perspiration is noted, and in many cases a marked dermatitis is present on the undersurface of the breasts. The massive breast interferes with normal social and athletic life. These people rarely appear in abbreviated clothing which would reveal more of their deformity. Finally there are the purely cosmetic reasons for the female whose professional or social life would be improved by a better-appearing breast line.

Facts, Fads, and Fallacies

Certain misconceptions relative to this type of surgery are prevalent, and an attempt will be made to correct them. It is true that a breast with a free nipple transplant will not lactate, but these massive breasts are relatively functionless. It is claimed that scarring is extensive and conspicuous, and the operation is mutilating. If the operation is done properly, most of the scars are hidden in the inframammary fold. The operation is not mutilating, and a well-shaped breast can be reconstructed.

As to the effects of a pregnancy after a plastic procedure, no changes have been noted. The breasts increase but little in this state and promptly return to normal after delivery.

As to the possibility of the loss of a nipple, this is relatively rare, for with care in the handling of this structure and a good approximation of the graft, the chances for a 100 per cent take are good. The transplanted nipple in many cases regains sensation and erectility.

A final word now about operations for increasing the size of the breasts. Two methods are being used, one being the insertion of a plastic material and the other the insertion of a dermal graft taken from the abdomen or buttock. It is felt at present that the use of a padded support is the best solution for the girl with small breasts. The operation is fraught with many complications, and the long-term results are none too satisfactory.

Summary

Hypertrophy of the breasts can be corrected surgically by one of several methods, each adapted to the particular case. Complications are few, and the results are so gratifying that the operation can be recommended for the patient who presents the problem of unusually large breasts.

1 HANSON PLACE

Family Role Shown in Hypertension

Three industrial physicians said "family history" of high blood pressure should be used by employers—to spot persons susceptible to the disease and perhaps prevent or modify it. Drs. Constance D'Alonzo, Allan J. Fleming, and George H. Gehrmann, Wilmington, Delaware, reported in the February 19 *Journal of the A.M.A.* on an industry's (E.I. duPont de Nemours) study of hypertension among its employes.

The study of 799 persons forty years old and over showed that high blood pressure occurred more often among employes whose parents had diseases of the heart and blood vessels. The rate was lowest in those whose families had no history of cardiovascular disease, higher in those in which both parents or the father alone had it, and highest for those in which only the mother did. A study of employes' brothers and sisters showed highest rates when both parents had hypertension. As families grew larger, the percentage of brothers and sisters with hypertension decreased.

The physicians said knowledge of family background "is essential for an understanding of the factors influencing the employes' health," and could have "considerable practical value in such matters as job placement in relation to the present or future physical capacity of employes."

It also could prevent turning down a job applicant because he appears at first to be a bad risk. The physicians studied three chemists for thirteen years—one an "ideal" candidate physically, another who might possibly have been turned down for high blood pressure, and a third, the "riskiest" of the group. After thirteen years, the "ideal" candidate had malignant hypertension; the possible bad risk had shown no change, and the "riskiest" of the three showed normal blood pressure. Family history revealed good health among the parents of the two riskier chemists, while high blood pressure appeared in the family of the apparently "ideal" candidate.

The industrial physicians said they felt the preventive approach to high blood pressure has been overshadowed by "heroic efforts" to find a cure. They urged that susceptible persons be spotted before the disease begins to appear, so attempts can be made "to modify or prevent the processes thought to be contributing factors."

Treatment of Infectious Asthma and Respiratory Infections with an Acellular Bacterial Antigen Complex

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THIS present era of intense interest in antibiotic therapy has greatly detracted from the study of antigens useful in the treatment of bacterial allergy. In patients with infectious asthma and in patients with recurrent severe respiratory infections, bacterial allergy is a significant factor.

Antibiotic therapy used indiscriminately may prevent immune body production and is of no aid in producing desensitization. Continued antibiotic therapy may cause serious allergic reactions[1] and even death. This therapy may result in the development of resistant strains of bacteria[2] and may be the cause of the overgrowth of a normally depressed bacterial flora which frequently is equally detrimental to the patient.

The treatment of these patients calls for properly prepared bacterial antigens capable of stimulating immune body production. Kinghorn and his group,[3] Rosenow,[4] and Stevens[5] report beneficial results with the use of specially prepared bacterial filtrates in the treatment of patients with bacterial allergy.

This present report concerns the use of noncellular bacterial antigen complexes,[6,7] prepared according to the method of Hoffmann, which combine the components of the bacterial cell essential for protective immunization with such toxins as are necessary for effective desensitization.

The antigenic substances most commonly used in the treatment of bacterial allergy are respiratory vaccines. However, the use of such vaccines appears unsound when one examines critically the following data:

1. Vaccines are suspensions of washed organisms, killed either by chemical or physical means, in salt solution. These means may lead to modification and deterioration of their antigenic components. It is certain that during the process of preparing vaccines valuable surface antigenic substances are lost during repeated washings to remove agar particles or other impurities present in fluid culture media. This is well illustrated in vaccines prepared from pneumococci. The valuable specific substance, the polysaccharide, diffuses easily into the culture medium, and repeated washings, as used in the preparation of vaccines, lead to an additional loss of this essential substance.

2. Vaccines prepared from gram-positive organisms are most likely free of toxins and metabolic products produced by the organisms in vivo. These metabolic products of the bacterial cell are present only in the culture filtrate. In the manufacture of vaccines the culture filtrate is not used. Thus valuable antigenic components needed for immunization are lost in the preparation of such vaccines. These substances consist of soluble, specific bacterial polysaccharides and proteins as well as numerous toxins. Many of these toxins, such as erythrogenic toxin, hemolysin, and leukocidin, absent in vaccines, are capable of destroying cells and tissues and should therefore be included in the group of substances capable of inducing bacterial allergy.

3. Vaccines are cellular antigens. The bacteria thus injected must be lysed in order that their antigenic components be useful for immune body production and desensitization.

Criticism of vaccines has led numerous investigators to treat patients with bacterial filtrates. Such filtrates have been prepared and found beneficial in patients with infectious asthma. However, bacterial filtrates, as ordinarily prepared, contain impurities, mainly components of the culture medium such as peptones and meat extracts. Also these bacterial filtrates do not contain the valuable specific substances present in bacteria which do not dissolve into the culture filtrate.

After reviewing the criticism of vaccines and bacterial filtrates, it was anticipated that the use of a bacterial antigen complex which avoided these omissions would give good results in patients with bacterial allergy. The bacterial antigen complex preparation used in this investigation was prepared by the Hoffmann process.*

As the name implies, the antigens produced by this method are complex in nature. They combine both the insoluble and soluble specific protective substances with the antigenic toxins such as hemolysin, leukocidin, fibrinolysin, erythrogenic and dermonecrotic toxins, and such other toxins as may be produced by individual organisms in vitro and in vivo. These antigenic components of the bacteria and their metabolites are included in this complex preparation in a noncellular, readily diffusible state essentially free of extraneous elements of the culture media such as meat extracts and peptones.

In the preparation of these bacterial antigen complex preparations, the Hoffmann process[8] uses a method of coprecipitation, whereby the specific protective substances of the bacterial cell and all toxins and other metabolites produced by the organisms in vitro and vivo are combined in a manner which prevents deterioration and subsequent loss of antigenic properties. At the finish of the Hoffmann process the bacterial antigen complex preparation is obtained as a dry, hygroscopic powder which can be resuspended in definite amounts in a sterile, buffered diluent. This suspension is then Berkefeld filtered, tested for sterility, and is ready for use. By this method easy standardization and reproduction of a stable, uniform antigenic material is possible. This material then retains all of the characteristic biologic and immunologic properties of the individual organism used. Thus, it was felt that the bacterial antigen complex preparations used in this investigation should prove far superior to vaccines and filtrates which have been ordinarily used in the treatment of patients with bacterial allergy.

The bacterial antigen complex used in this study was prepared from both autogenous and stock bacteria. The first preparation was made from autogenous bacterial cultures taken from the nose, throat, and sputum and usually contained virulent streptococci, pneumoniae, Micrococci pyogenes, and Neisseria catarrhalis. The following virulent stock bacteria were then used in the preparation of the second group of bacterial antigens: Streptococcus hemolyticus, pneumoniae, Str. viridans, M. pyogenes, other nonhemolytic streptococci, Neisseria catarrhalis, and Hemophilis influenzae.

Three varieties of stock bacterial antigen complex preparations were used in this study:

Group A—Single bacteria such as Str. pneumonia, Type 1.

Group B—Pooled bacteria of same species such as Str. pneumoniae, Types 1, 2, and 3.

Group C—Pooled bacteria of many species such as Str. pneumoniae, Str. hemolyticus A, B, C, D, and E, Str. viridans, M. pyogenes, M. catarrhalis, and H. influenzae.

Selection of Patients

Patients selected for treatment comprised two groups. Group 1 consisted of patients with infectious asthma. Group 2 consisted of patients with respiratory infections of both acute and chronic forms.

GROUP 1.—Patients with infectious asthma were selected for treatment only if their asthma was severe and nonseasonal. The chief cause of their asthma was to be bacterial infection which had not responded to routine therapy, including the use of vaccines. A majority of these patients also had an active focus of infection in the nose, throat, sinuses, and bronchi. No significant food or inhalant allergies were noted in their workup.

GROUP 2.—Patients with respiratory infections were selected for treatment only if their history indicated poor bacterial resistance. This was suggested by perennial, recurrent, severe, respiratory infections such as colds, sinusitis, tonsillitis, and bronchitis. Both acutely ill patients and those with chronic respiratory infections were treated.

CONTROLS.—Control Group 1 consisted of eight patients with infectious asthma who had been observed for more than a year on treatment with the usually employed cellular respiratory vaccines. These patients were then placed on treatment with the Hoffmann bacterial antigen complex preparation and results compared after another year's treatment.

Control Group 2 consisted of three patients with recurrent, acute upper respiratory infections and two with chronic upper respiratory infections observed for a period of six months on treatment with the usually employed cellular respiratory vaccines and then placed on Hoffmann's bacterial antigen complex preparation. Results were then compared after another six months of the latter treatment.

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* The acellular bacterial antigen complex preparations were obtained through the kind cooperation of the Hoffman Laboratory, Paterson, New Jersey.

Control Group 3 consisted of three patients who in the previous six months had been intermittently ill at home for over six weeks out of these six months with chronic, recurrent upper respiratory infections. They were then placed on Hoffmann's bacterial antigen complex preparation, and the number of days lost to chronic upper respiratory infections in the next six months was compared to the number lost prior to such treatment.

Method of Treatment

The autogenous and individual stock bacterial antigen complex preparations used were standardized to contain 0.120 mg. of total nitrogen per cc. The pooled stock bacterial antigen complex preparations were standardized to contain 0.240 mg. of total nitrogen per cc. All inoculations were given intracutaneously; the initial dose consisted of 0.02 cc. and the increase in dosage was by increments of 0.02 cc. In many patients with an early response to treatment the dose was maintained at 0.02 cc. and not increased.

The inoculations were given at weekly intervals in all cases of infectious asthma until improvement was maintained, and then the intervals of treatment were lengthened to two and three weeks. In the patients with chronic respiratory infections a similar schedule was followed. In the patients with acute respiratory infections the initial dose of 0.02 cc. was given every seventy-two hours until the acute infection had subsided. This study was begun in January, 1954, and has continued ever since.

Skin Tests with Bacterial Antigen Complex Preparations

Many observers feel that bacterial allergy plays an important role in patients with bronchial asthma and recurrent respiratory infections. The proof of this relationship is still incomplete, however. The correlation between vaccines used and the skin tests obtained to bacteria has been lacking. Indeed many observers state that skin tests with vaccines are useless,[9] that these skin tests mostly produce delayed reactions only and seldom the typical immediate wheal type of skin test reaction. Nevertheless, competent observers[3,4] do report typical immediate wheal type of skin test reactions to specially prepared vaccines they have used in the treatment of respiratory infections. In this study of the treatment effect of a specially prepared bacterial anti-

TABLE I.—IMMEDIATE WHEAL-TYPE SKIN TEST IN INFECTIOUS ASTHMA GROUP (FIRST 15 PATIENTS)

Case	Type of Bacterial Antigen Complex Tested	Result
	AUTOGENOUS AND/OR STOCK	
1	Autogenous	
	Pneumoniae	0
	M. pyogenes	0
	N. catarrhalis	0
	Stock	
	Pneumococcus type 1	2+
	2	2+
	3	2+
2	Autogenous	
	Pneumoniae	1+
	M. pyogenes	1½+
	N. catarrhalis	1½+
	Stock	
	Str. hemolyticus A	2+
	B	2+
	C	2+
3	Autogenous	
	Pneumoniae	0
	Str. viridans	0
	Stock	
	Pneumococcus type 1	2+
	2	2+
	3	2+
4	Autogenous	
	Pneumoniae	1+
	Str. hemolyticus	1½+
5	Autogenous	
	Pneumoniae	0
	Str. hemolyticus	0
	Stock	
	Pneumococcus type 1	0
	2	0
	3	0
	STOCK ALONE	
6	Pneumococcus type 1	1+
	2	1+
7	Pneumococcus type 1	4+
	2	3+
	3	2½+
8	Pooled pneumoniae type 4,5,14	2+
	Pooled Str. hemolyticus A,B,C	2+
9	N. catarrhalis	0
	Pooled pneumoniae type 1,2,3	2+
	Pooled Str. hemolyticus A,B,C	2+
10	Pooled pneumoniae type 1, 2, 3	0
	4, 5, 14	0
	Pooled Str. hemolyticus A, B. C	2+
	D, E	0
11	Pooled pneumoniae type 1, 2, 3	0
	4, 5, 14	0
	Pooled Str. hemolyticus A, B, C	0
	D, E	0
12	Pooled pneumoniae type 1, 2, 3	2+
	4, 5, 14	2+
	Pooled Str. hemolyticus A, B, C	2½+
	D, E	1½+
13	Pooled pneumoniae type 1, 2, 3	3½+
	4, 5, 14	3+
	Pooled Str. hemolyticus A, B, C	3+
	D, E	3+
14	Pooled pneumoniae type 1, 2, 3	3+
	4, 5, 14	3+
	Pooled Str. hemolyticus A, B, C	2½+
	D, E	2½+
15	Pooled pneumoniae type 1, 2, 3	1½+
	4, 5, 14	0

TABLE II.—Immediate Wheal-Type Skin Test, in Respiratory Infections Group (First 10 Patients)

Case	Type of Bacterial Antigen Tested (Stock Group B or C)	Result
16	Pooled Group C	+
17	Pooled Group C	+
18	Group B	
	Pooled pneumoniae type 1, 2, 3	0
	4, 5, 14	0
	Str. hemolyticus A, B, C	0
	D, E	0
	Pooled Group C	0
19	Pooled Group C	1½+
20	Pooled Group C	0
21	Group B	
	Pooled pneumoniae type 4, 5, 14	2+
	Pooled Str. hemolyticus A, B, C	0
22	Group B	
	Pooled pneumoniae 4, 5, 14	0
	Pooled Str. hemolyticus A, B, C	2+
23	Group B	
	Pooled pneumoniae type 1, 2, 3	0
	4, 5, 14	0
	Pooled Str. hemolyticus A, B, C	±
	D, E	0
24	Group B	
	Pooled pneumoniae type 4, 5, 14	2½+
	1, 2, 3	0
	Pooled Str. hemolyticus A, B, C	0
	D, E	0
25	Group B	
	Pooled pneumoniae type 4, 5, 14	2½+
	1, 2, 3	0
	Pooled Str. hemolyticus A, B, C	0
	D, E	0

gen complex, many immediate positive skin test reactions were also obtained (Tables I and II).

Results of Treatment

First 25 Patients (Table III).—Improvement in the patients with infectious asthma usually began soon after the first inoculation and was evident within a week after treatment was begun. Improvement has been maintained for many months in most of these patients. Improvement in the patients treated with acute sinusitis was prompt; within twenty-four hours a marked lessening of the acute infection was observed. There was much less nasal turgescence, sinus tenderness, fever, and systemic reaction. The six patients with chronic respiratory infections all had had frequent, severe recurrences. After treatment only one of the six patients came down with an acute tonsillitis. Two of these six patients were exposed to a severe throat infection and did not come down with it.

The period of treatment in the infectious asthma group has been for more than eight months in all of the 15 patients and in seven of these patients for more than twelve months. In the patients with acute and chronic respiratory infections it has been for more than six months. Most of these patients in the infectious asthma group have been known to this observer for many more months and years. This fact gave him an opportunity to compare their response to present

TABLE III.—Results in First 25 Patients Treated with Bacterial Antigen Complex

Case	Sex	Age	Duration of Illness	Duration of Treatment (Months)	Type of Preparation Used (Autogenous or Stock)	Results
			INFECTIOUS ASTHMA			
1	M	70	12 years	12	Autogenous	Excellent
2	F	47	9 years	12	Autogenous	Good
3	F	19	15 years	12	Autogenous	Excellent
4	M	4	3 years	12	Autogenous	Excellent
5	M	59	27 years	12	Autogenous	Fair
6	F	66	38 years	12	Group A	Good
7	F	59	6 years	12	Group A	Good
8	F	52	2 years	11	Group B	Poor
9	M	56	15 years	11	Group B	Excellent
10	F	62	15 years	9	Group B	Fair
11	M	45	10 years	9	Group B	Excellent
12	M	61	6 years	8	Group B	Excellent
13	F	46	2 years	8	Group B	Fair
14	M	62	25 years	8	Group B	Excellent
15	M	17	1 month	8	Group B	Excellent
			ACUTE SINUSITIS			
16	F	11	1 week	6	Group C	Excellent
17	M	9	2 weeks	6	Group C	Excellent
18	F	33	2 weeks	6	Group C	Good
19	F	31	2 days	6	Group C	Excellent
			CHRONIC RESPIRATORY INFECTIONS			
20	F	35	3 years	6	Group B	Poor
21	M	3	2 years	6	Group B	Excellent
22	M	2	1 year	6	Group B	Excellent
23	F	11	3 years	6	Group B	Excellent
24	M	2	1 year	6	Group B	Excellent
25	F	7	3 years	6	Group B	Excellent

TABLE IV.—Results of Treatment with Bacterial Antigen Complex in First 50 Patients*

Diagnosis and Type of Bacterial Antigen Used	Number of Patients	Degree of Improvement			
		Excellent	Good	Fair	Poor
Infectious asthma					
Autogenous	5	3	1	1	..
Stock Group A	2	..	..	2	..
Stock Group B	12	7	4	..	1
Stock Group C	4	..	2	2	..
Acute sinusitis					
Stock Group C	12	6	4	1	1
Chronic respiratory infections					
Stock Group B	6	5	..	..	1
Stock Group C	9	4	4	1	..
Total	50	25	15	7	3

* Table includes 25 cases listed in Table III.

therapy with their response to previous respiratory vaccine therapy. Up to the present the bacterial antigen complex preparations have proved far superior to any respiratory vaccines previously used in these same patients. This is well borne out by comparing the results noted in the control groups of 16 patients.

In the control group of eight patients with infectious asthma, who had done poorly after a year of treatment with the usually employed cellular respiratory vaccines, four showed excellent results when treated for a year with Hoffmann's bacterial antigen complex preparation; two showed good results and two fair results.

In the control group of five patients with acute and chronic upper respiratory infections previously treated unsuccessfully with the usually employed cellular respiratory vaccines, four responded excellently and one with good results to treatment with Hoffmann's bacterial antigen complex.

In the control group of three patients with chronic, recurrent, upper respiratory infections, who without any treatment had lost to such illness about six weeks in a six-month period, treatment with Hoffmann's bacterial antigen complex preparation gave excellent results. During a six-month period of treatment with this new antigen complex (these months came during the fall and winter of 1954) a loss of only seven days to such respiratory illness occurred.

Similarly good results have been reported by Stevens[5]; he also reports successful desensitization of children with mixture of bacterial filtrates, many of these children being relieved entirely of their asthma. Rosenow[4] also reports success in treating recurring respiratory infections with a specially prepared respiratory streptococcal vaccine whose antigenicity is maintained with a special menstruum of glycerine and sodium chloride. These reports strongly emphasize the importance of using a well-prepared bacterial antigen. In this sense the preparation used in this study is truly a satisfactory bacterial antigen complex for it incorporates the antigenic factors present in the bacterial cell and in the filtrate into one, noncellular, easily usable preparation.

Second 25 Patients.—The treatment of a second group of 25 patients with Hoffmann's bacterial antigen complex preparations was begun over six months ago. This group of patients was treated with the pooled stock bacterial antigen complex preparations only. Twenty-one of this group received Hoffmann's pooled Group C Stock bacterial antigen complex.

The purpose of this second study was to ascertain the value of treatment with these stock pooled bacterial antigen complex preparations in patients with infectious asthma and severe recurrent respiratory infections. The results of this study indicate that stock pooled Hoffmann bacterial antigen complex preparations are extremely effective in the treatment of this group of patients (Table IV).

Illustrative Case Reports

Case 1.—This patient, a four-year-old white male, was first seen in October, 1952. His history dated back to one month of age with the onset then of recurrent, severe upper respiratory infections. These infections began with nasal blocking, followed soon by a heavy, nasal, yellowish discharge, then by a sore throat, fever, and finally typical bronchial asthma. These periods of respiratory infection with wheezing would last from four to six weeks and recur at least four times a year.

When first seen in October, 1952, this patient appeared chronically ill. He was breathing with difficulty, and expiration was noticeably prolonged.

Examination revealed grossly enlarged and infected tonsils. Throughout both lungs many sibilant and subcrepitant rales were heard. He appeared pale and had a low-grade fever.

With the hope of removing an obvious source of infection a tonsillectomy and adenectomy was done in October, 1952. There was temporary improvement, but in December, 1952, he again developed a severe upper respiratory infection, which was soon followed by severe bronchial asthma. He was then placed on intramuscular Bicillin, 600,000 units once every two weeks, and injections of catarrhal vaccine and stock dust were begun on January 2, 1953.

In March, 1953, while under the above treatment, he had a typical recurrence of his upper respiratory infection and bronchial asthma. He had another such recurrence in August, 1953, and in October, 1953; the latter recurrence was very severe. He was then placed on Gantrisin daily, and treatments with the catarrhal vaccine and stock dust continued. His respiratory infection and bronchial asthma persisted without abatement through October, November, and December, 1953.

In February, 1954, because of the persistent respiratory infection and bronchial asthma, it was decided to attempt treatment with the Hoffmann specially prepared bacterial antigen complex. Accordingly autogenous cultures were made from the patient's nose and throat. These cultures showed the presence of pneumococci, hemolytic streptococci, and coagulase-positive staphylococci. Hoffmann's bacterial antigen complex preparations were then prepared from these autogenous cultures, and treatment with these was begun in March, 1954, and has continued ever since.

During this period of treatment with the specially prepared bacterial antigen complex, the patient has improved markedly. He has not had any recurrences of the severe respiratory infections previously described. He has been free of severe attacks of bronchial asthma, and when he has had a mild wheezing, there has been no evidence of bronchial infection or a fever with systemic illness. He has gone through the fall and winter of 1954–1955 without any serious respiratory infections or bronchial asthma. This was in marked contrast to the severe respiratory infections and bronchial asthma he experienced in the fall and winter of 1953–1954 after a year of treatment with the usually employed cellular respiratory vaccines and stock dust extract as well as with continued antibiotic administration.

Case 2.—This patient, a fifty-six-year-old white male, was first seen in March, 1954. He gave a history of longstanding sinusitis and nasal polyps, which had been followed fifteen years ago by the onset of a bronchial cough and wheezing. He had had several polypectomies with recurrence of the nasal polyps soon after surgery. In the previous eight months his nasal blocking, postnasal drip, and wheezing had markedly increased.

At the initial examination, evidence of chronic sinusitis with polypoid degeneration of the nasal mucosa was noted. His chest was moderately emphysematous, and throughout both lungs sibilant and sonorous rales were audible. He had a cough productive of greenish sputum.

The patient was started on treatment in March, 1954, with Hoffmann's Group C pooled stock bacterial antigen complex preparation. He showed gradual improvement in his wheezing and nasal blocking. After two months treatment his sputum diminished, and he noticed further improvement in his wheezing and lessening of his cough. He has continued to maintain his improvement, and now, after about one year of treatment, he is able to exert himself without wheezing and has had almost complete relief of his nasal blocking, postnasal drip, and productive cough.

Summary

Patients with infectious asthma and recurrent respiratory infections are for the most part being presently treated with antibiotics and vaccines.[10] In the preparation of vaccines the valuable specific substance may be altered or entirely lost. In addition, vaccines do not contain any of the metabolites of the bacteria or exotoxins. A vaccine must be considered, therefore, as being incomplete and lacking in important antigenic components needed for the patients' immunization and desensitization.

It was considered appropriate to treat a group of patients with infectious asthma and severe recurrent respiratory infections with Hoffmann's acellular bacterial antigen complex preparation. This preparation does contain the antigenic components missing in a vaccine, and since it is acellular, it does not need to use the body's defenses that are necessary for phagocytosing the bacteria present in vaccines. The results of treatment with it have been very good in about 80 per cent of the patients. Hence, this study indicates that bacterial antigen complex (Hoffmann) should be used in the treatment of bacterial allergy.

Patients, such as those treated in this study, often have many of the problems of the chronically ill. As is so clearly discussed by Anderson and Rubin,[11] the "allergic load" is increased with poor nutrition, anemia, and other noninfectious allergic factors.[12] It is emphasized that all patients with repeated infections be given the benefit of a complete medical and allergic study and that treatment be given for all of the conditions found, as well as with the bacterial antigen complex preparations.

Conclusions

1. Results of the treatment of this group of patients with infectious asthma and acute and chronic respiratory infections have been very good.
2. These results are due to the fact that the acellular bacterial antigen complex preparations used in this study are more effective and more complete antigens.
3. Immediate wheal-type skin tests have been obtained with these preparations.
4. No significant side-effects have been noted.
5. There has been no need for the use of antibiotics.
6. It is emphasized that treatment with bacterial antigen complex preparations should be accompanied by the simultaneous treatment of all nonbacterial allergies and attention to all of the medical needs of the patient. These factors are important in the ability of the patient to adapt himself to the conditions necessary for the development of desensitization and immunity.

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Premenstrual Edema and Related Problems

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The fate of water in the body, whether endogenous or exogenous in origin, has been studied intensively in recent years partly because of the advent of two potent therapeutic weapons in the hands of present-day physicians. The first is the mercurial diuretic of the mersalyl type. The second is the anterior corticotropic hormone (ACTH) or its adrenal cortical product, the steroid cortisone.

The basic fact of the necessity of water for human survival has many aspects, so that while there is generalized anasarca at one end of the spectrum, there are focal liquid deposits and mild diffuse hydroses as well, which are being given closer scrutiny and at times purposefully altered with the idea of obtaining a more normal physiologic relationship. There is an old rule in pathology that nature's regeneration after injury is always in excess, that is, in excess of absolute needs in the process of repair. The fluid element in transudates and exudates in its local accumulation has definite functions in neutralizing the effects of infection or tissue injury by chemically active or inert substances. Hence, it is essential to keep this fact in mind as well as the more obvious truth that there is a minimal water level which must be maintained in health or disease, a level that is lowered only with risk to cellular or bodily health.

The female of the human species is subject to rather violent disturbances of water metabolism that have their origin in the cyclic activities of endocrine glands. Both sexes are involved in the effects of thyroid dysfunction and pituitary dyscrasias. Women from the time of puberty to the cessation of menstrual life are frequently disturbed and even incapacitated by the effects of inordinate water retention. This phenomenon is only a part of the entire picture which is often spoken of as "premenstrual tension." The "tension" probably emanates from the nervous disturbance that may be the most conspicuous symptom to the rest of the family. In recent medical literature there is more frequent reference to "premenstrual edema" which in this era of more effective diuretics is being countered in part by the newer mercurial compounds, often in conjunction with the various kinds of low-sodium diets.

The water content of the body exhibits an ebb and flow, a tidal effect that occurs, in the main, gently and "autonomically." There is increased water storage in probably every woman during the week before the menstrual flow is established. In possibly 20 per cent of such women this storage is in some degree abnormally large. In 5 per cent it seriously affects normal activity and requires careful management. So much malaise and indisposition have been taken for granted by suffering women and busy doctors that treatment has not been sought or seldom has been offered. In these women then it is a condition sui generis that calls for correction or at least mitigation because the water retention may be of a degree comparable with the "dropsy" of cardiac disease or nephritis.

Two phases of this problem merit emphasis, the moderate or extreme premenstrual water retention in otherwise normal women and the same phenomenon occurring in women who are also suffering from other conditions which tend to disturb water and electrolyte distribution or in whom these add a confusing element to the general clinical picture.

Uncomplicated premenstrual hyperhydration is usually found in a woman over thirty years of age. The menstrual history often discloses variations from the average normal pattern, slight delays, and dysmenorrhea of varying degree, although this may not be present. She gradually becomes more conscious in the premenstrual week of a feeling of general malaise, "loginess" she calls it, with associated abdominal bloating and feeling of weight. The breasts become swollen and tender. The muscles of the thighs feel heavy, and the ankles are puffy or have a pitting edema. Varicose veins if present are more widely dilated than before. The fingers and hands develop a rubbery kind of swelling that makes it difficult or impossible for a ring to be removed. If she follows her weight curve, she will find that she has gained from 4 to

12 pounds in five or six days while definitely eating very little because of a decrease in appetite and thirst. Paradoxically some women develop an excessive thirst while accumulating this fluid. While all this is going on, many women present neurologic disturbances, such as a throbbing, migraine-like headache with a feeling of pressure within the head. The headache may be in the form of hemicrania but is more likely to be diffuse across the vertex. Nausea and vomiting are easily provoked, however, especially in those with any degree of migrainous background. This all sounds like a terrible ordeal in store for the rest of the menstrual life of the women, even though the entire symptomatic picture clears rapidly and completely after the menstrual flow has been in action for twenty-four to thirty hours. As one poor soul put it, "I only feel well when I am poorly."

While I have encountered many minor degrees of water retention in the menstrual age, a number stand out as being greatly affected by the phenomenon. In appearance they tend to be of normal build; only a few border on obesity. The symptoms are referable to many parts of the body, as would be expected in a diffuse edema of this type. Coma and convulsions have even been noted by Bickers,[1] but I have seen nothing so severe in an uncomplicated case. While the condition has doubtless been prevalent since the time of Eve, the first published attention in modern times was given it by Frank[2] in 1931. He described instances of premenstrual edema of the hands and feet with oliguria, subcutaneous hemorrhage and, clinically, epilepsy, asthma, and suicidal depression. The blood contained twice the normal level of estrogen. Frank used such diuretics as were available in 1931: caffeine, and theobromine and saline catharsis to further the excretion through the bowel of the excess of female hormone. Thomas[3] in 1933 reported two cases of marked cyclical edema just before menstruation. The multiplicity of symptoms stems from the fact that the water is retained by all the soft tissues, every cell accessible to rapid circulatory and osmotic changes feeling the effect and the more specialized the cell, the more profound the impact upon normal physiologic processes. The direct effect of endocrine fluctuations upon nerve cells—cortical, medullary, sympathetic, or autonomic—must be very great, but the adjustments of which the body is capable are usually adequate to permit normal activity with little or no visible conflicts between the various organic mechanisms.

Since menstruation invariably follows the water storage, the ovary must play a leading part in its production, although we must look further for ultimate causes. The pituitary gland is the pacesetter for the ovaries, and its antidiuretic factor may be formed and liberated in increased amount in the premenstrual week. Water storage up to 4 pounds has been produced in some patients by the daily administration of Pitressin (betahypophamine) according to Bickers.[1] This principle is employed in the treatment of diabetes insipidus, a rare condition in which there is a tremendous diuresis of a urine of low specific gravity as a result of posterior pituitary dysfunction, at least to the extent of failure in the production of a normal amount of the antidiuretic factor.

Newburgh[4] has explained the mechanism, indicating that the kidneys maintain the constancy of concentration of each of the ions in the extracellular fluid, with a coordination of the several mechanisms establishing the fixity of total concentration of osmotic pressure and of reaction. The maintenance of the nearly constant percentile water content of the body is under the sway of the antidiuretic hormone secreted by the posterior lobe of the pituitary gland. Normally when water is freely available, the urine volume is greater than the minimal amount required to excrete the urinary solids, the excess being discarded to avoid any increase over the established normal value of total body water.

Very large quantities of water pass from the blood through the glomerular filter into the tubules, with nearly all of it being reabsorbed before it reaches the bladder. This return of the filtered water in the amount needed to maintain the quantity of water at its normal level is the feature managed by the antidiuretic hormone. In destruction of the posterior pituitary lobe diabetes insipidus is produced; loss of as much as 40 L. of urine in twenty-four hours may occur. A return to normal output is effected by the influence of the specific posterior lobe hormone.

The typical uncomplicated case of premenstrual edema shows no nitrogen retention, no disturbance of the albumin-globulin ratio, normal blood chlorides, and normal phenolsulfonphthalein excretion. There is obviously a high urinary threshold and diminished excretion of fluids and electrolytes. The normal output may drop from 2,500 cc. in twenty-four hours to as low as 800 cc.

According to Frank[2] there is an increase in blood estrin at such times which may explain certain nervous reactions during this period, as well as the greater effects of small hormone doses than when its excretion or intravitam destruction is subnormal. Greene and Dalton[5] note that of crimes of violence committed by women, 62 per cent occurred in the premenstrual week when cerebral edema is probably present to some degree. Inability to make decisions is a common complaint.

Patients with the edema picture menstruate from a well-developed progestational endometrium.[1] Some have thought that there was a deficiency of progesterone.[6] Greene and Dalton[5] emphasize the importance of an abnormally high estradiol-progesterone ratio and regard the administration of progesterone as very effective in relieving the condition. Thorn and Emerson[7] found that both progesterone and estrogen have the capacity to cause water retention, both being operative before the menstrual flow, but only estradiol is operative in midcycle. They also found that sodium and chloride excretion was increased after both ovulation and menstruation. According to Greene and Dalton[5] the rhythm of this change in water metabolism seems to be controlled by the level of estradiol in the tissues, and this in turn is under the partial control of progesterone. Excessive water retention, therefore, may be present even with a fairly low level of estradiol if progesterone is lacking or absent. They feel that it is the estradiol-progesterone ratio which determines whether or not symptoms occur. The mechanism is suggested by Smith and Smith[8] who state that the effects of progesterone on excretion of estradiol may more than counterbalance its weaker direct effect on water metabolism. Israel[9] regards the syndrome as caused not so much by the high level of estrogen as by a lack of antagonism by progesterone.

Estrin in the blood may show marked fluctuations from high to low on certain days, but peculiarly its administration is often of help in alleviating symptoms. There is apt to be a lowered blood sugar at the height of the hydration. Since there is a hydremic plethora, the decrease in blood sugar values may, in part, be relative and not absolute. Increasing the carbohydrate in the diet is sometimes of subjective aid at this time. With the excess of fluid it is suggested that hydrops of liver cells may be present and interfere with glycogen storage. This premenstrual stress may in part be a manifestation of increased adrenal corticoid excretion. A similar condition is seen in the effects of excessive cortisone intake, as far as is functionally possible in the male as well as in the female.

While the syndrome of premenstrual edema has been discussed in the literature from many angles, much of the comment is pure speculation and, although fascinating, is based on deductions, many of which are not adequately proved. The most striking feature is a gain of water weight of 4 to 12 pounds with visible edema of the soft tissues but unassociated with heart disease, kidney disease, hypothyroidism, or vitamin deficiency. The addition of even a mild associated defect in any of these directions can greatly confuse the physician in evaluating the significance of the edema element.

The effect of this water retention upon a patient with mild hypothyroidism can be very striking. Also this is the younger group with girls twenty years of age being affected. In the untreated case there is already water storage of greater or less degree along with myxoid changes in the fibroblastic stroma, and there ensues an intensification of the symptoms usually regarded as part of the hypothyroid state. An elevated blood cholesterol before the fourth week becomes appreciably lower, possibly as a result of dilution of the blood, but resumes its higher levels as the fluid passes. The mildly hypothyroid woman is the type most likely to consult a physician because there seems to be a greater degree of water retention when there is even a slight thyroid insufficiency. This appears to be out of all proportion to the minus basal metabolism reading or premenstrual cholesterol content of the blood. Greene and Dalton[5] reported seven cases of childbirth followed by increasing weight and lethargy in addition to the premenstrual syndrome, a condition early misdiagnosed as myxedema but which responded to progesterone therapy.

Another group consists of women who have had several years of premenstrual edema of 8 to 10 pounds average accumulation and have experienced an artificial menopause because of pelvic surgery or radiotherapy. There is not an automatic cessation of cyclic water retention but a gradual diminution over the following four months so that strong diuretic measures have been unnecessary. It would seem that with the ovaries removed the posterior lobe of the pituitary gland is less stimulated to form ADF (antidiuretic factor). It suggests too that in extreme cases of water "toxemia," artificial sterilization by surgery or radiation could offer permanent relief. Doubtless few women would agree to this extreme measure until all other methods had proved inadequate.

In women with decompensated heart disease, especially very mild degrees of right ventricle failure, the cyclic water retention may lead to a more serious prognosis than the cardiac condition really warrants. The physician stands in need of a very accurate calendar account of fluctuations of weight, breathing difficulties, urinary output, and digestive disturbances. If he should enter the case during the premenstrual week, he may be led to employ more severe measures than if he were better acquainted with the patient's endocrine history, and since the interovulatory period may vary in great degree, he must not be sidetracked into a path of error. In this important group of patients prevention of that portion of the fluid stasis of "premenstrual" origin can only make easier the management of the heart disease. Hurxthal and Smith[10] in a study of endometriosis and other conditions speak of pronounced fluid retention and presumably congestive heart failure in a woman aged twenty-nine years with mitral stenosis, who had been given stilbestrol daily in large doses for three months. Dyspnea and orthopnea developed but disappeared after the hormone had been withdrawn. They discussed the side-effects of stilbestrol in 25-mg. daily doses, as including a sensation of bloating, dependent edema, edema of the labia, swelling and pigmentation of the breasts, and pulmonary congestion.

As the titer of the antidiuretic factor increases in the premenstrual week, the urine becomes more concentrated, the specific gravity rises, but no albumin or sugar appear. Renal thresholds appear to hold steady. The pH may drop low enough for the acidity to provoke local burning on micturition. Since it is undesirable to offer sodium alkalies to lower the acidity, the better way to increase the pH of the urine is by promoting diuresis and thus achieving a prompt dilution. This can be accomplished in mild cases by ammonium chloride, in slightly severer episodes by a mercurial salt (mersalyl type) by mouth. The more extreme cases require more rigid low-sodium diets and mercurials intramuscularly or intravenously. The kidneys respond very well as a whole, and the tissue fluids can be drained off overnight. The usual precautions against potassium deficit must be observed. Orange juice is usually an adequate safeguard, although potassium chloride tablets may be required. The sodium output in the urine during retention drops rapidly and returns to normal as average renal activity becomes re-established.

Summary

The premenstrual syndrome in about 20 per cent of women includes a pathologic degree of water retention sufficient to require specific treatment and also adequate preventive measures. The edema varies from slight and subclinical to as much as 12 pounds accumulated in the week before the menstrual flow is established. The symptoms include headaches, vertigo, mental aberrations, gastrointestinal upsets, pains in peripheral muscles, and a bloated feeling throughout the body.

The mechanism is bound up in a pituitary-ovarian dyscrinism, with an overproduction of the antidiuretic factor (ADF) of the posterior lobe of the pituitary gland and the presence of an abnormally high estradiol-progesterone ratio.

Premenstrual edema occurring in women suffering concurrently from hypothyroidism, heart disease with right ventricular weakness, or nephritis adds a complicating factor which needs careful evaluation in order that treatment can be inclusive of measures which attack the water retention from all possible angles.

Treatment in the severest cases during the premenstrual week requires the use of diuretics of saline or mercurial type, a low-sodium diet, and progesterone in doses sufficient to produce a normal estradiol-progesterone ratio. Since a large number of cases have hypothyroidism in some degree, an euthyroid state should be established and maintained as an important aid in the prevention of this form of water retention.

51 First Street

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CLINICOPATHOLOGIC CONFERENCE

MEDICAL SERVICE, UNIVERSITY DIVISION, AND DEPARTMENT OF PATHOLOGY,

KINGS COUNTY HOSPITAL, BROOKLYN, NEW YORK

Conducted by PERRIN H. LONG

JANUARY 21, 1954

Case History

H. K. was a forty-five-year-old, white, Protestant male and former counterman.

First Admission

He entered Kings County Hospital for the first time on February 3, 1953. His chief complaint was stiffness and pain in all joints, especially those of the fingers, for six months duration.

Present Illness.—The patient claimed that he was perfectly well until six months prior to admission when he noted that the skin over his chest, shoulders, cheeks, and forehead was turning brown in color, although he had not been exposed to the sun.

Five months before admission he noted that the skin over his fingers was becoming tight, wrinkleless, and occasionally swollen. The finger joints became very tender and painful, especially when they were exposed to the cold. About this time the patient noted that he tired easily and lost his appetite. He also claimed that solid foods stuck in his throat and were difficult to swallow. The joint stiffness gradually extended to include his shoulders, knees, and ankles. About two months before admission the patient noted small ulcerations on his fingertips with no history of trauma.

One month later the patient noted tightness of the skin over his forehead, neck, and face. He had lost 27 pounds in the past three months and finally sought admission to Kings County Hospital.

Past History.—From 1950 to 1952 he was hospitalized three times at a local hospital for swelling and ulcers of the left leg which were not related to trauma. The remainder of the family history, social history, and system review were noncontributory.

Physical Examination.—The patient did not appear acutely ill. Temperature was 99 F., respirations 20, pulse 112 and regular, and blood pressure 140/90. There was a brownish pigmentation along with areas of depigmentation of the skin on the face and chest. The skin was firm, tight, and wrinkleless over his ankles, fingers, wrists, forehead, and the sides of his face. Lungs were clear to percussion and auscultation. The heart showed sinus tachycardia with rate of 120; point of maximal impulse was in the fifth interspace in the midclavicular line; there were no murmurs, and the second aortic sound was equal to the second pulmonic sound. No masses were felt in the liver, spleen, or kidneys. There was sparse axillary hair. The knees felt swollen and slightly warm.

Laboratory Data.—Erythrocyte sedimentation rate was 6 in sixty minutes; hemoglobin 16.8 Gm.; red blood cells normocytic and normochromic; platelets present; white blood cells 9,700 with differential count of polymorphonuclears 60, lymphocytes 25, monocytes 4, eosinophils 0, and basophils 2. Urine was acid, clear yellow, negative for sugar, acetone, and albumin and had specific gravity of 1.012; 3 to 4 white blood cells per high power field were visible on microscopic examination.

Fishberg concentration was 1.020; blood urea nitrogen 10 mg. per cent; cephalin flocculation 1 plus; bromsulfalein retention after forty-five minutes 1 per cent; cholesterol 150 and 124 mg. per cent. Total protein was 8.2 per cent with albumin-globulin ratio 5.3:2.9. Prothrombin time was 13.7 seconds, control 15.5 seconds; sugar 110 mg. per cent; Mazzini negative; twenty-four-hour urine specimen for creatinine and creatine was 0.8/0.46 mg. per cc.

Repeat laboratory data showed erythrocyte sedimentation rate 18 in sixty minutes; red blood cells 4,950,000; hematocrit 52; hemoglobin 14.5; white blood cells 7,000, 12,000, 14,450, and 11,300 with differential count of polymorphonuclears 70, lymphocytes 19, eosinophils 6, and monocytes 5. Urinalysis results were unchanged. Two electrocardiograms and a ballistocardiogram were normal. No pulmonary or pleural pathology were demonstrable on chest x-ray. Minimal dilation of the esophagus with limited peristalsis was visible on esophagram. A repeat chest x-ray showed an old fracture of the left clavicle. X-rays of the hand showed bony deposits in the soft tissue, probably from previous injury. A skin biopsy was reported as not diagnostic.

Course.—The patient was given two days of Tryptar therapy, 100,000 units twice a day intravenously. After the second day the therapy was stopped because of the patient's poor veins. He received no benefit from this therapy.

Three days later he was started on cortisone, 100 mg. per day orally, low-salt diet with added vitamins and potassium chloride. He was also given whirlpool baths, physiotherapy, and had several poor teeth extracted. Tomograms were taken because of a suspicious right apical lesion. Because of the patient's condition, however, and the equivocal nature of the lesion, cortisone was continued. Gastric smears and cultures were negative for acid fast bacilli. On cortisone the patient noted relief of joint pains and improved appetite. He remained afebrile; his pulse was slow and regular, and blood pressure was 140/90. He gained 3 pounds and was discharged after seven weeks of hospitalization.

Second Admission

The patient was readmitted to Kings County Hospital one month later on April 26, 1953, because of five days of shortness of breath. The patient had taken his cortisone at home but ran out of it about two weeks before readmission. He noted orthopnea, exertional dyspnea, and palpitations and returned to the hospital.

Physical Examination.—Temperature was 101 F., pulse 140 and regular, respirations 28, and blood pressure 180/140. There was no change in the skin or extremities except for 1 plus ankle edema.

There was no external asymmetry of the head; pupils were round, regular, and equal and reacted to light and accommodation. Extraocular movements were normal as were the fundi. Ears, nose, and throat showed no inflammation. Neck veins were moderately distended; the thyroid was not enlarged, and there was no adenopathy.

There was dullness at the left base and moist rales in the lower third of both lungs. Point of maximal impulse of the heart was as noted on previous admission. The second aortic sound was greater than the second pulmonic sound, and there was a loud, apical, protodiastolic gallop audible at a regular rate of 140.

No masses were felt in the liver, spleen, and kidneys. Rectal examination was normal. Cranial nerves and reflexes were normal.

Initial Laboratory Data.—Erythrocyte sedimentation rate was 22 in sixty minutes; hemoglobin 16; white blood cells 19,600 with polymorphonuclears 78, lymphocytes 14, monocytes 8, eosinophils 0, and basophils 0. Urinalysis showed specific gravity 1.005, albumin 1 plus, sugar and acetone negative, microscopic examination negative.

Course in Hospital.—On the day of admission, April 26, 1953, the patient was given Mercuhydrin and was rapidly digitalized with relief of the orthopnea and disappearance of the basilar rales. The electrocardiogram showed an S wave in lead I, sinus tachycardia, and low voltage.

April 28.—Chest x-ray showed cardiac enlargement, congestive changes in the lungs, and no pleural effusion. Cortisone, 200 mg. per day, was restarted. Mazzini was negative; blood urea nitrogen 33 mg. per cent; sugar 121 mg. per cent; total protein 6.7 per cent; albumin-globulin ratio 3.8:2.8. The temperature was normal, and the patient was afebrile for the remainder of his hospital stay.

April 30.—Venous pressure was 140; ether time seven seconds; decholin seventeen seconds. Moist rales were audible at the bases. Stool was negative for blood. Cortisone was cut, and the patient was on 0.2 mg. of digitoxin per day.

May 2.—The apical gallop at a rate of 140 continued. Stool was guaiac positive. ACTH, 25 mg. intravenously, was given.

May 3.—ACTH therapy was repeated. Friction rub was heard across the precordium. Repeat 12-lead electrocardiogram showed an S wave in lead I, sinus tachycardia at rate of 140 per minute, PR interval sixteen seconds, no axis deviation, and low voltage. Patient had considerable chest pains and required repeated injections of morphine and Demerol for relief. Marked dyspnea and orthopnea persisted.

May 4.—Carbon dioxide combining power was 38 volumes per cent; blood urea nitrogen 61 mg. per cent; creatinine 4.6 mg. per cent; stool guaiac positive; sodium 128 mEq. per L.; potassium 6.5 mEq. per L.; chloride 80 mEq. per L. Gallop rhythm and precordial friction rub continued. Patient was given 300 mg. of cortisone per day.

May 5.—Venous pressure was 240; decholin forty-three seconds; hemoglobin 14; creatinine 5.7 mg. per cent; sodium 126 mEq. per L.; blood pressure 150/120. An S_1Q_3 pattern was now present on the electrocardiogram along with a sinus tachycardia at a rate of 130. Gastric aspiration recovered 300 cc. of coffee-ground, guaiac-positive material. The liver was 4 cm. below the right costal margin.

The patient had nausea, vomiting, and frequent abdominal pain and had voided less than 100 cc. of urine in previous twenty-four hours. Cortisone was cut, 300 cc. of 5 per cent saline intravenously were started, and 500 cc. of blood were removed by phlebotomy. The liver then decreased in size, and the abdominal pain was somewhat relieved. Patient received oxygen.

May 7.—Blood urea nitrogen was 82 mg. per cent; sodium 131.5 mEq. per L.; potassium 6.0 mEq. per L.; chloride 89 mEq. per L.; carbon dioxide combining power 30 volumes per cent. The liver was 6 cm. below the right costal margin. There were moist rales at both lung bases. The patient had a convulsion with clonic arm movements that lasted for about five minutes and was followed by lethargy. He now had 3 plus ankle edema. The patient was on Mercuhydrin, 2 cc. intramuscularly three times a week.

May 9.—Serum chlorides were 86.5 mEq. per L.; blood urea nitrogen 97 mg. per cent; urinalysis showed a trace of albumin and many white blood cells per high-power field. Fundi examination showed normal disks and vessels. Patient was lethargic with pulse 130 and blood pressure 160/120. Reflexes were diminished, and no Babinski sign was elicited. Moist rales, apical gallop, abdominal pains, and oliguria persisted.

May 11.—Urinary output was 150 cc.; chlorides 134 mEq. per L.; specific gravity 1.008. Cheyne-Stokes respirations were present. Liver was 7 cm. below right costal margin. The patient was on a high-carbohydrate, high-fat, low-protein diet with no salt restrictions. Vomiting continued.

May 12.—Carbon dioxide combining power was 30 volumes per cent; blood urea nitrogen 97 mg. per cent; creatinine 7.2 mg. per cent; sodium 130 mEq. per L.; potassium 5.0 mEq. per L.; chlorides 89 mEq. per L.; hemoglobin 12 Gm. Ascites, 3 plus ankle edema, and basilar rales were present. A 500-cc. phlebotomy was performed. Also 400 cc. of yellow fluid were removed from the right chest. Chest fluid was negative for acid fast bacilli; total protein was 2.35 per cent; sugar 102 mg. per cent; chloride 127 mEq. per L.; specific gravity 1.010; cell count 200 white blood cells per cu. mm. Paracentesis was attempted but was unsuccessful.

May 14.—There was twitching of the left arm and head. Calcium was 7.7 mg. per cent. Repeat x-ray showed progressive cardiac enlargement and congestive changes in the lungs with no pleural effusion.

May 15.—Hemoglobin was 10 Gm. Marked oliguria was present; twitching persisted. Calcium gluconate was given intravenously with no benefit. Repeat chest x-ray showed bilateral interstitial pulmonary changes. Patient vomited frequently.

May 16.—At 4 P.M. a kidney biopsy was attempted but was unsuccessful. At 8:30 P.M. patient had marked pulmonary edema that was unresponsive to heroic measures, and the patient died gasping for air.

Discussion

CHAIRMAN LONG: The patient whose case record will be presented today will be discussed by Dr. Kydd.

DR. DAVID KYDD: The patient this morning is a white male of forty-five. The protocol is quite long so that I shall read it only in part and comment only on certain features.

This patient stated that he felt perfectly well until some six months prior to admission, but we see a little later on that during the two preceding years he had had a mysterious condition of his legs, consisting of swelling and ulceration, and about six months prior to admission he noted that the skin covering his chest, shoulders, cheeks, and forehead was turning brown, although he had not been exposed unduly to the sun. Five months before admission he noted that the skin of his fingers was becoming tight and wrinkleless, and the fingers swelled occasionally. The finger joints became tender and painful, especially when exposed to cold. About this time the patient noted also that he was tiring quite easily. He lost his appetite, and solid foods stuck in his throat and were difficult to swallow. The joint stiffness gradually extended to include the shoulders, knees, and ankles. About two months before admission the patient noted ulceration of his fingertips, again without any history of trauma. A month later he noted tightness of the skin of his forehead, neck, and face; by that time he had lost some 25 pounds in weight. At the time he was admitted, the pigmentation and condition of the skin was noted. He had a temperature of 99 F., and his blood pressure was 140/90. Otherwise the physical examination was essentially negative at that time.

All of this so far strongly suggests the possibility that this patient had scleroderma. In the first place he is a white individual, and in most series of patients with this disease only very few Negroes have been found. He is a male, and this is somewhat at variance because if one adds the collected reports, the percentage of females to males is about ten to one. However, he is forty-five years of age, and the great majority of patients develop this disease during the twenties, thirties, and forties, although it may in fact develop at any time.

The first symptom that he recognized was increasing pigmentation, which again is quite common in this disease. Occasionally the pigmentation may be associated with telangiectases. Then he developed swelling of the skin and the joints, and these were quite sensitive to cold. Finally he lost a great deal of weight and became extremely tired. The development of symptoms in this disorder is quite variable. With few exceptions, which we will mention a little later, they may develop in any order, and in fact, there have been some instances of the disease reported in which the skin disorder never does develop. It is perhaps of some interest in this development that although scleroderma was described as early as 1750-odd, it was considered to be a skin disease until shortly after the turn of the present century when the visceral manifestations began to be recognized. After passing through the usual endocrine phase of these queer disorders, it was considered to be a vascular disease, and it is possibly of some interest that the largest series of patients, 150 in number, was reported from the Peripheral Vascular Clinic of New York University. During the last ten years its more general nature has been recognized, and it no longer is considered to be entirely a peripheral vascular disease.

At the time of his first admission also, practically all the laboratory data obtained were quite normal. It is true the total proteins were elevated, but I have no explanation for this elevation. The urinalysis was quite normal, as was the blood count. The x-rays, however, are a little difficult to interpret from the descriptions, in that apparently something was seen, but the description is quite indefinite. The x-rays of the hands, however, show some calcification, and one wonders whether this was due to old trauma or whether it was due to calcification as a result of the disorder. At certain times calcifications do occur, and it is for that reason that, at one time at least, the parathyroid gland was involved in the etiology. So I think we might look at the x-rays at the present time.

Dr. H. N. Schwinger: The initial examination was on February 11. This is a chest film which showed the heart to be normal in size and outline and the lung fields grossly clear for active or recent disease (*film*). There is a small Ghon lesion at the periphery of the right central lung field, and there is evidence of thickened pleura at the right apex. We will see more of this as we go along. There is an old fracture of the left clavicle. There are also several healed fractured ribs, the left third rib as well as several of the lower ribs on the left side.

The same day an esophagram was obtained, and I will show several films to point out that the esophagus is slightly dilated and shows very poor peristaltic activity throughout the entire study (*films*). It is hard to know how long this whole examination took, but as you can see on all of the films, there is always some barium remaining in the esophagus. It is unlikely that he got many drinks of the barium, but all the way through you see the same type of atonic, dilated esophagus which continues to retain barium throughout. This is fairly characteristic of scleroderma. There is no evidence of any intrinsic defect in the esophagus. I don't know anything else that will produce this type of pattern in the esophagus.

The next examination on March 10 was of the hands. I am sorry that the report was not worded properly. This is old trauma (*film*). There is no calcification in the soft tissues. This is an old, slightly comminuted fracture of the tuft of the right middle finger. You cannot see it too well, but it involves the distal tip of the tuft. There is also insignificant, minimal flexion deformity of the little finger on the left hand, probably an old baseball injury of some sort. But, again, there is nothing too striking in the bones or soft tissues. This does not show any of the calcifications that we see in scleroderma.

On March 10, again, a repeat chest x-ray showed nothing other than what was demonstrated on the previous examination. A lateral film done at the same time is also grossly normal (*film*). That same day tomograms were done. I don't know how well these will project, but you can see there is a small circular radiolucency at the 8-cm. level (*film*). It is a very thin-walled affair with perhaps some infiltration about it. There is also some thickening of the apical pleura. At the 10-cm. level there are several other small, radiolucent areas outlined. Now this I believe to be the end result of an old tuberculosis, and I think this merely represents a localized bronchiectasis secondary to an old area of fibrosis. I don't believe this represents active tuberculous cavitation. The lung fields otherwise present nothing of note at this time.

The next examination was April 27. At this time there has been some change (*film*). The heart has increased appreciably in size, indicating some cardiac dilatation. You now see dilatation of the hilar vascular structures and some evidence of cardiac decompensation in the central lower lung fields. The apical lesion on the right side remains unchanged.

On May 11 another chest x-ray again shows further cardiac dilatation and further dilatation of the hilar vascular structures (*film*). I will close the shutters down to this small area of the peripheral lung field here to demonstrate that the interstitial markings throughout both central lung fields assume a thickened and somewhat nodular appearance. This was not present before. What this finding represents is hard to say from a single study such as this, but there are several considerations: one, that this man has an underlying malignancy which is developing a lymphangitic spread into the chest. This is not likely. Another possibility is that the lesion in the right apex had some activity which is acting as the focus for the spread of a diffuse submiliary type of tuberculosis in his lung fields. I cannot exclude this, and I think it warrants some consideration. Another possibility is that he has developed a rather rapid type of cardiac decompensation, and he is starting to get interstitial fibrosis because of it. This would be rather rapid, and I would not consider it too likely. I think the thing we have to consider most is that this man has developed some diffuse type of inflammatory reaction in his lungs, possibly a tuberculous process from the old lesion in the apex. I will add, as a last possibility, sclerodermatous involvement of the lungs, but I prefer to consider tuberculosis first.

Dr. Kydd: This is not similar to the lesions that one occasionally sees in the course of scleroderma.

Well then, so far as the first admission is concerned, with the exception of this lesion that was mentioned, the x-rays of the chest are normal, and the x-rays of the hand add nothing to the patient's history. The patient was treated with some trypsin and then finally with cortisone. Following the administration of cortisone he improved but rather incompletely. He was discharged, but within a month the patient was readmitted because of extreme shortness of breath. Shortness of breath in itself is of some interest in this condition: in the first place because it often develops as a result of the increasing heart failure which so often is a part of this condition; second, because of the possibility that he has developed some degree of pulmonary fibrosis, which in this instance is unlikely in view of the x-ray findings, and, third, because the skin of the chest may become so stiff that he has difficulty in breathing. In this instance we have evidence that he developed this rather rapidly increasing shortness of breath as a result of some myocardial condition since we note that his blood pressure is now definitely elevated to 180/140, he has a loud, apical, protodiastolic gallop rhythm, and he has edema including fluid at the lung bases. However, at this time he again had only a 1 plus albuminuria, and no abnormal cells were found in the urinary sediment.

About a week later a friction rub was found, and then within a few days after that he developed evidence of marked renal insufficiency that was characterized by an increasing retention of urea and by oliguria with rather profuse albuminuria. He still had considerable heart failure. The condition rapidly increased in severity. Therapy accomplished little, and he died about ten days later.

This patient then had a rather acute course consisting, first, of changes in his skin with changes in his joints, then increasing and rapidly increasing heart failure, and finally with very rapidly increasing renal insufficiency. Again these are rather characteristic findings in many instances of scleroderma. The heart failure due to scleroderma of the heart usually develops rapidly. The production of a gallop rhythm is extremely common, and occasional instances of pericarditis are seen. The renal involvement too is of some interest because in contradistinction to many of the similar types of disorder, renal involvement is seen comparatively late in the course of the disease and rarely early. When it does occur, it occurs in a fashion quite similar to that in the present patient. It progresses extremely rapidly, and in the course of that development the individual develops an oliguria which rapidly progresses to death.

It has been shown that this type of renal insufficiency is very similar to that seen in conditions of the type of cortical necrosis, and the evidence is that individuals with scleroderma do develop vascular disorders in the kidneys and ischemia in the cortical areas so that they really develop a sort of cortical necrosis that progresses rapidly to death. Therefore, we feel that this patient had scleroderma and that he presented many of the rather characteristic findings of this disease. Such a condition, of course, has to be differentiated from, for example, a scleroderma which is an acute condition and, I suppose, from such things as amyloidosis and so on and also, because of the pigmentation and increasing weakness and the like, from Addison's disease. Usually there is relatively little difficulty in differentiation from such conditions as we have mentioned. It also has to be differentiated from the other diseases in this group, principally lupus erythematosus and dermatomyositis. The renal lesion is quite different in scleroderma from what it is in lupus. In the latter condition the renal lesion, although severe, is apt to be much more prolonged. In fact, in scleroderma few individuals who develop the renal lesion survive more than a month or so after evidence of the complication is discovered. The differentiation from such a condition as dermatomyositis, for example, is somewhat more difficult because the condition of the skin in both conditions may at times simulate one another. In scleroderma dysphagia is a useful symptom, and there are few conditions, I think, in which such a dysphagia develops. In scleroderma the condition may extend beyond the esophagus throughout the intestinal tract as well. The dysphagia that occurs in such condition as dermatomyositis, for example, is due ordinarily to the fact that these individuals either have mouth lesions and, therefore, they have painful swallowing, rather than true dysphagia in the ordinary sense, or else they have weakness of the muscles of swallowing which gives rise to quite a different symptom complex.

Therefore, in summary, we feel that this patient had scleroderma, that the course was rather more rapid than ordinarily seen, but that the course in this disorder may be extremely variable.

Chairman Long: Before we go on to Dr. Siegel's discussion, I wonder if there are any questions that anyone would like to ask. Dr. Battaglia.

Dr. Battaglia: I saw this patient. After he was started on cortisone, in the weekly review of the x-rays we noticed the lesion in the right apex and the cavity at the time. At the time we did not feel we could determine whether it was active or inactive. We felt that perhaps cortisone should be stopped, but the patient had had such symptomatic improvement that the general feeling was that it should be continued. We felt perhaps that we ought at least to administer antibiotics. I don't know whether that was done, but I don't believe so.

The other thing that aroused my curiosity in following this patient was the fact that he became so ill after cortisone was stopped. In the treatment of advanced pulmonary fibrosis or infiltrations with cortisone, it has been noticed that after the cortisone is stopped, an acute exacerbation of the pulmonary condition occurs which may terminate rapidly in pulmonary insufficiency. So the thing that concerned me about this patient was whether cortisone therapy reactivated tuberculosis or whether discontinuing the cortisone reactivated the pulmonary condition associated with scleroderma.

Chairman Long: Thank you, Dr. Battaglia. Are there any other questions or comments?

Diagnoses

Clinical.—*Scleroderma.*

Dr. Kydd.—*Scleroderma.*

Anatomic.—*Diffuse scleroderma (cause of death diffuse scleroderma and malignant nephrosclerosis).*

Pathologic Report

Dr. H. Siegel: Dr. Murray will present the autopsy findings.

Dr. William Murray: The body was that of an adult male approximately forty-seven years old, 5 feet 10 inches in height, and weighing about 170 pounds. The skin was tense and hyperpigmented over the entire body, most marked over the anterior chest wall, the face, and the extremities. About 300 cc. of clear, light yellow liquid were present in the peritoneal cavity, and about 700 cc. of a similar liquid were present in each pleural cavity. The pericardial cavity contained a few cubic centimeters of liquid, and the serosal surfaces were covered by a finely granular, tan-gray exudate, which could be peeled off only with some difficulty.

The heart was enlarged and weighed 600 Gm. In the walls of both ventricles there were present irregular, soft, gray and orange areas measuring up to 2 by 1 by 1 cm. The intima of the right coronary artery contained many yellow plaques, but the lumen was patent throughout.

The right lung weighed 1,000 Gm., the left 800 Gm. Both lungs appeared alike. The cut surfaces had a brown tint, and there were many large, irregular, firm, white areas measuring up to 2 by 2 by 2 cm. scattered throughout. These areas cut with increased resistance. The liver weighed 2,300 Gm. On the surface of the right lobe there were many diffusely distributed, irregularly shaped, punctate, yellow areas. The tissue cut with increased resistance, and the cut section revealed a typical nutmeg appearance. The pancreas weighed 100 Gm.; it cut with increased resistance and contained many orange areas measuring up to 1 cm. in diameter. The gastrointestinal tract was congested. The right kidney weighed 160 Gm., the left 170 Gm. Both kidneys were the sites of many infarcts.

Dr. Siegel: From the pathologist's viewpoint this is a rather fascinating case. It is one of diffuse scleroderma with a number of interesting morphologic features. The first slide is one of skin (*slide*). The epidermis was moderately atrophied, and there was a diffuse, moderate fibrosis of the dermis. The dermal appendages were atrophied or absent. There was only a minimal number of inflammatory cells. The histologic features present in this section are consistent with a diagnosis of scleroderma.

This section illustrates the extensive and diffuse fibrotic changes within the lungs (*slide*). The alveolar septa and the interstitium were thickened, and there was a corresponding decrease in the air space. There were foci of emphysema. This section illustrates the large number of heart failure cells within the alveoli (*slide*). These findings are those of scleroderma.

The heart was hypertrophied and weighed 600 Gm. This is a projection of the actual histologic slide prepared from the left ventricle (*slide*). Note that the soft gray and orange necrotic areas described at the autopsy table are triangular with the bases toward the epicardium rather than toward the endocardium. This, therefore, does not represent ischemic disease.

This slide illustrates the marked thickening of the left ventricle as well as foci of necrosis and calcification (*slide*). These foci tend to be in the outer half of the myocardium.

This section of the right auricular appendage shows a mural thrombus in the early stages of organization as well as foci of necrosis and calcification of the myocardium similar to those present in the left ventricle (*slide*). Within the thrombus are foci of a basophilic material whose nature will be discussed later.

These sections of liver prove that the yellow subcapsular areas are likewise foci of necrosis and calcification similar to those present in the myocardium (*slide*). These areas tend to be pericentral. Throughout the liver there is a marked chronic passive congestion with extensive necrosis of the pericentral cord cells.

As observed after a hematoxylin-eosin stain, the basophilic material in the liver and myocardium has a somewhat different character from that present in the mural thrombus and within the thrombosed vessels of the pancreas, adrenals, and kidneys. These will be demonstrated later. In the liver and heart the basophilic material proved to be calcium. The von Kossa stain was positive (*slide*). This histochemical reaction is only significant if negative since some deposits of iron may give a similar reaction. The histochemical reaction for iron was negative. However, in order to prove the presence of calcium by other than exclusion tests, the calcium was precipitated as characteristic crystals of calcium sulfate.

This picture shows such crystals projecting from the surface of the liver (*slide*). The calcium salt present beneath Glisson's capsule diffused into the dilute sulfuric acid applied to the external surface of the capsule. Such crystals could not easily be demonstrated within the substance of the liver or the heart because of the technical difficulties.

Sections of the kidney revealed a number of recent infarcts, each subtended by markedly thickened vessels containing partial or complete thrombi (*slide*). This small intralobular artery illustrates the marked and rapid intimal proliferation which has been aptly termed accelerated arteriolosclerosis (*slide*). This process involves principally the intralobular arteries and extends to some extent to the afferent arterioles and proximally to the arcuate arteries. In one area it involved an interlobar artery (*slide*). Within this thrombus is present the same basophilic material as that found in the thrombus of the right auricular appendage. Note that it does not have the same appearance with the hematoxylin-eosin stain as that found in the myocardium and liver. Likewise it does not give the same histochemical reactions. With a higher magnification its appearance is very suggestive of the hematoxylin bodies that have been studied by Dr. Klemperer. We do not have proof, as yet, that these are hematoxylin bodies.

These sections of pancreas illustrate the presence of infarcts and the occluded vessels supplying these areas (*slide*). Note the basophilic material within the proliferated intima of the vessel wall. The lesions in these vessels are similar to those in the kidney. In addition, an occasional vessel in the pancreas revealed necrosis of the media (*slide*).

The lesions present in the vessels of the kidneys, pancreas, and adrenals do not correspond to those found in classic periarteritis nodosa. They would more likely fit into the entity that is now being segregated as hypersensitivity angiitis.

There may be some difference of opinion as to how to put together the findings in this case. In this table (*slide*) the structural alterations are classified under the organ involved, the basic pathologic process, and the etiologic factors. The basic process in the skin was fibrosis, which is consistent with scleroderma. The lung revealed fibrosis which also is part of the disease scleroderma.

Two basic pathologic processes were found operating in the myocardium, necrosis and calcification. The necrosis could have been the result of the uremia, the anoxia, or scleroderma per se. Necrosis of the myocardium has not been described in sclerodermic heart disease, but in this instance, with two other known factors being present, one cannot rule this out as an additive factor. The calcification was of the dystrophic type. Here again three etiologic factors may have played a part. These factors were the necrotic muscle fibers, uremia, and anoxia. Similar myocardial lesions are noted in instances where the left coronary artery arises from the pulmonary artery.

The severe chronic passive congestion of the liver was the result of pulmonary hypertension, anoxia, and heart failure. In each instance these factors can be traced back to scleroderma or "malignant nephrosclerosis." The dystrophic calcification within the liver resulted from the anoxia and uremia.

The infarcts in the pancreas, adrenals, and kidneys were directly related to the vascular lesions. And these, in turn, may be grouped under the general heading of "malignant nephrosclerosis."

Studies on the nature of the basophilic substance within these vessels have not yet been completed.

Thus it can be noted from this table that in the case of each lesion all the etiologic factors involved can be traced back to scleroderma or to the vascular lesion which, in conformity with the literature, we will label "malignant nephrosclerosis."

The final anatomic diagnoses were diffuse scleroderma of the skin, lungs, and heart; severe chronic passive congestion and pericentral necrosis of the liver; extensive focal necrosis and dystrophic calcification of the heart; mural thrombus of the right auricular appendage; accelerated arterio- and arteriolosclerosis and thrombosis of the kidneys, pancreas, and adrenals: multiple recent infarcts of the kidneys, pancreas, and adrenals; organizing fibrinous pericarditis; myocardial hypertrophy; and bilateral pleural effusion. The cause of death was diffuse scleroderma and malignant nephrosclerosis.

CHAIRMAN LONG: Thank you very much! Dr. Kydd, have you anything to add?

DR. KYDD: I just want to mention the malignant nephrosclerosis. It is somewhat characteristic in this condition for clinical evidence of renal involvement to appear very late, as it did in this patient. Also the functional studies of the kidney were quite normal until late in the course. I grant you that does not mean the kidneys were normal, but one wonders whether this can really be considered a malignant nephrosclerosis. Certainly the end picture resembles that of cortical necrosis due to ischemia. I would like to ask about this lesion in the right upper lobe of the lung and also whether the intestinal tract showed any changes.

Chairman Long: Dr. Siegel.

Dr. Siegel: The intestinal tract was carefully examined from one end to the other, and no changes were found. That bothered me. A search of the literature revealed that of the nine cases of sclerodermic heart disease described by Soma Weiss and his coworkers, the two which had been autopsied both had clinical and roentgenologic evidence of esophageal dysfunction. Yet one of these cases revealed no histologic lesions. For the present we shall have to assume that in some of these cases the changes are only functional.

The pulmonary alterations observed on x-ray were probably the result of areas of compact sclerosis around an area of emphysema or of normal lung.

Dr. Kydd: In other words, the x-ray changes were consistent with scleroderma?

Dr. Siegel: I would rather have Dr. Schwinger answer that.

Chairman Long: Dr. Schwinger.

Dr. H. N. Schwinger: Let me say they are unusual for scleroderma in two respects. One is that the nodules demonstrated here are much larger than we usually see in scleroderma, perhaps twice the size or more. The other, which is even more unusual, is the distribution of the nodules. In the cases of scleroderma that we see, the nodules are usually central and basal. This man had nodules extending way out to the periphery of the lung fields with the largest nodules at the periphery. I have never seen this in scleroderma before. That is why I felt this was something above and beyond a simple case of scleroderma.

Dr. Siegel: I believe that this probably represents an early stage, and that is why it is so patchy. I hesitated in labeling the vascular lesions as malignant nephrosclerosis. Such usage, however, is consistent with that found in the literature. Until we know more about the histogenesis and the etiologic factors involved in this lesion, it matters little what term is used. But classic periarteritis nodosa, it is not.

Chairman Long: Dr. Battaglia.

Dr. Battaglia: I had occasion to review the pulmonary complications in scleroderma in the literature about a year ago. In every large series there are two or three patients that are diagnosed as having apical pulmonary tuberculosis but may actually have lesions similar to this patient's.

Dr. Milton Plotz: Was there any evidence of right heart enlargement or any changes in the spleen?

Dr. Siegel: The spleen revealed only the changes of passive congestion. The right side of the heart was slightly hypertrophied, and other than the changes in the myocardium, which were present throughout the heart, nothing unusual was found. Because of the foci of necrosis found in the right myocardium, evidence of thiamine deficiency was sought elsewhere. None was found.

A Physician: At the last meeting of the New York Rheumatism Association we discussed the incidence of calcinosis in scleroderma. Nobody has good statistics. Most of the men there thought it was rather common to see diffuse calcinosis in a case of scleroderma. I wonder if you have any really accurate figures.

Dr. Siegel: We have no figures as yet in this hospital and probably won't have for a number of years.

Dr. Schwinger: As far as roentgenographically demonstrable calcinosis in the literature is concerned, about one third of the reported cases demonstrate it. A recent article gave that figure. About one third of these cases of scleroderma had diffuse calcinosis in the peripheral soft tissues.

Dr. Martin Perlmutter: Certainly not in this type of case but in isolated infarct of the kidney, malignant hypertension can occur, and it is the type of hypertension that can be cured. Perera recently reported that unilateral pyelonephritis will often be associated with a malignant hypertension, and a group at Hopkins have shown a few cases, recently reported at the Atlantic City meeting, in which infarct of one kidney was associated with malignant hypertension, which was completely cured by removal of that kidney.

Dr. Siegel: After studying the vascular lesions and infarcts in the kidneys, pancreas, and adrenals of this case, it is difficult for me to conceive that the infarcts came first.

Dr. Perlmutter: I am not particularly interested in this case, but I think there is a lesson to be learned from other cases of rapidly developing malignant hypertension. If there is a possibility of an infarct of the kidney, that should be searched for very meticulously because a possible cure is in the offing.

Chairman Long: Are there any other questions or comment? Thank you very much!

CASE REPORTS

Insulin Coma Therapy for a Paraplegic with a Schizophrenic Psychosis

JOSEPH A. PISETSKY, M.D., BRONX, NEW YORK

(*From the Acutely Disturbed Section and Insulin Unit, Bronx Veterans Administration Hospital*)

OVERT psychotic reactions have not been observed with any great frequency on a large paraplegic service. Depressions of varying degrees of severity are quite common, and psychotherapy on the locked ward has sufficed to obtain improvement. Acute alcoholic reactions and drug addiction are readily handled with conservative methods. Two paranoid schizophrenics have been studied in the past few years on the locked ward. Physiologic shock treatment was not undertaken in one patient because of trepidation concerning possible injury to the spine, genitourinary system infection, and impaired metabolic functioning (hypoproteinemia). The second case, to be reported here, was studied more recently, and despite possible complications the urgency of the illness seemed to warrant the application of insulin coma therapy.

Case Report

J. W. C., a twenty-six-year-old, white, married, paraplegic, was admitted to this hospital on May 23, 1952. The history indicated that he was hit in the midportion of the back by a sniper's bullet in March, 1945. The bullet punctured his lung, and at the same time he felt as "though his legs had been cut off." About two weeks later a laminectomy was performed without any improvement. In June, 1945, it was determined that he had a paraplegia in flexion with a level lesion at the tenth thoracic dermatome with loss of use of both lower extremities, loss of anal and bladder sphincter function, and loss of sexual power. In 1947 he was informed that he would never be able to walk again, and he became depressed. He was cared for intermittently for three years on the paraplegic service of a large hospital. During periods away from the hospital he enjoyed getting about in his car, and he took courses in psychology at a university. At the death of his mother in 1949 he became quite depressed. He improved and began to live together with other paraplegics, and he resumed his study of psychology. He married in October, 1951, but was never able to consummate his marriage sexually. He would study at night and was industrious about attending school despite febrile episodes occasioned by repeated genitourinary infections and decubiti. He spent his pension money liberally on his friends. He refused to let his wife leave him. Six weeks prior to his admission he began to brood and stopped going to school. He was irritable, insisted on going to church at odd times. He stated that he wasn't pure and that he had to go back to God and to enter a monastery. On one occasion, while in a restaurant, he insisted that his brother eat some food because he wanted to make sure that it wasn't poisoned. He cried frequently and expressed suicidal ideas. One evening, while out riding, he saw a cat and said it was "his wandering soul." At the time of admission to the hospital he made a suicidal attempt by lacerating his neck with a broken bottle. Because of his poor appetite he had lost considerable weight. Through neglect of personal hygiene he had developed decubital ulcers over various bony prominences, the worst of which was situated in the ischial region.

Following his admission he ate very poorly, was seclusive, asocial, depressed, and felt hopeless. He had frequent periods during which he complained of being mentally cloudy. He gradually regained his appetite on small amounts of insulin, and he became slightly more outgoing, although his basic delusional and bizarre ideation persisted.

The patient was started on insulin coma therapy on September 15, 1952, and continued till December 15, during which time he had 55 treatments which included 37 stage 1 treatments. Stage 1 coma, characterized by hypoglycemia, continued to the point where consciousness was barely lost but where the motor responsiveness to strong squeezing of a muscle (trapezius) was still present. Stage 2 coma was characterized by loss of pain response. During the course of the treatment he manifested frequent myoclonic twitchings, primitive movements, and restlessness. On September 24 he experienced a grand mal seizure which involved his head and upper extremities, but there were no contractions of the musculature below the tenth dorsal level. He was placed on Dilantin to prevent further convulsions. The patient gradually improved; abnormal thinking subsided, and he was more talkative. He discussed his inability to have sexual relations with his wife and the despair he had experienced in not being able to plan for a productive future. He was more hopeful following the treatment. He was granted weekend passes and was transferred to the open ward. He adjusted well for several weeks, then slowly became depressed again; he became very antagonistic, began to drink, and showed other manifestations of a relapse.

The patient was prepared for another series of insulin treatments which were administered between March 2 and May 22, 1953. In all he had 47 treatments, of which 31 were stage 1 and two stage 2 comas, with complete loss of response to painful stimuli. On March 19 and April 6 he had two grand mal seizures with the same pattern as noted above. The comas were interrupted by gavage or intravenous injections of 50 per cent hypertonic glucose. His appetite was only fair during this treatment, and he had to be given medication for nausea. Except for a "cold" he did not suffer from any serious intercurrent infections. The genitourinary condition, which was chronic, did not become aggravated, and only occasional medication with Gantrisin and antibiotics was needed to counteract any discomfort from the bladder infection.

During the first series of treatments his insulin dosage varied from 20 to 600 units with an average of 240 and during the second series from 20 to a maximum of 800 units with an average of 160 units on coma days. Although the patient had shown a fairly good therapeutic response as a result of the first course of treatment, he did not rally during the second series and remained negativistic, withdrawn, depressed, asocial, and refused to enter into a therapeutic relationship with his therapist. He was evasive and smiled superficially. The differences between his wife and himself had mounted to the point where he believed them to be without any possible solution. He was often seclusive, appeared to be quite apathetic, and cared little about his future. He had to be urged to cooperate in various activities including group psychotherapy in which he acted as a passive observer.

Throughout the entire period of coma treatment he was sent to rehabilitation for physical exercise during the afternoon. He was treated with infrared lamps and dressings for his decubital ulcers, which seemed to improve with treatment despite the excessive perspiration during insulin therapy.

Comment

Since the indications for insulin coma therapy were present in this case, the treatment was administered without any special risk. Provision was made for adequate feeding to cover the amounts of insulin used. Concomitant physiotherapy to the decubital ulcers and care of the skin were helpful adjuvants during the course of the treatment. Careful observation for bladder infections and treatment with Gantrisin and antibiotics prevented any serious genitourinary flareups. Convulsions were usually controlled by Dilantin, and no bony injury occurred despite the appearance of three grand mal seizures. The care of the patient during treatment resembled in all other respects that given to other physically intact patients undergoing insulin coma therapy.

Summary

A paraplegic with a schizophrenic psychosis was treated with insulin coma therapy. No unusual complications were noted, despite the presence of decubiti and mild genitourinary infections, throughout two courses of treatment. Three grand mal seizures occurred during coma, but the convulsion did not involve the trunk and extremities below the level of the transverse lesion.

Special thanks are offered at this point to Dr. Hiland L. Flowers, chief of the Neuropsychiatric Service, for his helpful advice and suggestions.

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Rupture of the Esophagus by Emesis

HERBERT C. MAIER, M.D., NEW YORK CITY

(*From the Surgical Service of Lenox Hill Hospital*)

Rupture of the lower esophagus as a result of sudden copious vomiting is a relatively uncommon occurrence. Yet a correct diagnosis of this condition can readily be made by the physician who is aware of the characteristic history of this syndrome. The patient's survival usually depends on early surgical intervention, and hence a correct diagnosis is mandatory. The purpose of this case report is to illustrate the differential points between rupture of the esophagus by emesis and the two other conditions, myocardial infarction and perforated peptic ulcer, with which it is so often confused.

The onset of severe pain in the lower chest or upper abdomen *with* or *immediately following* emesis is the significant point in the history. Usually there has been previous overloading of the stomach, and the sudden forceful ejection of a large quantity of gastric contents against the lower esophageal wall causes the rupture. The shock, dyspnea, and cyanosis which may rapidly ensue may lead to an erroneous diagnosis of myocardial infarction. The epigastric pain and upper abdominal rigidity which are often present may simulate a perforated gastric or duodenal ulcer. But on careful physical examination signs of diminished breath sounds, usually on the left side, or cervical emphysema may be noted. Roentgenogram of the chest is important to demonstrate either mediastinal emphysema, hydrothorax, or hydropneumothorax.

Case Report

This fifty-five-year-old man was admitted to Lenox Hill Hospital on October 6, 1952, in a state of shock and complaining of severe pain in the epigastric and lower thoracic region and shortness of breath. He had considered himself well until the day of admission. The previous evening he had had a large dinner with considerable beer. He awakened early the next morning with a sense of epigastric distress and nausea. Upon vomiting he experienced a very severe pain in the epigastric and lower thoracic region. There was a slight amount of blood in the vomitus. A physician was immediately summoned who recommended hospitalization with a probable diagnosis of coronary thrombosis. A cardiologist then saw the patient, and he was admitted to Lenox Hill Hospital.

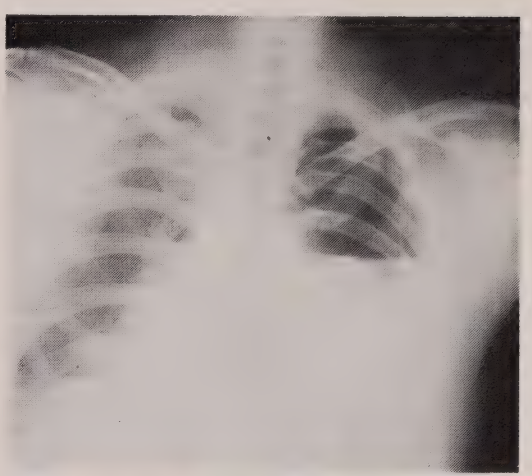

Fig. 1. X-ray shows a left hydropneumothorax with fluid level. There is no evidence of mediastinal or cervical emphysema. Fluid in the left pleural space was largely gastric contents.

Physical examination revealed an acutely ill male who was obviously in severe pain. He was unwilling to lie down on the stretcher and preferred a semisitting position. His lips and nailbeds were cyanotic, and he was dyspneic. There was a tympanitic note over the left side of the chest with diminished breath sounds. There was no cervical emphysema. The pulse was rapid, and the blood pressure was low. There was spasm and rigidity over the upper abdomen. Roentgenograms of the chest with the patient upright revealed a left hydropneumothorax and some displacement of the mediastinum toward the right side (Fig. 1). Additional films revealed no free air beneath the diaphragm. The electrocardiogram was normal. A diagnosis of rupture of the esophagus into the left pleural space was made and immediate thoracotomy advised. A thoracentesis yielded dirty brownish fluid which was acid to litmus.

When the patient reached the operating room an hour and a half after admission, another thoracentesis with evacuation of additional air and fluid was performed in order to improve the condition prior to the induction of anesthesia. Under intratracheal ether anesthesia a left posterolateral thoracotomy incision was hastily made in order to minimize the length of time that the patient was on his side prior to opening of the pleural space with evacuation of the air and gastric contents. The patient's condition improved somewhat following the wide opening of the pleural space and partial reexpansion of the left lung. The tissues in the lower posterior mediastinal area were discolored, and there was a large rent in the mediastinal pleura overlying the lower esophagus. There was a 3-cm. vertical hole in the left posterolateral aspect of the esophagus just above the diaphragm. Gastric contents were still welling through the opening, and a large amount of material was suctioned from the stomach through the esophageal defect. The musculature of the esophagus around the tear was ecchymotic, but the mucosal defect was as clear-cut as though it had been made by an incision with a knife. There was no evidence of any previous inflammatory disease or peptic ulceration. The perforation in the esophagus was closed in two layers with fine silk interrupted sutures for the mucosal and muscular layers. A flap of mediastinal pleura was anchored over the suture line. The left pleural cavity was thoroughly cleansed of food particles, and the lung was re-expanded. A rubber tube drain was inserted through a stab wound and connected to a water seal. Penicillin and streptomycin were placed in the pleural cavity. The thoracotomy wound was closed. The patient's condition at the conclusion of operation was considerably better than prior to the procedure.

The postoperative course was essentially uneventful. The lung was almost expanded on the first postoperative day, although a small air and fluid pocket remained in the left posterior paravertebral region for a few weeks. On the second day feedings were begun through an indwelling small plastic nasogastric tube which was removed on the seventh postoperative day when a fluid diet by mouth was given. There has been no difficulty in swallowing postoperatively. Roentgen studies of the esophagus are normal. The patient is well two years after operation.

Comment

Most cases of rupture of the esophagus associated with vomiting have been reported under the title of spontaneous rupture of the esophagus. I favor referring to the condition as rupture of the esophagus by emesis since it points to the significant etiologic factor. Although there has been much discussion in the literature as to whether many of these cases have pre-existing esophagitis or peptic ulcer of the esophagus, it should be emphasized that clinically there is usually no history definitely pointing to such previous esophageal disease, and in the cases submitted to early operation conclusive evidence of pre-existing ulceration is usually lacking.

In many patients with rupture of the esophagus by emesis an erroneous diagnosis of perforated ulcer is made and an upper abdominal exploration performed. Unless the correct diagnosis is made early and immediate thoracotomy with closure of the perforation is carried out, the patient rarely survives. Simple drainage of the pleural space without closure of the perforation is not recommended as early treatment. The diagnosis is not difficult if the entity is known and thought of by the physician or surgeon. The history of severe pain having its onset immediately associated with vomiting is most significant. If there was any pain prior to emesis, it was usually insignificant compared to that following vomiting. The clinical picture will vary somewhat, depending on whether the mediastinal pleura is torn at the same time that the esophagus is ruptured. If the pleura remains intact, emphysema of the cervical region may be a relatively early clinical manifestation of the associated mediastinal emphysema, but pneumothorax or hydrothorax may not occur until later. When a communication with the pleural space is immediately established, as was true in the case presented, cervical emphysema may be absent, and even mediastinal emphysema may not be seen on the roentgenogram. The roentgenograms then show a hydropneumothorax with a fluid level with the patient in the upright position. It is most important that the film be taken with the patient upright since in the recumbent position the air in the pleural space may not be recognized. The condition can be differentiated from a spontaneous pneumothorax with intrapleural hemorrhage by the history and by the character of the material aspirated from the pleural cavity.

Most of the patients with rupture of the esophagus by emesis are males in the middle age group. There is usually a history of overloading the stomach with food and alcoholic beverages such as wine and beer. With the very forcible ejection of this large quantity of material into the lower esophagus, rupture may occur. The site of rupture found in our case is the most common location. Mackler[1] has made a study of the rupturing pressure of the normal esophagus from 65 bodies shortly after death. He found that the bursting pressure averaged as little as 5 pounds. With three exceptions all of the tears in these 65 experimental ruptures of a human esophagus occurred in the lower part of the left lateral wall and duplicated the lesion seen when rupture from emesis occurs. All were longitudinal linear rents and were usually $^1/_2$ to $1^1/_2$ inches above the esophageal gastric junction. Mackler noted that the muscularis first splits in the direction of the axis of the tube, and a bubble of mucous membrane balloons out through the aperture which then bursts as the pressure is increased.

Summary

The typical history and findings in rupture of the esophagus by emesis are presented. Awareness of this entity permits correct diagnosis and early surgical therapy. Delay in proper treatment often results in a fatality.

3 East 71st Street

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Someone has said the most undeveloped territory in the world is right under your hat.

Fourteen Months of Continuous Butazolidin Therapy in a Seventy-Three-Year-Old Woman

MELVIN HERSHKOWITZ, M.D., NEW YORK CITY

POTENT and toxic drugs are sometimes well tolerated by persons least expected to do so. The case reported here is that of an elderly woman who took Butazolidin for a long time without complications despite the presence of hypertension, arteriosclerotic vascular disease, and glaucoma.

The behavior of Butazolidin was summarized by Brodie,[1] who reported that its impressive antirheumatic effect is associated with equally impressive but undesirable sodium retention, anemia resulting from hemodilution, and reactivation of peptic ulcer. Nathan[2] reported a "toxic death" in a sixty-year-old woman, while other fatalities from agranulocytosis are known.[3,4] Hepatitis has recently been observed.[5]

Case Report

B. S., a seventy-three-year-old spinster, was first seen at home on April 25, 1953. She complained of pains in her knees and ankles for many years and was known to have had hypertension for at least five years. Past history was otherwise negative. Examination showed a right kyphoscoliosis, emphysema, and blood pressure of 200/60. The pulse was 90 per minute, normal sinus rhythm with frequent dropped beats. A grade III systolic murmur without thrills was audible over the precordium. The lungs were clear, the abdomen soft and nontender without masses. Femoral pulsations were palpable, but popliteal and dorsalis pedis pulses were absent in both legs. The knees were swollen, hot, tender, and painful at rest and on any motion. There was no redness. The right ankle was slightly swollen but not tender. Both hands showed rheumatoid deformities of the proximal interphalangeal joints. Neurologic examination was normal, but the ocular fundi could not be visualized. The patient was thought to have a mixed type of arthritis with rheumatoid activity, which had caused her to be increasingly bedridden at home. She had not ventured out of her apartment for fifteen months. Since most of her disability centered in the knee joints, a trial of intra-articular hydrocortisone was elected.

On May 1, 1953, at her home the right and left knee joints were injected with 25 mg. of Hydrocortone. The right knee joint yielded 2 cc. of serous fluid prior to injection. By May 8, 1953, no improvement had occurred. Both knees were still warm, tender, and painful. Blood pressure was 220/110.

It was decided to attempt a brief trial with Pabalate, sodium free, and the patient took 2 tablets four times a day. On the third day of therapy she developed a generalized, itching, maculopapular eruption. The itching was intense, and the drug was discontinued. Chlor-Trimeton by mouth was prescribed, and by May 22 the eruption had faded. There was no demonstrable benefit from the Pabalate, and hospitalization for initiation of therapy with cortisone or Butazolidin was advised.

On May 24, 1953, the patient entered the hospital. X-ray of the chest showed slight cardiac enlargement, an elevated left diaphragm, and clear lungs. Films of the hands showed advanced rheumatoid arthritis, and those of the knees revealed generalized synovial thickening, narrowing of the joint spaces, and osteoporosis. The ankles also showed osteoporosis. Urinalysis was negative. The electrocardiogram showed left bundle branch block. Blood count revealed a leukocytosis of 14,300 with a polynucleosis of 80 per cent and a mild anemia. The ophthalmologic consultant reported chronic simple glaucoma in the right eye and absolute glaucoma in the left eye. The patient was treated for this with pilocarpine and eserine throughout her hospital stay, and her glaucoma remained stabilized with this therapy.

On May 27, 1953, Butazolidin by mouth was begun. The patient was given a salt-free diet and 200 mg. of the drug twice a day. Three days later she reported definite improvement with much less pain in the knees and ankles, and for the first time in seven years she was able to walk with a minimum of pain. On June 5, 1953, she was discharged to be followed at home, where she continued to take 400 mg. of Butazolidin daily. She went into the street for the first time in eighteen months and weighed herself frequently on a scale in a nearby pharmacy. Her weight was 134 pounds.

On July 9 Butazolidin was reduced to 100 mg. three times a day. She did not feel quite so well on this reduced dosage and so once again took 400 mg. daily from August 4 to September 1, when she reported additional pain and Butazolidin was increased to 500 mg. daily. She remained on this dosage for almost two months. On October 27 she felt fairly well, and her dosage was diminished to 400 mg. daily and on December 8 further diminished to 300 mg. daily. On that date she weighed 132$^1/_2$ pounds. From December 8 to February 27, 1954, the patient continued to take 300 mg. daily. On the latter date the daily dose was reduced to 200 mg., where it remained until discontinuance on July 13, 1954.

At this time and throughout her course her blood count was similar to that at the onset of therapy with a very mild anemia which was never exacerbated. For two months prior to cessation of therapy the patient had noted frequent recurrence of pain and stiffness; her original good response to the drug was obviously no longer present.

Throughout the fourteen months of therapy no accumulation of edema; increase in blood pressure;

orificial, intracutaneous, or subcutaneous bleeding; severe anemia or thrombopenia, or idiosyncratic reaction to the drug were noted.

Summary

Fourteen months of continuous therapy with Butazolidin in a seventy-three-year-old woman with rheumatoid and osteoarthritis are reported. No untoward effects were noted. The daily dose varied from 200 to 500 mg., and the total dose in fourteen months approximated 145 Gm. It was finally discontinued because of failure to maintain the initial therapeutic benefit.

49 West 12th Street

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Hemophilus Influenzae Meningitis in Adults

J. B. PIKE, M.D., MASSENA, NEW YORK

(*From the Medical Service of the Massena Memorial Hospital*)

Hemophilus influenzae meningitis occurring in patients over twenty is rare. Dolphin and Popham[1] reported that an exhaustive search of the literature from 1899 to 1948 revealed only 25 recorded cases in persons twenty years of age or older. Steinberg and Kagen[2] have reported one case in a fifty-eight-year-old Negro. Applebaum and Nelson[3] in 1950 recorded a series of 90 cases of H. influenzae meningitis in which there were three patients over twenty. No reference to this disease in adults has been found in the literature since 1951.

While the treatment of H. influenzae meningitis has become well established, it is apparent from its uncommon occurrence in adults that much of the current therapy is based upon the results obtained in children. It was felt worth while to record the following case, not only because of the rarity of the infection in adults, but also because of the dramatic and complete recovery which ensued.

Case Report

F. C., a white, male laborer, age thirty-six, was admitted to the Massena Memorial Hospital on June 13, 1954, at 12:05 A.M. in a semicomatose condition with a rectal temperature of 105.6 F.

The patient had complained of a slight headache on arising on June 12 but had worked as usual. Following his evening meal he became acutely ill with rapid rise in temperature, severe headache, and intractable vomiting. When seen at home at 11:30 P.M. on June 12, he was critically ill, markedly dehydrated, and semicomatose.

The patient had had idiopathic epilepsy with grand mal seizures for the past five years but had been well controlled with diphenylhydantoin sodium, 0.1 Gm. daily. No other significant history was elicited.

Physical Examination.—The patient was acutely ill with temperature of 105.6 F. rectally. He was semicomatose, thrashing about in bed, and moaning with each respiration. There were marked dehydration and repeated episodes of vomiting.

The pupils were pinpoint, and he had a divergent strabismus (not normally present). The tongue was dry and coated. The pharynx was inflamed and covered with thick mucous exudate. There was definite nuchal rigidity present. Heart and lungs were normal, and the abdomen showed no masses or rigidity. The extremities showed positive Kernig, no rash or petechiae, and no paralysis.

Laboratory Findings.—Spinal fluid on admission resembled thin cream and clotted rapidly. Cell count showed 3,157 polymorphonuclear and 2,475 mononuclear leukocytes. The chloride level was 650 mg. per 100 cc., and the sugar was 56 mg. per 100 cc. Protein determination revealed 1,122 mg. per 100 cc.

Spinal fluid culture revealed H. influenzae, type B. This was reported independently from specimens submitted to the St. Lawrence County Laboratories and to the New York State Department of Health, Division of Laboratories and Research, Albany.

Admission blood count showed normal red blood count and hemoglobin levels. The white count was 6,500 with 5 per cent lymphocytes and 95 per cent neutrophils, 2 per cent of which were unsegmented cells. Blood culture showed no growth in two weeks, and other laboratory work, including serology, was normal.

TREATMENT AND HOSPITAL COURSE.—Fluids by vein were started on admission. At 2:15 A.M., June 13, on the basis of the preliminary findings in the spinal fluid, he was given 3 Gm. of sodium sulfamerazine in 500 cc. of molar lactate intravenously and started on 1,000,000 units regular penicillin intramuscularly. Dihydrostreptomycin, 1 Gm. twice daily, was begun. By 8 A.M. he was rational and able to take oral medication. Oral sulfamerazine, 1 Gm. every eight hours, was begun.

On June 14 the penicillin was stopped, and he was placed on tetracycline, 500 mg. every four hours. The sulfamerazine was increased to 1 Gm. every six hours, and diphenylhydantoin sodium, 0.1 Gm. twice daily, was started.

This regime was continued until June 21 when the streptomycin was reduced to 1 Gm. daily, the tetracycline cut to 250 mg. every four hours, and the sulfamerazine to 1 Gm. every eight hours. On June 26 the streptomycin was discontinued and the tetracycline dropped to 250 mg. four times daily. Intraspinal therapy was never used.

His recovery was phenomenal. He was completely afebrile by June 16 with return of appetite and no complaints. Ambulation was begun on June 20. At no time did he show evidence of relapse or the development of late neurologic complaints. Repeat lumbar puncture was done on June 24 with crystal clear fluid and normal dynamics. The cell count at this time was 7 mononuclear leukocytes, the protein level 28 mg. per 100 cc., and the smears and cultures negative. He was discharged on June 27 on a maintenance dose of sulfamerazine, 1 Gm. four times daily for one week.

The patient was seen in the office on July 6 with no complaints and normal neurologic findings. He returned to work on July 12 and has been well since.

Comment

Streptomycin intrathecally obviously was not necessary in the treatment of this patient. Applebaum and Nelson[3] state that, "the treatment of the disease with intramuscular but without intrathecal administration of streptomycin merits further trial." The outcome in this instance increases the evidence already presented by them to show that intrathecal therapy is not necessary. Reduction in the late sequelae of the disease may actually be promoted by the avoidance of intrathecal injections of potentially irritating substances.

Prior to 1950 the intraspinal injection of streptomycin appeared to be routine,[1,2] but it is not necessary and may even be hazardous. Broad-spectrum antibiotics are recommended to reduce the possibility of secondary infections.

Summary

A case of H. influenzae meningitis occurring in an adult is recorded. Recovery without intrathecal therapy was rapid and complete.

27 WEST ORVIS STREET

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Gallbladder Disease Death Rate Declines

Comforting news for the large number of Americans with gallbladder disorders is provided in a current report by statisticians of the Metropolitan Life Insurance Company.

The company's experience among its industrial policyholders shows a marked decline in the death rate from diseases of the gallbladder, including gallstones. Among women in the insured group the death rate from these diseases has declined more than three fifths since the years shortly prior to World War II—from 7.7 per 100,000 for 1936–1938 to 2.9 per 100,000 for 1951–1953.

Among males in the insured group the death rate was cut in half during the same period—from 3.4 to 1.7 per 100,000.

The statisticians also report that a long-term follow-up study of insured persons with a history of gallbladder disorders indicates that such persons have a relatively favorable mortality, although somewhat higher than the average for persons insured at standard premium rates.

The excess mortality was smallest among those with a history of the disease who, up to the time they were insured, had received only medical treatment for the condition. Persons with a history of removal of the gallbladder within five years prior to application for insurance had a mortality about one and a quarter that of standard risks. The higher mortality among persons with a history of surgery reflects, in part at least, the fact that operated cases were generally the more severe.

"Among the surgically treated cases the excess mortality was due primarily to complications of the disease," the statisticians comment, "whereas among the medically treated cases it was the result of recurrent attacks."

Ball Thrombus of Right Heart Occluding Pulmonary Artery

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(*From the Northport Veterans Administration Hospital*)

THIS striking clinical entity is being presented because it is probably a far more common event than a search of the literature would seem to indicate. In 1950 Lieberman[1] presented two cases he had seen within the year. Both involved the *left* auricle. The comment made was, "It seems that the paucity of cases previously reported may be due to failure to recognize this syndrome. The essential clinical features are presented." Reports on cases involving the *right* side are extremely scant in spite of the clear clinical picture so beautifully discussed by Wright *et al.*[2] Their case was the first right auricular ball thrombus diagnosed antemortem in this country. Wallach[3] suggests the "possibility of operative treatment" and gives an excellent discussion of the pathology involved. Several other cases involving the right side of the heart have been reported.[4-8]

Our case seems to be somewhat unique in the several aspects to be discussed. It is being presented to call this phenomenon to the attention of clinicians again when they are making a differential diagnosis of rapidly failing pulmonary circulation on an obstructive basis.

Case Report

This fifty-nine-year-old veteran was first diagnosed as chronic rheumatic heart disease in 1934. Double murmurs were noted as early as 1936. In 1950 electrocardiogram showed only right axis deviation. Cholecystectomy was done in 1950 with a good recovery.

In April, 1953, there was the first electrocardiographic evidence of myocardial damage; P waves became definitely notched. On April 15, 1953, the patient was surveyed on the medical ward, and this note was made: " . . . physical condition over past few years has been characterized by frequent acute episodes consisting of syncope, cold and clammy skin, rapid thready pulse, blood pressure 70/0 to 40 . . . Diagnosed as possible coronary occlusion but never substantiated by electrocardiogram."

On October 9, 1953, x-ray fluoroscopy confirmed left auricular enlargement. In November, 1953, patient was very psychotic and required heavy sedation, packs, etc., for management. This recurred in February and again in April, 1954. On June 23, 1954, patient collapsed suddenly and came to medical ward in acute congestive failure. There was auricular fibrillation and a strong clinical presumption of pulmonary embolization from thrombi in right auricle. He was heparinized and digitalized, and the usual antishock therapy was instituted. Blood pressure rose to 120/70, and he regained consciousness. For the next two days patient continued alternately to rally and to collapse. X-ray showed probable emboli in right lower lung field and edema "compatible with cor pulmonale."

Patient expired on June 26, 1954, approximately sixty hours after onset of this last acute episode. Final clinical diagnoses were (1) pulmonary embolism with massive obstruction of pulmonary circulation and (2) rheumatic heart disease, chronic mitral stenosis, auricular fibrillation, acute cardiac failure.

An autopsy was performed. Pertinent extracts are as follows: The heart, with about 5 cm. of the pulmonary artery and 10 cm. of the aorta, weighed 420 Gm. The pericardial sac contained about 20 cc. of clear, serous fluid. The heart appeared large. The musculature of both ventricles and atria was flabby, the right even to a greater extent than the left counterparts. The myocardium felt very friable.

On incising the right ventricle, there was a large amount of blood coagulum which was dark red and shiny and reached into the pulmonary artery and through the tricuspid valve into the right atrium and its auricular appendage. Following the gradual removal of the shiny, smooth blood coagulum, it was found to be attached to the lower part of the right ventricle, about 5 to 6 cm. from the pulmonary artery valve where a flat, grayish-red, dull, uneven, rather firm mass was adherent to the endocardium by an area about 3 by 3 cm. The part that reached through the tricuspid valve into the right atrium was attached to its wall just above the valvular opening by an area of about 5 by 6 cm. More of the shiny red coagulum was superimposed over this portion. The entire mass projected towards the cusps of the pulmonary artery, almost completely occluding the opening.

The leaflets of the tricuspid valve and their chordae tendineae, the semilunar cusps of the pulmonary artery and aortic valve were of usual thickness and shape. The right half of the mitral valve was very hard, bonelike, and rigid. Nearby there were a few small, wartlike, cauliflower-like elevations on the bicuspid valve. They were about 3 to 5 mm. The valvular opening between the left ventricle and left atrium was considerably narrowed.

In the lower lobe of the right lung there were two firm areas protruding on the lateral surface, each about the size of a medium cherry. On cross section both were fairly well demarcated from the lung tissue. They were uniformly dark red, fairly solid, jelly-like. On moderate pressure considerable amount of frothy fluid flowed out of the cut surfaces. The right lung weighed 900 Gm.

Summary and Conclusions

1. This is a case presentation of massive ob-

struction of the pulmonary artery by a ball thrombus anchored in the right auricle and right ventricle.

2. The essential clinical features are given. Particularly stressed is the dramatic onset of total disability with the sudden variation of relative relief, followed again by complete collapse.

3. Modern cardiac surgery has reached the stage of having something to offer these patients. It is our earnest hope that an internist will recognize this spectacular syndrome and find a surgeon with the courage to remove the thrombus before irreversible changes are permitted to take place.

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Behcet's Triple-Symptom Complex

Response to Therapy

WALTER G. GASNER, M.D., AND PHILIP J. FELDMAN, D.D.S., MOUNT VERNON, NEW YORK

Behcet[1] described a new disease characterized by aphthous ulcers in the mouth, ulcerating lesions on the genitalia, and retinitis and iridocyclitis. This syndrome consists of simultaneous or separate attacks of ulcerations of the genitals, aphthous lesions of the mouth, and uveitis or iridocyclitis accompanied in later stages by hypopyon[2]; erythema multiforme-like lesions may be observed as an additional symptom.[3] Recurrent aphthous oral lesions may not be associated with other lesions for several years.[4]

The etiology of the syndrome has not yet been established, and a virus infection has been suggested as a possible cause, although smears from "aphthae" contained no inclusion bodies.[5]

The use of the modern antibiotics, including the sulfonamides, has been of no value.[6–8] The case reported herein responded to hydrocortisone acetate.

Case Report

J. K., a white male, aged thirty-three years, was seen at the office on September 7, 1954. While he was in service in the Pacific in the early part of 1945, he developed an eruption involving the mucous membranes of his mouth which was diagnosed as trench mouth. This attack lasted one month and then disappeared. During the summer of 1950 he developed sores in his mouth which lasted for six weeks. In the spring of 1953 he had several attacks which were diagnosed as aphthous stomatitis, and in the fall he developed sores in his mouth with involvement of the left eye which remained until the spring of 1954.

The present attack started September 3, 1954, at which time he developed swelling and ulcerations of his lips and mucous membranes of his mouth. Several days later he developed "blisters" on his penis and on both upper extremities followed by swelling and redness of the left eye. Examination on September 7 revealed edema of both lips with superficial ulcerations involving all of the mucous membranes of the mouth. The left eye showed marked circumcorneal injection with tenderness in the ciliary region and swelling of the upper lid. On both arms there were several bullae varying in size from a match head to a small grape. About the corona glandis and the prepuce there were several crusted lesions which the patient said were "water blisters."

He was given Acthar Gel, 60 units intramuscularly followed by 40 units of hydrocortisone acetate every twelve hours. He was also told to use a mouth wash of potassium permanganate in 1:8,000 dilution. After six days of therapy all lesions in his mouth were healed. The bullae on the extremities had become absorbed, leaving areas of hyperpigmentation. The lesions on his penis had disappeared.

Summary

A case of Behcet's triple-symptom complex with dramatic response to hydrocortisone acetate therapy is reported.

PROFESSIONAL BUILDING

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TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

with the cooperation of

Bureau of Cancer Control
New York State Department of Health

Introduction

IRWIN E. SIRIS, M.D., NEW YORK CITY

THE Subcommittee on Cancer of the Council Committee on Public Health and Education of the Medical Society of the State of New York in cooperation with the Bureau of Cancer Control of the New York State Department of Health have invited distinguished authorities to contribute papers on the treatment of cancer. These treatises will supplement the series of papers on Cancer Diagnosis which appeared in the JOURNAL in 1952–1953 under the auspices of the Subcommittee on Cancer with the cooperation of the American Cancer Society and the Bureau of Cancer Control of the New York State Health Department.

The purpose of this symposium is to correlate those significant contributions and the integrated studies from cancer research and clinical centers which have had an appreciable impact on the treatment of cancer.

The relentless search for the cause of cancer, for the known and unknown factors which enhance or retard the rapidity of cancer growth, is a challenge to the clinicians and research investigator. Some of the intriguing factors which continue to perplex observers are the selective primary affinity of the disease for certain areas; unicentric or multicentric origin, early painless, silent, asymptomatic nature of the disease, the influence of proximity of multilymphatic and multivenous ramifications on local intrinsic and extrinsic invasion, regional and remote embolic dissemination; selective histologic character; the physiologic age of the patient; hormonal dependence, the unknown potential biologic nature of the tumor; interrelated resistance of the host and selective temporary or permanent sensitivity or resistance to irradiation and chemical compounds. These pertinent integrating features emphasize the magnitude of the challenge to eradicate the disease.

Until the cause of cancer is known, until its detection is simplified by a test before physical signs are evident, and until a specific anticancer agent is discovered, we must depend on methods of treatment which have successfully eradicated the disease, prolonged the life of the patient in relative comfort, or given reasonable palliation and rehabilitation. To improve the results achieved by the use of accepted principles of surgery, irradiation, chemical compounds, or a combination thereof, the campaign for early detection before invasion, fixation, and dissemination of cancer must be vigorously continued. The increasing number of patients living and apparently free of cancer five to ten years after treatment of the disease in accessible parts of the body attest to the beneficial effects of the developed selective methods of treatment when the disease is recognized in its early stage.

The authors have endeavored to stress the indications and limitations of the prevailing methods of treatment which may most effectively eradicate the disease and assure the longest survival or the most effective palliation with the lowest morbidity and mortality.

The committee is sincerely grateful to the contributors for their cooperation. The following is a list of the papers to be published.

Factors Related to Cancer Treatment
Paul R. Gerhardt, M.D., and Vincent H. Handy, M.D., Albany

Treatment of Tumors of the Lymphatic System
Lloyd F. Craver, M.D., New York City

Therapy of Acute Leukemia of Childhood
George H. Selkirk, M.D., Buffalo

The Treatment of Skin Cancer
Herbert L. Traenkle, M.D., Buffalo

Treatment of Oral Cancer
Robert M. Bogdasarian, M.D., Binghamton

The Treatment of Thyroid Cancer
John C. McClintock, M.D., Albany

The Treatment of Cancer of the Larynx
Glenn H. Leak, M.D., Buffalo

Treatment of Primary Cancer of the Lung
Walter F. Bugden, M.D., and J. Ernest Delmonico, Jr., M.D., Syracuse

The Treatment of Carcinoma of the Breast
C. D. Haagensen, M.D., New York City

Surgical Therapy of Gastric Cancer
George E. Moore, M.D., Buffalo

The Treatment of Rectal and Colon Cancer
John H. Mulholland, M.D., New York City

Treatment of Ovarian Cancer
Clyde L. Randall, M.D., Buffalo

The Treatment of Carcinoma of the Cervix
Robert O. Loomis, M.D., Mario Prioletti, M.D., Alfred S. Berne, M.D., and Chester E. Clark, M.D., Syracuse

The Treatment of Carcinoma of the Urinary Bladder
Robert S. Hotchkiss, M.D., New York City

Modern Treatment of Carcinoma of the Prostate
William A. Milner, M.D., and William B. Garlick, M.D., Albany

Treatment of Tumors of the Testis
John A. Benjamin, M.D., Rochester

The Treatment of Bone Cancer
John J. Morton, M.D., Rochester

Biopsy and Cytology
Siegfried Tannhauser, M.D., Buffalo

Treatment of Soft Tissue Tumor
Daniel Burdick, M.D., Syracuse

Hormones and Radioactivity in Cancer Therapy
Franklin T. Brayer, M.D., Stanley R. Glasser, Ph.D., and Joe W. Howland, M.D., Rochester

Treatment of Advanced Cancer
Kenneth B. Olson, M.D., Albany

Treatment of Cancer,
Irwin E. Siris, M.D., New York City

(The first article in the Treament of Cancer Series appears on the following page. The series will continue in each succeeding issue during the next twelve months.)

Factors Related to Cancer Treatment

PAUL R. GERHARDT, M.D., AND VINCENT H. HANDY, M.D., ALBANY, NEW YORK

(*From the Bureau of Cancer Control, New York State Department of Health*)

The Roman physician Celsus said, "Only the beginnings of a cancer permit of a cure," and through the years this statement has been the basic objective in the approach to the control of cancer. Success in treatment, even with the advances in our cancer therapy, is still measured to a great extent by the fact that therapy was instituted in the early stage of the disease.

It is the purpose of this article to review briefly some of the factors and trends, as they relate to treatment, in the New York State data. Since cancer is a reportable disease in New York State, exclusive of New York City, we are able to discuss the trends in morbidity as well as the trends in mortality from this disease.

There are many factors which affect the success of treatment in cancer, but there are two which are of such fundamental importance that they are frequently overlooked. First, the physician cannot start treatment for cancer until the patient presents himself to the physician, and second, the physician does not initiate therapy until the diagnosis has been definitely established. Educational efforts which emphasize the importance of seeing a physician regularly and stress the need of early diagnosis in this disease are being carried out vigorously by the medical profession, the American Cancer Society and its local units, and health departments. In addition, good medical practice demands that the diagnosis of cancer be established by pathologic examination. It is of interest to point out the changes that have occurred in New York State in relation to these two basic factors.

Early Diagnosis

One effective means of measuring the response to educational efforts and motivation of the cancer patient to seek help has been by measuring the stage of disease at the time of diagnosis. Based on cancer reports submitted by physicians to the New York State Department of Health and including all of New York State with the exception of New York City, the percentages of cases reported in the early stages are presented in Table I.

TABLE I.—Per Cent of New Cases in Early Stage of Disease for the 10 Most Common Sites of Malignancy Reported, by Sex, 1947 and 1953 (New York State Exclusive of New York City)

Sex and Site	Per Cent Reported in Early Stage		Per Cent Increase (Decrease) 1947 to 1953
	1947	1953	
Male			
Skin	73.9	74.8	1.2
Lung and bronchus	11.3	7.4	(34.5)
Prostate	24.0	28.0	16.7
Large intestine (excluding rectum and rectosigmoid)	11.6	14.4	24.1
Stomach	4.3	6.5	51.2
Rectum	18.4	23.0	25.0
Bladder	34.0	33.4	(1.8)
Pancreas	5.1	7.7	51.0
Esophagus	7.3	8.2	12.3
Larynx	22.3	34.8	56.1
All other sites	22.6	24.4	8.0
Total	26.8	32.0	19.4
Female			
Breast	25.9	28.0	8.1
Large intestine (excluding rectum and rectosigmoid)	10.5	14.5	38.1
Skin	74.9	77.1	2.9
Cervix, uteri	32.2	44.4	37.9
Corpus, uteri	42.0	47.6	13.3
Ovary	13.1	17.4	32.8
Stomach	6.6	7.0	6.1
Rectum	20.7	26.2	26.6
Bladder	31.9	27.6	(13.5)
Pancreas	3.5	5.1	45.7
All other sites	21.7	20.4	(6.0)
Total	28.2	33.3	18.1
Total both sexes	27.6	32.7	18.5

In this table comparing 1953 with 1947, there has been an 18.5 per cent increase in the proportion of cancer cases reported as "early" at the time of diagnosis. This improvement is reflected in all of the major sites, both sexes, with the exception of lung and bronchus and bladder in the male and bladder in the female. In all probability this smaller percentage of early cases in these particular sites is the result of more exact and definitive diagnosis pertaining to these particular sites. However, the over-all improvement in the proportion of early cases during the past seven years indicates both a decrease in patient delay in seeking medical advice and a decrease in physician delay in making the diagnosis. While this is encouraging, the table

TABLE II.—PER CENT OF NEW CASES PATHOLOGICALLY CONFIRMED FOR THE 10 MOST COMMON SITES OF MALIGNANCY REPORTED, BY SEX, 1942 AND 1953 (NEW YORK STATE EXCLUSIVE OF NEW YORK CITY)

Sex and Site	Per Cent Pathologically Confirmed 1942	Per Cent Pathologically Confirmed 1953	Relative Increase (Per Cent)
Male			
Skin	79.8	95.2	19.3
Lung and bronchus	34.2	54.1	58.2
Prostate	54.4	62.1	14.2
Large intestine (excluding rectum and rectosigmoid)	44.8	68.3	52.5
Stomach	26.5	46.6	75.8
Rectum	61.4	74.8	21.8
Bladder	66.6	82.8	24.3
Leukemia	38.1	47.7	25.2
Pancreas	30.5	42.1	38.0
Esophagus	45.9	58.5	27.5
All other sites	60.0	73.5	22.5
Total	54.5	69.5	27.5
Female			
Breast	72.1	79.1	9.7
Large intestine (excluding rectum and rectosigmoid)	42.0	64.3	53.1
Skin	76.3	94.4	23.7
Cervix, uteri	83.0	89.9	8.3
Corpus, uteri	83.0	95.3	14.8
Ovary	70.8	73.9	4.4
Stomach	16.7	39.6	137.1
Rectum	56.9	69.4	22.0
Bladder	61.1	77.9	27.5
Pancreas	21.6	50.7	134.7
All other sites	52.4	61.8	17.9
Total	61.2	73.9	20.8
Total both sexes	58.1	71.7	23.4

also indicates the areas where there is still much room for improvement, namely, lung and bronchus, stomach, and esophagus. Methods of treatment, however expert, will always be handicapped if the patient is not seen in the early stage of the disease.

Pathologic Confirmation

New York State is fortunate in having 160 approved laboratories where a pathologic diagnosis is available to practicing physicians for patients with a suspected malignancy. Over the years there has been an increased use of pathologic services to confirm diagnoses, and this increase, according to site of malignancy, is shown in Table II.

In this table comparing 1953 with 1942, there has been an increase of 23.4 per cent in the proportion of cancer cases pathologically confirmed.

This increase is reflected in each site, but the greatest increase occurred in those sites, both male and female, in which pathologic diagnosis apparently had been used the least. This index certainly shows an improvement in medical practice and a realization on the part of the physician that laboratory confirmation is an essential part of the proper management of the cancer patient.

Mortality

The main objective in the eventual control of any disease is a reduction of the death rate from that particular disease. In a study of the death rate from some of the common sites of cancer in upstate New York, it is most significant to note the changes that have occurred in the past twenty years, comparing the years 1931–1933 with 1951–1953. In this period of twenty years there was a decrease among women of 16 per cent in the annual average mortality rate, while in men a 21 per cent increase occurred. The influence of the increasing proportion of older persons in the population has been removed by the statistical device of age standardization (Table III).

The continued rise in cancer deaths among men is due to the alarming increase in lung

TABLE III.—AGE-STANDARDIZED CANCER MORTALITY RATES* FOR SELECTED SITES, BY SEX, 1931–1933 AND 1951–1953 (NEW YORK STATE EXCLUSIVE OF NEW YORK CITY)

Site	Male			Female		
	Rate*		Per Cent Change	Rate*		Per Cent Change
	1931–1933	1951–1953		1931–1933	1951–1953	
Lip	1.20	0.38	− 68	0.13	0.05	−62
Tongue	1.62	1.54	− 5	0.33	0.31	− 6
Mouth	0.85	0.34	− 60	0.14	0.02	−86
Other buccal cavity	3.62	3.19	− 12	0.96	1.06	+10
Lung and bronchus	4.68	28.30	+505	2.51	3.90	+55
Stomach and duodenum	30.12	17.61	− 42	22.19	9.39	−58
Liver and biliary passages	8.82	4.66	− 47	13.11	6.01	−54
Skin	3.61	2.23	− 38	2.21	1.34	−39
Breast	...	...	...	29.30	30.28	+ 3
Uterus	...	...	...	31.08	17.86	−43
Ovary and fallopian tubes	...	...	...	5.62	9.78	+74
All sites	114.96	138.58	+ 21	153.71	129.68	−16

* Rates per 100,000 population adjusted to 1940 census population for New York State.

cancer among the male population. Since 1931–1933 the lung cancer death rate has increased 505 per cent in men and only 55 per cent in women.

A 43 per cent decrease in the death rate from cancer of the uterus is chiefly responsible for the over-all decline in cancer mortality in women. Cancer of the breast, the most common form of this disease in women, shows a slight increase in mortality, but the death rate from cancer of the ovaries and fallopian tubes has increased by 74 per cent. It must be remembered, however, that cancer of the ovaries and fallopian tubes accounts for only 4.9 per cent of the cancer cases reported in women, whereas breast accounts for 22.2 per cent and uterus (cervix and corpus) 15.7 per cent. The fact that during the past twenty years a 43 per cent decrease in the age-standardized death rate has occurred in one of the most common sites of malignancies certainly indicates progress in earlier diagnosis and more adequate and successful treatment.

Some indication of survivorship over the years can be obtained by comparing the trends in incidence rates and mortality rates. While the incidence rate (number of reported cases per 100,000 population) has increased from 239.3 cases per 100,000 in 1945 to 287.8 cases per 100,000 in 1953, a rise of 20.3 per cent, the mortality rate has increased less rapidly, namely, from 166.7 deaths per 100,000 in 1945 to 172.3 deaths per 100,000 in 1953, a rise of only 3.4 per cent. A rapidly rising incidence rate coupled with an almost level mortality rate indicates a gradually increasing survivorship, probably due to earlier diagnosis and more adequate treatment. The increased survivorship would be even more marked if it were not for the rapidly rising mortality in lung cancer which tends statistically to keep the over-all cancer mortality high.

Summary

In reviewing factors related to cancer treatment it is gratifying to notice the improvement over the years in the percentage of cancer cases that are diagnosed while in the early stage of disease, and it is equally gratifying to notice the increase in pathologic confirmation of the malignancy. However, a review of the marked increase in death rates from certain sites of cancer shows that in spite of modern therapy, there is much that must be done. While the over-all survivorship trends are encouraging, efforts must be concentrated on checking the marked increase in mortality from lung cancer. Much more will be accomplished when every physician increases his awareness of the cancer problem and shoulders his responsibility to diagnose cancer early, to render adequate treatment without delay, and to secure competent consultation.

Grateful acknowledgment is made to Mr. Bernard Ferber of the Bureau of Cancer Control, New York State Department of Health, for assistance in the preparation of the statistical tables.

(*Number one of a series on Treatment of Cancer*)

As Johnson Might Have Said It—

A lecture on the Third Programme lately suggested that some of the definitions in Johnson's *Dictionary* are unconventional—e.g., Patron: Commonly a wretch who supports with insolence, and is paid with flattery. He set me thinking how the great lexicographer might have tackled a medical dictionary. For instance, how about the following:

Practitioner, General. An industrious fellow who treats patients who have been cured by the Specialists.

Bacteriologist. A fellow who is paid to report on colonial development.

Bandage. An appliance which the doctor hopes will stay in place until the patient gets outside.

P.U.O. Penicillin unleashed obliviously.

Scalpel. An instrument only slightly less sharp than the surgeon's tongue.

Committee, Hospital. An organization wherein minutes are kept, and hours are wasted.—*The Lancet, March 5, 1955*

NECROLOGY

Abraham Bellwin, M.D., of the Bronx, died on December 20, 1954 at the age of sixty-seven. Dr. Bellwin received his degree from the Saratov Medical Institute, USSR, in 1922. At the time of his death, Dr. Bellwin was a member of the Bronx County Medical Society and the Medical Society of the State of New York.

Clifton Bogardus, M.D., of Brooklyn, died on January 15 at the age of seventy. Dr. Bogardus graduated from Albany Medical College in 1912. He was a surgeon and director of the outpatient department of Samaritan Hospital, Brooklyn, and at the time of his death he was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Jacob August Cantor, M.D., of New York City, died on April 23 at his home at the age of fifty-nine. Dr. Cantor graduated from Cornell Medical College in 1918 and had been retired since 1930.

Harry D. Cohen, M.D., of New York City, died on February 12 at the age of seventy-one. Dr. Cohen graduated from Fordham University Medical College in 1911.

Chester Winfield Cole, M.D., of Brooklyn, died on April 26 at the age of seventy-two. Dr. Cole was graduated from the New York University-Bellevue Medical College in 1907. At the time of his death, Dr. Cole was a member of the Kings County Medical Society and the Medical Society of the State of New York.

Walter M. Furst, M.D., of New York City, died on December 6, 1954, at the age of sixty-four. Dr. Furst received his degree from the University of Heidelberg in 1914. He was a member of the New York County Medical Society and the Medical Society of the State of New York.

Marian Leopold Heilpern, M.D., of New York City, died on November 24, 1954, at the age of fifty-eight. Dr. Heilpern received his degree from the University of Vienna in 1925. He was a member of the American Society of Anesthesiologists, Inc., the International Anesthesia Research Society, and the New York State Society of Anesthesiologists. At the time of his death he was also a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Hans H. Heymann, M.D., of New York City and Forest Hills, died on January 5 at the age of seventy-one. Dr. Heymann received his medical degree from the University of Berlin in 1908. He had been an adjunct gynecologist at City Hospital, New York City, and at the time of his death was a member of the New York County Medical Society and the Medical Society of the State of New York.

Israel O. Kassow, M.D., of the Bronx, died on October 26, 1954, at the age of sixty-five. Dr. Kassow graduated from Fordham University Medical College in 1919 and interned at Fordham Hospital. At the time of his death he was a member of the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Philip Ladin, M.D., of New York City and the Bronx, died on April 25 at Memorial Hospital at the age of forty-six. Dr. Ladin was graduated from the New York University-Bellevue Medical College in 1932 and interned at Lebanon Hospital, Bronx. Dr. Ladin was an associate surgeon at Lebanon and Morrisania Hospitals. He was a Diplomate of the International College of Surgeons, an Associate Fellow of the American College of Gastroenterology, a Fellow of the International College of Surgeons, a Fellow of the American College of Surgeons, as well as a member of the Bronx Surgical Society, and the New York Academy of Medicine. At the time of his death, he was also a member of the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Isidor Levine, M.D., of Brooklyn, died on April 29 at the age of seventy-two. Dr. Levine was graduated from the Long Island College Hospital Medical School in 1910. At the time of his death he was adjunct surgeon at Maimonides Hospital, Brooklyn, and a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Philip Oginz, M.D., of Brooklyn, died on April 22 at his home at the age of sixty-five. Dr. Oginz was graduated in 1907 from Long Island College Hospital Medical School. He had been one of the organizers of the Beth-El Hospital, Brooklyn, as well as a former chief of its Department of Obstetrics and Gynecology. Dr. Oginz was a Diplomate of the American Board of Obstetrics and Gynecology, a Fellow of the American College of Surgeons, and a member of the Brooklyn Gynecological Society, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Joseph Irving Pascal, M.D., of New York City, died on April 22 in Manhattan General Hospital after a short illness at the age of sixty-five. Dr. Pascal received his medical degree from the University of Vienna in 1930. He was director of ophthalmology at the Stuyvesant Polyclinic Hospital, junior assistant in ophthalmology at the Polyclinic Hospital, ophthalmologist at the Polyclinic Hospital Outpatient Department and adjunct ophthalmologist at Montefiore Hospital. Dr. Pascal was a member of the Pan American Association of Ophthalmologists, the New York Society for Chemical Ophthalmology, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Benjamin Roemer, M.D., of Utica, died on April 22 at the age of eighty-one after an illness of several months in the Home for Aged Men and Couples in Utica. Dr. Roemer was graduated from Columbia University College of Physicians and Surgeons in 1899. For many years he had served on the staff of St. Luke's Hospital and after the reorganization of the City Hospital, which became Utica General, he served as pathologist and gynecologist until 1919, as well as president of the staff for one year and acting secretary for several years.

Dr. Roemer had served at one time as president and secretary of the Oneida County Medical Society and for fifteen years was a member of the board of managers of the Rome County Hospital as well as president. He had been chief physician with the Utica Public School System early in the century, instituting regular examinations of school children. For a while he served as a member of the Utica Board of Health and in addition for thirty years was surgeon for the Utica district of the New York Central Railroad. For nine years Dr. Roemer had been physician at the Home for Aged Men and Couples. At the time of his death Dr. Roemer was a retired member of the Oneida County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Irwin Ross, M.D., of Brooklyn, died on November 16, 1954, at the age of forty-seven. Dr. Ross was graduated from State University of Iowa College of Medicine in 1929. At the time of his death he was assistant pathologist at Cumberland Hospital and assistant in pediatrics at Jewish Sanitarium and Hospital for Chronic Diseases. Dr. Ross was a member of the American Public Health Association, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Louis Schlossman, M.D., of Brooklyn, died on April 9 at the age of seventy-one. Dr. Schlossman was graduated from the Long Island College Hospital Medical School in 1914. Dr. Schlossman was a member of the New York Society for Clinical Ophthalmology, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Robert H. Shanahan, M.D., of Yonkers, died on April 25 in his home at the age of seventy-six. Dr. Shanahan was graduated from Columbia University College of Physicians and Surgeons in 1900. At the time of his death he was emeritus director of surgery and consulting orthopedic surgeon at St. John's Riverside Hospital. At one time Dr. Shanahan had served as president of St. John's Riverside Hospital. He was also an honorary member of the Westchester County Medical Society and the Medical Society of the State of New York.

James Sylvester Slavin, M.D., of Point Lookout, died on April 28 at the age of eighty-three. Dr. Slavin graduated from New York University-Bellevue Medical College in 1897, and interned at St. Catherine's Hospital, Brooklyn. He was a member of the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Wray L. Spratt, M.D., of Rochester, died of a heart attack on April 3 at his home at the age of fifty-nine. Dr. Spratt received his medical degree from the University of Toronto School of Medicine in 1920. At the time of his death he was an associate anesthetist at the Rochester General Hospital. Dr. Spratt was a member of the American Society of Anesthesiologists, Inc., the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Julius Stark, M.D., of Brooklyn, died on April 7 at the age of forty-seven. Dr. Stark received his medical degree from St. Andrews, Scotland, in 1933. He was assistant visiting physician at Maimonides Hospital and a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

James Joseph Stefano, M.D., of Baldwin, died on March 20 at the age of sixty-two. Dr. Stefano was graduated from the Long Island College Hospital Medical School in 1915. He was consultant in gastroenterology at Brooklyn Hospital. At the time of his death Dr. Stefano was a member of the New York Academy of Medicine, the New York Gastroenterological Society, the Nassau County Medical Society, and the Medical Society of the State of New York.

Henry Louis Wagener, M.D., of Brooklyn, died on March 3, at the age of seventy-one. Dr. Wagener was graduated from New York University-Bellevue

Medical College in 1911 and interned at the Brooklyn Hospital. He was a Fellow of the American College of Surgeons, a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Harry Weiss, M.D., of New York City, died on April 21 in Mount Sinai Hospital at the age of sixty-three. Dr. Weiss graduated from Columbia University College of Physicians and Surgeons in 1926 and interned at Mount Sinai Hospital. He was an assistant physician at Mount Sinai Hospital as well as a member of the Society of American Bacteriologists, the American Public Health Association, the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Sydney Lawrence Williams, M.D., died on December 20, 1954 at the age of fifty-two. Dr. Williams was graduated from New York University-Bellevue Medical College in 1927.

NEWS FROM THE MEDICAL SCHOOLS

Schering Award Winners for 1954—Alvin Lashinsky, New York University, and Elbert Warner Phillips and Robert J. E. Zechnich, both of State University of New York College of Medicine at Syracuse, were among the Schering Award winners in the 1954 competition among medical students. Mr. Lashinsky won second prize for his paper on "Modern Treatment of Infections and Allergic Disorders of the Eye," and Mr. Phillips and Mr. Zechnich for "Androgen Therapy in the Female."

Albany Medical College

Thomas Ordway Memorial Laboratory—Contributions totaling about $10,000 have been given for the furnishing of the Thomas Ordway Memorial Laboratory and for the purchase of special equipment not available in a standard medical laboratory. New methods of testing biologic samples for increased accuracy and ease in the diagnosis and treatment of diseases of various kinds will be sought. Dr. Ordway served as dean from 1915 to 1937, as associate professor of medicine from 1915 to 1931, and as professor of medicine from 1931 until his death in 1952.

The Ordway fund is being continued to further medical laboratory research.

Columbia University College of Physicians and Surgeons

Grant—A grant of $100,000 from the Fannie E. Rippel Foundation, Newark, New Jersey, has been awarded to the College for basic research into heart and blood vessel diseases. Initially the heart and blood vessel research will be concentrated in the Departments of Medicine, Pediatrics, and Surgery working in cooperation with other units in the Columbia-Presbyterian Medical Center.

25-Year Club—Installed as members of the Presbyterian Hospital's 25-year Club were: Dr. George H. Humphreys, II, director of the Hospital's Surgical Service and executive officer of the Department of Surgery of Columbia University; Dr. Dorothy H. Andersen, attending pathologist and associate professor of pathology in Columbia University, and Dr. Charles A. Perera, attending ophthalmologist in the Hospital and associate clinical professor of ophthalmology in Columbia University.

New York University College of Medicine

Walker-Ames Visiting Professorships—Dr. Homer W. Smith, professor and chairman, Department of Physiology at the College, has been among those chosen for the two-month Walker-Ames Visiting Professorships at the University of Washington.

Appointment—Dr. Donal Sheehan, acting director of New York University-Bellenue Medical Center, has been named dean of the College of Medicine and Post-Graduate Medical School and deputy director of the Medical Center.

State University of New York College of Medicine at New York City

Alumni Day—The College's 75th Annual Alumni Day was held on Saturday, April 30. A scientific session at Polhemus Memorial Hall, at 10:30 A.M., was addressed by Dr. Edward Solomons, professor of obstetrics and gynecology at the College and director of obstetrics and gynecology at Maimonides Hospital, and Dr. Richard L. Day, professor of pediatrics at the College. Dr. Solomons spoke on "Recent Trends in Obstetric Management" and Dr. Day spoke on "The Pathogenesis of Kernicterus."

The annual dinner-dance was held in the evening at the Hotel Granada in Brooklyn. Proceeds went to the Alumni Association's Research, Scholarship and Student Loan Fund.

Visiting Professor—Dr. Hans Lettré, professor of experimental cancer research at the University of Heidelberg, will serve as visiting professor of pathology from December 1, 1955, through August 31, 1956.

State University of New York College of Medicine at Syracuse

Electrocardiography Postgraduate Course—Twenty-two central New York physicians registered in April for the annual postgraduate course in advanced electrocardiography which began at the College on April 14.

Lecturer—Dr. Thomas Parran, currently dean of the Graduate School of Public Health, the University of Pittsburgh, a pioneer in the formation of the World Health Organization, gave the annual Alpha Omega Alpha lecture on April 28 at the College.

University of Rochester School of Medicine and Dentistry

Appointed—Dr. W. J. Merle Scott has been appointed professor of surgery and chairman, Department of Surgery, at the College. Dr. Scott is also consultant in surgery at Genesee and Highland Hospitals, Rochester, and the Frederick Ferris Thompson Memorial Hospital in Canandaigua.

A Sound Research Mind

The wife of one of our overly conscientious medical researchers had twins—and came the happy day at the church for the baptism of the twins—and the parents walked proudly down the aisle to the front of the church where the minister was standing. The researcher husband was carrying the twins—one over each shoulder.

The minister approached the young couple—took a step toward the researcher husband and the twins—put his hand in the baptismal water—and just then the father of the twins, being of sound research mind, said to the minister, "Reverend Brown, will you please baptize this one only? I am using the other for a 'control.' "—*Detroit Medical News*

MEDICAL NEWS

Association for the Advancement of Psychoanalysis—The regular meeting of the Association for the Advancement of Psychoanalysis was held on May 25 at the New York Academy of Medicine. Dr. Joseph W. Vollmerhausen spoke on "Sources of Compulsiveness and Spontaneity in Psychoanalysis." Discussants were Drs. Lester Shapiro and Norman J. Levy.

Mental Health Pavilion—The cornerstone of the $2,500,000 Mental Health Pavilion at St. Vincent's Hospital was laid on March 26, marking the termination of a $13,000,000 building program at St. Vincent's. The building was designed and will be equipped and staffed for the short-term hospital treatment of psychiatric patients. Outpatient service will be provided, particularly for psychotics.

Medical Officers at Convention—First Army Area Reserve Medical officers on inactive duty may earn point credits for retention and retirement if they attend the Military Medical Section of the annual American Medical Association meeting, June 7 through 9 at Atlantic City, New Jersey, according to Brigadier General Crawford F. Sams, First Army Surgeon. They will receive one retirement point credit for each of the three sessions on military medicine attended, but not more than one point per day.

Society of Medical Jurisprudence—The 690th regular meeting of the Society of Medical Jurisprudence was held on May 9 at the New York Academy of Medicine Building, New York City. A panel discussion was held on "The Tobacco Cancer Problem," with Dr. Edward J. Bohne, president, as moderator. Participants included Dr. Ernest L. Wynder, head, section of epidemiology, Sloan-Kettering Institute; Dr. Edward Ernest Rockey, clinical instructor in surgery at New York Medical College; Dr. Alvin I. Kosak, assistant professor of industrial medicine at New York University-Bellevue Medical Center; Dr. Marvin Kuschner, assistant pathologist at Bellevue Hospital, and Dr. Milton B. Rosenblatt, associate professor of medicine at New York Medical College.

Cancer Teaching Day—The second annual regional cancer teaching day was held on May 19 in Utica under the auspices of the Utica Academy of Medicine and the Tumor Clinic of the Medical Society of the County of Oneida. Speakers included Drs. George T. Pack, Jerome A. Urban, Norman L. Higinbotham, Emerson Day, and Lemuel Bowden, all from Memorial Center for Cancer and Allied Diseases, New York City.

American Medical Education Foundation—Contributors from New York State to the American Medical Education Foundation for the month of March were: *Amsterdam*—Dr. Norbert Fethke; *Ardsley*—Dr. George Newman; *Arkport*—Dr. Paul Wolfgruber; *Astoria*—Drs. Peter Baselice, Guido Boccardi, Daniel Chillog, Bruno Grossman, Morton Kaplan, and Frank E. Pope; *Avoca*—Dr. William O. Jackson; *Ballston Spa*—Dr. V. Baker; *Bath*—Drs. Vrooman S. Higby, James J. Sanford, S. Z. Selleck, and Ernest P. Smith; *Bayside*—Drs. Evelyn Apogi, David Diamondstone, Ignaz Handl, and Herbert Mendel; *Binghamton*—Drs. Charles M. Allaben, A. A. D'Angelo, Rolland Bates, Amore Del Guidice, Wilbur M. Dixon, Howard P. Griffin, Anthony R. Kritkausky, Matthew H. Paushter, and B. I. Wulff; *Boonville*—Dr. Reams A. Domser; *Bronx*—Drs. H. J. Barrow, P. R. Borchardt, Frank P. DeLuca, Charles W. Frank, S. L. Frank, Frank A. Graig, Charles Gubitose, Karl Harpuder, Charles Kapp, S. Lechner, Louis S. Levenstein, B. A. LoBalbo, Ruth Lubliner, Charles Mandel, Mark J. Markham, Jan Niwes, North Bronx Medical Society, Henry Poster, Sidney S. Steckel, and F. W. Williams.

Also: *Bronxville*—Drs. Charles G. Jackson, Henry W. Kaessler, Violet L. Kiel, Joseph E. King, F. L. Landau, Colgate Phillips, James A. Ramsay, Arthur T. Rowe, William J. Sullivan, and Waring Willis; *Brooklyn*—Drs. Horace Chaitin, Jacob R. Handelsman, and Julius Schwartz; *Buffalo*—Dr. T. C. Gould; *Callicoon*—Drs. George R. Mills, and E. T. Rumble, Jr.; *Cambria Heights*—Dr. Cono Forte; *Canandaigua*—Drs. Charles E. Bathrick, Ivan J. Gotham, Jr., Joseph A. Griffen, Ludwig Mayer, F. C. McClellan, E. C. Merrill, Malcolm Merrill, A. W. Sainsbury, Philip M. Standish, and James A. Stringham; *Canastota*—Dr. George S. Plexley; *Chappaqua*—Dr. Joseph P. Nelson; *Charlton*—Dr. Hans Schein; *Chatham*—Drs. Charles Rosen and Oscar Wilcox; *Clifton Springs*—Dr. Stephen W. Brouwer; *Clinton*—Drs. Arthur F. Gaffney and Joseph Katz; *Cooperstown*—Dr. Olaf J. Severud; *Copake*—Robert L. Bowerhan; *Corning*—Drs. Fred E. Gorman and Lewis J. Graham; *Corona*—Dr. Joseph D. Micelotta; *Croton*—Dr. George Vogel; *Ellenville*—Dr. Anthony Ruggiero; *Elmhurst*—Dr. Frank J. Cerniglia; *Endicott*—Drs. John C. Duffy, John A. Kalb, and Karl D. Rundell; *Far Rockaway*—Drs. Abe Alper and Lester J. Greenberg.

Also: *Fillmore*—Dr. Stefan B. Rose; *Frankfort*—Dr. George J. Frank; *Flushing*—Drs. Joseph F. Ascione, Albert J. Bajohr, William Benenson, William E. Berkeley, Alfred Berman, Leonard J. Brandman, Thomas L. Burns, F. S. Butler, B. Colton, Louis T. Cornacchia, S. S. Daiell, Joseph A. Gaetane, Murray Goodfriend, Jerome L. Jacoby, Amedeo W. Pallone, and Arthur Reich; *Forest Hills*—Drs. John J. Drucker, Leon Falik, Lydia Friedlander, Leo A. Green, Alice Howitt; *Fresh Meadows*—Dr. Norton M. Luger; *Galway*—Dr. N. Panin; *Geneva*—Drs. William E. Achilles, Jr., Ray E. Deuel, Jr., Robert E. Doran, Kenneth T. Fairfax, Ronald E. Prindle, and Philip W. Skinner; *Germantown*—Dr. Hugh G. Henry; *Gloversville*—Drs. John Fernandez, Edward Holcomb, Robert Lenz, Michael Palamar, and Everett Perkins; *Great Kills*—Dr. L. Viola; *Groton*—Dr. William Bole; *Hartsdale*—Dr. David Fertig; *Haverstraw*—Dr. Kurt B. Blatt; *Hollis*—Drs. Raphael DeMeo, Harry A. Feigenbaum, and Hazel B. Miller; *Hornell*—Drs. Glee W. Cheesman and Thomas S. Cotton; *Howard Beach*—Dr. Murray Elkins; *Hudson*—Drs. C. B. Esselstyn and Robert H. Little; *Hurleyville*—Dr. Harry Jacobs; *Ilion*—Drs. Donald R. Davidson, II and L. Merson; *Ithaca*—Drs. Edward Hall, Henry Humphrey, Mary B. Spahr, Henry Sutton, and Eben Tisdale; *Jackson Heights*—Drs. William Filler, Paul Gold, and Hyman J. Modlin.

Also: *Jamaica*—Drs. Kurt Adler, Morris S. Bender, Robert Coleman, Frank N. Dealy, Albert H. Douglas, Alfred R. Ernst, J. F. Faigle, Irene Garrow, Otto Gitlin, Louis W. Granirer, Aaron Meister, and Saul Miller; *Jeffersonville*—Dr. Max Epstein; *Johnson City*—Drs. Hilton R. Jacobson, Leonard L. Steed, and Charles B. Steinburg; *Katonah*—Dr. Robert E. Tschorn; *Kerhonkson*—Drs. Alfred M. Feldshuh and William R. Galeota; *Kew Gardens*—Dr. Harry G. Golan; *Kingston*—Drs. John L. Allen, Vincent P. Amatrano, H. Boyd, William S. Bush, B. J. Butto, Shirley A. Collins, John A. Cooke, William J. Cranston, Herbert Derman, P. Frangoulis, Herbert B. Johnson, Robert F. Moseley, Francis E. O'Connor, John A. Olivet, Harold L. Rakov, Edward F. Shea, and Ted R. Smalldon; *Lake Placid*—Dr. Herbert M. Bergamini; *Larchmont*—Dr. Hugh McHugh; *Liberty*—Drs. D. S. Payne and L. R. Tompkins; *Little Falls*—Drs. George A. Burgin, Bernard J. Burke, Joseph W. Conrad, William A. Jarrett, and H. D. Vickers; *Little Neck*—Dr. Hermann Brenner; *Livingston Manor*—Drs. V. G. Bourke and M. A. Denman; *Long Island City*—Drs. Herbert Bermont, M. E. Cytryn, A. Franco, J. R. DeRose, Frank J. Genovese, and Herbert Greening; *Long Lake*—Dr. M. Hosley; *Malone*—Dr. Alfred A. Hartmann; *Mamaroneck*—Drs. William A. Barrett, Milton Drexler, and Rudolph E. Machan; *Marcy*—Dr. George L. Warner; *Marlboro*—Dr. John B. Scott; *Mechanicville*—Dr. A. J. Fantauzzi; *Mexico*—Dr. John R. Anderson; *Middle Grove*—Dr. E. A. Suss; *Mohawk*—Dr. John H. Hirshfeld; *Monticello*—Dr. Lester Lipson; *Mount Kisco*—Dr. Grant Sanger.

Also: *Mount Vernon*—Drs. William M. Affelder, Santino J. Catanzaro, William P. Clark, Andrew A. Eggston, N. F. Fiegoli, Louis A. Lobes, Joseph A. Lombardi, Emanuel A. Novick, Francis Rogliano, and A. D. Van Eyck; *New City*—Dr. A. D. Cohn; *New Dorp*—Dr. J. Shanaphy; *New Hartford*—Drs. A. D. Brown and Esther L. Moeller; *New Hyde Park*—Dr. Anthony N. Fazio; *New Paltz*—Dr. Erhard Boetzel; *New Port*—Dr. Timothy J. Howard; *New Rochelle*—Drs. George C. Adie, Arturo Brindisi, Michael A. Cassidy, Harry L. Chasserot, Harold J. Eisenberg, George Froehlich, Julius C. Gray, Herman H. Livingston, John F. Miller, M. W. Norton, Maynard G. Priestman, Sigurd C. Sandzen, Herman H. Sawicky, Howard P. Seidenstein, and Samuel Silverman; *New York City*—Drs. Bruce A. Buchenholz, Francis G. Geer, Lawson C. Lowrey, Jessie G. Merin, Joseph H. Merin, Anthony Noto, Charles A. Perera, Edward B. Schlesinger, Anthony T. Totero, and F. B. Western; *New York Mills*—Dr. Walter J. Karwowski; *Northville*—Dr. K. Durand; *Nyack*—Dr. James B. Rooney; *Oneida*—Dr. Wallace B. Nixdorf; *Oneonta*—Drs. John M. Constantine, James Greenough, Sherman R. Jacobs, John W. Latcher, and C. R. Tuthill; *Ossining*—Drs. Louis E. Bernard, L. D. Redway, and Robert S. Wren; *Oswego*—Drs. Jerry Belden, Milton W. Kogan, and Samuel E. Tripp; *Ozone Park*—Dr. Henry Cymerman; *Parish*—Dr. William E. Merrill; *Pearl River*—Drs. B. W. Carey, Thomas Cassara, and Austin L. Joyner; *Peekskill*—Drs. N. M. Blumenkranz, Herbert Eisler, B. Loewy, and J. A. McGurty; *Pelham*—Drs. Eliza Caldwell and Edward A. Hardy; *Phelps*—Dr. Kurt F. Grainer; *Philmont*—Dr. Algird F. White; *Piermont*—Dr. N. J. Viggiano; *Pleasantville*—Drs. John M. Ferree and Joseph A. Porcello.

Also: *Port Chester*—Drs. John H. Dale, Jr., Peter A. Duncan, H. H. Gibb, John E. Gundy, Robert C. Hall, M. M. Loder, and George O. Tremble; *Port Richmond*—Dr. Isadore Cooper; *Queens Village*—Dr. William C. Brons; *Rego Park*—Drs. Arthur Biezunski, Milton Dillon, Martin Gold, and Harold N. Levine; *Richmond Hill*—Drs. Arthur P. Ahrens and Hugh Barber; *Rome*—Drs. John B. DeLong, Paul P. Gregory, Dan Mellen, Lois C. Mezzies, Ernest H. Panasci, Edward E. Powers, Jr., Henry N. Reid, Edwin P. Russell, Sr., Martin M. Sanders, Frank H. Valone, and Hans A. Zutrauen; *Rosendale*—Dr. Eugene F. Galvin; *Rye*—Drs. Curlin C. Craven, Philip J. Guiffre, Basil Harris, Robert Mallory, III, V. M. Palmer, John L. Slabey, and Hazel Trefts; *St. Johnsville*—Dr. Raymond Wytrwal; *Scarsdale*—Drs. Moses R. Buchman, John Cannon, Jane Lester, William M. Parke, Milton Roberts, Hollis K. Russell, and Herman Tarnower; *Schenectady*—Drs. Louis R. Biagi, Ernest A. Cerasano, John L. Clowe, Gerald L. Haines, Daniel Hecker, Ralph E. Isabella, Stephen C. Meigher, Isaac Shapiro, Michael Slovak, and Louis Tischler; *Scotia*—Dr. Philip Parillo; *Spring Valley*—Drs. Henry J. Kaplan and Julius Pomerantz; *Staten Island*—Drs. Albert Accettola, Bernard Blomquist, Robert Calta, Alfred Granatelli, Ellen Jiroudek, Irving Klein, Joseph Malin, Waddie Procci, Thomas Quigley, Michael Rapp, Samuel Reback, Herbert Schoen, Joseph Sidoti, Frank Tellefsen, Robert Wolkivitz, Joseph Worthen, and James Zweighaft.

Also: *Suffern*—Dr. A. Z. Freudenheim; *Syra-*

cuse—Drs. Leon A. Chadwick, Harold Courtney, Irving L. Ershler, Murray Grossman, J. G. Hiss, Edward C. Hughes, Daniel F. Luby, and Robert H. Rowner; *Tappan*—Dr. Edwyn W. O'Dowd; *Tarrytown*—Drs. Francis Giammattei, Byron L. Sweet, Jr., and Ralph T. Todd; *Tompkinsville*—Dr. Donald Law; *Tuckahoe*—Dr. John C. Seed; *Tupper Lake*—Dr. Earl C. Wagner; *Utica*—Drs. James W. Dimon, Harold H. Dodds, Eliot M. Friedman, Giles O. Gardner, Paul H. Girard, Alfred Heymann, A. V. Johnston, Quentin M. Jones, John F. Kelley, N. M. Levine, David H. MacFarland, John R. Malcewicz, Leonard V. Marrone, Patrick S. Mullins, Harold L. Pender, Russell E. Reitz, Samuel T. Rubino, Gerald Segal, Robert Sloan, Joseph W. Sokolowski, William C. Taylor, Philip L. Turner, and W. H. Zwahlen; *Valatie*—Dr. Henry J. Noerling; *Valhalla*—Dr. Fred V. Rockwell.

Also: *Vernon*—Dr. James B. Lawler; *Wellsville*—Drs. Edwin F. Comstock, Irwin Felsen, and Paul E. Rockwell; *West Brighton*—Dr. Joseph Takach; *Westerleigh*—Dr. William Frew; *West New Brighton*—Drs. John Beck and Albert Berg; *Whippleville*—Dr. Carl P. Sherwin, Sr.; *White Plains*—Drs. F. W. Birkman, H. Robert Blank, Dorothy Chayes, Roy D. Duckworth, James Flexner, G. E. Gaillard, Ameil Glass, Bernard C. Hecht, Alan Herfort, Donald R. Hirsch, Burton P. Hoffman, John J. Kneisel, Daniel MacDonald, S. H. Nickerson, Kaare K. Nygaard, Marcus Schwartz, A. Silberstein, and C. Wood; *Whitesboro*—Dr. William H. Williams; *Whitestone*—Dr. C. J. Cohen; *Woodhaven*—Drs. Sol Axelrad, Goodwin A. Distler, William C. Godwin, George Goldberg, and Walter H. Kerby; *Woodside*—Dr. E. M. Feller, and *Yonkers*—Drs. Richard Baruch, Anthony A. Blasi, Charles M. Brane, Gregory Chvartazky, Anthony M. DeAngelis, William J. Garvin, Arthur D. Josephson, Jacob Kertzman, Robert V. Minervini, V. Minervini, Al A. Morrone, John R. O'Connell, Stanley F. Ogorzaly, Angelo R. Onorato, Robert R. Onorato, Frank A. Pearce, Stanley Rubin, John W. Tintera, and Augustus Wolf.

Pregnancy in Diabetes Study—A study of pregnancy in diabetes, the largest medical study of its kind in the world, is underway through the cooperation of the Medical Society of the County of Kings, Brooklyn, 30 hospitals, and the State University, it has been announced by Dr. Solomon Schussheim, president of the Society. Dr. George E. Anderson heads the special committee that is coordinating the study.

Thirty Brooklyn hospitals will cooperate in the study and the Obstetrical Department of the State University of New York College of Medicine will compute the biostatistics of the study under the supervision of Dr. Louis M. Hellman, professor of obstretrics at the University, and Dr. Schuyler Kohl of the department.

Hill-Burton Grant—The status of all Hill-Burton hospital construction in New York State as of March, 1955, is as follows: Completed and in operation, 71 projects at a total cost of $72,240,523 including Federal contribution of $20,853,726 and supplying 3,991 additional beds; under construction, 11 projects at a total cost of $42,014,762 including Federal contribution of $4,789,037 and designed to supply 944 additional beds; approved but not yet under construction, eight projects at a total cost of $12,324,351, including $3,102,852 Federal contribution and designed to supply 831 additional beds.

Infant Care Regulations—New regulations to help reduce the spread of infections in newborn baby nurseries have been approved by the Public Health Council and will go into effect September 1, State Health Commissioner Herman E. Hilleboe has announced.

The newly-enacted amendments, which incorporate much of the latest knowledge about infant care, mark the first radical revision of Regulation 35 of the State Sanitary Code since its adoption in 1948. Some of the provisions are that new mothers are to have only two visitors at one time, no visitors except the father or a person designated by the mother are to be permitted in hospitals with rooming-in plans, anyone who has a diagnosed or suspected communicable disease is to be excluded from work in the nurseries or formula rooms until a medical examination shows there is no longer any danger of illness, and all nurses and other persons giving nursing care in the maternity and newborn units of a hospital may be assigned to no other hospital services at the same time.

Physicians Art Association—The seventeenth annual art exhibition of the American Physicians Art Association will be held in conjunction with the annual American Medical Association meeting in Atlantic City June 6 through 10. All forms of art will be exhibited with prizes given for a beginners (less than three years pursuit of the hobby) and an advanced class. Among the media represented will be oils, genre, water color, sculpture, pastels, drawing-pen, ink, pencil, crayon or charcoal, photography—black and white, kodachrome or colored, ceramics, wood carving, metal work, and needle work. For further information contact A.P.A.A. Secretary, F. H. Redewill, Jr., M.D., 124 East Hadley Street, Whittier, California.

Jewish Hospital Resident Training—A three-year resident training program is available at the Jewish Hospital of Brooklyn, and candidates will soon be interviewed. For the first year there are positions as assistant resident in the pathology laboratory, radiology, and Outpatient Department. The second year offers programs as senior residents, assistant resident, and O.P.D. The third year includes chief resident and O.P.D.

The Jewish Hospital is affiliated with the State University College of Medicine, New York City, for the teaching of medical students. Postgraduate courses in internal medicine and its ancillary specialties are given at the Jewish Hospital. For further information, write to Mr. Charles Marion, executive director of the Jewish Hospital, 555 Prospect Avenue, Brooklyn 16, New York.

Onondaga Hospital Renamed—The Onondaga County Hospital was renamed the Edward S. Van Duyn Memorial County Hospital at a recent Board of Supervisors meeting. Dr. Edward S. Van Duyn, who died last February, was medical director at the institution. Miss Gertrude S. Brooks, president of the Council of Social Agencies, said this honor to the late Dr. Van Duyn memorialized his "lifetime of service to his fellow man without thought of his own reward."

Personalities

Elected

Dr. Alex E. Norton, superintendent of New Rochelle Hospital, president, Dr. Lloyd H. Gaston, executive director at St. Luke's Hospital, president-elect; Dr. William A. Kelly, director of Mount Vernon Hospital, vice-president; Dr. Louis Miller, director at Jewish Memorial Hospital, treasurer, and Dr. Frederick K. Fish, director at Lutheran Hospital of Brooklyn, secretary, of the Greater New York Hospital Association.

Appointed

Dr. Hugh Adams, psychiatrist, Dr. Alfred Jaretzki, III, associate surgeon, and Dr. E. Donnall Thomas, assistant physician of Mary Imogene Bassett Hospital in Cooperstown...Dr. George Baehr, New York City, chairman of the New York State Public Health Council...Dr. Robert F. Korns, assistant commissioner for program development and evaluation in the State Health Department...Dr. Walsh McDermott, director of medical research of the National Tuberculosis Association...Dr. G. Norris Miner, North Tonawanda, chairman of the medical division drive for the DeGraff Memorial Hospital development fund campaign...Dr. Donald A. Schwartz, assistant clinical director at Hudson River State hospital, acting medical inspector for all State mental institutions for a year...Dr. Samuel S. Sverdlik, New York City, director of physical medicine and rehabilitation at Hazard Memorial Hospital in New Jersey.

Honored

Dr. William Bierman, chief of physical medicine at Mount Sinai Hospital, New York City, at a dinner given by the New York Society of Physical Medicine and Rehabilitation...Dr. Arthur C. Palmateer, otolaryngologist at St. Joseph's Hospital for Chest Diseases, Bronx, at a dinner given by the hospital staff on April 30, in appreciation of his devoted services...Dr. Howard A. Rusk, director of the N.Y.U.-Bellevue Medical Center's Institute of Physical Medicine and Rehabilitation, and Dr. Eugene J. Taylor, assistant professor at the institute, presented the Order of Merit Jose Fernandez by the government of Colombia, for their "distinguished service for the military health of Colombia"...Dr. James H. Sterner, medical director of the Eastman Kodak Company, with the Cummings Memorial Award of the American Industrial Hygiene Association...Dr. I. S. Wright, professor of clinical medicine at the Cornell University Medical College, with that college's seventh annual medical alumni award.

Awarded

Dr. Emerson Day, chief of the Division of Preventive Medicine, Sloan-Kettering Institute for Cancer Research, a service scroll for distinguished service to the community by the Dartmouth Club of New York...Dr. Louis J. Soffer, of Mount Sinai Hospital, $12,000; Dr. Solomon Garb, Cornell University, $6,000, and Dr. Virginia D. Weeks, Cornell University, $4,572 in research grants by the Muscular Dystrophy Association of America, Inc....Dr. Howard C. Taylor, Jr., director of the obstetric and gynecologic service at Presbyterian Hospital, Columbia Presbyterian Medical Center, New York City, the 1955 Albert and Mary Laskar Foundation Awards in Planned Parenthood.

Speakers

Dr. George G. Deaver, professor of clinical physical medicine and rehabilitation at the New York University College of Medicine, at the School of Education alumni luncheon on April 30 on "The Rehabilitation of Children"...Dr. Joseph J. Eller, New York City, before the First International Congress of Plastic Surgery in Stockholm, Sweden on August 1 through 4, on "Recent Advances in Rotary Abrasive Technics for the Correction of Acne Scars and Other Skin Defects," with lantern slide demonstrations...Dr. Morris Missal, Rochester, before the Medical Society of the County of Livingston on April 27 in Dansville on "Current Concepts in the Management of Hypertension"...Dr. Robert Turell, New York City, before the annual meeting of the State Medical Society of Wisconsin in Milwaukee on May 3, on "Adenomas and Hemorrhoids; Problems of Rectal Bleeding," and "Abuses in Proctology";and on "Pruritus Ani; Present Status and Modern Treatment," on June 2 under the auspices of the New York Academy of Medicine over station WNYC...Dr. Harold G. Wolff, professor of neurology at the Cornell University Medical College in New York City, and two associates, Drs. Adrian M. Ostfeld, and Helen Goodell, before the Association of American Physicians and the American Psychosomatic Society, on migraine headaches.

New Offices

Dr. Eli Antzis, general practice in Yorktown Heights...Dr. Leonard Benedetto, general practice in Sloatsburg...Dr. Frank Gilbert, general practice in Lake Placid.

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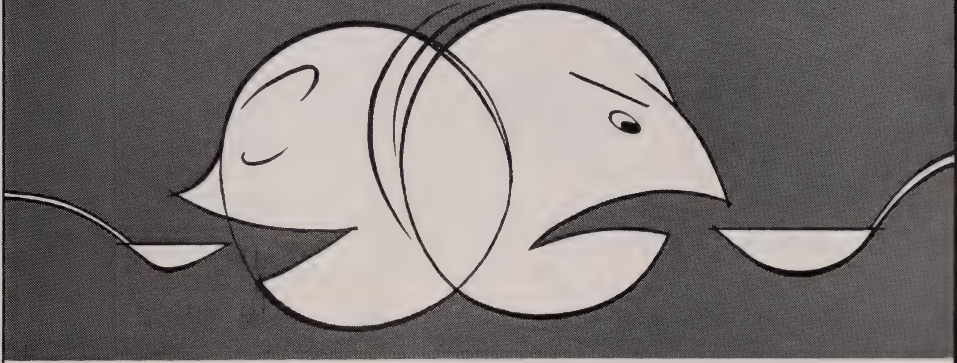

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[1] Council on Pharmacy and Chemistry, A. M. A.: New and Nonofficial Remedies 1952, Philadelphia, J. B. Lippincott Company, 1952, p. 311.

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MEDICAL MEETINGS

International College of Surgeons

The Eastern Division regional meeting of the United States Section of the International College of Surgeons will be held at Chatham, Cape Cod, Massachusetts, July 1 through 4. Speakers at the scientific sessions will include Dr. Max Thorek, founder of the College, Dr. Arnold S. Jackson, president, U. S. Section, Dr. Ross T. McIntire, executive director, and other prominent surgeons. The program will emphasize the latest developments in the surgical specialties.

Boston Clinical Meeting

All persons who desire a place on the lecture program at the Boston Clinical Meeting of the American Medical Association, to take place November 29 through December 2, are urged to communicate immediately with the chairman of the program committee, Theodore L. Badger, M.D., c/o Massachusetts Medical Society, 22 The Fenway, Boston 15.

Applications for space in the scientific exhibit are now available and will be sent on request. Exhibits will supplement the lectures as far as possible, and should portray subjects of a broad general interest. Requests for applications should be sent to the Secretary, Council on Scientific Assembly, American Medical Association, 535 Dearborn Street, Chicago 10, Illinois.

A.M.A. President Suggests Change in Dependent Medical Care

The president of the American Medical Association said that government help in providing medical care for servicemen's dependents should take into consideration the conservation of our "total medical resources."

Dr. Walter B. Martin, Norfolk, Virginia, said in the March 26 issue of the *Journal of the A.M.A.* that it is obvious the short-term serviceman may have difficulty in providing medical care for his family. Career personnel naturally look to the government for assistance, but the present system for short-term servicemen's dependents is "haphazard and unfair."

In attempting to improve the situation, the government should try to utilize both military and civilian medical resources. "To rob the one and overexpand the other is a harmful policy," Dr. Martin said. "If major hostilities should develop, a greatly expanded medical service for the armed forces will be required. They can effectively augment their strength only from a virile and effective civilian medical population.

"The present system of providing care for dependents is haphazard and unfair, since the availability of such care is now on the basis of chance proximity to a service institution. In other areas, remote from such hospitals, the bulk of the work must be done by civilian medical personnel and in civilian hospitals. Where both types of facilities exist, freedom of choice by the dependent as to where medical care is sought would depend on local conditions and other factors.

"The government hospitals in the continental United States are at present in competition with civilian hospitals in many areas. The Federal government, in conjunction with states and localities, is spending millions of dollars under the Hospital Survey and Construction Act in civilian hospital construction, and yet, at the same time, this government is making it more difficult for some of these civilian hospitals to operate at a more reasonable cost.

"Much of the patient load that would normally flow into these hospitals is diverted from community enterprises into government-supported hospitals. This does not make sense from the standpoint of producing good medical care for the American people as a whole.

"It has resulted in the wasteful duplication of hospital facilities, unwarranted dispersion of needed personnel, and an increased cost of hospital care for those who pay their way. A voluntary system of insurance, jointly financed by the individual and the government, has been proposed. This plan should contain a clear definition of dependency and should allow freedom of choice by the dependents as to whether they seek care in an armed forces or a civilian facility.

"This plan would result in a more even distribution of civilian patients as between service and civilian hospitals, stabilize the intake, decrease the cost for the armed forces, and support the economy of the civilian hospital system. It would lessen the dislocation of both patients and professional and technical personnel and would conserve our total medical resources."

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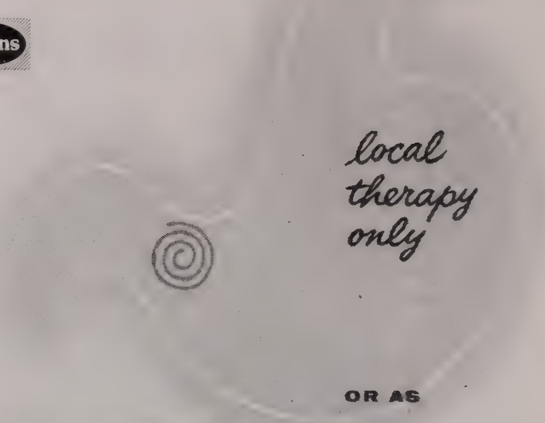

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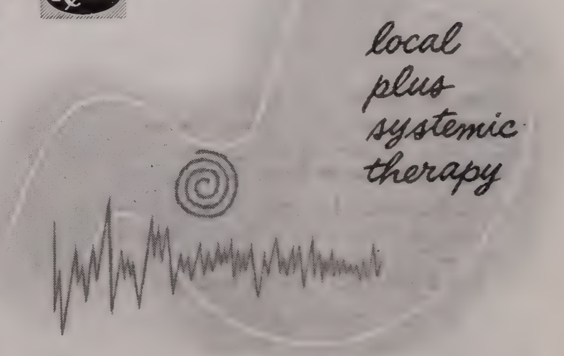

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REFERENCES: 1. Hammarlund, E. R., Rising, L. W., J. Am. Pharm. Assn. (Sci. Ed.), 38:586, 1949. **2.** Kranz, J. C. Jr., et al., J. Pharmacol. Exper. Therap. 82:247, 1944. **3.** Murphey, R. S., J. Amer. Pharm. Assn. 41:361, 1952. **4.** Rouling, J. R., et al., Rev. Gastroenterol, 16:856, 1949.

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BOOKS RECEIVED

(The following books were received during the month of April, 1955)

Eighty-Sixth Annual Report of the Presbyterian Hospital in the City of New York, including Babies Hospital, Harkness Pavilion, Institute of Ophthalmology, Mary Harkness Home, Neurological Institute, N.Y. Orthopaedic Hospital, Presbyterian Hospital, Sloane Hospital for Women, Squier Urological Clinic, Vanderbilt Clinic, Broadway and 168th Street, New York 32, N.Y., for the twelve months ended December 31, 1954. Octavo of 214 pages.

Airborne Contagion and Air Hygiene. An Ecological Study of Droplet Infections. By William Firth Wells, B.S. Octavo of 423 pages, illustrated. Cambridge, Mass., published for the Commonwealth Fund by Harvard University Press, 1955. Cloth, $6.00.

Management of Addictions. Edited by Edward Podolsky, M.D. Octavo of 413 pages, illustrated. New York, Philosophical Library, 1955. Cloth, $7.50.

Publications of The Bureau of Medical Economic Research 1952, 1953 and 1954, (Bulletins 88 to 97 and M–56 to M–90). Volume II. Quarto. V.p. Illustrated. Chicago, American Medical Association, [1955].

Forceps Deliveries. By Edward H. Dennen, M.D. Octavo of 228 pages, 91 illustrations. Philadelphia, F. A. Davis Company, 1955. Cloth, $6.50. (Obstetrics and Gynecology, a series of monographs.)

Antimicrobial Therapy in Medical Practice. By Harrison F. Flippin, M.D., and George M. Eisenberg, D.Sc. Octavo of 284 pages. Philadelphia, F. A. Davis Company, 1955. Cloth, $5.00.

Heart Disease. Its Diagnosis and Treatment. By Emanuel Goldberger, M.D. Second edition. Octavo of 781 pages, 107 illustrations. Philadelphia, Lea & Febiger, 1955. Cloth, $12.50.

1955 Medical Progress. A Review of Medical Advances During 1954. Morris Fishbein, M.D., Editor. Octavo of 346 pages. New York, Blakiston Division, McGraw-Hill Book Company, 1955. Cloth, $5.00.

The Year Book of Neurology, Psychiatry and Neurosurgery. (1954–1955 Year Book Series). Neurology, edited by Roland P. Mackay, M.D., Psychiatry, edited by S. Bernard Wortis, M.D., Neurosurgery, edited by Percival Bailey, M.D., and Oscar Sugar, M.D. Duodecimo of 619 pages, illustrated. Chicago, Year Book Publishers, 1955. Cloth, $7.00.

Shearer's Manual of Human Dissection. Edited by Charles E. Tobin, Ph.D. Third edition. Quarto of 287 pages, illustrated. New York, Blakiston Division, McGraw-Hill Book Company, 1955. Cloth, $6.00.

Hey Groves' Synopsis of Surgery, Illustrated. Edited by Sir Cecil Wakeley, Bt., M.Ch. Fourteenth edition. Duodecimo of 651 pages, illustrated. Baltimore, Williams and Wilkins Company, 1954. Cloth, $7.00.

Diseases of the Nervous System. Described for Practitioners and Students. By F. M. R. Walshe, M.D. Eighth edition. Octavo of 357 pages, illustrated. Baltimore, Williams and Wilkins Company, 1955. Cloth, $7.00.

Immunity and Hypersensitivity Relationship to Disease in Man. Report of the Ninth M & R Pediatric Research Conference. Octavo of 79 pages. Columbus, M & R Laboratories, 1955.

Cold Injury, Transactions of the Third Conference, February 22, 23, 24 and 25, 1954, Fort Churchill, Manitoba, Canada. Edited by M. Irené Ferrer, M.D. Octavo of 226 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1955. Cloth, $4.50.

Gestation, Transactions of the First Conference, March 9, 10 and 11, 1954, Princeton, N.J. Edited by Louis B. Flexner, M.D. Octavo of 238 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1955. Cloth, $5.00.

G-11 (Hexachlorophene). An Annotated Bibliography. Quarto of 22 pages. New York, Sindar Corporation, 1955. (Technical Bulletin H-1, March, 1955)

Rutin and Related Flavonoids. Chemistry, Pharmacology, Clinical Applications. By John Q. Griffith, Jr., M.D., Charles F. Krewson, Ph.D., and Joseph Naghski, Ph.D. Octavo of 275 pages, illustrated. Easton, Pa., Mack Publishing Company, 1955. Cloth.

Doctors in the Sky. The Story of the Aero Medical Association. By Robert J. Benford, M.D. Octavo of 326 pages, illustrated. Springfield, Charles C Thomas, 1955. Cloth, $8.75.

Pomp and Pestilence. Infectious Disease, Its Origins and Conquest. By Ronald Hare, M.D. Duodecimo of 224 pages. New York, Philosophical Library, 1955. Cloth, $5.75.

[Continued on page 1650]

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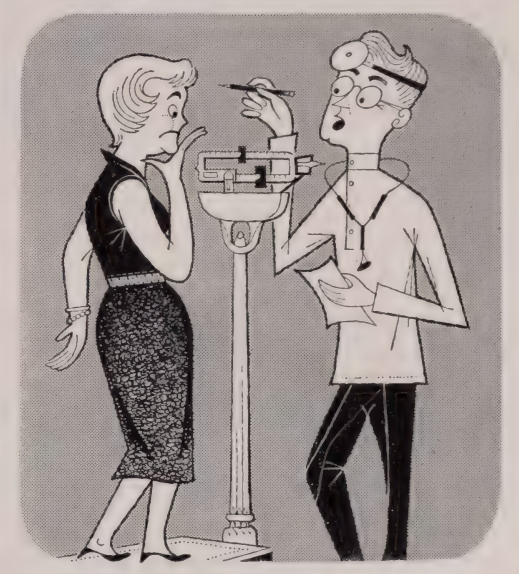

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[Continued from page 1648]

Textbook of the Rheumatic Diseases. Edited by W. S. C. Copeman, M.D. Second edition. Octavo of 754 pages, 464 illustrations, some in full color. Edinburgh, E. & S. Livingstone, (Baltimore, The Williams & Wilkins Company), 1955. Cloth, $11.

Amphetamine in Clinical Medicine, Actions and Uses. By W. R. Bett, M.R.C.S., Leonard H. Howells, M.D., and A. D. Macdonald, M.D. Duodecimo of 78 pages. Edinburgh, E. & S. Livingstone (Baltimore, Williams & Wilkins Company), 1955. Cloth, $2.75.

Neurology. By S. A. Kinnier Wilson, M.D. Edited by A. Ninian Bruce, M.D. In three volumes. Second edition. Octavo of 2,060 pages, illustrated. Baltimore, Williams & Wilkins Company, 1955. Cloth, $37.50.

Casimir Funk, Pioneer in Vitamins and Hormones. By Benjamin Harrow. Octavo of 209 pages, illustrated. New York, Dodd, Mead & Company, 1955. Cloth, $4.00.

BOOKS REVIEWED

Renal Function. Transactions of the Fifth Conference, October 14, 15 and 16, 1953, Princeton, N. J. Edited by Stanley E. Bradley, M.D. Octavo of 218 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1954. Cloth, $3.75.

The first section deals with nephrosis. Dr. Leutscher reports on his method of obtaining a sodium-retaining principle from the urine of nephrotic patients, a hormone responsible for hyperreactive tubular sodium reabsorption, 20 times as active as desoxycorticosterone. During the discussion by the members of the panel, the role of the glomerular filtration rate was stressed as well as other factors. The modern concept of the treatment, prognosis, and the course of the nephrotic syndrome is well documented.

The second section is sensational. Dr. B. F. Miller reviews his efforts in behalf of several subjects with hopeless renal functional impairment, where a human kidney was transplanted into the recipient's thigh. A survival period of five and one-half months or longer has thus far been achieved. The ultimate failure, whether due to infection, or the action of a nephrotoxin, or a specific kidney antibody, was discussed by the panel of eminent authorities.

The third section is devoted to acute renal failure. Dr. Graham M. Bull's research and the contributions from the members of the panel will prove most interesting to the reader. A summary of a few of the remarks follows: An initial glomerulotubular imbalance leads to proximal tubular dysfunction in the oliguric stage with dextrose leakage. Isosthenuria characterizes the oliguric and early diuretic phases. There appears to be a correlation between the blood urea level and the obligatory reabsorption of water and ions. Circulatory renal insufficiency and its relation to renal failure differs from the acute tubular necrosis in that there is a complete return of renal function with the removal of the extra renal factors. The treatment of tubular necrosis is discussed fully by advocates of the conservative measures and those favoring the use of the artificial kidney.—Harry Mandelbaum

Cardiac Anomalies. A Clinicopathologic Correlation. By Vincent Moragues, M.D., and Chester P. Lynxwiler, M.D. Quarto of 92 pages, illustrated. Baltimore, Williams & Wilkins Co., 1954. Cloth, $6.50.

The recently accelerated interest in cardiac surgery has revived study of congenital anomalies previously considered inaccessible to therapy. This volume is a praiseworthy addition to the literature on this subject and will probably be bought and read by pediatricians, cardiologists, pathologists, and many others as a supplement to a systematic treatise like Taussig.

The seven chapters cover many, but not all, congenital defects of the heart, including all which are met commonly. There are several special features which justify the subtitle, *A Clinicopathological Correlation:*—concise clinical descriptions, numerous photographs, roentgenograms, and electrocardiograms, all excellently reproduced and arranged.

Worthy of special praise are the numerous line drawings which illuminate the rest of the material and illustrate an aspect of the subject in which the

[Continued on page 1652]

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[Continued from page 1650]

authors seem to be greatly interested, deviations in the course of the circulations from that found normally. These are done so instructively that when absent, as in Chapter 7 on Ebstein's anomaly, they are missed. A minor and easily correctible defect of the book is that while the photographs are excellent and skillfully described, their usefulness would be enhanced if arrows or other markings had been superimposed to draw the eye to the points mentioned in the legend.

The authors and the publishers are to be congratulated on this very successful achievement.—Milton Plotz

The Ciba Collection of Medical Illustrations. Vol. 2. A Compilation of Paintings on the Normal and Pathologic Anatomy of the Reproductive System. Prepared by Frank H. Netter, M.D. Edited by Ernst Oppenheimer, M.D. Folio of 286 pages, illustrated. Summit, N. J., Ciba Pharmaceutical Products, 1954. Cloth, $13.

Hundreds of superb pictures illustrating the normal anatomy and the diseases of both male and female genital tracts. The drawings are faithful and the colors excellent. Dr. Netter has no peer. A great many appear for the first time in this book which is being sold at the cost of publication. Ciba performs a public service with this book. It will adorn any library.—Charles A. Gordon

Paul Ehrlich Centennial. Robert J. Schnitzer, M.D., and E. Grunberg, Ph.D. (Conference Co-Chairmen). J. A. Aeschlimann, Ph.D., H. Bauer, Ph.D., C. H. Browning, M.D., H. Eagle, M.D., *et al.* Octavo of 136 pages, illustrated. New York, New York Academy of Sciences, 1954. Paper, $3.00. (*Annals of the New York Academy of Sciences*, v. 59, Art. 2, pp. 141–276)

The New York Academy of Sciences has devoted an entire conference to honor the centennial birthday of Paul Ehrlich, one of the foremost workers in chemotherapy. Dr. Heinzl Krekeler, ambassador from Germany to the United States, presented a bronze bust of Paul Ehrlich and Emil von Behring from the Farbenwerkes, Hoechst, a German firm which helped develop the discoveries of these two scientists. In his presentation address he included a brief biography of Ehrlich. A number of speakers including Dr. Hugh Bauer and Dr. C. H. Browning, former coworkers, spoke on the scientific discoveries and contributions of Paul Ehrlich and how they are related to modern chemotherapy.

Dr. Bauer reviewed Ehrlich's influence on chemistry and biochemistry, dividing his work into three periods: analytic studies in dyes, studies on immunity, and chemotherapy. Dr. C. H. Browning summarized Ehrlich's early works, showing the development of the mode of actions of trypanocidal drugs and the treatment of trypanosome and spirochete infections down to the present antibiotic era. Kolmer recalled his personal meeting with the scientist and Ehrlich's four "G's" for successful research: Geduld, Geschick, Geld, und Gluck, (patience, ability, money, and luck).

This symposium presented by prominent scientists gives an insight into some aspects of Ehrlich's scientific contributions such as chemical relationships of substances to cells, staining technic, vital staining, blood morphology, side chain theory of immunity, and chemoceptor theory of chemotherapy which have withstood the test of time, and are fundamental to basic research in chemotherapy today.—Alan Wright

How to Get Along with Children. A More Excellent Way for Parents, Teachers, Youth Counselors, and All Who Work with Young People. By Frank Howard Richardson, M.D. Octavo of 172 pages. Atlanta, Tupper & Love, 1954. Cloth, $2.95.

This book is written primarily for parents, teachers, ministers, and counselors who may be asked advice concerning the management of problems occurring in childhood.

Part one deals with theoretic concepts and part two is a handbook on practice. In the latter portion specific items relative to infancy, school age, and adolescence are dealt with. For those to whom this book is directed it should be of value.—Stanley S. Lamm

Genetica Medica. Ium Symposium Internationale Geneticae Medicae, 6–7 Septembris 1953. Octavo of 467 pages, illustrated. Rome, Edizioni dell' Instituto Gregorio Mendel, (Florence, Libreria Commissionaria Sansoni), 1954. (*Analecta Genetica*, Collana di Monografie Diretta da Luigi Gedda).

This transaction of 223 pages contains the presentations and correspondence of a number of American, English, German, French, and Italian geneticists. Each presentation is reviewed in the four languages, hence all the interesting and instructive subjects can be perused easily by all medical men. The subjects cover the field of genetics as related to medicine. The volume is well-illustrated and has a splendid format. The symposium was presided over by Professor L. Gedda of the University of Rome, Italy.—Gaetano de Yoanna

Textbook of Chiropody. By Margaret J. McKenzie Swanson. Second edition. Octavo of 268 pages. 160 illustrations. Baltimore, Williams & Wilkins Co., 1954. Cloth, $5.00.

This comprehensive *Textbook* on chiropody, first published in 1948, has been well received. The book is filled with numerous clear photographs illustrating the various skin, bone, and joint lesions of the foot. The material is prepared in a direct, simple, and clear manner.

The second edition, published in 1954, should be as popular as the first.—Carmelo C. Vitale

[Continued on page 1654]

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[Continued from page 1652]

Cold Injury. Transactions of the Second Conference, November 20 and 21, 1952, New York, N. Y. Edited by M. Irené Ferrer, M.D. Octavo of 242 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1954. Cloth, $4.00.

This volume consists of the verbatim report of the conference on Cold Injury participated in by a group of leading investigators in the problem. Topics discussed are epidemiology of cold injury in man, resistance to cold, pathophysiology of cold injuries, and areas for future discussion and research. There is the usual free discussion by members of the Conference.—Leon M. Levitt

Stuttering. A Psychodynamic Approach to Its Understanding and Treatment. By Dominick A. Barbara, M.D. Octavo of 304 pages. New York, Julian Press, 1954. Cloth, $5.00.

The author is a psychiatrist and the book is written from the psychiatric point of view. His original investigation on stuttering was conducted among psychotic patients at the Central Islip State Hospital.

In this book the author re-emphasizes the accepted concept that the function of speech is not only to communicate but it is also an expression of the individual's interpersonal relations. Stuttering is regarded as an emotional problem resulting from a faulty development of the individual's personality structure, a problem involving interpersonal and intrapsychic aspects of inner conflict.

It is surprising, especially to a physician, to read some of the quotations the author uses to disprove the possibility of the organicity of stuttering. To quote: "if there is some physical characteristic with which some children are born that will cause them to stutter later, then it should conceivably be possible to demonstrate the existence of this physical characteristic soon after birth." One might just as well ask to have predicted what newborn child is going to develop epilepsy or brain tumor. The author quotes liberally from Johnson who regards stuttering as practically nonexistent and who suggests instead the term nonfluency as if by changing the nomenclature one solves a problem.

There are 16 chapters devoted to the description of the neurotic personality and the inner conflicts of the stutterer and one chapter to the treatment of stuttering. In describing the anxieties, fears, and sufferings of the stutterer the author follows Horney's theory of neurosis whom he quotes extensively. After reading the 16 chapters one truly is amazed at how the average poor stutterer manages to survive in this world.

Under Treatment, the author advocates that this should begin as early as possible, a procedure the reviewer heartily agrees with and which he himself advocated long ago. The reviewer also agrees with the author that the treatment of the adult stutterer is a difficult, tedious, and serious undertaking. Alas, the poor stutterer still awaits the day of his deliverance.—Isaac Wm. Karlin

Diagnostic Advances in Gastrointestinal Roentgenology. Selected Methods, with Clinical Evaluation. By Arthur J. Bendick, M.D. Quarto of 131 pages, illustrated. New York, Grune & Stratton, 1954. Cloth, $6.00.

This small volume of 128 pages and an index is attractively printed and well illustrated. Easily readable, it is as though you were sitting in the laboratory of Dr. Bendick and listening to him informally explaining his methods of study. The many years of rich experience of one of our outstanding radiologists is condensed into many a succulent observation and short cut. Particularly good is the chapter dealing with the examination of the esophagus. While this reviewer may prefer compression spot film work for gastric mucosal exploration, Dr. Bendick's preference is for mucosal pattern studies without compression. This certainly is a valid and useful method in his hands.

This volume will be treasured by all of Dr. Bendick's many students and enjoyed by any of the innumerable physicians doing their own gastrointestinal radiographic examinations.—Asa B. Friedmann

Pediatric Diagnosis. By Morris Green, M.D., and Julius B. Richmond, M.D. Quarto of 436 pages, illustrated. Philadelphia, W. B. Saunders Co., 1954. Cloth, $10.

The opening chapter on pediatric history is very well done and deserves reading and studying.

As a work on diagnosis of pediatric problems it lacks originality. Whatever it does contain of benefit to the student of pediatrics is masked by the voluminous "references" making the author's own contribution less available to the readers who will need it most. The numerous standard works quoted are already well known and are superfluous in a work of this kind.

It is just another book on pediatrics which may appeal to some. In the field of diagnosis it will offer little assistance to the young and less experienced pediatrician or general practitioner.—Harry Apfel

Retropubic Prostatectomy. For Benign Enlargement of the Prostate Gland. By Francis A. Beneventi, M.D. Art Direction and 44 Original Drawings by William P. Didusch. Quarto of 227 pages, illustrated. Springfield, Ill., Charles C Thomas, 1954. Cloth, $11.

Prostatectomy for the relief of urinary difficulties, which are the aftermath of benign prostatic hypertrophy, is the most frequent operation performed in urologic practice. The retropubic operation has attained a definite place in the management of this disorder and Dr. F. A. Beneventi's monograph on this subject is of timely interest. The author has had extensive experience in both the investigative and surgical aspects of this procedure and this experience is reflected in his book. The volume is very readable because of its contents and its presentation.

[Continued on page 1656]

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[Continued from page 1654]

The text is in modern large print with divided pages. The illustrations and plates prepared by Mr. William P. Didusch are excellent. Variations of technic as practiced in other clinics are discussed. The use of the suprapubic drain is mentioned but its duration in the abdomen needs to be clarified.

The urologic resident in training will benefit by studying this monograph carefully and the practicing urologist will welcome it to his working library.—Sidney R. Weinberg

The Skin. A Clinicopathologic Treatise. By Arthur C. Allen, M.D. Quarto of 1,048 pages. 495 full-page illustrations. St. Louis, C. V. Mosby Co., 1954. Cloth, $25.

This is a rather large, heavy book about $2^1/_2$ inches wider and longer than the average book on dermatology. It consists of 1,048 pages, 494 of which are devoted to full page photographs and photomicrographs in black and white and only one in color. More colored photographs would have added greatly to the value of the book.

The author attempts to effect a conjunction between the dermatologist and other practitioners of medicine. This is evidenced by the consideration of visceral and other internal lesions in many of the dermatoses and by the discussion of some nondermatologic diseases—gout, endocarditis, etc.—from the dermatologic angle.

While the clinical descriptions of all the dermatoses are very good they are too short and concise. Considering the size of the book, one would expect to find more elaborate and complete discussions on the pros and cons of the theoretic, etiologic, and other factors concerned in many of the dermatoses.

A very important part of the book is the histologic section of every disease. These are very complete and probably form some of the best parts of the text. The bibliography is also very extensive, consisting of about 2,200 references appended to the text.

This book is a good addition to any physician's library, dermatologist or otherwise.—Abraham Walzer

Psychotherapy and Personality Change. Coordinated Research Studies in the Client-Centered Approach. Edited by Carl R. Rogers, Ph.D., and Rosalind F. Dymond, Ph.D. Octavo of 447 pages. Chicago, University of Chicago Press, 1954. Cloth, $6.00.

This unique volume is the upshot of coordinated research studies using the client-centered approach to people seeking help with personal problems at the Counseling Center of the University of Chicago. The purpose of the research was to provide scientific evidence evaluating changes resulting from psychotherapy and how personality, theory, psychotherapy, and counseling are affected. An average of 30 interviews was given each client who before and after therapy, and again after a follow-up period, was given an extensive battery of tests. Adequate methods and controls were used, including Q-technic, Thematic Apperception Test, and "blind" ratings of research data. Reasons for failure in therapy were also investigated and pertinent unanswered questions and unresolved issues emerged for further research. However, the worthwhileness of this undertaking is amply shown by positive factual findings, as well as a better comprehension of the processes of human personality modification through effective utilization of experience in therapeutic interpersonal relationships.

The editors deserve unstinted thanks for integrating and evaluating the complexity of facts and factors which enter into these important research problems which heretofore have gone, for the most part, begging elucidation.—Frederick L. Patry

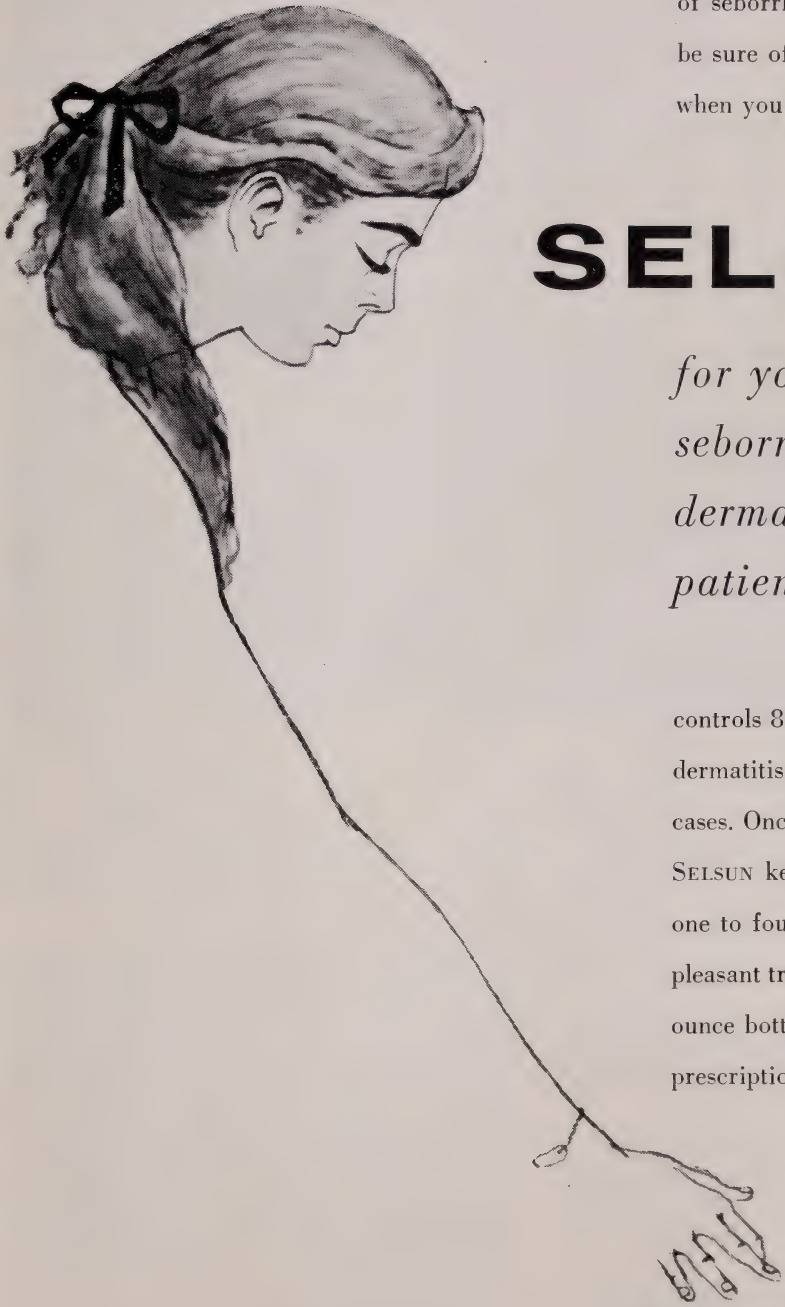
Atlas of Men. A Guide for Somatotyping the Adult Male at All Ages. By William H. Sheldon, M.D. With the collaboration of C. Wesley Dupertuis, Ph.D., and Eugene McDermott, M.A. Folio of 357 pages, illustrated. New York, Harper & Bros., 1954. Cloth, $10.

The thought of a taxonomic scheme yielding a single evaluation for the myriad morphologic variations to which his body is heir has tantalized the mind of man for centuries. Dr. Sheldon's book, based upon a careful study and analysis of many thousands of subjects, is the crowning achievement in this field.

For those physicians who have never heard of the "somatotype" this book will be an excellent introduction and treatise on the subject. How useful it is to be able to describe completely and accurately the body type of an individual using a configurational rubric somewhat analogous to the definitive classifications of fingerprints or to the psychologists' I.Q. ratings or to the late Raymond Pearl's pathometric index numbers, etc. With the tables and the admirable display of photographs in this handbook as a guide, it is necessary to know only the height, weight, and age of a subject to determine his somatotype classification. It is easy to slip into the habit of referring to others as "walking sticks" or as "bears" or as "whales," but such terms (and many others of greater obscurity) have no really scientific connotation in a human morphologic sense and it is unfortunate but amusing that they should have been employed in a work of this magnitude and importance.

The more immediate usefulness of this *Atlas of Men* appears to be for investigational work, and it seems probable that the busy practitioner will wait until the value of the Sheldonian somatotype in clinical medicine is more closely established. Fortunately, Dr. Sheldon and his coworkers promise such a book on clinical applications in the not-too-distant future. Promised, too, is a companion atlas of women. The efforts of Dr. Sheldon in "modernizing" the concepts of human body typology will be especially appreciated by those who have worked in the field or who have some understanding of the history of man's long struggle to know himself.—Gordon E. Mestler

[Continued on page 1658]



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[Continued from page 1556]

Casimir Funk, Pioneer in Vitamins and Hormones. By Benjamin Harrow. Octavo of 209 pages, illustrated. New York, Dodd, Mead & Company, 1955. Cloth, $4.00.

This is the life story of one of the great living pioneers in the field of biochemistry. He is credited with being the first to isolate the anti beriberi vitamin and coined the word vitamin. His voyage through life with the very greats associated with this science carried him through Europe and New York. It is interestingly told by a fellow scientist and professor of chemistry at the College of the City of New York.—Bernard Seligman

Review of Medical Microbiology. By Ernest Jawetz, M.D., Joseph L. Melnick, Ph.D., and Edward A. Adelberg, Ph.D. Quarto of 360 pages, illustrated. Los Altos, Calif., Lange Medical Publications, 1954. Paper, $4.50.

There is an immense amount of up-to-date and accurate information in this book. The three authors, each distinguished in his respective field of microbiology, have put together a pretty complete presentation of the significant aspects of medical immunology. The physiology of bacteria, chemotherapy, viral diseases, as well as other fields are discussed in clear, brief, and an interesting fashion. To the medical student and intern who wish a ready source of reference and "aid" this book should prove to be very useful.—Morris L. Rakieten

Human Limbs and Their Substitutes. Presenting Results of Engineering and Medical Studies of the Human Extremities and Application of the Data to the Design and Fitting of Artificial Limbs and to the Care and Training of Amputees. Prepared under the sponsorship of the Advisory Committee on Artificial Limbs, National Academy of Sciences, National Research Council. In summary and correlation of a research program for the Department of Medicine and Surgery, U.S. Veterans Administration, and for the Office of the Surgeon General, Department of the Army. By Paul E. Klopsteg, Sc.D., Philip D. Wilson, M.D., *et al.* Octavo of 844 pages, illustrated. New York, McGraw-Hill Book Co., 1954. Cloth, $12.

This book represents the combined efforts of numerous experts like surgeons, engineers, therapists, prosthetists, physiologists, and psychologists in describing the latest prosthetic mechanisms toward improving artificial limbs.

The various technics of cineplasty, suction socket for lower limb amputee, as well as the sites of election for amputation, are discussed and re-evaluated in the light of newer developments. Numerous graphic illustrations and line drawings help to clarify this highly technical subject.

This excellent volume was prepared under the joint sponsorship of the Advisory Committee on Artificial Limbs, the National Academy of Sciences, and the National Research Council as a research project for the Department of Medicine and Surgery, the U. S. Veterans Administration, and for the office of the Surgeon General, Department ot the Army.

This makes an excellent source book for prosthetic technics.—Carmelo C. Vitale

The Medical Clinics of North America. Philadelphia Number. November, 1954. Index, 1952–1954. Octavo, illustrated. Philadelphia, W. B. Saunders Company, 1954. Published bimonthly (six numbers a year). Cloth, $18 net; paper, $15 net.

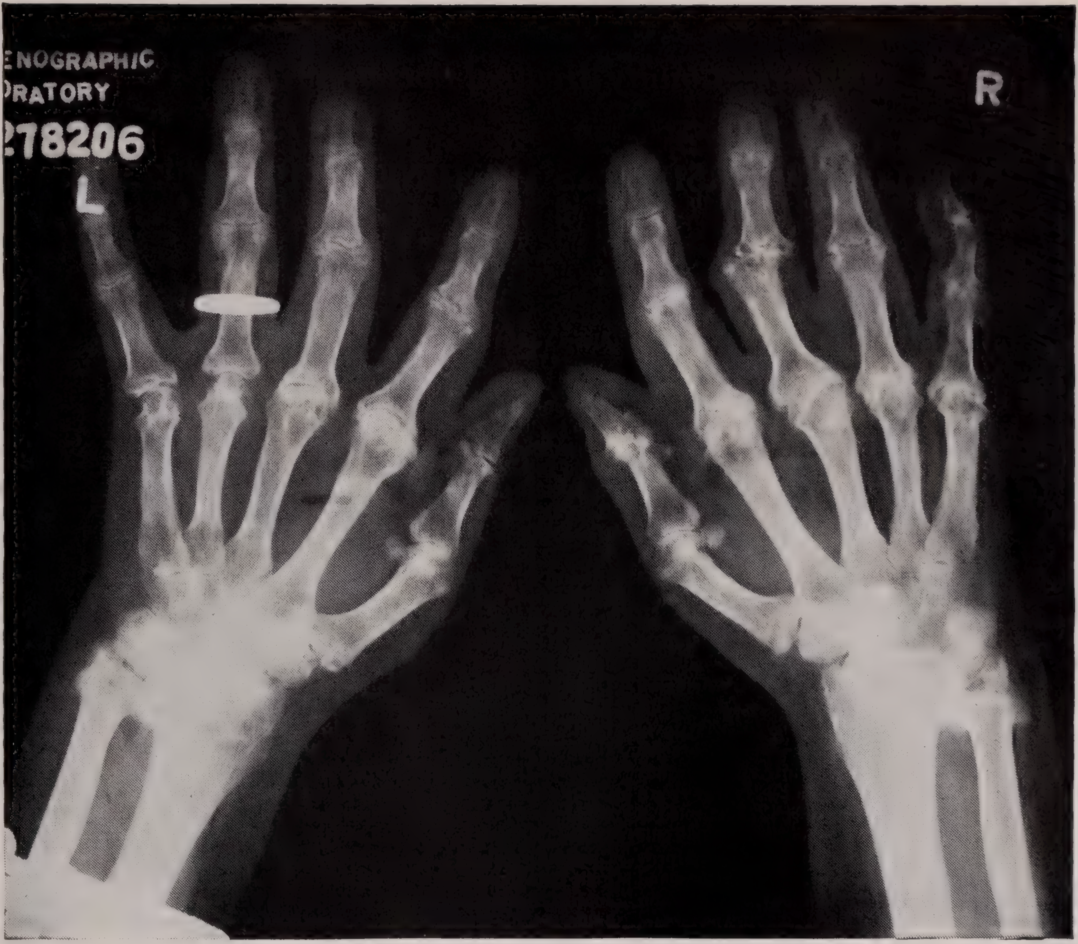
The Philadelphia Number is devoted to a symposium on cardiovascular disease. All the papers presented are authoritative and up to date but contain little which would interest the specialist or anyone who has read the current literature attentively.—Milton Plotz

Protozoology. By R. P. Hall, Ph.D. Octavo of 682 pages, illustrated. New York, Prentice-Hall, 1953. Cloth, $13.35.

This book is a compendium of information on the protozoa. Whether one agrees with the author's classification or not, he is to be commended on the logic of the one he proposes. There are chapters on morphology, physiology, taxonomy, biologic interrelationships between the protozoa and other species including man, immunity and resistance, and life-cycles among the protozoa. At the end of each chapter is a bibliography up to 1953 which represents much painstaking work and should prove fruitful to anyone with a more than passing interest in this fascinating field. This book is unqualifiably recommended as required reading for anyone wishing information in the phylum protozoa.—Morris L. Rakieten

An Introduction to Pathology. By G. Payling Wright, D. M. (England). Second edition. Octavo of 636 pages, illustrated. New York, Longmans Green & Co., 1954. Cloth, $7.50.

The second edition of this book differs from the previous one by the addition of two new chapters and a few minor alterations and additions to the other parts of the text. One of the new chapters (IX) is entitled Inflammation in Allergic Reactions and the other (Chapter XII) deals with Tissue Reactions to Ionizing Radiations. One wonders whether the addition of these two chapters constitutes sufficient evolutionary changes in pathology to warrant publishing a second edition at this time. As mentioned in the review of the first edition, the author has presented clearly the fundamentals underlying the processes and changes associated with the various kinds of pathologic processes. This book is especially valuable for the teacher of pathology and should be an essential reference book for every student of pathology. It is of value to the busy practitioner as a quick reference to an understanding of changes associated with disease.—Casper G. Burn



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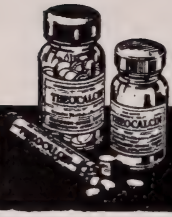

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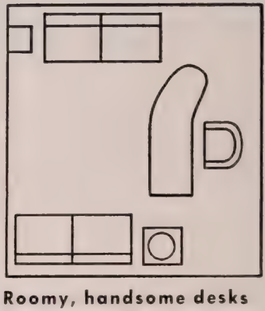

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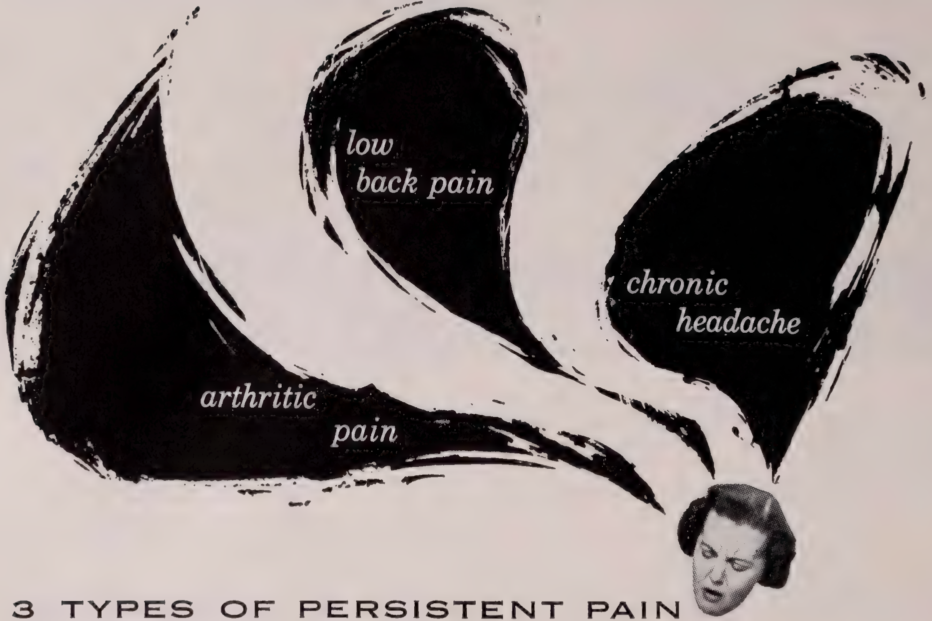

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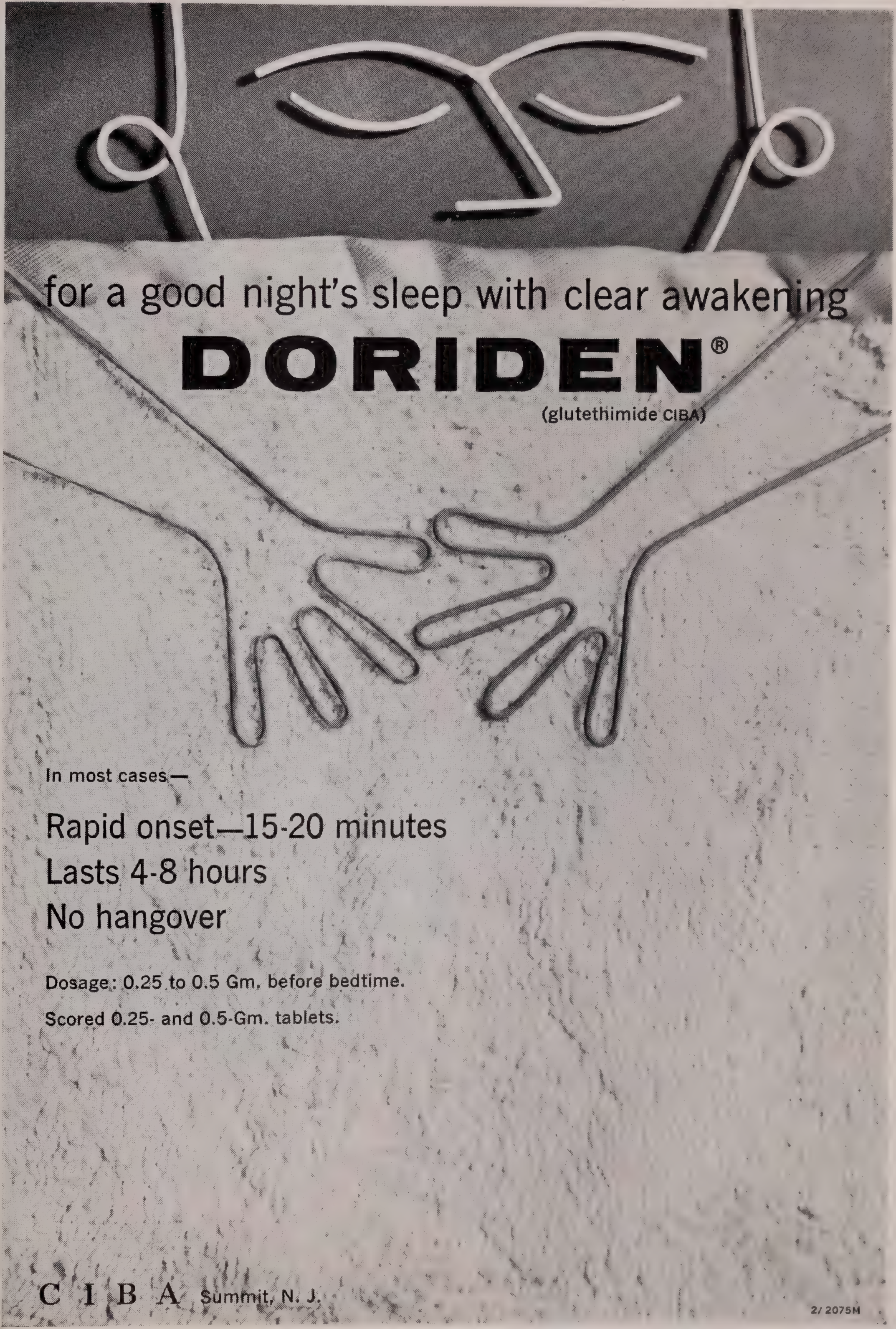

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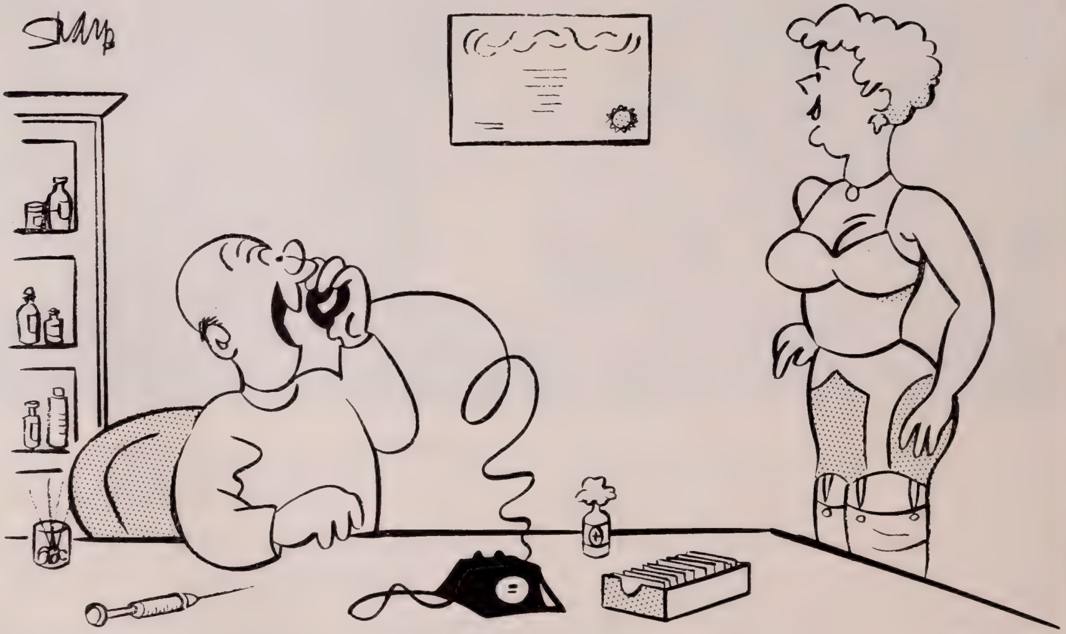

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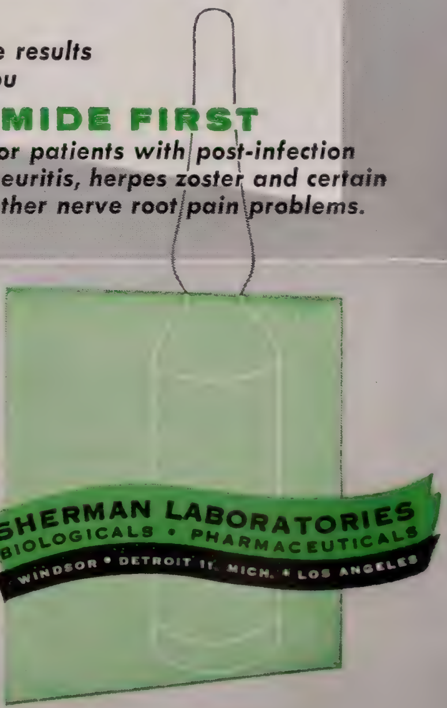
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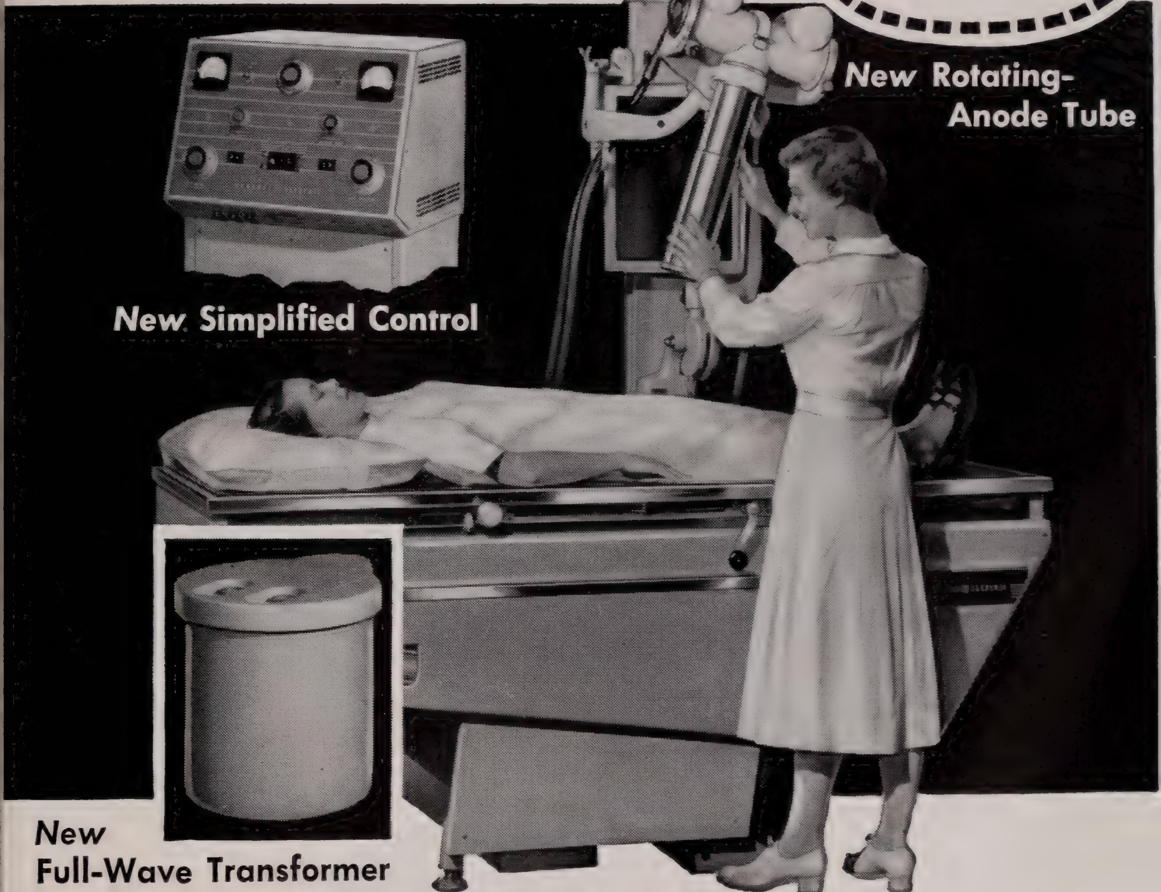

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1. Bender, T. J. Jr.: at Mtg. Med. Assoc. St. Alabama, Mobile, 1954.
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NTZ Nasal Spray (Winthrop-Stearns Inc.).......... 1671
Nulacin (Horlicks Corp.)........................ 1704
Obedrin (S. E. Massengill Co.).................. 1693
OBron (J. B. Roerig & Co.)...................... 1698
Perazil Cream (Burroughs Wellcome & Co. Inc.)..... 1696
Percodan (Endo Products Inc.)................... 1795
Polycycline (Bristol Laboratories)......Between 1688–1689
Protamide (Sherman Laboratories)................ 1673
Pyridium (Sharp & Dohme, Div. Merck & Co., Inc.). 1669
Rauwiloid (Riker Laboratories, Inc.).............. 1697
Serpasil (Ciba Pharmaceutical Products, Inc.)....... 1682
Sustagen (Mead Johnson & Co.)................4th cover
Terramycin-SF (Pfizer Laboratories Div. Chas. Pfizer & Co.)..............................1683, 1688, 1705
Tetracyn-SF (Pfizer Laboratories, Div. Chas. Pfizer & Co.).................................1683, 1688, 1705
Thesodate (Brewer & Co., Inc.).................. 1701
Thum (Num Specialty Co.)...................... 1800
Trasentine-Phenobarbital (Ciba Pharmaceutical Products Inc.)................................ 1699
Vi-Aquamin (U. S. Vitamin Corp.)................ 1675

Dietary Foods

Bread (American Bakers Assoc.).................. 1686
Goat Milk (Jackson-Mitchell Pharmaceuticals, Inc.). 1702–1703
Karo Syrup (Corn Products Refining Co.).......... 1797
Modified Milk (Baker Laboratories, Inc.)........... 1695
Pepperidge Bread (Pepperidge Farm Bread)......... 1704

Medical and Surgical Supplies

Orthopedic Shoes (Winkler Shoes)................ 1798
Viso Cardiette (Sanborn Co.).................... 1689
X Ray Equipment (General Electric Co.)........... 1677

protection for pregnant and lactating patients

NATABEC® KAPSEALS®
vitamin-mineral combination

When nutritional demands are highest, NATABEC Kapseals help protect your patients with important vitamins, the intrinsic factor, plus iron and calcium. Optimum nutrition safeguards present and future health of both mother and child.

DOSAGE: As a dietary supplement during pregnancy and lactation, one or more Kapseals daily as directed by the physician. Available in bottles of 100 and 1,000.

PARKE, DAVIS & COMPANY
DETROIT, MICHIGAN

MEDICAMENTA VERA

IN TENSION AND HYPERTENSION

sedation without hypnosis

℞ **Serpasil**®

(reserpine CIBA)

A pure crystalline alkaloid of rauwolfia root first identified, purified and introduced by CIBA

In anxiety, tension, nervousness and mild to severe neuroses—**as well as in hypertension**—SERPASIL provides a nonsoporific tranquilizing effect and a sense of well-being. Tablets, 0.25 mg. (scored) and 0.1 mg.

C I B A
SUMMIT, N. J.

2/2044M

New! SERPASIL® ELIXIR
Each 4-ml. teaspoonful contains 0.2 mg. of Serpasil

When you specify the Pfizer antibiotic of your choice *Stress Fortified* with the B-complex, C and K vitamins recommended by the National Research Council, be sure to write SF* on your prescription

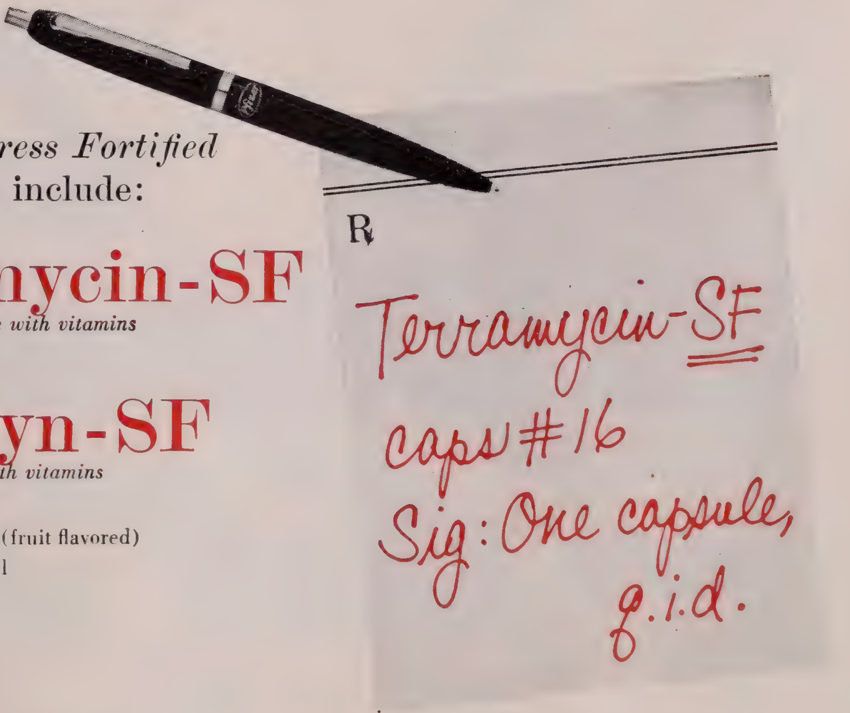
antibiotics *Stress Fortified*
with vitamins include:

Terramycin®-SF

Brand of oxytetracycline with vitamins
CAPSULES 250 mg.

Tetracyn®-SF

Brand of tetracycline with vitamins
CAPSULES 250 mg.
ORAL SUSPENSION (fruit flavored)
125 mg./5 cc. teaspoonful



℞
Terramycin-SF
caps #16
Sig: One capsule,
q.i.d.

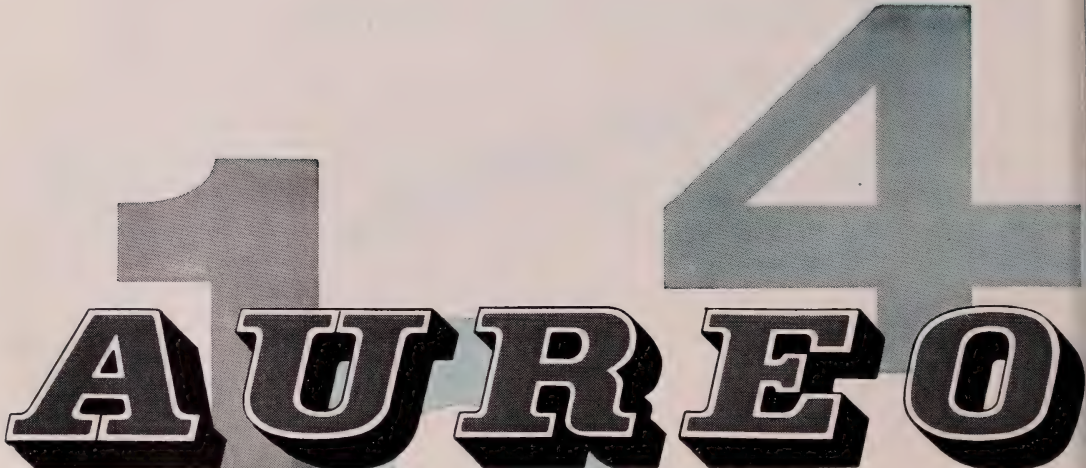
The minimum daily dose of each antibiotic *(1 Gm. of Terramycin or Tetracyn, or 600,000 units of penicillin)* Stress Fortifies the patient *with the stress vitamin formula* recommended by the National Research Council:

Ascorbic acid, U.S.P.	300 mg.	Calcium pantothenate	20 mg.
Thiamine mononitrate	10 mg.	Vitamin B_{12} activity	4 mcg.
Riboflavin	10 mg.	Folic acid	1.5 mg.
Niacinamide	100 mg.	Menadione (vitamin K analog)	2 mg.
Pyridoxine hydrochloride	2 mg.		

**Trademark*

Pfizer

PFIZER LABORATORIES, *Division, Chas. Pfizer & Co., Inc.*, Brooklyn 6, N. Y.



AUREO

No matter how you measure it, AUREOMYCIN can claim a distinguished record: in terms of published clinical trials—there are more than 7,000; as for actual doses administered — the figure is more than a *billion*.

But the most significant fact is told by time. For seven years, AUREOMYCIN has been in daily use, repeatedly employed by thousands of physicians throughout the world. Again and again, it has proved to be a reliable broad-spectrum antibiotic; well-tolerated, prompt in action, effective in controlling many kinds of infection.

A CONVENIENT DOSAGE FORM FOR EVERY MEDICAL REQUIREMENT

Seven years great

7

MYCIN*

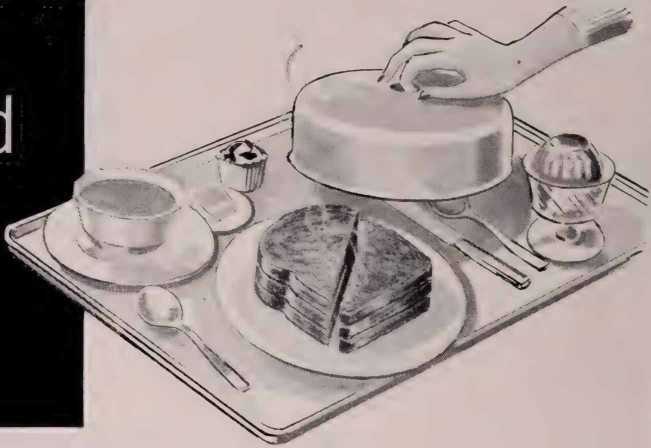
HYDROCHLORIDE
Chlortetracycline HCl

Lederle

LEDERLE LABORATORIES DIVISION AMERICAN Cyanamid COMPANY Pearl River, New York

*TRADE-MARK

Enriched Bread in Special Diets



THE many advantages of enriched bread in special diets are all too seldom recognized or appreciated. Hence, the physical, physiologic, nutritional, and dietetic values of enriched bread warrant detailed enumeration.

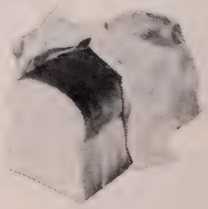
The open, soft texture of enriched bread enables its easy mastication, its ready absorption of digestive juices, and its prompt and thorough digestion. Reflexly, its appetizing eating qualities enhance the digestive processes. Since bread is free from coarse or harsh vegetable fiber, it proves nonirritating mechanically to the gastric and intestinal mucosa. In metabolism its minerals are neutral.

Enriched bread contains less than 0.2 per cent fibrous material, yielding insignificant amounts of indigestible residue. It contains only 3 per cent of fat, negligible amounts of purines, no cholesterol, and does not interfere with the digestive or absorptive processes. It contributes to a desirable texture of the food mass throughout the intestine. The contained nutrients are absorbed gradually.

Nutritionally, enriched bread supplies valuable amounts of biologically valuable protein, 8.5 per cent; easily digestible carbohydrate, essentially starch and dextrins, 52 per cent; and minerals, 1.8 per cent. Enriched bread provides notable amounts of vitamins and minerals: each 100 grams supplies on the average 0.24 mg. of thiamine, 0.15 mg. of riboflavin, 2.2 mg. of niacin, 88 mg. of calcium, 92 mg. of phosphorus, and 2.6 mg. of iron. Also it provides 275 calories of nutrient energy per 100 grams.

Enriched bread, in either fresh or toasted form, contributes to the eating pleasure of many other nutritious foods. Its neutral flavor permits it to blend well with other foods.

For these reasons, enriched bread enjoys a prominent place in a great variety of special diets—soft, low residue, low purine or cholesterol diets, general hospital diets, as well as diets low or high in carbohydrates, in proteins, or in calories.



The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

AMERICAN BAKERS ASSOCIATION
20 NORTH WACKER DRIVE • CHICAGO 6, ILLINOIS

"Gardening hard work? Not when you're in good shape!"

Physical fitness is enjoyed at any age, but during the later years it is especially coveted. **Gevral** supplies all the vitamins and minerals the older patient may need to continue feeling young at heart.

Gevral*

Geriatric Vitamin-Mineral Supplement Lederle

Lederle LEDERLE LABORATORIES DIVISION AMERICAN *Cyanamid* COMPANY Pearl River, New York

EACH GEVRAL *CAPSULE CONTAINS:*

Vitamin A	5000 U.S.P. Units
Vitamin D	500 U.S.P. Units
Vitamin B_{12}	1 mcgm.
Thiamine Mononitrate (B_1)	5 mg.
Riboflavin (B_2)	5 mg.
Niacinamide	15 mg.
Folic Acid	1 mg.
Pyridoxine HCl (B_6)	0.5 mg.
Ca Pantothenate	5 mg.
Choline Dihydrogen Citrate	100 mg.
Inositol	50 mg.
Ascorbic Acid (C)	50 mg.
Vitamin E (as tocopheryl acetates)	10 I. U.
Rutin	25 mg.
Purified Intrinsic Factor Concentrate	0.5 mg.
Iron (as $FeSO_4$)	10 mg.
Iodine (as KI)	0.5 mg.
Calcium (as $CaHPO_4$)	145 mg.
Phosphorus (as $CaHPO_4$)	110 mg.
Boron (as $Na_2B_4O_7 . 10H_2O$)	0.1 mg.
Copper (as CuO)	1 mg.
Fluorine (as CaF_2)	0.1 mg.
Manganese (as MnO_2)	1 mg.
Magnesium (as MgO)	1 mg.
Potassium (as K_2SO_4)	5 mg.
Zinc (as ZnO)	0.5 mg.

Other Lederle geriatric products include: **Gevrabon*** Vitamin-Mineral Supplement liquid with a wine flavor; **Gevral*** Protein Vitamin-Mineral-Protein supplement powder; and **Gevrine*** Vitamin-Mineral-Hormone capsule.

*REG. U.S. PAT. OFF.

When you specify the Pfizer antibiotic of your choice *Stress Fortified* with the B-complex, C and K vitamins recommended by the National Research Council, be sure to write SF* on your prescription

℞
Tetracyn-SF
Oral Suspension
2 oz.
Sig: 2 teaspoonfuls,
q.i.d.

antibiotics *Stress Fortified*
with vitamins include:

Terramycin®-SF
Brand of oxytetracycline with vitamins
CAPSULES 250 mg.

Tetracyn®-SF
Brand of tetracycline with vitamins
CAPSULES 250 mg.
ORAL SUSPENSION (fruit flavored)
125 mg./5 cc. teaspoonful

The minimum daily dose of each antibiotic *(1 Gm. of Terramycin or Tetracyn, or 600,000 units of penicillin)* **Stress Fortifies the patient** *with the stress vitamin formula* **recommended by the National Research Council:**

Ascorbic acid, U.S.P.	300 mg.	Calcium pantothenate	20 mg.
Thiamine mononitrate	10 mg.	Vitamin B_{12} activity	4 mcg.
Riboflavin	10 mg.	Folic acid	1.5 mg.
Niacinamide	100 mg.	Menadione (vitamin K analog)	2 mg.
Pyridoxine hydrochloride	2 mg.		

***Trademark**

Pfizer

PFIZER LABORATORIES, *Division, Chas. Pfizer & Co., Inc.*, Brooklyn 6, N. Y.

Which glove works best in surgery?

Please pardon us if we seem facetious, but a surgical glove seems a good illustration of the importance of appropriate design in the manufacture of accessories. Without this glove surgery wouldn't be safe. And only when it serves as intended, by such as permitting complete finger freedom and sensitivity, is it of any value. When so designed it has no equal for its purpose.

AND so it is with accessories of other kinds. Those for example you need to run your electrocardiograph. The accuracy and usefulness of such a precision instrument is in direct ratio to the effectiveness of its parts *and accessories.* Of what value is the high deflection speed and top performance of an ECG if the recording paper cannot successfully show it in clear, sharp and distinct registrations? Of what value is an electrode paste which does not reduce patient resistance at electrode connections to a level suitable for modern cardiography? An accessory designed by the maker of an instrument should receive the same care, study and research as any of the important parts or components of that instrument. This is true in regard to the Viso-Cardiette. Much of the Sanborn Viso-Cardiette's fame as a direct-writing cardiograph can be attributed to the continuous, painstaking research on the two accessories which were *originally designed* by Sanborn Company, and which are so necessary to the Viso's accuracy—Permapaper (inkless recording paper) and Redux (electrode paste).

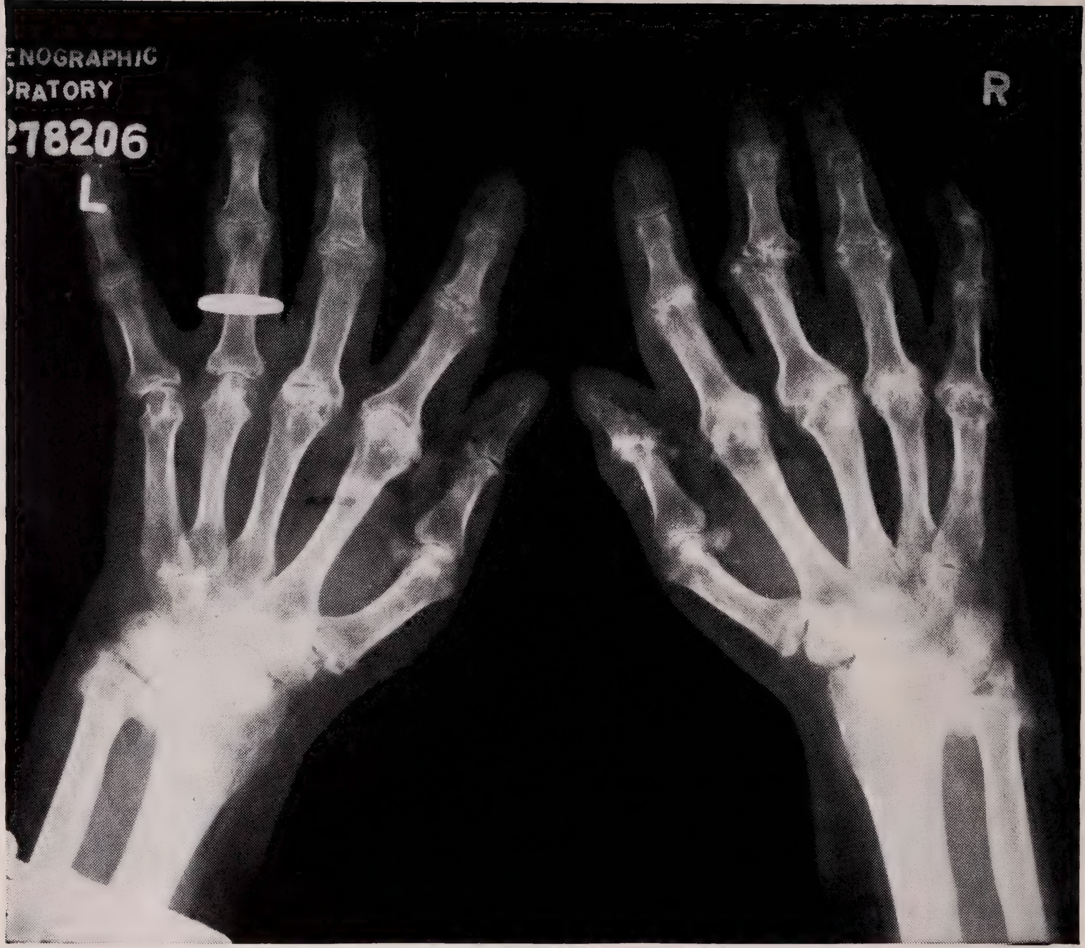
SANBORN
PERMAPAPER
REDUX

Permapaper and Redux are major examples of Sanborn accessories that receive diligent surveillance as to the service they are performing — one more part of the Sanborn policy of complete service to the ECG user.

SANBORN COMPANY

NEW YORK *Branch Office*
1860 Broadway, *Phone: Circle* 7-5794, 7-5795

ROCHESTER *Branch Office*
3 Juniper Street, *Phone: Culver* 8431



BUFFERIN® *-THE BETTER-TOLERATED SALICYLATE FOR RHEUMATOID ARTHRITIS*

Gastric upsets from aspirin are 3 to 9 times as frequent among arthritics as they are among the general population.[1] However, Bufferin is well tolerated by arthritics. At the Robert Breck Brigham Hospital of Boston 70 per cent of arthritics with a proved intolerance to aspirin could take Bufferin without gastric distress.[1]

Although patients often use sodium bicarbonate with aspirin to alleviate gastric symptoms, clinicians know that this causes a lowering of the salicylate level of the blood serum.[2] Moreover, this practice may cause retention of the sodium ion.[3] Pre-existing symptoms of cardiorenal disease have been aggravated.[1]

IN ARTHRITIS—WHEN LARGE AND PROLONGED SALICYLATE DOSAGE IS INDICATED, GIVE BETTER-TOLERATED BUFFERIN.

Each BUFFERIN tablet combines 5 gr. acetylsalicylic acid with magnesium carbonate and aluminum glycinate. BUFFERIN is available in bottles of 12, 36, 60 and 100 tablets.

BUFFERIN
ANTACID ANALGESIC
BUFFERIN
BUFFERIN

References: 1. Fremont-Smith, P.: In press. 2. J.A.M.A. 141:124, 1949. 3. M. Times 81:41, 1953.

BUFFERIN ACTS TWICE AS FAST AS ASPIRIN
DOES NOT UPSET THE STOMACH

BRISTOL-MYERS CO.
19 West 50 Street, New York 20, N. Y.

Premenstrual Tension and Functional G-U Disorders

Bellergal®

Stabilizer of the entire Autonomic Nervous System

Ergotamine tartrate	*0.3 mg.*
Bellafoline	*0.1 mg.*
Phenobarbital	*20.0 mg.*

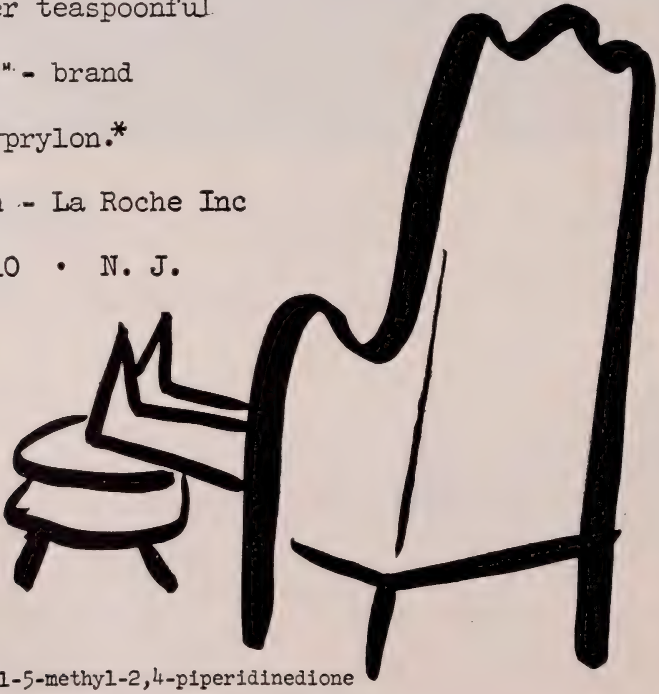
Adult Dosage: 4 to 6 tablets daily.

SANDOZ
Sandoz
PHARMACEUTICALS
HANOVER, N. J.

at ease... you may put your own mind at ease as well as calm your patient when you prescribe Noludar 'Roche' as a sedative (or in larger dosage, as a hypnotic). There is little danger of habituation or other side effects, because Noludar is not a barbiturate. Available in 50-mg and 200-mg tablets, and in liquid form, 50 mg per teaspoonful

Noludar™ - brand of methyprylon.*

Hoffmann - La Roche Inc
Nutley 10 • N. J.



* 3,3-diethyl-5-methyl-2,4-piperidinedione

establishing

desired

eating patterns

Obedrin®

and the 60-10-70 Basic Diet

Correct medication is important in initiating control that leads to development of good eating habits, essential in maintaining normal weight.[1,2,3]

Obedrin contains:

- Methamphetamine for its anorexigenic and mood-lifting effects.
- Pentobarbital as a corrective for any excitation that might occur.
- Vitamins B_1 and B_2 plus niacin for diet supplementation.
- Ascorbic acid to aid in the mobilization of tissue fluids.

Obedrin contains no artificial bulk, so the hazards of impaction are avoided. The 60-10-70 Basic Diet provides for a balanced food intake, with sufficient protein and roughage.

Formula:

Semoxydrine HCl (Methamphetamine HCl) 5 mg.; Pentobarbital 20 mg.; Ascorbic acid 100 mg.; Thiamine HCl 0.5 mg.; Riboflavin 1 mg.; Niacin 5 mg.

1. Eisfelder, H. W.: Am. Pract. & Dig. Treat., 5:778 (Oct.) 1954.

2. Sebrell, W. H., Jr.: J.A.M.A., 152:42 (May) 1953.

3. Sherman, R. J., M.D.: Medical Times, 82:107 (Feb.) 1954.

Write for 60-10-70 Diet pads, Weight Charts, and samples of Obedrin.

THE S. E. MASSENGILL COMPANY
Bristol, Tennessee

Upjohn

Sex hormones— only one injection per month:

Depo-Estradiol

Trademark, Reg. U. S. Pat. Off.

CYCLOPENTYLPROPIONATE

Each cc. contains:

Estradiol, 17-Cyclopentylpropionate	1 mg. or 5 mg.
Chlorobutanol	5 mg.
Cottonseed Oil	q.s.

1 mg./cc. strength in 10 cc. vials
5 mg./cc. strength in 5 cc. vials

Depo-Testosterone

Trademark, Reg. U. S. Pat. Off.

CYCLOPENTYLPROPIONATE

Each cc. contains:

Testosterone Cyclopentylpropionate	50 mg. or 100 mg.
Chlorobutanol	5 mg.
Cottonseed Oil	q.s.

50 mg./cc. strength in 10 cc. vials
100 mg./cc. strength in 1 cc. and 10 cc. vials

Depo-Testadiol

Trademark, Reg. U. S. Pat. Off.

Each cc. contains:

Testosterone Cyclopentylpropionate	50 mg.
Estradiol, 17-Cyclopentylpropionate	2 mg.
Chlorobutanol	5 mg.
Cottonseed Oil	q.s.

Available in 1 cc. and 10 cc. vials.

The Upjohn Company, Kalamazoo, Michigan

Send home a well-nourished, happy baby

When you feed your babies on Baker's Modified Milk, you are assuring yourself and the infant's parents a well-nourished baby.

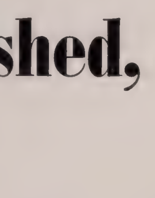
Baker's is not an ordinary canned milk. It is a completely prepared milk formula designed to produce the nutritional results of mother's milk.

Baker's is made from cow's milk of the highest quality—Grade A—which conforms with the sanitary requirements of the United States Public Health Service Milk Ordinance & Code. In this respect Baker's Modified Milk is *exclusive* in the field of proprietary milks.

All other ingredients—vegetable and animal fats, carbohydrate, and synthetic vitamins—are of the highest quality. Manufacturing controls are rigid and meticulous—assuring a clean, safe, milk from source of supply to the time of formula preparation.

And there is little chance of error in preparing the formula—simply dilute Baker's to the prescribed strength with water, previously boiled.

Baker's Modified Milk is supplied gratis to all hospitals. Tell the nursery supervisor to put your babies on Baker's.



BAKER'S MODIFIED MILK

Made from grade A milk (U. S. Public Health Service Milk Code) which has been modified by replacement of the milk fat with vegetable and animal fats and by the addition of carbohydrates, vitamins and iron.

Baker's Modified Milk

THE BAKER LABORATORIES, INC.

Milk Products Exclusively for the Medical Profession

MAIN OFFICE: CLEVELAND 3, OHIO **PLANT: EAST TROY, WISCONSIN**

"Its over-all effectiveness
as an antipruritic
and the high degree
of tolerance to it
have made it
a very useful
preparation."

—Ayres, S., III, and Ayres, S., Jr.:
A.M.A. Arch. Dermat. & Syph.
*69:*502 (April) 1954.

'PERAZIL'® brand

Chlorcyclizine Hydrochloride

CREAM

brings about *prompt* and *prolonged relief of itching,* with little likelihood of sensitization reactions

'Perazil' brand Chlorcyclizine Hydrochloride Cream 1%
Nongreasy base.

Available in tubes of 1 oz., jars of 1 lb.

BURROUGHS WELLCOME & CO. (U.S.A.) INC., *Tuckahoe 7, New York*

A New Future

FOR THE HYPERTENSIVE

Because of the tendency of hypertension to progress from mild to severe, it is all the more important to institute therapy in the early stages of the disease, long before the fundi show any changes, in the aim to arrest progression.[1] The management of early, labile hypertension proves rewarding to both patient and physician. Of such mild cases, up to 80 per cent respond to therapy with Rauwiloid alone.[2] In the more advanced cases of hypertension Rauwiloid—in addition to its own beneficial actions—reduces significantly the dosage requirements of more potent hypotensive drugs when used in combination with them.

A More Confident Outlook in the Aim to Arrest Progression

"One has...every reason to believe that the disease may now be controlled in its incipiency and consequently the serious later complications prevented..."[3] Early management, carried out with the ease and simplicity afforded by Rauwiloid, yields rich returns—not only in the resultant tranquil sense of well-being and control of hypertensive symptoms, but also in a confident outlook to a new future of prolonged useful life.

The dosage of Rauwiloid is definite...merely two 2 mg. tablets at bedtime. For maintenance, one table often suffices. No contraindications...no cumulative side actions.

[1] Finnerty, F. A., Jr.: The Value of Rauwolfia Serpentina in the Hypertensive Patient, Am. J. Med. **17**:629 (Nov.) 1954.

[2] Moyer, J. H., in discussion of Galen, W. P., and Duke, J E.: Outpatient Treatment of Hypertension with Hexamethonium and Hydralazine, South. M. J. **47**:858 (Sept.) 1954.

[3] Livesay, W. R.; Moyer, J. H., and Miller, S. I.: Treatment of Hypertension with Rauwolfia Serpentina Alone and Combined with Other Drugs; Results in Eighty-Four Cases, J.A.M.A. **155**:1027 (July 17) 1954.

Rauwiloid®

RAUWOLFIA SERPENTINA BENTH

THE FIRST THOUGHT IN
HYPERTENSION

Riker LABORATORIES, INC., LOS ANGELES, CALIF.

Mrs. OB needs an OBRON® buildup

"...as pregnancy advances the requirements for protein, minerals and vitamins are increased in some instances one hundred per cent."[1]

OBron supplies iron and calcium plus eight other minerals, eight essential vitamins.

The OBron Buildup: A basic nutritional buildup for your OB patients, one to three capsules daily.

Bottles of 30 and 100 soft, soluble capsules.

Roerig Rx

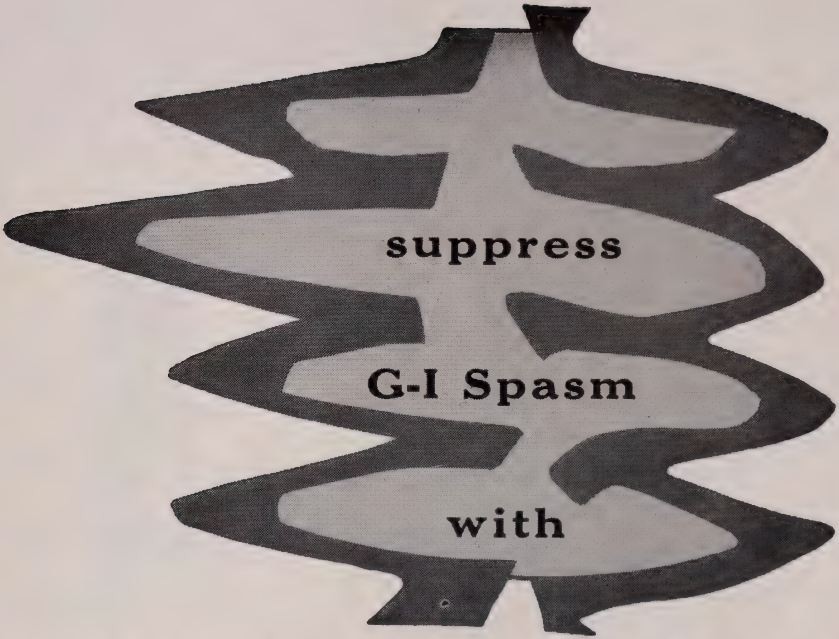
CHICAGO 11, ILLINOIS

ALL IN ONE CAPSULE

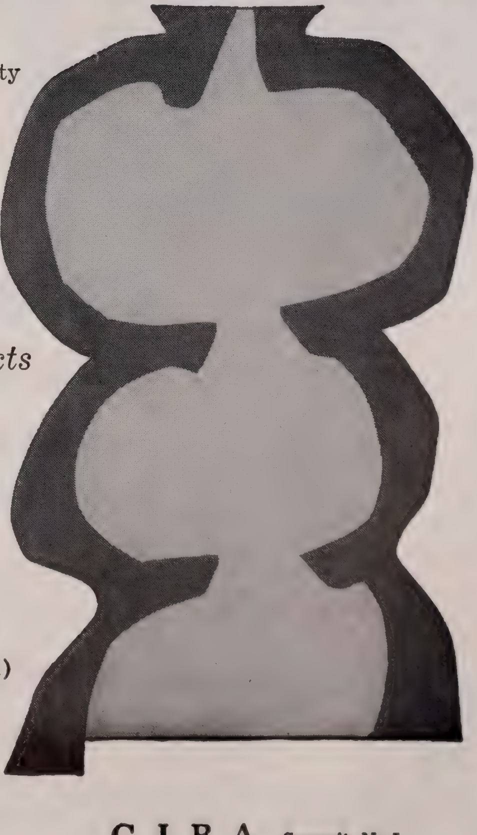
Dicalcium Phosphate Anhydrous*	770 mg.
Ferrous Sulfate Dried, U.S.P.	44 mg.
Vitamin A (Palmitate)	5,000 U.S.P. Units
Vitamin D (Irradiated Ergosterol)	400 U.S.P. Units
Thiamine Hydrochloride, U.S.P.	2 mg.
Riboflavin, U.S.P.	2 mg.
Pyridoxine Hydrochloride, U.S.P.	0.5 mg.
Ascorbic Acid, U.S.P.	37.5 mg.
Niacinamide	20.0 mg.
Calcium Pantothenate	3.0 mg.
Cobalt (from Cobaltous Sulfate)	0.033 mg.
Copper (from Cupric Sulfate)	0.33 mg.
Iodine (from Potassium Iodide)	0.05 mg.
Manganese (from Manganese Sulfate)	0.33 mg.
Magnesium (from Magnesium Sulfate)	1.0 mg.
Molybdenum (from Sodium Molybdate)	0.07 mg.
Potassium (from Potassium Sulfate)	1.7 mg.
Zinc (from Zinc Sulfate)	0.4 mg.

*Equivalent to 15 gr. Dicalcium Phosphate Dihydrate.

1. Burke, B.S. and Stuart, H.D.: Nutrition requirements during pregnancy and lactation. J.A.M.A. 132:119 (May 8) 1948.



Trasentine®-Phenobarbital



- Inhibits Parasympathetic Activity
- Relaxes Smooth Muscle Directly
- Exerts Local Anesthetic Effect on G-I Mucosa
- Sedates the Patient

Without Atropine Side Effects

Each tablet contains 50 mg. Trasentine hydrochloride and 20 mg. phenobarbital. Also available: Trasentine hydrochloride Tablets, 75 mg.

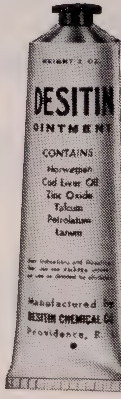
Trasentine® hydrochloride
(adiphenine hydrochloride CIBA)

2/2081M

C I B A *Summit, N. J.*

Primum Non Nocere

The primary concern of the dermatologist is embodied in the dictum, "Primum Non Nocere," meaning "*First do no harm.*"[1,2] A major attribute of Desitin Ointment is its non-sensitizing, non-irritant, non-toxic[4-6] quality even when applied over extensive, raw skin areas. To soothe, protect, lubricate, and accelerate healing ... without causing "therapeutic" or "overtreatment" dermatitis ... rely on



DESITIN
OINTMENT
CONTAINS
Norwegian Cod Liver Oil
Zinc Oxide
Talcum
Petrolatum
Lanolin
Manufactured by
DESITIN CHEMICAL CO.
Providence, R. I.

DESITIN®

OINTMENT

rich in **cod liver oil**

in **diaper rash** • **wounds** (especially slow healing)

ulcers (decubitus, varicose, diabetic) • **burns**

dermatoses • **rectal irritation**

Tubes of 1 oz., 2 oz., 4 oz., and 1 lb. jars.

May we send **samples** *and literature?*

DESITIN CHEMICAL COMPANY • 70 Ship Street, Providence 2, R.I.

1. Overall, J. C.: Southern M. J. 47:789, 1954. 2. Editorial: New England J. M. 246:111, 1952.
3. Grayzel, H. G., Heimer, C. B., and Grayzel R. W.: New York St. J. M. 53:2233, 1953.
4. Heimer, C. B., Grayzel, H. G., and Kramer, B.: Archives of Pediatrics 68:382, 1951.
5. Behrman, H. T., Combes, F. C., Bobroff, A., and Leviticus, R.: Ind. Med. & Surg. 18:512, 1949.
6. Turell, R.: New York St. J. M. 50:2282, 1950.

THESODATE

THE ORIGINAL ENTERIC-COATED TABLET
OF THEOBROMINE SODIUM ACETATE

provides
EFFECTIVE
WELL-TOLERATED
PROLONGED
VASO-DILATION

in
CORONARY
ARTERY
DISEASE

REPEATEDLY SHOWN and proven by objective tests on human subjects[1] — this is one of the most effective of all the commonly known Xanthine derivatives. Because of the enteric coating it may be used with marked freedom from the gastric distress characteristic of ordinary Xanthine therapy. Thus THESODATE, with its reasonable prescription price also, enjoys a greater patient acceptability.

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1. Riseman, J. E. F. and Brown, M. G. Arch. Int. Med. 60: 100, 1937
2. Brown, M. G. and Riseman, J. E. F. JAMA 109: 256, 1937.
3. Riseman, J. E. F. N. E. J. Med. 229: 670, 1943.

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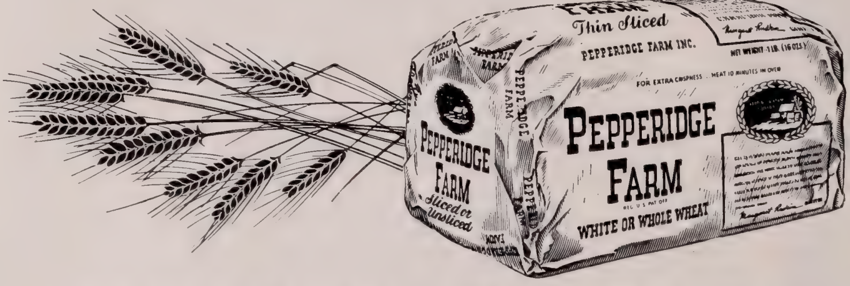
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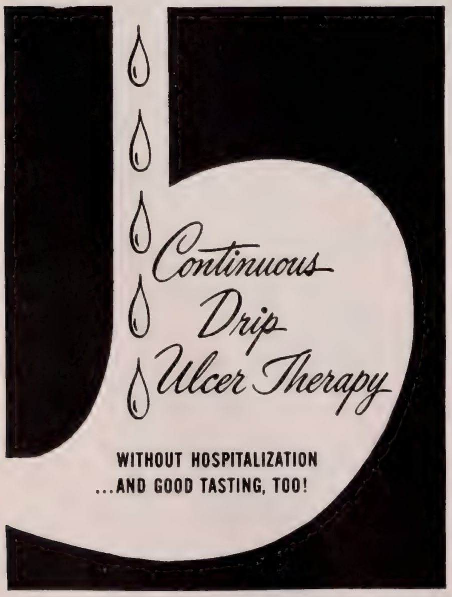
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*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. *22*:67 (Mar.) 1955.

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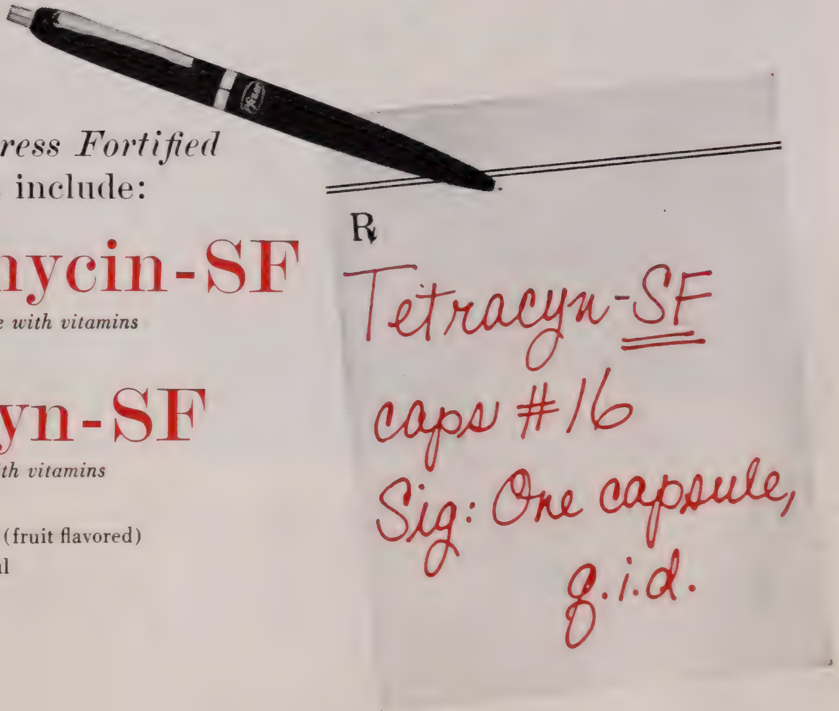

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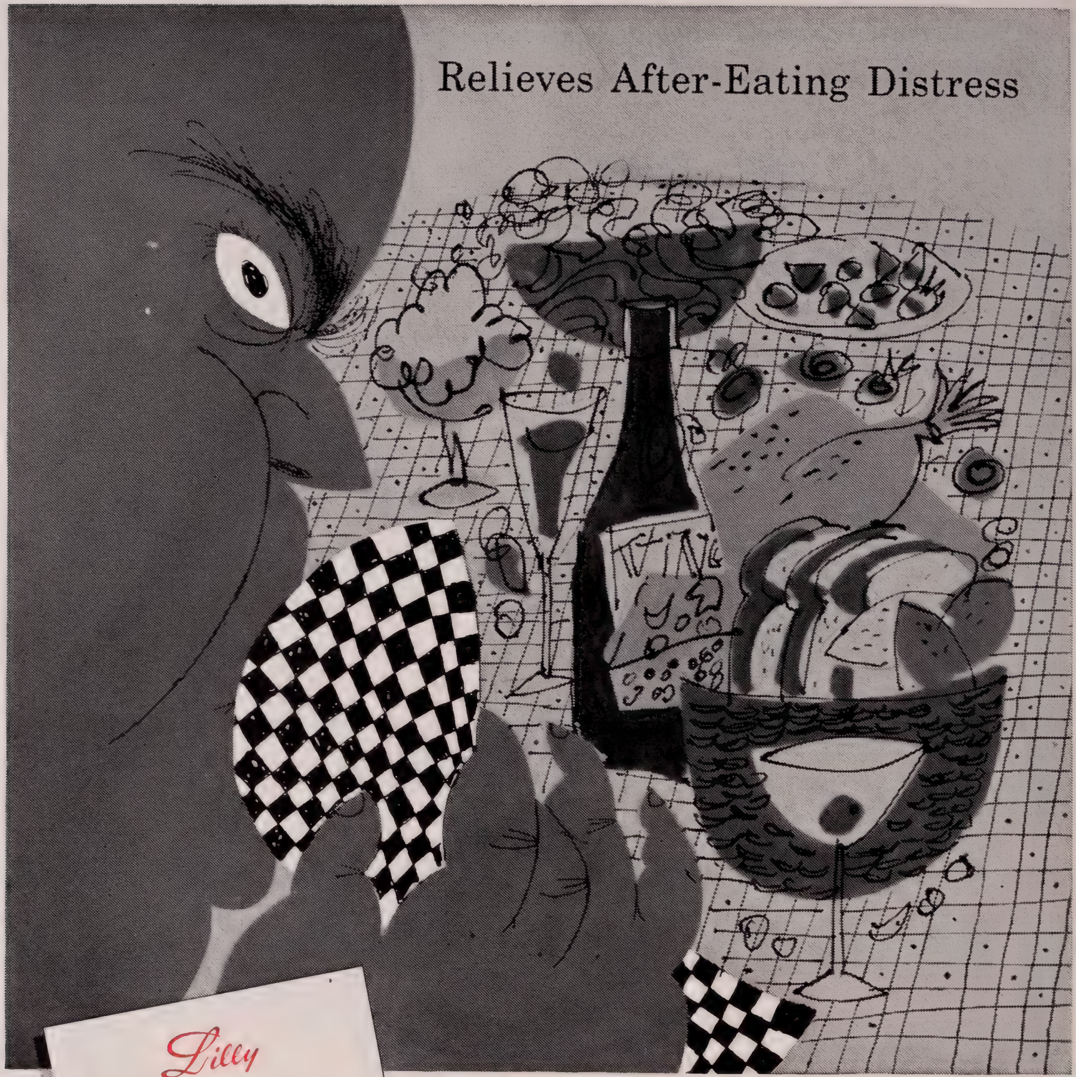

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EDITORIALS

The Physician and the Nursing Home

With the dramatic increase in the proportion of older persons in our population and the consequent ascendancy of chronic illness to a major role in clinical practice, the physician is more frequently encountering instances in which he must advise families regarding placement of patients who, for varying combinations of medical and social factors, cannot be adequately maintained in their own homes. Obviously, such patients should not be placed in hospitals unless they require on a continuing basis the highly technical services that only a general or chronic disease hospital can provide. The proper disposition may be a nursing home in which services by registered professional or licensed practical nurses are available at all times, a convalescent home which offers semiskilled personal services not covered by the Nurse Practice Act (New York State Education Law, Article 139), a boarding home which provides essentially custodial services, or a home for the aged which may provide several levels of service. It is the physician who must specify the individual requirements of the patient and the type of facility which will best suit his needs, with the final choice of the particular home to be made by the patient or his family.

Placement of the patient in a nursing or convalescent home means continued responsibility for the family physician. Here, he visits and prescribes for his patient just as if the latter were in his own home. It is the physician's responsibility to see that his medical orders are carried out and that proper nursing and related services are received. However, his services and interest cannot stop here.

With increasing recognition of the total needs of the elderly and chronically ill, the physician knows that proper care in a nursing or convalescent home requires more than drug therapy and nursing service. From the medical viewpoint it requires detailed mental and physical evaluation and careful study of personality factors to determine the true prognosis of the patient regarding his ultimate capacity. Within the limits of their abilities disabled persons must be gotten out of bed and trained to walk and take care of their personal needs. This requires work on the part of the patient as well as by those who are providing for his care. The objectives of this work must be worth the effort in terms of more satisfactory living and a more desirable ultimate goal. A person who despite chronic illness and disability has retained his mental clarity requires a reasonable program of social and recreational activities. Furthermore, the person whose illness is not necessarily terminal should be given the opportunity of a possible return to his own home or to the home of close friends or relatives when his physical and mental status warrants.

Unfortunately provisions for physical and social rehabilitation are often lacking for patients placed in nursing and convalescent homes. This issue of the JOURNAL contains a study of proprietary nursing and convalescent homes in upstate New York in which these deficiencies are duly emphasized (page 1713). The survey indicates relatively large proportions of nonterminal patients who despite retention of mental clarity and ambulatory ability are placed in homes with no planning as to their current needs, other than medical and nursing, or to their future disposition. One fourth of the patients stay in the homes for three years or more, and one third remain one to three years; obviously, these facilities cannot be considered as places for terminal disposition only.

The physician cannot remedy these circumstances by himself. However, he may play an important part in bringing the social plight of his patients to the attention of the various local health and welfare agencies so that a community effort to improve the situation might be made. According to the authors of the study, "If nursing and convalescent homes are to maintain the important role they have been assuming in the care of the elderly and chronically ill, there should be immediate steps taken to provide more dynamic social and recreational programs for the long-term and mentally clear patients and more intensive social and rehabilitative planning on the part of the physicians and social workers concerned with the individual patients."—I. J. B.

Of This and That

We hear frequently from various sources of the alleged "sluggishness" and the "indifference" of the profession of medicine to certain questions affecting the public interest. These allegations arise from sources apparently having an axe to grind or a fence to be whitewashed or whatever. Frequently these charges are just not true. Every doctor is familiar with the technic of the quarrel: "The Retort Courteous; . . .the Quip Modest; . . .the Reply Churlish; . . .the Reproof Valient; . . .the Countercheck Quarrelsome; . . .the Lie with Circumstance; . . .the Lie Direct."[1] We are happy to present the Retort Courteous to a general allegation with the assistance of the *Journal of the Medical Society of New Jersey*,[2] our esteemed contemporary, which says editorially:

---

[1] Shakespeare, *As You Like It*, Act V, Scene 4.
[2] J. M. Soc. New Jersey **51**: 500 (Dec.) 1954.

> Most medical societies do, indeed, take an active and unselfish part in community health planning. Few, however, go as far as the Tennessee Medical Association did last year. It was discovered that within a hundred miles of the world's greatest gold depository, there was a community that not only had no hospitals; it had no doctors. Disease rates and infant mortality rates in this simulacrum of Dogpatch were about the highest in Tennessee. And Tennessee rates are not the lowest in the country. Here is where the Tennessee Medical Association came in. They established and financed a special foundation. The foundation brought in a full-time physician, a young doctor of unquestioned competence. The Foundation built, equipped, and opened a clinic for him. The medical association arranged for a panel of circuit-riding specialists to visit the community at regular intervals and to serve on call for emergencies. By now other community agencies are pitching in to lighten the burden on the medical association. This is one of the most vigorous examples of medical society leadership in recent years. There is much talk about how much better these things can be done by private enterprise and private agencies than by government bureaus. Much talk, but little doing. Here is one medical society that has shown the way. Perhaps it has set a pattern.

If some putative adversary wants to make something of this challenge—let him! We are prepared to run the whole gamut. In fact, we have ready our Reply Churlish—for use when needed.

. . . .

When music is used in a medical environment, it is necessary to distinguish between its use as a recreational activity that may have incidental therapeutic value and its use as an adjunct in medical treatment. Says the *American Journal of Physical Medicine,*[3] "If the second approach is used, the framework of its application is limited to those factors in music that can be objectively demonstrated, while not ignoring the more intangible and subjective elements that may contribute to its value in therapy." There is presented a report of the medically oriented use of music with brain-damaged patients, limited to the observable (and quantitatively measurable) results of the use of music in treatment directed toward an increase in motor coordination. Technics used include guiding motion through the developmental patterns of neurologic growth and training for the substitution of undamaged nerve pathways for damaged ones, as suggested by the theories of Lashley.

Improvement in coordination among 24 of 28 patients treated at the Neurological Institute in New York City and continued at the Institute for the Crippled and Disabled, also in New York City, suggests the value of the use of music as an adjunct in treatment for selected brain-damaged patients in the area of coordinated motion.

Wordsworth (1770–1850) in The Triad wrote, "When his veering gait/And every motion of his starry train/Seem governed by a strain/Of music, audible to him alone." And Milton (1608–1674) in the Arcades said, "Such sweet compulsion doth in music lie." Recognized as having therapeutic value by the ancients, the possibilities of music, either for its effect upon the emotions or for its value as a discipline in modern medicine, seem to be coming into notice in a civilization said to be "advanced" but which seems recently to have somewhat neglected the humanities in favor of technology, regrettably it seems to us. But then we could just be old fashioned.

. . . .

Then to change the subject abruptly we note that a Social Security Administration study of voluntary health insurance in 1953 discloses about 20 per cent of all medical care costs were paid by health plans. The study, which is part of a more extensive survey covering 1948–1953 to be published by the agency, estimates the 1953 private medical bill at $9,866,000,000 and payments for benefits at $1,919,200,000. Other statistics: (1) expenditures for hospital services alone were covered to the extent of 41.4 per cent, and physicians' services alone were covered to the extent of 20.7 per cent; (2) physicians' bills accounted for less than a third (28.6 per cent) of all private medical costs, while hospital bills made up 29 per cent, medicines and appliances 22 per cent, dentists' fees 9.6 per cent, other professional services 5.7 per cent, and health insurance 4.9 per cent.

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[3] Am. J. Phys. Med. 33: 273 (Oct.) 1954.

Item 2 above, relating to the cost of physicians' services and the total "of all private medical costs," seems important. Surely less than one third of all private medical costs cannot be considered as excessive in a total of over nine billion dollars. In view of the increasing proportion of the aged in the population, it seems inevitable that the amount of physicians' services must increase if only that bracket is considered, to say nothing of the over-all demand at all age levels.

One notes that 20 per cent of all medical care costs, more or less, was paid by health plans, voluntary in nature. It is to be hoped that this trend will increase in the years ahead.

Editorial Comment

The Health Dollar: The Doctor's Share. Frequently we have commented upon the tendency of people to lump their sickness costs in speaking to others after the event. We have surmised that too frequently more of the total cost was laid at the doorstep of the doctor than the facts seem to warrant. *New York Medicine,*[1] commenting editorially on this subject, has this to say:

> It is quite common for a patient after a serious illness or operation to go around and say, "my doctor bill was X hundreds of dollars," naming some large sum. This is the kind of boastful statement which brings disrepute to the medical profession because it is untrue. It cannot be emphasized too often that the portion of the health dollar received by physicians for their medical or surgical care is not as great as the hospital bills which accompany that care.
>
> The latest figures proving the point are those released by the Social Security Administration which made a study of voluntary health insurance in 1953. The statistics have just been received in December, 1954. In considering private medical costs, it was found the total health dollar was split as follows:
>
> | | |
> |---|---|
> | Hospital bills | 29.0% |
> | Doctor bills | 28.6% |
> | Medicine and appliances | 22.0% |
> | Dental bills | 9.6% |
> | Other professional service | 5.7% |
> | Health insurance | 4.9% |
>
> The years covered by the survey are from 1948 to 1953. The total private health bills of the nation in 1953 were $9,866,000,000. Of this amount voluntary health insurance repaid $1,919,200,000.
>
> The over-all figure and the point that the Social Security Administration set out to prove is that about 29 per cent of all health costs are paid for by health plans. Expenditures for hospital service alone were covered to the extent of 41.4 per cent. For the physicians' services alone insurance covered 20.7 per cent.

We think the Social Security Administration has greatly assisted in bringing the true facts to bear on a subject that in many instances seems to have produced more heat than light.

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[1] New York Med. **11:** 172 (Mar. 5) 1955.

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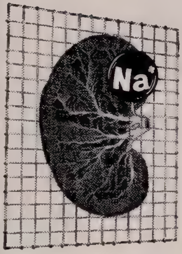

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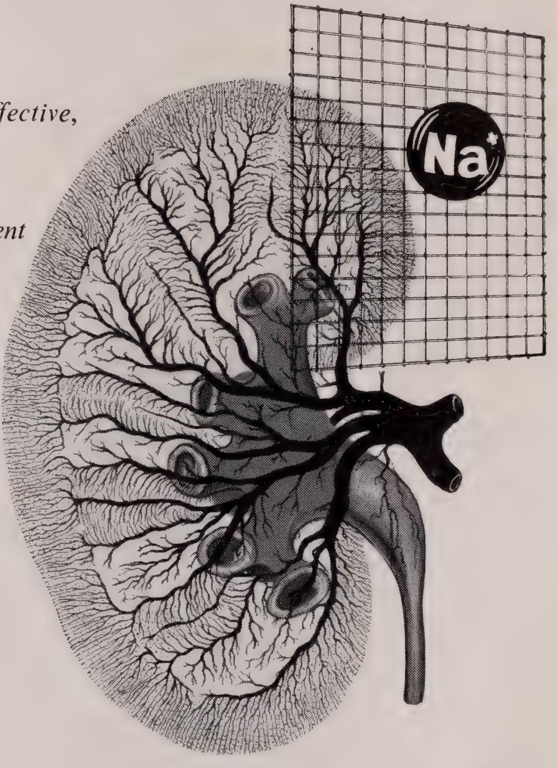

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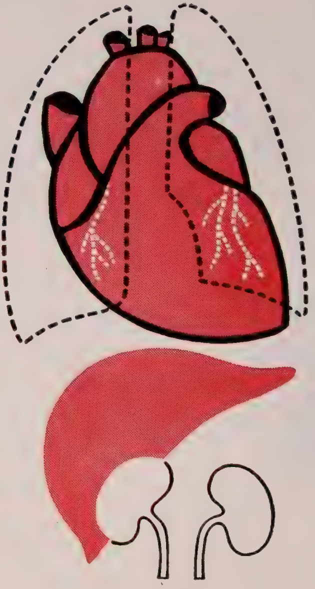

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Proprietary Nursing and Convalescent Homes

Their Role in Providing Care for the Chronically Ill

I. JAY BRIGHTMAN, M.D., F.A.C.P., ELIZABETH C. LYONS, AND E. RAY GRAMM,
ALBANY, NEW YORK

(From the New York State Department of Social Welfare and the New York State Department of Health)

The problem of providing adequate care for the increasing numbers of chronically ill persons has been well recognized by physicians, patients and their families, and the community. For those persons for whom adequate care cannot be secured at home, consideration must be given to providing care in chronic disease hospitals, proprietary nursing and convalescent homes, city and county homes and their infirmaries, and incorporated homes for the aged. It is evident that medical and social factors must be carefully studied before satisfactory placement in available facilities can be made.

There has been much controversy as to the exact nature of the proprietary nursing and convalescent homes and whether they are primarily medical, convalescent, or custodial facilities. This report aims to approach this problem by presenting a cross section of these homes in New York State (exclusive of New York City) with special emphasis on the trends in their development, the social and medical characteristics of the patients, and the services provided. This composite picture, based upon representative samples, should be helpful in understanding the general place of proprietary nursing and convalescent homes in the total chronic disease program in upstate New York. However, no conclusions should be drawn regarding any particular home in which a physician or family may be interested. Obviously, some homes operate at a very high level of performance, while others just barely meet minimum standards; some receive only self-paying patients, while others accept mostly public assistance recipients; some deal chiefly with bedridden patients, while others admit only those capable of some degree of self-help and self-mobility.

The distinction between nursing and convalescent homes is based on the services available. The nursing home must provide skilled nursing services in accordance with the provisions of the Social Welfare Law, the rules of the State Board of Social Welfare, and the Nurse Practice Act. On the other hand, the convalescent home need not hire registered or licensed practical nurses because by legal definition it may only provide such personal services not involving skilled nursing technics. While all facilities of these types have been classified into one category or the other by the State Department of Social Welfare, it must be recognized that there may be some overlapping between the two groups regarding needs of patients and services provided.

There has been a considerable increase in the number of beds in the nursing and convalescent homes in recent years, apparently due to several factors: (1) the increasing needs for placement associated with the increasing proportion of older persons in the population, (2) the changing social scene with less opportunity for caring for the elderly and chronically ill in their own homes or in the homes of relatives, and (3) the passage of the amendments to the Social Security Act of 1935 making funds available for Old Age Assistance recipients or Old Age and Survivors' Insurance beneficiaries to pay for care in these facilities. A survey in 1949 revealed the availability of about 9,500 beds in all nursing and convalescent homes in upstate New York. At

TABLE I.—AGE OF HOME FROM FIRST OPENING*

Age of Home	Nursing Homes				Convalescent Homes			
	Homes		Beds		Homes		Beds	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Less than 5 years	18	37.5	307	29.2	9	29.0	95	31.1
5 years and under 10	12	25.0	297	28.2	10	32.3	118	38.5
10 years and over	18	37.5	448	42.6	12	38.7	93	30.4
TOTAL	48	100.0	1,052	100.0	31	100.0	306	100.0

* Excludes 12 nursing and 5 convalescent homes, age unknown.

TABLE II.—NUMBER OF HOMES AND BED CAPACITY

Bed Capacity	Nursing Homes				Convalescent Homes			
	Homes		Beds		Homes		Beds	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Under 10 beds	11	18.3	68	5.3	19	52.8	95	25.9
10 to 14	12	20.0	150	11.7	8	22.2	88	24.0
15 to 24	21	35.0	414	32.2	6	16.7	106	28.9
25 to 34	9	15.0	260	20.2	3	8.3	78	21.2
35 to 49	5	8.3	195	15.2	..	...	..	...
50 and over	2	3.4	197	15.4	..	...	..	...
TOTAL	60	100.0	1,284	100.0	36	100.0	367	100.0

the time of this study (January, 1954) this total had increased to 13,453. The latter includes 11,893 beds in 637 nursing homes and 1,560 in 166 convalescent homes.

Method of Study

The study was conducted on a 10 per cent sample of nursing homes and a 25 per cent sample of convalescent homes. A master card file is maintained for each home under the supervision of the State Department of Social Welfare. On this card is recorded the capacity of the home. The cards for the upstate nursing homes were arranged by capacity from the lowest to the highest and every tenth card selected. For each home selected, schedules were requested for each patient under care as of the time of the study. The same procedure was followed for convalescent homes except that every fourth card was selected. The completion of the individual schedules for nursing and convalescent homes was supervised by representatives of the Area Offices of the State Department of Social Welfare.

Findings

AGE OF HOME SINCE OPENING.—Table I presents a picture of the nursing and convalescent homes according to the number of years since the buildings were first used for this specific purpose.

It is noted that 37.5 per cent of the nursing homes, accounting for 29.2 per cent of the available beds, have been established during the past five years. Likewise, 29 per cent of the convalescent homes, accounting for 31.1 per cent of the beds, were established within a similar period.

The median age of the nursing homes is 7.5 years, indicating that one half of the homes have been established within that period and the other half have been operating for a longer period of time. The median for the convalescent homes is 8.25 years.

The above figures do not in any way relate to the age of the building. Very seldom is a facility constructed primarily for nursing or convalescent home purposes. The general pattern is for an old, large residence to be taken over and converted to congregate care use.

These figures indicate that there has been a relatively high degree of activity in the development of these homes during recent years, yet the data also show a fair degree of stability in the operation of nursing and convalescent homes. Approximately 38 per cent of each have been operating as such for a period of ten years or more.

BED CAPACITY.—Table II shows bed capacities of the nursing and convalescent homes. Half of the nursing homes have between 15 and 34 beds, with 35 per cent being in the 15 to 24-bed category and 15 per cent in the 25 to 34-bed group. It is noted that 18.3 per cent of the nursing homes have less than ten beds, obviously accounting for only a small percentage of the beds, 5.3 per cent. At the other extreme there are 11.7 per cent of the nursing homes with

TABLE III.—Per Cent Distribution of Patients by Age and Sex

	Nursing Homes			Convalescent Homes		
Age Group	Total Patients	Male	Female	Total Patients	Male	Female
Total patients	1,101	335	766	290	78	212
Under 55	2.9	4.2	2.4	3.4	1.3	4.2
55 and under 65	4.8	5.0	4.7	5.9	9.0	4.7
65 and under 75	20.5	25.1	18.5	20.7	29.5	17.5
75 and under 85	44.5	40.3	46.4	43.4	42.3	43.9
85 years and over	26.0	24.5	26.6	25.9	17.9	28.8
Unknown	1.3	0.9	1.4	0.7	...	0.9
Per cent distribution by sex	100.0	30.4	69.6	100.0	26.9	73.1

TABLE IV.—Per Cent Distribution of Patients by Primary Diagnosis and by Sex

	Nursing Homes			Convalescent Homes		
Primary Diagnosis	Total Patients	Male	Female	Total Patients	Male	Female
Circulatory, no heart involvement	16.0	16.4	15.8	20.7	20.5	20.8
Heart disease	15.7	20.3	13.7	16.6	16.7	16.5
Senility	14.4	12.5	15.3	5.9	2.6	7.1
Hemiplegia	14.2	12.5	14.9	7.9	5.1	9.0
Fracture of hip	5.9	5.4	6.1	3.4	1.3	4.2
Arthritis and rheumatism	5.6	3.9	6.4	10.0	6.4	11.3
All other	28.2	29.0	27.8	35.5	47.4	31.1

TABLE V.—Per Cent Distribution of Patients by Primary Diagnosis and by Length of Stay

	Nursing Homes				Convalescent Homes			
Primary Diagnosis	Less than 6 months	6 months and less than 12 months	1 year and less than 3 years	3 years and over	Less than 6 months	6 months and less than 12 months	1 year and less than 3 years	3 years and over
Circulatory, no heart involvement	19.3	19.3	31.8	29.6	30.0	11.6	31.7	26.7
Heart disease	23.1	19.1	35.3	22.5	29.2	22.9	33.3	14.6
Senility	20.1	13.2	44.7	20.1	41.2	...	11.8	47.0
Hemiplegia	21.8	17.3	36.5	24.4	43.5	4.3	26.1	26.1
Fracture of hip	32.3	12.3	46.2	9.2	40.0	10.0	30.0	20.0
Arthritis and rheumatism	16.1	8.1	35.5	40.3	24.1	13.8	34.5	27.6
All other	33.9	18.7	26.8	20.6	22.3	13.6	36.9	27.2
Total group	25.1	16.9	34.5	23.5	28.6	13.1	32.4	25.9

capacities of 35 beds or over, accounting for 30.6 per cent of the beds. Convalescent homes tend to run considerably smaller with about half being under ten beds and approximately three fourths being under 15 beds.

Age and Sex of Patients.—The approximate two to one predominance of females among the residents of both nursing and convalescent homes is indicated in Table III.

It is noted that 91.0 per cent of the patients in nursing homes and 90.0 per cent of those in convalescent homes were sixty-five years of age and over. Approximately 70 per cent of each group were seventy-five years of age and over, with about 26 per cent being eighty-five years of age and over. In general, the females are more concentrated in the older age groups than are the males.

Primary Diagnosis.—The percentage distribution of patients by primary diagnosis is recorded in Table IV. Only those diagnoses which individually account for 5 per cent or more of the total patients in the nursing homes are recorded, the others being included in "all other."

This distribution of primary diagnosis is about what would be anticipated, considering the age groups involved. One might have expected the cancer group to rank above 5 per cent among patients of this type. Actually, neoplasms accounted for 4.5 per cent of the patients in nursing homes and 2.8 per cent of patients in the convalescent homes. This situation is attributable in part to the fact that cancer patients have a much more limited life expectancy than most other patients placed in nursing homes.

Length of Stay of Patients.—As seen in Table V, patients in nursing and convalescent homes can hardly be considered as temporary or terminal cases only. Approximately one fourth of the patients in each type of home have been in the homes for three years or more with an additional one third having been in the homes between one and three years.

TABLE VI.—Per Cent Distribution of Patients by Time Elapsed since Last Visit by Physician

Time Elapsed since Last Visit by Physician	Nursing Homes	Convalescent Homes
Less than 1 month	74.6	57.2
1 month and less than 3	9.3	15.5
3 months and less than 6	6.1	13.1
6 months and less than 12	2.6	4.5
12 months and over	0.9	1.7
No visit since admission	1.2	6.6
Not recorded	5.3	1.4

TABLE VII.—Frequency of Physicians' Visits

Number of Physicians' Visits in Less than 1 Month	Nursing Homes		Convalescent Homes	
	Patients	Per Cent	Patients	Per Cent
No visits or number of visits not recorded	280	25.4	124	42.8
Visits in less than 1 month	821	74.6	166	57.2
1 to 3	590	53.6	148	51.0
4 to 8	81	7.4	16	5.5
9 visits and over	142	12.9	...	...
Number of visits in less than 1 month unknown	8	0.7	2	0.7
Total patients	1,101	100.0	290	100.0

TABLE VIII.—Per Cent Distribution of Patients by Bed Status

Bed Status	Nursing Homes	Convalescent Homes
Out of bed except to sleep or rest	51.5	72.4
In bed part of the time	22.8	15.2
In bed most of the time	10.1	6.5
In bed all the time	15.3	5.9
Unknown	0.3	...

TABLE IX.—Per Cent Distribution of Patients by Walking Ability

Walking Status	Nursing Homes	Convalescent Homes
Alone or with cane or crutch	48.0	67.9
With walker or wheelchair	9.2	5.5
Only with attendant's help	14.5	11.4
Does not walk or get about	28.2	15.2
Unknown	0.1	...

Analysis by primary diagnosis reveals considerable fluctuation of length of stay among the different clinical groups in each type of home and in the same group in the two types of homes. Of interest is the generally longer stay of the arthritis and rheumatism patients in the nursing homes, apparently related to the nonlethal nature of the diseases. However, this was not noted in the convalescent homes where senility patients showed the longest stay. These differences may be partially attributable to the differences in the services provided in these homes.

Physicians' Visits.—According to Table VI, about three fourths, 74.6 per cent, of the patients in nursing homes had been seen by a physician within the month prior to the date of the study. An additional 9.3 per cent had been seen by a physician within a period of from one to three months. About 11 per cent of the patients in the nursing homes had not been seen by a physician within the last three months. This last figure is fortunately small, but it does point out a serious defect. Persons requiring nursing home care should certainly be observed by a physician at no longer than three-month intervals. The State Department of Social Welfare requires this as a minimum, while most local welfare districts, with the encouragement of the State, are requiring physicians' visits at least monthly.

The period since the last visit by a physician was generally longer in the convalescent homes. This might be expected since the convalescent homes provide services for patients with less serious illnesses.

Table VII records the frequency of physicians' visits within the last month. In the nursing homes 53.6 per cent of the patients had from one to three visits, 7.4 per cent from four to eight visits, and 12.9 per cent had nine visits or more. The data do not indicate whether the physicians' visits were routine or had been specially requested because of an acute episode or clinical change in condition. The 20.3 per cent of patients receiving four or more visits during the month probably had acute or subacute conditions.

Physical and Mental Status of Patients.—Concerning bed status (Table VIII), 51.5 per cent of the patients in nursing homes and 72.4 per cent of those in convalescent homes were out of bed the greater part of the day. Regarding walking ability (Table IX), 48 per cent of the nursing home patients and 67.9 per cent of the convalescent home residents were able to walk alone or with the aid of a cane or crutch.

These figures indicate a fair degree of mobility among the patients in these facilities and should be considered in relation to the length of stay of patients in these homes, the recreational services, and the planning for the patients, as discussed elsewhere in this article.

It should be further pointed out that additional findings (not presented in these tables) showed that of the total patients cared for in nursing homes, 47.7 per cent were always clear mentally; 32.8 per cent were confused part of the time,

TABLE X.—SERVICES RECEIVED

Services	Nursing Homes		Convalescent Homes	
	Number	Per Cent	Number	Per Cent
Requiring nurses	198	18.0	1	0.3
Required semiskilled help	787	71.5	146	50.4
Mainly boarding care	111	10.1	141	48.6
Not specified	5	0.4	2	0.7
Total patients	1,101	100.0	290	100.0

TABLE XI.—TYPE OF DIET

Diet	Nursing Homes		Convalescent Homes	
	Number	Per-cent	Number	Per-cent
Regular diet	857	77.9	239	82.4
Total on special diet	243	22.0	51	17.6
Salt-free or low-salt	125	11.3	26	9.0
Diabetic	62	5.6	9	3.1
Soft or pureed	10	0.9	4	1.4
Reducing	2	0.2	1	0.3
Liquid	1	0.1	2	0.7
Other specified diet	38	3.4	9	3.1
Other, not specified	5	0.5	...	...
Unknown	1	0.1	...	...
Total patients	1,101	100.0	290	100.0

TABLE XII.—PRESENT STATUS OF PATIENT COMPARED WITH STATUS ON ADMISSION

Status of Patient	Nursing Homes		Convalescent Homes	
	Number of Patients	Per Cent Distribution	Number of Patients	Per Cent Distribution
Essentially no change	652	59.2	180	62.1
Much better	275	25.0	87	30.0
Much worse	171	15.5	22	7.6
Unknown	3	0.3	1	0.3
Total patients	1,101	100.0	290	100.0

TABLE XIII.—TENTATIVE PLAN FOR PATIENT

Plan	Nursing Homes		Convalescent Homes	
	Number of Patients	Per Cent Distribution	Number of Patients	Per Cent Distribution
Remain indefinitely	1,026	93.2	239	82.4
Leave after convalescence from acute illness	32	2.9	4	1.4
Receive rehabilitation therapy in preparation for discharge	2	0.2	...	...
To return to own home or private home for aged	9	0.8	7	2.4
To mental hospital	5	0.4	1	0.3
No specific plan	26	2.4	37	12.8
Unknown	1	0.1	2	0.7
Total patients	1,101	100.0	290	100.0

while 19.1 per cent were confused most of the time. Considering these same factors in relation to persons under care in convalescent homes, the percentages are 69.3, 22.1, and 8.3, respectively.

Regarding personal hygiene, 67.1 per cent of the nursing home patients and 86.9 per cent of the convalescent home patients were reported to be completely continent.

Thus it appears that a large percentage of nursing and convalescent home patients are capable of participating in a wide range of activities and should not be relegated to a vegetative existence.

SERVICES RECEIVED.—The patients were divided into three main categories in accordance with the services they were receiving. The study included the following services: help in feeding, help in dressing, care of the hair, shaving, help with the tub bath or shower, full bed bath, rub and massage, bedpan, enema, hypodermic injection, dressings, medication, taking of pulse, temperature, and respiration, and provision of special diet.

In the first category were those patients who required and received care by registered professional nurses or licensed practical nurses because of the nature of the service or because their serious physical condition precluded even routine care by other than nursing personnel. As indicated in Table X, 18 per cent of the nursing home patients were in this category, contrasted to 0.3 per cent of the convalescent home patients. (Obviously, no patients requiring nursing care should be in convalescent homes.)

The second category consisted of those persons who required and received many of the services studied but whose needs in many instances could be met by persons trained as attendants or nurses' aides; 71.5 per cent of the nursing home patients and 50.4 per cent of the convalescent home patients were so categorized.

The remaining number of patients amounted to 10.1 per cent of the nursing home patients and 48.6 per cent of the convalescent home patients and were considered to be mainly boarding problems for whom assistance in personal care could be provided by any nondisabled adult with an interest in doing so.

SPECIAL DIETS.—As Table XI shows, 22.0 per cent of the nursing home patients and 17.6 per cent of the convalescent home patients received special diets. The most common dietary request by physicians was for salt-free or low-salt diets

TABLE XIV.—PER CENT DISTRIBUTION OF SOCIAL AND RECREATIONAL ACTIVITIES

	Nursing Homes		Convalescent Home	
Type of Activity	Male	Female	Male	Female
Total with any specified activity*	93.1	96.3	96.2	96.7
Receive visitors	78.8	92.4	85.9	91.5
Receive and write letters	33.7	52.0	56.4	55.7
Listen to radio or TV	69.0	59.9	79.5	73.6
Read newspapers, magazines, or books	47.8	48.8	73.1	61.8
Do handwork or arts and crafts	2.4	14.0	1.3	21.7
Take part in games and group activities	4.5	8.1	2.6	11.3
Help with work in home	2.7	1.4	5.1	3.8
Go off the grounds to visit, etc.	10.4	14.0	41.0	24.5
Miscellaneous activities	6.0	3.4	3.8	3.3
Unknown	0.9	0.3	...	...

* The percentages shown for this group will not equal the sum of the percentages of the subdivisions inasmuch as a patient may engage in more than one activity.

with diabetic diets in second place. Only the primary nature of the diet is listed in the table.

PRESENT STATUS OF PATIENTS COMPARED TO CONDITION.—Table XII presents a comparison between the status of the patient at the time of the study with that existing at the time of admission. It is noted that about 60 per cent of the patients in each group were considered to have shown no essential change; 25 per cent of the nursing home patients and 30 per cent of the convalescent home patients were declared to have been improved, while 15.5 per cent and 7.6 per cent of the patients in the two groups, respectively, were considered to be much worse. These were general impressions of the proprietors and were not based on medical records.

TENTATIVE PLAN FOR PATIENTS.—Inquiry was made during this survey as to what future plans, other than to remain in the home, had been made by either the patients, their relatives, or other persons concerned. Table XIII indicates that such plans were rarities. In the nursing homes it was stated that 93.2 per cent of the patients were expected to remain indefinitely, and another 2.4 per cent had no specific plans. Only 2.9 per cent were expected to leave the home after convalescence from an acute illness, and another 0.2 per cent (two patients) were said to be receiving some form of rehabilitation therapy in preparation for discharge. Only 0.8 per cent of the patients were to return to their own homes or to private homes for the aged. The picture was not much brighter among the convalescent homes. Here 82.4 per cent of the patients were expected to remain indefinitely, and there was another 12.8 per cent for whom no specific plan was stated.

SOCIAL AND RECREATIONAL ACTIVITIES.—Table XIV presents the major activities in which the patients engaged. It is noted that the majority received visitors, but the frequency of the visits was not indicated. One third of the male patients and about half of the female patients in nursing homes received and wrote letters, as did slightly more than half of all convalescent home patients. Again, the frequency was not indicated.

The major activity on a daily basis seemed to be listening to the radio or watching television and reading newspapers, magazines, or books. More women than men engaged in handwork or arts and crafts. However, only 14 per cent of the women in nursing homes and 21.7 per cent of those in convalescent homes engaged in such activities.

When one considers the large number of ambulatory and mentally clear patients in these homes, the amount of social and recreational activity seems very meager. Considering also the large percentage of patients who remain one or more years, it would appear that the recreational program in most of these facilities should be considerably expanded.

REHABILITATION SERVICES.—The survey failed to detect any significant attempts at rehabilitation in the homes under study. Five nursing homes provided some form of physiotherapy, and one nursing and one convalescent home offered occupational therapy. Services by therapists supplied by outside sources were negligible.

SOURCE AND AMOUNT OF PAYMENT.—Determinations of the source of payment indicated that the total care of approximately half the patients in these homes was paid for by welfare agencies. Private sources paid for 43.7 per cent of the nursing home patients and 46.9 per cent of the convalescent home patients. The remainder were paid for partly by the welfare agency and partly by the patient or his family.

As would be expected, private patients generally use the more expensive homes. Only 40.6 per cent of welfare recipients were at homes charging as high as $150 to $200 a month. On the other hand, 75.8 per cent of self-paying patients were in homes with fees over $150 a month, and 42.8 per cent were in homes with fees over $200 a month.

The median monthly payment for all patients was $157.78. For the private patients it was $177.96, and for the public welfare recipients it was $140.76.

Summary

1. A sample group of proprietary nursing and convalescent homes in the upstate New York area has been surveyed to determine developmental trends, the characteristics of the patients, and the services provided. The findings believed to be of interest to New York State physicians are reported here.

2. The number of available beds in nursing and convalescent homes has increased considerably during recent years, and these facilities have developed an important role in the care of the elderly and chronically ill who do not require hospital service but who cannot be taken care of at home.

3. About one fourth of the patients have been in the homes for three years or more, and another one third have been there between one and three years. Thus, these homes cannot be considered only as temporary abodes or places for disposition of terminal illness.

4. Despite considerable numbers of completely incapacitated patients, the majority of the patients were out of bed, except to sleep or rest, were able to walk alone or with the assistance of a cane or crutch, were mentally clear, and were completely continent.

5. Social and recreational activities in the homes were very meager, particularly when considered in the light of the high degree of mobility and mental clarity of the patients and the long duration of the stay for many of them.

6. There was little evidence of planning for the patients other than their remaining in the home indefinitely.

7. Medical care seemed adequate in most instances with the majority of patients being under the regular care of their own physicians. However, 11 per cent of the nursing home patients had not been seen by a physician for periods of three months or longer.

8. Nursing services likewise appeared adequate. With a single exception all patients requiring the skills of the qualified nurse were in the nursing homes where such services must always be available.

9. If nursing and convalescent homes are to maintain the important role they have been assuming in the care of the elderly and chronically ill, there should be immediate steps taken to provide more dynamic social and recreational programs for the long-term and mentally clear patients and more intensive social and rehabilitative planning on the part of the physicians and social workers concerned with the individual patients.

The Surgical Treatment of Intractable Angina

In general, surgical methods for relieving intractable angina are of two types: (1) Neurosurgical, for relief of pain of a limited area but not calculated to affect directly the ischemia of the heart or the course of the disease (2) Revascularization procedures to correct myocardial ischemia by improving the blood supply.

In reviewing these approaches, Dr. Samuel Alcott Thompson in the *Connecticut State Medical Journal,* February, 1955, explains the rationale on which they are based giving particular attention to revascularization. Angina, he reminds the reader, may occur with or without the presence of coronary artery disease, and coronary disease may occur with or without angina. Coronary artery spasm alone can result in angina. Angina, coronary insufficiency, and myocardial infarction have in common either primary or secondary ischemia: primary, when organic disease of the coronary arteries reduces the blood supply to the myocardium; secondary, when the deficiency in blood supply is due to factors other than organic coronary disease—hypertension, rheumatic fever, etc. Corrective surgery is based largely on the fact that small vessels around the pulmonary artery, around the superior and inferior vena cavae, from the pericardium and aorta, offer an auxiliary potential. If coronary arteries are occluded, these vessels, properly stimulated, are capable of great expansion, offering substitute circulatory routes. This growth potential is probably the key factor in all myocardial revascularization procedures.

Emphysematous Cholecystitis

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EMPHYSEMATOUS cholecystitis was reported as an autopsy observation in 1896 by Welch and Flexner,[1] Lobingier[2] in 1908, and Tanner[3] in 1922, and Brutt[4] in 1923 described gas in the gallbladder at the time of operation. However, Kirchmayr[5] has been credited with first drawing attention to this entity in 1925 when he found a gangrenous gallbladder whose walls were distended with gas and pus and showed the presence of emphysematous blebs. Since then approximately 25 cases have been reported in the world literature.[6–24]

The presence of gas in the biliary tree can be assumed to be due to one of the following three mechanisms: (1) an abnormal communication between the digestive system and the bile ducts or the gallbladder, (2) the presence of gas-producing organisms in the biliary system, or (3) the reflux of duodenal gas through the ampulla of Vater into the common duct. An abnormal communication between the biliary and digestive tracts is usually the result of perforation of a gallstone into the bowel or stomach or occasionally of an ulcer into the common duct or gallbladder.

Cases of gallstone perforation often show gas in the biliary ducts and less often in the gallbladder, which is usually contracted and not sharply outlined. The pathway of infection by gas-forming bacteria is largely speculative. Gas-producing organisms apparently exist in the bile and gallbladder wall as harmless saprophytes but under certain conditions may become pathogenic. There is also a possibility of the entrance of gas-forming organisms from the bowel by direct extension along the lymphatics or the common duct. The reflux of duodenal gas may be due to an incompetent sphincter of Oddi which is usually secondary to disease in the region of the duodenal papilla, generally of an inflammatory nature. Factors in the pathogenesis of cholecystitis are as follows:

1. Obstruction of the cystic duct—This is usually due to calculus but sometimes may be due to inspissated bile or mucus, angulation or kinks in the duct, anomalous blood vessels, adhesions, periduodenitis, enlarged lymph nodes, or tumor.
2. The local chemical effects of entrapped bile which may be altered chemically by concentration, physical trauma due to gallstones, and ischemia due to cystic artery obstruction.
3. Bacterial invasion superimposed on devitalized tissue. The bacteriology of emphysematous cholecystitis is not enlightening. Escherichia coli and Clostridium perfringens are the most frequently encountered gas-forming bacteria in the gallbladder. In the cases recorded by Heifetz and Senturia[14] there were nonspore-forming and atypical Cl. perfringens, anaerobic spores on direct smear, aerobic and anaerobic streptococci, Streptococcus fecalis, organisms of the paracolon and bacteroides group, and Cl. filiformis.

The x-ray findings are distinctive and characteristic.[26] A sharply outlined gas shadow is seen in the right upper quadrant conforming to the size, shape, and position of the gallbladder and often pear-shaped. If invasion of the gallbladder wall has occurred, gas may be seen in the planes of the gallbladder wall and in the surrounding tissues. Sometimes positive shadows of calculi may be seen within the gas-outlined lumen. No gas is seen in the biliary ducts. A film in the upright position may show a fluid level in the gallbladder. In obscure cases barium enema and upper gastrointestinal series help rule out cholecystoenteric or choledochoenteric fistulas. A duodenal cap distended with gas may simulate a gas-filled gallbladder. An x-ray taken with a Miller-Abbott tube in place can clarify the situation present. McCorkle and Fong[27] summarized the diagnostic criteria for this condition as follows: (1) gas confined to the lumen of the gallbaldder, (2) fluid level present on upright films, (3) no visualization of the duct system, and (4) gas present within the gallbladder wall. In 1949 Friedman *et al.* in discussing this disease pointed out that gas in the biliary ducts as well as in the gallbladder would indicate that the process has spread into the common duct and into the biliary ducts and that a cholangitis is also present.

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Treatment

A review of the literature reveals proponents both for conservative treatment of gaseous cholecystitis, utilizing penicillin, sulfonamides, polyvalent gas antiserum, and x-ray therapy and for surgical intervention. Gowdey and Copeland[18] observe that surgical intervention appears to be the method of choice, particularly if the gas is confined to the lumen and has not yet extended to the surrounding tissues. It seems likely that the increasing tension produced by gas within the lumen would increase the possibility of gangrene and perforation with resultant pericholecystic abscess and peritonitis. In 1952 Schottenfeld,[28] discussing a series of 18 cases of Cl. welchii infection of the biliary tract, pointed out that this infection is very virulent and can rapidly cause overwhelming bacteremia and death, especially if the common duct becomes involved with resultant liver damage, jaundice, and biliary cirrhosis. He points out that the morbidity and mortality rise appreciably, the longer the disease has existed and the more extensively the liver has become involved. He advises penicillin, streptomycin, and sulfadiazine both before and after surgery, and the surgical procedure should be either cholecystectomy or hemicholecystectomy with cauterization of the posterior wall of the gallbladder after the method of Thorek. He also advises exploration of the common duct with the insertion of a T tube where it is indicated.

In 1952 Rothbart and Steinberg,[24] discussing the significance of the scout film of the abdomen in diagnosing acute abdominal disease, pointed out that, "If one knows that one is dealing with a gaseous infection in the gallbladder, immediate surgical intervention is indicated in preference to conservative management."

Case Reports*

CASE 1.—G. M., a sixty-one-year-old, white, Italian female, was admitted to Fordham Hospital on December 6, 1953, with a complaint of pain in the right upper quadrant of the abdomen associated with vomiting of one day duration. She had had four similar episodes in the year preceding admission. The significant findings on admission were tenderness and spasm in the upper right quadrant. Her temperature was 99.0 F.; white blood cell count was 26,700 with 94 per cent segmented cells, 2 per cent lymphocytes, and 4 per cent monocytes. Hemoglobin was 95 per cent; urea nitrogen 8 mg. per cent; sugar 180 mg. per cent; alkaline phosphatase 3.3 units; cephalin flocculation negative; thymol turbidity 2.5 units; serum bilirubin 0.2 mg. per cent. Her urine showed albumin 1 plus, sugar 3 plus, acetone negative. On December 8, 1954, an x-ray of her chest was negative, and a gallbladder series showed no dye visualized, but the gallbladder was outlined by gas within its wall in its entire circumference (Fig. 1).

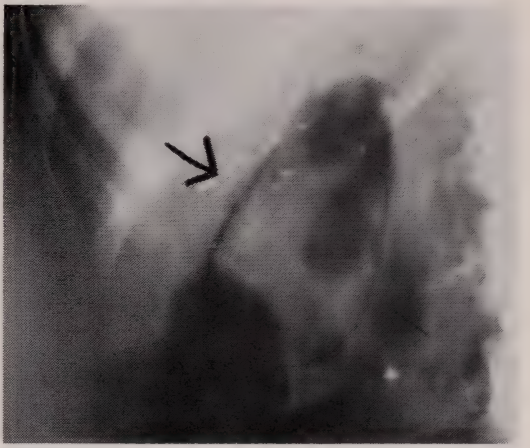

FIG. 1. *Case 1*—Arrow shows gas within the wall of the gallbladder.

On December 14, 1953, a laparotomy was done through a right upper rectus-splitting incision. Numerous omental adhesions were found to the parietal peritoneum, liver, and gallbladder. On freeing the gallbladder an area of gangrene was seen in the fundus. Purulent fluid and many small stones were evacuated. The mucosa in many places appeared to be separated from the underlying seromuscular coat. As much of the gallbladder as possible was removed from above downwards. The remnant of the gallbladder and the liver bed were both drained. Her convalescence was complicated by severe postoperative ileus which responded to Wangensteen suction, and on January 22, 1954, she was discharged symptom-free. A culture from the gallbladder contents obtained at operation showed Cl. perfringens and Esch. coli.

CASE 2.—T.F., a sixty-eight-year-old, white, Italian female, was admitted to Fordham Hospital on March 21, 1954, with a history that one week prior to admission she had had a weak spell followed by abdominal pain and vomiting. For three days prior to admission she had been vomiting continually and had been unable to retain any solid food. She had been a known diabetic for twenty years and had been taking 20 units of protamine zinc insulin daily. Physical examination on admission revealed a drowsy, elderly, white female with markedly icteric skin and sclerae. Her tongue was dry and coated,

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* All the cases were taken from the Surgical Service of Dr. Arthur B. Sullivan, surgical director, 2nd Surgical Division, Fordham Hospital.

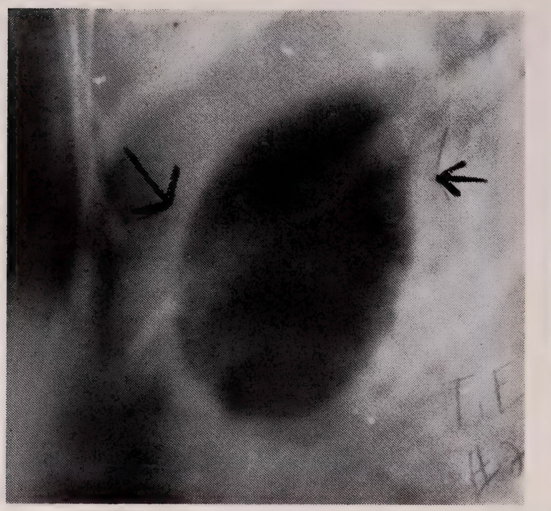

Fig. 2. *Case 2*—Arrows show the lumen of the gallbladder filled with gas.

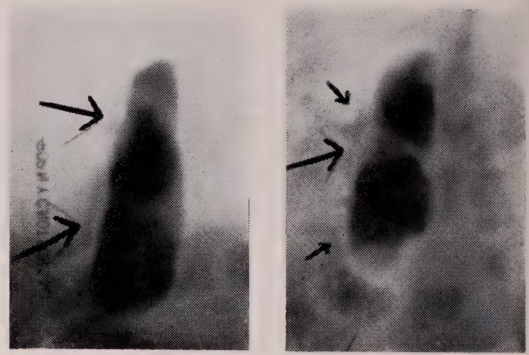

Fig. 3. *Case 3*—X-rays taken on April 1 (*left*) and April 20 (*right*). Arrows indicate gas within the lumen of the gallbladder as well as within its wall.

blood pressure 160/90, pulse rate 100; heart and lungs were clear. Her abdomen was distended and tympanitic with tenderness in the epigastrium and right upper quadrant. The liver extended two fingerbreadths below the costal margin and was tender. The urine contained 2 plus sugar and 3 plus acetone; blood urea nitrogen was 45 mg. per cent, blood sugar 530 mg. per cent, carbon dioxide combining power 33 volumes per cent.

On admission a diagnosis of diabetic acidosis and jaundice of undetermined origin was made. Vigorous diabetic treatment was instituted. By April 1, 1954, her blood urea nitrogen had dropped from a previous high of 88 mg. per cent, and her blood sugar had fallen to 100 mg. per cent. Liver function studies showed a total protein of 6.9 Gm. per 100 cc. with an albumin-globulin ratio of 1.2; cephalin flocculation was reported as 2 plus, albumin 3.8 Gm. per 100 cc., thymol turbidity 4 units, serum bilirubin 5.5 mg. per cent, alkaline phosphatase 2.0 units. The stool was negative for uribilinogen. The red blood count was 3,850,000, white blood count 27,400, hemoglobin 74 per cent. X-rays taken on March 30, 1954, showed that the gallbladder was distended with gas (Fig. 2). The patient was afebrile and fairly comfortable until April 9, 1954, when her temperature rose to 101 F. for two days. It then subsided, but on April 18, 1954, it again rose to 102 F. During the next three days she became weaker and dyspneic and expired on April 20, 1954.

An autopsy was performed, and the pathologist reported an unusual amount of fatty tissue attached to the gallbladder wall and several abscesses around and in the gallbladder which contained many reddish-green stones. The cystic, hepatic, and common ducts were thickened, but no obstruction was encountered in them. Sections through the liver revealed a pale brown, greasy parenchyma with a cloudy fluid oozing from the intrahepatic bile ducts. The pancreas also showed fatty infiltration. The anatomic diagnosis was (1) bronchopneumonia of left lower and right middle and lower lobes, (2) severe fatty infiltration of the liver, (3) cholangitis, (4) emphysematous cholecystitis, (5) cholelithiasis, (6) fatty infiltration of the pancreas, (7) arterionephrosclerosis, and (8) generalized arteriosclerosis. Only Staphylococcus was obtained from culture of pus taken from the gallbladder at autopsy.

Case 3.—T. M., seventy-one-year-old, white male, was admitted to Fordham Hospital on March 18, 1954, with jaundice. The present illness had begun three days prior to admission with jaundice, darkly colored urine, and light-colored stools. He stated at this time that for the past year he had not been taking insulin. Physical examination on admission revealed a moderately obese, white male with dry tongue and lips. The chest was clear to percussion and auscultation. Blood pressure was 90/50. The heart rate was 90 per minute and regular. His abdomen showed a well-healed suprapubic scar, and there was tenderness present in the right upper quadrant.

His urine on admission was strongly positive for bile, negative for sugar and albumin, and had a specific gravity of 1.019. The hemoglobin was 84 per cent, white blood count 7,200 with differential count of 66 per cent segmented, 26 per cent lymphocytes, 6 per cent monocytes, and 2 per cent eosinophils. The sedimentation rate was 32 mm. per hour corrected, blood urea nitrogen 28 mg. per cent, blood sugar 320 mg. per cent. On March 26, 1954, a van den Bergh was reported as direct, positive; cholesterol was 250 mg. per cent, total protein 6.6 Gm. per 100 cc., albumin-globulin ration 1.1, alkaline phosphatase 7.1 units, and serum bilirubin 23.4 mg. per cent. On April 1 the urea nitrogen was 36, creatinine 1.8, and blood sugar 290 mg. per cent. On April 23, 1954, the serum amylase was 130 diastase units, bilirubin 3.6 mg. per cent, Mazzini negative, and urine negative for urobilinogen. A specimen obtained by duodenal drainage on April 6, was reported negative for cancer cells.

A gallbladder series on April 1, 1954, was reported as showing a gas-outlined gallbladder with no concentration of dye (Fig. 3). On April 6 a gallbladder series showed no concentration of dye, but the previously noted gas was not evident. The gallbladder series was repeated on April 20; it was again reported as showing a gas-filled gallbladder with air in its walls and no dye excreted (Fig. 3).

This patient was placed on Gantrisin and tincture of belladonna on admission, and on April 10 streptomycin was also administered. A surgical consultant, who saw the patient on March 31, advised transfer to the surgical service, but the medical service felt that the case was one of homologous serum jaundice and refused at that time to transfer the patient to surgery. By April 28 the jaundice had subsided markedly but not completely. The patient was ambulatory and comfortable. Following a joint medical-surgical conference he was transferred to the surgical service, but before operation could be done the patient signed out of the hospital, on his own responsibility, on May 1, 1954.

Comment

In most of the cases reported which came to operation the surgeon reported finding a gangrenous gallbladder with either impending or actual perforation. In our three cases we found that the patient who came to operation had a gangrenous gallbladder that was on the verge of rupturing. In the case of the patient who expired, autopsy revealed a ruptured gallbladder with pericholecystic abscesses, and the third patient had a reappearance of a gas-filled gallbladder on x-ray after it had once disappeared. In view of the tendency for these infections to spread under a conservative management, we agree that the procedure of choice is operative intervention as soon as the diagnosis is made.

Summary

1. The history of emphysematous cholecystitis is reviewed.
2. The pathogenesis of the disease and diagnostic criteria are discussed.
3. Treatment is discussed.
4. Three new cases are reported.

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Hydrotherapeutic Action of Crude Coal Tar in Selected Dermatoses

HENRY SILVER, M.D., NEW YORK CITY, EUGENE S. BERESTON, M.D., BALTIMORE, MARYLAND, AND MANUEL J. SCHAM, M.D., NEW YORK CITY

One of the old reliables in topical dermatologic therapy is crude coal tar, and its value has been thoroughly established by more than half a century of continued use.

Tars may be divided into four groups: shale (bituminous), wood, petroleum, and coal tars. They represent mixtures of hydrocarbons with different aromatic components such as toluol, phenol, creosol, and guaiacol. Coal tars also contain anthracene; shale tars contain sulfur and wood tars acetic acid. The original shale tar was prepared from Tyrolean shale deposits by distillation and treatment with sulfuric acid and ammonia. It is known as ichthyol and is widely used.

The wood tars such as oil of cade, oil of pine, oil of birch, etc., achieved some recognition as therapeutic agents, but clinical results were not uniform. Naphthalan is representative of tars obtained by fractional distillation of crude petroleum. Its therapeutic action is similar to that of the wood tars.

The methods of manufacture of crude coal tar are varied and depend primarily on the source of the raw material such as coal, coke, petroleum, shale, lignite, and other substances. The type of tar obtained depends further on the temperature of distillation, whether horizontal or vertical retorts are used, the amount of superheated steam, and the level of the tank. These factors obviously produce great variations in the chemical properties of the crude coal tars.

Figures 1 and 2 illustrate at a glance the following:

1. A comparison of the therapeutic activity of the various types of crude coal tar shows a

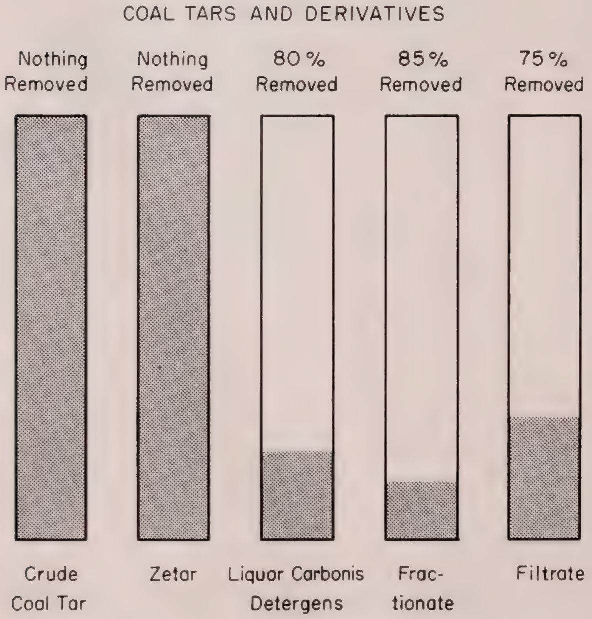

Fig. 1. Shaded areas indicate the amounts of crude coal tar remaining in fractionated products. Medicinal effect is proportional to amount of crude coal tar substance in the final product.

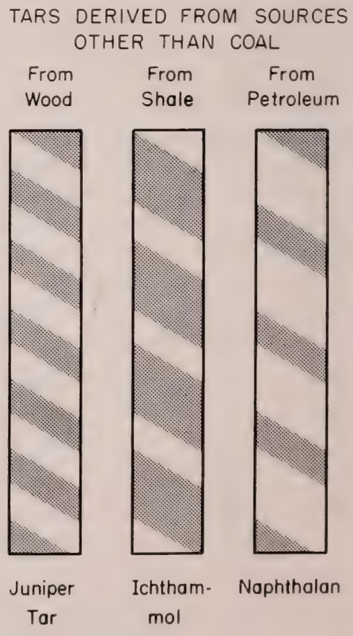

Fig. 2. Shaded areas merely indicate varieties of tar products derived from sources other than coal.

direct relationship of reduction of medicinal effect as greater portions of the tar are removed from the final product by methods unique with each manufacturer.

2. The major differences in commercial tars without attempting to detail the structure of each. They represent some of the many black, brown, heavy, viscid liquid or semiliquid substances grouped loosely as "tars." The term "tar" applies to tars produced from all sources, regardless of the complexity, composition, and variations in manufacture.

The direct mechanism through which tars act on abnormal skin is not known. Tars in industrial medicine and animal experiments are known to cause epidermal proliferation but are used in dermatologic therapy to reduce hyperkeratotic, acanthotic, and parakeratotic processes. Rothman and Shapiro[1] attempt to explain this paradox. Before causing epithelial proliferation tars have a suppressing action on the epidermis papillary body; apparently this initial phase of tar action is utilized in topical therapy.

It is well known that coal tar causes sensitization of the skin to longwave ultraviolet light rays and to the visible rays of sunshine. Goeckerman[2] has used this combined effect of ultraviolet light irradiation and local application of tar in psoriasis with excellent results. The sensitizing effect of coal tar is due to acridine compounds in the anthracene oil fraction. Because of these photosensitizing properties tar preparations should preferably contain zinc oxide which prevents sunlight from reaching the skin.

Since the turn of the century crude coal tar has found both adherents and critics. Its foremost exponent in this country was White.[3] In the hands of this excellent clinician crude coal tar preparations—and they were "crude" indeed—proved of great value even in those early days.

Unfortunately the use of this drug has been hampered because of some objectionable features. Criticism has been leveled at crude coal tar because of its varied chemical and physical composition and consequent therapeutic inconsistency. Pharmaceutic incompatibilities and esthetic handicaps such as staining qualities and difficulty of removal from skin and clothing have also restricted its usefulness.

In recent years a source of crude coal tar (Zetar) which eliminates almost all the disadvantages outlined has been made available commercially.* Unfortunately there is no official standard for the production of crude coal tar in the U.S.P. or N.F. Crude coal tar is a side product manufactured by industry with no controls during its production since the primary interest is in the volatile solvents and other chemical agents secured. The source of raw material varies, temperature of distillation varies from 200 to 2,500 C., and the shapes, sizes, and positions of the retorts vary considerably with consequent discrepancy in the chemical and physical nature of the many crude coal tars yielded. Zetar is differentiated from this conglomeration of substances in that it is produced by a standardized process which yields a uniform and dermatologically acceptable grade of crude coal tar. The raw material is anthracite, the temperature range between 650 and 750 C., and the retort horizontal in position. The tar secured by this process is quite uniform. In addition, during the course of manufacture the tar is micronized.

The micronization of Zetar makes it much more versatile so that it can be mixed and incorporated into all types of vehicles. Furthermore, this method of producing a tar especially for dermatologic use assures the physician of greater efficacy and uniformity therapeutically than the results produced by the chemically indefinite and physically different varieties of crude coal tar available in the past.

Zetar has proved quite versatile, and after extensive clinical trials many dermatologists have reported very favorably on it. Combes[4] was first to use Zetar with excellent results. He preferred this tar because of its many advantageous features, especially its complete miscibility with water. Pastes and ointments prepared with it, because of its hydrophilic nature, did not impede exudation, sweating, and evaporation from the cutaneous surface. Obermayer[5] states that photosensitization induced by this crude coal tar persists for more than twenty-four hours, and it is therefore not necessary, as was formerly supposed, to leave a thin film of tar on the lesions during exposure to ultraviolet light. He obtained very good results in psoriasis with Zetar emulsion baths and daily exposure to ultraviolet light in slowly increasing doses but always below the erythematous level. Lerner and Lerner[6] in describing the six most commonly used sources of crude coal tar mention Zetar first.

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* The products used in this study were generously supplied by the Dermik Pharmacal Co., Brooklyn 8, New York.

Polano[7] is of the opinion that gratifying results are obtainable with Zetar which has the additional advantage of being soluble in water. Niedelman[8] found Zetar effective in atopic dermatitis.

Newer Methods of Application of Crude Coal Tar (Zetar)

The disadvantage of repeated application of coal tar products is well recognized. It is a costly, time-consuming, messy, disagreeable procedure which is frequently inconvenient, and women patients especially are prone to discontinue the treatment before the objective is achieved. In the past applications of crude coal tar to the scalp or other hirsute areas were frowned upon by dermatologists. The folliculitis which often attended these measures was considered a strong contraindication. The result was that in many instances where the desirable antipruritic, antiseptic, and keratoplastic action of crude coal tar was indicated, less objectionable but also less effective drugs had to be substituted. The answer to this problem appeared to be a form of topical tar therapy which could be applied and, after a brief interval, be quickly removed to simplify treatment and prevent untoward effects.

Our new method of application takes advantage of the uniformity of action and especially of the ready miscibility of this tar with water. It was found especially useful as a shampoo (1 per cent Zetar in an aqueous superfatted, nonalcoholic detergent) in dermatoses of the scalp. Massaged into the scalp, it forms an abundant lather which is allowed to remain on the scalp for three to five minutes and then completely rinsed out. Thus, the above-mentioned objectionable features accompanying crude coal tar therapy are at once eliminated.

With this method of application we have obtained very satisfactory results in 74 cases of seborrhea capitis; 62 (84 per cent) showed excellent response after two to four weeks of treatment. Six cases (8 per cent) showed good response, and in six (8 per cent) no discernible improvement was noted. Only four cases required twelve weeks treatment to obtain the desired result. A control group of 40 patients using an ordinary bland soap shampoo alone showed only 12 per cent of cases improved at the end of four weeks.

In 18 cases of psoriasis of the scalp, 12 (67 per cent) responded well after two to eight weeks, four (22 per cent) improved, and two (11 per cent) showed no response. A control group of 15 cases treated with bland soap shampoo for six weeks showed no improvement. In our experience selenium sulfide shampoo has not proved useful in the treatment of psoriatic scalps. In a study published by one of us,[9] selenium sulfide proved effective in seborrheic dermatitis of the scalp in 89 per cent of the cases, but 31 per cent developed excessive oiliness, and some gray-haired individuals found their hair tinted orange. These side-effects were not encountered with Zetar shampoo.

We have not encountered a single case of folliculitis and have had no complaints from the usually objectionable features such as unpleasant odor, staining, or difficulty of removal. No irritative effects were seen to warrant the discontinuance of the treatment.

Another useful method of application was the tar bath using Zetar emulsion (50 per cent emulsified Zetar). Here again the ready miscibility of this tar with water and the uniformity of action proved valuable. Fifteen cases in which tar action was indicated were treated with Zetar emulsion. Approximately 2 tablespoonfuls (30 cc.) were used to the bath. The therapeutic effect was comparable to the routine application of a tar ointment or cream. Patients liked it because it was simple and convenient to use. The emulsion is nonstaining to the skin, hair, or bathtub. In cases of thickened patches of psoriasis or neurodermatitis a variation of this tar bath was used. The patient was instructed to apply the emulsion full strength to the involved areas and allow it to soak off gradually in the lukewarm bath water. Thus even the inveterate type of psoriasis yielded occasionally to this treatment. In selected cases a modified Goeckerman treatment in conjunction with such baths was found very beneficial. The effectiveness of the bath could be demonstrated hours later by the characteristic tar fluorescence under the Wood's filter.

Summary

1. Physical, chemical, pharmaceutic, and esthetic disadvantages of crude coal tar in the past have hindered wider acceptance of this drug in dermatology.

2. A new source of crude coal tar, Zetar, eliminates most of these disadvantages. The solubility of this crude coal tar in water adapts it to

new forms of therapy, such as brief local application to the scalp and body in the form of shampoo and bath.

3. Our study shows that very good results were obtained with Zetar shampoo in controlling seborrhea and psoriasis of the scalp as compared to controls using a bland soap.

4. Zetar shampoo in seborrheic dermatitis and psoriasis of the scalp does not produce excessive oiliness or discolor gray hair.

5. The Zetar emulsion bath proved very useful in generalized dermatoses where tar action was desired.

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Children Need Balance of TV, Comics, and Books

Comic books and television programs—as such—have little effect on the educational level and behavior of youngsters, a Northwestern University educator reports. However, excessive televiewing and comic reading, and bad comic books and television programs do make a difference, according to Paul Witty, Ph.D., director of the university's psychoeducational clinic. He advised parents and children together to plan "balanced" programs of good TV and comics plus time for more valuable activities such as reading.

Dr. Witty recently completed his fifth annual survey of TV and his twelfth year of studying the effects of comic books. He reports on these studies in the February *Today's Health* magazine, published by the American Medical Association. He said investigations showed that children now spend upwards of twenty hours a week with television, and that 90 per cent of boys and girls between 8 and 13 read comic books regularly. Both TV and comic books lose some popularity at the high school age.

The studies made it "clear" that televiewing is not closely related to intelligence or to scholarship. Excessive viewing made some difference; a group of pupils in the upper fourth of their classes were found to spend twenty hours a week at TV compared to twenty-six hours spent by pupils in the lower fourth. Behavior and adjustment problems associated with TV, as reported by teachers and parents, dropped sharply from 1950 to 1954, but 28 per cent of the teachers and 30 per cent of the parents said there are still problems. These involve such things as eyestrain, fatigue, nervousness, impoverishment of play, and disinterest in school.

The amount of comic book reading, too, is "unrelated to marks in school and to attainment as revealed by standard tests," Dr. Witty said. "In one [study] we found that the average educational attainment of pupils who were in the upper fourth in amount of comic book reading was almost identical with the average for those in the lower fourth. . . . Similarly, the teachers reported little difference between these groups in the frequency of behavior problems."

Dr. Witty said poor school work and behavior problems involve "lack of interest. . . .meager or impoverished experience. . . .emotional problems. . . . poor home conditions and unfavorable attitudes toward reading. . . .and the condition of the home." Intelligence and individual differences also contribute, but "in pupils of similar intelligence, the home conditions and parental attitudes may be the differentiating factors in good or poor attainment and adjustment."

"Parents should be increasingly interested in providing the best schools possible for all our children and they should seek to provide the best influence outside the school."

An important factor in this influence is the kind of TV programs and comic books children see. There are "good" TV programs and comic books—but "the number of 'good' is clearly too low and the number of less desirable is far too high."

"Murder, torture, sadism, morbid suspense, and other fear and tension-inducing elements are saturating children's minds and physical senses to a degree never before experienced by any generation," Dr. Witty quoted from a report by the National Association for Better Radio and Television. "More money is spent for the production of one half-hour crime western than for the production of the entire 21 program periods classified as 'excellent' by this committee."

Dr. Witty said the "character of America's children and the extent to which this great resource develops will depend to a considerable degree upon the kind of homes provided and the nature of each child's early experience."

A good home is one in which parents are eager for their children to grow and develop and which provides stimulation for reading.

"Moreover the parents and children should together plan balanced programs of recreation with time for children to see TV and read comic books, but also with time for them to engage in other activities of greater value. Parents in such homes are interested in guiding children to choose the better. . . and to reject the worse. They are interested, too, in seeking to improve current offerings for children on television and in working with other adult groups for fostering the production of better TV programs and improved comics."

panel discussion

HAND INJURIES: PRIMARY CARE

C. DOUGLAS SAWYER, M.D., BROOKLYN, *Moderator*

Participants

ROBERT H. KENNEDY, M.D., New York City, Director of Surgery, Beekman-Downtown Hospital

ERNEST W. LAMPE, M.D., New York City, Departments of Surgery and Anatomy, Cornell University Medical College

ERIK MOBERG, M.D., Goteborg, Sweden, Department of Surgery, Sahlgren Hospital—By invitation

WILLIAM T. MEDL, M.D., New York City, Department of Surgery, Goldwater Memorial and Beekman-Downtown Hospitals

J. WILLIAM LITTLER, M.D., New York City, Department of Surgery, Hand Service, Roosevelt Hospital

DR. SAWYER: At the executive committee meeting of the Section on Industrial Medicine and Surgery in the fall of 1953, many subjects were considered for presentation to the Society. It was the general consensus that industrial accidents are always of great interest, not only to the industrial surgeon particularly, but also to the general practitioner. It is actually the general practitioner who sees many of these industrial injuries immediately after they have been sustained.

The primary care of hand injuries was considered a most suitable topic for panel discussion. The importance of the hand to all members of society has only been recognized in the past two decades. I personally can remember when the suturing of lacerations of the hand and lacerations of tendons was always delegated to the end of the operating schedule and was the chore of the young surgeon on the staff to assist the intern in the procedure. We have come a long way since then, and with the primary efforts of Kanavel in hand infections and Bunnell in developing an atraumatic method of handling tendon and nerve injuries, particularly in surgery, hand surgery is now actually a specialty.

Unfortunately, however, much of the hand surgery done today by the specialist in his field is elective reparative work and has to do with the undoing of errors made in the primary care of the hand after injury.

We are extremely fortunate to have represented on our panel this morning the outstanding hand surgeons in the State of New York. We are still more fortunate to have an internationally known specialist in this field, Dr. Erik Moberg, of Goteberg, Sweden, who has done a considerable amount of original work on physiology of the hand.

I am pleased to introduce Dr. Erik Moberg; Dr. Robert Kennedy, chairman of the Committee on Trauma of the American College of Surgeons; Dr. William Medl, a member of the Hand Team at the Beekman-Downtown Hospital; Dr. William Littler, who is in charge of the Hand Service at the Roosevelt Hospital, and Dr. Ernest W. Lampe, a pioneer in the field of surgical anatomy and a member of both the Anatomy and Surgery Departments at Cornell University Medical College.

Dr. Kennedy will open the discussion and will

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speak on "The Early Care of Hand Injuries and the Scope of Hand Surgery." Dr. Kennedy.

Dr. Kennedy: What is the extent of the problem with which we are faced in surgery of the hand? In 1952 accidents killed 96,000 Americans, injured 9,700,000 others, and cost the nation $8,300,000,000. Only in occupational accidents has it been possible to work out the proportion of hand injuries. In 1951 there were 2,100,000 industrial accidents, only about 22 per cent of the total accidents. Thumb and fingers were involved 375,000 times and hands 170,000 times—over 25 per cent of all the industrial accidents. These persons received 20 per cent of all the compensation payments. About 60 per cent of the hand and finger injuries resulted in permanent partial disability. In addition to the industrial accidents the hand is commonly involved in home accidents, farm accidents, motor vehicles, firearms, etc. Millions of hands will be injured in our mechanized age.

Who is going to look out for these patients? All of us. Proper early care is probably the most important factor in the late result. The immediate care after injury will be rendered by laymen whether you like it or not. We must be responsible for bringing proper first-aid training to the great bulk of laymen. The doctor needs to know proper first aid: first, because he may occasionally be the person rendering it and, second, so that he may instruct the layman at every opportunity. Protection is the all-important consideration in first aid and in early care—protection from infection, from added injury, and from future disability and deformity. We should consider any wound of the hand as contaminated. Do not add to this, but cover immediately with a sterile dressing, if available; if not, with the cleanest material at hand. But cover it. Do not apply any antiseptic of any kind previous to covering the wound. Then bandage the hand and immobilize in the position of rest. That is all a first-aider should know or do to a hand injury before seeking medical attention. By and large the next stop for most patients will be the general practitioner. We must be responsible for teaching the principles of correct early care to the general practitioner. He will not get these from most medical schools, nor will he get them from most hospital internships or residencies. Yet the final result and extent of disability will depend largely on the care rendered by the first-aider and the general practitioner. Good hand surgery is chiefly a matter of knowledge with patience, perseverance, and pious puttering.

How should a doctor handle these patients in his office or the emergency room of a hospital? If he knows the kind of first aid already given, or even if it appears well rendered, he should not uncover the wound until the place for definitive care is set up. He should put no instruments, gauze, or antiseptic into the wound. A large amount of dressing should be applied firmly with moderate pressure. The fingers should be separated from one another by the dressing. The hand and fingers should be maintained in the position of function. Flat splinting of the hand or of any finger must not be applied at any time. Give antibiotic drugs systemically, never locally. Give tetanus toxoid or antitoxin if these are indicated.

The proper place to treat an injured hand is in a hospital operating room. Do you want your own wounded hand cared for in a general office or in an emergency room? I don't. The time to take down the first-aid dressing is when the operating room is ready. The x-ray can be taken without any further wound exposure. Now is the time to evaluate the type and extent of the wound and the probable amount of contamination. Test for tendon injury against resistance, for nerve injury by both motor and sensory functions, for bone and joint injuries and for foreign bodies by x-ray. Strict aseptic technic is to be followed in scrubbing, draping, masking, and use of gloves. Proper instruments must be available—mosquito clamps, fine forceps, small retractors—not bulky tools creating further unnecessary damage. We should work in a bloodless field by means of a blood pressure cuff or a pneumatic tourniquet. Complete anesthesia is required, preferably general.

While the wound itself is protected, the entire hand and forearm should be scrubbed with a detergent or soap and water, not forgetting required shaving. The wound itself should then be uncovered and cleaned thoroughly but gently with a detergent or soap and water. This does not mean the use of a brush. Any antiseptic in or on the wound is *absolutely* contraindicated.

Following fresh draping and gloves the entire extent of the wound must be exposed, incising further if necessary, following the lines of natural creases. All foreign matter is removed. Now we are ready for excision of the wound. This means in the hand sharp dissection of all completely devitalized or grossly soiled tissues *only*. The excision of skin particularly should not be 1 mm. wider than necessary. Accurate hemostasis by fine ligatures comes next. We shall not discuss the repair of tendons, nerves, or bones.

In satisfactorily cleaned wounds not over six to eight hours old the skin may be closed. This should never be done if infection is established. Again the protective dressing is applied with the fingers separated by gauze and the hand and fingers in the position of function. Antibiotics are indicated for several days.

In abrasions and burns the surface is cleaned gently with detergent or soap as mentioned before. Tags of skin are removed. Fine-mesh dry or vaseline gauze is applied to the raw surfaces, making certain that gauze is placed between adjacent fingers. A thick layer of sterile mechanic's waste or fluff gauze is then applied and the hand and fingers splinted in the position of function. Then a bandage of the "Ace" type is applied to the whole including the fingers. Keep the part elevated in after-treatment. The whole purpose of the care in this type of wound is to have a surface ready for skin grafting at the earliest possible moment.

One type of hand injury frequently is badly handled—bites. The dog bite commonly has too much done for it, the human bite too little. Only within the past few years have the rules of the New York City Health Department stopped requiring the application of fuming nitric acid to a dog bite. This is still the customary treatment in many places. It was a vicious treatment, almost always killing tissue more widely and deeply than was necessary. Now we know that such wounds should be cleansed the same as any others and then excised only to the extent of dead tissue. Human bites are usually much more serious. The common type is from a fist to the jaw in which the metacarpophalangeal joint cavity may be pierced by a tooth. I have seen some go on to arm amputation and others to death. They deserve the most careful care we can give them. The moment the flexed fist is relaxed toward extension, the penetrating tract is no longer a straight line, the contaminated open joint capsule is sealed over, and the field prepared for a closed joint infection with vicious mouth organisms. However minute the puncture or apparently superficial the scratch, tehse must be laid wide open down to the capsule with the fist clenched. After thorough cleansing and keeping the wound surfaces separated, continuous wet dressings and antibiotics will usually save the joint, the arm, and the life. In either dog bites or human bites never suture the wound.

Many surgeons are not psychologically fit for hand work. Many surgeons avoid it because it is too hard work. In any large hospital there should be a hand service, and this should be separate from the other services.

The functions of the hand are almost innumerable. Grasp, or making a fist, entails freely movable, flexible skin, free range of motion of all joints, strong muscles with normal nerve supply, stable bony units, and a thumb that can be completely opposed. Our knowledge of the world surrounding us would be much more limited if we had eyes only. The fineness and accuracy of our sense of touch and of position in our hands control considerably our ideas of the shape and structure of objects. How emotionally expressive are the hands of some persons! The actions of the hands of the artist, the sculptor, the musician, the builder, the mechanic are so well coordinated with and by the brain that many motions are normally so subconscious that they would seem to represent our innermost thoughts. But we are dealing with an extremely delicate and highly specialized machine. One false motion, and this may be wrecked so that the most accomplished surgeon can restore only a somewhat useful part but with the artist gone.

Man differs from the other animal species chiefly in his brain and hands. Neither is of too much use without the other. We need to remember also that the main function of the upper extremity in man is to place the hand where it can work in the desired way. Therefore, any surgery of any part of the upper extremity may have to be considered surgery of the hand as far as the individual as a functioning member of society is concerned. The primary purposes in hand surgery per se are to restore the position of function, to restore motion, sensation, nutrition, and good skin covering. Loss of any one of these means definite permanent disability with its resultant loss of earning power and possible dependency for the individual and his family.

Many fields of surgery have been separated into the care of individual tissues—the brain and peripheral nerves, the skin and subcutaneous tissues, the bones and joints. Other specialists limit themselves to regions, e.g., the otolaryngologist and the thoracic surgeon, and become proficient in dealing with anything which occurs in one region. Surgery of the hand is indeed a specialty and belongs in the latter group. One must be trained in and alive to the care of all the tissues and the problems concerned. These include the skin, blood vessels, nerves, tendons, muscles, bones, joints, physiology, mechanics, and how these shall work together and function as an entity. It is difficult to imagine anything more unfortunate for the individual with an injured hand than to have one surgeon stabilize the bones, another repair the tendons, a third suture the nerves, and a fourth perform the necessary plastic procedures to close the skin. Hand surgery cannot be placed in the care of a man specializing in one kind of tissue. Yet we hear claims for priority in hand surgery from the general surgeon, the orthopedist, the plastic surgeon, and even the neurosurgeon. This is wrong. I do not care by what specialty board a man is certified if he knows the hand and will devote the time and effort to try conscientiously to restore it to the injured person as a functioning unit. He will have many headaches and heartaches but he will have also the great satisfaction of knowing that he has tried to restore a working entity as far as possible out of what was left.

Live interest in hand surgery is comparatively recent in origin. Dr. Kanavel's work in the early part of this century on "Infections of the Hand" is still a classic. Dr. Auchincloss in this city at about the same time was doing pioneer work on infections and tendon repair but succeeded in influencing few of his residents in carrying on. Before World War II there were a few men in the large cities devoting most of their time to this field. But the experience of World War II really stimulated interest in hand surgery. To the surgeon entering the Armed Forces from civilian practice or a residency, hand injuries seemed a small matter to claim his attentions. In the early years of the war immediate thorough care of hand wounds was the exception. Other injuries, often in the same person, required first consideration. But a soldier was of little value if his hand would not allow him to fire a rifle or machine gun, fly a plane, or insert a shell. Gradually our zone of the interior hospitals filled with hand cases, and the problem was one of prolonged reconstruction. Who was going to do this? There were practically no naturals. One hand center after another was established in this country, and as the load increased, nine centers were finally created. The surgeons actually doing the work were largely well-trained general surgeons just out of their residencies, many of them first lieutenants. They should be given great credit for taking advantage of the opportunity because many of them wanted to do the so-called major work and at first did not take to these meticulous, time-consuming procedures kindly. They were greatly stimulated by that rare teacher and civilian consultant to Surgeon General Kirk, Sterling Bunnell. By the time these surgeons were finally allowed out of the Army a year or two after the war was over, the civilian population was fortunate in having made available to it a sizable group of highly trained and widely experienced hand surgeons, ready and anxious to educate others.

I know of no subject since the war which can be so depended on to draw an audience as hand injuries. It shows the need which practicing surgeons feel to learn to care for the type of patient who comes to them frequently and their desire to be able to do something more for the injured than what their training in medical school or hospital taught them. Every hospital needs to have at least one surgeon who is interested in the hand problem and will devote himself to improving his knowledge and technic in this field. He does not need to worry about cases being referred to him after he has gained facility. Most of the surgeons will be glad to get them off their hands. I am not referring here particularly to cases requiring reconstruction but to the early cases. The larger hospitals should have a hand service to which all the surgical resident staff are rotated for some period to be exposed to the problems of hand surgery. These residents may not become interested in the hand problem, but they may at least learn that there are many complicated problems, that something can and should be done for them, and that there are trained surgeons available who are interested in doing this work.

Such a hand service must be set up to give immediate emergency care under trained supervision. A hand injury is an acute emergency, day or night. It should take preference over interval cases. If the individual surgeon is not available to give immediate care, he has no right to postpone definitive treatment in accord with his convenience. Rather he should turn the patient over immediately to another surgeon to give the best early care. Except for the minimal laceration of skin only, these are not cases to be done as an office procedure or in an emergency room. They belong in the main operating suite with full staff of assistants and an anesthetist. The mortality in appendicitis may be 0.5 to 2 per cent. The mortality in hand injuries per se will not be so great. On the other hand, following recovery the person who has had an appendectomy will usually be physically and economically as sound as before operation. Conversely, following a hand injury there is usually some permanent disability, often decreasing a person's economic capability, sometimes because of irreparable loss but much more commonly because of the poor timing, poor judgment, or poor skill of operative care.

There are still many institutions where hand injuries are considered "minor cases." There seems to be only one correct definition of a minor operation, i.e., an operation done by a minor surgeon. It is too common in hospitals to have no standing operative procedure for hand injuries. On arrival at the emergency room the admitting physician, intern, or junior resident is called. He has had no definite instructions regarding the care of these patients. He may not know the details of examination for tendon or nerve injuries or the importance of these. He may not have been trained to distinguish the differing indications for treatment of an incised and a contused wound. He may clamp at a bleeding vessel and tie a large ligature about a mass of tissue. He may suture a wound and, with or without immobilization, send the person home. Such procedures are not his fault, even though the injured person may have a hand permanently disabled by his work as a result.

How can the doctor be trained for these responsibilities? The details of specialized branches of surgery should not be a part of medical school instruction. There are too many subjects required in the four-year course to include this. There are still too many instructors who fill the student with details of their pet hobby or gadget, rather than sticking to emphasizing general principles which will be valuable to the student all his life. An hour's lecture or demonstration on a ward walk of the principles of hand surgery at some time in his four years is more than every medical student receives in most medical schools today. It does not seem an impossible aim. It might be the means of saving thousands of incapacitated hands, while not taking valuable time from other courses. A few hospitals insist that on arrival in the hospital as an intern or assistant resident, every member of the surgical house staff attend lectures in hand surgery. This occurs only where there is a hand service and some member of the attending staff sufficiently interested to devote the time. Ultimately it saves much time for the attendings concerned since the entire house staff becomes aware of the standard operating procedure and fewer errors are made which require greatly increased time for their correction. With such instruction the difference in the condition and result in these patients is almost immediately noteworthy. For the general practitioner and the general surgeon the best we can do are postgraduate courses and presentations before medical societies, hospital groups, etc. The greatest good for the greatest number will be best served by proper first aid and early care, thereby preventing a considerable portion of reconstructive procedures.

A hand surgeon must show meticulous care in examination, in operative treatment, in aftercare, and in the written description of their details. He must handle tissues gently at all times—preoperative, operative, and postoperative. At operation he must be a stickler for atraumatic technic and complete hemostasis. Skin must be closed and closed without tension to preserve a limber hand. The part must be immobilized only so long as absolutely necessary and always in the position of function. If for some reason this is contraindicated, the reason should be put in writing so that others may consider whether the reasoning was valid. Every effort must be exerted toward obtaining healing of the wound without inflammatory reaction and edema.

Movement of any part of the hand in which immobilization is not definitely required should be insisted on from the first. Stiffness of fingers and hands is much easier to acquire than to dispose of.

Antibiotics can be used in a contaminated wound, but always remember that surgical cleansing and excision of devitalized tissue are all important. Antibiotics are only an aid, never a substitute, for good surgery. With the increasing number of deaths from anaphylactic shock following administration of penicillin, always inquire whether the patient has ever had it before, and if so, have a hypodermic of adrenalin ready.

In multiple injuries and in burns, immediate operation on the hand may be inadvisable. The whole regime of hand treatment then has to be changed, but one must remember that adequate treatment of the hand injury must be considered at the earliest moment when other conditions make it feasible.

Rehabilitation, particularly in the form of occupational therapy, is a real asset. Unfortunately I see too many patients who have been given diathermy daily from time of injury, either over a bandage which has not been changed for weeks or over plaster encasement. One can only say in such instances that the doctor owns a piece of apparatus on which he feels he must get a financial return. The good of the patient is evidently not considered.

The need for hand surgery will always exist. Its amount will probably steadily increase. Hand surgery is a specialty. Its application is constantly improving. Its basic principles need to be more widely publicized to the general profession and training in its intricate details made available to an ever-increasing group of interested surgeons.

Dr. Sawyer: Thank you, Dr. Kennedy, for your excellent discussion.

Dr. Lampe will now describe the anatomy of the hand and its relation to primary injuries. Dr. Lampe.

Dr. Lampe:* Because lacerations involving tendons, vessels, and nerves about the wrist are quite common, it is important to review the anatomic relationships of these structures.

Figures 21 and 23 show schematically the general arrangement of the tendons, vessels, and nerves under the volar carpal ligament. By clenching the fist tightly and flexing the wrist as though against resistance, one can usually palpate the palmaris longus tendon (absent in 10 per cent of hands), the flexors carpi radialis and ulnaris tendons, and the superficial tendons of the flexor digitorum sublimis.

Next palpate the median duo, consisting of the palmaris longus tendon (superficial to the volar carpal ligament) and median nerve, the latter being deep and slightly lateral to the tendon.

Palpation of the radial pulse reminds one of the radial trio, consisting of the radial artery; and ulnarward from it, the radial flexor (flexor carpi radialis); and deep and ulnarward of this stout tendon, the flexor pollicis longus tendon. With the fist tightly clenched and the wrist flexed, one has little difficulty in palpating accurately with one's thumbnail the sharp-bordered ulnar flexor tendon (flexor carpi ulnaris). If the ball of the thumb is used for palpation, it not only presses upon the ulnar flexor but also upon the superficial tendons of the flexor digitorum sublimis.

Palpation of the sharp-bordered ulnar flexor tendon brings to mind the ulnar trio which consists of the ulnar flexor tendon, the laterally placed ulnar nerve, and the adjacent ulnar artery. Again, with fist clenched and wrist flexed, one is reminded that the two digital flexor tendon quartets are medial to the centrally located palmaris longus tendon. Figure 23 shows schematically the relationship of the sublimis tendons. Those acting on the third and fourth fingers are superficial to those of the second and fifth fingers. This is most easily remembered by placing one's second and fifth fingers behind the third and fourth fingers as in Figure 22 and having in mind that 34 is a higher number than 25. Not uncommonly, sublimis tendons to the third, fourth, and fifth fingers are in the superficial plane, and the index finger sublimis tendon is deep to the third sublimis tendon.

Figure 23 shows the four flexor digitorum profundus tendons lying in one plane which is deep to the sublimis tendons. As previously mentioned it is not uncommon to find at this point only the profundus tendon to the index finger separated from the distal fibromuscular end of the flexor digitorum profundus, the other three tendons arising 1 to 2 cm. distad. A subtendinous space (Parona) exists between all the above structures and the square pronator muscle (pronator quadratus). In discussing hand infections, this space will again be mentioned.

By insular attachments on the dorsal and lateral aspects of the radius and ulna, the dorsal carpal ligament creates six compartments for the passage of extensor and abductor tendons to the hand and fingers. Figure 26 shows the three thumb tendons bounding the anatomic snuffbox: the abductor pollicis longus and extensor pollicis brevis on the volar boundary and the extensor pollicis longus on the dorsal boundary.

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* Material presented by Dr. Lampe was originally published in an article entitled "Surgical Anatomy of the Hand" in *Ciba Clinical Symposia*, December, 1951.

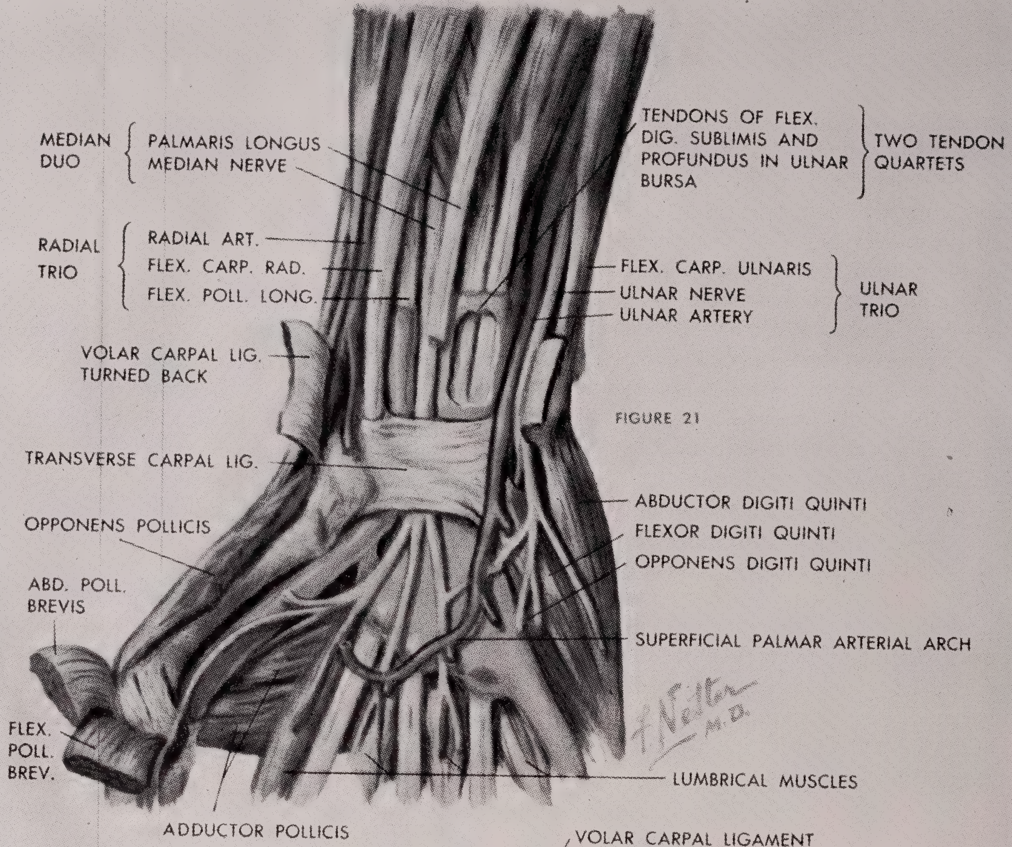

MEDIAN DUO
PALMARIS LONGUS
MEDIAN NERVE
TENDONS OF FLEX. DIG. SUBLIMIS AND PROFUNDUS IN ULNAR BURSA
TWO TENDON QUARTETS
RADIAL TRIO
RADIAL ART.
FLEX. CARP. RAD.
FLEX. POLL. LONG.
FLEX. CARP. ULNARIS
ULNAR NERVE
ULNAR ARTERY
ULNAR TRIO
VOLAR CARPAL LIG. TURNED BACK
TRANSVERSE CARPAL LIG.
ABDUCTOR DIGITI QUINTI
OPPONENS POLLICIS
FLEXOR DIGITI QUINTI
OPPONENS DIGITI QUINTI
ABD. POLL. BREVIS
SUPERFICIAL PALMAR ARTERIAL ARCH
F. Netter M.D.
FLEX. POLL. BREV.
LUMBRICAL MUSCLES
ADDUCTOR POLLICIS

FIGURE 21

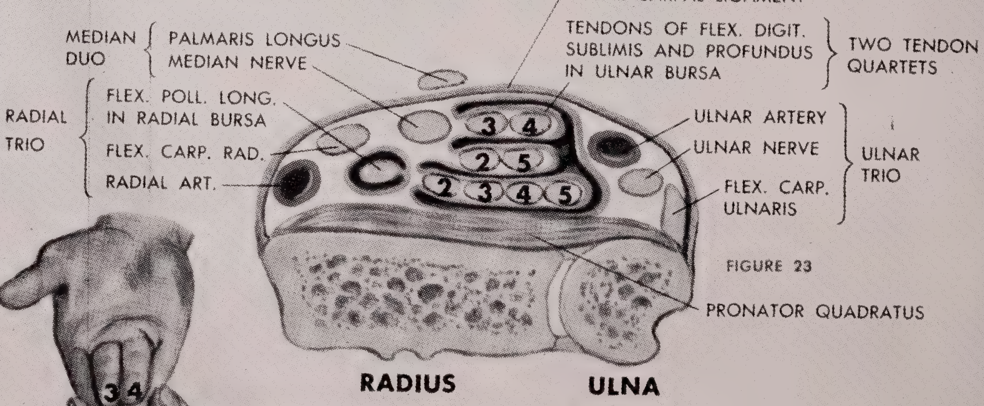
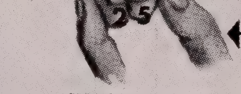

VOLAR CARPAL LIGAMENT
MEDIAN DUO
PALMARIS LONGUS
MEDIAN NERVE
TENDONS OF FLEX. DIGIT. SUBLIMIS AND PROFUNDUS IN ULNAR BURSA
TWO TENDON QUARTETS
RADIAL TRIO
FLEX. POLL. LONG. IN RADIAL BURSA
FLEX. CARP. RAD.
RADIAL ART.
ULNAR ARTERY
ULNAR NERVE
FLEX. CARP. ULNARIS
ULNAR TRIO
3 4
2 5
2 3 4 5
PRONATOR QUADRATUS
RADIUS
ULNA

FIGURE 23



SIMPLE METHOD OF DEMONSTRATING ARRANGEMENT OF SUBLIMIS TENDONS AT WRIST.

FIGURE 22

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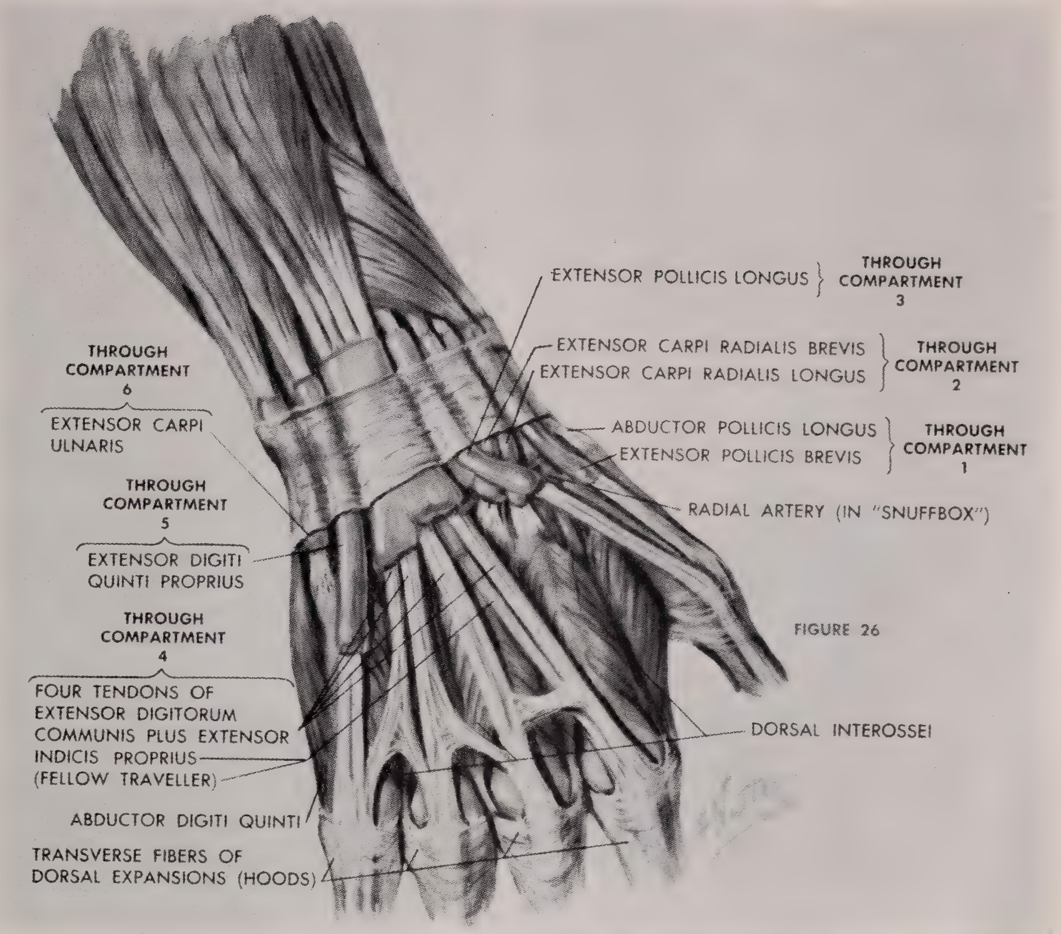
EXTENSOR POLLICIS LONGUS
THROUGH COMPARTMENT 3
EXTENSOR CARPI RADIALIS BREVIS
EXTENSOR CARPI RADIALIS LONGUS
THROUGH COMPARTMENT 2
ABDUCTOR POLLICIS LONGUS
EXTENSOR POLLICIS BREVIS
THROUGH COMPARTMENT 1
RADIAL ARTERY (IN "SNUFFBOX")
THROUGH COMPARTMENT 6
EXTENSOR CARPI ULNARIS
THROUGH COMPARTMENT 5
EXTENSOR DIGITI QUINTI PROPRIUS
THROUGH COMPARTMENT 4
FOUR TENDONS OF EXTENSOR DIGITORUM COMMUNIS PLUS EXTENSOR INDICIS PROPRIUS (FELLOW TRAVELLER)
ABDUCTOR DIGITI QUINTI
TRANSVERSE FIBERS OF DORSAL EXPANSIONS (HOODS)
DORSAL INTEROSSEI

FIGURE 26

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The first two tendons of the snuffbox (abductor pollicis longus and extensor pollicis brevis) are in the first compartment, and the third tendon of the snuffbox (extensor pollicis longus) is in the third compartment. The two radial extensor tendons (extensors carpi radialis longus and brevis) are in number two compartment.

One can associate the four communis tendons with the fourth compartment, and as one wag expressed it, the extensor indicis proprius tendon is a "fellow-traveler" accompanying these four tendons. As previously mentioned, the extensor digitorum communis may give rise directly to only three tendons, in which case the extensor indicis proprius tendon will be the fourth tendon. The tendinous slip to the fifth finger from the extensor digitorum communis will then branch off from the tendon going to the fourth finger.

The extensor digiti quinti proprius fits well into the fifth compartment. The ulnar extensor tendon (extensor carpi ulnaris) falls easily into the ulnar or sixth compartment.

Figures 20 and 26 show the anatomic snuffbox and its important contents. The tip of the styloid process of the radius can be felt at its proximal end. A small part of the extensors carpi radialis longus and brevis tendons can be seen, as well as the radial artery. Deep to the radial artery is the capsule of the wrist joint and navicular (scaphoid) bone. Because the navicular bone is the most frequently fractured carpal bone, it is clinically more important than the greater multangular bone, a small part of which also lies in the snuffbox. The sensory branches of the radial nerve are found in the snuffbox. Awareness of their presence prompts the surgeon to preserve them in surgical procedures in this area.

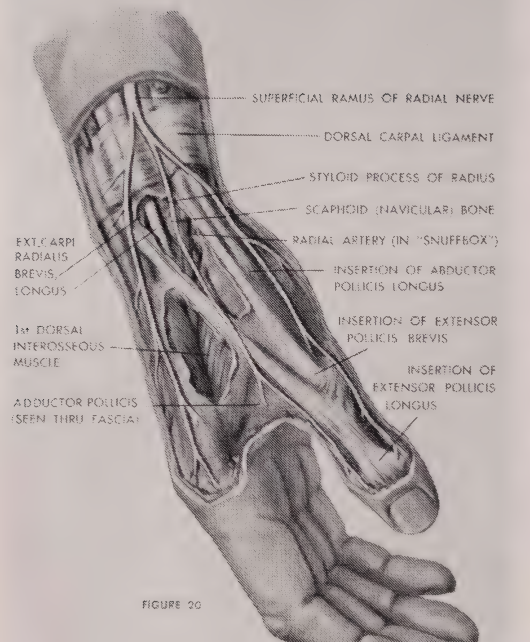
SUPERFICIAL RAMUS OF RADIAL NERVE
DORSAL CARPAL LIGAMENT
STYLOID PROCESS OF RADIUS
SCAPHOID (NAVICULAR) BONE
RADIAL ARTERY (IN "SNUFFBOX")
INSERTION OF ABDUCTOR POLLICIS LONGUS
INSERTION OF EXTENSOR POLLICIS BREVIS
INSERTION OF EXTENSOR POLLICIS LONGUS
EXT. CARPI RADIALIS BREVIS, LONGUS
1st DORSAL INTEROSSEOUS MUSCLE
ADDUCTOR POLLICIS (SEEN THRU FASCIA)

FIGURE 20

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Intrinsic muscles of the hand may be grouped into those forming the hypothenar eminence, the thenar eminence, and a third group, the muscles between these two eminences.

Muscles of hypothenar eminence are the abductor digiti quinti, the flexor digiti quinti brevis, and the opponens digiti quinti. The abductor digiti quinti originates chiefly from the pisiform bone and pisohamate ligament and inserts into the joint capsule of the fifth metacarpophalangeal joint, the ulnar side of the base of the proximal phalanx of the fifth finger, and the ulnar border of the aponeurosis of the extensor digiti quinti proprius. It is supplied by the ulnar nerve, abducts the fifth finger when its proximal phalanx is extended, and flexes the proximal phalanx when the long extensor is relaxed.

The flexor digiti quinti brevis arises from the hamate bone and transverse carpal ligament and is inserted into the ulnar side of the base of the first phalanx. It is innervated by the ulnar nerve and assists in abducting the fifth finger and in flexing the proximal phalanx.

The opponens digiti quinti originates from the hamate bone and transverse metacarpal ligament. It is inserted into the ulnar border of the fifth metacarpal bone and innervated by the ulnar nerve. It lies deep to the other two muscles, next to the fifth metacarpal bone.

The fifth is the second most mobile of all the metacarpal bones, being movable about 15 degrees palmarward and dorsalward. Because of this mobility, the opponens digiti quinti is able to draw the fifth metacarpal forward, thereby helping to deepen the hollow of the palm. The unimportant palmaris brevis merely corrugates the skin on the ulnar side of the palm.

Muscles of thenar eminence consist of the abductor pollicis brevis, the flexor pollicis brevis, and opponens pollicis muscles. These muscles, which are functionally much more important than those of the hypothenar eminence, are supplied almost entirely by the median nerve.

The abductor pollicis brevis muscle originates from the transverse carpal ligament and from the navicular and greater multangular bones. It inserts into the radial side of the proximal phalanx of the thumb and into the capsule of the metacarpophalangeal joint. It aids in abducting the thumb away from the palm.

The opponens pollicis muscle originates from the transverse carpal ligament and greater multangular bone. It inserts into the whole radial side of the first metacarpal bone and, because of this, is largely responsible for the movement which enables the thumb to be approximated successfully to the tips of each of the fingers. This is recognized as the thumb-finger-approximator text, frequently used to test the motor function of the median nerve.

The flexor pollicis brevis muscle consists of two parts: (1) a superficial portion, innervated by the median nerve, originating from the transverse carpal ligament and greater multangular bone and inserting into the radial side of the proximal phalanx, and (2) a deep and very small portion, innervated by the ulnar nerve, arising from the ulnar side of the first metacarpal and inserting into the ulnar side of the proximal end of the first phalanx.

All the hypothenar and thenar eminence muscles, except the abductor digiti quinti, get part of their origin from the transverse carpal ligament, a purchase which enables them (abductor excepted) to help preserve the carpal arch.

Dr. Sawyer: That certainly was a concise anatomic demonstration, Dr. Lampe. So much for anatomy.

I now introduce to you Dr. Erik Moberg, who has put in a great deal of time and effort, particularly, on the physiology of the hand. I will ask him to discuss some of the high lights of his work.

Dr. Moberg: There are many inherent dangers in dealing with an injured hand outside the injury itself, which can be quite a problem. Prevention of infection, as you know, is a most important concern, and then there is, of course, the serious complications for the patient arising from ill-advised use of the knife. It must be realized how important a part the surgery plays in the restoration of function.

Edema is an early post-traumatic consideration, and I think we must realize much more than we have in the past how detrimental edema can be to tissues which have to be restored to the high degree of skilled function demanded by the hand. Healing and hand function are closely allied, and to preserve function, further injury to the hand through unnecessary surgery must be avoided. The early post-traumatic (operative) phase may proceed in a relatively uncomplicated manner, but very soon the hand may develop a tendency to stiffen; there are many different causes for that stiffness.

We have heard many of the factors from Dr. Kennedy, who has emphasized the importance of the position of function. The wrist is the prime joint for as it flexes, the fingers will extend. That means that the wrist in flexion puts the hand in the same danger as if we had applied a straight splint on the fingers. When the hand is extended, we get the position of function immediately. With the wrist flexed, the metacarpophalangeal joints extend, and the collateral ligaments are jeopardized. When the fingers are in flexion, these ligaments are taut, but as soon as the fingers are extended, the ligaments are relaxed. That means that the finger which has been put up in extension will have the ligaments relaxed, permitting them very soon to soften and undergo contracture, thereby preventing flexion. If the finger joints and metacarpophalangeal joints are put in a position of function, the ligaments will be extended a bit; there will be no chance for them to contract, and the range of movement in the finger will be maintained. This is one of the most important points in all hand injuries, and I will tell you more about it later.

Now back to edema. I think it should be realized much more than it has been that edema is not pure water or saline in the tissues. Edema is a kind of glue, and if it is left for long, it will bind the joints and all other gliding tissues together and prevent perfect function. You all know how significant edema can be. You have all seen the solid scar tissue which will develop around varicose ulcers in the leg just because of a prolonged reaction to edema. You have seen it in the lungs secondary to heart failure where special macrophages are mobilized to care for the debris from edema. These cells are common, and in congestion of the liver and spleen from heart failure there will be in some way a specific reaction so that we find a mass of fibrous tissues covering the spleen and liver and even to some extent the wall of the abdominal cavity. In such a way we learn the significance of edema. Edema provokes tissue reaction, and there will always be deep and widespread scar formation where edema persists for some time. We find it very often in the lower leg following fractures and other conditions. But, fortunately, in our civilized life where we use shoes, our toes are relatively unimportant. Therefore, it is not at all the same danger for the foot as it is for a hand where finger function is of the utmost importance.

Now let us see what happens and what edema will give rise to. First, the protein content will give rise to tissue reaction and the formation of scar tissue. Diffused scar tissue will always, characteristically, contract a bit, and there will be deformity and a limitation of motion. This case of a hand infection illustrates the extent to which edema can involve the hand (*slide*). Persistence of infection will increase edema and tissue reaction. If edema remains for some time, it will never resolve entirely and will never disappear without some reaction. In most cases the residual scar tissue will be relatively unimportant, and hand function will be unimpaired.

But in the hand we will often see a peculiar reaction without any injury. This is a central cerebrovascular lesion in an elderly patient. One hand is quite normal; the skin is elastic and moves freely (*slide*). He can make a fist, and when making a fist, the skin arches over the dorsum, stretching from one border to the other about 14 cm. When flat, it will be about 9 cm., illustrating the need for relaxation of skin. The other hand is edematous secondary to paralysis of his flexor mechanism. This picture of edema is well known to us all. We see it in Colles' fracture very often and in hand injuries. But there was no injury to this hand except that the flexors were put out of function. You can see the edema here, the glossy skin (*slide*).

On the volar aspect it is more difficult to discern edema because of fixation of the tissues through the palmar fascia, in contrast to the dorsum of the hand where the skin and areolar tissue are loosely affixed and where the major venous and lymphatic drainage is readily obstructed.

When the hand is swollen for a long time, a stage is reached where the hand is like a rake. The fingers have stiffened; collateral ligaments are shortened. Edema is now minimal because the diffused subcutaneous scar has contracted and fixed the tissues. The hand which has been damaged to this extent will, in my view, not be reparable. Such hands are beyond repair for a certain time limit has passed.

Bone structure will often indicate radical changes within the hand known as Sudeck's atrophy, a peculiar picture of decalcification. What will be the reason for this condition, or the reasons because there are several of them? In the arm and hand the arterial blood is emptied under pressure; the backflow is arranged in another way. We know that it comes from the volar side and is transmitted to the dorsum of the fingers through perforating vessels and then to the axilla. The lymph vessels take the same course. Whenever most of the arterial supply comes down the volar side, most of the backflow takes place on the dorsal side. In the venous and lymphatic vessels we have a special arrangement. The presence of valves indicates that the blood pressure is not enough to return the blood. Another mechanism is a function of muscles and hand movement. Every time a vessel is compressed by movement within a fascial compartment, a pumping system is created and the backflow augmented. Williams has told us that the hand in a young man, fixed dependent so as not to have a proper backflow, will develop considerable edema in four to five hours. Bunnell has told us the same—he had found the same condition in malingerers who could produce edema in the hand just by keeping it fixed at the side of the body for several hours.

We have two main pumping systems. When you make a fist, you empty all the veins and lymph vessels by compression. The palmar fascia will close, forcing the blood to the dorsal side. You have another pumping system up in your axilla; by just raising your arm, all veins collapse, and on lowering it, they will be refilled again. The same with the lymph vessels. This pumping system, I think, is a very important part of hand function.

Let us see now what can prevent this pumping system from being brought into action. The first is an adduction contraction of the shoulder. Anything impairing the free mobility of the shoulder joint will retard the backflow of the blood and the lymph fluid. If the hand remains flexed at the wrist, a fist cannot be made, and its very important pumping system will be put out of action. Secondary shortening of the metacarpophalangeal collateral ligaments further impairs flexion. When a fist cannot be made by flexing the longitudinal arch, the pump again is out of action.

There are many situations affecting the hand, and these have been observed in some way by the various groups of men working in medicine. Cardiologists have spoken about special conditions of the left hand in patients with cardiac failure, and there has been much speculation and thought as to why it should appear just in the left hand. We have found this condition in quite a few patients on the medical wards, and our belief is that the left hand is most often involved because these people are not allowed to move. Since most people are right-handed and, despite their general immobility, it is impossible to immobilize them entirely, they will go on moving their right hand a bit but not the left. It is amazing how often a shoulder contracture develops with loss of rotation and a loss of ability to flex the hand in these patients. In neurosurgical patients with cord disorders we have also found this peculiar condition, the hands going on to stiffen with fingers swollen like sausages. They have lost their motor function and disrupted the pumping system. And now when polio has begun to afflict not just children but adults as well, we see just the same thing.

When we started in hand surgery, we were initiated with the problem of edema. When trauma and immobilization were applied to hands, we found that this reaction was most common in older people. You rarely see it in young children, but you will see it in grownups and more often when you have a very bad crush injury to the hand.

Edema can start anywhere: an uncooperative patient, a shoulder contracture, or the flexed position of the wrist. It can start from impaired metacarpophalangeal function secondary to shortened collateral ligaments and the inability to close the hand, all resulting in a disturbance of circulation, giving rise to edema which partly organizes into diffused scar tissue and results in the frozen hand. A sympathetic nervous system factor in hyperalgesia may be an instigating factor. Fortunately, we can almost always reverse the condition.

And now, let us check our general procedures to see what we can do. First, surgery. Trauma will always give rise to increased edema. Surgery must be atraumatic, therefore, and completed surgery must do minimal damage. We must avoid all material which will give rise to edema. We will bury just a minimum of foreign material for ligation and so on. And a hematoma must be prevented. We must handle the tissue as gently as possible.

It is requisite that we see all that we are doing for careful diagnosis and dissection. A carefully applied pneumatic tourniquet inflated to 300 mm. of Hg following expression of blood from the forearm and hand and maintained usually for not more than one and one-half hours is essential for hand surgery.

There are many methods for treating finger fractures. Basically, we should put them, when in traction, in a position of function to avoid a shortening of the collateral ligaments and leave the other fingers free to move and aid circulation.

If bandages are too tight, they will give rise to pain. Pain will immobilize and promote stiffness. If bandages are too tight proximally, they will give rise to swelling because the venous and lymphatic flow is impaired. Plaster should never be too tight and never be put on in a way which will prevent function. In Colles' fracture the plaster on the palm should allow full function of the metacarpophalangeal joints. The patients should be told to flex their finger tips to their palms. And if not, they will do it a little less every day and stop.

With major procedures a sling is often used. Of course, it will give some elevation, but a sling on an adult will easily give rise to a shoulder contracture and to a drop of the wrist. The pumping mechanism is thrown out of function again. I have seen so much trouble arise just from the sling that I believe it should be used on patients who I am quite sure will show up again at the appointed time at the end of one week but not more. In an old man a shoulder contracture may develop in two weeks, and if a cold or some other thing prevents his coming back, it may start all the trouble which I try to avoid. We tell our patients to exercise both the hands simultaneously at least 20 times a day to get the pumps in function. It is not enough to let them do it with the one.

We utilize physiotherapy in an effort to extend and flex fingers passively. This can be done very gently, but the physiotherapist cannot go on for more than half an hour or so. A half hour is a very short time. If they exert too much force, there may be a little gain in flexion, but at the same time there will be pain followed by edema; when the patient returns home, he will not exercise because the procedure is painful. If edema is produced, it will just give rise to more trouble and diminished function. Therefore, we always prefer to have the patient do all exercises. Fingers should never be mobilized by force as it gives rise to so much damage, pain, and edema.

I think the best way we have found to overcome stiffness is with a pair of old gloves and rubber bands exerting gentle traction from the glove tips to the wrist. It is gentle enough when the patient can tolerate it the whole night without interfering with sleep. It is amazing how often we can get in one or two weeks much more than had been gained in the same case in three months through physiotherapy. But the traction must be very gentle. Passive mobilization of joints must be accompanied by active use whenever possible.

Another common procedure is to soak the injured hand in hot water. This will give rise to a much better arterial supply, but so long as the hand is dependent in the water, the patient will not move it, and backflow is increased, giving rise to edema. Therefore, in many hands it is better to avoid passive soaking unless associated with exercise.

It is evident that certain factors, singly or in combination, will initiate what I call the shoulder-hand-finger syndrome. This very important complication of our hand lesion can be checked by attention to the careful application of the basic principles of hand care.

I should not close without paying tribute to the excellent men in this country to whom we owe much of the knowledge we have in the treatment of hand injuries. I was very glad to hear from Dr. Kennedy today about the program he is conducting. In many ways it is similar to the program we have tried to put in action in our little hospital. Thank you.

Dr. Sawyer: Dr. Moberg, it was most refreshing to have a new point of view, and we do appreciate so much what you have had to say today. I hope that we will have time later on to have Dr. Moberg summarize what he has heard this morning and give us his impressions. Such a summary would be very useful to us, together with his point of view.

I will now call upon Dr. William Medl who will tell us of crush injuries of the hand.

Dr. Medl: Every one of us must face mechanized life, and all of us get our hands caught throughout our lives. Sooner or later we slam a door on our fingers or hit a finger with a hammer. These are simple crushing injuries. High-speed moving machinery causes more complex types where the resultant trauma will incise and lacerate as well as crush.

When we consider incised wounds, we expect that if all the proper technics were carried out, such as outlined by Dr. Kennedy and Dr. Moberg, we should end up with a reasonably good result. A ragged incision, such as that made by a buzz saw, can be converted by surgery into a clean incised wound, and again we expect a fair or good result. Crushing injuries are different in that by no application of surgical technic can we convert this crushed hand into a cleanly incised one—no matter how we try—and our results are going to be bad. What makes this terrible difference?

The crushing force has ruptured structures, either without breaking the skin or breaking the skin remotely from these structures. The hand will be filled with liquefied fat and pulped muscles, the nerves contused, and perhaps the bones crushed. Excision of this complex wound is impossible. The hand is filled with thousands of blood vessels from arteries and veins to capillaries. The smallest crushing injury will show ecchymosis which is evidence of bleeding into the tissues. Therefore, in a severe crushing injury there will be literally thousands of hematomas from ruptured capillaries, and there would be no method of getting rid of these by surgical methods.

Following this initial injury the chain of events is grim. There may be continued hemorrhage and much edema. Edema fluid containing protein will invite cells to grow into it, but if in addition to that there is dead fat, dead muscle, and hematomas, the amount of cellular reaction will be enormous, and the hand becomes hard, wooden, and indurated. To add even more to this process is the reaction of unbearable pain. If you have hit your finger recently with a hammer, you will agree to that. If the entire hand is crushed, the intensity of pain is extreme. Pain gives rise to muscle spasm, attempting to limit motion causing more pain. This spasm, compressing fascial spaces, limits venous and lymphatic return. It will start the pattern of antagonist spasm which will be so difficult to overcome when eventually motion is again possible.

Due to all these factors—the induration, the pain, the muscle spasm—there is absolute lack of movement of the part and lack of the return flow mechanism that Dr. Moberg has so beautifully described. The end result is intense fibrosis and no function at all.

This type of injury has to be handled, as Dr. Kennedy said, by careful cleaning, by all the surgical modalities, and by a thousand individual judgments as to what areas of skin to keep or what areas of muscle to keep and how much to excise. After excision with judgment, these hands have to be closed. Leaving any area of skin open gives rise to infection. An open wound becomes an infected wound promptly. There are no clean granulating wounds; they are all dirty. Any open wound is followed by edema and fibrosis. Closing the wound with skin is the most important single step that a surgeon can do. Anyone at a later time then has virgin territory and smaller amounts of scar to excise.

In closing wounds there should be no tension. If there is already swelling and tight skin, closure may not be possible. In that instance skin must be brought from somewhere else, using some type of graft. When in doubt, raw areas can always be covered with split skin grafts. Occasionally, we will use primary pedicle grafts, but a split graft is satisfactory for it always can be removed later and replaced with thicker layers if needed. When edema is intense enough in the hand, an incision to relax tension is very useful.

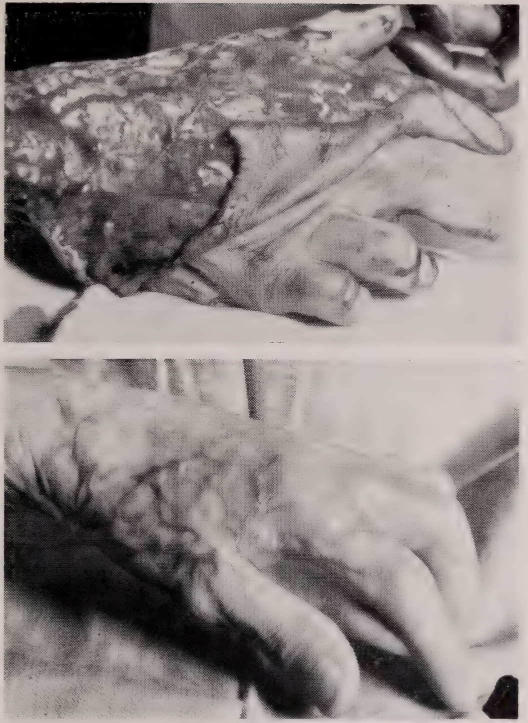

Fig. 1. Avulsed skin of dorsum of hand (*top*) and restored skin (*bottom*).

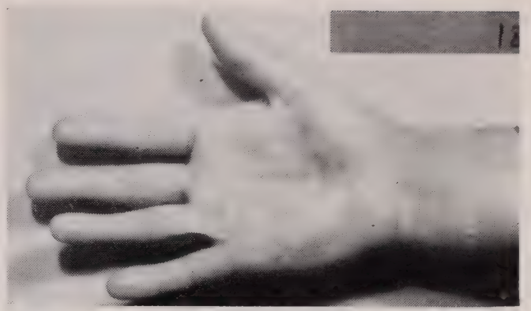

Fig. 2. Results in repair of avulsion of entire palm.

The gap thus created is covered with a split graft.

Avulsed skin hanging by narrow or broad pedicles must be handled specially. The skin of the hand is supplied by blood from directly underneath. There is not much longitudinal supply. Skin can be elevated by a careful surgeon and swung for that short distance and live, but skin avulsed and roughly contused will not. There are several mechanisms at work, one of which is that the veins are more easily damaged than the arteries. The arteries pump blood into the tissues faster than the veins carry it off. The reason may be anatomic in that the venous drainage leaves in an unusual direction. It has been noted many times that these flaps, when returned to their bed and sutured, will become increasingly edematous and necrose, often as long as ten days later.

Dr. Farmer pointed out in 1939 that many of these avulsed pedicles could be converted into full thickness grafts by carefully dissecting off all the fat and severing the attachment with a good chance of a 90 per cent take.

The first patient avulsed the skin of the dorsum of his hand. This was defattened and utilized as a full thickness graft (Fig. 1). The second avulsed his entire palm. This was detached, defattened, sutured, and 99 per cent healed in place with even restoration of his normal creases (Fig. 2).

In severe injuries crushing the hand, nerves, if not too badly contused, can be sutured primarily. Tendons are not sutured with the exception that an extensor tendon may have one simple suture placed to hold it together. No major tendon work should be done until the reaction to the crush has subsided.

It is considered important even in minor injuries to splint the hand in the position of function. It is doubly important in major injuries. Flat splinting may result in a functionally useless hand, and the dangers of flat splinting are universally recognized. Universal metal or plaster splints are not useful for they only fit the model for which they were made. Splints fit only one person. No manufacturer can put your patient in the position of function. In ten minutes with plaster of Paris or aluminum sheets you can build a splint for any patient. They may be volar or dorsal or both, padded or unpadded as the situation demands. Only the injured finger or fingers are included, allowing all the rest to move through their full range of motion. Plaster can be folded to be 1 inch wide for a finger and still 3 inches wide to fit the forearm comfortably. A narrow bar is uncomfortable above the wrist. If wet dressings are necessary, aluminum can be cut from 18-gauge sheets with tin snips and bent to shape with your fingers. Properly padded it can be made to fit exactly and comfortably.

A splint keeps the injured part at rest, and for proper wound healing and to minimize pain and muscle and vascular spasm, a splint is necessary. But the patient has lost some of the mechanisms that pump blood and lymph back up the arm.

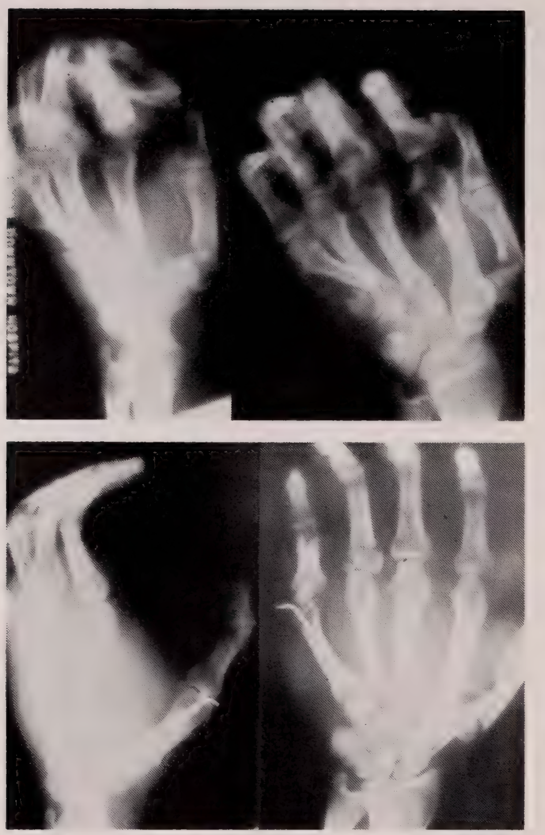

FIG. 3. Multiple, widely displaced fractures (*top*) reduced and held with multiple Kirschner wires (*bottom*).

He cannot be allowed just to go out and carry his hand in a sling or let it hang down. He has to have his hand elevated. This term is much misused. A patient must be in bed with his elbow higher than the shoulder and the hand higher than the elbow. He is allowed up only for 10 per cent of the total waking hours.

Infections following trauma can interfere with good results and are particularly deadly in crushing injuries. We have said that it is frequently impossible to remove all the dead tissue which may act as a wonderful culture medium for bacteria. Therefore, we must protect these patients with more than the usual amounts of antibiotics and for many more days.

There are some new drugs to prevent some of the inflammatory reaction to injury. It is our practice to put 0.25 to 2 cc. of hydrocortisone acetate crystals (25 mg. per cc.) into wounds considered clean to protect and prevent edema and reaction. Much of this floats out as the wound is closed, but enough of the crystals stick to have a good effect. In an incised wound an additional benefit is the absence of almost all the usual wound pain. The crystals are absorbed in about three weeks, and a little reaction can be seen in the tissues about them. We have not seen that the use of the crystals has slowed the healing time in skin, tendon, or nerve at all.

In crushing injuries there are many areas where our crystals could not be implanted. We have used another compound systemically, ACTH. Before using it, all the actions and contraindications should be carefully studied for there is no reason to have dead human beings with flexible hands. ACTH is a potent material. We think it limits edema. It lessens pain, makes motion easier, and keeps immobilized joints flexible.

Almost all these crushed hands have fractured bones, usually widely displaced. Ninety per cent of all hand fractures after reduction stay reduced in the position of function. In a crushed hand with necessity for dressings, grafts, early motion, bones are often better immobilized with internal fixation. Figure 3 shows a patient with multiple, widely displaced fractures and a severe crushing injury. Fractures were reduced and held with multiple Kirschner wires. Motion is safe at any time, even though fractures may not be solid for four to six weeks.

Contused wounds are crushing injuries. We must use our judgment and decide how much crush is present in any wound. Excision should be conservative. By careful surgery and all the thousand judgments and decisions and perhaps by using some of the new drug compounds, we can prevent the stiff hands now so prevalent.

DR. SAWYER: That was most informative. Last, but not least, Dr. Littler is going to tell us about particular tendon and nerve injuries. Dr. Kennedy spoke in his introductory remarks about the hand courses that were given throughout the country during the war by Dr. Bunnell and some of the men who took this course and as a result concentrated on hand work. I don't know whether Dr. Medl was one of those or not, but I do know that Dr. Littler's interest was stimulated in that direction, and he has developed and carried out at Roosevelt Hospital the very things that Dr. Kennedy mentioned.

Among us surgeons who have seen Dr. Littler work and some of the things he has done, I think one of the most remarkable things—and I don't know whether or not he is going to show us today—is the reconstruction of a new thumb. I simply mention that because I have seen some of his work in this direction, and it is really quite astounding. The next speaker is Dr. Littler.

Dr. Littler: Thank you, Dr. Sawyer. In continuing the general discussion of hand injuries, I would like to high light it a little more specifically with respect to nerve and tendon division. Not infrequently there is a point of no return in the injuries we see. On the other hand, there are many wounds which for the most part seem relatively minor yet produce tremendous disabilities, and it behooves whoever handles the injured, either surgically or in the general rehabilitation, to do no further damage. Periodically, what should be a relatively minor or limited disability is converted into one of a major variety.

The never-ending problem of lacerations of the fingers and of the palm is shown here (*slide*). A laceration in the distal part of the finger may do two things. It can divide the flexor profundus tendon and one or both of the digital nerves. We believe that in a clean injury distal to the proximal interphalangeal joint, where only the profundus tendon has been divided and the surgical setup is appropriate, the divided profundus tendon should be sutured primarily. If it does nothing more, at least through the restoration of continuity it will stabilize the terminal phalanx. The digital nerves on either side, if severed, should be sutured if the caliber lends itself to the silk available (6^0 braided eye silk is desirable). It is interesting to note that the digital nerves can be sutured as far as the distal interphalangeal joint. This depends, of course, on the size of the individual, the development of the sensory nerve, and also on how much filamentation of the nerve has occurred at that level.

When the injury falls in the metacarpophalangeal region, another set of circumstances is present. The digital nerves may be divided, and they certainly should be sutured. The tendon situation, however, is a little different because in this area we have both sublimis and profundus tendons; in reality there are three because of the sublimis bifurcating as it enters the fibrous sheath.

To attempt a repair of these two tendons within the intimate confines of the proximal fibrous tendon sheath is to court, for the most part, functional disaster. In the adult there is a differential glide between the profundus and the sublimis tendons of about 1 cm., and at the base of the finger the tendons have to undergo an amplitude of from 4 to 5 cm. to flex fully the interphalangeal joints. If we attempt to repair both tendons, it is fairly obvious that they will agglutinate, and in the healing process the differential glide of the two will thereby be lost, and whatever effective amplitude we gain will be, for the most part, directed to the proximal interphalangeal joint. Therefore, we eliminate the sublimis tendon and concentrate on restoring only the profundus when the two are divided, but despite the fact that we are only going to restore the one tendon, a primary end-to-end suture at this level gives poor functional results for the tendon will heal to the surrounding tissues at the site of the injury; the pull will *not* be transmitted distally to the interphalangeal joints, and a fixed finger will result. We prefer, therefore, in most cases to do a secondary repair with a free tendon graft, as I will illustrate in a moment.

Proximal to the fibrous sheath and in the soft tissue of the palm, where injuries divide the flexor tendons, and the operative field, is appropriate for surgery, end-to-end tendon sutures can be carried out together with a primary suture of the sensory nerves. If both tendons are cut, it is your decision as to whether both should be sutured. At least the profundus tendon should be sutured. It may be possible, if the conditions are favorable and good tissues available, to suture the two tendons.

We have heard much about the synovial tendon sheaths from our studies of infection. They function primarily as lubricating systems. These are not to be confused with the fibrous retinaculae which are the pulleys of the flexor tendons. The fibrous sheaths simulate the restraining eyes on a fish pole, and the synovial sheaths which lie within them surround the tendon, as the peritoneum surrounds the gut, for the purpose of free gliding within the limited confines of the digits. The flexor tendons in the digits covered with synovia are fortified by the retinacular system.

We have said that a primary repair can be done distally where only the profundus tendon is severed. In the proximal zone of the finger functional tendon repairs are difficult; in the palm they are better because of the tendons lying in soft tissue and being freer to move following an end-to-end suture. However, when the tendons are cut in the critical zone of the finger—what Bunnell calls "no man's land," but where many venture—we prefer to do a secondary repair with a tendon graft. A tendon graft is done for the express purpose of getting the tendon junctures at favorable sites where they will glide free of restraining adhesions. It is obvious that if we place the tendon suture in the injured area, the damaged tendon is not going to glide freely through the cicatrized surrounding tissue. However, if we substitute for the divided tendon a free tendon graft, we can put a good piece of tendon through the injured zone, placing the proximal suture deep in the palm between the lumbricals and the distal suture at the terminal phalanx where it can be secured to the stump of the profundus with a Bunnell pull-out wire or any one of the several types of fixation sutures. At the insertion point the tendon has little amplitude, and gliding is not a problem. It is a problem proximally, but surrounded by paratenon and soft tissue the amplitude is facilitated. The tendon graft is not placed until the tissues have softened.

We eliminate further the fixed retinacular system except for two pulley components to prevent bowstringing of the tendon; one pulley is preserved if possible at the base of the proximal phalanx and the other pulley at the midpoint of the middle phalanx. A look at the sheaths indicates where this retinacular system is condensed at appropriate points to withstand the greatest stress. We leave the middle phalangeal pulley as far proximally as possible so that our distal interphalangeal juncture won't impinge upon it when the finger flexes. In some instances the whole retinacular system is injured, but in most the injury generally is more or less distally or proximally with respect to the proximal pulley, and we save whatever part of it we can. It is about an inch long, so if the injury is distal, we save the more proximal portion; if it is proximal we save a piece of pulley distally. If we don't have this eyelet of fibrous tissue, the tendon will bowstring, and finger function will be greatly impaired.

All incisions in the hand and fingers should be made midlateral to the joints and parallel to flexion creases. In the palm it is possible to parallel the flexion creases distally, then to prolong the incision proximally along the hypothenar eminence at its inner border.

If you flex your own fingers, you will see that the flexion creases disappear at about the midaxial line of the finger. If a mark is put at each one of these points and then connected with a line, we have the optimum incision for entering the finger. This incision undergoes no change in length on flexion or extension, and, therefore, is not subjected to stress and secondary hypertrophy. If it does hypertrophy a bit, it doesn't deform the finger. The incision exposes the fibrous tendon sheath and the neurovascular bundle which is carried forward with the volar flap. This gives good entrance to the finger. Notice, however, that the correct midlateral line is only skin deep and that the dissection then is an undulating one to avoid entering the interphalangeal joints. Once through the skin the dissection must be meticulous, lifting only the fatty flap and the neurovascular bundle off the fibrous structures. We mustn't damage the deep fibrous tissue or the joint capsules for they are reactive to trauma and a stiff finger might result.

Although time is limited, to conclude I am going to discuss one or two other things. A major point is a plea for more careful handling of the incisions in the hand. Here is a picture of the midlateral incision (*slide*). We have gone through the skin; we have cut the fascia (Cleland's ligament) which holds the volar skin to the lateral phalangeal ridge to expose the subjacent neurovascular bundle. The flap is then carefully dissected away from the interphalangeal joints exposing the fibrous tendon sheath; the neurovascular bundle is carried with the flap. The perforating vessels and nerves serve the phalanges and joints. These generally have to be divided to gain good exposure to the flexor sheath.

As an example of a misguided incision: a young boy had a simple laceration at the base of his middle finger. Both flexor tendons were divided, and a primary repair was attempted; unfortunately, the repair was done through a midvolar incision running from the palm to the distal interphalangeal joint. The tendon repair was a failure. A flexion contracture developed, and another effort was made to release the finger through the same incision. Again further contracture developed, and for all practical purposes his whole hand was jeopardized because of a small laceration at the base of the finger prolonged proximally and distally on the volar aspect of the palm and finger. Only eighteen years of age, he wanted his middle finger. Fortunately, he had perfect sensation.

An operation was performed in which we simply excised the contracting band of scar tissue. You can see how much the finger has opened up (*slide*). To cover the skin defect a cross-digital pedicle flap has been utilized. The contracting band of the palm has been broken up with a Z-plasty, and we have preserved the web.

Following good primary healing he is ready now for a free tendon graft. You can see the cross-digital pedicle flap taken from the adjacent finger, the preservation of the web, the soft palm. The finger is now perfectly relaxed and can be fully extended, but the flexor tendon is missing. He has had a free tendon graft put in the finger, and full active flexion has been restored.

The time is late, but I would like to re-emphasize that when lacerations do divide the flexor tendons of the finger and we attempt a repair, it is essential that the prolongation of the incision be very carefully handled. Exposure in oblique and transverse lacerations is gained by extending the limits of the laceration proximally and distally along the midaxial line of the digit.

Remember in making incisions in fingers that the radial sides of the index, middle, and ring fingers are the working sides of the fingers, whereas in the little finger it is the ulnar side that is more important because it takes the brunt of daily activity. Whenever possible, when we make an elective incision in a finger, it is better to make it on the ulnar side of the three fingers. Although I grant you it is easier to enter the index finger from its radial side and it is easier to enter the little finger from its ulnar side, done carefully there will be little or no damage. But it is just a point to bring up that the two sides of the fingers do have varying functional significance, and it is appropriate to keep our incisions away from intact areas if possible. And again, in making incisions in the hand, we stay midlateral to the joints and parallel to flexion creases wherever possible in order to limit any functional disability resulting from our surgery. The injury is bad enough, and surgery is added trauma at best and must be done with judicious care.

DR. SAWYER: We had great plans for a discussion period, or rather a period of questions and answers—but all the plans of mice and men go awry. However, if any of you have any questions, you might try to talk to these men if you can catch them before they run out. I would think, however, and I would certainly like to ask Dr. Moberg if he, being our very distinguished guest today, might not give us a summation of just a little impression of what he thinks went on here this morning and perhaps close the meeting. Would you be so kind as to do that, Dr. Moberg?

DR. MOBERG: I must say I am impressed by all I have heard and seen from my friends in America. I do not think it can ever be stressed enough that the hand problems are much more important than generally is accepted.

But the main problem is organization. We have, as shown today, the atraumatic surgery, the possibility to give something real to the injured hand, that we didn't have before. But is it applied? We wouldn't think much of a watchmaker who refused to take the necessary time and craftsmanship to restore a valuable watch. We have many hand injuries, and we have the instruments to repair them. A finger on a good workman may be worth $2,000, just as a tool, humanity and all such forgotten, and the whole hand may be worth as a tool $25,000. But we find it difficult to put two or three hours of full procedure work to help restore that hand. It is so much trouble. Organization of the problem is easier for us in Sweden than for you, where we have a small population, where we all have the same religion, very much the same economic standard, and special medical facilities mobilized and directed toward early and continued care of the injured hand patient.

DR. SAWYER: On behalf of the Section on Industrial Medicine and Surgery, I want to thank each participant on the panel, and particularly Dr. Moberg for coming such a long distance to be with us. I also want to thank the members of the Section and our friends who are here this morning for their gracious attention and cooperation.

The illustrations in Dr. Lampe's participation are reproduced through the courtesy of Ciba Pharmaceutical Products, Inc., Summit, New Jersey.

Inscription on Confederate Memorial in Arlington National Cemetery

Not for fame or reward, not for place or for rank, not lured by ambition or goaded by necessity, but in simple obedience to duty as they understood it, these men suffered all, sacrificed all, dared all and died.

proceedings

Special Committee on

INFANT MORTALITY

Medical Society of the County of New York

HAROLD ABRAMSON, M.D., *Editor*

Editor's Note: *In this article by Dr. Hughes, the scope of the problem of fetal wastage is clearly defined. A pioneering and comprehensive program of joint study is detailed. It is designed to delve into the problems of reproduction in relation to lowering of the present needlessly high perinatal mortality rates. This article is of interest to all giving care to mothers and newborn infants.*

The Fetal Salvage Program in Syracuse, New York

EDWARD C. HUGHES, M.D., SYRACUSE, NEW YORK

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Although the infant mortality has been decreased dramatically since the year 1935, the number of infant lives lost in connection with reproduction still constitutes more than 10 per cent of all the deaths in the United States each year. These infant losses are exclusive of the wastage due to abortion, hydatidiform mole, and ecotopic pregnancy which constitutes probably more than 12 per cent of all pregnancies. Realizing the scope and size of the proposition, we have attempted to establish a fetal salvage program or a pregnancy wastage program, if you may, in this area which will include all of the phases of the problem. Inasmuch as the problem cuts across many fields, it has been felt that it was necessary to include many agencies in the over-all program. Therefore, several years ago we established an integrated program between the Obstetrical Department of the State University, Syracuse, the Syracuse Department of Health, the hospitals, the nursing organizations, interested lay groups, and the Medical Society of Onondaga County. We have established a ten-point program, the important features of which are as follows:

1. Inasmuch as this problem is of extreme public health importance, we have established a coordinated effort between the Department of Health of Syracuse and the State University, Syracuse. It has happened that the professor of obstetrics serves as the director of maternal hygiene and welfare as a part of the city health department.

2. Realizing that the greatest number of infant deaths occur during the perinatal period and that many of them are preventable, it was thought that control of all the obstetric departments of the city with adequate consultation was necessary. Through the cooperation of the staffs of the hospitals, the Onondaga County Medical Society, and the State University, the obstetric services, both private and ward, of the hospitals of the city were put under the direction and control of the obstetric department of the State University or personnel approved by them.

3. There was established a joint control of the prenatal clinics of the city which have been maintained cooperatively by the health depart-

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Presented at an open meeting of the Special Committee on Infant Mortality, Medical Society of the County of New York, November 4, 1953; Dr. Carl Goldmark, chairman, and Dr. Harold Abramson, secretary, 145 East 61st Street, New York 21.

ment and the obstetric department of the university or approved hospital personnel.

4. Monthly statistical reviews of the work of the hospitals have been carried on jointly by the staffs of the hospitals and the medical school staff. At these meetings the maternal mortalities and morbidities have been carefully and completely discussed.

5. Consultation on all obstetric problems has been mandatory in all of the hospitals of the city. This consultation is offered by members of the teaching staff without fee on the ward and private cases in the hospitals or designated staff members.

6. Monthly obstetric-pediatric conferences in the hospitals have also been established where fetal mortalities and morbidities have been thoroughly discussed.

7. There are three pediatric centers for the care of the premature, and a premature ambulance is available.

8. The newborn nurseries of all the hospitals are under the direct supervision of the pediatric department of the medical school. Pediatric personnel are present at all unusual deliveries, particularly in the case of the premature. However, resuscitation has generally been given by members of the obstetric staff.

9. Several years ago, through the cooperation of the health department, the county medical society, and the hospitals, regulations for the control of the maternity divisions and newborn and premature nurseries, covering policy, personnel and procedure, and equipment, were drawn up and universally accepted.

10. Realizing that this coverage did not reach all of the problems, that it was necessary to delve deeper into the problems of reproduction, we established a clinic designated as the Preconceptional Diagnostic and Therapeutic Clinic. This clinic was formed for the purpose of studying couples who gave the history of chronic abortion, malformation, prematurity, or a combination of these conditions. The clinic has been sponsored jointly by the Syracuse and New York State Departments of Health, the obstetric department of the College of Medicine, the Department of Nutrition of Syracuse University, and informally with the Universities of Rochester, Buffalo, and Washington, D.C.

Evaluation

Most of the program has been in force since 1945, and it is time now that we ask ourselves what has been accomplished by it. We think that we have made some strides forward. Statistically there has been a rather satisfactory reduction in maternal and infant death rate in our community. There were four maternal deaths in the County of Onondaga in the year 1952, during which time there were 9,528 births. The infant mortality was also lowered to 2.4 per cent. These statistics compared favorably with the maternal mortality in the country which was one death in every 1,500 live births in 1952. The stillbirth and neonatal mortality rate in the United States in the year 1949 was 4.1 per cent. I do not think that this mortality has been decreased in the country during the past two years.

However, even though there has been this reduction in the over-all mortality, in reviewing our statistics more critically we find that fetal deaths resulting from prematurity, postnatal asphyxia and atelectasis, malformation, abortion, and even birth injuries have not been reduced appreciably. In fact, the death rate due to asphyxia in 1952 in the country has taken a slight increase. The infant death rate from these conditions has remained practically constant in the past few years. This is also true in the country at large.

Although we believe that all of these standards should be carried out carefully, that prenatal care should be improved, that pediatric care after birth should be made better, we are of the opinion that in order to reduce the infant death rate to a new low in this country, we must take a more specific approach to the problem. These assertions have been further strengthened by the results of several surveys which we have conducted.

The first survey completed in our area and reported by Schoeneck[1] concerned 24,660 live births and 405 stillbirths in the year 1949–1950. This revealed that prematurity was the main cause of fetal loss and that a remarkably high incidence was associated with obstetric complications. Statistically it showed that although 7.9 per cent of the live births were premature, the mortality was so high that they contributed to nearly 60 per cent of all the deaths during the first month of life. It was also noted that 78 per cent of the prematures died during the first twenty-four hours of life and that 76 per cent of those whose birth weights ranged from 500 to 1,500 Gm. died soon after birth. A similar statistical record has been presented and recorded in the United States as a whole. Bundensen and Potter[2] have recorded like statistics. These facts have revealed that it was almost impossible for the pediatrician to bring these young infants through to life. Schoeneck has categorically placed the responsibility upon the obstetrician in 80 per cent of these cases and only 20 per cent upon the pediatrician.

A second survey[3] conducted in this area in the past has established some other interesting statistics. This study consisted of an analysis of the obstetric records of 5,000 patients with a total of 14,132 births. In an effort to evaluate the relationship of one pregnancy to another, bad pregnancies were considered as abortion, hydatidiform mole, premature labor, and congenital malformations. Normal pregnancies were considered as normal living children weighing more than $5^1/_2$ pounds at birth. It was noted that 24.3 per cent of these 5,000 patients accounted for 61.3 per cent of the total fetal and infant loss. This relationship between previous bad pregnancies and subsequent ones seemed to suggest that there was something basically wrong in these individuals.

A third survey is now under way which is aimed at confirming these impressions by means of a running study. We hope to devise methods whereby we can anticipate those destined to develop bad pregnancy patterns. Every patient who is hospitalized is being interviewed by a nurse from the Bureau of Nursing of the Syracuse Health Department. These nurses have been trained in this work. Patients are interviewed while they are still in the hospital. The outcome of the pregnancy is accurately determined, data by Schoeneck by which the patient can be identified are recorded, and, since we plan to follow the future pregnancies of those patients, all data are placed upon punch cards. We anticipate accurate pregnancy outcome sequences on many of these patients after several years of study. We will also have the menstrual histories and conception time effort accurately recorded to tie in with the various pregnancy patterns. It may be possible to anticipate, eventually, those women who have bad pregnancy patterns by correlating the menstrual and conception effort data and the outcome of earlier pregnancies.

Several years ago we realized from these studies and surveys that in order to solve the problems of prematurity, congenital malformation, and abortion, research must be done to discover some of the innate portions of the problem. We felt that more should be known about the process of conception, and implantation and placental formation in order to understand intrauterine fetal growth more thoroughly. We felt it was necessary to study some of these problems before gestation since once pregnancy occurred there was very little therapy that actually effects a good outcome. To promote such a study, we established a clinic designated as the Preconceptional Diagnostic and Therapeutic Clinic. It was established and sponsored in cooperation with the Health Departments of Syracuse and New York State and the State University. The objective of the clinic was to study as completely as possible couples who had two or more spontaneous abortions, premature births, congenital malformations, or any combination of these conditions. Patients were referred by their private physicians or by the clinic service in connection with the Health Department. It was realized that only a comparatively few couples could be analyzed in the way in which we wanted to do them. The clinic has been operating for two and a half years, and a total of 91 couples have been completely analyzed. We realize that the number is very small and that no definite conclusions can be drawn from this series. However, we have noted some rather definite trends so far.

Factors in Fertility Rating

Factors which play an important part in their fertility rating can be listed as follows:

1. The genetic influence.
2. The social status.
3. The effect of nutrition.
4. The psychologic influences.
5. The endocrine balance before and after gestation.
6. The general physical condition of both the male and female.
7. The condition of male and female reproductive organs.

GENETIC INFLUENCE.—Biologic studies conducted on lower animals and in the vegetable kingdom have shown that defective germ plasm, either in the chromosomes or genes, may have a definite effect upon abnormalities of the offspring. Except for the fact that individuals admitted to this clinic came from families of small size, we have not been able to detect anything genetically that is significant. Our studies are not complete and are in the hands of a geneticist, and perhaps at a later date we may have more definite conclusions. An interesting casual observation was made by one of the men working in the clinic. While going over the clinic records, he asked the question why there were so many unusual names. There are no Jones or Smiths; there is one Brown, but most of the names are very unusual.

Social Aspects.—In a recent report by Bundensen and Potter the statement was made that there was a higher incidence of prematurity in the lower social economic group of individuals in Chicago. Although we are sure that this is probably true, in our limited experience in the clinic this has not been the case. We have had individuals from all walks of life, economic levels, and occupational endeavors. In fact, it almost seems that abortion has occurred more often in families of the higher strata of life.

The Psychologic Influence.—There is no question that psychologic influences must play a part in the bodily functions which are involved in reproduction. We know that certain individuals who have been put under stress and strain are more prone to alter these vital functions. We have noted that nurses and college students approaching examination time have periods of amenorrhea which may extend for several months. However, when the psychologic barrier has been removed, menses have been established in a normal way. There is no doubt that psychologic frustrations, worry, and unhappiness probably do affect the processes of gestation and labor. There were 12 patients for whom nothing specific had been done in the clinic except for the routine biopsies and tests. However, pregnancy occurred in these individuals and proceeded to term with the birth of a normal child. Whether the feeling of confidence which was established in the clinic through complete examination, thorough study, and frequent visits affected the psychologic makeup of these individuals so that normal conception and gestation did take place cannot be definitely proved. It is rather suggestive, however, and has been recorded by others. There was one patient in the clinic who developed a schizophrenia during and following the delivery of her first normal child.

Nutrition.—There has been much written concerning the effect of proper nutrition on fetal development and growth. There is a definite correlation between nutritional deficiencies and poor offspring. Nutrition is not only involved in the entire structure of the body but also localizes itself in the formation and growth of each individual cell of the body. Of all the chemical and physiologic processes involved in the nutrition of the cells of the body, the secretions of the endocrine glands play an important part in the physiology of nutrition as a whole. For instance, the thyroid affects the general metabolism of the body. It also affects the distribution of iodine. Insulin from the pancreas plays an important part in the metabolism of sugar, while the secretions from the adrenal cortex affect the distribution of sodium and water and metabolism of carbohydrates and proteins. Likewise, estrogen and progesterone secreted from the ovary play an important part in preparing the endometrium for the nutrition of the implanting fertilized egg. There is no question that the interrelated physiology of all these glands must play an important part in the nutritional processes going on in the embryo, while it lives within the uterus.

Careful nutritional studies have been conducted in our clinic by an experienced nutritionist. Blood samples of the wife and husband were drawn and sent to Syracuse University where, under the direction of Dr. Ann Bourquin, they were examined quantitatively for carotene and vitamins C and A. It has been interesting to note that there has existed a correlation between these two studies, although both were done independently. The nutritionist reported a deficiency in the diet of protein and vitamins A, B, and C in 70 per cent of the patients as compared with the controls. Dr. Bourquin also reported a deficiency in carotene and vitamins C and A in 70 per cent of the cases. Vitamin E levels were also estimated at the University of Rochester by Dr. Mason. He reports that there was a deficiency in this vitamin in only a few patients.

We are certain that these general aspects are important and have their effect upon the process of reproduction. However, the satisfactory union of the sperm and ovum, the successful implantation of this combination cell upon the endometrium of the uterus, and the development of the placenta are the specific processes which decide the successful outcome of the pregnancy. Further research concerning these structures and processes have shown some interesting features.

The Male Cell.—Complete analysis of the semen of all the males of this group has been done after five days continence. The specimens were studied by measuring the total volume of the semen, estimating the number of sperm the morphology and motility of the sperm, viscosity of the vehicle, and the levels of glucose and fructose.

Although about 50 per cent showed sperm abundantly in the semen it is difficult to interpret the importance of these findings in connection with the fertility rating of the male. We have all observed men with extremely poor fertility rating impregnate their wives without difficulty and have perfectly normal offspring. We have also noted in our clinic that normal pregnancy has followed treatment of the female when no effort has been made to improve the abnormal condition of the male.

The Female Cell.—There has been no specific method devised to determine the true quality of the female oocyte or egg. It is true that endocrine studies, temperature charts, endometrial biopsies can determine whether or not ovulation has occurred and whether the ovarian steroid output has been sufficient in quantity and quality to stimulate properly the endometrium for secretory function. Pituitary gonadotropins, temperature charts, and endometrial biopsies have been correlated in all of these individuals. The endometrium was obtained on the twenty-fourth day of the cycle by endometrial biopsy, and its function was evaluated as follows:

1. Normal histologic pattern for the twenty-fourth day of the cycle.
2. Normal distribution and amount of glycogen as demonstrated by histochemical stains.
3. Normal distribution of alkaline phosphatase which is essential for the glycogenesis of the endometrium.

The endometrial biopsies were repeated several times in each patient and were sent to the laboratory of the hospital where the pathologist made a cold determination of the function and quality of the endometrium based upon the above criteria. Of the total number of endometria studied, it was found that 80 per cent of these individuals had endometria which were not normal in function. It is difficult to evaluate what this actually means. It is true that specimens of endometrium may appear perfectly normal in respect to the histologic patterns of the day of removal of the tissue. However, this is no guarantee that the function is normal. We feel that the study of the glycogen and phosphatase of the endometrium together with the histologic patterns gives us a better rating of the tissue function. We realize also that there are discrepancies in this method.

Other tests such as vaginal smears have been done and sent to the University of Buffalo to be examined by Dr. Clyde Randall and his group. The work has not been completed as yet. The anatomic development of the uterus was observed in these women by hysterosalpingogram. So far there is a small percentage who have shown some abnormality in uterine development.

The Thyroid.—Considerable has been written concerning the relationship of the thyroid function to the process of reproduction in the male and female. There is no question that this gland does play an important role in this function. Both the males and females in this group were tested for thyroid function by a basal metabolic reading and the protein-bound iodine estimation. In the females the protein-bound iodine was normal in 60.9 per cent of the individuals, above normal in 29.2 per cent, and below normal in 9.7 per cent. On the other hand, the basal metabolic readings in the same individuals were within normal levels in 59.2 per cent, while 7.3 per cent were above the normal and 33.3 per cent were below.

The report on the males was as follows: The protein-bound iodine was normal in 66.2 per cent, above normal in 22 per cent, and below normal in 11.6 per cent. The basal metabolic readings in the males were 48 per cent normal, 14.2 per cent above normal, and 37.6 per cent below normal.

In both groups there was absolutely no correlation between these two tests. It is quite apparent that the basal metabolic reading is not a true index of absolute thyroid function. The protein-bound iodine, the alcohol fraction of the iodine, apparently serves as the best test for accurate function of this gland. There appears to be little correlation between deficient thryoid function and the condition of these patients.

Comment.—We cannot draw definite conclusions from this small series of cases or from the work which we have done. We are sure that it is going to take a long time before enough data can be accurately correlated to give us the real story. However, so far certain tentative conclusions can be drawn. The outstanding abnormal finding in these patients seems to center about nutrition. This is reflected indirectly or perhaps directly in the functioning of the endometrium because in 80 per cent of these patients there was a definite decrease in function of this tissue as estimated particularly by the amount of glycogen found in the secreting units. However, it is not definitely known whether there is a relationship between general nutritional deficiencies and glycogen deficiency. This is rather important because this tissue, which must be considered as a highly secretory structure, must furnish the nutritive material for the fertilized ovum as it implants itself upon the surface and attempts to get a foothold and secure nourishment. It is also important because it not only influences the very early development of the ovum but also affects the future development of the placenta. During the past five years in our surveys we have noted that infant mortalities have been associated with placental pathology in approximately 50 per cent of the cases. That pathology can be listed as follows:

1. Of the premature deaths 25 per cent were associated with placental pathology, such as abruptio placenta, placenta previa, etc.
2. Placental pathology is found when congenital malformation is present. This occurs in about 15 per cent of the cases.
3. Placental pathology is found in association with the toxemias of pregnancy which accounted for 5 per cent of the infant deaths.
4. The remaining portion is associated with erythroblastosis where placental pathology is of prime importance.

The pathologic changes were peculiarities of placental formation, abnormal location of implantation, and unusual placental-decidual relationship which resulted in obstetric complications. We have felt that further study must be given to this important problem of placentation. Although many articles have been written and much research has been conducted concerning this organ, it is a fact that comparatively little is known concerning the true function of this structure. I would like to spend the rest of my time discussing some of the features of the formation of the placenta and its endocrine relationships in respect to normal gestation, abortion, and premature labor. I appreciate that I can only scratch the surface of the many potentialities of this organ.

The Placenta

FORMATION.—There are many important factors involved in the formation of the placenta. Poor germ plasm may affect the formation of the trophoblast and ultimately interfere with normal placental development. Poor germ plasm, however, generally results in abortion which occurs prior to the tenth week of gestation. The anatomic formation of the uterus itself may affect placentation, causing abortion, premature labor, or the dystocias at the time of labor. The injection of an opaque media into the body of the uterus will disclose abnormalities of formation. The third and perhaps the most important cause of improper placental formation and development occurs in the endometrium itself.

The prime importance in function of this highly specialized membrane is to furnish nutrition for the embryo throughout its intrauterine existence. During these intrauterine days the fetus obtains its food from several different types of nutritive processes. I have divided them into three phases:

Phase 1 must be considered as the time when the endometrium is preparing for implantation. This process starts at puberty and continues until the menopause.

Phase 2 must be considered as the actual time of implantation and formation of the early chorion. The most important process which is going on at this time occurs in the development of the chorion itself. The embryonic cells apparently are of least importance.

Phase 3 displays a true placental function when its own physiology and hormonology has been established. It is during these times that the embryo acquires its greatest growth and development.

The hormonology of the three phases is entirely different. However, the purpose of each phase seems the same. Each phase furnishes in a different way nutritive material for the early implantation of the blastocyst and later the fully developed embryo.

Phase 1.—There are many physiologic processes, still not completely understood, that take place during the menstrual cycle. It is true that this tissue has a mortal influence upon the growth of the implanting blastocyst. It is dependent upon the stimulative action of estrogen and progesterone from the ovary which in turn receives its stimulation from the pituitary gonadotropins. The physiologic and chemical changes which take place in the endometrium are truly phenomenal. They can be described as follows: There is marked increase in the flow of blood through the capillaries of the endometrium beginning at the time of ovulation and continuing until approximately the twenty-fourth or twenty-fifth day of the cycle. Commensurate with this increased blood flow is a marked change in the arterioles themselves which supply the endometrial glands with blood. These structures become increased in length, size, and tortuosity. Estrogen is probably the stimulator of these structures. The endometrial glands also undergo a marked change in function under the influence of progesterone. They become longer, larger, and have an increased capillary blood flow about them. They secrete materials which are necessary for ovular development and growth. Sugar is particularly metabolized and stored in these glands awaiting the implantation of the fertilized ovum. It is stored in the glands as glycogen and later is released into the lumen of the gland and upon the surface of the endometrium as glucose.

During these physiologic processes the endometrium increases considerably in thickness and prepares a soft bed for the implanting blastocyst. This is very important because if this tissue does not increase in thickness, it does not allow the blastocyst to settle down within its structure and be completely covered with decidua. Therefore, the embryonic area of the blastocyst or the future individual may sit on top of the endometrium and is subject to trauma and lack of blood supply. If this structure does not become completely imbedded, the formation of the placenta is also impaired. This situation may be responsible for the development of a condition called placenta circumvallate which is found in a large percentage of the cases with premature rupture of the membranes. In other words, the placenta, not having adequate space to grow within the substance of the decidua, grows upon the surface of the decidua, thereby actually overgrowing the size of the embryonic sac. This causes the embryonic sac to be decreased in size. It cannot expand to its fullest under the pressure of the amniotic fluid and the fetal motion. Therefore, early rupture of the membranes may occur. This, of course, is an important factor in the causation of prematurity.

Preparation of the endometrium then, can be considered as an important time in the process of early fetal growth and development.

Phase 2.—Phase 2 of this process may be considered as beginning immediately after implantation and lasting until the placenta is completely formed and fully functioning. The length of this phase is approximately one hundred and twenty days of gestation. During these days the important development which must take place occurs in the chorion, the embryonic area itself perhaps being secondary to the proper formation of these cells. Other hormones are involved in the process. Almost as soon as implantation has been completed, the inner layer of the trophoblast, commonly known as the Langhan's cells or the cytotrophoblast, starts to secrete a pituitary-like hormone called chorionic gonadotropin. This hormone has a luteotrophic effect upon the remaining corpus luteum of the ovary and causes it to secrete increasing amounts of estrogen and progesterone. These steroids stimulate greater metabolic action in the decidua. Many materials, particularly sugar, are metabolized and stored at a greater rate than ever. This material can be noted in the decidual glands and cells.

The trophoblast itself also becomes actively engaged in these metabolic processes. Besides secreting this hormone, these cells likewise store sugar as glycogen and may substitute for the fetal liver which is not as yet functioning in this respect. It should be stated that the decidua and the cells of the trophoblast are extremely important during this phase. The relationship between a fully functioning decidua furnishing plenty of nutriments and the rapid growth and proliferation of the cytotrophoblast affects the amount of chorionic gonadotropin which may be secreted by these cells.

If the decidua fails to produce enough of the materials necessary for nutrition of the implanting blastocyst, there is a failure of embryonic growth. This is manifested hormonologically by the fact that the amount of chorionic gonadotropin found in the urine is decreased. Because of lesser amounts of this hormone, the corpus luteum fails to secrete enough progesterone and estrogen. The deficient secretion of both of these hormones is found in cases of beginning abortion and generally indicates ovular death. In some cases the chorion may grow rather rapidly and put out considerable amounts of chorionic gonadotropin. If the chorion does not continue to produce this material, the decidua may suffer from lack of stimulation due to ovarian failure, and ovular death occurs later in gestation. In this situation the pregnancy may go longer than ten weeks, and generally there is a small fetus found when the abortion is completed. However, the chorion changes are quite similar in both instances. There is edema of the chorionic villi, sclerosis of the vessels, and avascularity. These three pathologic developments cause poor function of the embryo.

Phase 3.—Phase 3 represents a different type of nutrition and a variation in the hormonal pattern. The chorionic gonadotropin level now remains at a consistently low level because the Langhan's cells have now either become degenerated or formed other units of the chorionic villi. The placenta now secretes increasing amounts of estrogen and progesterone on its own. The metabolism of glucose is no longer carried out by the decidua or the cells of the chorion. Glucose is apparently brought to the decidua by the increasing blood flow where it is immediately transmitted across the placental barrier directly into the fetal blood. Other materials are metabolized in a similar fashion. The enzyme alkaline phosphatase, and perhaps other enzymes which seem to facilitate the transfer of glucose across the placental barrier, are either secreted by the cells of the syncytium or are present in large amounts in the blood plasm of the mother. At any rate the syncytial cells are filled with this enzyme. There is no evidence of glucose storage histochemically. Estrogen and progesterone from the placenta, although having some specific action upon the decidua itself, seem to have the greatest effect upon the general metabolism of the body. At this time there occurs an increase in appetite, and increased weight and growth of the fetus are most marked. No doubt the fetal liver at this time assumes its normal function, and glycogenesis is carried on in this structure as it is in the adult liver. There is a reciprocal relationship between the liver and the placenta. Many changes occur in the syncytium which facilitates the rapid transmission of food material from the mother to the fetus.

Pathology.—In cases of prematurity or congenital malformation of the fetus definite pathologic changes in the placenta are noted. These pathologic changes are edema of the chorionic villi, sclerosis of the syncytial covering of the villi, and a narrowing or sclerosis of the vessels of the placenta. In any event these pathologic changes interfere with the proper exchange of material from the mother to the fetus and cause poor nutrition and anoxia of the fetus.

Also as these pathologic changes occur, there is a reversal in the secretion of the hormones by the placenta. There is an increase in the excretion of chorionic gonadotropin, as noted in the urine, and a decrease in the secretion of progesterone from the placenta. Estimation of the excretion of chorionic gonadotropin and pregnandiol in the urine of 43 patients who had premature delivery of their babies showed some rather interesting alterations. The excretion levels were recorded every week during the first trimester and every two weeks during the remaining portion of the gestation. It was noted that the output of chorionic gonadotropin during the early days of gestation or during phase 2 was distinctly under the normal values. Also there was a decreased amount of pregnandiol found in the urine of these patients throughout gestation. As the gestation continued, the amount of pregnandiol excreted in the urine did not rise steadily and rapidly as it does in the normal patient. Therefore, these decreased values indicate that the growth and development of the placenta apparently was dependent on the type of chorion that is produced in early gestation. When the hormones are below normal, it has been noted that the size of the fetus is likewise below par.

Similar hormone levels were noted in seven cases where the fetus was malformed at birth. We are of the opinion that deficient function of the endometrium may be responsible for poor formation of the chorion and later the placenta. This impaired function may be the result of failure of the ovary to secrete adequate amounts of estrogen and progesterone, failure of the pituitary to secrete adequate amounts of pituitary gonadotropin to stimulate the ovary, or it may also be due to anatomic variations in the uterus itself.

Preparation of Endometrium.—On the basis of these findings, we have felt that preconceptional preparation of the endometrium in individuals who are in this category offers the best opportunity for better placental formation and fetal growth. We have treated a great many of these patients before pregnancy with good results. These patients are treated until the endometrium becomes normal in function as indicated by repeated endometrial biopsy, changes in the temperature chart, and the vaginal smear. Many ways of improving the function of the endometrium have been attempted, but we have had the best results by using small doses of diethylstilbestrol given to the patient after the cessation of the menstrual flow. Generally, 0.1 mg. of diethylstilbestrol is given for twelve nights at this part of the cycle. If the endometrium does not respond satisfactorily to this therapy, the next month 25 mg. of progesterone are added for another seven days. When the endometrium is histologically and histochemically satisfactory, the patient is advised to become pregnant. The only other type of treatment which has been given to the patients in the clinic has been a suggested change in the dietary habits.

Results

Ninety-one couples have been studied in the clinic. Thirty-three couples have completed pregnancies after the clinic workup to October 1, 1953. Prior to the clinic attendance the fetal loss in this group was 86.14 per cent on the basis of 97 pregnancies. After clinic management the total fetal loss was 31.5 per cent on the basis of 35 pregnancies. These results, while encouraging, are based on too few cases to allow conclusions. Nevertheless, they have stimulated us to continue this approach as a specific method of combating fetal loss.

Three illustrative cases will demonstrate some of the points which I have discussed at this time.

Case 1.—Mrs. C. gave the history of three spontaneous abortions. History and physical examination were negative on both the patient and her husband. The only important feature of the case was irregularity in the menstrual cycle and an endometrium which was deficient in both its glandular formation and its storage of glycogen. This was determined by repeated endometrial biopsies. Each abortus was studied, and on each occasion the patient had a blighted ovum. The third abortus showed a very small embryo. Each time the pathologic findings in the chorion were the same. There was avascularity and edema of the villi and almost a total absence of the cytotrophoblastic layer of the villi. Each time the amount of chorionic gonadotropin found in the urine averaged between 3,000 and 4,000 ovarian hyperemia units. The amount of pregnandiol excretion in the urine averaged between 1 and 2 mg. per day. The abortion occurred approximately at the same time with each gestation.

Case 2.—Mrs. X. was thirty-five years of age. Both husband and wife were normal as far as history and physical examinations were concerned. The patient had given a history of one previous abortion followed by a three-year sterility period. Repeated endometrial biopsies showed the endometrium to be hypoplastic; endometrial glands were enlarged and cystic; vascular patterns were abnormal, and the amount of glycogen stored was markedly under normal. This patient became pregnant without treatment and, after passing to the sixth month of gestation, became severely toxic and passed a malformed fetus. The patient was then studied further with several endometrial biopsies, each biopsy showing practically the same pattern as previously observed.

The patient was then treated for two months with 0.1 mg. diethylstilbestrol for twelve nights following the menstrual period. At the second month this was followed by 25 mg. progesterone by injection for seven days. Endometrial biopsy after the second month showed a marked improvement. The patient conceived promptly and went through a perfectly normal gestation. The chorionic gonadotropin level was exceedingly high and the amount of pregnandiol excreted in the urine was perfectly normal.

Case 3.—The third patient was Mrs. W., who was thirty-eight years of age. She had had two previous six-month premature births. Both the wife and husband were completely examined; nothing unusual was found. The menstrual cycles had shown some irregularity earlier in life. Several endometrial biopsies showed abnormal function. The glands were small; there was a poor vascular supply, and the amount of glycogen was inadequate. After two months of stimulation with diethylstilbestrol it was thought that the last biopsy was normal. The patient conceived promptly thereafter. Soon after pregnancy the amount of chorionic gonadotropin secreted by the chorion increased markedly to 50,000 units and then fell rather promptly but soon started to increase in quantity again. Pregnandiol also increased rather steadily and failed to drop off, as would be expected, as the chorionic gonadotropin increased in volume. At six and one-half months gestation the patient spontaneously ruptured membranes and after five days delivered a normal but small fetus. Analysis of the placenta at each episode revealed practically the same pathologic finding. The placenta apparently had reverted back to an earlier type and instead of finding a single layer of syncytium covering the villi, many Langhan's or cytotrophoblastic type cells were found in the villi. There were also noted, in some of the areas where degeneration had taken place, a deposition of a glycogen-like substance showing that either the placenta had attempted to store this material as it previously had done or it may have been an indication of placental degeneration.

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CLINICOPATHOLOGIC CONFERENCE

NEW YORK MEDICAL COLLEGE, FLOWER AND FIFTH AVENUE HOSPITALS

DEPARTMENTS OF MEDICINE AND PATHOLOGY

Conducted by LINN J. BOYD, M.D.

OCTOBER 1, 1954

Case History

Dr. R. Baird: On August 2, 1954, this seventy-four-year-old Italian male came to the Emergency Room of the Flower and Fifth Avenue Hospitals for relief of mid- and lower abdominal pain of three days duration.

Three nights earlier the patient had experienced fairly severe, nonradiating, constant mid-abdominal pain. That night he vomited once, the vomitus consisting of the evening meal. The next day his pain became more intense but shifted to the right lower quadrant. On the day before admission several brown, watery stools were passed. No other symptoms were elicited.

Past History.—The patient had been attending the Cardiac Clinic for exertional dyspnea, ankle edema, and orthopnea since 1951. His diagnosis was hypertensive arteriosclerotic heart disease (III C) with normal sinus rhythm. He was hospitalized in March, 1953, for twelve days with an upper respiratory tract infection and transient left ventricular failure. Since then he had been maintained on digitalis, diuretics, and Serpasil.

Physical Examination.—This well-nourished and well-developed male was slightly dehydrated and in acute distress. The temperature was 98.6 F., pulse 80 and irregular, respirations 22, and blood pressure 180/80 mm. Hg.

Apart from an old scar on the right cornea the head and neck seemed normal. The lungs were clear to percussion and auscultation, although the chest was obviously emphysematous. The point of maximum cardiac impulse was in the sixth intercostal space in the left midclavicular line. Pulmonary emphysema precluded outlining the cardiac borders. The cardiac rate at the apex was 110 and the radial pulse rate 80. There were no thrills or murmurs, but the cardiac rhythm was completely irregular.

The slightly obese abdomen was tender on palpation with evident guarding of the right lower quadrant. Cutaneous hyperesthesia was detected in this quadrant which was also the site of pain when the rebound phenomenon was tested. There was no tenderness of the costovertebral angles, nor were they painful on fist percussion. A smooth, firm, moderately enlarged prostate was noted; no feces adhered to the glove, and no rectal bleeding was noted. The extremities showed nothing abnormal.

Laboratory Data.—On admission the hemoglobin was 17.5 Gm. (112 per cent), white blood cell count 18,550 with 81 per cent polymorphonuclears. The blood urea nitrogen was 53.5 and the blood sugar 107.5. Subsequently the serum bilirubin was reported as 4.0 mg. per cent, icterus index 21 units, total serum proteins 5.33 Gm. per cent with serum albumin 3.43 Gm., total cholesterol 144 mg. per cent with 63 mg. per cent esters. The thymol turbidity was 1 unit, alkaline phosphatase 13 King-Armstrong units. Urines consistently showed 1 to 3 plus albumin with numerous hyaline and granular casts, but the specific gravity rarely reached 1.009. Still later, the red blood cell count and hemoglobin fell to lower levels as parenteral fluids were administered; the white blood cell count became 14,200, and the icterus index fell to 11 and then 6.

Hospital Course.—The patient immediately received 1,000 cc. of 5 per cent glucose in water and 2 cc. of Cedilanid intravenously. The terminal ileum and proximal colon were resected, followed by ileocolostomy, and 500 cc. of blood were given during the operation. A Miller-Abbott tube was passed postoperatively and retained for six days with good results. He was given 200 mg. Depo-Heparin per day and 0.2 mg. of digitoxin. The patient continued to fibrillate but soon reverted to normal sinus rhythm; a 2 to 3 plus digitalis effect was recorded in several tracings. His postoperative course was punctuated by an atelectasis of the lower lobe of the right lung and a wound infection, both of which eventually cleared so that he could be discharged on September 3, 1954, as recovered.

The contact of the Medical Service was limited to an evaluation of his cardiac status. The presence of auricular fibrillation was recorded and the suggestion made that the acute abdominal condition might be related to a mesenteric thrombosis.

Discussion

DR. LINN J. BOYD: Since the possibility of a mesenteric thrombosis has been raised, perhaps we might start the discussion by referring to this catastrophe. I suppose we had better call upon a surgeon to develop this subject since mesenteric thrombosis is a surgical problem. Dr. Mersheimer, will you begin?

DR. WALTER L. MERSHEIMER: I think it is better to employ an all-inclusive term such as mesenteric vascular occlusion. Mesenteric vascular occlusion embraces several entities. It includes, for example, thrombosis of a mesenteric vein, thrombosis or embolism of an artery, rupture of mesenteric vessels, so-called abdominal apoplexy, and finally trauma of the mesenteric vessels.

DR. BOYD: If arteries or veins may be affected, are particular ones susceptible, and does it make any difference in the clinical picture?

DR. MERSHEIMER: Instead of saying that arteries or veins may be affected, it is more accurate to state that either or both may be involved in a single case. At operation it may be impossible to distinguish a mesenteric venous occlusion from an arterial one, and sometimes the pathologist is just as helpless as the surgeon in this respect.

Irrespective of whether a vein or artery is occluded, almost always a superior mesenteric vessel is blocked. Probably ten occlusions of a superior vessel occur for every one of an inferior. The difference is important because the superior mesenteric vessels care for the circulation of the small intestine and the right half of the colon to about the middle of the transverse colon. The inferior mesenteric vessels are primarily concerned with the blood supply of the left half of the colon.

There are clinical differences between arterial and venous occlusions in some cases. Thus, a mesenteric venous occlusion is prone to have a prodromal period. Its early course is slowly progressive rather than fulminating, similar to that often observed in an embolic occlusion of a major artery. Often with a venous occlusion the onset is insidious and the course slowly progressive so that six to eight days may elapse before the physician realizes that he is confronted with a serious abdominal catastrophe. Under these circumstances a mesenteric venous occlusion may exist. On the other hand, if the onset is characterized by severe pain with collapse and shock so profound that the underlying condition is somewhat masked, sudden embolic occlusion of a large mesenteric artery may have occurred. At the other extreme may be placed cases of "intermittent mesenteric claudication" or "abdominal angina" in which mild episodes are repeated and unrecognized until they culminate in a major occlusion. There are also occlusions of small vessels without consequent gangrene of the bowel. In short, there are all gradations from no or few symptoms to the classic picture of sudden, excruciating pain associated with profound shock.

DR. BOYD: Will you round out the picture by referring to other symptoms like the silent abdomen, constipation, peritonism, and the like?

DR. MERSHEIMER: My omission of other symptoms and signs was intentional. Actually, the point of my remarks was directed to the impossibility of reaching the correct diagnosis in many cases. This is of relatively minor importance, however, as long as we realize that we are confronted with a serious intra-abdominal catastrophe demanding immediate or early laparotomy. Since the surgeon often cannot tell whether a venous or arterial lesion is present when he has the specimen in his hands, tabular arrangement of symptoms and signs for their distinction prior to operation often has more theoretic than practical importance. The definitive diagnosis is not so vital as the recognition of a calamity demanding surgical intervention.

Your question implies that mesenteric thrombosis should be considered when ileus develops. If reliance is placed upon this suggestion, the diagnosis may be missed or reached belatedly. In our experience intestinal sounds suggestive of hyperactive peristalsis are not uncommon early in the course, and sometimes peristaltic activity ceases only when gangrene of the bowel has developed. There is a similar misdirection of emphasis in respect to the absence of any bowel movements; some believe no bowel movement should occur since an intestinal obstruction exists. In point of fact these patients do not have an actual mechanical obstruction of the bowel; rather a segmental ileus may develop. Apart from the generally appreciated fact that stools may be evacuated from below the site of ileus, some of the patients have a diarrhea, although this is bloody in only about 10 per cent of those with mesenteric vascular occlusion.

On the other hand, vomiting usually occurs early and tends to persist. Often the amount of vomitus is rather copious but in only about 15 per cent of our patients has the ejected material contained blood.

As a rule the abdomen is exquisitely tender, and sometimes the tenderness is greatest over the area of the infarcted bowel. The abdominal pain tends to be diffuse, and often it is so severe that the administration of morphine affords little or no relief. With the tenderness there is usually rebound tenderness. Rigidity is often noted, but usually it is not so marked as with a perforated viscus. Occasionally on palpation an impression of a tender boggy mass is created, and sometimes when it is vague on ordinary examination, it may be more distinct on rectal or vaginal examination. We should also mention the great diagnostic value of abdominal paracentesis. In 11 cases in which this was performed, we obtained serosanguineous fluid in every instance.

Dr. Boyd: Before reverting to this particular case, perhaps some remarks on the outcome of surgical intervention are in order.

Dr. Mersheimer: Since you have not given me an opportunity to state how much better the outcome under surgery is than under medical treatment, I will content myself with our recent experience as reported in the *Archives of Surgery* in June, 1953. At that time we had notes on 38 cases in Metropolitan Hospital and in Flower and Fifth Avenue Hospitals; since then we have observed three more examples. Of the 38 cases 17 died without benefit of surgery. In nine exploration of the abdomen without resection of the infarcted bowel was performed; of these only one survived.

The patient who survived was interesting. His episode was mild, and at operation one could see the thrombosed veins in the mesentery as well as the cyanosis of the bowel. This was an example of a secondary venous mesenteric thrombosis in a patient with an advanced carcinoma of the head of the pancreas. We infiltrated the mesentery with procaine, administered oxygen in high concentration, and applied warm laparotomy pads while we were proceeding with a cholecystojejunostomy to relieve the obstructive jaundice. After we had completed this procedure, the bowel seemed to have recovered its normal lustre so that we dropped it back into the abdomen without resecting it. Postoperatively the patient was placed on heparin and made a good recovery. We were able to follow the patient for a period of eight months when he died of his neoplasm. At no time, however, did he develop any suggestion of a recurrent mesenteric thrombosis.

We performed resection in 12 cases, and of these five recovered.

Dr. Boyd: How much of the small bowel can be resected without subsequent adverse effects upon digestion?

Dr. Mersheimer: A great many studies on this subject have been conducted on animals, and some observations have also been made on human subjects. It is generally known that about 65 per cent of the small intestine can be safely resected, and the patient will have few or no digestive complaints. Instances are known in which even larger segments of the bowel have been successfully resected. Meyer in 1946 resected all of the small bowel except for 35 cm. as well as the right half of the colon, and as far as is known, the patient is still surviving. Chodoff in 1950 resected all but 20 cm. of the small bowel, and his patient survived. His experience is not unique.

It is rather important to know that the length of bowel to be resected is not so important as the length of bowel remaining. The percentage of bowel resected is the essential factor. While the rule of 387 cm. of intestine for every 100 cm. in height of the individual has some validity, actually the length of the intestine varies greatly. We have observed intestines as short as 10 feet and others which certainly exceeded 19 feet. Sometimes the resection of 10 feet in one patient is less disastrous than removal of a shorter segment in another. There is also some evidence to suggest that individuals tolerate removal of the upper small intestine better than of the lower small bowel.

Dr. Boyd: If the length of the small intestine is proportional to the height, perhaps that explains why children often do not seem to tolerate small bowel resections so well as adults.

Dr. Mersheimer: I suppose the rule has some validity. In this connection it may be worth while mentioning that we have encountered mesenteric vascular occlusion in two infants, one at the age of six days and the other at the age of ten days; both of these infants died. However, Dr. Edward Miller of the Surgical Service has what I believe to be the youngest patient successfully operated for mesenteric vascular occlusion. He resected the terminal ileum and cecum in a child, two and one-half years old, whose mesenteric venous thrombosis was secondary to acute appendicitis. That was the youngest instance of a successful resection which I can recall.

Dr. Boyd: Since we are still in the realm of generalities, might I ask if the x-rays in this case were informative or whether scout films of the abdomen are ordinarily of help?

Dr. Rita Girolamo: In this patient we did not obtain preoperative films, and consequently we cannot say what might have been seen. In general, roentgenologic examination of the abdomen has more negative than positive value in patients with mesenteric thrombosis. Since we ordinarily have the benefit of the history and we know that the patient has an acute abdomen, the paucity of findings is more suggestive than anything else. There may be a small amount of air in a dilated loop of bowel, and we may assume that this is the infarcted segment. Everyone is of course familiar with the so-called Harrington sign which may develop rather late in mesenteric occlusions. This sign consists, as you know, of a dilatation of the proximal half of the colon up to the middle of the transverse colon, while gas is practically absent from the distal colon. The difference reflects the extent of vascular damage in the sense that the dilated area corresponds more or less to the section with an impaired blood supply. While the sign is very suggestive of mesenteric thrombosis, unfortunately it does not develop early and regularly.

Dr. Boyd: Patients seen by internists often have been fibrillating for some time. Since the source of the embolus is a clot in a dilated left auricle, it seems natural for the superior mesenteric vessel to become occluded because it arises first from the aorta and, moreover, is more nearly a direct continuation of the aorta than is the inferior mesenteric artery. We often employ this explanation for the arterial occlusions which occur in cardiac patients. Naturally it is possible for an atheromatous patch in the aorta to cast off its debris, and this material may block the vessel in nonfibrillating patients. The surgeon is likely to encounter examples of mesenteric thrombosis among those who have had previous abdominal surgery for appendicitis and related lesions. The internist also encounters patients with thrombosis of mesenteric veins and a history of abdominal operation. Many of these are older individuals who have passive congestion of various parenchymatous organs. It is worthy of emphasis, however, that the internist observes patients without any history of an infective state but rather a cirrhosis of the liver, cachexia, and the like. We have often thought that the dilated abdominal veins in hepatic cirrhosis may be sclerotic and in this way predispose to thrombosis. Moreover, it should be emphasized that patients may develop mesenteric thrombosis in the absence of endocarditis or vascular disease when they seem to develop the catastrophe without any antecedent illness.

In this case we have an elderly arteriosclerotic individual who was fibrillating, and this might have been the genesis of his thrombosis in case the diagnosis proves to be mesenteric embolization.

Dr. H. Friedman: The patient had auricular fibrillation on admission. After operation he showed an impure flutter-fibrillation which would revert to normal sinus rhythm in single electrocardiograms. Twenty-four hours after operation his cardiac rhythm was normal, and this persisted.

Dr. Boyd: Is the surgical resident who first saw the patient here?

Dr. R. Match: When the patient was seen by us, the history and physical findings were compatible with a diagnosis of acute appendicitis. At least there was nothing to exclude this diagnosis. His pain, tenderness, and muscle guarding were largely confined to the right lower quadrant. We realized that acute appendicitis is not a common occurrence at this age. We gave passing thought to a neoplasm of the right colon or cecum, the first sign of which may be perforation. While the story of diarrhea was perhaps a little more consistent with the suggestion of mesenteric thrombosis than acute appendicitis, there was nothing else to substantiate a diagnosis of a vascular lesion, while the history and physical findings seemed more or less typical of an acute appendix.

Dr. Mersheimer: If the possibility of a mesenteric vascular occlusion was considered, why was abdominal paracentesis omitted as a diagnostic aid? As Dr. Winfield and I have repeatedly emphasized, this is a valuable source of information, and sanguineous fluid was recovered by tap in all of the last 11 cases we have seen. Such fluid forms in four to six hours after the onset of bowel necrosis.

Dr. Ivan Kempner: Because of our presumptive diagnosis of acute appendicitis I approached the abdomen from the right side. There was a small amount of fluid in the abdomen, but it was serous rather than sanguineous. The bowel presented a peculiar appearance. The ileum was thickened, edematous, and discolored a dusky violaceous color rather than the deep brown-purple usually seen in mesenteric thrombosis. Moreover, the distal ileum showed many white areas which varied in size from that of a pea to 1.5 cm. These patches were elliptic rather than round. I had never seen an exact counterpart and initially thought we were dealing with some type of suppurative appendicitis and that the white areas represented fibrinous exudate. The appendix was normal, however.

Further investigation of these patches proved that they did not seem to consist of fibrinous exudate but rather represented areas of actual necrosis which extended through the bowel wall. By incising through one of these necrotic areas, it was obvious that the wall was affected throughout its entire thickness and that each white area represented a slough. The segment of intestine affected consisted of the last 2.5 feet of ileum; the cecum appeared normal. At the proximal end of the ileal lesion the appearance of the bowel showed a gradual change to normal rather than an abrupt change.

Resective procedure was decided upon. Since the ileum was involved flush with the cecum, it was necessary to resect the right colon as well and perform an ileotransverse colostomy with end-to-end anastomosis. Since our feeling was that we were dealing with occlusive vascular disease of the mesentery, we removed approximately 2 feet of normal appearing ileum proximal to the apparent pathology. We did this because we feel that the vascular process may extend further than is actually seen at time of operation. While severing the mesentery, a thrombus, approximately 3 mm. in diameter, was extruded.

The patient's postoperative course was stormy during the first few days, requiring oxygen tent, since he went into cardiac failure. However, he recovered rapidly following this episode and was symptomless at the time of discharge from the hospital approximately three weeks later.

Dr. Boyd: I presume you are not prepared to state whether the vessel containing the thrombus was an artery or vein. If we may assume that the vessel was an artery and the patient was fibrillating, perhaps the thrombus was liberated from a dilated auricle during a period of reversion to normal sinus rhythm.

The point to which attention may be directed is that in most patients we are not particularly concerned whether they fibrillate or not, but we are deeply concerned about the ventricular rate in patients with auricular fibrillation. Since the radial pulse was only 80, there must have been some other indication than the fibrillation for Cedilanid.

Dr. Friedman: The patient had been followed in the Outpatient Division, and he had never fibrillated before. When I saw the patient the morning after admission, the electrocardiogram was as previously described, although I should add that there were also frequent ventricular premature contractions of multifocal origin. Tracings on the night of admission indicated he never fibrillated for any length of time nor with unusual ventricular rates. The therapy undertaken was given with the idea that he had a poor myocardium, but he might also be exhibiting toxic manifestations of digitalis. In our judgment the myocardium needed support. We had no desire to defibrillate him. Even if he had been fibrillating for years, the use of quinidine at this time would have been inadvisable on the basis of restoring normal rhythm. Reversion to sinus rhythm would have been difficult to achieve or, if achieved, to maintain. The use of quinidine also would have carried an element of risk by releasing further thrombi and more embolic phenomena if sinus rhythm was restored. Fortunately we were not confronted by this problem. When the Cardiac Service was called, sinus rhythm was present. We would not have recommended quinidine and have no objection to the Cedilanid he received. Certainly it was a safer drug to employ if cardiac failure was impending. I think the arrhythmia at the time of

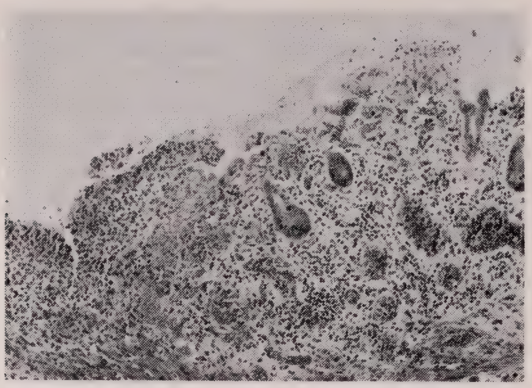

FIG. 1. Mucosal ulcer at left covered by thick fibrinocellular exudate. (*Low power*)

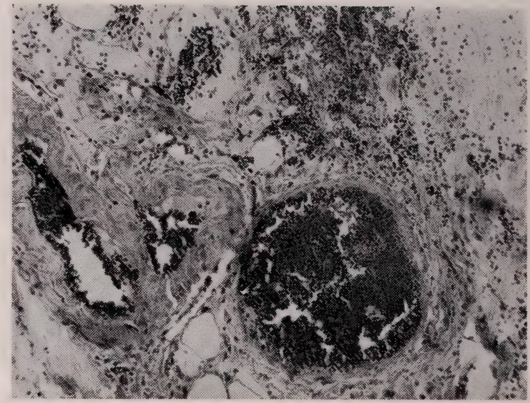

FIG. 2. Submucosal vessels showing dilated, recently thrombosed vein and large sclerotic arterioles. (*Low power*)

operation was related to his mesenteric vascular accident.

DR. BOYD: We have been presuming that the auricle was the site of a thrombus which was released and caused mesenteric occlusion. Your last point is very interesting. We have observed acute abdominal accidents which reflexly set the scene for auricular fibrillation. Several times we have had patients with acute hemorrhagic pancreatitis who developed fibrillation or flutter after three or four days; the last one developed a myocardial infarction and then fatal ventricular fibrillation on the fifth day of an acute pancreatitis.

Since time is running out, I presume that we had better ask what the pathologist found, and I hope that this discussion has not been misdirected. I derived some comfort from Dr. Kempner's reference to a thrombus. I would be embarrassed after this discussion to find some other lesion.

Diagnoses

Clinical.—*Acute appendicitis.*

Dr. Boyd.—*Primary mesenteric vascular occlusion.*

Anatomic.—*Necrotizing terminal enteritis.*

Pathologic Report

DR. FRANCIS D. SPEER: I am afraid what I have to present will cause some embarrassment, Dr. Boyd. The specimen of terminal ileum and colon you see here is obviously not that of a typical hemorrhagic necrosis of the small bowel. Dr. Kempner's description was very accurate, and we will shortly show you sections of the lesions he saw on the serosa and in the bowel wall. Again, may we point out that the hemorrhages and areas of bowel-wall softening in the ileum are focal.

Moreover, in the mesentery included with the specimen there are no large arteries or veins showing thrombosis or occlusion. The thrombus he spoke of was never received by the surgical laboratory for section and study.

In the sections we are projecting it is important to emphasize that they were taken from various regions of the small bowel in which the gross changes were maximal. They do not represent junctional sections including normal and necrotic small bowel. Now, here is a large mucosal ulcer completely covered by a thick fibrinocellular exudate (Fig. 1). Here is another one with extensive inflammatory exudate in the submucosa and muscularis. Surely an intact circulation must have been present to permit the development of such an exudate. Here we do see thrombosis of small intramural vessels with hemorrhage and focal necrosis of muscularis and serosa, but adjacent serosa is covered by thin fibrin (Fig. 2). This picture as you see is repeated at 4, 8, 12, and 15-cm. sections measuring from the ileocecal valve. It is the picture of a superficial necrosing terminal enteritis and not that of hemorrhagic infarction resulting from the occlusion of a large vein or artery.

After taking numerous sections from the mesentery, we did find these small arteries. Note that they show extensive atherosclerosis with about 90 per cent narrowing of the lumen of this one. They are not thrombosed, however (Fig. 3).

We suggest, therefore, that the history in this

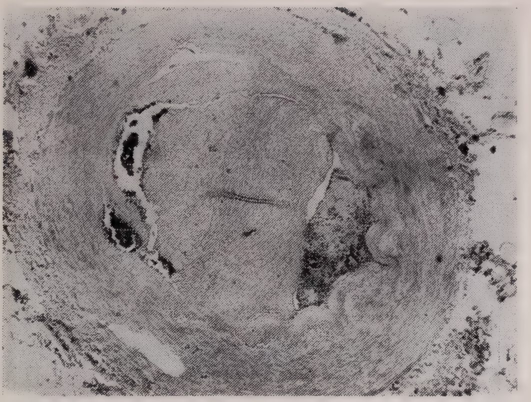

FIG. 3. Small artery in mesentery markedly narrowed by atheromatous plaque. The lumen at right is not thrombosed. (*Very low power*)

case, if carefully reviewed, and the successful surgical resection point to some form of necrotizing terminal enteritis and not to a massive bowel infarction due to venous thrombosis or to sudden arterial embolization. Once the enteritis was established, the existence of mesenteric atherosclerosis did allow focal devitalization, necrosis, and small intramural vascular thrombosis with hemorrhage. The man did need surgery for the bowel was about to perforate, as Dr. Kempner mentioned. This is not a case of primary mesenteric vascular occlusion, although I think Dr. Mersheimer's thorough discussion of that surgical emergency was most worth while.

DR. BOYD: The pathogenesis, as you construct it, is extremely interesting. I do not recall having seen a similar situation or of recognizing it if I did. Within the last few months a series of four similar cases has been reported, but the precise reference escapes me. When multiple small lesions were mentioned, the thought of periarteritis nodosa crossed my mind, but in this process one often sees small aneurysmal dilatations of the vessels resembling the beads of a rosary. There are many other questions of importance which we have not touched upon. These concern the problem of fluid electrolyte balance, anticoagulants, antibiotics, and other items in the postoperative period. Moreover, time will not permit us to examine the subject of differential diagnosis, important as it is and as much as we would like to do so.

Causes and Cures Told for Backaches

Standing erect may help distinguish man from the animals but it certainly lets him in for a lot of trouble, a doctor of public health has pointed out. Dr. James A. Tobey, Newton, Connecticut, said the human skeleton "is not particularly well adapted to the upright position," except for a short time when a man is young, "lean, lithe, and buoyant." The rest of his life, he is particularly prone to backache and other ills which might not occur "if he ran on all fours," Dr. Tobey said in the February *Today's Health* magazine, published by the A. M. A.

Instead of actually standing erect, many people "slouch and sag, droop and sway," sometimes because of fat or cares and emotional stresses. Other factors are extra high heels, occupational hazards, later stages of pregnancy, strains, and disease. Faulty body mechanics is one of the most common causes, one of the most important, and usually the easiest to correct.

The one third of each day spent in bed may be a factor, he said. Mattresses should be flat and even, not too soft, and free of "hollows, lumps and slants." But a good mattress is not enough. There are 57 other possible causes of backache.

One of the most significant is a sudden strain, including a twist, a sudden jerk, or lifting a heavy weight with the back instead of the arms. Communicable diseases such as influenza, pneumonia, malaria, typhoid fever, and smallpox are almost invariably accompanied by backache. Low back pain, usually with mild fever, may indicate an invading virus, and calls for bed rest. Arthritis may also cause backache.

But almost half of "the poor aching backs with which the American people are afflicted" are the result of "deep-seated and vexatious nervous and emotional disorders. These back pains are not imaginary; they are very real, but mental stress is the actual culprit."

"In seeking relief from all these different kinds of backache, every sufferer is wise to obtain the most expert care, that of a competent practitioner of medicine who will call in specialists if conditions warrant. Whether your aching back is caused by bad posture, strains, disease, organic lesions, ruptured disks, or emotional tension, in many cases it could have been prevented and in most instances it can be effectively treated. It is, of course, much better to try to prevent the affliction. This generally can be accomplished by maintenance of good general health, by proper posture, by avoiding overweight, by preventing strains and accidents, by dodging contagions, and by the cultivation of good mental hygiene."

Dr. Tobey notes that "these are not always simple matters in our complex civilization," but they can be attained and are well worth it.

TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

with the cooperation of

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New York State Department of Health

Treatment of Tumors of the Lymphatic System

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Tumors of the lymphatic system present many challenges. At least potentially capable of affecting any part of the body, they may remain long obscure as chronic processes, or they may be fulminant and yet obscure. They may simulate or be simulated by or complicated by other diseases. While all of them must still be classed as lethal illnesses, the possibilities of restoration of their victims to good health, sometimes for many years, and of distinct palliation by modern methods of treatment are so great that seldom is the practitioner justified in categorically pronouncing a prognosis of inevitable early fatality.

For this discussion of treatment of tumors of the lymphatic system it will be assumed that the primary diagnosis is established, although that is not by any means always a simple matter of one biopsy. Diagnosis can only be made by some form of biopsy. Because of the potentialities of these diseases the diagnostic problems in regard to complications or extensions of the disease are ever-recurring ones. Thus the treatment in its details may become a most complex and varying taxation of the clinician's resources. Yet the original approach to a plan of treatment is relatively simple, based as it is on the concept, supported by experience, that many of these diseases begin in one focus and spread from that focus. While this concept cannot be fully documented now and is doubted by some, the weight of evidence seems to support it, and as in the treatment of cancer in general, it is useful to base the plan of treatment on that concept together with a survey of the detectable extent of the disease.

Types of Malignant Lymphomas

Variations in their natural history and responses to therapeutic agents require a cataloging of the different entities comprised in the general category of tumors of the lymphatic system:

1. Hodgkin's disease, divided histologically into Hodgkin's paragranuloma, Hodgkin's granuloma, and Hodgkin's sarcoma: The prognostic value of this classification is not nearly so great as has been claimed.

2. A broad class of lymphosarcomas which may be divided into

   (*a*) Follicular lymphosarcoma, varying from "giant follicular hyperplasia" of lymph nodes and spleen (Brill-Symmers' disease), to follicular lymphosarcoma "becoming diffuse," and to lymphosarcoma "with follicular traces."

(*b*) Lymphocytic lymphosarcoma (malignant lymphocytoma) differentiated from chronic lymphocytic leukemia by lack of evidence of leukemia.

(*c*) Reticulum cell sarcoma (reticulum cell lymphosarcoma).

(*d*) "Lymphosarcoma," a considerable group, not at time of biopsy exactly classifiable as to whether it will eventuate as small cell lymphocytic lymphosarcoma or reticulum cell sarcoma.

3. Mycosis fungoides (granuloma fungoides) appearing to have histologic stages of progression as premycotic, mycotic, and reticulum cell sarcoma.

4. Plasma cell myeloma or plasmacytoma.

Any of the lymphosarcomas may develop a leukemic picture—lymphocytic or "hematogonic" in follicular lymphosarcoma, lymphocytic in lymphocytic lymphosarcoma, "lymphosarcoma cell leukemia," or even acute stem cell leukemia in any of the forms. Occasionally mycosis fungoides may be accompanied by a lymphocytic leukemic picture. Plasma cell myeloma or plasmacytoma may occasionally have enough plasma cells in peripheral blood to merit the term plasma cell leukemia.

The Approach to a Plan for Treatment

The simple general approach to a plan for treatment is based on whether the disease, after careful survey by all appropriate methods, seems to be class I (unicentric), class II (beginning to spread, but still regional), or class III (generalized).

For class I and II treatment is aggressive and more so for class I in hope of long control; for class III, as in leukemia, it is much less aggressive and is designed in hope of promoting the best possible palliation for the longest possible time.

Therapeutic Agents

The therapeutic agents of established worth for the treatment of lymphatic tumors are as follows:

1. *Radiation*, chiefly externally applied by roentgen rays generated at from 100,000 to 24,000,000 volts. Most commonly 200,000 to 250,000-volt machines are used.

Rarely in this group is there indication for intracavitary radiation by x-rays or radium, radon, or cobalt; for interstitial implantation of seeds or needles containing radioactive sources; or for internal total body radiation by means of radioactive isotopes such as P^{32}. The use of radioactive gold or other suitable isotope in the pleural or peritoneal cavity in cases of effusion caused by lymphoma is on trial.

2. *Chemotherapeutic agents*, of which the ones of chief use are nitrogen mustard intravenously (or in the pleural space in cases with effusion) and triethylene melamine (TEM). Other agents, triethylene phosphoramide (TEPA), thiotepa, myleran, Butazolidin, colchicine, and actinomycin-C have been tried but have shown either lack of superiority in this field or, in some instances, questionable worth.

3. *ACTH, cortisone, hydrocortisone, and meticorten* may be useful in some circumstances.

4. *Transfusions* may be the only means of treating anemia.

5. *Antibiotics* are selected according to the type of complicating infection or used empirically for fever for which no cause is found other than the lymphoma, or given in hopes of preventing sepsis in cases of marked leukopenia.

6. *Surgery* may be chosen for selected cases as an attempt to cure, for quick removal of a bulky mass, or for certain lesions such as a bleeding gastric lymphoma, an enlarged spleen suspected of causing "hypersplenism," or intracranial extension of a cranial or epidural lesion. A few intrathoracic lymphomas have been removed more or less completely surgically.

Hodgkin's Disease

CLASS I UNICENTRIC FORM.—If by all criteria the disease seems localized to one focus, aggressive treatment may result in long control. One does not yet dare to claim cure. If the disease is localized to the upper part of the neck on one side, it may be justifiable to do a radical unilateral neck dissection, but this should be followed by maximum tolerated irradiation with 200 to 250-kilovolt x-rays to the entire operative field. If a resectable and apparently unifocal gastrointestinal lesion is found, resection is certainly preferable. If the surgeon finds he has to leave some of the disease in situ, postoperative radiation should be started promptly and with a good suturing job can probably safely be started within ten days postoperatively.

In attempting obliterative roentgen therapy of an apparently unicentric focus in one side of the neck an ample port should be used. As a rule this would extend from mastoid to lower edge of clavicle and from lateral edge of larynx and trachea, perhaps with inclusion of the submandibular and submental region, to the suboccipital scalp line and back of the neck. If the mass projects markedly on the side of the neck, fields for radiation may be placed anteriorly and posteriorly so as to treat the mass tangentially. How much to give cannot be stated in one rule. For a single large field on the neck 200 r (air) of 250-kilovolt x-rays at 50 cm. target-skin distance with 1.5 mm. copper filtration may be given daily or every other day for a total of from 2,000 to 3,000 r. The skin in such a large field may not tolerate as high a dose as 3,000 r with these factors. Due care must be used to avoid excessive irradiation of larynx and trachea.

The same general principle of ample field and consideration of the lymphatic anatomy applies in treatment of an apparently unicentric focus of Hodgkin's disease in other regions, such as mediastinum, axilla, or groin. In the cases with an apparently single focus in one axilla or one groin, one may suspect that the "portal of entry" of the disease may have been intrathoracic or intra-abdominal as the case may be and that one may not actually be treating the entire process in confining the treatment to the only obvious focus, whereas in the upper cervical cases one would imagine the probable "portal of entry," if such existed, to be in the nasopharynx, which would lie at least to some extent within the beam of radiation.

Chemotherapy intravenously with nitrogen mustard or orally with TEM is not advocated for the unicentric case of Hodgkin's disease. If it is unicentric, it is much more to the point to attack it locally aggressively than to give a generally acting whole body cell poison, which can have but a relatively small moiety acting locally.

CLASS II HODGKIN'S DISEASE (BEGINNING TO SPREAD FROM AN INITIAL FOCUS, BUT STILL RELATIVELY REGIONAL).—An example is the commonly found combination of mediastinal and unilateral or bilateral supraclavicular nodal enlargement. These cases may do well with adequate roentgen therapy alone or with intravenous nitrogen mustard first, immediately followed by a course of roentgen therapy. If there are any beginning constitutional symptoms such as fever, night sweats, a little pruritus, and a little anemia or polynuclear leukocytosis, perhaps the disease is not so regionally confined as it seems, and a preliminary treatment with nitrogen mustard may be in order. This may consist of a single dose of 0.4 mg. per Kg. of freshly dissolved HN2 (Mustargen) injected into the tubing of a small infusion of glucose or saline rapidly running (to avoid chemical phlebitis) or 0.2 mg. per Kg. on each of two successive days. Any sedative or other agent injected against nausea is preferably given not before, but ten or fifteen minutes after the injection of nitrogen mustard since the action of mustard is practically immediate, and it might react with any such agent that is present and thus be somewhat neutralized.

The radiation program may be started immediately on the same day following the injection of nitrogen mustard, if the latter is given all in one dose, or may be started a day or two afterward. Because of the "decongestant" action of HN2 it is possible as a rule to begin the roentgen treatment of the mediastinum with full daily doses, whereas if nitrogen mustard is not used first, it may be safer to begin with smaller doses to avoid an asphyxial reaction. One mediastinal port may be paired with a supraclavicular port, and beginning with about 100 r (air) to the anterior mediastinum and one supraclavicular port one day and the posterior mediastinal port and the other supraclavicular port the next day for the first round, the dose may be increased to 150 r the second round and to 200 r the third round. Then the treatment may be carried on at 200 r to each of two ports a day to a total of 1,800 to 2,000 to 2,400 r, depending on various factors (size of masses, skin tolerance, and tolerance by the patient).

CLASS III HODGKIN'S DISEASE (GENERALIZED, PRACTICALLY ALWAYS WITH CONSTITUTIONAL SYMPTOMS).—Here the indication is usually clearer for treatment by nitrogen mustard. Sometimes nitrogen mustard alone may be used, or, more commonly, either in a day or two or after an evaluation period of several days, it may be followed by palliative conservative irradiation of the more important deposits of the disease, particularly those of viscera, bones, central nervous system—whatever they may be—with less concern about peripheral nodes. Yet, before the advent of nitrogen mustard, good palliation was often achieved by irradiation alone. No rule can be laid down for such a program.

Some palliation and in some cases fairly good maintenance may be achieved in the class III cases by the nitrogen mustard-like agent TEM.

In Hodgkin's disease this may be given in doses of one-half the scored 5-mg. tablet daily one hour before breakfast with or without 0.3 to 1.0 Gm. of sodium bicarbonate for four days, or 5 mg. daily for two or three days. Like HN2 it is a depressant of the marrow, and it is safer to wait two weeks before deciding, on the basis particularly of the white cell count and platelet count, about the advisability of further dosage. Some cases may be maintained for many months in fair remission by 2 or 2.5 mg. of TEM once or twice a week or 5 mg. once in a week or two.

The Lymphosarcomas

Lymphosarcoma and reticulum cell sarcoma are treated on the same general principles as Hodgkin's disease, being first adjudged regarding the stage of the disease, but certain modifications may be necessary. The patient with lymphocytic lymphosarcoma may be astonishingly sensitive to nitrogen mustard or TEM, as are some cases of chronic lymphocytic leukemia. Some patients with generalized follicular lymphosarcoma and even some of those with generalized reticulum cell sarcoma may be essentially symptom-free when first seen, and they will probably fare better longer if they merely follow good hygiene and close observation until some feature of the disease demands treatment. The reticulum cell sarcomas may respond to nitrogen mustard, but commonly their remission is all too brief. Their response to radiation varies considerably from rather marked sensitivity to complete refractoriness.

Mycosis Fungoides

This is nearly always a more or less generalized disease with principal lesions in the skin varying from patchy more or less diffuse areas of erythema with thickening to large fungating and ulcerating tumors. The response to HN2 and TEM is seldom satisfactory. The elevated plaques and fungating tumors may respond individually to radiation, but the diffuse, generalized, erythematous, lichenified rash does not usually respond well, and complete treatment would usually mean more than the body could tolerate.

Plasma Cell Myeloma and Plasmacytoma

Locally, the lesions may show good response to radiation. The generalized myeloma of bones, when treated with urethane orally in tablet or liquid dosage of 2 to 4 Gm. or more a day, may show some symptomatic and perhaps some objective improvement, but in many cases pain is best controlled by cortisone in doses of about 100 mg. a day (25 mg. every six hours) or ACTH. Local radiation to bone lesions may help to relieve pain. Seldom is healing of bone lesions seen, and the high serum globulin and development of myeloma kidney are usually not much influenced by therapy.

ACTH, Cortisone, and Hydrocortisone

ACTH, cortisone, hydrocortisone, and meticorten are much used currently for the depleted patients. Small doses, 50 mg. a day of cortisone, may improve appetite and sense of well-being. Larger doses may relieve pain and fever, but one must watch for the risks of salt and water retention, hypertension, diabetes, development of tuberculosis or other infections, bowel perforation, etc. In acquired hemolytic anemia, more common in chronic lymphatic leukemia than in the lymphomas, ACTH seems in some cases to be more effective than cortisone.

(*Number two of a series on Treatment of Cancer*)

I am convinced that there is no more evil thing in this present world than race prejudice. . .It justifies and holds together more baseness, cruelty and abomination than any sort of error in the world.—H. G. Wells

HISTORY OF MEDICINE in New York State

Editor
FREDERIC D. ZEMAN, M.D.

EDITOR'S NOTE: *The thrilling story of the early days of the New York State Department of Health and its achievements over the years is well told by Dr. Brooks, who served with distinction for many years as deputy commissioner. Beginning in 1915 as a junior official, he participated personally in the events he describes so vividly.*

The New York State Department of Health

An Historical Review

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THE New York State Department of Health really had its beginning in 1880 when the first State Board of Health was created. An earlier law had required cities and incorporated villages to have local boards of health and health officers. In the 930 towns it was optional.

In 1880, when the new State Board of Health took over, all of the (then) 24 cities had boards of health and health officers. Of the incorporated villages, only 40 had them. Twenty of the 930 towns had elected to appoint them. In 1885 it became mandatory in towns. The new State board devoted much of its first six years to promoting local organization, but it was not until after 1900 that all municipalities had their boards and health officers.

The prescribed professional qualification for health officers was that they be physicians. That was all that was practicable at that time. Public health was concerned chiefly with attempts at epidemic control through quarantine and community sanitation. Miasms were still considered the cause of many epidemics.

At the beginning of 1901 the president of the State Board of Health was Dr. Daniel Lewis of New York City. Over Dr. Lewis' objections, the Legislature, by Chapter 29, Laws of 1901, converted the old board into a new department of health with a single commissioner as its head. Dr. Lewis, appointed to this office, became the first New York State Commissioner of Health.

One of Commissioner Lewis' first important official acts was to call the first conference of the "sanitary officers" of the State. This was the first of an almost uninterrupted series of annual conferences which have followed.

The meeting was held in Albany and lasted an evening and a day. There were 104 registered as health officers. Among them was Dr. Hermann M. Biggs, of the New York City Department of Health. At the time of writing there is one survivor of that group: Dr. Percy Waller of New Baltimore. Dr. Waller attended the 1954 annual conference at Lake Placid.

One of the principal speakers at that first meeting was a New York attorney named Robert Taylor. His subject was "The Powers and Limitations of Local Boards of Health." By his own account he credited his knowledge and understanding of the existing health laws to a remarkable circumstance. He had been retained by the dean of a New York City medical college to "prepare a set of lectures on sanitary subjects." That such an assignment was necessary speaks for the fragmentary state of knowledge of "sanitary subjects" even at the beginning of the present century, well within the memory of many of us.

Attorney Taylor had begun his undertaking by reading all of the annual reports of the nineteen-year-old State Board of Health. His address is worth reading, even today. It set forth some still not universally understood basic legal principles which health officers need to know.

Still Pioneering: 1905–1913

The second State Health Commissioner, appointed in 1905, was Dr. Eugene H. Porter. He served until 1914. Then, following developments which made public health history, he was succeeded by Dr. Hermann M. Biggs.

Dr. Porter took office with little, if any, previous experience in the field of public health. But in 1905 experienced and outstanding public health administrators were few and far between. It is doubtful if any of them would have been available under existing conditions, even if sought. Anyway, Dr. Porter was a dignified and influential "gentleman farmer" from Upper Lisle, Broome County.

When he started as commissioner, according to his annual report seven years later, he found himself with jurisdiction over an overworked Hygienic Laboratory, established five years earlier. His staff consisted of a small laboratory force and eight clerks.

After operating for a time largely with part-time technical help, he had gradually acquired a meager official staff. Among his earlier appointees was Theodore Horton, as "chief engineer." Mr. Horton was a graduate in 1894 of Massachusetts Institute of Technology. A major part of the public health work everywhere at that time was in environmental sanitation.

In 1910 the commissioner was allowed a deputy commissioner. He appointed Dr. William A. Howe of Phelps, New York. Dr. Howe was a genial and energetic official. He proved a valuable addition to the staff, especially as a liaison officer between the department and the local physicians, including the health officers. He resigned in 1913 and, later, became head of the Education Department's new Bureau of School Medical Inspection.

By 1912 the department was operating on a budget of a little over $165,000. This represented a decided gain from the $13,000 spent during the first sixteen months of operation of the State Board of Health back in 1880 and 1881. Among its principal expenditures that year were about $31,000 for operation of the laboratory and $13,576.69 for sanitary engineering; for communicable disease control—a little over $15,000, only about $4,000 of which was for salaries.

In 1909, mainly through the influence of the State Charities Aid Association, a law was enacted authorizing county boards of supervisors to establish county tuberculosis hospitals. The department began cooperating, within its limitations, with the S.C.A.A. in a campaign to encourage the establishment of such hospitals. Later, in 1914, the law was amended to allow boards of supervisors to refer the question of establishing a hospital to the voters.

During the last two years of his administration Commissioner Porter had been asking for general amendment of the Public Health Law. The old law, he had pointed out, was "obsolete and inadequate." He had requested appropriations for a new laboratory building and for a laboratory farm outside the city. But the public support needed to give weight to such requests was still lacking.

Nevertheless, competent authorities, who made surveys shortly before the general reorganization in 1913, held the department to be "of fair quality, considering existing standards." It had been rated "second only to Massachusetts." But there was already developing a general awakening: "Existing standards" were too low; "fair quality" was not good enough; the great State of New York was entitled to a health department second to none.

Then Came Reorganization

In 1913 William Sulzer was beginning his "brief and politically disastrous nine months of gubernatorial service..." Shortly after his election the Governor-Elect, by invitation, met with a group of executives of several health and social agencies. Among them was Homer Folks, head of the State Charities Aid Association.

They explained the great and lifesaving advances in public health administration made in New York City in the preceding several years. The rest of the State, they held, should have something up-to-date and at least as good. This, they said, was an opportunity. The Governor-Elect was convinced.

Immediately after taking office he appointed a commission to determine the health needs of the State and make recommendations. Dr. Hermann M. Biggs was made chairman and Mr. Folks secretary. Dr. Biggs had been Chief Medical Officer of the New York City Department of Health for twenty-six years, having declined the office of commissioner. The great advances made there had been largely due to his scientific vision and administrative energy. Personally responsible for the first use of diphtheria antitoxin in this country (as well as other epoch-making "firsts"), his reputation was international.

The commission in record time made detailed investigations of local conditions in several counties and held ten public hearings. Letters inviting suggestions went to over a thousand local health officers, and 652 replied. Its report went to the Governor on February 15, 1913.

The report recommended a general reorganization of the State Department of Health along lines which it suggested, also certain changes with reference to local health administration. It recommended a commensurate increase in appropriations, one which among other things would provide salaries acceptable to thoroughly competent official personnel. With the report went a proposed legislative bill amending the Public Health Law generally. This covered, so far as necessary, features of the proposed reorganization.

The governor sent the bill to the Legislature, and it was enacted without change at that session. The necessary increase in appropriations was provided. In May the Public Health Law, as amended, became Chapter 559, Laws of 1913.

Of the new provisions of the amended law, four were regarded as of major importance. Heading the list were the creation of a Public Health Council and provision for the appointment of 20 sanitary supervisors (now called district State health officers). Another provision made it mandatory that local health officers be paid not less than a prescribed minimum, based on population, for their services. Three new divisions were created: tuberculosis, public health nursing, and child hygiene. The Public Health Council was authorized to enact a State Sanitary Code, effective except in New York City, and to prescribe qualifications for local health officers and certain other personnel.

The members of the Public Health Council had been appointed, and it was working on the new Sanitary Code before a commissioner had been appointed. Dr. Biggs, urged to take the office, had declined. He had resigned as Chief Medical Officer in the New York City department. His plan was to devote his time to research and to his medical consulting practice. He had hoped, also, to find time for a little relaxation after so many strenuous years. He had offered to serve on the Public Health Council, however, and had been appointed.

Then Governor Sulzer, after an impeachment trial, was removed from office, and the Lieutenant Governor, Martin H. Glynn, became Governor. Dr. Biggs was still resisting pressure to persuade him to accept the office of commissioner.

Finally the Governor declared that unless Dr. Biggs accepted, he would reappoint Dr. Porter, who was still "holding over." Dr. Porter had actively opposed the creation of the Public Health Council and had been against putting the sanitary supervisors under Civil Service. That settled it. Dr. Biggs accepted and took office on January 1, 1914.

Dr. Biggs was a remarkable personality. Few people who knew him only "by reputation" fully realized how remarkable. The writer will perhaps be pardoned if at this juncture he becomes a little personal. He served under him as a student in medical college where Dr. Biggs was professor of medicine, as an intern at Bellevue Hospital, and as a minor official (from 1915) in the State Health Department.

Dr. Biggs was one of the rarities: a physician who was outstanding both as a public health administrator and "statesman" and as a clinician. He had an active and scientifically grounded imagination which gave him what we commonly call "vision." He "saw ahead." He made plans but often delegated to subordinates the responsibility for getting them carried out. But he expected them to *be* carried out. He didn't forget. He appointed outstanding people to his major official positions. They came at his call, even at financial sacrifice, because it was Dr. Biggs calling.

The year 1915 opened with the reorganization proceeding normally. Before the end of the year most of the sanitary supervisors had been appointed and assigned to districts. But the legislative year 1915–1916 brought the only serious crisis the department has ever experienced. The political party in control had changed. The legislative leaders seem to have assumed, rather hastily, that the revision of the law and reorganization had been political measures, for which the other party might take credit. They set about to correct the situation by legislative means. The department appropriation was radically reduced, including half of that for the sanitary supervisors (of whom the writer was one). Bills were introduced which would have crippled the department and made it impossible for Dr. Biggs to continue as commissioner.

Then came one of the most remarkable demonstrations of the power of public opinion in the political history of New York State. Homer Folks and his State Charities Aid Association had labored to bring about the reorganization.

They rallied their forces to protect it. They had local committees, made up of influential people, in every county in the State. They went to work. Most of the upstate newspapers sharply condemned the legislative action. The legislative leaders were "swamped" with messages of protest from people and leaders of all political parties. The appropriation was restored and the threatening bills "killed in committee."

But the summer of 1916 brought another threat: the first serious epidemic of poliomyelitis. It started on Long Island and in New York City. Following the main lines of travel it gradually spread up the Hudson, across the State, and from there westward. Many medical officers of the department, including sanitary supervisors, were assigned to emergency work in the most heavily infected areas.

Then, in 1918 the influenza pandemic. In some communities in the State hospitals were filled to capacity; physicians and even undertakers could not keep up with the demands for their services. Again many department medical officers were assigned to special emergency duty.

In 1923 the work of one of the greatest public health leaders of all time came to an end. On June 28 Dr. Biggs died. Dr. Matthias Nicoll, Jr., who had been his last deputy, was appointed to succeed him.

From 1923 on; Progress Continues

The department's story through the epochal Biggs administration has been given in considerable detail. Not many people are still living who had an active part in it. The important developments of the past thirty years are familiar, generally speaking, to most older physicians in the State. The details are available in current records. For these reasons (plus space limitations) narration, from here on, will be largely limited to the "high points."

In 1921 the "County Health Unit" law, permitting boards of supervisors to establish county health departments, was enacted. It had the active support of the S.C.A.A. In 1923 Cattaraugus County established the first such "unit." Dr. Reginald M. Atwater, now and for many years executive secretary of the American Public Health Association, was one of its early commissioners of health.

At the time of writing 16 county health departments have been established. Westchester (1929) had, as one of its distinctions, the resignation of Dr. Nicoll as State Health Commissioner to become its first county commissioner of health; he organized the department and continued in office until he retired at the Civil Service age limit. Erie, including Buffalo (1947), is the largest county health department, Schoharie (1946) the smallest.

In 1919 the State Health Department had moved into its new laboratory building on New Scotland Avenue, Albany. In 1923 a law was enacted providing for State aid for local *approved* public health laboratories. This, with the Sanitary Code requirements as to approval and the close cooperation between the central and local laboratories, has given New York State the finest and most dependable laboratory service of its kind in the world.

Around 1924 it was realized that the maternal mortality in upstate New York was far too high. The 1924–1927 rate was 58.9 per 10,000 births. It was highest in one section of the State. Organized medicine and the department worked together. A special organization committee of obstetricians was designated to study the situation, the department cooperating.

Through an extended and thorough case-by-case investigation the committee found several factors responsible, but the major conclusion was that the "quality of medical care" was the most important single factor. With the department still cooperating it carried on a campaign of professional education directed to physicians doing obstetric work. In a comparatively short time the maternal mortality began a decline which has continued progressively since. In 1953 the rate was *five* deaths per 10,000 births.

In 1923 the law providing State aid for counties doing public health work was enacted. From the standpoint of improvement in local health organization and activity, this probably was one of the most important pieces of health legislation of the past forty years. It has been a major incentive in the establishment of county health departments. In 1930 for the first time financial aid was given to a rural county (Lewis) toward establishment of a county general hospital.

In 1926 the department, the State Medical Society, the State Charities Aid Association, and the Metropolitan Life Insurance Company joined in a five-year "drive" for the control of diphtheria. As a result of that and the continuation of intensive activities, in upstate New York in 1953 there were 14 diphtheria cases and two deaths. Thirty years before there were 11,916 cases and 812 deaths.

In 1926 the so-called "Physically Handicapped Children" law was enacted. This involved amendments of the Children's Court, Education, and Public Health laws. The operation of this law and the help it has brought to many thousands of crippled and otherwise handicapped children are familiar today to most practicing physicians.

In 1930 the department's office was moved from the "attic" of the capital to the new State Office Building. A new State Department of Health building is now in process of construction.

Second Health Commission Marks Fiftieth Year

The year 1930 brought an outstanding development. It was the fiftieth year since the first New York State Board of Health was established. Dr. Thomas Parran, Jr., had just become the fourth State health commissioner. He had been selected because of his excellent national reputation as a public health administrator.

The Governor, on the recommendation of the S.C.A.A., appointed a 14-member health commission. Its duties were to study the health situation and recommend any measures it might conclude to be necessary to meet existing and future needs. A majority of the members were physicians, several of them active in organized medicine. Dr. Livingston Farrand, president of Cornell University, became chairman, Homer Folks, vice-chairman, and Dr. Parran, secretary. Its report went to the Governor in February, 1931.

The following of its recommendations were among those effectuated by necessary legislation that same year: (1) authorization for the building of three new State tuberculosis hospitals and transfer of administration of the Raybrook Hospital to the State Health Department, (2) cities with populations of 50,000 or more required to have full-time health officers, and (3) county and city boards of health required to provide facilities for the diagnosis and treatment of venereal diseases.

Another needed change effected was transfer of administration of the State Reconstruction Home (now State Rehabilitation Hospital) to the department. Finally, creation of a Division of Cancer Control in the department, of which the State Institute for the Study of Malignant Diseases (now known as Roswell Park Memorial Institute) was made a part.

Recommended by the commission, but not mandated by law, was the establishment of 57 county health departments to replace the small local health units in the upstate towns and villages. This recommendation was made because it was believed that county health departments would provide a system of public health administration best suited for the changing picture of public health practice. Chronic diseases were even then looming large as public health problems.

In 1933 the State Medical Society and the department jointly started a pneumonia control project with financial help from the Commonwealth Fund and the Metropolitan Life Insurance Company.

In 1936 the increasing shortage of physicians with public health training and experience to fill State and local positions was becoming serious. Under Dr. Parran's leadership and with Civil Service approval the department set up a position to which young physicians without public health experience could be appointed for a training period. Sixteen were appointed that year. The continuing need, not only in medical but in other professional lines, led to the establishment in the department in 1947 of an Office of Training and Recruitment.

In 1936 Commissioner Parran resigned to become Surgeon General of the United States Public Health Service. Dr. Edward S. Godfrey, Jr., was appointed as his successor. Before coming to the department in 1916 as an epidemiologist, Dr. Godfrey had been state health officer of Arizona.

The year 1937 saw the realization of another of Dr. Parran's ideas when the department and State Medical Society joined in a program of postgraduate medical education for county and other local groups. This program is still of importance to the physicians of our State. A cardiac service, especially for "rheumatic" cases, was set up at the Rehabilitation Hospital. In 1945, according to the department's annual report, the general death rate, "adjusted for changes in age distribution of population," was the lowest thus far in the history of the State.

Passing over some intervening interesting but not major details, we come to 1946, another "banner" year. The Governor gave his interested and active support to the initiation of an intensive campaign against tuberculosis. The aim was, by the use of all means available, to "eliminate the disease as a major cause of disability and death in the State." It was a cheering coincidence that the 1946 tuberculosis death rate was the lowest ever recorded up to that time, and this rate has been dropping at an accelerated speed ever since.

In addition to legislation relating directly to tuberculosis, but as one means to the same end, the Legislature made provision for strengthening local health administration. The "State Aid to Counties" law was amended to provide increased aid to county health departments and to permit aid to full-time city health departments.

In 1947 Dr. Godfrey retired as commissioner, and Dr. Herman E. Hilleboe, from the Public Health Service, "took over." Events more recent than this would be in the field of "current events," rather than "history."

The State Health Department, beginning with Dr. Biggs, has had a succession of distinguished career men as commissioners: Matthias Nicoll, Jr., 1923; Thomas Parran, Jr., 1930; Edward S. Godfrey, Jr., 1936; Herman E. Hilleboe, 1947. That a majority were "juniors" was purely coincidental.

Health-Medicine an Effective Team

This article being primarily for medical readers, it will conclude with a sketch of the relationship between medicine and public health in upstate New York. The official contacts with which the writer is familiar began with the appointment of Dr. Biggs as health commissioner, fifty years ago.

For many years in New York City, while Dr. Biggs was respected as an outstanding public health administrator, he and the rank and file of the medical profession had not always seen eye to eye. With his scientific vision his ideas were at times "three jumps" ahead of them. Some measures for which he was responsible (notably the reporting of tuberculosis), while having the support of some medical leaders, had met violent opposition from the profession generally. He had come to expect it. Upstate he didn't take it very seriously. "Give them time," he said in effect, "and they'll come along." The profession, generally, was friendly but inclined to be suspicious of "radical" moves.

Starting with Dr. Nicoll's administration, however, the medical and health groups began to get better acquainted. A close and congenial relationship developed in Dr. Parran's time between the department and the Medical Society's Council Committee on Health and Education. This was under the chairmanship, first, of Dr. "Tom" Farmer, later, Dr. O. W. H. Mitchell, and now Dr. Theodore J. Curphey. Since then cooperation has become progressively more effective.

In 1935 by legislation the number of members of the Public Health Council was increased by two. The provision was added that at least four members should be physicians with training or experience in "sanitary science." The purpose was to assure adequate medical representation on the council. Over the years, as already noted, the Medical Society and the department have joined forces in several important projects.

It has long been recognized that the practicing physicians were "the first line of defense" against disease. Today the department recognizes that they will support well-chosen health projects when they understand them. Through its medical advisory committees it aims to insure that before important projects in their field are launched, they *are* understood and accepted as "well-chosen."

The channels of information are much more open and effective today than they were forty-odd years ago. The medical colleges have undergraduate courses in public health and preventive medicine. Their graduates are interested and understanding. They practice preventive medicine and support public health.

Dr. Hilleboe, in his address at the 1952 Annual Health Conference, coined what amounted to an aphorism. It threw light on the sometimes puzzling question as to the difference between "public health" and preventive medicine. "Preventive medicine's approach," he said, "is to the individuals in the community. The approach of public health is to the community of individuals."

There are two times in a man's life when he should not speculate: when he can't afford it, and when he can.—Mark Twain

NECROLOGY

Alexander Allan, M.D., of Buffalo, died on August 24, 1954, at the age of seventy-six. Dr. Allan graduated from the University of Buffalo School of Medicine in 1898. At the time of his death he was surgeon-in-charge of ophthalmology at Ellicott Clinic and Hospital, Buffalo, and a member of the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Claude Bledsoe, M.D., of Gloversville, died on April 21 in Nathan Littauer Hospital at the age of sixty-nine. Dr Bledsoe was graduated from Albany Medical College in 1910. He was an honorary staff member of the Nathan Littauer Hospital and a Fellow of the American College of Surgeons as well as a member of the Fulton County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Paul Tracy Carpenter, M.D., of Cortland, died on April 13 at the age of eighty-five after a lengthy illness. Dr. Carpenter graduated from Baltimore Medical College in 1894 and began his practice in Cortland in 1897. He was a former member of the Cortland County Medical Society as well as a former member of the staff of the Cortland Memorial Hospital.

Goode Rutledge Cheatham, M.D., of Johnson City and Endicott, died on April 12 at Wilson Memorial Hospital at the age of fifty-four. Dr. Cheatham graduated from New York University and Bellevue Medical School in 1927. He was a Diplomate of the American Board of Obstetrics and Gynecology, a member of the American Academy of Obstetrics and Gynecology, the Binghamton Academy of Medicine, Central New York Association of Obstetricians and Gynecologists, chief of obstetrics and gynecology and of the cancer detection unit at the Ideal Hospital of Endicott, and chief of obstetrics and gynecology at Wilson Memorial Hospital. At the time of his death he was also a member of the Cortland County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

George Robert Collins, M.D., of Avon, died on April 27 at the age of sixty-seven following a heart attack. Dr. Collins graduated in 1912 from the University of Buffalo School of Medicine. He was a member of the Rochester Academy of Medicine.

Neal Joseph Conan, M.D., of Syracuse, died on May 6 at the age of sixty-eight. Dr. Conan was graduated from Columbia University College of Physicians and Surgeons in 1916. At the time of his death he was senior physician at St. Joseph's Hospital, Syracuse, and a member of the Syracuse Academy of Medicine, the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Herman Julius Dworzan, M.D., of New York City, died on April 30 at the age of sixty-five. Dr. Dworzan received his medical degree from Tübingen University, Germany, in 1919. At the time of his death he was an associate physician in arthritis at the Polyclinic Outpatient Department and assistant physician in arthritis at City Hospital. Dr. Dworzan was a member of the American Rheumatism Association, the New York Rheumatism Association, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Sidney Epstein, M.D., of Brooklyn, died on May 4 in Mount Sinai Hospital, Miami, Florida, at the age of fifty. Dr. Epstein graduated from Long Island College Hospital School of Medicine in 1928. He was clinical assistant physician and assistant in chest at the Jewish Hospital, Brooklyn, as well as assistant physician at the Jewish Sanitarium and Hospital for Chronic Diseases. He was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

A. Stuart Ferguson, M.D., of Newburgh, died on May 13 at the age of sixty-five. Dr. Ferguson was graduated from Albany Medical College in 1917. Dr. Ferguson was consulting cardiologist at Cornwall, Goshen, St. Anthony's, Warwick, Highland, and St. Luke's Hospitals and consulting physician in cardiology at the St. Luke's Outpatient Department. A Fellow of the American College of Cardiology, he was a member of the Orange County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Sterling O. Fields, M.D., of Jamaica, died in October, 1953, at the age of sixty-six. Dr. Fields was graduated from the University of Pennsylvania Medical School in 1912. At the time of his death, Dr. Fields was a member of the Queens County Medical Society and the Medical Society of the State of New York.

Abraham Jaime Fried, M.D., of Middle Village, died in November, 1953, at the age of forty-five.

Dr. Fried graduated from New York University School of Medicine in 1935.

Isaac Glassman, M.D., of New York City, died on May 4 at his home of a heart attack at the age of sixty-four. Dr. Glassman graduated from New York University-Bellevue Medical School in 1914. He was an adjunct radiologist at Beth David Hospital. Dr. Glassman had been president of the Yorkville Medical Society from 1924 to 1926 as well as president of the East Side Chemical Society in 1936. Previously he had been on the staffs of Metropolitan and Beekman Street Hospitals and consultant in radiology at the Home of the Sons and Daughters of Israel. At the time of his death he was a member of the New York County Medical Society and the Medical Society of the State of New York.

Nathan W. Green, M.D., of New Canaan, Connecticut, formerly of New York City, died on April 21 in the Norwalk Hospital at the age of eighty-four. Dr. Green was graduated from Columbia University College of Physicians and Surgeons in 1898 and interned at St. Luke's Hospital, New York City, where he also served as a member of the staff until his retirement as associate attending surgeon in 1930. He had served as a surgical consultant on the staff of New York City Hospital, Welfare Island, and during World War I was in charge of the first surgical division of Bellevue Hospital. In 1917 he was a founder and an honorary member of the American Society of Thoracic Surgery and served as the second president in 1925 as well as secretary for five years.

Dr. Green had been a member of the New York Academy of Medicine, the American College of Physicians and Surgeons, the New York Bronchoscope Society, the New York Society for Thoracic Surgery, the Harvey Society, alumni association of St. Luke's Hospital, and at the time of his death was a retired member of the New York County Medical Society and the Medical Society of the State of New York.

Harry Joseph Hammond, M.D., of Buffalo, died on April 9 at his home at the age of sixty-seven. Dr. Hammond graduated from the University of Cincinnati Medical School in 1913. He had been a former chief of staff at Mercy Hospital and a staff member of Our Lady of Victory Hospital. Dr. Hammond, who retired from active practice in 1947, had been consultant surgeon at Mercy Hospital, and a member of the Buffalo Academy of Medicine, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Oskar Hoffmann, M.D., of Utica, died on July 31, 1954, at the age of sixty-six. Dr. Hoffmann received his medical degree from the University of Vienna in 1912. He had been a member of the Mohawk Valley Neuropsychiatric Society and was senior psychiatrist at Utica State Hospital.

Frank Andrew Kane, M.D., of East Rochester, died on April 17 in Genesee Hospital after a long illness at the age of sixty-seven. Dr. Kane was graduated from Detroit Medical School in 1919. At the time of his death he was a member of the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Theodore J. Kiefer, M.D., of Rochester, died on April 18 at the age of eighty-one in the Highland Hospital after a brief illness. Dr. Kiefer graduated from Syracuse University Medical School in 1896. He had been a charter member of the local chapter of Nu Sigma Nu and during World War I had served as a captain in the Medical Division. At the time of his death he was a retired member of the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Abner Kurtin, M.D., of New York City, died on May 11 at his home following a heart attack at the age of forty-three. Dr. Kurtin graduated from Columbia University College of Physicians and Surgeons in 1935. He was a Diplomate of the American Board of Dermatology and Syphilology and a member of the Society for Investigative Dermatology, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Ernest Leibholz, M.D., of Maspeth, died on October 5, 1954, at the age of sixty-three. Dr. Leibholz received his medical degree in 1914 from the University of Berlin. He had been a member of the Long Island Dermatological Society, the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

May Murray Lowden, M.D., of Flushing, died on August 12, 1954, at the age of eighty-two. Dr. Lowden graduated from the Women's Medical College of New York Infirmary in 1897.

William Henry Lucas, M.D., of New York City, died on June 1, 1954, at the age of eighty-five. Dr. Lucas graduated from the Medical College of Ohio in 1895.

James Vincent Ricci, M.D., of New York City, died on May 12 in the Madison Avenue Hospital after a short illness at the age of sixty-four. Dr. Ricci graduated from Harvard Medical School in 1916 and interned at the Woman's Hospital. During World War I he served as a captain with the Harvard Medical Unit. He was an obstetrician and gynecologist at the Beekman-Downtown Hospital, gynecologist at City Hospital, and consultant in gynecology and obstetrics at Columbus Hospital. At the time of his death he was a member of the New York Academy of Medicine, the New

York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Hugh Ross, M.D., of Brentwood, died at the age of ninety-two in his home on May 10. Dr. Ross graduated from Columbia University College of Physicians and Surgeons in 1888. A founder of the Ross Sanitarium, Dr. Ross was a past president of the Medical Society of the State of New York, consulting physician at Central Islip State Hospital, and honorary staff member of the Southside, Bay Shore Hospital. He was a Fellow of the American College of Physicians and a member of the New York Academy of Medicine, the Suffolk County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Walter F. H. Rost, M.D., of New Paltz, died on April 25 of a heart attack in his sleep at the age of fifty-five. Dr. Rost received his medical degree from the University of Breslau in 1923. He was a member of the Ulster County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Earl Rutter Smith, M.D., of Albany, died of a heart attack on April 19 at the age of eighty-two. Dr. Smith was graduated from Long Island College Hospital School of Medicine in 1898.

Maxwell Sugerman, M.D., of New York City, died on August 30, 1954, at the age of seventy. Dr. Sugerman graduated from Fordham University Medical School in 1918. He was an associate physician at Knickerbocker Hospital.

Lawrence G. Sykes, M.D., of New York City, died of a heart attack at his home in Bronxville on May 9 at the age of sixty-seven. Dr. Sykes graduated from the University of Illinois Medical School in 1910. He was a member of the New York County Medical Society and the Medical Society of the State of New York.

Israel Wang, M.D., of Port Chester, died on April 26 in the United Hospital at the age of sixty-nine. Dr. Wang graduated from Long Island College Hospital School of Medicine in 1913. He was a physician at the United Hospital, Port Chester, a Diplomate of the American Board of Internal Medicine, and a member of the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association

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ANNOUNCEMENTS

The following announcements concerning suspension, revocation, annullment, and cancellation of medical licenses have been received from Dr. Stiles D. Ezell, secretary, Board of Medical Examiners, University of the State of New York, State Education Department:

License Revoked.—John F. Lynch, Elmira: medical license number 20,523, issued under date of July 1, 1926, revoked, annulled, and cancelled. The order of the Commissioner was served on Dr. Lynch on July 23, 1954, and his medical license stands revoked as of that date.

License Suspended.—Carroll K. Davis, New York City: medical license number 27,553, issued under date of September 22, 1932, suspended for a period of one year. Due to a number of "stays" pending court decisions, Dr. Davis' period of suspension will run from February 9, 1955, to November 9, 1955.

License Restored.—Paul V. Conboy, New York City: medical license restored as of March 1, 1955. The order of restoration was served on Dr. Conboy on March 8, 1955.

License Revoked.—Augustus C. Paul, Buffalo: medical license number 11,065, issued under date of February 2, 1912, revoked, annulled, and cancelled. The order of revocation was served on Dr. Paul on November 15, 1954, and his medical license stands revoked as of that date.

MEDICAL NEWS

Radio and TV Coverage of Annual Meeting—Beginning with a special convention preview broadcast on May 5 on the Rural Radio Network, a total of 46 radio and television broadcasts were presented during the 149th Annual Convention of the Medical Society of the State of New York in Buffalo May 9 to 13. In addition, members of the Woman's Auxiliary to the State Society participated in several programs, to make a total of 37 Society and Auxiliary speakers who appeared over seven Buffalo radio and TV stations and 11 Rural Radio Network outlets, reaching hundreds of communities in at least 19 counties of the State.

On May 8 a half-hour telecast giving a Society-Auxiliary convention preview was presented, with the following participants: Dr. Walter Scott Walls, Buffalo, president of the Medical Society of the County of Erie; Dr. W. P. Anderton, New York City, secretary, Medical Society of the State of New York; Dr. Dan Mellen, Rome, retiring president of the State Society; Dr. Renato J. Azzari, Bronx, incoming State Society president; Mrs. Arthur L. Bennett, Buffalo, retiring president of the State Auxiliary, and Mrs. Isadore Zadek, New Rochelle, incoming Auxiliary president.

Coming from 13 communities and 11 county medical societies, the following physicians also appeared on various programs during the week: Dr. Norman S. Moore, Ithaca; Dr. E. A. Burkhardt, Dr. Frederic D. Zeman, Dr. George M. Wheatley, Dr. Norman B. Kanof, Dr. William P. Given, Dr. Harry Bakwin, Dr. Orlando Canizares, and Dr. Samuel A. Garlan, New York City; Dr. Marvin Moser, Scarsdale; Dr. Herman E. Hilleboe, State Health Commissioner, and Dr. John C. McClintock, Albany; Dr. Theodore J. Curphey, Garden City; Dr. Karl W. Gruppe, Utica; Dr. Floyd C. Bratt and Dr. Floyd S. Winslow, Rochester; Dr. Garra L. Lester, Chautauqua; Dr. Denver M. Vickers, Cambridge; Dr. Guy S. Philbrick, Niagara Falls.

Buffalo physicians who appeared included: Dr. Sherman Little, Dr. John D. Naples, Dr. Walter F. King, Dr. John H. Talbott, Dr. William J. Orr, Dr. Max Cheplove, Dr. Glenn H. Leak, Dr. Mary J. Kazmierczak, Dr. Frederick J. Fleszar, Dr. Stephen A. Graczyk, Dr. Eugenia Lucille Fronczak-Bukowski, Dr. Marian Martin Konsczkowski.

Mr. Martin J. Tracey, editor of the *Newsletter*, acted as interviewer on seven broadcasts during the convention. Buffalo stations contributing air time included: WBEN—radio and TV (CBS); WGR—radio and TV (NBC); WKBW—radio (ABC); WEBR—radio, and WWOL—radio. Rural Radio Network stations were WHLD-FM, WHDL-FM, WRRA, WRRC, WRRD, WRRE, WRRL, WFLY, WWNY-FM, WRUN-FM, and WMSA. Among the communities reached were Buffalo, Niagara Falls, Lockport, Medina, Fredonia, Olean, Jamestown, Hornell, Palmyra, Batavia, Bristol Center, Rochester, Mt. Morris, Wethersfield, Penn Yan, Canandaigua, Ithaca, De Ruyter, Syracuse, Cherry Valley, Rome, Utica, Massena, Watertown, Schenectady, Albany, and Troy.

A special feature of the programs was the presentation of seven talks in the Polish language on WWOL. Since Buffalo has more than 400,000 Polish-speaking residents, many of whom have fled from Communist Poland, these programs provided them with an opportunity to hear in their own language of the democratic organization and practice of medicine.

Programs were arranged through the State Society's Public and Professional Relations Bureau, under the supervision of the Council Committee on Public Relations.

Jefferson County Medical Society—The regular monthly meeting of the Medical Society of Jefferson County was held on May 17 at the Black River Valley Club. Dr. Sidney Fierst, clinical assistant professor of medicine, State University of New York, College of Medicine, New York City, spoke on "Ulcerative Colitis and Enteritis."

American Medical Education Foundation—Contributors from New York State to the American Medical Education Foundation for the month of April were: *Adams Center*—Dr. Earl Babcock; *Albany*—Drs. Kenneth Archibold, Donald H. Baxter, Richard T. Beebe, Howard W. Berg, Newton H. Bigelow, James Bucci, E. H. Campbell, Ethel Cermak, John J. Clemmer, Warren G. Cross, Fred Dexter, Anne Drislane, William Feltman, John J. Gamble, Thomas O. Gamble, William B. Garlick, John G. Hayes, John E. Heslin, John B. Horner, and Henry H. Hun. Also, Drs. Samuel Kantor, Roy C. Kemp, H. B. Lang, Raymond G. Leddy, Earl Levitt, Basilia Lipetz, B. Markowitz, F. D. McCandless, F. B. McKechnie, William A. Milner, Daniel Moriarty, Claude C. Nuckols, Jr., John P. O'Keeffe, William G. Richtmyer, R. Ruedemann, Jr., Paul Schultze, Jr., Michael J. Stapleton, Victor N. Tompkins, George L. Tully, Jr., Thomas S. Walsh, Jr., C. S. Welch, and Robert D. Whitfield.

Also: *Altamont*—Drs. D. W. Sweeney and Helen O. Sweeney; *Amenia*—Dr. E. A. Larkin; *Amsterdam*—Dr. Leslie Saunders; *Astoria*—Drs. Philip L. Kaye, Henry J. Lange, Joseph V. Lanza, and P. A. Saponaro; *Barker*—Dr. Paul Orsten; *Bath*—Drs. Stanley B. Chapman, Donald D. Hutchings, J. F.

Kenzie, and A. F. Wahlig; *Bay Shore*—Dr. Bernard J. Ryan; *Bayside*—Drs. Wallace Foucault, Melvin J. Herman, M. Hoffman, Arthur H. Mernit, and James R. Reuling; *Beacon*—Drs. D. A. Astone, John McNeill, and Charles Wolf; *Belfast*—Dr. Dorothy Grey; *Bellport*—Dr. Perry S. Horenstein; *Big Flats*—Dr. Otto Lederer; *Binghamton*—Drs. Robert W. Bogdasarian, Thomas A. Cope, Jr., A. H. Fotouhi, Charles H. McEliwee, Mathew H. Paushter, Charles L. Pope, Quinton D. Schubmehl, and Harry G. Walling; *Bronx*—Drs. S. B. Burke, J. F. Collins, Louise M. Dithridge, M. B. Feiner, W. N. Fosco, D. Greenberg, Marcus D. Kogel, H. M. Levine, Aaron Merker, Louis H. Merker, P. P. Merrill, Jr., George W. Pelebecky, Peter C. Pellegrino, M. A. Senikowich, J. A. Taferner, Jacob Taub, Nestor J. Totero, and M. M. Youmans; *Bronxville*—Drs. James A. Ramsay and Charles C. Wolcott; *Brooklyn*—Drs. Ralph Blumberg, Everett Corradine, Edward J. Foley, Howard R. Gerber, and Edward L. White; *Cambridge*—Dr. D. M. Vickers; *Canandaigua*—Dr. Henry Buxbaum; *Cincinnatus*—Dr. George R. Landwehr; *Cohoes*—Drs. James M. Archibold and Anthony J. Vinci.

Also: *Cooperstown*—Dr. James Mithoefer; *Corning*—Drs. L. J. Graham, P. M. Hoffman, and John A. Holmes; *Corona*—Drs. S. J. Iraci, Peter Milazzo, and Richard R. Panebianco; *Cortland*—Drs. Donald W. Anderson, John E. Eckel, N. J. Gabriel, Donald R. Gibbs, Fred A. Jordan, William J. McAuliffe, William Wall, and John E. Wattenberg; *Delmar*—Drs. Robert L. MacDowell and Frank C. Maxon, Jr.; *Dobbs Ferry*—Dr. James Clarkin; *Douglaston*—Dr. Leif Jacobsen; *Dover Plains*—Dr. Samuel Appel; *Earlville*—Dr. Willis E. Hammond; *East Greenbush*—Dr. Joseph W. Belser; *East Meadow*—Dr. Avron H. Ross; *Elmhurst*—Drs. Alfred L. Abrams, A. Koevesdi, and Jessie Labanowski; *Elmira*—Drs. Fred W. Barton, Erika Baskis, Andrew A. Blash, Werner H. Block, Leonard J. Bolton, Hobart A. Burch, John H. Burke, Jr., M. F. Butler, Francis W. Chamberlain, Nathan Cohen, Stuart V. Collins, Gerald T. Connelly, Francis S. Creighton, William J. Cusick, Charles S. Dale, Charles E. Erway, Raymond E. Frisk, Harold Game, Jr., Joseph G. Gladston, Arthur C. Glover, Robert E. Good, Richard O. Gregory, Donald M. Groff, Irving L. Handin, F. S. Hassett, Frank Hertzog, A. H. Hillman, L. L. Hobler, Ross E. Hobler, Charles M. Hower, R. S. Howland, and John H. Hunt. Also: Drs. David Kaplan, B. H. Kaufman, Charles H. Kinley, Jesse L. Kinner, Charles H. Kosmaler, J. H. Lagonegro, Swen L. Larson, Robert D. Leonard, Samuel N. Levine, P. Liu, Alfred W. Lucas, Henry B. Marshall, K. D. Maynard, Stuart J. Miller, Alfred A. Mitchell, Richard O. Monahan, George R. Murphy, John P. Murphy, Clyde L. Nagle, William Nowill, Stewart E. Peterson, William R. Phillips, Earle G. Ridall, John C. Roemmelt, Jr., Gerald P. Schneider, Arthur C. Smith, Arthur C. Smith, Jr., Arthur D. Smith, Earl D. Smith, King R. Snyder, Edward F. Steele, Raymond H. Stoddard, Jack E. Thomas, Donald J. Tillou, Gideon Tropp, B. G. Voorhees, Charles H. Voorhees, Harold L. Walker, and David Wladis.

Also: *Endicott*—Dr. Donald E. Stack; *Farmingdale*—Drs. Albert N. Meyerstein, and Werner B. Sandelowsky; *Flushing*—Drs. P. A. Cioffi, John N. DeHoff, George Hadda, N. R. Katlan, Victor S. Lait, and E. A. Mittell; *Forest Hills*—Drs. Francis X. Fellon, Vincent Larkin, James Marin, Anthony Mira, and Karl M. Neimand; *Fort Edward*—Drs. A. Avrin, Howard Romack, and R. L. Skinner; *Franklin*—Dr. Charles Stinard; *Franklin Square*—Dr. Ira S. Rubenstein; *Freeport*—Dr. James A. McAleese; *Fulton*—Dr. Gerard Steinitz; *Garden City*—Drs. Eben Breed and B. F. Dennis; *Geneva*—Drs. M. E. Deuel and Charles L. Wilmarth; *Glen Cove*—Drs. Gilbert H. Taylor and Warren I. Titus; *Glendale*—Dr. William G. Lynch; *Glen Head*—Dr. Will N. Spear; *Glenmont*—Drs. Thomas L. Piazza; *Gloversville*—Dr. Robert C. Warner; *Granville*—Drs. W. S. Bennett and John Sumner; *Great Neck*—Drs. Mary S. Calderone, Arnold N. Fenton, Gerald B. Harrigan, F. E. Lane, and Harry G. Rainey; *Hemsptead*—Drs. Ruel L. Alden, William P. Bartels, Lenore Berkery, Dwight T. Bonham, Ray M. Bowles, Eugene T. Buckley, David Dexter, Carl F. Freese, John P. Glaubitz, Alex E. Gold, John G. Harrison, Wendell L. Hughes, R. R. Steen.

Also: *Herkimer*—Drs. Harold T. Golden and Daniel C. Shaughnessy; *Hewlett*—Dr. John M. Butterly; *Hollis*—Drs. R. R. DeNicola and Harold A. Goldberger; *Hornell*—Dr. William J. Tracy; *Horseheads*—Drs. Norman G. Gridley, Walter Impert, and C. F. Leet; *Hudson*—Dr. Joseph Bellamy; *Hudson Falls*—Drs. C. V. Latimer, Jr., and John McCann; *Ithaca*—Dr. M. M. Burtt; *Jackson Heights*—Drs. Edwin P. Kane and Carl C. Salzman; *Jamaica*—Drs. Michael Bevilacqua, Otto T. Hofmeister, Louis J. Iandoli, Martin H. Jacobs, George H. Kittell, Albert Lesser, Charles M. Levin, Frances Lewis, Daniel Porte, John M. Scannell, and Abram Sohmer; *Johnson City*—Dr. Baird D. Jay; *Kenmore*—Dr. Joseph Hewett; *Kew Gardens*—Dr. Curt A. Schmeidler; *Kingston*—Dr. John R. Roberts; *Latham*—Drs. Thomas Couch, Thomas A. McCullough, and Boris Paul; *Lawrence*—Dr. Howard E. Wiener; *Levittown*—Drs. Abraham Azulay and Arthur M. Hetzer; *Little Falls*—Dr. Robert C. Ashley; *Lockport*—Drs. Wilfred Anna, Frank Crosby, John Crosby, James Donnelly, Dudley B. Fitz-Gerald, H. B. Fitz-Gerald, R. R. Fitz-Gerald, and T. E. O'Brien; *Long Beach*—Drs. Frances Karp and Joseph G. Zimring; *Long Island City*—Drs. Reuben M. Dicker, Victor Fimia, John Herrlin, Jr., William J. Lavelle, Maxwell Lipton, Adrian Neumann, and Arthur Schneller.

Also: *Lynbrook*—Drs. Stanley M. Kahn and Martin Nissel; *Mamaroneck*—Dr. William Chester; *Manhasset*—Drs. A. G. Borden, John G. Connell, F. A. Hill, Irving E. Miner, Morris F. Wiener, and Ralph U. Whipple; *Marathon*—Dr. Walter M. Dresel; *Maspeth*—Drs. Maurice Chassin, Felix Metis, and Anthony C. Reiger; *McGraw*—Dr. Zenta Krauklis; *Millerton*—Dr. M. J. Badeen; *Mineola*—Dr. Lyman G. Fussell; *Mohawk*—Dr. William J. MacDonald; *Mount Vernon*—Drs. Vincent Cimmino and David M. Gordon; *Newburgh*—Drs. P. Sherwood and Irving Weiner; *New Hyde*

Park—Drs. Arthur B. Nightingale and Elly H. Schoenfeld; *Newport*—Dr. Leo L. Heller; *New Rochelle*—Dr. Paul C. Morrissey; *New York City*—Drs. Irving Abelow, A. E. Ada, Albert H. Aldridge, Arthur C. Allen, Nathan Ambinder, Walter P. Anderton, Shepard G. Aronson, Robert C. Ascher, Olav Austlid, H. E. Babcock, Leon Bader, George Baehr, William A. Barnes, Joseph F. Bartoli, Edward J. Bassen, Simon A. Beisler, Otelia J. Bengtsson, Bernard Berglas, Edmund Bergler, Saul Bernstein, Morton I. Berson, N. Biondo, Julius S. Blier, Austin P. Boleman, James L. Boyd, Goodwin M. Breinin, Robert E. Brennan, Charles Brenner, W. Bronson, David C. Bull, Leonard Burness, and Charles L. Burstein.

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Also: Drs. Max Miller, Seth M. Milliken, Bela Mittelmann, Erika Mohr, Eli Moschowitz, D. A. Mulvihill, Peter M. Murray, Arthur E. Neergaard, Joseph H. O'Connell, Herbert S. Ogden, Kermit E. Osserman, Harold E. Pardee, Townley Paton, B. Payne, M. M. Peshkin, Nancy M. Peters, Robert T. Porter, Louis I. Posner, Rudolf Radna, Elias Rapoport, John B. Rearden, Annie Reich, Charles R. Rein, Elise Renning, Nathan Robbins, M. W. Rodgers, Max S. Rohde, Nathaniel Ross, Herman S. Roth, Myron A. Sallick, Irving A. Sarot, Bertram H. Schaffner, Henry M. Scheer, Herman Schenck, Charles F. Schetlin, A. Schiff, Arthur Schifrin, Nathan Schifrin, Kaufman Schlivek, G. Schnerbe, Rudolph Schullinger, Sigmund Schutz, David Schwimmer, T. R. Seidman, W. Seligmann, Edward M. Shepard, William V. Silverberg, D. J. Simons, Carl A. Smith, Harry P. Smith, James W. Smith, Leon J. Spitz, Andrew Sporer, J. J. Squire, Miguel Steinberg, Philip R. Stewart, George J. Stivala, Leo Stone, John L. Sullivan, Raymond P. Sullivan, Edward S. Tauber, A. E. Timpanelli, Charles A. Turtz, L. J. Unger, B. M. Vance, Melvin B. Victor, Jan Waller, Bettina Warburg, Jerome Weiss, Samuel Weiss, Imre Weitzner, William P. Whalen, Felix Widder, Seymour F. Wilhelm, Sam E. Witt, and Paul M. Wood.

Also: *Niagara Falls*—Drs. Willy Bender, Morley Bernstein, Herman Brezing, Robert Brezing, L. Carlino, Edwin Gates, Casmer Leone, William McDermid, Donald Taylor, and William Vickers; *North Tonawanda*—Drs. Harry Bylebyl, T. Gerwig, and Robert M. Rose; *Norwich*—Dr. Louis E. Daily; *Oneida*—Drs. Howard Beach, Ernest Freshman, and Anthony J. Zaia; *Oneonta*—Dr. Joseph T. Eagan; *Pearl River*—Dr. R. W. Howard; *Phoenix*—Drs. Emerson J. Dillon and William H. Dwinelle; *Pine Plains*—Dr. W. W. Wicks; *Plattsburgh*—Drs. J. M. Allen, Leonard J. Schiff, Herbert L. Schlessinger, and Ronald Smith; *Pleasantville*—Dr. John W. Ferree; *Port Chester*—Drs. Arthur H. Diedrick and Anthony R. Mascia; *Port Washington*—Drs. Charles F. Begg, Frank A. Jenkins, Edson L. Stannard, and Albert N. Stevenson; *Poughkeepsie*—Drs. Richard Boyde, J. I. Cotter, C. O. Davison, Charles DeBold, C. K. Deyo, Harry Hanley, Raymond Koloski, R. T. Lapidus, Jerome Kehner, William Liesenbein, Melvin Matlin, Raymond McFarlin, Sidney Miller, B. A. Perrino, John F. Rogers, Frank Starpoli, E. A. Stoller, L. W. Stoller, J. J. Toomey, William Updegraff, Helen Van Alstine, George Ward, Harold Weiner, and Ann Wright.

Also: *Queens Village*—Dr. Francis J. Martell; *Ransomville*—Dr. S. Piazza; *Ravena*—Dr. Jerome Engel; *Redwood*—Dr. Joseph R. Recupero; *Red Hook*—Dr. F. Zipser; *Rhinebeck*—Dr. Martin J. Poppo; *Richmond Hill*—Drs. Harry Feinberg, George B. Fernlund, Edward L. Glynn, Joseph J. McEvoy, and Charles F. Meierdiercks; *Ridgewood*—Drs. William M. Fuchs and Bruno B. Lambert *Rochester*—Dr. Lynn Rumbold; *Rockville Centre*—Drs. Selma Buchbinder, Richard Emmet, Edward E. Helwith, Alan A. Jaques, Daniel Rothstein, and Willard Wheelock; *Rome*—Drs. James H. McDonough and Douglas A. Sunderland; *Roslyn Heights*—Drs. Louis S. Bardoly and Joseph Gyurik; *Rye*—Drs. Richard D'Isernia and Mary M. Man; *Sackets Harbor*—Dr. Juda B. Bickel; *Scarsdale*—Drs. Berton Lattin, John B. Moses, Lee R. Pierce, and Harry E. Voss; *Scotia*—Dr. George C. Von Borstel; *Schenectady*—Drs. Joseph H. Cornell, Eugene Davidoff, Stuart F. MacMillan, Kurt H. Meyerhoff, P. W. Reynolds, Gomer Richards, John P. Rinaldi, Morris A. Shapiro, Joseph Slovak, and Richard L. Woodruff; *South Nyack*—Dr. George K. Looser; *South Ozone Park*—Dr. Sidney B. Meltz; *South Worcester*—Dr. B. J. Delatour; *St. Albans*—Drs. Anthony J. Aragona and H. A. Gozan; *Staten Island*—Drs. Andrew B. Limauro, Edward D. Lucey, Michael S. Rapp, Conrad T. Schroeder, Michael Swick, Jesse Vogel, and J. Zoole.

Also: *Suffern*—Drs. Frank J. Errico and George G. Stone; *Syosset*—Dr. J. Moynihan; *Syracuse*—Drs. David Bennett, Wesley H. Bradley, David W. Brewer, Herman J. Dick, Joseph A. Head, Charles H. Hitchcock, Gordon Hoople, William J. Michaels, Lee R. Stoner, and William R. Willard; *Tarrytown*—Dr. Francis Giammattei; *Tottenville*—Dr. Herbert Berger; *Troy*—Dr. John J. Squadrito; *Tuckahoe*—Dr. Malvin Proctor; *Utica*—Drs. James E. Compson, Vincent DeLalla, Jr., James I. Farrell, and Robert J. MacCallum; *Valley Stream*—Dr. Samuel Jackson; *Vestal*—Dr. Charles Minch; *Victor*—Dr. Carl B. Smith; *Voorheesville*—Dr. Donald G. Sutherland; *Wantagh*—Dr. Joseph Rosenheck; *Wappingers Falls*—Dr. Paul Jacobson; *Watertown*—Drs. Walter S. Atkinson, James L. Crossley, James A. Fitzgerald, Murray M. Gardner, Wendell D. George, H. L. George, Jr., Jacob A. Mishkin, Chris G. Ronson, and Thomas N. Sickels; *Wellsburgh*—Dr. M. E. Pittman; *Westbury*—Dr. Karl H. Behm; *Westerlo*—Dr. Anna W. Perkins; *Whitehall*—Dr. L. A. White; *White Plains*—Drs. Russell J. Heffering, Robert J. Kassan, Homer D. Kesten, Daniel M. Rolett, and Donald Weisman; *Whitney Point*—Dr. Vesta M. Rogers; *Williston Park*—Dr. Lindon L. Davis; *Woodhaven*—Drs. Roy G. Aiello, N. A. Knox, and Anthony R. Pelma; *Woodside*—Dr. Alfred E. Passera, and *Yonkers*—Drs. B. J. Ciliberti, Seymour Jurow, Harry Meyer, John M. Recht, and Isadore Rudnikoff.

New York Academy of Sciences—A conference on "Nutrition in Infections" was held at the Barbizon-Plaza Hotel under the auspices of the New York Academy of Sciences on May 24 and 25.

Dr. W. A. Wright, medical director, Pfizer Laboratories, Division of Chas. Pfizer & Co., New York City, presided as conference chairman. The first day's sessions were presided over by Dr. Norman H. Jolliffe, director of the Bureau of Nutrition, Department of Health, New York City. Dr. Henry Welch, director of the Division of Antibiotics, Food and Drug Administration, Washington, D.C., moderated the sessions held on May 25.

Louis Altschul Laboratory—The Bronx Hospital dedicated its new $800,000 Louis Altschul Laboratory building on May 15, it was announced by Abraham F. Wechsler, president of the institution.

The building will house the Bronx Hospital's departments of pathology, chemistry, bacteriology and related laboratories in addition to research laboratories for its departments of medicine and surgery. The second floor will provide living quarters for the institution's expanding house staff of interns and residents, as well as an auditorium.

Academy of Proctology—The New York Chapter of the International Academy of Proctology met on May 16 at the Hotel Plaza in New York City. Members presenting papers were Dr. Jerome J. Weiner, associate surgeon at Gouverneur Hospital in New York City; Dr. Ernest H. Panasci, associate physician at Rome Hospital; Dr. Hans L. Mannheim, associate surgeon at Lutheran Hospital, New York City; Dr. Paul Lahvis, proctologist at Tri-County Memorial Hospital in Gowanda, and Dr. Paul B. Van Dyke, of Suffern, president of the chapter.

Postgraduate Radio Program—The New York Academy of Medicine's postgraduate radio program, "For Doctors Only," will be extended to the physicians of the Empire State of New York, through the facilities of the Rural Radio Network, operated by the Northeast Radio Corporation, it has been announced by Dr. Norton S. Brown, chairman of the FM committee of the Academy. The program will be carried on the Rural Radio Network on Thursday of each week at 9:00 P.M. The first program was on May 19.

Allegany County Medical Society—On April 28, the Allegany County Medical Society was host at a joint meeting of the County Medical, Dental, and Bar Associations members and their wives. Dr. Rolland Warren, professor of sociology at Alfred University, addressed the group on "Mental Health in Allegany County."

Bureau for Handicapped Children—The Bureau for Handicapped Children of the New York City Department of Health has announced that the following hospital centers have recently been approved for the diagnosis, treatment, and rehabilitation of the handicapped: Hearing centers, Manhattan Eye and Ear Hospital and Presbyterian Hospital; cleft palate centers, Mount Sinai Hospital and New York Hospital; poliomyelitis respirator centers, Goldwater Memorial Hospital and Mount Sinai Hospital, and cerebral palsy center, the Bird S. Coler Hospital.

New York Infirmary Alumnae Day—The New York Infirmary Alumnae Day, sponsored by the Medical Alumnae Association, was held on June 2 at the New York Infirmary in New York City. Speakers included Dr. A. Parks McCombs, director of the Department of Medicine; Dr. Isabel Knowlton, director of the Department of Gynecology; Dr. Dorothy E. Ekstrom, of the Department of Roentgenology; Dr. Blandina Worcester, director for the Department of Pediatrics; Dr. Irja Widenius, director of the Department of Obstetrics; Dr. Frances H. Bogatko, director of the Department of Strang Clinic; Dr. Lucile Loseke, director of the Department of Surgery, and Dr. E. Kristeller, of the Department of Medicine, Division of Physical Therapy.

Nassau Pediatric Society—A special meeting of the Nassau Pediatric Society was held at the Nassau Country Club, Glen Cove, on May 25. Dr. Reginald Lightwood, a Fellow of the Royal College of Physicians, co-editor of the British "Textbook of Pediatrics," and head of the Department of Pediatrics of St. Mary's Hospital Medical School in London, was the guest speaker.

A scientific meeting was held at Felice's Restaurant, Westbury, on June 12, at which Dr. Joseph W. Jailer, associate professor of medicine at the College of Physicians and Surgeons, Columbia University, spoke on "Adrenal Virilism—A Possible Error of Steroid Synthesis."

Columbia Radiology Course—The Mount Sinai Hospital, in affiliation with Columbia University, will give a postgraduate course in the clinical use of radioactive isotopes from October, 1955, through May, 1956. The course will be presented by Drs. Sergei Feitelberg and Edith H. Quimby and associates, and will include lectures and experimental laboratory exercises as well as clinical laboratory measurements on patients and on specimens. For application forms, address the Registrar for Postgraduate Medical Instruction, the Mount Sinai Hospital, 11 East 100th Street, New York 29, New York.

Personalities

Elected

Dr. Gerald Dale Dorman, medical director of the New York Life Insurance Company, president, and Dr. Samuel Z. Freedman, president-elect, of the Medical Society of the County of New York. . .Dr. Bernard Greenberg, president, Dr. Joseph Pincus, vice-president, Dr. Arthur L. Ruby, secretary, and Dr. David Dragutsky, treasurer, of the Pediatric Section of the Medical Society of the County of Kings. . .Dr. Morris Hinenburg, medical care consultant of the Federation of Jewish Philanthropies, a member of the board of Associated Hospital Service of New York Blue Cross. . .Dr. Harold Kelman, dean of the American Institute for Psychoanalysis . . .Dr. Edward C. Reifenstein, Sr., DeWitt, second vice-president of the American College of Physicians.

Speakers

Dr. Leona Baumgartner, New York City Commissioner of Health, at the fifty-fifth annual meeting of the Society of American Bacteriologists in New York City on "The Public Health, the Health Officer and the Scientist". . .Dr. J. Scott Butterworth, associate professor of medicine at New York University College of Medicine, Dr. Harry Mandelbaum, physician in charge of the Hypertension and Nephritis Department at Jewish Hospital in Brooklyn, Dr. Charles Enselberg, clinical professor of medicine at Polyclinic Hospital and Medical School, Dr. Charles Ripstein, professor of surgery at the Albert Einstein College of Medicine, Yeshiva University, Dr. William J. Messinger, assistant professor of clinical medicine at New York University College of Medicine, and Dr. Simon Dack, chief of the cardiac clinic, Mount Sinai Hospital in New York City, at the Heart Teaching Day for the Suffolk County Medical Society on May 25 at the County Infirmary at Yaphank. . .Dr. Carl T. Javert, New York City, on "Endometriosis" at the Freeman Pavilion in New York City on September 8. . .Dr. Howard A. Rusk, chairman of the Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, at the annual dinner of the Greater New York Hospital Association at the Waldorf-Astoria Hotel in New York City. . .Dr. Irving A. Sarot, thoracic surgeon at Beth Israel and Seaview Hospitals and clinical professor of thoracic surgery at the New York Polyclinic Medical School and Hospital, New York City, and Dr. J. Maxwell Chamberlain, attending thoracic surgeon at Roosevelt Hospital, New York City, in a symposium on surgery of the aorta at the fourth annual convention of the American College of Cardiology in New York City on May 22. . .Dr. Edward Stainbrook, professor of psychiatry at the State University of New York at Syracuse, before the Montgomery County Medical Society on June 14 on "Psychophysiology in Medical Practice" . . .Dr. Hans-Lukas Teuber, of the New York University College of Medicine Department of Psychiatry and Neurology, before the hospital staff of the Veterans Administration Hospital at Northport on May 10, on "The Search for Physiologic Correlates of Mental Illness". . . Dr. Herbert L. Traenkle, assistant clinical professor of dermatology and syphilology, University of Buffalo School of Medicine, before the Cortland County Medical Society on May 23 on "Skin Cancer."

Honored

Dr. Leona Baumgartner, New York City Commissioner of Health, at the eighteenth annual Lord & Taylor Award luncheon at the Waldorf-Astoria Hotel in New York City on May 16, for her outstanding contribution to the growth of New York City.

Appointed

Dr. Everett W. Corradini, consultant neurosurgeon at the Tioga County General Hospital medical staff in Elmira. . .Dr. E. J. Foley, medical director of Winthrop-Stearns Inc., to the post of head of the medical department. . .Dr. Bernard C. Glueck, Jr., Ossining, as associate professor in the Department of Psychiatry at the University of Minnesota Medical School. . .Dr. John J. Hutchinson, Pelham, medical director of the New York Life Insurance Company. . .Drs. Lewis Jacobs, Thomas Glasser, Samuel J. Fairstein, and Louis Samuel Smith of Mount Vernon, Dr. Henry Peskin of Scarsdale, Dr. Cyril Solomon of Hastings, Dr. Samuel Shenkman of Harrison, and Drs. David Solomon, Hubert Hecht, Samuel M. Bloom, Harold Altman, M. Michael Cohen, and Arnold Leonard Bachman, of New York City, to the medical board of the Cross County Hospital and Medical Center. . .Dr. E. Hugh Luckey, dean of Cornell University Medical College, to the board of managers of Memorial Center for Cancer and Allied Diseases. . . Dr. Currier

McEwen, New York City, chairman of the State advisory council of the Joint Hospital Survey and Planning Commission. . .Dr. Frank W. Reynolds, medical director of the Saratoga Spa, as director of the Bureau of Chronic Diseases and Geriatrics in the New York State Department of Health. . .Dr. W. J. Merle Scott, professor of surgery and chairman of the Department of Surgery at the University of Rochester School of Medicine and Dentistry and surgeon-in-chief of Strong Memorial Hospital. . .Dr. Stephen S. Sgambati, Round Lake, Town of Malta health officer. . .Dr. Louis Tremante, reappointed as chief of the hospital staff of Littauer Hospital. . . Dr. Eldon R. Westman, district health officer of the Watertown district of the State Health Department.

New Offices

Dr. A. L. Bunin, general practice in Lake Carmel . . .Dr. Morris Chamurich, taking over the office of Dr. Philip Pearlstein in Peekskill. . .Dr. John Del Campo, associated with Dr. Martin J. Poppo in Rhinebeck. . .Dr. William G. Hafner, Jr., general practice in Weedsport, following his discharge from the U.S. Air Force. . .Dr. Harry C. McNamara, Valatie, practice of obstetrics and gynecology in Kingston. . .Dr. Joseph P. Ostrowski, practice of orthopedic surgery in Rome. . .Dr. George Primanis, general practice in Cortland. . .Dr. Steven Rich, general practice in New City. . .Dr. John Leslie Rury, associated with Dr. Vernon Roth in Marcellus. . . Dr. Vytautas Slavinskas, resident doctor of the Monticello Hospital, general practice in Monticello . . .Dr. Richard A. Slezak, general practice in association with Dr. W. R. Padget in Tully. . .Dr. William Wecker, formerly of Forest Hills, general practice in Cherry Valley. . .Dr. Jeffrey Wiersum, assistant resident physician at Albany Hospital, general practice in New Paltz.

Resume Practice

Dr. Jerome A. Ehrlich, associated with Dr. Lester J. Besen in Yonkers. . .Dr. Stanley M. Mendelowitz, associated with Dr. Eugene Saberski in the practice of gynecology and obstetrics in Ossining.

Retired

Dr. George F. Bock, from general practice in Watertown. . .Dr. R. J. Erickson, Slingerlands, as medical director of the Albany County Tuberculosis Association, after thirty-five years. . .Dr. George Hoyt Whipple, Nobel Prize winner in medicine, from the University of Rochester's School of Medicine.

MEDICAL MEETINGS

Rockland County Medical Society

The Rockland County Medical Society will meet on June 21 at 8:30 P.M. at the Summit Park Sanatorium in Pomona. Dr. Charles L. Fox, research associate at New York Medical College, and assistant surgeon at Flower and Fifth Avenue Hospitals, will speak on "Recent Advances in Fluid and Electrolyte Therapy in Surgery and Medicine."

Vassar Summer Institute

A seminar on Doctor-Patient Relationships will be offered at the 1955 Vassar Summer Institute for Family and Community Living to be held from June 29 to July 27 at Vassar College in Poughkeepsie.

American Heart Association

The 31st annual meeting and the 28th scientific session of the American Heart Association will be held at the Jung Hotel in New Orleans from October 22 through 26. Persons wishing to present papers at the scientific sessions must submit abstracts not later than July 1. The abstracts should not exceed 300 words in length and should be submitted in duplicate to the Medical Director, American Heart Association, 44 East 23rd Street, New York 10, New York.

Postgraduate Allergy Course

The New York Medical College, Flower and Fifth Avenue Hospitals, will hold a postgraduate course in pediatric allergy under the direction of Dr. Bret Ratner, professor of clinical pediatrics and associate professor of immunology. There will be 30 sessions, from November 2, 1955, to May 31, 1956. The course consists of lecture-seminars, laboratory and clinical procedures, clinic work, ward rounds, and animal experimentation covering basic principles of diagnosis and treatment of allergy in children, and applied immunology. Applications should be addressed to the Office of the Dean, New York Medical College, Fifth Avenue at 106th Street, New York 29, New York.

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Woman's Auxiliary, 262, 538, 688, 1258, 1502, 1794

Woman's Auxiliary
to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

Annual Health Poster Contest Awards Announced

Winners of the third annual Health Poster Contest, conducted by the Woman's Auxiliary to the Medical Society of the State of New York, were announced on April 2 when the judging took place in the auditorium of the School of Nursing of Kings County Hospital in Brooklyn. A first and second prize winner was selected in each of four grade classifications from the prize posters submitted as a result of contests on the county level.

Announcement of the third annual contest was distributed in September, 1954, by the county auxiliary poster chairman to all public and private schools in each county participating. Four counties which had not previously entered the contest were represented this year. The Auxiliary will continue to strive for 100 per cent participation in the contest since this endeavor has proved to be a good public and professional relations event.

With approximately 10,000 posters entered throughout New York State, the contest drew much favorable newspaper publicity, with many counties having pictures of local winners and their posters.

Following the judging of the county poster winners, the first prize posters in each category were entered in the State contest. Winners were selected by a panel of judges representing medicine, art, health education, parent-teacher associations, and civic groups. The State Auxiliary Poster Committee selected the following panel of judges for the finals: Dr. Dan Mellen, president, Medical Society of the State of New York; Mr. Isidor H. Goldberg, assistant director of health education, Board of Education, City of New York; Mr. Wesley Snyder, illustrator; Mr. Walter Greaza, television personality, and Miss Mary M. Weeks, health and safety adviser, Girl Scouts of America.

Ratings for the poster contest were on the basis of 60 per cent for the health message, 25 per cent for originality, and 15 per cent for general appearance. The judges were entertained at luncheon at the Kings County Hospital under the supervision of Mrs. Joseph A. Squillace, poster chairman of the Kings County Auxiliary.

Winners of the 1954–1955 contest are listed in Table I. The first prize winner in the tenth to twelfth grade division, Robert Sadowski, was a guest of the State Auxiliary at their luncheon on Tuesday, May 10, at the Hotel Statler, Buffalo, where he received his award from Dr. Andrew A. Eggston, chairman of the State Medical Society's Advisory Committee to the Woman's Auxiliary.

Through the administration of the poster contest the Auxiliary is able to establish a close relationship between the doctor's wife and the community, and because county medical societies have been so generous in their support, there has been a development of community interest and appreciation.

Mrs. Sol S. Feinstein, *Chairman*
State Health Poster Contest

TABLE I.—Winners of 1954–1955 State Auxiliary Health Poster Contest

Grade	Winner	County	Award
10 to 12	Robert Sadowski	Orleans	First Prize—$125 U.S. Savings Bond
	Robert Wilson	Albany	Second Prize—$75 U.S. Savings Bond
	Margie Macri	Ontario	Honorable Mention—Certificate
	Judy Coombs	Warren	Honorable Mention—Certificate
7 to 9	Susan Seaman	Ontario	First Prize—$100 U.S. Savings Bond
	Spencer Pohl	Albany	Second Prize—$50 U.S. Savings Bond
	Paula Burrichter	Chautauqua	Honorable Mention—Certificate
4 to 6	Dennis Samuelson	Chautauqua	First Prize—$50 U.S. Savings Bond
	Gloria Krieger	Kings	Second Prize—$25 U.S. Savings Bond
	Eileen Fitzmaurice	Herkimer	Honorable Mention—Certificate
	Albert Tivoli	Orange	Honorable Mention—Certificate
1 to 3	Larry Smith	Cayuga	First Prize—$50 U.S. Savings Bond
	Robbie Romaine	Westchester	Second Prize – $25 U.S. Savings Bond
	Paul Guido	Oswego	Honorable Mention—Certificate
	Herbert Kabisch	Suffolk	Honorable Mention—Certificate

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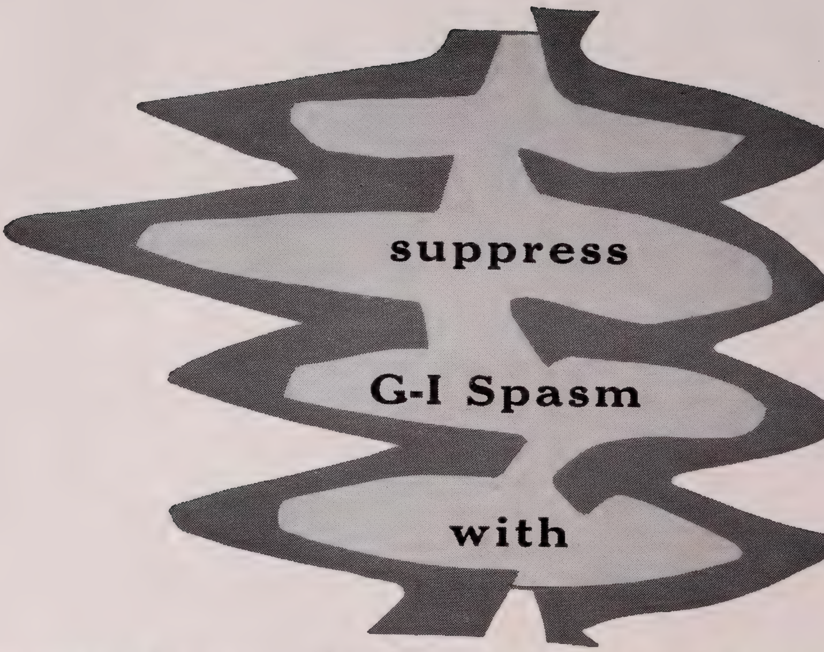
149th Annual Meeting, May 9 to 13, 1955, Hotel Statler, Buffalo



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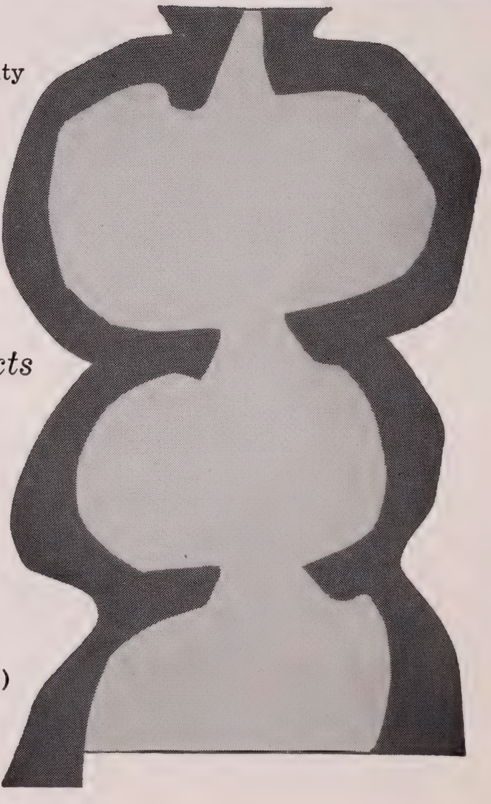

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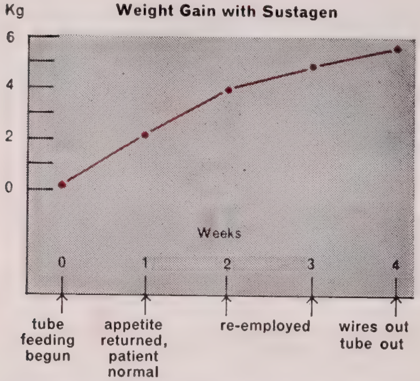

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*Pareira, M. D.; Conrad, E. J.; Hicks, W., and Elman, R.: J.A.M.A. 156: 810, 1954.

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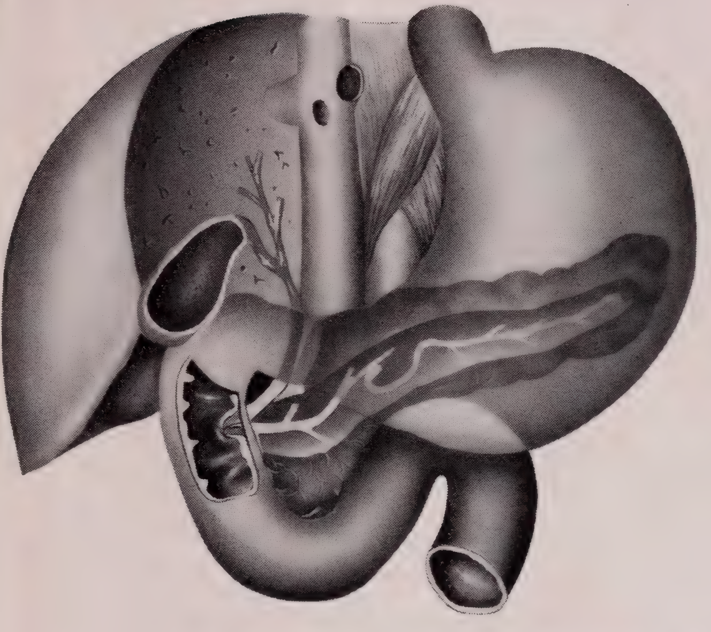

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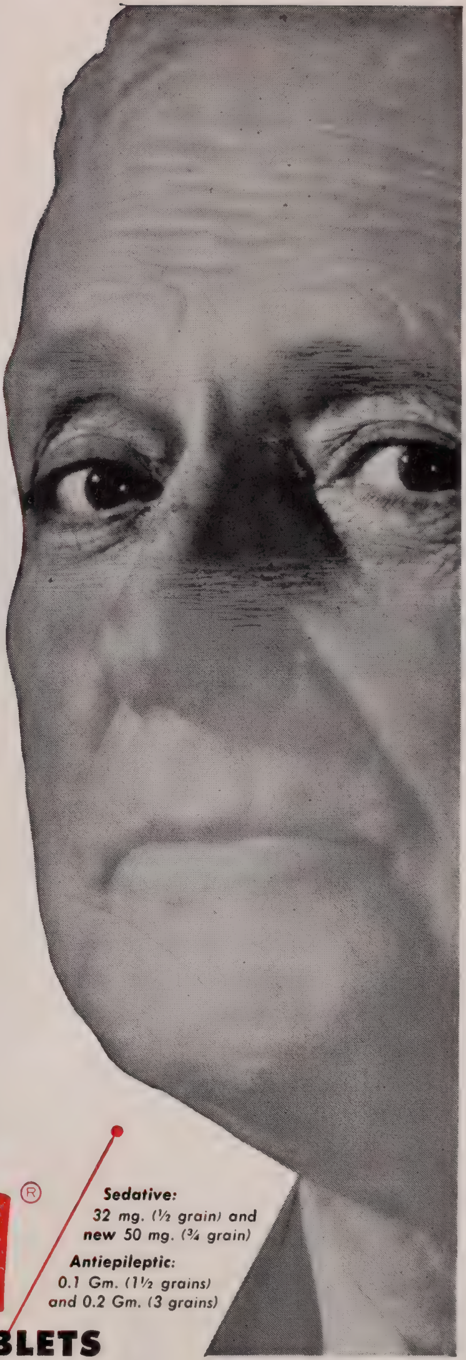

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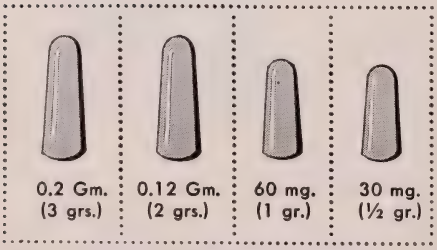

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1. Eisfelder, H. W.: Am. Pract. & Dig. Treat., 5:778 (Oct.) 1954.

2. Sebrell, W. H., Jr.: J.A.M.A., 152:42 (May) 1953.

3. Sherman, R. J., M.D.: Medical Times, 82:107 (Feb.) 1954.

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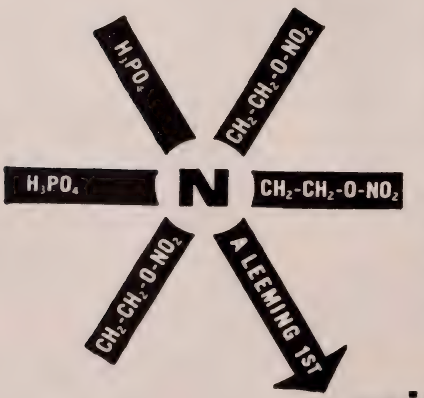

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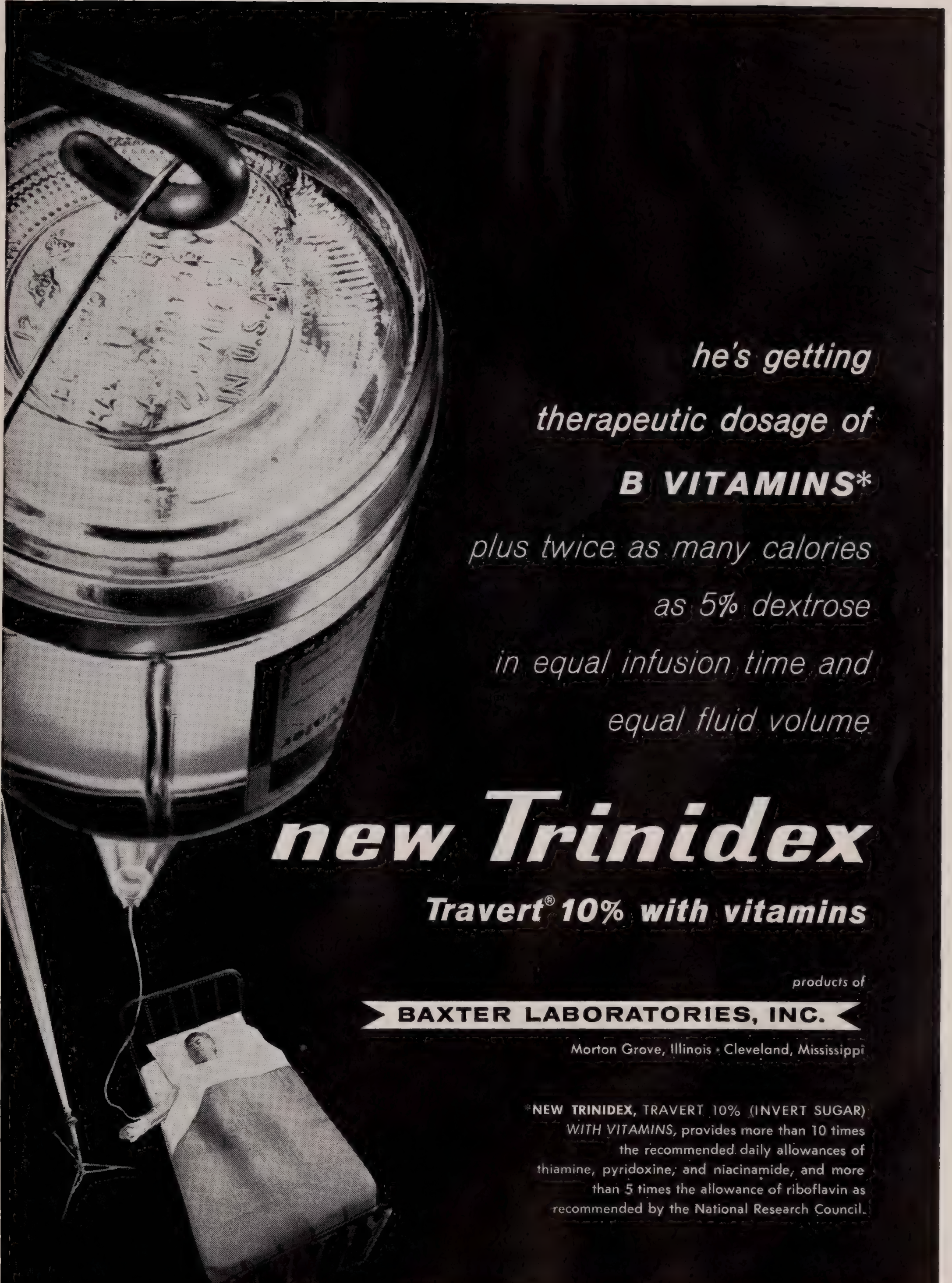
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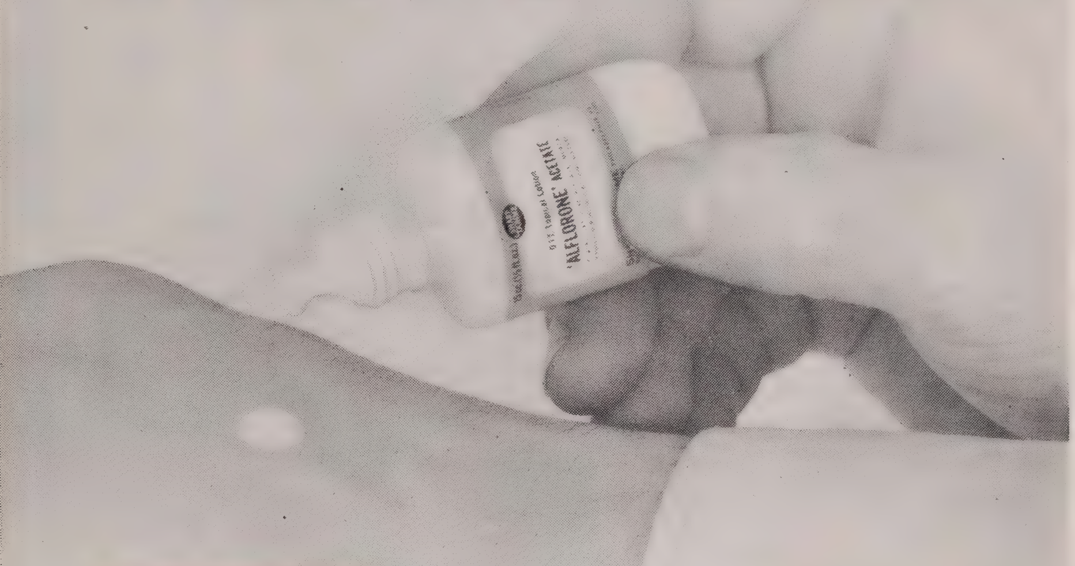

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MOST ECONOMICAL

Superior spreading qualities—a small quantity covers a wide area.

MOST ACCEPTABLE

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1. Merlis, S.: DIAMOX: A Carbonic Anhydrase Inhibitor—Its Use in Epilepsy. Neurology. 4:11, 863-866 November 1954.
2. Becker, B.: Decrease in Intraocular Pressure in Man by a Carbonic Anhydrase Inhibitor, DIAMOX. Am. J. Ophth. 37:1, 13-15 January 1954.

*REG. U.S. PAT. OFF.

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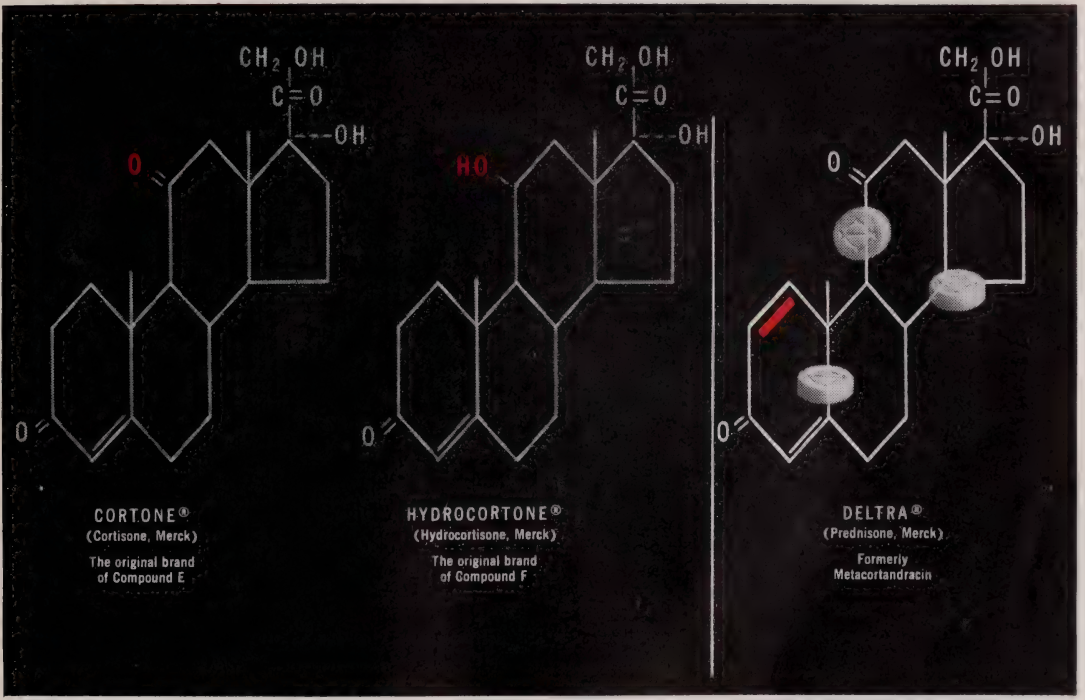
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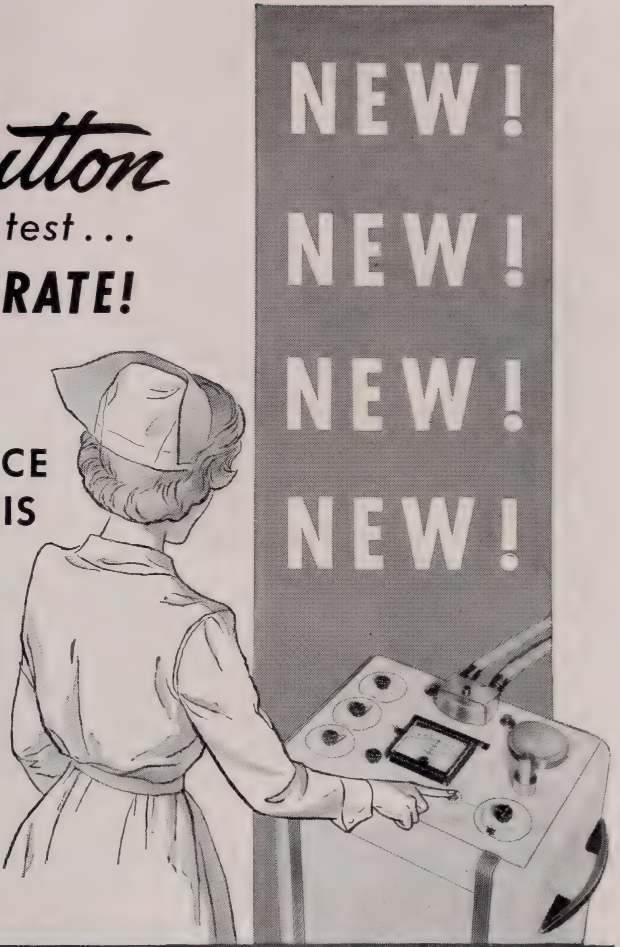
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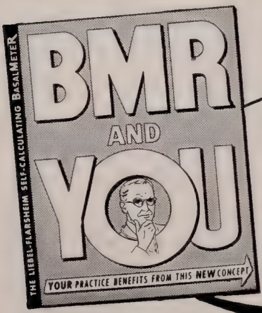
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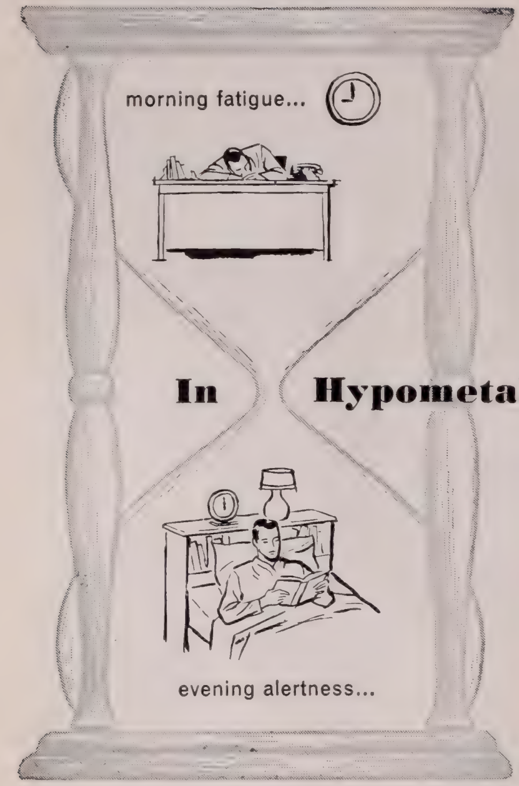
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(Watson, B. A.: N. Y. State J. Med. 54: 2049, 1954.)

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Standardized equivalent to Thyroid, U.S.P.; tablets of ½, 1 and 2 grains. Bottles of 100 and 1000.

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Corticloron® contains chlorprophenpyridamine gluconate and cortisone acetate.

†Seidmon, E. E. P., and Schaffer, N.: Ann. Allergy *12*:85, 1954.

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Diuretic and Myocardial Stimulant
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The appealing taste of meat, its appetite-stimulating quality, and its almost complete digestibility also are important in geriatric nutrition.

---

1. Rechtman, A. M., and Yarrow, M. W.: Osteoporosis, Am. Pract. & Digest Treat. 5:691 (Sept.) 1954.
2. Cannon, P. R.; Frazier, L. E., and Hughes, R. H.: Factors Influencing Amino Acid Utilization in Tissue Protein Synthesis, in Symposium on Protein Metabolism, New York, The National Vitamin Foundation, Inc., 1954, pp. 55-90.

The nutritional statements made in this advertisement have been reviewed and found consistent with current medical opinion by the Council on Foods and Nutrition of the American Medical Association.

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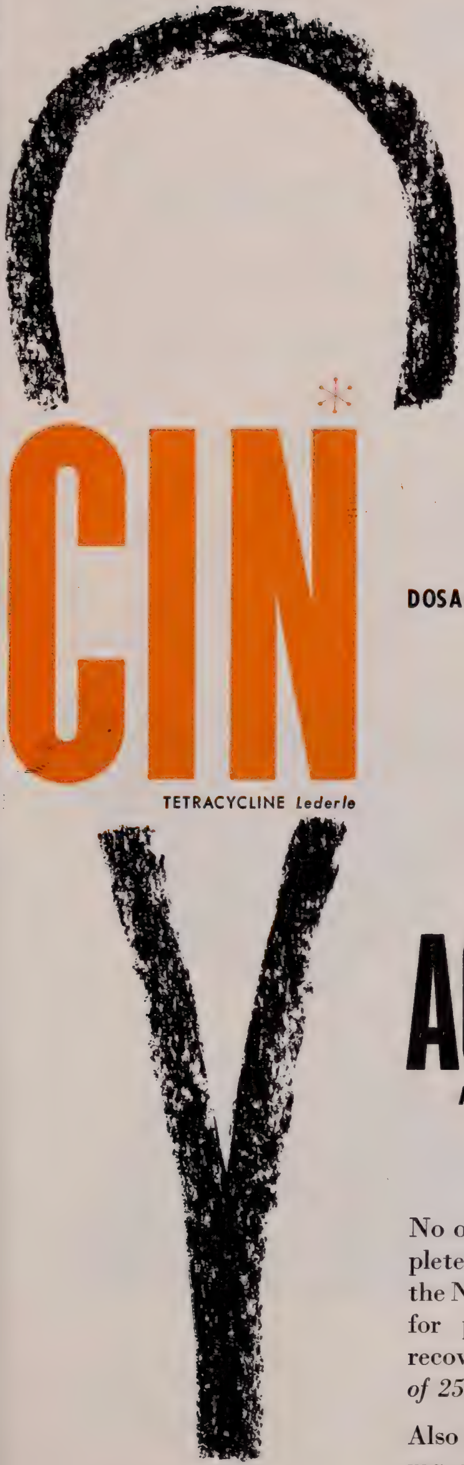

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ACHROMYCIN WITH STRESS FORMULA VITAMINS

dry-filled sealed capsules—a Lederle exclusive! No oil, no paste, tamper-proof. More rapidly and completely absorbed. Stress vitamin formula as suggested by the National Research Council. Prescribe ACHROMYCIN SF for prompt control of infection and rapid patient recovery, particularly in prolonged illness. *Capsules of 250 mg.*

Also available: ACHROMYCIN SF Oral Suspension: 125 mg. per teaspoonful (5 cc.), 2 oz. bottle.

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Spansule*

brand of sustained release capsules

made only by
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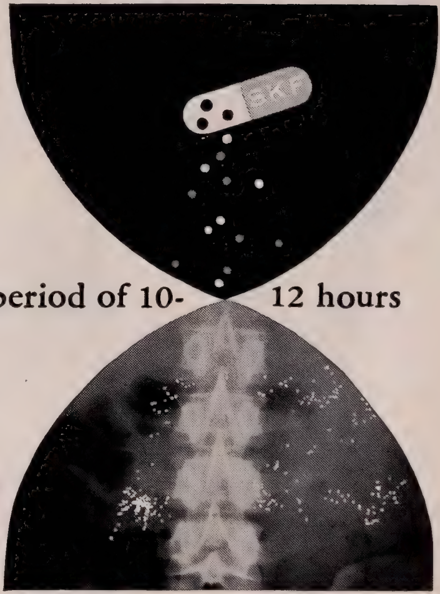
the originators of sustained release oral medication

for the continuous and

sustained mood-ameliorating

effect of 'Dexamyl' over a period of 10-12 hours

—with just *one* oral dose



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★T.M. Reg. U.S. Pat. Off. Patent Applied For.

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brand of oxytetracycline and hydrocortisone
topical ointment

when the
dermatologic
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double exposure

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1. Rukes, J. M., et al.: Metabolism 3:481, 1954.
2. Peterkin, G. A. G.: Brit. M. J. 1:522, 1954.

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Any patient sick enough to need broad spectrum antibiotics deserves the added protection against monilial superinfection afforded by

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better tolerated broad spectrum antibacterial therapy

plus

antifungal prophylaxis

in one capsule

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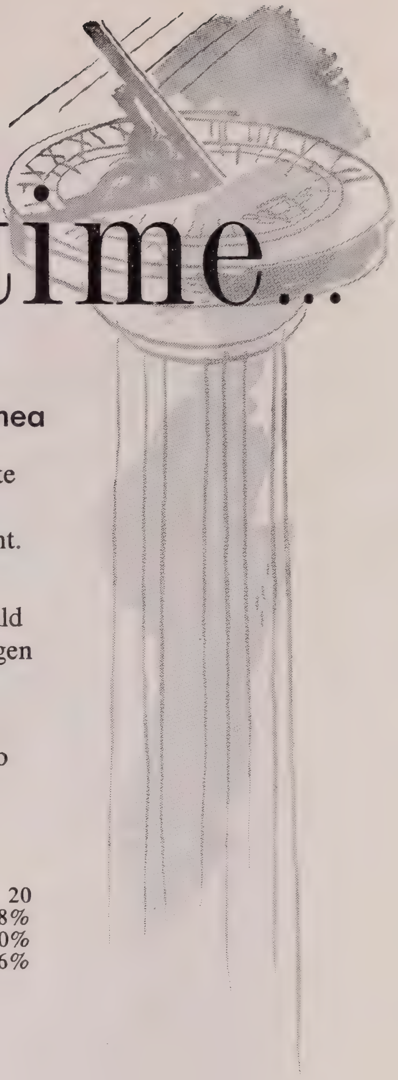

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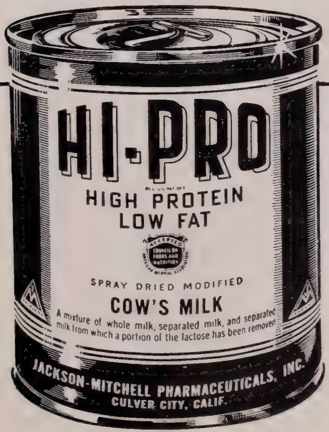
[1] Jeans, P. C. & Marriott W. McK. Infant Nutrition; 4th ed.
[2] Holt, E. M. Diseases of Infancy; 11. 223.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Cohen, I.M.: Am. J.M. Sc. 229:355 (April) 1955.

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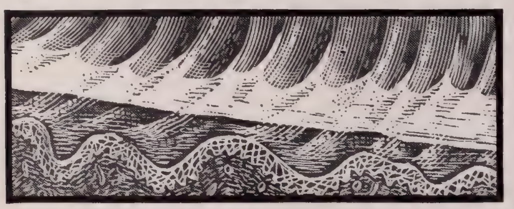
Vagisec liquid is the new trichomonacide that explodes trichomonads within 15 seconds. It is a unique combination of three surface-acting chemicals which penetrates to hidden trichomonads and eliminates failure of treatment and flare-ups due to lack of penetration.



Vagisec liquid penetrates to trichomonads buried among the vaginal rugae and imbedded in mucus and desquamated cells.

Hidden trichomonads. Trichomonads do not exist in the vaginal secretion alone. They are vigorously motile and burrow deeply into the surface of the vaginal mucosa where cellular debris and mucus cover them. Vagisec liquid lowers surface tension, penetrates the cellular debris and dissolves mucoid material[1,2] that lines the vaginal wall and lies buried among the rugae. It reaches and explodes hidden as well as surface trichomonads.

Unique synergistic action. Vagisec liquid combines a chelating agent to complex and remove the trichomonad's calcium, a wetting agent to remove its lipid material, and a detergent to denature its proteins. The trichomonad swells up and explodes. *No other agent or combination of agents kills the trichomonad in this specific fashion, or with this speed.*

Trichomonads explode within 15 seconds. "Motion pictures taken through a phase-contrast microscope at 24 frames per second show that individual trichomonads are destroyed within 10 to 14 seconds after contact with a 1:250 dilution."[3]

The Davis technic. The remarkable speed and unique synergistic action of this new trichomonacide are the result of the intensive research of its originators, Dr. Carl Henry Davis, well-known gynecologist and author and C. G. Grand, research physiologist, who introduced the agent as "Carlendacide" and had it clinically tested by over 100 leaders in obstetrics and gynecology. "Those who have followed the plan of treatment as closely as possible, have had better than 80 per cent of cures among non-pregnant patients with one course of treatment."[3] For "the small percentage of women who have an involvement of cervical, vestibular or urethral glands, other treatments will be required."[3]

Office treatment. Expose vagina with speculum. Wipe walls dry with cotton sponges and wash thoroughly for about three minutes with a 1:250 dilution of Vagisec liquid. Remove excess fluid with cotton sponges. Office treatments are an integral part of the Davis technic.

Home treatment. Prescribe both Vagisec jelly and Vagisec liquid for home treatment. Patient inserts Vagisec jelly each night and douches with Vagisec liquid (1 teaspoonful to a quart of warm water) each morning, except on office treatment days. (Standard douche bag holds 2 quarts.)

Summary. Vagisec liquid penetrates to hidden trichomonads and explodes them in 15 seconds. Vagisec jelly and liquid are non-toxic and non-irritating, leave no messy discharge or staining. The Davis technic is a triple combination of 1) Vagisec liquid in office treatment; 2) home treatment with Vagisec jelly at night and 3) douche with Vagisec liquid in the morning. Vagisec jelly and liquid have been clinically tested and proved a remarkably fast-acting, effective treatment for vaginal trichomoniasis. Because of greater penetration, this therapy results in fewer flare-ups.

1. Davis, C.H.: Am. J. Obst. & Gynec. *68*:559 (Aug.) 1954.
2. Davis, C.H.: West. Jour. Surg. *63*:53 (Feb.) 1955.
3. Davis, C.H.: J.A.M.A. *157*:126 (Jan. 8) 1955.

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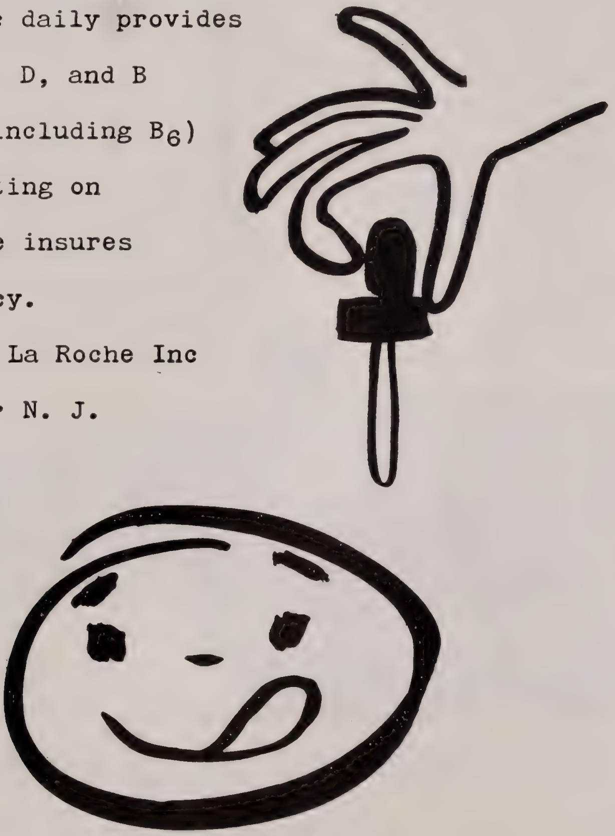

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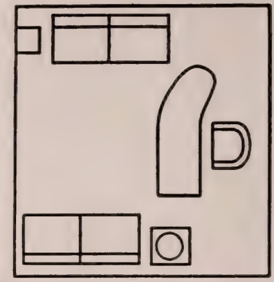

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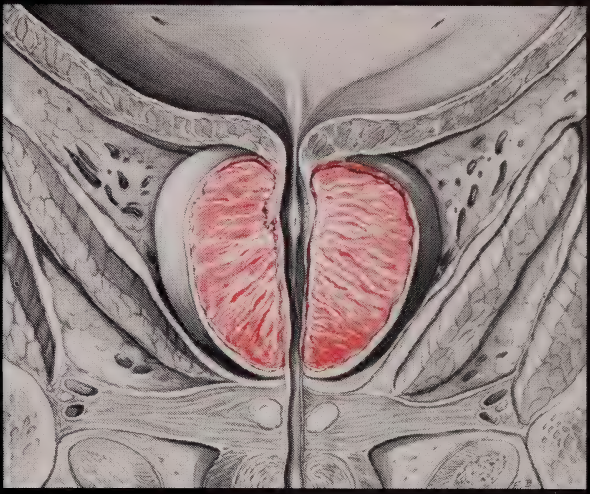

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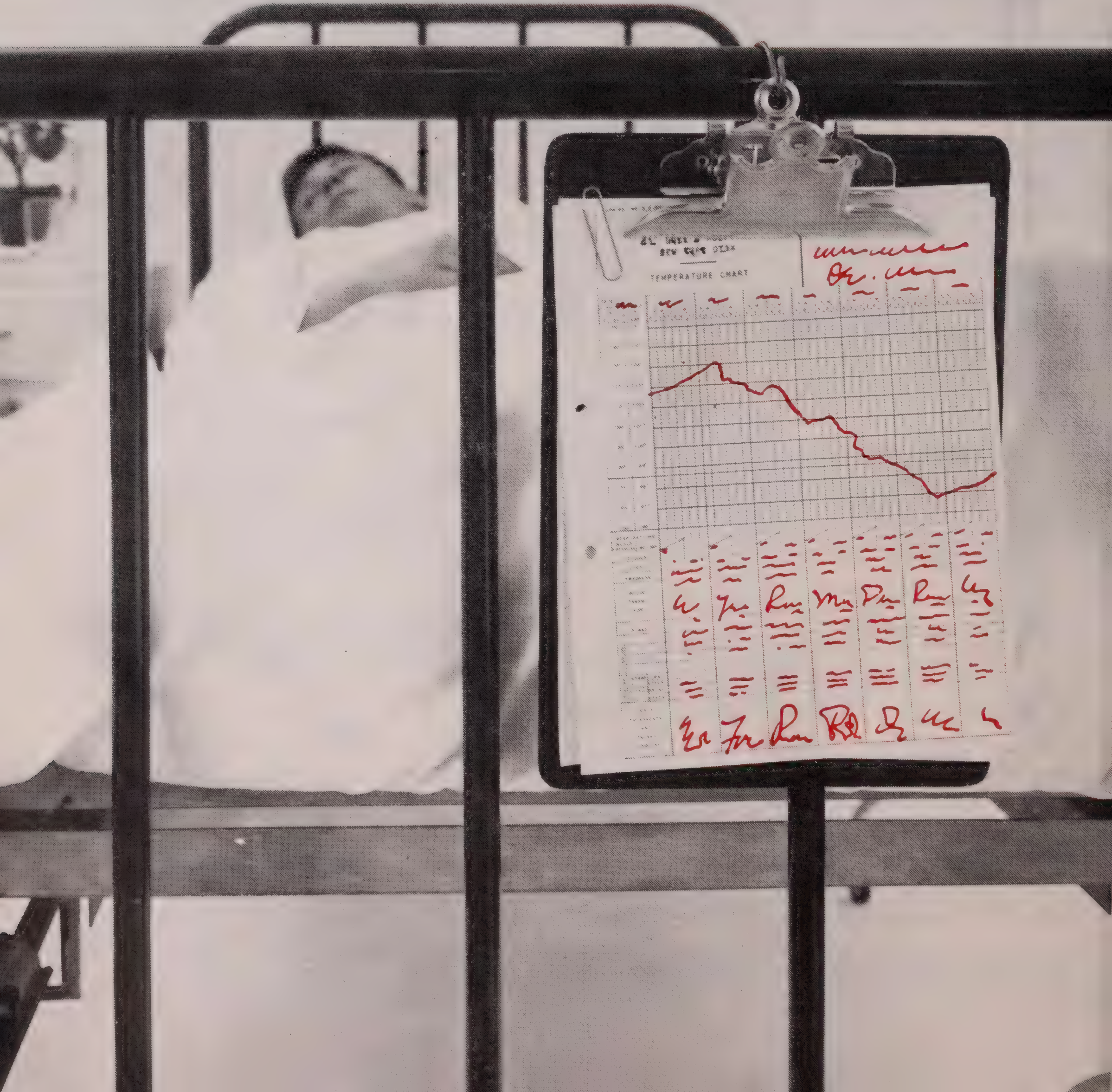
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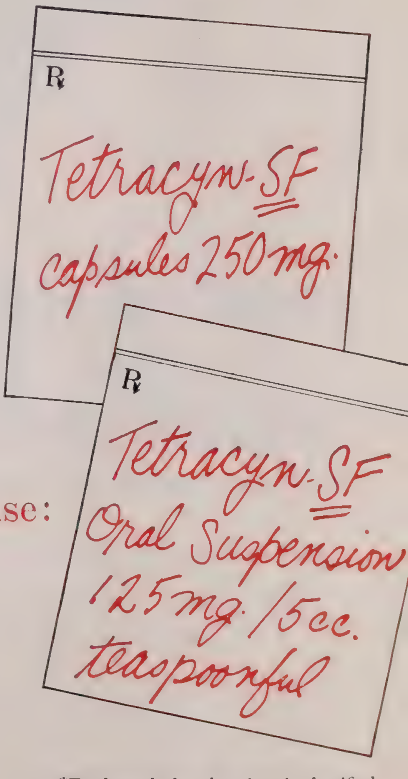

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1. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, Prepared in Collaboration with the Committee on Therapeutic Nutrition, Food and Nutrition Board, National Research Council, Washington, D. C., 1952.
2. Martí-Ibáñez, F.: Antibiotic Med. *1*:247 (May) 1955.
3. Dumas, K. J.; Carlozzi, M., and Wright, W. A.: Antibiotic Med. *1*:296 (May) 1955.

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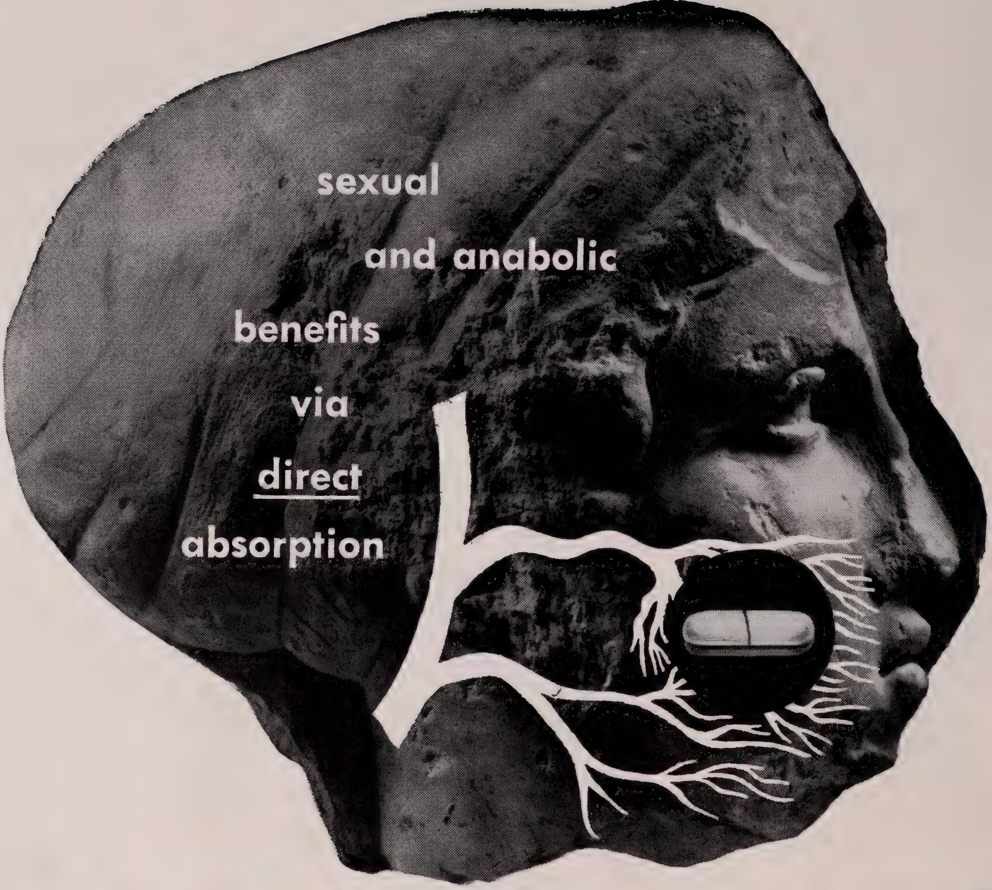

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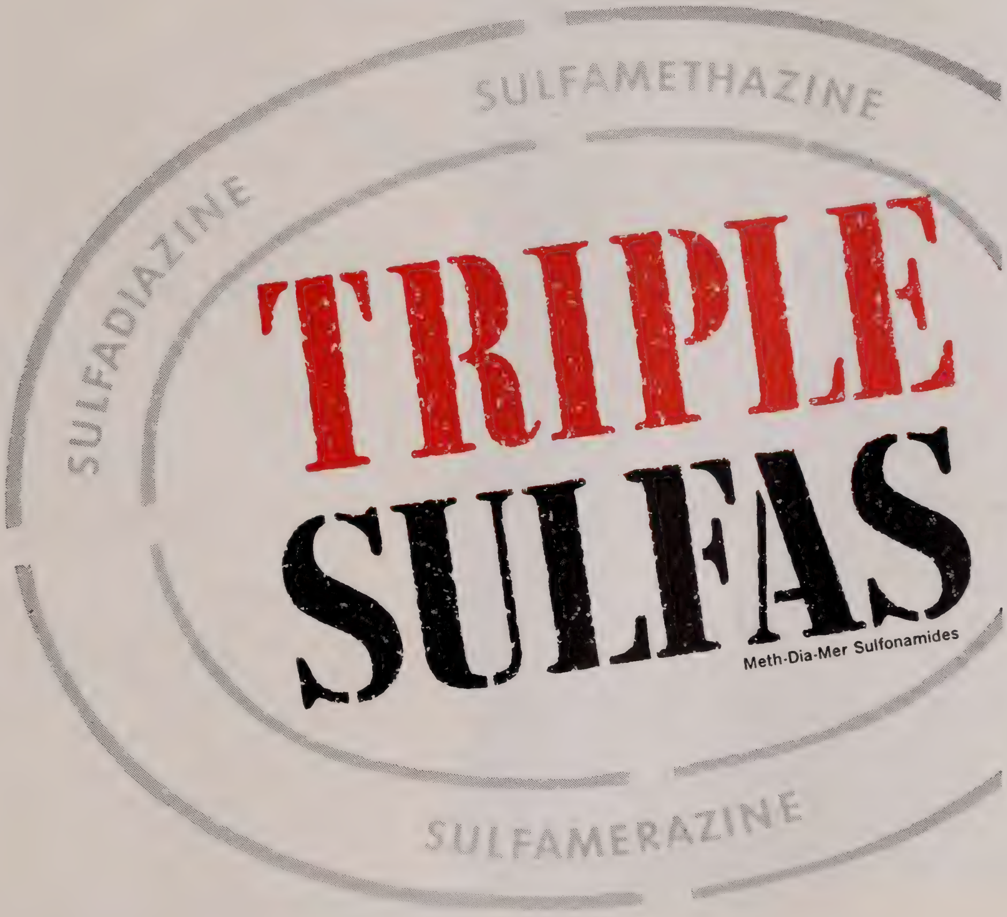

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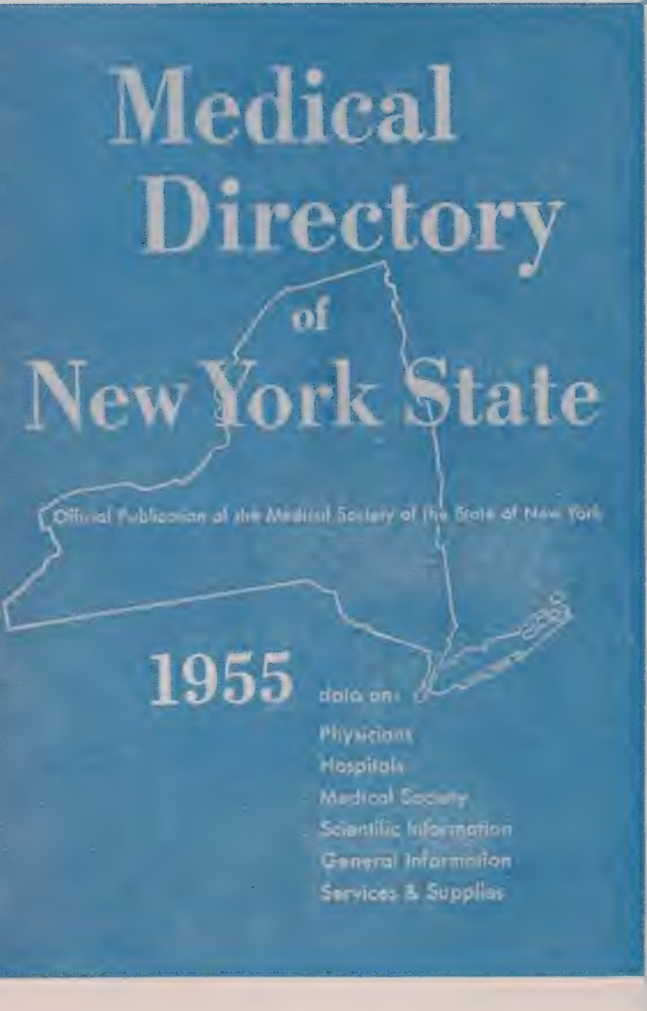

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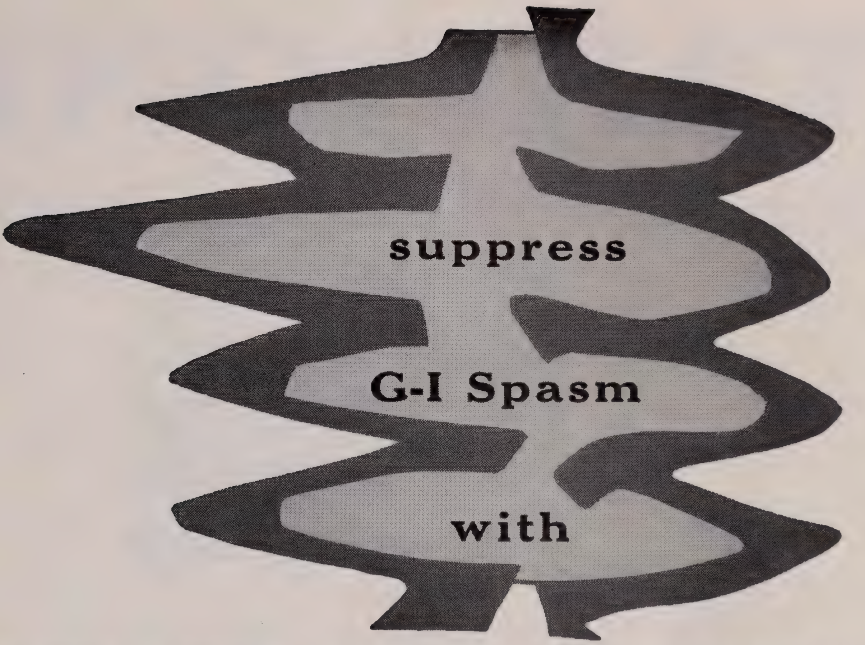

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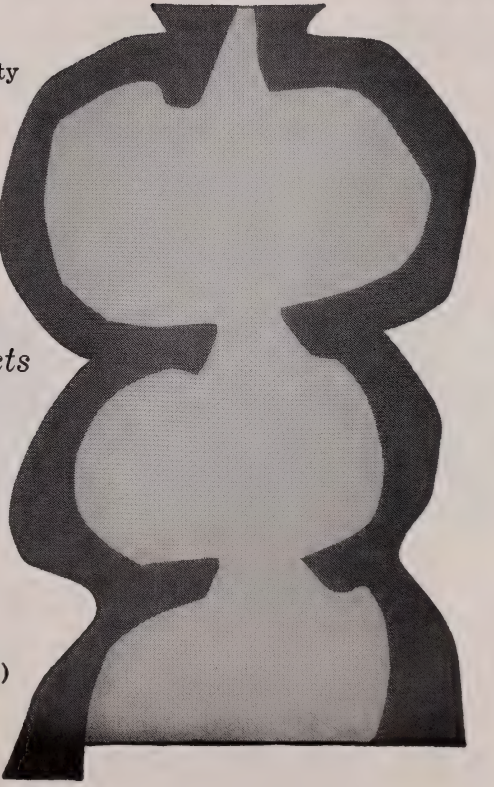

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(1) Dordick, J. R., and Gluck, E. J.: Preliminary clinical trials with metacortandracin in rheumatic diseases. Comparative antirheumatic potency, metabolic activity and hormonal properties, J.A.M.A., in press. (2) Bunim, J. J.; Pechet, M. M., and Bollet, A. J.: J.A.M.A. *157*:311, 1955. (3) Barach, A. L.; Bickerman, H. A., and Beck, G. J.: Clinical and physiological studies on the use of metacortandracin in respiratory disease. I. Bronchial asthma, Dis. Chest, in press. (4) Schwartz, E.: Personal communication.

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EDITORIALS

Air Pollution Abatement

According to recent reports, many states during 1955 will attempt to abate the nuisance of air pollution, by the passage of new laws. The term "nuisance" is here used because of its derivation from the Latin *nocentia* meaning guilt, *nocere* to hurt, harm; "that which annoys or gives trouble and vexation; that which is offensive or noxious," according to Webster's Collegiate dictionary. Such pollution may vary from the annoyance of unacceptable odors to irritating or actually poisonous contaminants. The word "nuisance" carries with it by derivation the implication of guilt, and surely such nuisance is an offense against the human race as well as the animal kingdom, for both are dependent upon the air for maintenance of life and the enjoyment of living.

The problems are so vast in our present industrial civilization and so various geographically that much study and experiment seems to be necessary before appropriate legislative programs can be formulated. California, Oklahoma, Delaware, Oregon, Washington, New Jersey, and Arizona, for example, reportedly are planning air pollution control legislation. Attack on the problem ranges from municipal to county and state levels.

Among recent steps to deal with the Los Angeles "smog" problem are those of the Los Angeles County Board of Supervisors which has ordered a draft of regulations covering six objectives in that area:

1. Curtailing, reduction, or relocation of air-polluting industries.
2. Elimination of excessive fumes from automobile exhausts.
3. Compulsory use by trucks and buses of liquefied petroleum gas fuel, such as propane, to minimize fume emissions.
4. Development of equipment to minimize fumes from spillage and other causes at gasoline stations.
5. Elimination of open-air refinery adjuncts such as "skimming ponds" and petroleum waste pits.
6. Elimination of fumes from trucks transporting gasoline.

The Los Angeles County Board also set up a panel of 15 scientists to draft criteria for the operation of a smog warning system. In the first of three phases contemplated for the warning system, when a smog accumulation begins to become severe, "variance" permits allowing some industrial plants to exceed the basic limits of pollution emission would be canceled, and backyard incineration would be stopped.

During the second phase of smog severity all industries would be required to curtail operations to decrease fumes. In the third phase all industries emitting fumes would be stopped from operation, and all traffic except emergency vehicles also would be halted.

The Los Angeles supervisors further had under consideration a two million-dollar smog research program for 1955 proposed by the Southern California Air Pollution Foundation.

Established by business and civic leaders to complement the work of the Los Angeles County Air Pollution Control District, the foundation reported after a year's preliminary study that industry bore only secondary responsibility as a smog source and that about twice as much pollution was attributable to the area's millions of automobiles and backyard incinerators.[1]

While air pollution problems in the Empire State are somewhat different from those of the Los Angeles area, the above noted proposed regulations and research might well be studied by our membership insofar as they may be applicable to our own health problems arising out of the air pollution nuisance.

Every citizen shares a responsibility for the cleanliness and purity of the air we all must breathe to remain alive. For purely selfish reasons, if for no higher motivation, he or she should insist upon intensive study and action by the proper authorities without delay. The physicians of the State would seem to have a triple responsibility in this matter as consumers, taxpayers, and guardians of the public health.

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[1] Bethune Jones Supplemental Report, January 1, 1955.

Some Problems of Medical Licensure

Writing thoughtfully on the subject of the educational component of medical licensure with particular reference to the problem confronting this country, Dr. Willard C. Rappeleye, dean of the Faculty of Medicine of Columbia University,[1] reviews the status of the foreign medical school graduates. He states that a threat of "considerable magnitude" is now confronting the licensing bodies, the medical profession, and the country. As of now the "question as to whether or not we have multiple levels of practice is no longer hypothetical. We are establishing double standards." He recognizes that there are many explanations for this situation; for example, inadequate facilities abroad in what we regard as preprofessional preparation and a "dearth of laboratories, teaching personnel, and clinical instruction."

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[1] J.A.M.A. **154:** 1212 (Apr. 3) 1954.

The public of this country, he says further, "has a right to expect that professional education shall have determined as far as possible the character, integrity, industry, resourcefulness, reliability, motivation, and personality" of the persons applying for medical licensure as well as having provided "an adequate intellectual preparation." As regards many foreign students the fact is that in most instances "they have not had, nor could they obtain in their country, a satisfactory professional education." However, a few are "highly competent" in spite of inadequacies of training.

It is the present policy of the United States government in its effort to foster international good will, says Dr. Rappeleye, to admit into this country large numbers of displaced persons . . . . They include a considerable number of physicians about whose professional ability no questions are asked. Recent legislation will permit the entrance of several hundred thousand immigrants above the previous quotas, among whom will be many doctors. This will be "almost certain to lower the general level of practice in this country during the next several decades."

Allegedly there are many hospitals approved for internships and residencies that provide little or no supervision or training. This puts the responsibility "directly upon the staffs of individual hospitals, upon the profession, and upon the hospitals." Efforts are being made in some institutions to strengthen the instructional program through proper guidance of qualified persons on the house staff. "The situation has reached serious proportions in certain sections of the country. About one in four of all interns and residents in the hospitals of the country is an alien. The number of foreign interns has doubled in the last three years, and alien residents have increased about 300 per cent in the same period. About 48 per cent of all house staffs of the hospitals of the state of New Jersey, for example, are graduates of foreign medical schools, mostly nonapproved. This whole problem of internships and residencies is aggravated, as we all know, by the demands of the defense services, which have temporarily created a vacuum in the normal process of medical training, of which the internship and residency are recognized as essential parts, and this has produced widespread shortages in house staffs."

The medical schools of the country are already overloaded and understaffed. To dilute the efforts of existing medical schools is certainly no answer to this problem in Dr. Rappeleye's opinion. As he sees it, the licensing bodies and the medical profession of the United States are obviously confronted with a situation that is largely out of their control. The physicians are here; practically all of them plan to remain.

What is the answer? It is easier to state the problem than to propose a satisfactory solution, yet the facts have to be faced. Provision of a real supervised educational experience for recent medical graduates is an important first step. Review of a "far too liberal policy of approval" of hospitals for alleged internships and residencies should follow. Better screening of graduates of the foreign schools by practical examinations while difficult, could be of help.

Finally, Dr. Rappeleye urges a long-range program while recognizing the necessity for dealing with the inescapable realities of the present situation. "Regardless of what we do temporarily, we must at least recognize the pressure to create two standards of medical practice in the United States at the present time, which will have particular significance for the near future. We are rapidly creating two classes of citizens in terms of medical care received. Those of the first class will be attended by graduates of approved medical schools; those of the second class will receive medical care largely by graduates of unrecognized medical schools. Unless this situation is met with courage and the conviction that we shall not surrender the results of forty years of effort in raising the standard of medical licensure, practice, and education in this country, we shall be faced with conditions resembling those of fifty years ago and with the prospect in twenty to twenty-five years from now of having to go through another reformation in medical education and licensure. Those who cannot remember the past are condemned to repeat it. There is no need to view this matter with undue alarm, but the facts now seem to be well established. It is the responsibility of our licensing bodies, of the profession, of hospitals—particularly their medical boards—and of the educational institutions, so far as they can play a part, to combine their efforts in dealing with the influx of foreign graduates from substandard medical schools. We have an obligation and a challenge that it is our duty to accept if we are to continue our determination that professional education, in the fullest connotation of that term, must be the most important single component of medical licensure."

We hope that our readers will consult the full text of Dr. Rappeleye's article, of which only a few significant excerpts and quotations are here possible. His introductory remarks on the history and purpose of medical licensure from 1140–1910 should be known to all physicians who have to deal with the problems herein summarized.

William H. Ross, M.D.

Dr. William H. Ross, president of the Medical Society of the State of New York for 1930–1931, and for many years a member of its Board of Trustees, died on May 10, 1955, at the age of ninety-two.

Dr. Ross was graduated from the Columbia University College of Physicians and Surgeons, New York City, in 1888. He was elected a trustee on March 30, 1926, and served through March 14, 1929. In 1929 he resigned as trustee to become president-elect of the Society, but on May 25, 1937, he was again elected a trustee, in which capacity he served until his resignation on December 17, 1952.

He was elected delegate to the American Medical Association 1932 and 1933, and again elected to serve for the years 1934 and 1935.

Dr. Ross began his practice in Brentwood, Long Island, about sixty-seven years ago. He founded the Suffolk County Tuberculosis and Public Health Association there and was its president from 1920 to 1932; he then served as chairman of the executive committee of that association from 1932 to 1951. He was president of the Board of Health from its establishment in 1928. He was also president of the board of managers of the Suffolk Sanatorium in 1932 and was appointed by Governor Franklin D. Roosevelt as a member of the special commission to revise the public health law of New York State.

Dr. Ross served his community and the Medical Society of the State of New York well and constructively. May he rest in peace.

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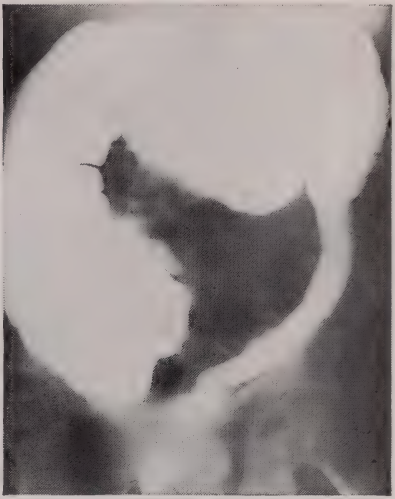
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SCIENTIFIC ARTICLES

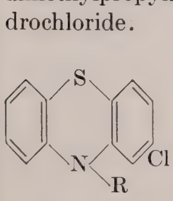
Chlorpromazine—An Adjunct to Premedication

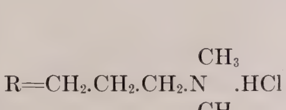
Clinical Report Based on 1,100 Cases

ERWIN LEAR, M.D., ALBERT E. CHIRON, M.D., AND IRVING M. PALLIN, M.D., BROOKLYN, NEW YORK

(*From the Department of Anesthesia, Jewish Hospital of Brooklyn*)

Since 1942 the amine derivatives of phenothiazine have been studied by the French because of their specific effects, primarily antihistaminic and antiparkinsonian. Early in the course of study of these compounds, "the impression of annihilation," "lethargy," and "anesthesia similar to novocaine" produced by these drugs were pointed out by French investigators.[1] In 1948 Winter observed the potentiating effects of various antihistamines on barbiturates in mice. He found that promethazine caused a marked barbiturate potentiation.[1] Two years later, Laborit introduced promethazine (Phenergan) to clinical anesthesia.[1] While searching for phenothiazine derivatives similar to promethazine but with a more marked central action, Charpentier[2] at the laboratories of Rhone-Poulenc-Specia, synthesized chlorpromazine (RP4560) or 10-(3-dimethylpropylamine)-2-chlorphenothiazine hydrochloride.





$$R{=}CH_2.CH_2.CH_2.N\begin{array}{l}CH_3\\ \\ CH_3\end{array}.HCl$$

In addition to its marked adrenolytic effect at the periphery, chlorpromazine is thought to exhibit its central effects either at the level of the hypothalamus or on the reticular activating system.

Experimentally, it has been shown that the posterior collection of nuclei within the hypothalamus are concerned with sympathetic control.[3] The hypothalamus has also been shown to exert modifying influences on temperature regulation and on the sleep processes. Furthermore, chlorpromazine exhibits parasympatholytic activity; the anterior collection of nuclei within the hypothalamus are said to be concerned with the regulation of parasympathetic actions. Aron[4] feels that chlorpromazine suppresses "the neuro-hypophysis-adrenal connection at the level of the hypothalamus." This axis is responsible for reaction to stress phenomena; chlorpromazine is said to offer protection from stress by altering the organism's ability to respond to "external aggressions."

Recently Magoun and others[5,6] have demonstrated the existence and the neurophysiology of the reticular activating system. This multineuronal formation is medially situated in the brain stem and extends from the level of the lower pons to the ventromedial thalamus. The reticular formation is apparently responsible for maintaining a state of awareness or alertness at the cortex; it is a common transport system for all modalities. Interruption of this pathway causes somnolence despite intact classic paths transmitting sensory stimuli cephalad from the periphery. If, on the other hand, the reticular formation is allowed to remain intact but the classic lateral pathways are interrupted, an experimental animal retains its normal pattern of wakefulness and of sleep, as demonstrated by electroencephalograms. Several investigators utilizing electroneurophysiologic technics have demonstrated depression of the reticular formation by chlorpromazine, and it is their belief that the central action of this drug can be explained on the basis of depression of the reticular activating system.[7,8]

Laborit[9] pioneered the use of chlorpromazine in France as an ingredient of his "lytic cocktail," used primarily for "artificial hibernation." Briefly, his technic for preparing "an old man in rundown condition who is to undergo major surgery" is as follows: On the evening prior to surgery the patient receives 100 mg. of Nembutal and 150 mg. of Phenergan by mouth. The following morning, three hours preoperatively he receives 150 mg. of Phenergan and 100 mg. of Dolosal intramuscularly. A glucose or Dextran intravenous drip is set up two hours before surgery, and finally one and one-half hours preoperatively 2 ml. of the "lytic cocktail" are diluted and given slowly intravenously while the patient's vital signs are checked. As it becomes necessary, more solution is used; its contents are Phenergan 50 mg., Dolosal 100 mg., and chlorpromazine 50 mg. One hour before surgery cooling is begun.

From France this technic found its way to the rest of the continent, Great Britain, and eventually the United States where hypothermic technics offered the surgeon an opportunity to work about the heart and great vessels for longer periods of time than had been possible in the past with standard methods.

Slowly a voluminous literature on chlorpromazine began to appear in this country: The drug was found useful in combating nausea and vomiting of diverse etiologies; some reported on its value in potentiating narcotics in the palliative treatment of malignant disease; chlorpromazine found widespread use in the field of psychiatry; it aided alcoholics in their separation from the habit; and last it found its way, however gingerly, into the general field of anesthesia, distinct from hypothermia. Here the many actions of this compound, some startling as they occurred, came under scrutiny of numerous investigators.

Because of the ability of chlorpromazine to potentiate many other drugs, some commonly used in anesthesia, we decided to attempt a clinical study of this interesting property. It was felt that if chlorpromazine permitted us to use smaller amounts of preoperative narcotics and still have a sedated patient with a lower reflex irritability, its use in clinical anesthesia would appear justified.

The dosage schedule of chlorpromazine* ranged from 25 to 50 mg. intramuscularly two hours prior to major surgery of short duration, such as thyroidectomies and cholecystectomies, and one hour prior to long procedures, such as chest work and radical bowel surgery. In addition, Demerol 25 to 50 mg. and scopolamine 0.2 to 0.3 mg. were given intramuscularly one hour preoperatively. Using this method of premedication, we found that the majority of patients (over 90 per cent) could be adequately sedated with the amounts of Demerol and scopolamine noted above; these doses represent one half or less of the drugs required for analogous results before the chlorpromazine study was undertaken. The relative absence of respiratory depression in these patients as compared to those individuals receiving full doses of Demerol or morphine (100 mg. or 10 mg.) without chlorpromazine is worthy of note.

Reckless,[10] while studying the effect of chlorpromazine, noted that it was effective in causing a reversal of respiratory depression produced by narcotics and states that "paradoxical potentiation is suggested."

While the literary pendulum continually swings between the negative and affirmative on the matter of the effect of chlorpromazine on pulmonary ventilation, it is our experience that with this agent as part of the premedicating scheme, the incidence of the ruddy faced, freely perspiring, postoperative patient has diminished. This is probably the result of lesser amounts of depressing narcotics before surgery, often less anesthetic required during surgery, and last to the nalorphine effect suggested by Reckless.

An interesting observation is the fact that these patients will accept the anesthesia mask more readily and clinically appear to undergo little or no excitement state; we have been impressed by the marked reduction in breath-holding during cyclopropane inductions. The ease of induction becomes deceptive for those anesthesiologists unfamiliar with chlorpromazine; the patient appears adequately asleep until the surgeon opens peritoneum when the patient responds by breath-holding or bucking on the endotracheal tube. Analogous situations occur in other surgery such as the chest when periosteum is stripped from the rib. In thyroid surgery, too, exploration of the paratracheal depths will cause a patient who previously appeared adequately anesthetized to buck on the endotracheal tube.

With further experience it became apparent that a significant number of patients premedicated with chlorpromazine required less agents to attain and to maintain a given level of anesthesia as compared to our experiences with similar surgery and the same general group of surgeons. We also noted that those patients who required usual amounts of agents ran a very smooth course, an almost automatic anesthesia. Patients who were intubated on a barbiturate-succinyl choline sequence required smaller amounts of both agents and subsequently tolerated the endotracheal tube better. We observed marked barbiturate potentiation in "stealing patients" for thyroid and radical breast surgery. Significantly smaller amounts of Pentothal have been required for maintaining sleep as these patients are transported to the operating room with subsequent ease of induction and without the respiratory difficulties often seen in patients who have been induced with Pentothal.

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* Supplied by Smith, Kline & French Laboratories in the form of 2-cc. ampuls containing 25 mg. of thorazine per cc.

One of our earliest cases which required less anesthetics was that of a well-developed, well-nourished, apprehensive twenty-year-old female who was brought to the operating room for reparative hip surgery. The patient received Demerol 100 mg. and scopolamine 0.4 mg. intravenously one-half hour before surgery. The surgeons informed us that the procedure contemplated would be time-consuming; we decided to try chlorpromazine, hoping to potentiate the Demerol already given and the Pentothal which was soon to be used. The surgery and the application of a body spica, during which time the patient was to be kept asleep, consumed nearly five hours. During all this time the patient was carried on nitrous oxide, oxygen (2 : 1), and 100 ml. of sodium Pentothal 0.4 per cent as an intravenous drip. The patient was easily aroused after the completion of surgery and during the immediate postoperative period, but she would remain asleep when left undisturbed. Subsequently we have had similar experience with patients premedicated under the scheme set forth earlier in this paper.

Not only did it become obvious that less succinyl choline was required for intubation, but also less drug was needed for ordinary muscle relaxation in many cases of high abdominal surgery. There appeared to be a decrease in the amount of succinyl choline needed for those of our surgeons who were doing prolonged, radical cancer surgery and who required maximum relaxation for long periods of time. One of these surgeons frowns on the use of spinal anesthesia for his patients, and hence various members of the department working with him have used as much as 1 L. of 0.1 per cent succinyl choline in four to five hours. With chlorpromazine as part of the premedicating schedule, it is now possible to provide this surgeon with adequate relaxation using one-fourth to one-fifth the amounts of succinyl choline. A satisfactory degree of muscle relaxation can be obtained with little or no respiratory depression.

In our department preliminary studies[11] are under way using Sucostrin as the relaxant in rabbits. The animals are pretreated with chlorpromazine subcutaneously and then run through the standard head-drop test in an effort to study possible synergism. The data so far do not confirm synergism at the motor end plate but suggest that chlorpromazine acts centrally, independently producing a generalized hypotonia.

The most alarming side-effect of chlorpromazine encountered to date has been a severe hypotension with pressure readings as low as 50/30, more frequently 60/40 mm. Hg. Early in the study patients were followed with postoperative electrocardiograms. In the first 12 patients so studied there were no significant electrocardiographic changes when compared to preoperative tracings; included in this group were five patients with abnormal tracings prior to surgery. Urinary output showed no significant alteration when compared to nonhypotensive postoperative patients. During our earlier experiences with hypotension, we attempted to raise the blood pressure with a number of vasopressors (Desoxyn, Vasoxyl, ephedrine, and Neo-Synephrine); none of these drugs was found to raise the blood pressure consistently in the hypotension we encountered, even with maximal intravenous doses, and particularly after barbiturates. Levophed is an extremely potent pressor agent; although its potency is somewhat attenuated by chlorpromazine, it is said to give consistent rises in the fallen blood pressure. We have not yet felt it necessary to resort to this agent. In the presence of adequate fluid replacement it has been our experience that the chlorpromazine hypotension will correct itself within a matter of a few hours.

It is also important to note at this time that the patients under chlorpromazine are extremely sensitive to postural changes, much the same as patients under spinal anesthesia; hypertensive individuals, as one might, expect show more severe pressure falls. We have made use of posture and of chlorpromazine to produce hypotensive anesthesia. On occasion 25 to 50 mg. of the drug diluted in 10 to 20 ml. of normal saline have been given intravenously in the operating room to lower blood pressure. An interesting observation is the reduction in blood loss, even in the absence of significant hypotension.

Chlorpromazine hypotension has frequently extended into the immediate postoperative period and, therefore, must be distinguished from the hypotension of true shock. In our experience chlorpromazine hypotension does not extend beyond four to six hours. The typical pattern of clinical shock reveals a patient of ashen hue and labored respirations, a cold and perspiring skin with collapsed veins, a weak and thready pulse, cyanotic nailbeds, and a falling blood pressure. Chlorpromazine patients are warm, dry, and asleep with a slow, regular respiratory pattern. Nailbeds are pink, the pulse is never thready and only rarely rapid, peripheral veins are not collapsed, and there is not the difficulty starting infusions that one encounters in the shock patient. Unattended blood pressure will slowly attain its former level provided that there has been adequate fluid replacement. Renal dynamics appear unaltered in chlorpromazine hypotension.

Investigators [1,12] have been able to prevent or delay significantly the onset of irreversible shock in laboratory animals by premedicating them with chlorpromazine. We have premedicated poor risk geriatric patients who were to undergo major surgery with chlorpromazine and have been impressed with the absence of anticipated postoperative difficulties. Their over-all surgical course appears to be a favorable one. One of these patients was a seventy-two-year-old female, physical status between two and three. She had been undergoing an abdominal-perineal resection when a sudden large blood loss occurred. The pulse and blood pressure were no longer obtainable; the respiratory pattern remained as it had been, the skin warm and dry. Immediate transfusion was slightly delayed since a new intravenous had to be started. With the receipt of the first 200 ml. of whole blood, pulse and blood pressure immediately returned to prehemorrhage levels, and the case was completed uneventfully. In the immediate postoperative period the patient was alert with no clinical evidence of the hypoxia frequently seen in sudden severe blood loss. Electrocardiograms of the previously damaged myocardium revealed no evidence of new damage; urinary output in the first twenty-four hours was over 850 ml.

Similarly a seventy-nine-year-old female, who was such a poor risk that the perineal portion of an abdominal-perineal resection was done in Simms position, tolerated the procedure well under chlorpromazine hypotension; her postoperative course was uneventful except for the hypotension which gradually corrected itself with no sequelae.

Our oldest patient to date is a ninety-year-old-male who underwent a two-stage prostatectomy, each time receiving chlorpromazine as part of the premedication. The second procedure was accompanied by hypotension; this corrected itself in the immediate postoperative period.

There has been a number of geriatric patients who did not develop hypotension and who have withstood major surgery well. It must again be emphasized that hypotension can correct itself only in the presence of adequate blood volume.

After following a number of the elderly patients, we began to feel that our concepts of the role of the sympathetic system in shock must be altered; blockade of the "neurovegetative system" by various technics in the hands of American and French investigators has protected animals from shock induced by graded hemorrhage.

Normally nature attempts to maintain a constant internal environment for the organism despite external stresses which continually attempt to upset equilibrium; the sympathetic division of the autonomic nervous system is the main regulator of the internal constancy. Upon receipt of stimuli, such as from trauma and/or hemorrhage, cortical and subcortical impulses are said to cause the hypothalamus to act. Vasomotor activity increases under adrenergic influences with resultant constriction of the precapillary sphincters, opening of arteriovenous shunts, and the consequent alteration of circulatory pathways so that more blood of high oxygen tension is said to reach vital centers to the exclusion of the remainder of the body.

As the stressing phenomenon continues, tissue anoxia becomes severe in the peripheral (extremities), splanchnic, and renal beds. Some investigators[13] have found as much as a 75 per cent reduction in femoral blood flow in experimental animals when nonhemorrhagic shock was induced, this change occurring before there was any noticeable blood pressure alteration. Renal blood flow which normally represents about 25 per cent of total circulating volume is reduced to 10 per cent or less of its usual amount.[13] The visceral bed is pale during the vasoconstrictive or early (compensated) shock. As ischemia persists, these tissues release metabolites and breakdown products which further aggravate the already anoxic capillary bed, increasing its permeability and subsequent fluid loss across the damaged membranes. The splanchnic bed becomes a large stagnant pool retaining blood and further diminishing the already embarrassed circulating volume. Eventually the peripheral failure is followed by central failure.

Wiggers and his coworkers[14] premedicated dogs with dibenamine and found that they were able to delay or prevent the onset of irreversible shock in animals exposed to graded hemorrhage. Courvoisier and associates repeated these experiments using chlorpromazine and found protection for treated animals, while there was an 83 per cent mortality in the control group. Chlorpromazine is thought to exert its beneficial influence by divorcing the body from its ability to respond to stress. In the absence of sympathetic activity during hypotension, renal and splanchnic vascular beds receive a more adequate share of the available circulating blood volume; tissue anoxia is markedly reduced, vascular integrity is maintained, and fluid loss from altered permeability is absent. Coronary blood flow studies[15] are under way with no conclusions to date.

This discussion is not meant to infer a permanent protection from shock but rather a more intense, temporary prolongation which can carry the patient beyond the immediate stressing situation.

Prolonged postoperative analgesia has been noted in many patients premedicated with chlorpromazine.[16] While some have required sedation in less than one hour upon returning from the operating room, an equal number required no sedation in the first twenty-four hours. A large number of patients require some sedation between two and seven hours postoperatively with the peak at three to four hours. Often patients do not recall the day of surgery and generally require reduced amounts of postoperative narcotics so that subsequent respiratory depression is avoided. Patients who are said to be not reacted can easily be aroused, although they will fall asleep again when left undisturbed.

Summary

It is extremely difficult to submit to analysis with statistical significance the advantages or disadvantages of anesthetic technics because of the wide range of variation in patients, surgeons, and anesthesiologists involved in any single type of procedure.

The discussions set forth in this paper are based primarily on our clinical experiences with over 1,100 cases of major surgery. The types of cases range from major surgery through all the specialties. Over 400 cases were done under spinal anesthesia, the remainder under general. It is our impression that while chlorpromazine is not a "wonder drug," the ability to reduce the amounts of preoperative narcotics, and hence respiratory depression, should prove of value. The ease of induction despite halved doses of premedicant narcotics is noteworthy. Poor risk geriatric patients have withstood major surgery with less than anticipated difficulties. A measure of protection from shock is suggested in a number of cases.

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The greatest and noblest pleasure which we have in this world is to discover new truths, and the next is to shake off old prejudices.—FREDERICK THE GREAT

Control of Diabetes

ELEANOR GIFFIN, M.D., AND JOSEPH B. CORTESI, M.D., SCHENECTADY, NEW YORK

(*From the Diabetic Unit, Medical Department, Ellis Hospital*)

BECAUSE of the great interest in the past five years in the role that control of diabetes plays in the prevention of degenerative vascular complications, a study of young diabetic patients in a small community was undertaken. Two schools of thought exist in relation to diabetic control: The first advocates "clinical" control and the second good "chemical" control. The former, the "free dietary" advocates, feel that duration, not control, of diabetes is the important factor in the development of vascular disease and that degenerative changes are an inevitable associated phenomena of the disease, not a complication.[1] It is believed by this group that this type of management is easier and that the patients can live a more normal life with less emotional and psychologic disturbance.[2]

The latter group advocates strict chemical regulation of diabetes and has shown that vascular complications are not necessarily present after twenty-five or more years of diabetes.[3,4] Several studies have been made to point out that the duration of diabetes is certainly an important factor but that control of diabetes decreases the number of cases of nephropathy, retinitis, and atherosclerosis in longstanding diabetes.[5,6] Today, now that patients live longer due to insulin therapy, vascular complications play the leading role in diabetic mortality.[7]

In order to acquire worth-while data in this study, we have chosen young patients with onset of diabetes before the age of twenty and duration of five or more years. The youngest in this series is age seven and the oldest age forty-two. The duration of diabetes ranged from five to twenty-eight years. Most of our statistics are broken into age groups for it is well known that complications are more numerous with longstanding diabetes. In order to make a comparative study, we have attempted to correlate the degree of control these patients have maintained in relation to the presence of vascular complications. In estimating control it is realized that even those patients with excellent or good control over a period of years have had episodes of definite metabolic disturbance from their diabetes.

Material and Method

Forty-six patients were studied. Each patient was examined either as an outpatient or during a hospital admission. Patients came to the hospital after having eaten breakfast and taken their morning dose of insulin. A two-hour postprandial blood sugar and a urine specimen were obtained. The patient's blood urea nitrogen, total cholesterol, total protein, and albumin-globulin ratio were determined. A history was obtained with special emphasis on information relative to patient's occupation, education, family history, pregnancies, complicating illnesses, insulin dosage, and diet. Other laboratory tests completed in each case were as follows:

1. X-ray of the chest to determine the heart size.
2. X-ray of the pelvis and one leg for evidence of calcification within the blood vessels.
3. An electrocardiogram with the three standard and the six precordial leads.
4. A ballistocardiogram.
5. Capillary fragility determination, utilizing a modification of the Gothlin technic, in which a pressure equivalent of 80 mm. of mercury was maintained for four minutes and the petechiae counted in a 6-cm. circle around the flexor surface of the forearm, as described by Barnes.[8]
6. Funduscopic examinations were made by an ophthalmologist after the pupils were dilated, and the findings were classified according to the method of Wilson, Root, and Marble:[9]

Normal fundi—No hemorrhage, exudates, sclerosis, or other abnormal changes seen.

Grade I—Few tiny petechial hemorrhages and/or microaneurysms scattered over one or both fundi. No exudates.

Grade II—Several petechial hemorrhages and/or microaneurysms seen in both fundi. Few to many small white exudates bilaterally.

Grade III—Many petechial aneurysms and/or hemorrhages bilaterally. Some splinter hemorrhages also seen in the deep and superficial layers of the retina. Many exudates scattered about both retinae.

TABLE I.—Distribution of Patients According to Various Factors

	Number of Cases	Per Cent
Degree of control		
Excellent	2	4
Good	7	15
Fair	6	13
Poor	31	68
Total	46	100
Duration of diabetes		
5 to 10 years	16	35
10 to 15 years	10	22
15 to 20 years	9	19
20 to 25 years	10	22
25 to 30 years	1	2
Total	46	100
Age at onset of diabetes		
1½ to 4 years	3	7
5 to 9 years	16	35
10 to 14 years	12	26
15 to 20 years	15	32
Total	46	100
Educational achievements		
Below 6th grade	1	
Below high school	10	
During high school	5	
Graduated from high school	10	
Beyond high school	12	
College graduates	3	
Beyond college	4	
Unknown	1	
Total	46	

Grade IV—Severe advanced retinitis of proliferative type. Retinal detachment. Acute or chronic hemorrhagic glaucoma.

Renal function was determined by the blood urea nitrogen, microscopic examination of the urinary sediment, and by the presence of proteinuria. A complete blood count was performed routinely.

In order to tabulate the results of the laboratory study simple standards of control were set up similar to those of the Joslin group so that each patient could be classified according to the type of treatment and degree of control followed in the management of his diabetes.[10]

1. Excellent control—Patient had never been in coma. Insulin was begun within a few weeks of the onset of diabetes and taken each day faithfully. Urine tests were made more than once daily since the onset with a conscientious attempt to keep the urine sugar free. Insulin dosage adjustments made according to the urine tests. The diet for the first few weeks was weighed. Physical examination and laboratory tests by a physician were made at least once yearly.

2. Good control—Patient must never have been in coma unless the initial diagnosis was made in coma. Insulin was begun early in the disease and taken faithfully. Urine tests were made once daily or every other day and insulin adjustments made according to the urine findings. Patient must have made a conscious attempt to keep dietary measures. Physical examination and blood sugar were done by a physician at least once yearly.

3. Fair control—Patient must never have been in coma except when the initial diagnosis was made or where some overwhelming factor precipitated the coma. Insulin was begun within twenty-four months of the diagnosis being made. Urines were tested one or more times weekly with an attempt to keep the urine sugar free. The patient must really have indulged in gross dietary indiscretion. Physical examination and blood sugar must have been made by a physician at least once every two years.

4. Poor control—Avoidable coma must have occurred one or more times since onset of the diabetes. Insulin was taken irregularly. Urines were tested infrequently. No dietary measurement according to the urines or insulin dosage was made. Patients have had no regular examinations by a physician.

Results

Classification of Control.—As seen in Table I, only two patients could be classified as maintaining excellent and seven as maintaining good control. A total of nine of our 46 cases fell into this group (19 per cent). The fair control group was made up of only six patients, 13 per cent of the study, while 31 patients, or 68 per cent, fell into the group of poor control.

Onset and Duration.—Table I also shows the duration of diabetes in our cases. It can be seen that 16 patients had their diabetes from five to ten years, ten patients from ten to fifteen years, nine patients from fifteen to twenty years, and eleven patients from twenty years or more. Those in good and excellent control were divided as follows: five had had diabetes for five to ten years, two for fifteen to twenty years, and two for over twenty years.

Age of Onset.—Our patients varied from onset at one and one-half years to onset at age twenty (Table I). Over two thirds of this group developed diabetes before the age of fifteen, and 65 per cent of our group had had diabetes ten years or longer.

TABLE II.—Correlation Between Severity of Diabetes (Amount of Insulin Required) and Degree of Control

Insulin (Units)	Degree of Control Excellent	Good	Fair	Poor
10 to 30	0	0	0	3
31 to 70	2	6	6	21
71 to 110	0	1	0	7

Insulin Dosage.—The insulin dosage of our patients varied greatly (Table II). We realize that this is not a reliable estimate of the severity of diabetes and that the daily carbohydrate utilization is a better index, but we hope it shows that the patients rated as excellent or good control do not have the least severe diabetes since none of these patients took less than 30 units of insulin daily.

Sex and Heredity.—In this series 20 cases were males and 26 females, showing that only in diabetes of middle age does the dominance of female sex really become manifest.[9] A known family history of diabetes was present in 69 per cent of our cases. White[11] reports a family history of 50 per cent in her series of young diabetics. However, another group reports a 62 per cent hereditary manifestation.[12]

Education.—The educational achievements of our group are summarized in Table I. In 1947, considering the entire population of the United States, 15.9 per cent of persons were high school graduates. Only 3.1 per cent had college degrees. Seven persons from our group, or 15 per cent, had college degrees, while 29 persons or 63 per cent are high school graduates.[13] This is of significance if we realize the unnecessary wastage of intelligent individuals as a result of inadequately controlled diabetes.

Calcification of Vessels.—On x-ray examination of our 46 patients six were found with evidence of vascular calcification (Table III A). It is of interest to note that five of the six fell into our classification of poor control, and one of these patients had only had diabetes for eight years.

The other five patients had had diabetes for fifteen to twenty-five years. We know that arteriosclerosis not only is more severe in the diabetic but that it appears at an earlier age[14] and from this study it is more common with poor control.

TABLE III.—Correlation of Duration of Diabetes and Degree of Control with Incidence of Vascular Complications

A. VASCULAR CALCIFICATION

Duration	Poor	Fair	Good	Excellent
5 to 10 years	1	0	0	0
10 to 15 years	0	0	0	0
15 to 20 years	1	0	1	0
Over 20 years	3	0	0	0
Total	5	0	1	0

B. INCREASED CAPILLARY FRAGILITY

Duration	Poor	Fair	Good	Excellent
5 to 10 years	2	0	0	0
10 to 15 years	4	0	0	0
15 to 20 years	2	0	1	0
Over 20 years	1	1	2	0
Total	9	1	3	0

C. ABNORMAL ELECTROCARDIOGRAMS

Duration	Poor	Fair	Good	Excellent
5 to 10 years	3	0	1	0
10 to 15 years	1	0	0	0
15 to 20 years	3	0	0	0
Over 20 years	3	0	0	0
Total	10	0	1	0

D. ABNORMAL BALLISTOCARDIOGRAMS

Duration	Poor	Fair	Good	Excellent
5 to 10 years	4	3	1	0
10 to 15 years	6	1	0	0
15 to 20 years	3	0	1	0
Over 20 years	6	1	1	0
Total	19	5	3	0

E. NEPHROPATHY

Duration	Poor	Fair	Good	Excellent
5 to 10 years	2	0	0	0
10 to 15 years	3	0	0	0
15 to 20 years	4	0	0	0
Over 20 years	1	0	0	0
Total	10	0	0	0

Capillary Fragility.—Thirteen of our patients were found to have an increased capillary fragility (Table III B). As can be seen from this table, there seems to be no relationship between the control of diabetes and the capillary fragility, but duration of diabetes may be of some importance.

Electrocardiogram and Ballistocardiogram Studies.—Electrocardiograms were performed on all of our patients, and the reports are summarized in Table III C. The presence of myocardial changes constituted an abnormal electrocardiogram. As can be seen, 11 abnormal electrocardiograms were found, and all but one of these patients, again, fell into our poor control group. Thirty-two per cent of the patients in the poor control group had abnormal electrocardiograms as compared to 6.6 per cent of the patients that were under better control. Six per cent of diabetics under forty were found to have coronary occlusion as compared to 0.6 per cent in the general population.[15] Another important factor is that there is a great incidence of coronary artery disease, even in the first ten years of the disease.

We also found in this study of young diabetics that 27 or 58 per cent of our cases had abnormal ballistocardiograms (Table III D). Abnormal ballistocardiogram patterns included (1) diminished or absent T waves, (2) exaggeration of the respiratory variation, (3) slurred or notched I, J, or K waves, (4) prominent M waves, (5) late, deeply notched J waves, (6) prominent diastolic waves, (7) deep, absent, or wide K waves, (8) low amplitude or totally bizarre complexes.[16] In this series we found that those under poor control showed 61 per cent abnormal ballistocardiograms, while 53 per cent of the better controlled showed abnormality. There does not appear to be a greater incidence of abnormal ballistocardiograms with increase in the duration of diabetes.

Nephropathy.—The presence of nephropathy was determined by the blood urea nitrogen, the urinary sediment, and proteinuria. We disregarded urine reports of faint traces of albumin unless there were some concomitant findings. Table III E summarizes our results. It is noteworthy that there was no evidence of nephropathy in any but our poor control groups. Two of these patients have subsequently died, and autopsies in both cases have shown evidence of severe renal disease. Clinically, these patients all showed evidence of typical diabetic nephropathy including hypertension, edema, albuminuria, and renal or cardiac decompensation. We found that seven of our patients had hypertension. All of these patients had been under poor control for over ten years, and most of them showed renal changes as shown in the table above.

As stated earlier, two of our patients—who both happened to be females; one age twenty-seven, the other thirty-one—expired during the course of this study. They were both in our poor control group, and neither had had diabetes for less than sixteen years. Clinically, both had a generalized anasarca, hypertension, and eye, vascular, and cardiac changes. At postmortem examination both showed marked arteriosclerosis, coronary artery sclerosis, and intercapillary glomerulosclerosis. One interesting factor noticed in both of these patients preterminally was the marked decrease in insulin dosage. These patients had multiple insulin reactions and appeared to be extremely insulin sensitive. A report comparing patients with Kimmelstiel-Wilson syndrome and other renal lesions with normal patients has been made, showing this same finding of the apparent amelioration of the diabetes and rarity of acidosis in these preterminal patients.

TABLE IV.—Correlation of Degree of Control with Incidence of Retinitis

Retinitis	Poor	Fair	Good	Excellent
ALL CASES				
Normal	11	5	5	2
Grade 1	8	1	2	0
Grade 2	5	0	0	0
Grade 3	7	0	0	0
Grade 4	0	0	0	0
20 PATIENTS WITH DIABETES OVER 15 YEARS				
Normal	2	1	1	1
Grade 1	6	0	2	0
Grade 2	1	0	0	0
Grade 3	6	0	0	0
Grade 4	0	0	0	0

Retinal Changes.—The retinal changes found in our 46 patients are summarized in Table IV. Sixty-five per cent of our patients under poor control has some degree of retinopathy as compared with 20 per cent of the fair and good control. There were no retinal changes in our two patients under excellent control. Also it may be noted that nothing more than grade I retinopathy was found in our fair and good control groups. Table IV also shows that in the group who had been under poor control for over fifteen years, 86 per cent or 13 cases out of 15 had funduscopic changes.

Capillary microaneurysms are the earliest ophthalmoscopic changes in diabetes mellitus.[17] From these tables one may conclude that retinal changes are not inevitable in diabetics who are well controlled.[16]

Miscellaneous Findings.—Chest x-rays were also taken to determine heart size. There were four patients with enlargement of the heart, that is, over one-half the size of the largest diameter of the chest. All of these four were in our "poor control" classification, and all had had diabetes more than ten years.

In this series we found six patients with elevated cholesterol levels. Five of these six fell into our poor control group. One was listed as under good control. It is interesting to note that two of these patients had only had diabetes between five and ten years. It has been found that the mean cholesterol values in the group of diabetics with poor control are higher than in the well-controlled diabetes.[18] Cholesterol levels are also found to be higher in the presence of diabetic nephropathy[19] and in the presence of severe arteriosclerosis.[20] If the theories as to the cause of calcification in diabetic patients are correct, the high cholesterol level found in our patients may be the precursor of vascular calcification and diabetic nephropathy.[21,22] Abnormal albumin-globulin ratios were found in ten of our series of 46 patients. Again, nine of these ten fell under poor control, and, again, one fell under the good control group. Two of these patients had known diabetes for less than ten years. Hepatomegaly was not found in any of these individuals.

Other complications noted were two cases of stunted growth. Both have been classified under our poor control group. Physical retardation should be considered a result of nutritional disturbances in these patients rather than the result of endocrine difficulty unless the patient fails to grow on an adequate regime with good control of the diabetic state.[23,24]

Three cases of incipient cataracts were found. In a study of young diabetics with no division into control group, 13.9 per cent showed lens changes.[25] Two cases of gangrene were present. Again, both of these patients had been under poor control, and one of them had had his diabetes less than ten years.

There were two cases of ascites. Both were preterminal and expired before the study was completed. Again, both fell into our "poor" group.

There was one case of associated hyperthyroidism and one case of arrested tuberculosis. One study reports that 2.4 per cent of diabetics have tuberculosis.[26] There were two cases with abnormal electroencephalograms. Both of these patients had been under poor control and had many insulin reactions. There was one case of fat hypertrophy of both arms and legs due to multiple daily injections of regular insulin over a twenty-two-year period.

Summary

A group of 46 patients whose diabetes began between the ages of seventeen months and twenty years and had been in existence for a minimum of five years and a maximum of twenty-eight years has been studied extensively with special emphasis on the relationship between control of diabetes, the development of degenerative lesions in the kidney, retinas, and blood vessels, and other complications. Ideal control of diabetes implies that the patient is on a diet which provides the proper amount of minerals, vitamins, and calories derived from a proper proportion of carbohydrate, protein, and fat. It also implies that adequate insulin has been taken so that the diet is well utilized. The blood and urine tests are invariably normal. Standards of control, less rigid than ideal and defined earlier in this study, have been applied to this group. Various degrees of control and lack of control have been plotted against the duration of the diabetes and the development of complications, with the following results:

1. No patients under good, excellent, or fair control showed evidence of nephropathy, even after twenty to twenty-five years of diabetes. Ten patients under poor control had laboratory evidence of nephropathy. Two of these ten died during the study, and both were shown to have marked renal lesions at autopsy.

2. No patients under good or excellent control showed evidence of advanced retinitis. Two of the seven patients under good control did show grade I retinitis, that is, a few microaneurysms in each fundi, after more than twenty years of diabetes, while 65 per cent of patients under poor control showed some degree of retinopathy.

3. Our two patients classified under excellent control showed no evidence of vascular degeneration, nephropathy, or retinitis.

4. No matter what the etiology of the complications of diabetes, it can be seen in our study that control is more important than duration or severity of the diabetic state in preventing degenerative lesions.

5. By far the most important fact shown in this paper is that our young diabetics in this community have not been so well controlled as is possible. Thirty-one of our series of 46 patients or 68 per cent had to be placed in our poor control series. It seems very likely that with better control by the patient and better follow-up by the physician, we may be able to lessen the number of degenerative complications which we now see.

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The Problem of Postoperative Recurrent Hernia

Treatment by Sclerotherapy

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The problem of persistent recurrence of inguinal hernia is still a stumbling block to modern surgery. This condition is related to abdominal incisional hernia in many ways. Both types of recurrence will be discussed together and a modernized method of treatment described for their relief.

Statistics of Hernial Recurrence

Most cases of hernial recurrence are incisional in type. In a minor number there is a redevelopment of the original hernia so that the pathology remains practically unchanged. It is the incisional type of recurrence with which this treatise is especially concerned.

Surprisingly enough a large proportion of patients are unaware of the fact that surgery for hernia may fail. In fact, many physicians, while aware of recurrence following hernial surgery, do not appreciate its magnitude and chronicity. Perhaps the best way to illustrate the scope of this problem is to study the statistics of modern times.

From a statistical viewpoint there has never been an accurate appraisal of hernial recurrence comparable with other studies. To have any value a study should cover a period of at least ten or, better, twenty years. There is a paucity of such statistical evidence.

The obstacles to accurate appraisal are varied. Leading the list is the fact that patients rarely return to the same surgeon who operated on them in case of failure. Some patients die; others move away or refuse to cooperate. Part of the available evidence is based upon mailed questionnaires or telephone inquiries, which is misleading.

Nevertheless, statistics of a sort can be presented from a number of sources. In 1923 Erdman[1] reported 21 recurrences in 665 operations, a rate of 3.15 per cent. In 6,090 operations from 1890 to 1918 at the Hospital for the Ruptured and Crippled in New York, a recurrence rate of 5.7 per cent during the first two postoperative years was reported.[2]

A series at the Ford Hospital analyzed 1,600 cases from 1920 to 1929.[3] The indirect type showed a recurrence rate of 7.4 per cent, while the direct variety recurred in 11.6 per cent, making an average of 8.25 per cent. Both the Halsted and Bassini types of operation showed approximately the same rate.

In 1948 Watson[4] devoted a whole chapter of his book to the recurrence of hernia. He found it impossible to obtain true statistics because of the reasons stated previously. Stanton[5,6] found that patients operated upon by experienced surgeons showed indirect recurrent hernias at the rate of 5 per cent for the first year and 1 per cent additional each year thereafter. He traced direct hernias over a five-year period and found 25 per cent recurred.

One of the best studies was reported in 1949 by Ferguson,[7] who also admitted the difficulty of checking recurrence rates. His study included 50 per cent who were actually examined. Eleven per cent were reported by letter, and 9 per cent had died. His recurrence rates were 31 per cent for simple direct hernia, 25 per cent for femoral hernia, and a comparably high rate for recurrent hernia. The worst results were obtained with the newer Cooper ligament or pectineal fascia technic. Simple indirect hernia, the most favorable type, showed an 8 per cent recurrence rate, while double hernia recurred in 18 per cent. In some cases inguinal hernias that were repaired broke out again as femorals. His over-all recurrence rate for all types was 10.4 per cent.

Ferguson found, curiously enough, that the recurrence rate with experienced surgeons did not differ appreciably from that obtained by novices. His findings, therefore, tend to support the author's theory that recurrences are not primarily a problem of technic.

This is the picture offered by the evidence in the literature. It indicates that the problem of recurrence is a serious one and that its magnitude has been minimized. An accurate appraisal has not and perhaps may not be made. What is perhaps more disquieting is the lack of published reports of those cases that keep on recurring in spite of repeated surgery. It is indeed timely to consider this situation from an impartial and critical viewpoint.

Etiology and Pathology

In discussing the formation of recurrences following inguinofemoral operations, it should be pointed out that these are of two general types. One is the cicatricial type, in which only part of the wound breaks down. In the other a true recurrence takes place with a new sac forming between the same or different layers of tissue.

Similarly, in laparotomy wounds an incisional hernia may develop in which part of the wound breaks down, or a frank or partial dehiscence may take place in which most of the repair comes apart. Fortunately, the latter is rare.

The important thing is that in both classes of breakdown the cicatricial type is the most frequent and also, fortunately, the easiest to deal with by the method presented here.

Causes of Recurrence

A list of the more common causes following abdominal surgery includes: (1) drains at operative site, (2) wound infection, (3) defective suturing of structural layers, (4) increased intra-abdominal pressure due to vomiting, cough, or gas, (5) adhesion of bowel to abdominal wall, (6) poorly placed incisions with division of nerves, and (7) hematoma.

Some hernias begin in the operating room; about one third appear within six months, and 20 per cent more develop within a year. It seems that incising the abdominal wall carries with it a definite morbidity, even under ideal conditions.

In the inguinal and femoral regions most incisional hernias occur within two months. They are more frequent over the age of thirty-five, and special etiologic features may be enumerated as follows: (1) inadequate ligation of the sac, (2) faulty suturing of the peritoneum, (3) the use of suture material that is absorbed too rapidly, (4) disturbance of blood supply by tight sutures, (5) tear of deep sutures following muscular exertion, (6) openings in transversalis fascia, (7) incisions of fascia in transverse direction, (8) systemic causes like metabolic diseases, avitaminosis, etc., (9) hereditary fascial weakness which affects all the supporting structures.

Iason[8] classifies four types of recurrence following hernial surgery. He also states that the predominant type of recurrence is the incisional type which accounts for 86 per cent of all the inguinal relapses.

Surgery for Incisional Hernia

There are three general types of operations for incisional hernias. In essence, the first type may be described as a repair of the abdominal wall as in a primary laparotomy. This is, of course, preceded by an excision of the old scar. In the second type an overlapping procedure, as in Mayo's operation for umbilical hernia, is employed. The third method is by the use of a great variety of materials to buttress the weakened area. These include fascia lata, sutures or grafts, dermal patch transplants, floss silk sutures, wire sutures, tantalum mesh, and other inert materials.

It is evident that the repair of cicatricial breakdowns is a problem of the first magnitude. It is also clear that repeated recurrences pose an increasing problem to the surgeon which taxes all his ingenuity. There comes a point, however, at which surgery is no longer practical or possible, and it is here especially that sclerotherapy fits in as an adjunctive method. This must be experienced to be appreciated.

Injection Treatment

It must be pointed out that the present unpopularity of the injection method stems from a misconception of its value. Originally too much was expected from it, and it was mistakenly proposed as a substitute for routine surgery. This was unfortunate, and its quick adoption as a panacea by untrained practitioners resulted in almost complete disappointment. As a result it has been practically discarded as a form of treatment. This complete rejection is as great a mistake as the original enthusiasm. In its proper sphere sclerotherapy will turn out to be a most valuable alternate method when the proper technic and indications are observed.[9,10]

Technically, the early solutions recommended,[11] like Sylnasol, were ineffective as fascial sclerosants, merely causing muscular and connective tissue edema. This temporarily blocked the canal and led to false claims of cure. Today we realize that to sclerose fascia one must employ very potent reagents and that the only treatment that will be premanent is one in which mature fibrous tissue forms.

Another weakness of the injection method for the average hernia was that the points of adhesion were not clearly understood, and the technic itself was often a blind procedure, especially to the inexperienced. None of these obstacles to good therapy are present in the treatment of the recurrent type of inguinal hernia.

As stated previously, the most common type is the cicatricial direct variety. Examination of the inguinal canal region in these cases often discloses one or more little pouches or sacs which protrude from apertures in the scar of the last operation, often directly over the sutures. These openings are often circular but may be slitlike in character. Fortunately, they are usually small and can be covered with the tip of the examining finger. Here is an almost perfect situation for sclerotherapy. First, the rupture is small enough to be bridged easily by a moderate growth of fibrous tissue. Second, the area of treatment can be most accurately localized and the injections correctly placed by palpation. Third, reduction is easily maintained by an average truss, and, last, a minimum of treatment is required.

Technic

In most cases it is sufficient merely to infiltrate the edges of the fascial opening in a regular series. The solution used is a zinc-phenol formula in a clear or cloudy form as follows.

Zinc sulfate	4	
Phenol crystalline	24	
Glycerin	16	
Aqua q.s. ad	100	(shake)

The above cloudy solution differs from the clear only in that it contains less glycerin. Its absorption is slightly delayed and, therefore, is a little less irritating. Otherwise, both are very similar, and either preparation may be employed.

For the average break in the fascia, which may be 0.25 cm. in diameter, six to eight injections may be necessary. These are given twice weekly, and the entire circumference of the opening is covered. The depth of the injection will vary with the individual case. It is advisable, after raising a procaine wheal 1 inch from the hernial opening to infiltrate the intervening subcutaneous tissue with 0.5 to 1 cc. of 1 or 2 per cent procaine solution. The sclerosing solution in a small syringe with a 3 or 4-inch, 20-gauge needle is now inserted through the wheal and carried obliquely down to the lower layers of the operative scar. The needle point must end its journey in the region of the margin of the hernial opening. Where the opening is not in the scar itself but adjoining it, the same procedure is used. The sclerosing solution must be placed as close to the transversalis fascia as the dexterity of the operator will permit.

Each opening is thus treated; meanwhile, the truss is worn constantly day and night. For hernias in the inguinal or femoral region, a perfectly fitting waterproof appliance of the frame type is necessary. The pad should be oval in shape and soft and elastic in consistency. In addition, a well-fitting elastic truss is advisable for sleeping. Fitting should be simple because the opening of the fascia is usually small.

In the case of abdominal incisional hernias an elastic belt 3 inches in width is constructed with a regulation buckle and strap over the back. A flat, hard, rubber button of appropriate size is attached to cover the opening in the fascia. When worn directly over the skin, this truss is maintained without slipping and is very comfortable.

The technic for the abdominal relapses is essentially the same as in the inguinal region. The author has not hesitated to attack openings up to 3 inches in length. While hernias of this size cannot always be closed permanently, they can be reduced in size to a point where the use of a simple belt, such as the one described above, will keep the patient very comfortable.

Treatment should be continued at regular intervals until a definite scar forms over the fascial opening. Since it takes at least three months and often more to obtain mature scar tissue in these cases, the patient must be kept under observation for at least six months. The larger hernias may require as many as 20 treatments or even more for good closure. After the treatment is considered complete, the patient must be kept under observation for two years. The truss is usually not removed for six months after treatment is finished or until the operator is convinced that a firm scar has been obtained. The only way to determine this is by testing the tissue with the exploring needle. External palpation will not suffice.

Results

In 1937 the author organized the still active pioneer injection clinic for hernia at Stuyvesant Clinic in New York City. For the past eighteen years more than 200 cases of postoperative recurrent hernia were treated by him there. Because of the practical difficulties in selecting these records from the huge unclassified dispensary files, it was decided to analyze 60 private cases from the author's practice for statistical purposes.

There was only one female in this series. The average age was fifty-one, the youngest thirty-five and the oldest seventy-four years. Thirty-six cases had one previous operation, 15 had two, seven had three, and two were operated on four times without benefit. The average number of years between surgery and injection treatment was thirteen with a range of one to thirty-five years. Two thirds of the inguinal recurrences were direct and incisional in type, and one third relapsed as new indirect inguinal hernias. The abdominal hernias were, of course, all incisional in type. The average number of injections given per hernia was 19, but many of these cases had multiple openings, and a considerable number had large openings in the scar tissue to fibrose.

The final results were tabulated as follows. Thirty-five cases were considered cured at check-up examinations of varying periods ranging from one to ten years. One patient did not finish his treatment. Ten were satisfactorily closed on discharge but never returned for observation. Fourteen cases had relapses of varying degree but were gratified with the clinical improvement.

The degree of physical comfort obtained in this last group of relapsing patients is of great practical importance—as comforting in many cases as an actual cure. Most of them were elderly men who had had two or more unsuccessful operations. They were discouraged about surgery or were actually inoperable and had varying degrees of discomfort.

Treatment produced great relief in all cases of this group. Some remained closed for months or years. Others who had large hernias, difficult to maintain, were converted into small cases easy to hold with a light elastic truss. The author felt that even if these chronic patients required regular yearly injections for comfort, it was worth the effort because there was no other treatment that would help them. There was no contraindication to this extended or repeated treatment. Those individuals were thus rendered useful or employable in most cases.

The over-all rate of cure was 75 per cent, including ten cases who can best be classified as probable cures. Twenty-five per cent were rendered clinically comfortable in spite of relapse.

Case Reports

Case 1.—E. H., aged fifty-two, had a bilateral inguinal hernia. The right side presented a globular sac 1.5 cm. in diameter, emerging from the external ring. It reduced readily but emerged very slowly. On the left side a small sac also emerged from the left external ring about one-half the size of the right. The left testicle showed partial atrophy as the result of previous surgery.

The family history disclosed that his parents and one grandmother suffered from hernia. Also one brother and two sisters have hernias.

The patient gave a history of hermorrhoids and the following operative background: first operation for hernia on the left side thirty-five years ago at the age of seventeen; second operation, age twenty, on the left side; third operation, at the age of forty-four, also on the left side, which recurred a few days later; fourth operation, one month after this, was a bilateral recurrence one month later. This patient, therefore, had had four operations for a left inguinal hernia and one for the right. There was no information as to the types of procedure employed. He was considered inoperable on the left side by the last surgeon he consulted.

The patient was fitted with a suitable waterproof frame truss and was treated twice a week until he had received a total of 20 injections on the right side and 18 on the left. He developed scar tissue slowly, which accounted for the protracted course. Six months later, he was checked and a new complication discovered. The patient now exhibited a typical cicatricial hernia on the right side. Four suture openings were found over the region of the internal ring. This was considered unusual since these little direct hernias are generally found soon after operation. Additional injections were then given to the margins of these four small breaks in the fascia, and after nine injections they were considered closed. There was no reappearance of any hernial sac at either external ring.

The patient wore his truss until six more months had elapsed. He was examined six months later, one year later, and again two years later. There was no sign of hernia on any of these checkup dates.

Comment.—This was an exceedingly difficult case that had not responded to repeated surgery. The original bilateral inguinal hernias with sacs emerging from the external ring were successfully dealt with, whereupon the patient developed four small incisional suture hernias which apparently had been potential weak areas previously. The left side, which had been operated on four times, responded promptly and permanently. This probably was the only method of treatment that could have been employed for this individual.

Case 2.—H. T., aged forty-four, a married male, showed scars of bilateral herniotomies in both inguinal regions. The left testicle was partially atrophied, being about half the size of the right. There was a globular sac 2 cm. in diameter emerging from the region of the lower third of the scar area. This reduced readily, and a break in the fascia became palpable about 0.5 cm. in diameter. There was no recurrence on the left side.

The patient's father had suffered from a hernia. No other family history was elicited. He had undergone the following operations: twenty years ago, at the age of twenty-four, he had a bilateral inguinal herniotomy. These recurred, and he submitted to a second procedure two years prior to this examination. This was again a bilateral operation with a prompt recurrence on the right side a few days after the operation. The left side was apparently normal.

The patient was fitted with a double frame truss, and injections were started on the right side. The margins of the fascial opening were infiltrated once a week until a series of 15 injections had been performed. The patient was discharged and was checked every three months for a period of two years. He then stopped reporting for examinations but returned six years later with a complaint of a hernia on the untreated left side. The right side at this time was still firmly closed.

Accordingly, he received another course of injections for a recurrent indirect inguinal hernia on the left side. Fibrosis ensued, and the patient was discharged and rechecked for two more years. There was no recurrence on either side.

Comment.—This individual had a family background of inherently weak fascia. Two bilateral operations failed to repair the right side. He responded to sclerotherapy and six years later developed a recurrence on the left or untreated side. This was closed by a suitable series of injections. This individual was declared inoperable by his surgeon but responded to injection treatment.

Case 3.—S. R., aged forty-nine, a married male, had a colonic malignancy removed one year ago at the Brooklyn Jewish Hospital. One year later, he felt swelling and pain in the left abdomen and was told he had an incisional hernia.

He was told he had a postoperative infection and had been kept in the hospital for two and one-half months. He refused surgery for the incisional hernia.

On examination a scar hernia admitting three fingers was noted in the upper half of the vertical incision. The prognosis was guarded as to permanency or totality of result. The patient received in all 25 injections into the margins of the fascial opening. To date, six months after the last injection, he is still closed and does not need a truss. The prognosis is guarded due to the size of the fascial aperture.

Case 4.—J. H., fifty-two-year-old, male physician, was operated on twelve years ago for a right inguinal hernia that recurred eleven years later. Examination showed an unusual condition. There was a small elongated sac protruding from the external ring, and, in addition, five small direct suture openings were found along the length of the inguinal canal in the scar area.

He received a total of 16 injections and on checkup examination three months later was found completely closed. Subsequent inspection by his colleagues in the State Labor Department, where he was employed, failed to disclose any recurrence of his hernial condition.

CASE 5.—H. T., male, aged forty-four, was operated on twenty years ago for a bilateral inguinal hernia. The hernias recurred, and a second operation was performed ten years ago (March, 1945). Both sides recurred again within two weeks after surgery. Examination disclosed typical small direct openings in the scars of both herniotomies. He received a total of 55 injections for both sides. This was spread out over a period of two years since the patient was very careless about keeping appointments. He has remained closed to date.

Comment.—This patient was declared inoperable by Dr. A. Iason partly because of his weak fascia and also on account of strong neurotic traits. He, therefore, referred him to me for injection treatment. This case was slower than usual in response to the treatment and required an unusually large number of injections.

CASE 6.—L. P., aged seventy-four, had the incredible number of five abdominal hernias coexisting on the abdominal wall at one time. They may be listed as follows: (1) right indirect inguinal, duration six years; (2) left indirect inguinal, present eight years; (3) small umbilical hernia, asymptomatic; (4) midline incisional hernia below umbilicus, from bladder surgery; (5) lateral abdominal incisional hernia admitting three fingers. Left kidney operation twenty-five years ago was followed by incisional hernia. Operation for this incisional hernia was performed twelve years ago with a second incisional hernia recurring two weeks later.

This patient was for all practical purposes surgically inoperable. He wore three trusses and was desperately uncomfortable. Injections were his only hope. His treatment was started in May, 1954. He received a total of 62 injections. To date, February, 1955, all hernias are closed. Whether they will remain so is indeterminate and, in this case, unimportant because for the first time in many years he is comfortable.

Comment.—This case bears out two points: (1) Fascial weakness is a definite clinical entity; (2) there is a need for an adjunct to routine surgery in a resistant case of this type.

Conclusions

1. The problem of incisional hernia is essentially the same whether it is abdominal or inguinal.

2. Cicatricial or scar hernia is the more usual form of postoperative breakdown following laparotomy or inguinal herniotomy.

3. Sclerotherapy is a valuable adjunct in the treatment of these recurrences.

4. Cases of persistent inguinal recurrences may become inoperable.

5. Sclerotherapy is the treatment of choice in these (inoperable) cases.

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The True Idea

Our business in life is not to get ahead of other people, but to get ahead of ourselves. To break our own record, to outstrip our yesterdays by todays, to bear our trials more beautifully than we ever dreamed we could, to whip the tempter inside and out as we never whipped him before, to give as we have never given, to do our work with more force and a finer finish than ever—this is the true idea—to get ahead of ourselves. To beat some one else in a game, or to be beaten, may mean much or little. To beat our own game means a great deal. Whether we win or not, we are playing better than we ever did before, and that's the point after all—to play a better game of life.—*Maltbie D. Babcock*

The Hypoadrenocortical State and Its Management

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IN A select recorded group of 200 subjects studied over the past fifteen years, the varied symptoms exhibited, suggested some phase of adrenocortical dysfunction: either lack of adequate adrenal cortical hormone production or an imbalance among these hormones. Essentially, all of the symptoms seemed to have some bearing on the integrity of the adrenal cortex and responded, in effect, to the same mode of therapy. This report will essay the conveniently designated topic of hypoadrenocorticism, and elaborations around it will be on the practical plane.

Etiology and Pathogenesis

Simply stated, hypoadrenocorticism is Addison's disease. The usually encountered case dealt with herein is actually "subclinical Addison's disease." By thus defining it, a former hypothesis—that the adrenal cortex functioned according to the classic "all or none" law—is repudiated as being contrary to both clinical and experimental experience.

Hypoadrenocorticism may be congenital or acquired, complete or partial. The two former subdivisions frequently fail of recognition. An etiologic classification, therefore, also derives from practical considerations:

1. Constitutional or primary hypoadrenocorticism
2. Congenital hypoadrenocorticism
3. Secondary hypoadrenocorticism
    - A. Hypopituitarism
    - B. Acquired hypoadrenocorticism
        1. Stress
        2. Steroid therapy (cortisone and hydrocortisone)

CONSTITUTIONAL OR PRIMARY HYPOADRENOCORTICISM.—The constitutional type may be a mendelian trait. Because it is most common, it typifies subjects discussed in this paper. The cognitive, characteristic asthenic habitus, peculiar idiosyncrasies and sensitivities, longevity, etc., may be traced in the family history, maternal, paternal, or both.

CONGENITAL HYPOADRENOCORTICISM.—This type is encountered in the infant whose mother is deficient in adrenal cortical secretion. During pregnancy the adrenal of the growing fetus and the placenta apparently supplement the mother with the necessary adrenal hormones. It may be presumed that the fetal adrenals can be thus depleted. Infants manifesting such adrenal insufficiency often die neonatally; "pyloric stenosis" has been so ascribed. Others may manifest hypoadrenocorticism only as they grow older with the deficient gland inadequate to ordinary stress.*

SECONDARY HYPOADRENOCORTICISM (HYPOPITUITARISM AND ACQUIRED HYPOADRENOCORTICISM).—Hypofunction of the anterior hypophysis produces a variety of clinical pictures, depending on the amounts of specific tropic hormones produced, and so we may find hypoadrenocorticism as the result of such a condition flowered by symptoms of other glandular malfunctions.

Aside from cases resulting from hypopituitarism and steroid therapy, individuals subjected to great stresses, such as those referred to by Selye[3] in his "general adaptation syndrome" (G.A.S.), may develop hypoadrenocorticism. In these instances the glands work beyond their capacity, passing through the alarm reaction, the stage of resistance, and finally reaching the stage of exhaustion.

Symptomatology and Diagnosis

The chief or presenting complaints, associated symptomatology, related systemic disorders, and physical and laboratory findings are given in Table I. The order of percentage frequency by which they are tabulated is based on convenience for presentation (a few of the percentage assignments are based on a smaller sampling since these, emerging only as the series progressed, were not sought for and elicited except in more recently studied patients). However arbitrary this tabulation, its perusal reveals one significant fact. *The chief complaints listed for patients with hypoadrenocorticism are often similar to those found in persons who are in the hypoglycemic state.* Patients finally adjudged to be hypoadrenocortic invariably report feelings of weakness, fatigue, and faintness, all of which could result from periods of low blood sugar level, usually extant. These periods of hypoglycemia are exacerbated by and follow bouts of emotional upsets after the initial hyperglycemia. In a series of business executives, Portis[4] has shown that hypoglycemia is definitely related to emotional stress. He suggested that the emotional centers which are exposed excessively to these stresses transmit impulses which cause overactivity of the parasympathetic system. This heightened vagal response stimulates the islet cells of the pancreas. Hyperinsulinism, which produces a low blood sugar level, develops from the stimulation of the islet cells.

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* Natelson, *et al.*[1] studied the "immature infant" and observed that "adrenal immaturity" is a common finding in the premature infant. They use the term to denote a condition resulting in the inability of the infant to hold water, sodium ion, and chloride ion with no unequivocal histologic or pathologic evidence to show the adrenal involvement. It has also been found that the thymus gland does not regress in children with immature adrenals. Since hypersecretion from a stimulated adrenal during the alarm reaction does cause thymic involution,[2] it is logical to treat status thymicolymphaticus with adrenal cortical extracts.

TABLE I.—SYMPTOMATOLOGY IN 200 CASES

	Per Cent of 200 Cases
Chief Complaints*	
Fatigue (excessive)	94
Nervousness and irritability	86
Mental depression	79
Apprehensions	71
Weakness (excessive)	65
Lightheadedness	47
Faintness or fainting spells	42
Insomnia	40
Systemic Symptoms	
Head	
Headache	68
Tinnitus	3
Cardiovascular	
Palpitation	57
Tachycardia	15
Bradycardia	6
Gastrointestinal	
Craving for salt	84
Craving for sweets	75
Alcohol intolerance	66
Epigastric distress	51
Food or drug idiosyncrasies	47
Alternate diarrhea and constipation	45
Indigestion	40
Anorexia	34
Chronic colitis	4
Genitourinary	
Infrequency	25
Nocturia	17
Catamenial	
Premenstrual tension	85
Midperiod slowing	33
Neuromuscular	
Pain in sternomastoid and trapezius muscles	65
Backaches	48
Vertigo	20
Cerebral	
Inability to concentrate	77
Fears and apprehensions	65
Confused intervals	61
Poor memory	59
Feelings of frustration	56
Compulsive behavior	38
Associated or Possible Resulting Conditions	
Allergies	73
Hay fever	23
Urticaria	20
Asthma	12
Others	18
Skin dermatitides	39
Heat exhaustion	36
Rheumatoid arthritis	21
Migraine	9
Rheumatic fever	7
Nephrosis	5
Epilepsy	3
Findings on Physical Examination	
Postural hypotension	93
Generalized cervical lymphadenitis	93
Skin thin and dry	93
Perspiration scanty	91
Hair sparse	83
Typical denture formation	80
Asthenic habitus	78
Positive Rogoff sign	71
Redness of thenar and hypothenar eminences	28
Blanching on exposure to cold	21
Laboratory Findings	
Low basal metabolic rate (average −12)	85
X-ray—J-shaped stomach and visceroptosis	73
Eosinophilia	58
Glucose tolerance test (low flat curve)	51
Relative lymphocytosis	51
17-ketosteroids low	
Male (2.4 to 29; average 10.9 mg. per 24 hours)	
Female (1.2 to 22; average 7.7 mg. per 24 hours)	

* These are hypoglycemic in nature and tend to follow physical, mental, or emotional stress.

Whether the low blood sugar in the patient with hypoadrenocorticism is a result of similar autonomic manifestations remains undetermined. It may well be the case, however, since this type of patient is emotionally labile and responds vigorously to crucial stressful situations. Many of our patients show a glucose tolerance curve which forms practically a straight line at a low level. However, if the adrenals have been subjected to increased stress through indiscretions, e.g., high carbohydrate intake or abuses through alcohol or other toxic agents, changes occur in the liver so that a condition of fatty infiltration or degeneration ensues. With this situation a sudden rise in the blood sugar level as high as 300 or 400 mg. per 100 cc. of blood may occur, followed by a sudden drop to hypoglycemic levels. It is this sudden drop which usually precipitates symptoms.*

Diagnosis should be possible from the history and symptomatology, together with the glucose tolerance curve and complete blood count. Inability to concentrate, loss of memory, mental depression, insomnia, periods of irritability, and a tendency to negativism and other personality aberrations are to be regarded as significant. Of pathognomonic significance, these patients are usually of the constitutionally inferior asthenic type, often falling in the allergic diathesis group, usually revealing a positive Rogoff Sign, relative lymphocytosis, and a typical low glucose tolerance curve. However, these findings may be masked, for example, in the patient who has a superimposed gonadal deficiency, with its typical obesity, or an altered glucose tolerance curve in an advanced case with hepatic damage. In addition, a history of great longevity without senility of the forebears is obtained.

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* Striker[5] has demonstrated that a patient maintaining a blood sugar of over 400 mg. had definite hypoglycemic reactions, pointing out that it is the suddenness of the fall in blood sugar which produces general reactions and not the level from which or to which it may have fallen.

Since the *gastrointestinal system* is particularly sensitive to emotional stress, many symptoms involving the digestive tract are reported. Chief among these is a dull ache or dragging or gnawing sensation in the epigastrium. With upset of carbohydrate metabolism pain or distress may occur in the epigastrium referred from the liver. In addition, these patients often have alternate periods of diarrhea and constipation. Their stools are frequently in the form of scybala, and chronic mucous colitis or chronic ulcerative colitis may develop. Bercovitz,[6] in his treatment of ulcerative cases with adrenal cortical extract, states that, "It is quite obvious from even a casual observation of these patients that they are deficient in their adrenal cortical output."

GENITOURINARY COMPLAINTS.—The menarche has its onset somewhat later than average, and although it occurs regularly, there is an atypical flow lasting about seven days with profuse bleeding. In 33 per cent of the cases the peculiar aspect of this type of flow was that it ceased on about the fourth day almost completely or with just slight staining, started up again profusely on the fifth or sixth day, and then slowed up or stopped on the seventh. Eighty-five per cent of the women had premenstrual tensions with such manifestations as nervousness and emotional instability, headaches, and the accentuation of carbohydrate craving and, particularly in the alcoholic group, an almost uncontrollable desire to start drinking again. Dysmenorrhea is a frequent complaint because of infantile uteri, markedly retroflexed or retroverted. These small uteri may be the cause of the repeated spontaneous abortions recorded in this series. It is possible that the abortions result from the fact that although the fetus grows at a normal rate, this rate is disproportionate to the rate of development of the uterus.*

Most of the men were found to have normal sexual development. The secondary sex characteristics, aside from the hair distribution, were normal. In Timme's syndrome, in addition to an adrenal insufficiency, there is a persistence of the thymus together with a gonadal deficiency, accounting for the low blood pressure, hypoplasia of the heart and vessels, and the characteristic scrotal fold surrounding the base of the underdeveloped penis in preadolescent boys. At times in this latter condition there is an abnormal bony structure simulating that seen in Paget's disease. In chronic alcoholism many cases of gonadal atrophy and gynecomastia were observed resulting in sterility or loss of libido.

PERSONALITY MANIFESTATIONS.—Hypoadrenocortical patients are usually very meticulous in all of their work. They are perfectionists who often drive themselves to exhaustion since they do not know the meaning of the word "relaxation." Their greatest periods of activity occur after meals. Sluggishness, lack of concentration, etc., occur just prior to lunch when the blood sugar is at a low ebb. There is a feeling of well-being after eating, but symptoms again become severe at about 3:00 or 3:30 in the afternoon. This depression can be alleviated in approximately twenty minutes by eating a bar of candy, but unfortunately, an even greater period of depression is experienced an hour or two afterward. Of much greater value would be the ingestion of a glass of milk or some fruit at this time. These patients feel best after their principal meal in the evening, and this feeling of well-being lasts for several hours. More profound personality involvements are seen in some patients with actual schizoid tendencies, particularly in the younger individuals, and gratifying results were obtained with the treatment to be outlined later. These severe personality defects had been previously classified as schizophrenia, manic depression, and postpartum psychosis.

As previously noted, hypoadrenocorticism is often seen in children either or both of whose parents has an adrenal insufficiency. The most outstanding change in such a child is the development of an abnormal craving for carbohydrates. This desire for candy and sweets may be so intense as to be the basis of so-called "behavior problems." In addition, many children complain of suffering from "growing pains." These may conceivably be early manifestations of the rheumatoid type of arthritis which is seen in adults with hypoadrenocorticism.

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* Pertinent to the assignment of abortion tendency in this category of patient is the fact that most effective treatment has been found to be estrogenic hormones and adrenal cortical extract administered during the first eight months of gestation.

It is important to emphasize the fact that individuals of all ages suffering from hypoadrenocorticism can undergo severe personality and emotional changes but which, fortunately, in most instances are reversible.

In studying juvenile delinquents it is well to evaluate the glandular setup of the individuals before passing judgment on their antisocial acts. Included in this series were children considered as serious behavior problems but who responded dramatically to proper regulation of diet with a minimal amount of hormonal therapy. Many children were reported to have a high I.Q. but still failed in their scholastic studies, particularly mathematics which requires concentration, and who after therapy became outstanding honor students. Abnormal sexual behaviors, as exhibitionism and homosexuality, respond favorably if accompanied by adequate psychotherapy.

Alcoholism as a Manifestation of Hypoadrenocorticism

Two distinct groups of alcoholic patients have been observed. The first group comprised individuals who were typical of hypoadrenocorticism, e.g., asthenic in habitus, little or no chest hair, hypotensive, and not infrequently gynecomastic. These patients had varying degrees of hypoadrenocorticism manifested by hypoglycemia, low titer of 17-ketosteroids, etc. Such patients were found to have a constitutionally low tolerance to alcohol and were considered as likely to become alcoholics at an early age. The second group had no pre-existing hypoadrenocorticism but, through alcoholic indulgence, caused damage to the adrenal cortex and to the other glands involved in the metabolism of carbohydrates. These alcoholic patients nearly always exhibited hypoglycemia during their dry periods. [7–10]

We believe that when the blood sugar falls to a certain low level, a craving for alcohol results. Actually, this is a craving for sugar, but these patients inherently know they will respond quicker to the intake of alcohol. Continued drinking produces three changes: (1) eventual decrease of the blood sugar, (2) depletion of the liver glycogen stores, and (3) fatty infiltration of the liver.[11] In this state the liver is unable to detoxify the estrogens, and sex changes found in chronic alcoholism result, e.g., gynecomastia, loss of body hair, and gonadal atrophy.

Physical Findings

APPEARANCE.—The appearance of hypoadrenocortical patients is very characteristic. They are usually tall, fair, and asthenic and have a full head of very fine and abundant hair. The hair distribution on the body, however, is rather sparse. In males the hair on the lower lateral two thirds of the legs is usually absent with little or none on the chest, and there is often a delay in the start of shaving. The palms of the hands show a marked reddening of the thenar and hypothenar eminences, and in some patients even the tips of the fingers become a very brilliant red. The nails are brittle, which may be accentuated if the patient has been subjected to prolonged periods of stress. The skin is thin and dry, but there may be increased sweating of the palms and axillae. There is frequently an easy bruisability as a result of increased vascular fragility. Constitutional therapy as described later has been most effective in clearing such conditions as infantile eczema and, in later life, the neurodermatitides, circumscribed or disseminated, as well as other allergic symptoms of these patients who fall into the allergic diathesis group. These include asthma, allergic rhinitis, hay fever, urticaria, psoriasis, and ichthyosis.

BLOOD PRESSURE.—A hypotension is usually found in association with a droplet shaped heart. Postural hypotension is usual in that the blood pressure may be 105/60 on standing and may be elevated to 120 or 130/70 or 80 on reclining. This is considered to be the reason why many patients find it difficult to fall asleep and reading in a semireclining position for fifteen to twenty minutes is very conducive toward sleep.

POSITIVE ROGOFF'S SIGN.—When pressure is applied over the adrenal area (junction of lower rib with erector spinae muscles), a very definite tenderness, with some patients experiencing excruciating pain, may be elicited.

SWELLING OF THE EXTREMITIES.—This symptom is found in alcoholics, arthritics, and many other cases of hypoadrenocorticism. It is probably a result of changes in the sodium-potassium relationship. It responds readily to therapy and occasionally to the simple expedient of providing additional salt to the diet. In our patients we have observed ankle edema resulting from the poor peripheral circulation, particularly with a sudden change in temperature or atmospheric pressure. Some may have a marked puffiness of the lower lids upon awakening which does not subside for a couple of hours or until the circulation has improved by activity. Several cases of nephrosis in children with marked generalized edema and ascites, included in our series, have responded to the general treatment as outlined for hypoadrenocorticism.

PIGMENTATION.—Generally, hyperpigmentation of the skin or palmar creases is not a consistent finding. In several cases, including two children with the nephrotic syndrome, an almost black discoloration of the entire skin faded within two weeks of therapy. Other cases had vitiligo without demonstrating the severe symptoms of Addison's disease.

Laboratory Findings

LOW BLOOD SUGAR.—Much information can be obtained from the glucose tolerance test. It is helpful in evaluating the condition of the liver (reaching hyperglycemic levels), pancreas (hypoglycemia), adrenal cortex, and pituitary (low flat curve).

LOW BASAL METABOLISM.—Some texts have referred to this condition as being an atypical hypothyroidism because of the regular incidence of a low basal metabolic rate. In almost all these cases a basal metabolic rate of -11 to -15 is found. A low basal metabolic rate is not necessarily an indication for thyroid medication, especially since these patients have been found to be extremely sensitive to thyroid extract, a fact which can be explained by the physiologic relationship between the thyroid and the adrenals.[12]

LOW TITER OF 17-KETOSTEROIDS.—Another indication of adrenal involvement is the low titer of 17-ketosteroids. The normal range is 12 to 15 mg. in men and 8 to 10 mg. in women, whereas in these patients we may find 3 to 12 mg. in men and 2 to 8 mg. per twenty-four hours in women. However, much higher levels are possible if the determination is made at a time of stress or strain.

BLOOD COUNT.—A relative lymphocytosis (35 to 55 per cent), an eosinophilia (1 to 9 per cent), and a moderate neutropenia have been recorded in our series.

OTHER TESTS.—These include the Robinson-Kepler-Power water test and its modifications by Soffer and Gabrilove and, more recently, by Oleesky[13]; the Thorn eosinophil test; the salt deprivation test; the prolonged fast; the intravenous glucose tolerance test; and the insulin sensitivity test. These usually give corroborative information but are not to be considered as diagnostic, and moreover, the latter four may entail some danger to the patient. Equivocal values have been obtained in determinations of the serum sodium, potassium, and chlorides as well as urinary 17-hydrocorticoids. However, electrocardiographic observations in hypoadrenocorticism and particularly in acute or chronic alcoholism reveal a lowering or inversion of the T waves indicating hyperkalemia which disappears after a few days treatment with adrenal cortical extract.

Grouping of Adrenal Steroids

Every symptom of hypoadrenocorticism may be accounted for by a particular group of hormones produced by the adrenal cortex, of which about 28 have been isolated. These hormones may be divided into three groups:

1. Glucosteroids: These steroids function principally in the control of carbohydrate (and protein) metabolism. Failure to utilize sugar properly is the chief cause of symptoms in this syndrome.
2. Mineralosteroids: The water-salt balance of the body is dependent upon these steroids; the imbalance resulting from the excessive excretion of urinary sodium and cellular retention of potassium accounts for the lack of perspiration, craving for salt, and characteristic electrocardiographic findings.
3. Sexogens or 17-ketosteroids: These include the estrogens, androgens, and progesterone-like compounds, any one or combination of which may alter the sex characteristics of the individual.

Treatment of Hypoadrenocorticism

Because the symptoms of hypoadrenocorticism are often so similar to those found in patients with purely psychosomatic disorders, differentiation between those on a psychic basis and those resulting from an adrenal insufficiency is necessary. A complete history, thorough physical examination, and indicated laboratory tests are usually sufficient. In this category of patients treatment should be started only after a diagnosis has been reached through an evaluation of the facts and results obtained from them. In certain urgent categories the therapeutic test must antecede final diagnostic evaluation.

It has been observed that patients respond more rapidly to treatment if they are given a complete but simple explanation of the nature of their illness. Patients with hypoadrenocorticism are subject to various stresses and must be told how they are harmfully affected by such things as dietary indiscretions, fatigue, worry, etc. They will adjust their activities and keep to the prescribed diet more willingly if they understand how emotions can produce symptoms and how excessive carbohydrate intake produces their feelings of fatigue and weakness following a short period of well-being. Once the nature of their condition has been discussed, the three aspects of treatment may then be instituted.

Adjustment of Activity.—Many of these patients have worked out routines for themselves which help in controlling their symptoms. They soon realize that they can prevent hypoglycemic reactions by eating between meals, taking snacks before retiring, eating less at mealtime, etc. A number of them have learned to avoid eating candy because the transitory respite is offset by the ensuing aggravation of symptoms. The most difficult part of their readjustment is to learn how to avoid fatigue. They must be taught how to take environmental and emotional stresses in stride. Many learn to reduce their activities; others, through discussions of a psychotherapeutic nature, soon change their attitudes and ideas. This aspect of treatment is most important and probably most difficult to achieve quickly and successfully.

Drug Therapy.—The primary aim is to put the adrenal cortex at rest temporarily in order to allow the cells to return to a functioning state so that subsequently they may respond normally to stress. Sufficient amounts of adrenal cortical extract are given so that the target organs depending on these hormones are adequately supplied to return to normal function. Depending upon the severity of the condition 10 cc. of adrenal cortical extract are administered intravenously at varying intervals ranging from every four hours initially to as long as once a week. Eventually the patient may be expected to progress satisfactorily without the injections, provided there is no undue abuse of any one or combination of the factors discussed, i.e., diet, emotional and physical exertion. As the signs of adrenal cortical insufficiency diminish, the dosage of adrenal cortical extract is gradually reduced. Drug therapy application utilizes not only adrenal cortical extract but also autonomic blocking agents as well. Their respective operations are elaborated:

*Adrenal Cortical Extract.**—This tends to adjust carbohydrate metabolism by supplying glucosteroids, to correct water-salt imbalance through its mineralosteroid activity, and to mediate secondary sex characteristics which are controlled by the precursors of the 17-ketosteroids. Once the symptoms of adrenal insufficiency are alleviated, the adrenal cortical extract is curtailed, being reinstituted if indicated at the time of periodic checkups.

Agents Influencing the Autonomic Nervous System.—The autonomic nervous system undoubtedly plays a major part in converting emotional stimuli into symptoms. In order to minimize the role of emotions in the production of functional symptoms in patients with adrenal insufficiency, it has been found advisable to prescribe a combination of 1-hyoscyamine, ergotamine tartrate, and phenobarbital (Bellergal).† Large doses of this preparation are not required because of a probable synergistic action with adrenal cortical extract. Patients are generally started on three tablets a day, one on arising, one at about two o'clock in the afternoon before the expected fall in blood sugar, and then one between dinner and retiring. After approximately one to two months the Bellergal is reduced to two tablets a day and then to one tablet daily. This dosage has been continued for as long as six years. This autonomic preparation helps reduce the intensity of the emotional stimuli, thus acting to prevent the development of functional disturbances.

Diet.—We cannot overemphasize the importance of a proper diet. These patients will usually adhere to the prescribed diet, once they realize from our discussion that dietary indiscretions will cause an exacerbation of their symptoms. The diet essentially consists of the strict elimination of rapidly absorbed carbohydrates in order to obviate the sudden rise in blood sugar with its subsequent fall. Between meals, feedings of milk or fruit are advised to prevent any slackening off of blood sugar levels, which are prone to occur two to three hours after eating. Salt is allowed in unrestricted amounts because of the tendency to sodium depletion. During hot weather we advise supplementary salt in the form of tablets to replace the loss caused by perspiration. The following is a list of foods permitted and to be avoided:

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* Eschatin, Parke, Davis Co., Detroit, Michigan.

† Bellergal, Sandoz Pharmaceuticals, Hanover, New Jersey.

ANTIHYPOGLYCEMIA DIET

Foods Allowed

- All meats, fish, and shell fish
- Dairy products (eggs, milk, butter, and cheese. Also recommended—1 pint to 1 quart of acidophilus milk daily)
  Milk between meals; milk, cheese, and/or butter and saltines before retiring
- All vegetables and fruits not listed below
- Salted nuts (excellent between meals)
- Peanut butter
- Protein bread
- Sanka, weak tea, and sugar-free sodas
- Soybeans and soybean products
- Sucaryl as a substitute for sugar

Foods to Avoid

- Potatoes, corn, macaroni, spaghetti, rice
- Pie, cake, pastries, sugar, candies
- Dates and raisins
- Cola and other sweet soft drinks
- Coffee and strong tea
- All hot and cold cereals (except occasionally oatmeal)

Comment

The thesis that hypoadrenocorticism is a syndrome entity has been made. Its symptoms typify those found in adrenal cortical disease. The usual case presents those of a subclinical degree. While many of the latter point to emotional instability, they are primarily functional in nature and actually can be considered as being directly attributable to a hypofunction of the adrenal cortex. Adrenal cortical hormones have been shown to play vital roles in maintaining homeostasis in many abnormal conditions involving stress, and, therefore, the adrenal cortex appears to control this homeostatic mechanism of the body.

The use of the whole adrenal cortical extract in the treatment of adrenal disease, neglected since the development of adrenocorticotropic hormone and cortisone, is herein re-emphasized. It must be pointed out that these latter agents produce dramatic and permanent results only in such acute conditions as, for example, delirium tremens, certain ophthalmologic diseases, and other emergency crises, but the results are only temporary in chronic conditions, specifically the collagen diseases.

Unfortunately, adrenal cortical extract therapy has been employed empirically regardless of clinical observations and with apparent lack of rationale. However, with adequate dosage many conditions under the heading of "hypoadrenocorticism" have responded favorably. But, it has been argued, the amount of beneficial glucocorticoids (cortisone) in 10 cc. of adrenal cortical extract is minimal and of about the order of 1 mg. of cortisone-like activity. Why then should such good therapeutic results be obtained with it?

As yet, no reliable laboratory tests have been devised to determine adrenal cortical activity, particularly when the gland has not been damaged by infectious or toxic agents. Clinically we have shown that the activity of adrenal cortical extract is far above that which is expected from its ascribed cortisone content. From our own clinical observations we feel that there is something physiologic about adrenal cortical extract since there is probably a balanced mixture of adrenal cortical hormones, whereas the current literature is increasingly warning us that there is something very unphysiologic about cortisone.

No one has yet distinguished between the effects of adrenal cortical insufficiency and adrenal cortical imbalance. It would be perfectly possible to have sufficient amounts of "S" and "N" hormones, as Albright[14] classifies them, yet if one were present in excess of the other, the mutually antagonistic forces would be upset and would give rise to clinical signs. Cortisone, hydrocortisone, or glucocorticoid substances apparently alleviate certain disease processes, probably via biocatalytic modification of enzyme systems. That is to say, it is not cortisone specifically but glucocorticoid activity that gives beneficial results in relieving most of the symptoms of Addison's disease. Who knows whether or not other, still unisolated corticoids will not prove to have still greater activity along these lines and that they may be suppressed or minimized by creating an artificial imbalance by the injudicious use of synthetic steroids.

Aside from the possibility of artificially creating an imbalance, we must also consider the effects of indiscriminate exclusive steroid medication on tropic influences. ACTH is now almost universally viewed as the tropic hormone for cortisone. Is it also to be considered the tropic influence for the other 27 steroids, or do these compounds appear solely as a physiologic response to the needs of the body? The evidence is more and more pointing to the fact that specific steroids may require specific tropic hormones. Selye[15] feels that somatotropic hormone (STH) may be a tropic hormone for the adrenal cortex, stimulating the production of desoxycorticosterone acetate.

Is there then more than one ACTH, or does this compound serve to stimulate compound E and compound F as well as all the other compounds with similar activity? The possibility of the presence of more than one ACTH has already been proposed.[15] With this in mind, if we view the adrenal in hypoadrenocorticism as a "tired out" gland, unable to produce the correct or adequate supply of hormones, being constantly bombarded by stimulatory influences from above, we are in a better position to evaluate adrenal cortical extract versus cortisone or ACTH therapy. If we give ACTH, we are, so to speak, whipping a tired horse, getting a little extra cortisone to be sure, but at what expense? If we give cortisone, we stop the bombarding of the gland by tropic influences from above with respect to the cortisone only. What about the tropic influences for the other steroids? Now, if we give adrenal cortical extract, presumably we are supplying the adrenal steroids in the same ratio to each other that they normally bear. Increased amounts of these in the bloodstream would tend to shut off all tropic influences by the general rule of endocrinologic action. If 10 cc. of adrenal cortical extract are given intravenously, that is certainly not replacement therapy (since the daily adrenal output is many times that amount), but at the time of injection, blood circulating in the region of the pituitary contains increased amounts of the whole circulating hormones. This shuts off all pituitary tropic influences, not just ACTH for cortisone. The adrenal is not under constant bombardment until the adrenal cortical extract is metabolized in the liver or tissues. The inhibition is off the pituitary, and tropic hormones are again released if the need arises. In the meantime the tired adrenal has had a chance to rest and to build up its tone. At this time another injection of adrenal cortical extract will suffice again to allow it to regain more tone but will not entirely cause a cessation of activity, as would large doses of cortisone, for the glucocorticoid portion.

Usually desoxycorticosterone acetate is not indicated in these cases. There is most frequently a craving for salt, which is not harmful in itself if given with adrenal cortical extract but which must be regulated when the patient has received this mineralosteroid. Although desoxycorticosterone acetate may improve the absorption of carbohydrates from the intestine, it does not enhance gluconeogenesis during stress, and clinical results have not warranted its general usage in hypoadrenocorticism.

Summary

An attempt has been made to condense and describe a vast syndrome which has been recognized in a group of over 200 patients. *Diagnosis is possible by means of a careful endocrine history and physical examination, rather than by elaborate laboratory tests.* We have observed that hypoadrenocorticism may result in fatigue, mental confusion, various arthritic pains, gastrointestinal disorders, inability to concentrate, signs of disturbed carbohydrate metabolism, etc. These patients respond to therapy which includes an autonomic stabilizer, adrenal cortical extract injections, and an antihypoglycemia diet. The rationale for adrenal cortical extract therapy has been discussed.

30 SOUTH BROADWAY

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The Synchronous Occurrence of Benign Fibrous Tissue Neoplasia in Hereditary Adenosis of the Colon and Rectum

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HEREDITARY adenosis of the colon and rectum, a clinicopathologic entity, was first described as such by Cripps in 1882. The disease is mendelian dominant and characterized by a single dominant gene. The transmission may be through either parent. About one half of the children of an affected parent have the disease, while all the children of those parents not affected are normal (Fig. 1).

It has been reported by Dukes[1] that families with hereditary adenosis have no proclivity for the development of tumors other than in the colon and rectum. In view of this report it was interesting to note the synchronous occurrence of benign fibrous tissue tumors in a number of our cases with hereditary adenosis of the colon and rectum. To our knowledge, no similar observation has been recorded in the literature. The following brief case histories will demonstrate the above-mentioned synchronous pathologic changes.

Case Reports

CASE 1.—L. H., an adult male, age twenty-three, was admitted to Roswell Park Memorial Institute in September, 1944 (Fig. 1). After the history was recorded and physical examination and sigmoidoscopic and barium colon studies were completed, a diagnosis of hereditary adenosis of the colon and rectum was established. An annular, constricting carcinoma was located in the midrectum. An abdominoperineal resection of the rectum was completed. The patient refused further surgical intervention and died two years and four months postsurgical resection from complications arising from the hereditary adenosis.

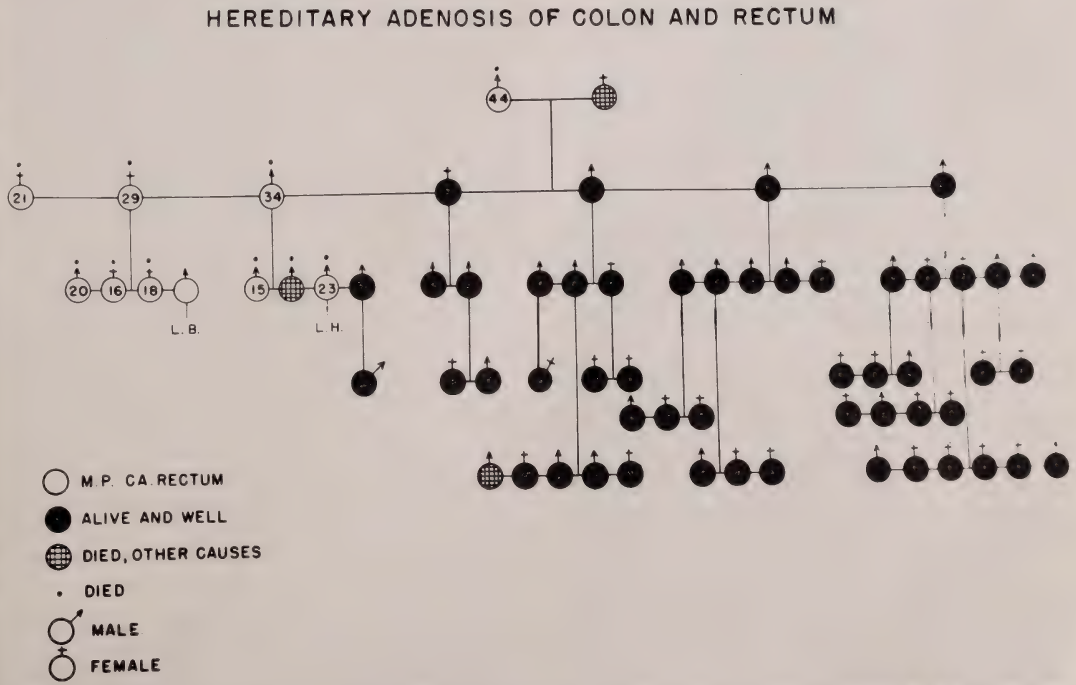

FIG. 1. Genealogy of four generations (64 members) of a family with hereditary adenosis of the colon and rectum, originally investigated by McKenney[2] and now under study at Roswell Park Memorial Institute.

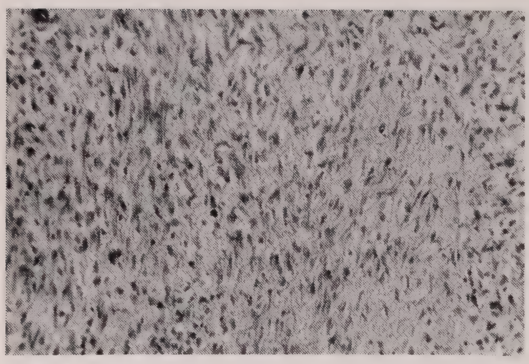

FIG. 2. *Case 1*—Desmoid tumor from abdominal wall.

Several months prior to his death a tumor mass developed in the fascial planes of the abdominal wall about the colostomy stoma. A similar but distinct mass involved the abdominal wall in the upper right quadrant. Clinically, we were convinced that they represented abdominal wall malignant implants. Unfortunately a biopsy was thought to be unnecessary.

Postmortem examination revealed evidence of hereditary adenosis of the colon. No recurrent malignancy was demonstrated.

The tumor mass in the region of the colostomy stoma measured 15 by 7.5 cm. The tumor in the upper right quadrant measured 7 cm. in diameter. Histopathologically, both of the lesions were reported as typical desmoid tumors (Fig. 2).

CASE 2.—M. L., an adult white female, age thirty-six, was initially admitted to the Buffalo General Hospital on October 6, 1945. Established diagnosis was hereditary adenosis of the colon and rectum associated with a carcinoma of the sigmoid colon. A staged resection of the colon and rectum was planned and completed.

Six months after surgical resection a tumor mass developed in the fascial planes of the lower abdominal wall. On February 23, 1950, this tumor mass was resected. It measured 16 by 8 by 8 cm. The histopathologic report was typical desmoid tumor.

CASE 3.—H. T., an adult male, age sixty-one, was admitted to the Roswell Park Memorial Institute on August 22, 1949. Established diagnosis was hereditary adenosis of the colon and rectum associated with a carcinoma of the cecum. On September 22, 1949, a right hemicolectomy was completed with the establishment of an end-to-side ileotransverse colostomy.

On October 2, 1950, it was planned to re-enter the abdomen to complete the colectomy and establish an ileosigmoid colostomy. At operation a firm tumor mass about 7 cm. in diameter was noted involving the mesentery adjacent to the previously established ileotransverse colostomy. The tumor mass on gross inspection and palpation was considered to be recurrent malignant disease. A long segment of ileum and the entire transverse colon along with the adjacent mesentery was resected. The pathologic diagnosis was benign fibrous tissue tumor.

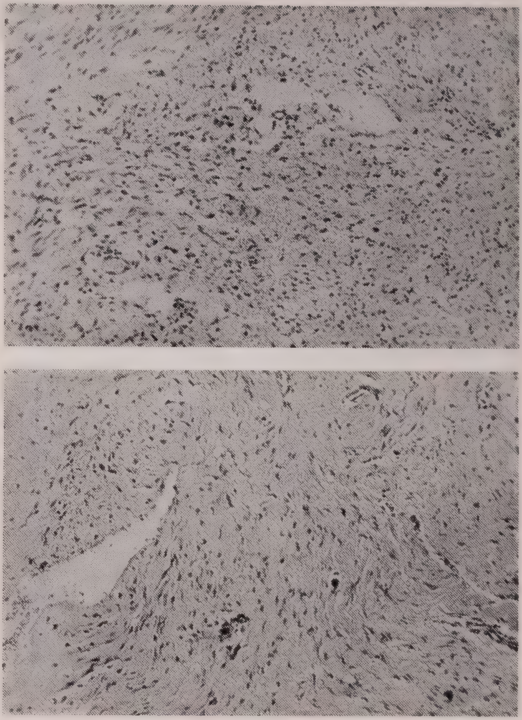

FIG. 3. *Case 3*—Identical histopathology of intra-abdominal fibrous tissue tumor (*top*) and fibrous tissue tumor of abdominal wall (*bottom*).

The patient was observed at frequent intervals but refused further surgical intervention. On March 3, 1952, a year and five months later, a tumor mass was felt involving the fascial planes of the abdominal wall adjacent to the upper third of the surgical incision. A clinical diagnosis of an abdominal wall desmoid tumor was established. A biopsy from this tumor was removed, and the histopathologic diagnosis returned as benign fibrous tissue tumor. It is interesting to note that the abdominal wall tumor and the intra-abdominal tumor above described were histopathologically identical (Fig. 3). It is also of interest to note that this patient had two brothers. One had a carcinoma of the rectum associated with an adenosis of the ascending colon and a leiomyoma of the terminal ileum. The other had a celiotomy which showed evidence of a primary carcinoma of the sigmoid colon with intra-abdominal carcinomatosis.

CASE 4.—J. E., an adult male, age fifty-eight, was admitted to the Roswell Park Memorial Institute on August 24, 1949. Established diagnosis was hereditary adenosis of the colon and rectum with malignant changes in the rectum.

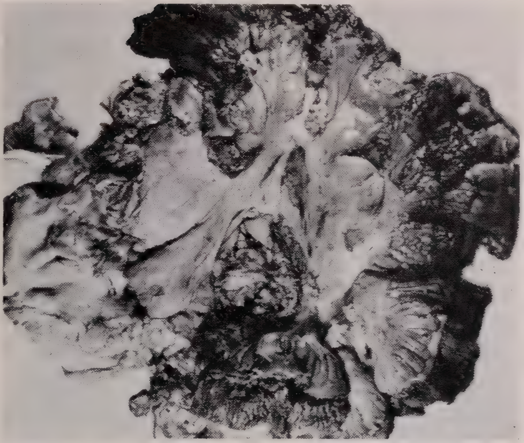

FIG. 4. *Case 4*—Section of small bowel and mesentery showing many benign mesothelial papillomas and the fibrous tissue tumor encroaching on the mesentery of the small bowel.

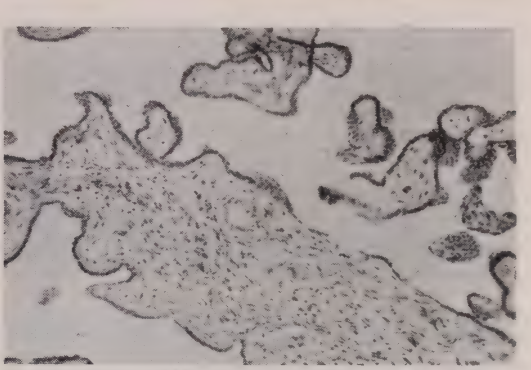

FIG. 5. *Case 4*—Mesothelial papilloma of the mesentery.

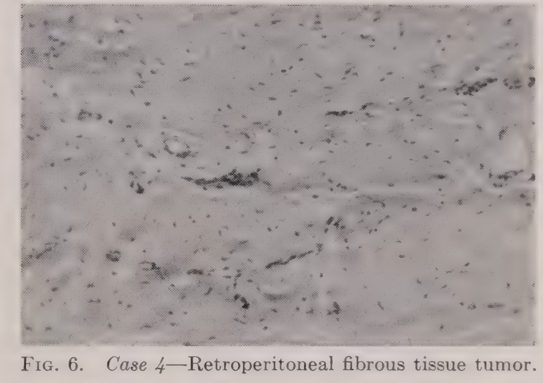

FIG. 6. *Case 4*—Retroperitoneal fibrous tissue tumor.

On July 27, 1949, prior to his admission, an exploratory celiotomy was completed which disclosed, according to information received from his referring surgeon, the presence of a large, firm tumor mass in the retroperitoneal and rectocecal space, extending to the left beyond the midline and cephalad in the region of the liver. It was fixed to the posterior abdominal wall and nonresectable. He also noted multiple papillary tumors projecting from the visceral and parietal peritoneum (Fig. 4). Several of these tumors were removed for histopathologic study. The diagnosis was mesothelial papilloma of the peritoneum (Fig. 5). A subsequent biopsy of the retroperitoneal tumor removed at the Roswell Park Memorial Institute proved it to be a benign fibrous tissue tumor (Fig. 6). The patient expired on August 12, 1952, from complications arising from the hereditary adenosis. Several months prior to his death a fusiform, hard tumor mass was felt involving the upper third of the right femur. Postmortem examination revealed (1) hereditary adenosis of the colon and rectum, (2) benign mesothial papilloma of the peritoneum, (3) carcinoma of the cecum, sigmoid colon, and rectum, (4) retroperitoneal fibrous tissue tumor, and (5) osteoma of the right femur (Fig. 7).

CASE 5.—L. B., age twenty, was admitted to the Roswell Park Memorial Institute on December 16, 1949 (Fig. 1). Established diagnosis was hereditary adenosis of the colon and rectum.

On January 21, 1950, a colectomy and an ileosigmoid colostomy were completed. Following the resection of the colon and in spite of repeated coagulation the adenosis of the rectum recurred. Since the clinical impression was that malignant changes were about to take place, an abdominoperineal resection of the rectum with the establishment of a permanent ileostomy was completed on January 21, 1952. On exploration of the abdomen during the last surgical procedure, the mesentery of the terminal ileum from the bowel wall to the root of the mesentery was involved in a dense uniform mass measuring 2.5 cm. thick and extending along the mesentery for a distance of 14 cm. The involved segment of the mesentery along with the adjacent ileum was resected before the establishment of the permanent ileostomy. The histopathologic report was fibrous tissue hyperplasia (Fig. 8).

On examination this patient also presented a small osteoma of the right frontal bone. The patient is alive and well to date and free of disease.

CASE 6.—D. B., male, age thirty-three years, was admitted to the Roswell Park Memorial Institute on October 10, 1953. Established diagnosis was hereditary adenosis of the colon and rectum. Malignant changes occurred in the colon and upper rectum. A one-stage colectomy with the establishment of an ileoproctostomy was completed.

History revealed that when he was nine years of age, a mass developed in the region of the right parotid gland that was thought to be mumps. The mass had not regressed and, on admission examination, presented as a firm tumor confluent with the parotid

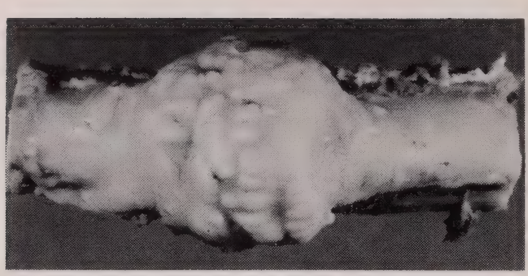

FIG. 7. *Case 4*—Osteoma of right femur.

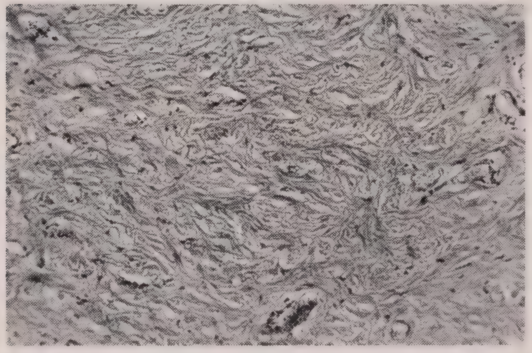

FIG. 8. *Case 5*—Histopathology of mesenteric tumor mass.

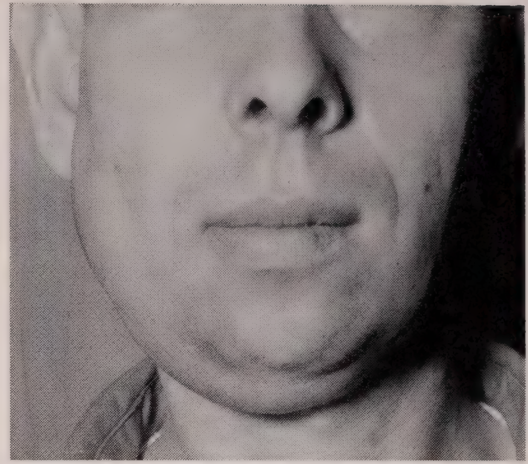

FIG. 9. *Case 6*—Fibrous tissue tumor mass involving the parotid gland and adjacent structures.

gland, extending over the angle and body of the mandible into the neck. A separate movable mass was felt in the subcutaneous tissue of the right cheek (Fig. 9). Biopsies from the parotid mass were reported as dense fibrous tissue.

The patient is alive and well to date.

Comment

The occurrence of two separate desmoid tumors of the abdominal wall in a male is indeed a rare pathologic finding (Case 1). The literature relates that approximately 85 to 90 per cent of abdominal wall desmoid tumors occur in women, the majority of these in women who have recently born children.

The hereditary adenosis of the colon and rectum with a carcinoma of the cecum, sigmoid, and rectum, a benign mesothelial papilloma of the peritoneum, a retroperitoneal fibrous tissue tumor, and an osteoma of the right femur occurring in Case 4 is, from a perusal of the literature, the only such case on record. It is more significant that these tumors occurred synchronously with a known hereditary disease.

We were well acquainted with McKenney's[2,3] work in the field of hereditary adenosis of the colon and rectum. It was through his reference of L. H. in 1944 and L. B. in 1949 to the Roswell Park Memorial Institute for definitive surgery that prompted us to bring the genealogy of this family up to date following McKenney's death (Fig. 1). It is of interest that four members of the second generation, from their statements and the statements of their family physicians, are alive and well and have no evidence to date of any benign or malignant neoplasia. Their ages now range from fifty-three to sixty-one years. This is also true of their children and grandchildren. Very little if any significance can be attached to this information. It is merely mentioned to stimulate others who are interested in this problem to review their findings. Whether it is possible from a genetic standpoint that members of families with hereditary adenosis who are recessive to adenomas of the colon and rectum have a hereditary cell stability that inhibits somatic cells to neoplastic changes is an interesting speculation.

Conclusion

Careful follow-up examinations of patients suffering from hereditary adenosis of the colon and rectum will, we believe, result in the finding of other neoplastic lesions not confined to the colon and rectum. Fibrous tissue tumors associated with hereditary adenosis of the colon and rectum cannot be explained on chance occurrence. We are convinced that heredity is an important factor in their etiology.

The unusual fibrous tissue behavior noted in the reported cases is unique in hereditary adenosis of the colon and rectum. We have not encountered the same behavior in any other disease entity.

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Homologous Serum Hepatitis as a Complication of Transfusion

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Homologous serum hepatitis is an inflammatory disease of the liver produced by the parenteral inoculation of blood, plasma, or serum obtained from carriers of certain hepatotropic viruses. At least two such groups of viruses have been implicated: (1) the IH virus or virus A, which also produces infectious (epidemic) hepatitis when naturally transmitted via the fecal-oral route, and (2) the SH virus or virus B, which is active only on parenteral inoculation. The term "homologous serum hepatitis" is, therefore, an epidemiologic one merely indicating *the source of the virus and not the virus type.*[1] Thus, the incubation period and, to some extent, the clinical characteristics of homologous serum hepatitis will vary according to the type of virus involved.

While insects may conceivably play a role in the transmission of this disease[1] and although transplacental transmission of the disease from mother to fetus has been reported,[2] the physician and his aids still constitute the principal proved vectors. Spread of the disease by needles and other instruments contaminated with infected blood or serum can be controlled by heat sterilization technics; as of the present time, however, *no* method has been found to eliminate the hazard of hepatitis following the use of blood and certain of its products. It is vital, therefore, that the physician, as the unwilling vector of the disease, be thoroughly familiar with it in all its aspects.

Available statistics on the frequency of hepatitis following the use of whole blood and pooled plasma are at best rough approximations of the true incidence since follow-up of transfused persons is difficult and subclinical cases are usually unrecognized. The best estimates range from 0.2 to 1 per cent for whole blood[3] with a mortality of one in 6,000 transfusions.[4] The incidence following the use of ultraviolet-irradiated pooled plasma naturally varies with the size of the plasma pool and is estimated at 1.5 per cent for small 5- to 10-unit pools and from 4.5 to 12.8 per cent with large 100- to 5,000-unit pools.[5] Neither purified human gamma globulin,[6] albumin,[7] nor antihemophilic globulin, as prepared by the ethanol precipitation method, have been known to transmit the disease, although hepatitis has been reported after the use of topical thrombin.[8]

TABLE I.—Observed Differences Between Viruses IH and SH*

Observation	Virus IH	Virus SH
Virus demonstrated in	Blood and feces	Blood only
Oral ingestion of known infectious serum	Clinical hepatitis	No hepatitis
Parenteral injection of infectious serum	Clinical hepatitis	Clinical hepatitis
Oral ingestion of feces suspensions	Clinical hepatitis	No hepatitis
Usual incubation period	2 to 6 weeks	$1^{1}/_{2}$ to 6 months
Incidence after 30 years of age	Sharp decrease	No apparent decrease
Usual type of onset	Abrupt, febrile, often a chill	Insidious, afebrile, chill or temperature under 100 F. rare
Prevention by gamma globulin	Yes	No
Immunity after infection by		
Virus IH	Present	Absent
Virus SH	Absent	Present up to 1 year

* Adapted from Neefe,[1] reprinted through the courtesy of the *American Journal of Medicine.*

The viruses of homologous serum hepatitis, IH and SH, differ in many respects—epidemiologically, immunologically, and clinically. These differences are summarized in Table I, adapted from the excellent review article by Neefe.[1]

The IH virus is present in both blood and feces, while the SH virus has been found only in blood. Neither has been demonstrated in urine or in nasopharyngeal secretions. The IH virus can cause hepatitis following either oral ingestion or parenteral inoculation, while the SH virus is infectious by parenteral injection only.

The incubation periods of the two viruses

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differ. That of the IH virus is two to six weeks, whether it is introduced orally or parenterally, and that of the SH virus is six weeks to six months. These figures vary, and a considerable area of overlap between the two exists. Homologous serum hepatitis, regardless of the virus type, is most common in the adult age groups in which blood and its products are most apt to be used.

Clinically certain differences between the viruses may be observed. Hepatitis due to IH virus usually has an abrupt onset, often accompanied by fever and occasionally by a chill. SH viral hepatitis, in contrast, is characterized by an insidious onset and absence of temperatures over 100 F. However, in both types the variation in clinical course is great, ranging from an asymptomatic condition, detectable only by laboratory tests, to fulminant fatal hepatic decompensation.

The frequency of subclinical IH infection in the younger age groups undoubtedly explains adult resistance to the IH virus and the effectiveness of gamma globulin prepared from adult pooled plasma in preventing IH infection. There being no cross immunity between IH and SH viruses, no such resistance to the latter virus is observed, nor does gamma globulin prevent or modify hepatitis due to SH infection. In contrast to the apparent lifelong immunity induced by infection with the IH virus, active immunity following SH infection appears to last only about one year.

Clinical Course

The symptomatology and physical findings of the typical patient with hepatitis are too familiar to warrant repetition here.[1] Homologous serum hepatitis has an excellent prognosis and a low mortality which, nevertheless, is said to exceed that of naturally occurring infectious hepatitis. The difference may, however, be due to the greater distribution of the former disease among older age groups and to a higher frequency of associated disorders.

While the vast majority of patients with homologous serum hepatitis recover uneventfully within four months, an appreciable number will develop complications varying from mere prolongation of the clinical course to fatal hepatitis. The latter is, fortunately, relatively rare and occurred in only 0.2 per cent of the famous SH epidemic of 1942, which followed yellow fever vaccinations of American soldiers. However, mortality rates in certain smaller epidemics following the use of blood or plasma have ranged as high as 20 per cent.

Every case of hepatitis must be regarded as potentially serious since at the outset it may be impossible to differentiate the fatal case from the mild case. Fatal cases are of two types, fulminant or subacute. The former may terminate abruptly in from two to ten days, sometimes even before jaundice has appeared, while in the latter death occurs three to ten weeks after the onset of the disease with a clinical picture of subacute hepatic insufficiency.

In 15 to 20 per cent of patients with hepatitis an exacerbation may take place prior to complete recovery, most often upon resumption by the patient of physical activity. Such cases are generally designated as "recurrent" or "relapsing" hepatitis. Ninety-five per cent heal completely within a year, and the remaining 5 per cent either terminate fatally or enter a chronic hepatitic phase. True relapses occur within six months of the initial attack; interval periods of greater length suggest a new infection unrelated to the initial episode.

The term "prolonged hepatitis" is applied to those cases of acute hepatitis that fail to heal within the usual four-month period but eventually attain complete recovery. Included herein is the interesting group of so-called "cholangiolitic" hepatitides in which the flocculation tests may be negative or equivocal, while the serum bilirubin, alkaline phosphatase, and serum cholesterol are strikingly elevated.

Clinical and/or laboratory evidence of active disease persisting for more than twelve to eighteen months would warrant classification as "chronic viral hepatitis." This occurs in approximately 3 to 5 per cent of the cases of prolonged hepatitis according to available data. While it is possible that some such cases may eventually recover, the majority undoubtedly enter an irreversible cirrhotic stage. Death results from hepatic insufficiency or from other complications of cirrhosis. The most common type of cirrhosis in such cases is the "postnecrotic" or "coarse nodular" cirrhosis, but portal cirrhosis is also encountered. Biliary cirrhosis may occur in those patients who have had the "cholangiolitic" form of hepatitis.

Among the benign sequelae of hepatitis are such states as the "posthepatitis syndrome" and "familial hyperbilirubinemia." "Posthepatitis syndrome" indicates a persistence of such symptoms as anorexia, easy fatigability, and gastrointestinal complaints without objective clinical, laboratory, or pathologic evidence of continuing liver disease. A negative liver biopsy is, of course, essential in making the diagnosis.

As for familial hyperbilirubinemia its relationship to hepatitis is not entirely clear. It is observed following hepatitis but is also seen in its absence. It is characterized by a persistent elevation in the indirect-reacting serum bilirubin, unaccompanied by other laboratory or pathologic evidence of liver disease.

The Carrier State

The carrier state of the hepatotropic viruses is of salient interest and importance since its study may provide the answer to basic epidemiologic and etiologic mysteries of acute and chronic liver disease. Inasmuch as no suitable laboratory animal has yet been found, investigations have of necessity been restricted to transmission experiments in human volunteers. Furthermore, despite reports of encouraging results with certain skin tests, there is today no practicable and uniform way of making a specific immunologic identification of these viruses. In spite of these handicaps considerable information has been accumulated.

That a sizable number of persons in the general population (possibly from 1 to 5 per cent in some areas) harbor the IH or SH viruses is indicated by the incidence of hepatitis following the use of whole blood. Most of these suspected carriers deny ever having had jaundice. The existence of such an asymptomatic carrier group has been confirmed by Murray *et al.*[9] The inoculation of prison volunteers with serum taken from donors whose blood had previously caused hepatitis produced clinical hepatitis in a significant number of cases. None of these donor carriers admitted having had jaundice at any time, although one did develop jaundice after his original donation of icterogenic blood. In six of the eight donors equivocal laboratory evidence of hepatic dysfunction was discovered, and in three of the proved carriers liver biopsies revealed changes ranging from round cell infiltration and connective tissue proliferation to marked scarring and nodular regeneration.[3] There was a high prevalence of chronic alcoholism among the carriers studied. This raises the following questions: (1) Can asymptomatic viremia produce or contribute to chronic liver disease,* or (2) does chronic liver disease secondary to alcoholism and malnutrition render individuals more prone to viremia?

Still it may be that the carrier state is not always associated with hepatic disturbance. Several proved carriers have been shown to have no clinical or laboratory abnormalities, although liver biopsies were not done in these cases. Much additional study will be required to answer these and other questions.

There is evidence that viremia may persist in carriers for as long as five and one-half years, one such case having been reported by Berk and Malamut.[10] Evidence of transplacental transmission from an asymptomatic carrier mother to her fetus has been reported,[2] suggesting the possibility of congenitally infected carriers. This, along with the known long duration of the carrier state and the probable high incidence of unrecognized IH infections, may explain the large number of infected donors in the general population.

Diagnosis

If one keeps in mind the varying symptomatology of homologous serum hepatitis, the diagnosis is rarely difficult. There is always antecedent contact with blood, its products, or instruments contaminated by blood, although at times this history may be impossible to elicit. The incubation period and the clinical picture will vary according to the virus type, as has been mentioned. While familiarity with the characteristic clinical and chemical findings of hepatitis is general, it should be pointed out that flocculation tests may occasionally be negative in homologous serum hepatitis, particularly in SH infections.[1] In addition, elevation of the serum cholesterol and alkaline phosphatase due to intrahepatic obstruction or to disturbance of the biliary absorption-regurgitation mechanism sometimes occurs and can cause confusion with posthepatic obstruction.

Finally, homologous serum hepatitis without jaundice is too seldom diagnosed and should be looked for more carefully following the use of blood or plasma.

Treatment

There is no specific therapy for homologous serum hepatitis, but fortunately most patients recover spontaneously. While standard treatment of viral hepatitis has consisted, heretofore, of drastic and prolonged restriction of physical activity and a diet high in carbohydrates and proteins and moderate in fats, the results of recent studies in the armed forces may lead to a modification of this routine.[11] It now appears that after the acute symptoms and signs of hepatitis subside, bed rest limited to one hour after meals is adequate regardless of the degree of jaundice. Undue activity and exertion should be avoided by confining patients to a ward. Discharge is permissible after the total serum bilirubin is 1.5 mg. per cent or below and bromsulfalein retention is less than 6 per cent at forty-five minutes. These recommendations, however, apply to patients of military age and must be modified to a certain extent for older age groups and those with other associated illnesses. Here, definite evidence of declining icterus and complete disappearance of symptoms should precede ambulation.[1]

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* Neefe believes the incidence of chronic liver disease to be higher among anicteric than among icteric cases of viral hepatitis.[1]

Diet according to recent work should contain about 3,000 calories with approximately 150 Gm. each of protein and fat. Additional food is permitted if desired. If anorexia is severe, the minimal caloric requirements should be maintained by tube feedings or by intravenous feedings. If hepatic insufficiency is impending, high protein diets should be avoided since they may be harmful. Lipotropic agents such as choline and methionine are indicated only if the nutritional status of the patient is poor. The place, if any, of chlorpromazine (Thorazine) in the treatment of the nausea and vomiting of liver disease is, as yet, undetermined.

Cortisone or ACTH are indicated only in (1) very severe, acute cases, (2) certain cases with delayed recovery or with a tendency to relapse, and (3) the cholangiolitic and the early chronic forms of the disease.[1,12] Rapid reversal of the downhill course of the disease and in the liver chemistries has been described by Rifkin *et al.*,[12] although the ultimate prognosis of the disease may not be affected. The beneficial action of the steroids may in part be secondary to the voracious appetite which they induce. However, the glycotropic effect of the adrenal steroids, as well as their nonspecific "anti-inflammatory" action may account for the rapidity with which they alter the course of the disease. Steroids are of no value in the treatment of the ordinary case of hepatitis.

Prevention

The prevention of homologous serum hepatitis remains an unsolved problem. The lack of a specific immunologic test with which to detect the virus in donors, the prevalence of asymptomatic carriers in the general population, and the failure of ultraviolet irradiation in the sterilization of plasma make the use of whole blood and plasma a risky procedure.[1]

Nevertheless, there is evidence that storage of liquid plasma at room temperature for six months or more may inactivate the viruses.[13] As of the moment, however, the administration of ultraviolet-irradiated pooled plasma entails a 12.8 per cent risk of hepatitis and the administration of whole blood a 0.2 to 1.5 per cent risk. Thus, it would be unwise to employ pooled plasma if whole blood or unpooled plasma can be used. Similarly whole blood should be given only when the indications clearly outweigh the risk.

The prophylactic use of purified human gamma globulin would not be expected to alter the incidence of SH infection following blood or plasma but might abort IH infections transmitted in this manner. Since it is possible that 28 to 42 per cent of homologous serum jaundice may be due to the IH virus,[1] the routine administration of gamma globulin following the use of whole blood transfusions should be considered. IH infection following pooled plasma is probably unusual because of the likelihood of protective antibodies being present.

Screening of donors in an effort to exclude those most likely to harbor the virus is also difficult. All those who admit to previous jaundice are, of course, rejected. This will not eliminate those professional donors who falsely deny jaundice, nor will it eliminate the asymptomatic carrier group or the large group who have had anicteric and subclinical hepatitis. Because of the high percentage of abnormal thymol and zinc turbidity tests among asymptomatic carriers, these tests have been proposed as routine screening procedures for blood banks in the hope that they might effect a reduction of the incidence of the disease.[3] Recent observations on large series of donors have failed to establish their value as a screening test for carriers.[15]

116 East 53rd Street

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The Extrusion Operation for Hydrocele

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HYDROCELE of the tunica vaginalis is treated either by surgery or by sclerosing injections according to individual convictions as to the merits of each method. It is not the purpose of this communication, however, to argue for or against surgical treatment. Since operative procedures still seem to be at least as popular as injection therapy, it appears appropriate to attempt to gain more widespread familiarity with an operation which we believe is superior in most respects to any method of surgical treatment of this condition thus far devised.

The operation of choice in all instances where multiple methods of surgical treatment are available would seem to be the one which most nearly fulfills the following criteria:

1. Efficacy: The end results should be at least as consistently good as with any other operation.

2. Simplicity: The less complicated procedures are much more adaptable to general use. Conversely, difficult operations which give good results only in the hands of the few are not surgically ideal.

3. Safety: Freedom from important complications is of extreme importance both to the patient and surgeon, especially when it is attainable without sacrificing effectiveness.

For the past ten years in the surgical treatment of hydrocele we have employed an operation of obscure origin, first demonstrated to us by Dr. S. Richard Muellner of Boston. We have added slight modifications and titled it the "extrusion operation."

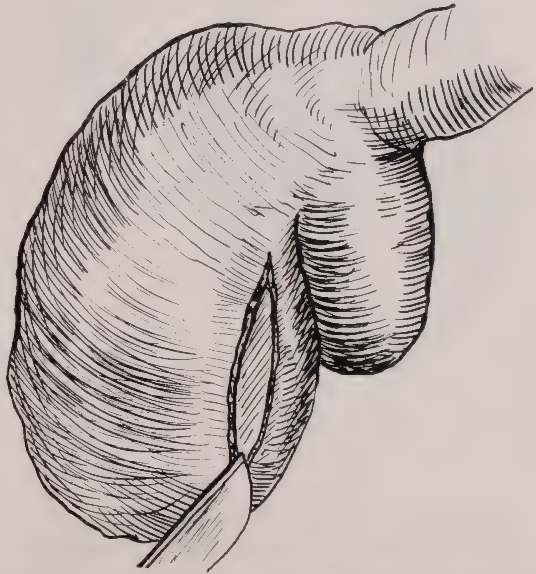

FIG. 1. Incision 1½ inches long through all layers down to hydrocele sac.

The principle of the operation is to protrude the testicle through an incision in the hydrocele sac, following which the cut edge of the sac is

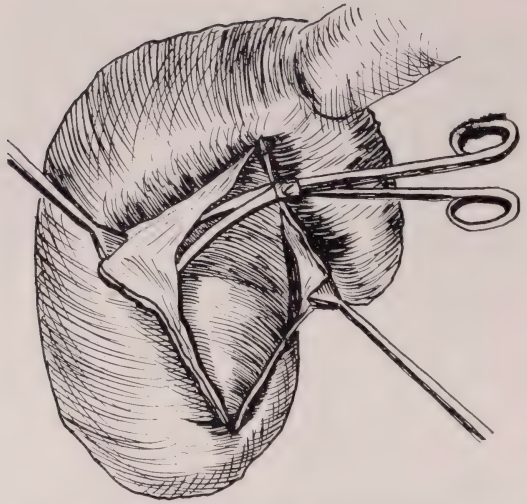

FIG. 2. Blunt separation of sac from surrounding tissues for a distance of 1 inch in all directions.

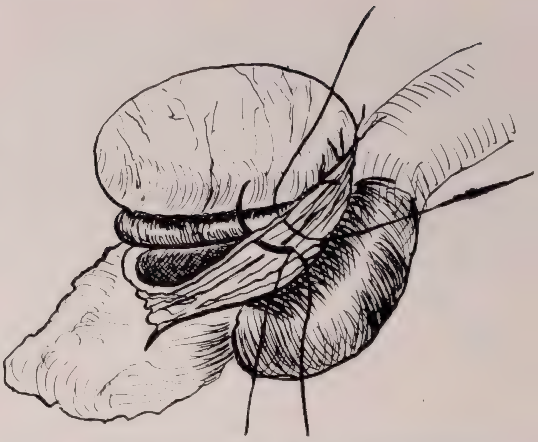

FIG. 4. Suturing cut edge of sac to sinus epididymis.

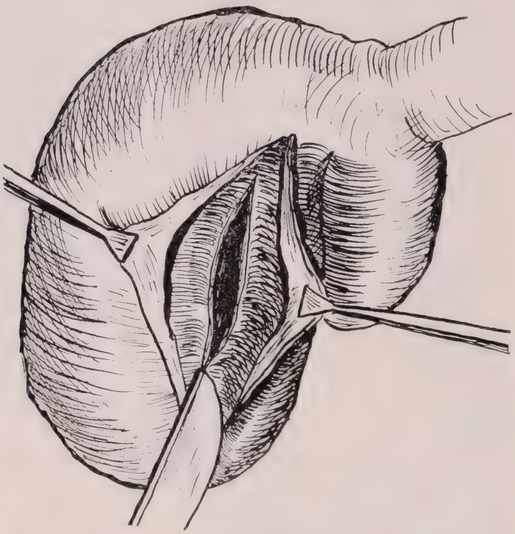

FIG. 3. Incision in hydrocele sac equal in length to the size of the testicle.

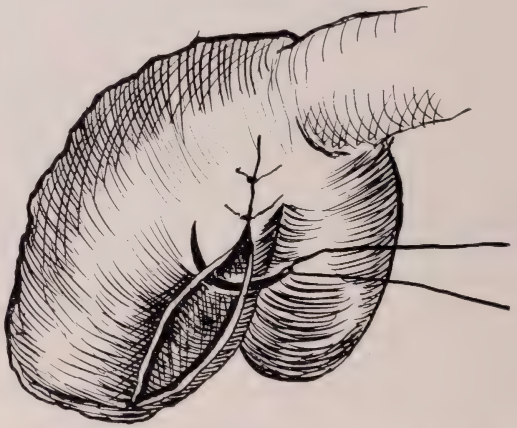

FIG .5. Skin closure after reinsertion of testis.

sutured to the point of junction between the testis and epididymis (sinus epididymis or digital fossa). The sac is not dissected out of the scrotum, nor is any part of it resected or inverted. The steps of the operation are as follows:

1. An incision about $1^1/_2$ inches long is made anteriorly in the scrotum and carried down to the hydrocele sac (Fig. 1).

2. By blunt dissection the tissues external to the intact sac are separated from it for a distance of about 1 inch in all directions. This step was added by us to create space for the subsequent replacement of the testicle into the scrotum (Fig. 2).

3. The sac is then incised in the direction of the skin wound and the contents aspirated (Fig. 3). This incision should be gauged to approximate the size of the testicle.

4. The testicle is then extruded through the opening in the sac, and the cut edge of the sac is sutured throughout its circumference to the sinus epididymis (Fig. 4). Six to eight interrupted stitches are taken with fine silk in a fine needle.

It is easily possible to palpate and inspect the epididymis thoroughly whenever indicated. Both testicle and epididymis can be extruded completely through the incision in the sac before the sutures are placed, and then the epididymis can be reinserted when the examination is finished.

5. The testicle is then replaced in the scrotum.

The subcutaneous tissues are brought together with a continuous plain number 3-zero catgut suture, and the skin is closed with interrupted silk sutures (Fig. 5). Drainage is unnecessary.

Inasmuch as we have not used surgical measures exclusively, our series of hydroceles treated by this method is only 42 cases. Although the group is small for dogmatic conclusions, the evidence points to the fact that the criteria noted above are fully achieved. We have not observed a recurrence, nor have we seen a serious postoperative complication such as hemorrhage, atrophy of the testicle, or infection requiring drainage or more radical treatment. There is no doubt that these complications are occasionally seen following certain other operations for hydrocele. We recently observed a case in which epididymo-orchiectomy had been performed for an "infected hematoma" after hydrocelectomy. This case was in part responsible for the present report.

The success of the operation, we believe, suggests that the secreting surface of the hydrocele is the visceral layer of the tunica vaginalis, that portion of the sac which overlies the tunica albuginea. When this surface is placed outside the sac, its function ceases, or the secretions are rapidly reabsorbed by the new surrounding tissues.

The advantages which we have noted in the use of this technic are based mainly on the simplicity of the operation. The amount of dissection of tissues is minimal since only a small area of the sac is shelled out and no part of it is cut away. There is, therefore, less likelihood of intrascrotal oozing or gross hemorrhage; there is practically no postoperative swelling or induration, and the soil for postoperative infection is thus largely eliminated.

There are certain definite instances in which this operation is neither feasible nor practical. The most common deterrent is a thick-walled or calcified hydrocele sac. In such cases the tissue elasticity required to perform extrusion, suturing, and replacement is lacking, and even if these steps are possible, the sac left behind will undoubtedly result in an unsightly scrotal mass which may absorb slowly or not at all. Resection of the sac seems to be the method of choice in such cases.

Occasionally one finds that epididymectomy is necessary because the epididymis is found to be diseased. Here again the extrusion procedure becomes impractical, and resection of the sac must be carried out. In this regard it is our opinion that in order to rule out such conditions as spermatocele, tumor, epididymal cysts, chronic epididymitis, and tuberculosis, routine tapping should be done prior to any type of hydrocelectomy. At that time, in addition to complete microscopic and bacteriologic analysis of the aspirated fluid, physical examination can be performed with greater accuracy to determine the condition of the testicle, cord, and epididymis.

Summary and Conclusions

1. The "extrusion operation" for hydrocele has been described.
2. It is advocated for its effectiveness, simplicity, and freedom from complications.
3. Its advantages are based mainly on the fact that only a slight amount of dissection is required, resulting in less frequent postoperative bleeding, swelling, induration, and infection.
4. The method is contraindicated in hydroceles with thick-walled or calcified sacs and where epididymectomy is necessary for disease in that structure.
5. Routine tapping for diagnostic purposes is recommended as a preliminary to hydrocelectomy of any type.

104 EAST 40TH STREET

A Coward Doesn't Forgive

The brave only know how to forgive—it is the most refined and generous pitch of virtue human nature can arrive at. Cowards have done good and kind actions; cowards have even fought, nay, sometimes conquered; but a coward never forgave—it is not his nature; the power of doing it flows only from a strength and greatness of soul conscious of its own force and security, and above all the little temptations of resenting every fruitless attempt to interrupt its happiness.—*Lawrence Sterne*

The Technic of Cardiopericardiopexy for the Surgical Treatment of Coronary Artery Disease

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IN THE surgical treatment of coronary artery disease, three major procedures have been proposed to correct the myocardial ischemia characteristically present in the anginal state. In two of these procedures myocardial vascular deficiency is abridged by grafting of a new source of oxygenated blood supply to the heart. In his most recent operation, performed in two stages, Beck[1] delivers a flow of freshly oxygenated blood from the aorta into the coronary sinus and thence into the right auricle by means of a grafted vascular communication between these two vessels. In the second stage of his operation blood flow is channeled largely into the myocardial veins by a partially occluding orlon ligature placed about the coronary sinus at the point where the sinus empties into the right auricle. Vineberg,[2] in his operation designed to bring a fresh blood supply to the ischemic myocardium, implants the internal mammary artery directly into the ventricular myocardium.

A principle entirely different from that espoused by Beck and Vineberg is used in the operation of cardiopericardiopexy as advocated by the senior author.[3–5] It is known that inflammation increases vascularity. When an inflammatory reaction is introduced to the surface of the heart, vascularity of the heart is increased. Thus, the modus operandi for the Thompson procedure is the planned creation of a benign type of chronic and persistent pericardial inflammation, which in turn stimulates intercoronary and extracardiac vascular proliferation and anastomosis. Sterile talc is used to produce a benign pericarditis. Talc powder is introduced into the pericardial sac and distributed over the myocardial surfaces. A foreign body reaction followed by marked and persistent hyperemia and a granulomatous type of pericarditis with little or no fluid formation results. It has been shown that this adhesive granulomatous pericarditis in no way interferes with the function of the heart, nor does it add to its work load.[5–8] Abundant experimental and clinical evidence has accumulated during the past decade to establish the permanent and therapeutic character of this granulomatous pericarditis and the resultant myocardial hyperemia.[7–9]

It is the purpose of this publication to illustrate the few simple steps which constitute the operation of cardiopericardiopexy and also to present the comparative advantages of this operation over others presently available to the surgeon. Broad guides in the selection of cases and in the before and after care of patients are delineated.

The operation of cardiopericardiopexy is a simple procedure performed in one stage in thirty minutes time or less. No exceptionally vascular or heavy muscular planes need be transected. No intricate, time-consuming anastomotic procedures are a part of the procedure. No extraordinary talents of specialty are demanded, for any well-trained general surgeon experienced in the anatomy of the mediastinal structures is competent to conduct the operation successfully. Shock originating from excessive manipulation of vital organs and vessels, prolonged surgical exposure, or grave blood loss are problems never encountered. Postoperative complications are few, limited in scope, and rarely proceed to death. Clinical improvement following operation is statistically significant. The balance is weighted decidedly in favor of the surgeon.

Selection of Patients

The careful selection of patients for surgery is an important factor but differs in no respect from that exercised for other operative procedures for the correction of coronary artery disease. Subjective and objective evidence of coronary and myocardial disease on history, physical examination, roentgenologic study, and electrocardiographic examination should be clearly enunciated. There are only two contraindications to surgery: (1) congestive heart failure with its clinical picture of passive congestion and (2) recent infarction (three months) demonstrated in the

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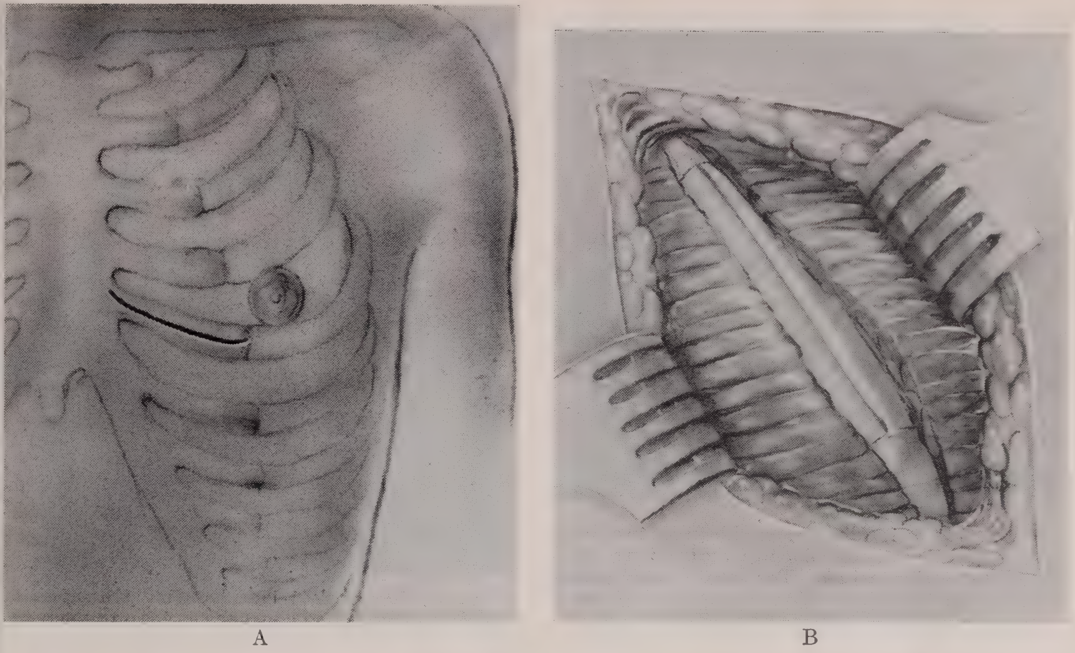

FIG. 1 (A) Position of the patient and the site, direction, and extent of the skin incision. (B) The incision has been carried down to the level of the cartilage. The perichondrium has been incised in preparation for stripping and removal of the cartilage flush with the sternum.

history or in studies of the electrocardiogram, erythrocyte sedimentation rate, and white blood cell count. The preoperative preparation includes no unusual procedure except the administration of quinidine sulfate for several days prior to operation for the prophylactic control of ectopic rhythms during surgery.

Anesthesia

Intratracheal intubation is not required or recommended because of possible adverse reflex action on the heart. Cyclopropane anesthesia is favored because of the large amount of oxygen which can be administered. It is given in a mixture of 25 per cent cyclopropane and 75 per cent oxygen. Intravenous novocaine (Pronestyl) administered during operation safeguards against fibrillation.

Operative Technic

The surgical procedure is a relatively simple one and may be illustrated best as occurring in three major steps.

Step 1 includes positioning the patient, incising the skin, and excising costal cartilage. The patient is placed in the supine position on the operating table, and the location and direction of the skin incision is illustrated in Fig. 1. Beginning at the sternal border a small skin incision is made over the left fifth costal cartilage and is carried laterally along the fifth cartilage for a length of approximately 3 inches. This incision is deepened carefully through the pectoralis muscles down to the plane of the cartilage. To remove a segment of cartilage the perichondrium must be incised and stripped from the costal cartilage anteriorly and posteriorly. If possible, this perichondrium should be left intact. A 2-inch segment of the cartilage is removed flush with the sternal edge.

Step 2 exposes the anterior mediastinum (Fig. 2). The posterior perichondrium is incised for a length of approximately 2 inches. A thin muscle layer, the transversus sterni, is exposed and opened by blunt dissection, and the anterior mediastinum is entered. The anterior mediastinum is a "free" space, and the left pleura does not usually intrude into the field. If it is present, it can be identified as a soft mass of tissue pulsating with respiration, and in such event it can be pushed back laterally to expose the pericardium. The internal mammary vessels should be preserved and retracted mesially. Carefully, the pericardium is picked up with two hemostats and an incision, 1 inch long and

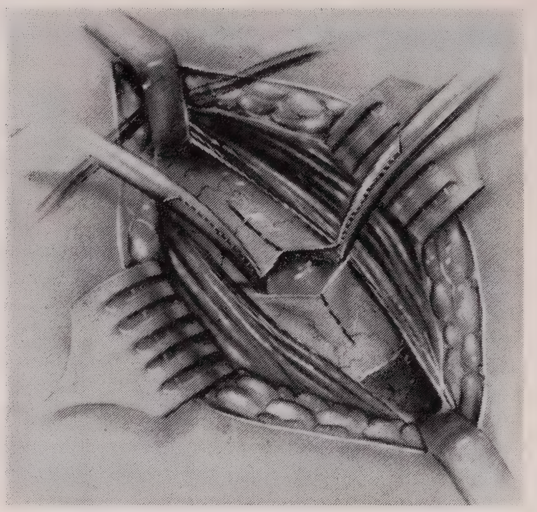

FIG. 2. The pericardium, grasped between two hemostats, is opened in an avascular area, the incision running parallel to the skin incision. To the left can be seen the margin of the left pleura. To the right are the internal mammary vessels being retracted mesially.

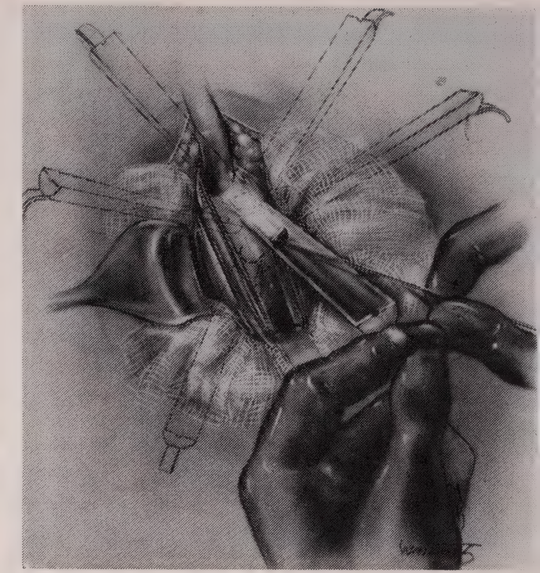

FIG. 3 Talc powder is introduced into the pericardial sac to be disseminated about the surfaces of the heart. The pericardium is then closed loosely with catgut. The posterior perichrondrium, muscle, subcutaneous tissue, and skin are then closed in layers.

parallel to the skin incision, is made in an avascular area.

In Step 3 the sac is explored, talc powder is introduced into the sac, and the surgical wound is closed (Fig. 3). Small finger retractors are placed at each end of the wound to elevate the pericardium and chest wall. All pericardial fluid should be aspirated thoroughly by means of a small rubber catheter. To explore the heart, the index finger is inserted into the pericardial sac, and the existence of any infarcts or scars and the presence of any adhesions between the heart and the sac are noted. A special spatula* is used to spread 2 to 4 drams by volume of sterile, dry magnesium silicate powder (U.S.P. talc) over the anterior and posterior surfaces of the heart and around its two borders. In place of a spatula a coarse atomizer may be used to disseminate the dry powder over the heart surface. The pericardium is closed incompletely with fine plain catgut. Then the perichondrium is approximated. The incised muscles, connective tissues, and skin are sutured together, layer by layer, without drainage.

Postoperative Care

Special postoperative problems may arise,[9,10] most of which originate in the foreign body reaction induced by the talc powder. These, however, do not demand an extraordinary therapeutic regimen and clear up under routine care, often of passive nature. The temperature, which may rise as high as 104 F. by the second or third day, lasts from a few days to a week or longer and gradually subsides. A pericardial friction rub appears as early as the second day and may persist for three weeks or even longer; it requires no extraordinary attention. Electrographic changes characteristic of an acute pericardial reaction may be demonstrable graphically during this time. Pulmonary consolidation of the left lower lobe, demonstrable roentgenologically and on physical examination twenty-four to thirty-six hours after operation, is not accomplished by exudate in the alveoli; there is no cough or expectoration. Resolution is completed within a week. A pleural effusion may appear, but it is generally a small one. Mediastinitis, detectable from the first day roentgenologically, may be accompanied by mild dysphagia. The mediastinitis clears up gradually over a period of several weeks. Ectopic beats or rhythms of the heart are rarely, if ever, encountered postoperatively.

The postoperative demands of the patient need not be bizarre ones, and the salient features include administration of intranasal oxygen for the first two days, frequent serial x-ray studies starting from the first day, and the administration of sedatives, narcotics, and antibiotics.

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* Manufactured by Marco & Son, 1611 Wierfield Street, Brooklyn, New York.

Summary

The advantages of cardiopericardiopexy are recounted. Broad guides are offered for the selection and preoperative and postoperative care of patients. The operation of cardiopericardiopexy is described and illustrated in detail.

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Sodium Cinnamate as a Salicylate Additive for Control of Pain in Arthritis and Rheumatism

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RHEUMATIC and arthritic pains are among the oldest afflictions of the animal kingdom. Prehistoric animals and dawn men have left fossil relics of painful joints and arthritic changes which are noted by paleontologists.[1]

Insurance company statistics have revealed that arthritis is a modern-day scourge of much greater economic significance than many of the diseases receiving more popular treatment in the daily press. It is particularly damaging because of the great number of persons affected during their most productive years. Statistics show that the average onset of painful rheumatism and arthritis is between thirty and fifty years of age. According to a recent United States Public Health Survey there are approximately six million new cases of arthritis per year in the United States.

Arthritis has been classified into acute and chronic states.[2] The acute phase has not been dealt with in this report. The chronic type, whether an originally acute infection or originally classified as chronic, is by far the most important medical problem. Out of the six million cases annually reported in the United States only about 100,000 are crippled in the acute stage. The vast majority are left with varying degrees of chronic complaint. It is extremely important, therefore, to find medications, which can relieve pain, to treat these cases successfully.

Since 1874,[3] when sodium salicylate was first introduced, it has become the standard medication for the relief of arthritic and rheumatic pain and is of particular importance in the treatment of rheumatic fever.[4,5]

Although sodium salicylate has been found effective and efficient, certain toxic manifestations such as nausea and salicylism, characterized by ringing in the ears and gastrointestinal upset, have been common. These untoward effects have resulted from attempts to maintain a sufficiently high level of salicylates in the body to produce analgesia. In order to reduce the intake of salicylates and still maintain analgesia, various combinations have been tried. In fact Goodman and Gillman[5] state that one of the few valid uses of drug combinations is the combination of salicylates with other chemicals. This often results in enhanced response. Among the successful combinations are salicylates with para-aminobenzoic acid,[6,7] combinations of salicylates with succinic acid,[8,9] and, the subject of our present report, salicylates with cinnamates. The latter has not been previously reported as a product having therapeutic utility, although certain cinnamic aldehydes have been accidentally used as flavoring agents for salicylates.[10,11] The subject of the present report consists of combinations of salicylates with cinnamates to enhance the effect of salicylate therapy in rheumatic and arthritic pain.

The first formula tested was the basic one consisting of:

Sodium salicylate, U.S.P.	150 mg.
Sodium cinnamate	25 mg.

(Excipients to make 5-grain size tablet)

The type of case treated was the arthritic or rheumatic individual who has passed the first acute stage and has settled into a chronic, painful state. This is the ideal subject for the evaluation of medication. Cases were examined to make a careful clinical estimate of the degree of pain and the degree of limitation of motion. Objective standards for pain in regard to the amount of interference with work and sleep were used to rate the degree of pain. Measurements of the degree of limitation of motion were made with a protractor with a variable angle device to measure the amount of motion correctly. This degree of movement was compared with the degree of motion possible in a comparable, unaffected joint. Measurements were made before and after medication in each case to determine the extent of change following medication.

Results after eight weeks treatment of 14 males and 26 females (with an average age of forty-nine years) with two tablets three times per day of the above formula showed significant improvement in the degree of movement at joints affected and significant reduction of pain.

Before treatment every case exhibited pain. After treatment there was complete relief in 11 cases, partial relief in 27 cases, and no relief in two cases. Before treatment there was limitation of motion in 37 of the group of 40 cases. After medication there was complete relief with full restoration of motion in 14 cases, partial relief in 24 cases, and no restoration of motion in two cases.

A second group of patients was treated in which a control medication of plain sodium salicylate was used for comparison with a salicylate-cinnamate compound. The salicylate-cinnamate compound was the same as that used in the first group consisting of:

Sodium salicylate, U.S.P.	150 mg.
Sodium cinnamate	25 mg.

(Excipients to make 5-grain size tablet)

The plain salicylate used for comparison consisted of the following:

Sodium salicylate, U.S.P.	150 mg.

(Excipients to make 5-grain size tablet)

The procedure was the same as for the first group except that in this second group the odd-numbered cases received the salicylate-cinnamate compound first, and the even numbered cases received sodium salicylate plain first. In this way unbiased control was achieved for the second group. All cases in the second group were different from those of the first group. In the second group, however, after six weeks treatment with the first medication, there was a period of rest from medication for one month. At the end of this rest period the patient was changed to the alternate medication. The carry-over effect was thus balanced out.

Each patient in the second group received a six-week course with each medication. There were 15 males and 13 females having an average age of fifty-two years. The dose of each medication was two tablets three times per day for six weeks. Each medication showed significant improvement. When the salicylate-cinnamate combination was used, there was significantly greater improvement than with sodium salicylate plain.

The improvement was noted in both the degree of pain at the affected joint and the amount of movement of which the joint was capable after treatment. Before treatment pain was present in every case. After treatment with sodium salicylate plain there were eight cases of complete relief, 12 cases of partial relief, and eight cases with no relief. After treatment with the salicylate-cinnamate compound there were ten cases of complete relief, two more than with plain sodium salicylate; 15 cases showed partial relief, three cases more than those treated with plain sodium salicylate, and three cases had no relief, five cases less with no relief than when treated with plain sodium salicylate. Motion was improved after treatment with sodium salicylate plain by complete restoration of the affected joint in 15 cases. When the salicylate-cinnamate compound was used, there were 21 cases of complete restoration of motion, six more cases than when sodium salicylate plain was used. Motion was partially restored in four cases, and there were three cases of partial restoration with the salicylate-cinnamate compound. There were nine cases which experienced no relief when sodium salicylate plain was used, and four cases experienced no relief with the salicylate-cinnamate compound, there being five fewer cases of failure to restore motion when the salicylate-cinnamate compound was used.

Additional studies were made in a total of 56 cases utilizing a salicylate-cinnamate compound with acetophenetidin in a balanced formula buffered with bicarbonate as follows:

Sodium salicylate, U.S.P.	150 mg.
Sodium cinnamate	25 mg.
Acetophenetidin, U.S.P.	150 mg.
Sodium bicarbonate, U.S.P.	60 mg.

(Excipients to make 7-grain size tablet)

Results in this group were exactly comparable with the results of previous tests made with salicylate-cinnamate compound except that the relief experienced from an individual dose was more prolonged due to the action of the acetophenetidin. This prolongation of analgesic action is in line with studies reported on acetophenetidin.[5]

The group studied was comparable to the others (having an average age of forty-eight years), with 30 females and 26 males in the group. The degree of relief from pain amounted to 35 per cent with complete relief, 54 per cent with partial relief, and 11 per cent failures. Restoration of motion was complete in 75 per cent of the cases; there was partial restoration in 10 per cent and failure to restore motion in 15 per cent.

These percentages serve to summarize the degree of relief afforded in all cases treated with the salicylate-cinnamate compounds. There was prolongation of relief reported from the individual dose when acetophenetidin was used in the formula. There was further relief afforded when physical therapy (the hot sulfur bath) was utilized to relieve local pain in the joints and to reduce inflammation. The use of salicylate compounds in combination with physical therapy has found wide acceptance as the ideal treatment for pains of arthritis and rheumatism.[12]

In conclusion, a total of 124 cases was treated in order to compare results of treatment by a standard medication compared with the new salicylate-cinnamate combination. It was found that a significant superiority was evidenced by salicylate-cinnamate formula in regard to relief from pain and restoration of motion in arthritic and rheumatic conditions. The formula best suited for use was a salicylate-cinnamate compound with acetophenetidin and a bicarbonate buffer.

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The old man in my outpatient clinic complained of indigestion, but seemed unable to give me a coherent account of his symptoms. Eventually in desperation I asked him how he knew he had indigestion. He brightened at once. "The x-ray showed a septic cat in my duodenum." In astonishment I said "A septic cat?" "Yes," he replied "a septic cat. I don't known what they meant, but that's what they said; a septic cat. They've been treating it with milk."—*The Lancet, April 2, 1955*

CLINICOPATHOLOGIC CONFERENCE

NEW YORK MEDICAL COLLEGE AND FLOWER-FIFTH AVENUE HOSPITALS

DEPARTMENTS OF MEDICINE AND PATHOLOGY

Conducted by H. LEINOFF, M.D. OCTOBER 8, 1954

Case History

DR. H. LEINOFF: The patient under consideration today is a seventy-two year-old, white female with a chief complaint of pain in the right lower abdominal quadrant associated with marked weight loss. She was first seen in 1952 by Dr. Lange who will present her past history.

DR. K. LANGE: This patient was first seen in September, 1952, for pain and varicosities of the left leg. At that time a complete physical examination was done and was essentially negative with the exception of extensive bilateral varicosities. The blood count was normal. There was, however, a sedimentation rate of 50 mm. per hour (Westergren). For this reason it was suggested that the patient have x-ray study of the gastrointestinal tract which was refused.

She was seen again in February, 1953, complaining of severe colicky pain in the right lower quadrant of two days duration. The pain radiated straight to the back. On palpation an indefinite mass with marked tenderness in the cecal area was noted. There was no weight loss as compared to the first examination, and a sedimentation rate of 30 mm. per hour was found with an otherwise normal blood count.

In spite of insistence on a gastrointestinal x-ray series, this was again refused.

Patient returned to the office for similar complaints in December, 1953, with a weight loss of 14 pounds, a normal blood count, and a sedimentation rate of 82 mm. per hour. There was a cherry-sized, hard mass at the third costosternal junction over which the skin could be moved freely.

At this time the patient consented to a gastrointestinal series and x-rays of the ribs, which revealed the following findings: There was no evidence of any pathologic changes involving the bony portion of any of the ribs. There was also no evidence of any pathology involving the upper part of the sternum.

The stomach was of fish-hook type. There was a filling defect adjacent to the lesser curvature of the stomach, in the incisura, which measured about the size of an orange. On one film the lower margin of the filling defect, at the lesser curvature, formed a sharp corner. The nature of these findings was not indicated on the x-ray films. A submucous intramural myoma or a myosarcoma was considered. A similar but smaller filling defect was seen in the proximal part of the duodenal cap. This filling defect was probably of the same origin as the larger one in the stomach.

Films of the small intestine taken at intervals failed to reveal any evidence of pathology.

At the twenty-four-hour examination the barium was in the colon partly in scattered distribution. There was no evidence of intestinal pathology at this examination.

The entire colon was well visualized after barium enema and was normal in outline, haustration, and distensibility. There was no evidence of colitis, diverticulitis, or neoplasm. Incidentally, a calcified lymph node was noted in the right lower abdomen.

On discovery of these findings hospitalization was advised, and the patient finally came to Flower and Fifth Avenue Hospitals, but not before the swelling at the costosternal junction had almost disappeared.

DR. LEINOFF: Will the medical resident present the recent history and findings of this patient?

MEDICAL RESIDENT: This seventy-two-year-

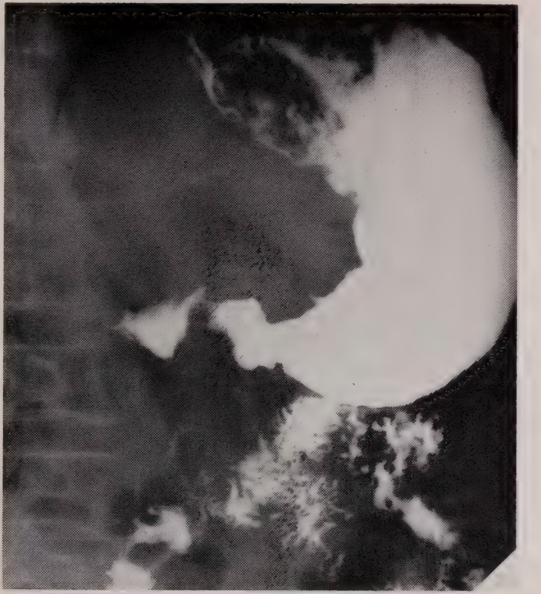

FIG. 1. X-ray of stomach showing the changes at the pylorus interpreted as an antral gastritis.

old-white female was first admitted on January 28, 1954, with history and findings as given by Dr. Lange. Additional x-ray studies in this hospital revealed a soft tissue mass in the chest, which appeared to compress the trachea to the right, and a lesion in the pylorus of the stomach interpreted as an antral gastritis (Fig. 1). Gastroscopic examination at this time revealed no inflammatory or neoplastic lesion in the stomach but a markedly redundant pyloric gastric mucosa. She was discharged with a diagnosis of antral gastritis.

The patient was readmitted to this hospital on September 13, 1954. At this time anorexia and pain in the right lower quadrant had increased. The pain had become cramplike in nature without vomiting, hematemesis, or melena. There was a marked aversion to eating meat. At this time the patient weighed 155 pounds, having lost 34 pounds from the beginning of her illness in 1952.

Physical findings were as follows: The patient was a well-developed white female with signs of recent weight loss. Temperature was 99.4 F., blood pressure 150/70, pulse 80 per minute, respirations 20 per minute. The neck showed a mass 2 cm. in diameter in the left supraclavicular fossa. The thyroid gland was not palpable. The breasts showed bilateral nodularity suggesting fibrocystic disease. The heart revealed a grade II systolic murmur at the apex. The lungs were clear. The abdomen showed an ill-defined mass in the epigastrium extending toward the left and situated two fingerbreadths above the umbilicus. Rectal and pelvic examinations revealed nothing of significance. There were no positive neuromuscular findings. Marked varicosities were seen in both extremities.

Laboratory data on admission included the following: hemoglobin 10.6 Gm., red blood cells 3,650,000 per cu. mm., white blood cells 8,800 per cu. mm. with differential count of polymorphonuclears 73 per cent, (mature 68 per cent, immature 5 per cent), lymphocytes 22 per cent, eosinophils 2 per cent, and monocytes 3 per cent. The red cell sedimentation was 80 mm. per hour (Westergren). The fasting blood glucose and urea were normal. Gastric analysis showed no free acid, total acidity of 21 degrees, and 4 plus blood.

DR. LEINOFF: This patient had a two-year history of gastric complaints, weight loss, increased red cell sedimentation, and equivocal gastric x-ray findings with normal gastroscopy. She then developed a mass at the third costosternal junction which spontaneously resolved before it could be biopsied. She now has another mass, probably a lymph node, in the left supraclavicular region. Dr. Chaikin, what would be your clinical impression of this patient?

DR. N. W. CHAIKIN: Given a patient seventy-two years of age with this clinical picture—epigastric discomfort, marked loss of weight, and anemia—one would think of a malignant neoplasm of the gastrointestinal tract as the most probable diagnosis. Localization of the lesion should be possible through careful radiologic studies, complemented by gastroscopy if indicated.

There are, however, some aspects of the entire clinical course which do not fit the clinical picture of carcinoma of the stomach. In the first place it is highly unlikely that repeated radiologic examination of the gastrointestinal tract including one gastroscopy should be negative eighteen months after the first appearance of symptoms. Carcinoma of the stomach of one year duration will give 75 per cent positive radiologic findings, and this percentage increases to almost 98 per cent with the progression of the disease. However, one cannot escape the impression of a neoplasm in the stomach with probable metastasis because of the persistent, ill-defined epigastric mass, anemia, and marked loss of weight in spite of the negative radiologic findings. Therefore, a malignant lymphoma would be the next most likely diagnostic consideration.

The diagnosis of lymphoma of the stomach is rarely made preoperatively by the clinician, roentgenologist, or gastroscopist, and it is confused with cancer, ulcer, and gastritis, which are much more common. Gastroscopic biopsy may be helpful. The position of the lesion of the stomach is of no diagnostic aid.

Dr. Leinoff: The x-ray and gastroscopic findings have considerable importance in this case. Will Dr. Barowsky kindly review them now?

Dr. H. Barowsky: On both admissions attention was focused on the gastrointestinal tract because of her chief complaint of abdominal pain and nausea. However, the only positive gastrointestinal finding was elicited on x-ray films of the stomach. The antrum appeared moderately narrowed, irregular, and showed some defects which were equivocal. Although the clinical impression was that this patient had gastric neoplasm, the x-ray diagnosis was antral gastritis.

Under the circumstances the x-ray interpretation of the gastric lesion needed further corroboration, and gastroscopy was done. This endoscopic procedure is indicated to differentiate between benign and malignant lesions since there are several benign conditions which will produce gastric changes roentgenographically which are indistinguishable from neoplasm. The most common of these is antral gastritis. The inflammatory reaction will produce a prepyloric narrowing and irregularity. Hypertrophy and/or redundancy of the mucosa will also simulate neoplasm on x-ray by causing "fingerprinting defect." Rarer afflictions, but just as difficult to diagnose, are gastric syphilis, tuberculosis, Hodgkin's granuloma, and Boeck's sarcoid.

Gastroscopic differentiation between benign and malignant lesions can be made on gross inspection by a trained endoscopist. First, he is able to recognize the characteristic ulcerating and necrotic malignant tumor and distinguish it from the smooth-appearing benign tumor. Second, he can observe evidence of infiltration by mucosal color changes, lack of peristalsis over the area, and, most important, its fixation and inability to distend symmetrically when the stomach is inflated with air. In benign conditions the latter criteria are not present.

In this case gastroscopic observation revealed a marked redundancy of the antral mucosa with a moderate inflammatory reaction. No tumor, ulcer, or evidence of infiltration was observed. Peristalsis was active, and distensibility was symmetric. These findings pointed to a benign rather than malignant lesion of the stomach.

Dr. Leinoff: Dr. Lange, were you satisfied with the x-ray and gastroscopic findings in this case, particularly in view of the fact that the patient began to show spiking temperature and then had several bloody bowel movements during this second hospitalization?

Dr. Lange: No, particularly in view of the recent changes which you have mentioned. It was our impression that a neoplasm of the gastrointestinal tract was present, and we suggested that the enlarged cervical lymph node be removed for diagnostic purposes.

Dr. Leinoff: The patient did consent to have this node removed. Dr. Speer, will you tell us what your diagnosis was and, if possible, show us the slides?

Dr. Francis D. Speer: As you see in this projection, the lymph node is enlarged, and its usual architecture such as peripheral sinus, cortical follicles, medullary cords, and central sinuses are completely obliterated. Under higher magnification you see a monocellular picture with large atypical reticulum-like cells (Fig. 2). Mitoses are numerous, and there is some perinodal infiltration by atypical cells.

The diagnosis, therefore, is reticulum cell lymphosarcoma.

Dr. Leinoff: In view of the radiographic and gastroscopic findings in this case, do you assume that there is a reticulum cell sarcoma of the stomach which has now become widely disseminated?

Dr. Speer: It is our impression that the patient now has generalized lymphosarcoma involving the lymphatic tissues of the abdomen and the chest. It is also possible that the process started in the stomach, although the patient's symptoms, the x-rays, and gastroscopic findings do not completely support such an impression. The lesions in the abdomen in relation to the gastrointestinal tract may have been extramural or extramucosal for a period of time. Recent bowel hemorrhage suggests mucosal involvement with necrosis.

Dr. Leinoff: The initial clinical impression of gastrointestinal malignancy in this case was

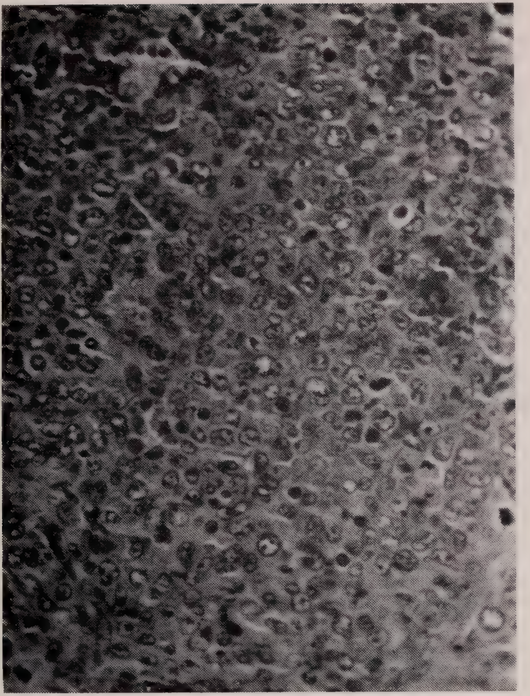

FIG. 2. Cervical lymph node showing complete replacement by atypical reticulum cells. Note numerous mitotic figures and prominent nucleoli. (*High power*)

not substantiated by the early diagnostic tests. As was done here, it is frequently necessary to repeat x-ray studies, laboratory tests, and gastroscopy before a definitive diagnosis can be made. At times all tests are negative, and it becomes necessary to do a laparotomy for diagnostic purposes. If this case had been a primary gastric lymphosarcoma, early diagnosis and resection would have been desirable, although such a fortuitous happening rarely occurs. Dr. Barowsky, we have heard that you did a second gastroscopy yesterday. What did you find?

DR. BAROWSKY: The procedure was performed without difficulty. The pylorus at this time was pale, granular, and relatively fixed. There was uneven distention with air, suggesting neoplastic infiltration.

Diagnoses

The diagnoses of the various groups concerned with the care and discussion of this case are as follows:

Clinical.—*Gastric neoplasm, malignant lymphoma.*

Dr. Leinoff.—*Lymphosarcoma of the stomach with distant nodal metastases.*

Anatomic.—*Generalized reticulum cell lymphosarcoma with secondary involvement of stomach and bowel.*

Discussion

DR. LEINOFF: The case is now open for general discussion.

MEDICAL STUDENT: Do various histologic types of lymphosarcoma arise in the gastrointestinal tract, and do they carry any different prognoses and responses to therapy?

DR. SPEER: Giant follicular, lymphocytic, lymphoblastic, reticulum cell, and Hodgkin's lymphomas of the intestinal tract are recognized. In some instances they remain localized for significant periods of time, produce symptoms, and are surgically resected with reported cures. All of them are temporarily susceptible to radiation with some symptomatic relief. Most of them unfortunately are part of a generalized disease from their inception or become generalized by the time the local lesion gives evidence of its existence.

The latter seems to have happened in the case before us today.

DR. LEINOFF: Dr. Chaikin, how common is sarcoma of the gastrointestinal tract, and in a general way is the prognosis any different from that in generalized lymphosarcomatosis?

DR. CHAIKIN: Although malignant lymphoma is usually a generalized disease, it does have localized forms or stages. Localization is found in all types of lymphoma, and 11 per cent of the 618 cases studied by Gall and Mallory were confined to one structure at the time of initial examination. It is of practical interest that one half of the isolated tumors in their series were found to occur in the gastrointestinal tract, bones, and skin.

It is entirely possible that these tumors have a focal origin and from such a nidus invade and destroy the organ in which they arise and metastasize first to lymph nodes of that area. Thus, lymphomas may closely resemble carcinoma in their behavior.

In a recent review of 79 cases reported by Massachusetts General Hospital over a forty-year period, all were apparently primary in the gastrointestinal tract, as proved by resection at the hospital.

MEDICAL STUDENT: In 1953 this patient had a palpable mass in the cecal region and then another at the third costosternal junction. Dr. Speer, is it possible that these were lymphosarcomatous and that they may have resolved?

Dr. Speer: Spontaneous necrosis and dissolution of nodal or extranodal lymphosarcomatous masses are not at all uncommon.

As you know, under radiation or chemotherapy such dissolution of masses may be very rapid and extensive. It is my impression that these masses were a part of the patient's disseminated disease and that they showed spontaneous resolution. Such spontaneous changes may indicate temporary beneficial results from x-ray or chemotherapy.

Dr. Leinoff: Treatment of lymphosarcoma of the gastrointestinal tract consists of local excision if possible. Such being impossible in this case, Dr. Black, would you suggest any other therapy.

Dr. M. Black: Where local problems and symptoms exist with reticulum cell lymphosarcoma, we usually suggest x-ray therapy. In this case at present the symptoms are generalized.

The patient has weight loss, anorexia, and distant metastases. It may be more useful, therefore, to give a course of urethane and TEM, both of which have systemic effects.

New Radioisotopes Policy Announced by AEC

The United States Atomic Energy Commission will make radioisotopes for all biomedical and agricultural research and research in medical therapy available to domestic users at 20 per cent of catalogue price, effective July 1, 1955, Chairman Lewis L. Strauss announced.

Since 1948, the Commission has subsidized the distribution of radioisotopes used in cancer research and therapy.

Initially, radioisotopes for use against cancer were made available without charge for production costs. Since 1952, a charge of 20 per cent of the catalogue price has been made.

The Subcommittee on Research and Development of the Joint Congressional Committee on Atomic Energy issued a report on providing radioisotopes for medical research in August, 1954. The subcommittee report, which was adopted by the full committee, recommended that the Commission seriously consider making isotopes available to all responsible medical research workers on the same basis as they have been available for cancer studies. The report also stated that providing isotopes at less than cost for use in selected other fields, such as biology, would be in the public interest.

Under the policy announced, reduced prices heretofore available only for cancer will be extended to all biomedical and agricultural research. The discount will not be available for radioisotopes used for routine clinical treatment.

The policy of providing radioisotopes at reduced cost was broadened to include other fields as well as cancer for these reasons:

a. Radioisotopes have proved useful in study of other important human diseases.

b. The distinction between cancer research and fundamental studies in biology biochemistry, and biophysics is not always clear. Such fundamental studies may produce information of value in cancer research.

c. Stimulation and encouragement of the use of radioisotopes in the life sciences in general, as well as in cancer research, is considered to be in the public interest.

Radioisotopes have proved to be important research tools in the study of biologic processes and in research into various diseases. They also have been used extensively in agricultural studies.

Under the new policy, radioisotope users will make application to the Atomic Energy Commission. Division of Biology and Medicine. Upon approval of an application, the Division will authorize the user to purchase radioisotopes at 20 per cent of catalogue price. The investigator or institution receiving the discount must agree to publish the results of the research.

TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

with the cooperation of

Bureau of Cancer Control
New York State Department of Health

Therapy of Acute Leukemia of Childhood

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(*From the Department of Pediatrics of the University of Buffalo School of Medicine and the Hematology Laboratory of Children's Hospital*)

Acute leukemia of childhood no longer remains a hopeless disease. Since the end of World War II, three groups of specific therapeutic agents have been able for the first time to reverse the course of leukemia and to offer the hope that in the not too far distant future additional agents will be discovered which can effect a complete cure. At the present time the power to reverse the course of acute leukemia is only temporary. Furthermore, not all cases respond to each of the groups of agents available, and some show no response to any. However, with a large percentage of children, physicians are able to restore the patient to a state of normal health and a normal blood picture for variable lengths of time.

Remissions

A remission may be said to take place when the clinical condition of the patient and his blood picture have returned to or approach normal. Remissions thus are characterized as clinical and hematologic and as partial or complete. The interpretation of the response of patients with leukemia to various agents, as reported from various clinics, depends on the criteria employed to define such remissions.

Spontaneous remissions are said to occur, and remissions have also been described following blood transfusions. Generally, however, the term remission refers to the results obtained using the drugs described below.

Types of Cases

At the present time our diagnostic tools do not afford us the means to determine which cases will respond to therapy and which will pursue an unchanged course to rapid death. We must rely, therefore, on therapeutic trial of the drugs available to determine which of the children will undergo remission for appreciable lengths of time. The vast majority of the cases of acute leukemia of childhood have few if any morphologic criteria to distinguish one case from another. The exceptions to this are cases of acute monocytic leukemia or acute leukemia reticuloendotheliosis and rare cases of subacute myelogenous leukemia. Acute monocytic leukemia responds poorly to any type of therapy, whereas subacute myelogeneous leukemia is managed, at least in the initial phases, by the use of x-ray therapy or radioactive phosphorus. The remainder of the undifferentiated cases of acute leukemia of childhood are managed as outlined in the subsequent paragraphs.

Supportive Therapy

The measures generally employed under this heading have been in use for many years. They are essential parts of the management of acute leukemia and cannot be neglected if optimal results are to be obtained.

TRANSFUSION.—Anemia is a constant accompaniment of acute leukemia of childhood, although it may be mild in the early stages. The patient is best handled by maintaining a hemoglobin level above 10 Gm. by small repeated transfusions of whole blood whenever necessary.

Bleeding into critical areas is one of the two most common causes of death in acute leukemia of childhood. The bleeding is associated with a thrombocytopenia secondary to the basic disease. It results in profound anemia in addition to the anemia accompanying the leukemia itself and must be controlled whenever possible. If the bleeding area is accessible to local treatment, such as in the nasopharynx, appropriate measures should be instituted. Platelet transfusions may be of temporary value in the acute stages of bleeding. These transfusions require special apparatus including silicone-coated or plastic containers for the donor blood. A donor with an elevated platelet count such as one with polycythemia is to be preferred. A platelet transfusion also may be given by the direct method from donor to patient by using silicone-coated syringes and needles. Effects are transitory since the platelet survival in the recipient's circulation is less than three days.

ANTIBIOTICS.—Infection is the other most common cause of death in acute leukemia of childhood. Adequate bacteriologic studies should be undertaken whenever the patient shows evidence of infection and the proper antibiotics selected. During phases of relapse in acute leukemia it is desirable to keep the patient on a maintenance dose of an antibiotic. However, during phases of remission when the patient's blood count is in the normal range, antibiotic therapy may be discontinued when there is no evidence of infection. Caution should be observed in the use of antibiotics, and it is often found that the organism causing the infection may become resistant to the particular agent being used and a change must be made.

ANALGESICS, SEDATIVES, AND OPIATES.—The acute episodes in this disease are quite painful, cause extreme apprehension, and require the utmost skill of physician and nurse to relieve the patient's distress. Sedatives, aspirin, codeine, and morphine all have their place in this phase of management.

Local bone pain is a common symptom in acute leukemia. This presumably is due to periosteal infiltration or hemorrhage and responds well to local x-ray therapy.

Specific Therapeutic Agents

Specific therapy is limited to three groups of drugs capable of producing remissions in a variable percentage of patients. The two groups of chemotherapeutic drugs, referred to as antimetabolites or antagonists, are usually employed sequentially, while cortisone and ACTH are reserved for instances where a rapid effect is desired or when the patient has become refractory to the other agents. Survival time can be markedly increased with the chemotherapeutic agents now available. Over 50 per cent of children can be expected to be alive at the end of one year when these drugs are properly used.

HORMONAL (CORTISONE AND ACTH).—Cortisone and/or ACTH will produce a remission in approximately 75 to 90 per cent of cases of acute leukemia. These remissions generally are of short duration, although during the remission the patient feels and acts well. The remissions are not necessarily complete hematologic remissions.

A recent study failed to disclose any increase in longevity by the use of cortisone and ACTH beyond that achieved with the use of transfusions and antibiotics alone. Cortisone and ACTH therapy, therefore, should be reserved for acute phases of the disease where the patient's immediate survival cannot await the slower acting agents to be described below. Cortisone also can be used when a patient has become refractory to one or both of the other types of drugs, and a remission can be produced with the hope that the patient will again become susceptible to treatment with the other two drugs. The mechanism of action of cortisone in acute leukemia is not known. The dosage is 100 to 200 mg. daily in divided doses for two to three weeks with the dosage gradually decreased and discontinued at the end of a month.

ANTIFOLIC DRUGS.—The two principal antifolic drugs now in use today are Aminopterin and Methotrexate. The latter is also known as A-methopterin. These drugs apparently are antagonistic to the action of folic acid in the very earliest stages of nucleic acid metabolism. In our experience there is a narrower range of dosage between the therapeutic and toxic effects of Aminopterin than with Methotrexate. Therefore, we have tended in recent years to employ the latter drug exclusively.

The dose of Aminopterin is 0.5 to 2 mg. daily. It is available either in an oral or intramuscular dose. The dose of Methotrexate is from 2.5 to 7.5 mg. per day. The general policy is to give the maximum dose tolerated by the patient. The primary complications are ulcerations of the mucous membranes of the mouth and the intestinal tract. Alopecia is another common complication in the use of Aminopterin. When signs of ulceration of the mouth appear or when bloody diarrhea occurs, indicating ulceration of the gastrointestinal tract, the drug should immediately be discontinued and resumed in a smaller dose when the patient's signs of intoxication have disappeared.

Leukopenia in an untreated case of acute leukemia of childhood is not a contraindication to use of either of these drugs. A therapeutic effect will first be noted in approximately one and one-half to two weeks. Between 30 and 50 per cent of patients will have a favorable response. The earliest sign of beginning remission is usually a rise in the platelet count followed by a reticulocytosis and a rise in the white blood count. Therapy with these agents should be continued until a complete hematologic remission has been achieved.

Then the patient can either be put on a maintenance dose of approximately one-half the therapeutic dose, or the drug may be discontinued completely to prevent the patient from becoming refractory at an early stage. It is our policy, however, to maintain the patient on a small dose of the drug indefinitely. Therapy with the antifolic drugs may be started in conjunction with cortisone, and in this way an overlap of the remissions produced by the two different types of agents can be achieved. If the patient is not in a critical state at the time of diagnosis, therapy with the antifolics should be started without resorting to the use of cortisone.

ANTIPURINE DRUGS.—The antipurine drug of choice is Purinethol, also referred to as 6-mercaptopurine or 6 MP. It is antagonistic to normal nucleic acid metabolism at a later stage in the metabolic pathway than the antifolic effect. The indications for its use are the same as those for the use of the antifolic drugs. There is a longer period of delay before a therapeutic effect can be noted than with the antifolic drugs. The minimum period is usually three weeks. Approximately one third of the patients will derive a beneficial effect from its use. The signs of beginning remission are the same as with the other agents. The serious complication with Purinethol is the development of a leukopenia, although the leukopenia of the disease itself is not a contraindication to its use. When it is noted that there is a severe leukopenia, it must be determined whether this is due to an aplasia of the marrow or to a replacement of the normal cells of the marrow by leukemic blasts. This can only be determined by bone marrow aspiration. When severe leukopenia and aplasia of the marrow obtains, the drug must be discontinued. We have seen two cases of irreversible aplasia of the marrow following the administration of 6-mercaptopurine. The initial dose of Purinethol is 2.5 mg. per Kg. per day to the nearest 25 mg., the tablet being a 50-mg. scored tablet. It can be given orally only. When a therapeutic effect has been achieved, the maintenance dose can be reduced to 25 to 75 mg. per day, the size of the dose being evaluated by frequent leukocyte counts and the presence or absence of leukemic forms.

Sequential Management

To summarize specific therapy, then, one of either the antifolic or the antipurine drugs is selected as the initial agent of choice in the management of acute leukemia. As indicated previously, an exception is made where the patient's condition is sufficiently critical to require the more rapid action of cortisone. It is our belief that therapy should be instituted in all cases of acute leukemia when the diagnosis can be established, regardless of the severity of the symptoms. Therapy with the one type of drug is continued until the patient has become refractory to the agent. This of course is determined by the onset of a clinical or hematologic relapse. If increasing the maintenance dose to toxic levels fails to improve the patient's condition, one of the other group of antimetabolites is used. This in turn is administered as described above until the patient has likewise become refractory to this agent.

When the patient is in a hematologic and clinical relapse after both types of antagonists have been used, cortisone is then employed until the patient shows evidence of a remission or until it has been given an adequate trial of at least one month. One of the antagonists is then again started with the hope that the patient will show some response, and if failing with one, then the other is used. Refractoriness to one of the antagonists does not mean that the patient will likewise be refractory to the other.

Occasionally in the terminal phase when the patient has become refractory to cortisone and to the antagonists, intravenous ACTH has been of temporary benefit. This is a fairly heroic procedure and should be included as part of the treatment in the terminal phase described below. The two groups of antagonists may be used in conjunction. The optimal type of management using this combination has not yet been completely worked out. It remains to be demonstrated whether the survival may be increased by using such a combination rather than by using the drugs sequentially as is preferred at the present time.

Laboratory Studies

After initial laboratory tests have been made, including a complete blood count, platelet count, bleeding time, bone marrow aspiration, skeletal survey, and appropriate cultures including a bone marrow culture, it will be necessary to follow the patient at intervals to determine the progress or remission of the disease and the effects of therapy. For the most part the disease may be followed by peripheral blood counts alone, as well as the usual clinical examination. It may become necessary on occasion, particularly with the use of Purinethol, to perform a bone marrow aspiration to determine the presence or absence of aplasia of the marrow or the degree of remission.

Our policy is to follow the patients at weekly intervals after discharge from the hospital with complete blood counts and platelet and reticulocyte counts up to a point where a complete remission or almost a complete remission, clinically and hematologically, has been achieved. Thereafter, the intervals of follow-up vary from two weeks to one month. When it is apparent that the patient is going into a relapse or that treatment is becoming less effective, the intervals between visits are decreased.

The Terminal Phase

Management of the terminal phase of the disease is best carried out in the hospital and is the greatest challenge of all for the physician. All the measures described under supportive therapy must be used with skill and patience. The parents as well as the patient require sympathetic handling particularly during this phase of the disease.

(*Number three of a series on Treatment of Cancer*)

New Suction Method Aids Postoperative Healing

A new mechanical suction method of draining wounds after some types of major surgery has been developed to replace heavy pressure dressings now in common use. This means that draining can be completed within forty-eight hours without the troublesome accumulations of fluid in such wounds which often prevent them from healing quickly.

Dr. John E. Connolly, San Francisco, described successful results of the new method among 40 patients, in the April 23 *Journal of the American Medical Association*.

After surgery, a tube is inserted into the wound, and the protruding end attached to an electric suction pump which removes accumulating fluid. The suction method means a shorter postoperative hospital stay for patients, and avoids complications which result from usual methods of letting the incision drain under a heavy pressure dressing.

CASE REPORTS

Pemphigus Vulgaris in a Thirteen-Year-Old Girl

IDA J. MINTZER, M.D., AND ZOLTAN RUBIN, M.D., JAMAICA, NEW YORK

(*From the Department of Dermatology and Syphilology, Queens General Hospital*)

SINCE 1777, when Macbride[1] reported the first four cases of definite pemphigus vulgaris (all sixty years of age or older), most authors have held that pemphigus vulgaris (chronic pemphigus or true pemphigus) does not afflict children. A large segment of authoritative dermatologic opinion supports this view.[2–12]

Wise and Sulzberger[13,14] made their position especially clear on this question when, commenting editorially, they remarked: "Genuine pemphigus is practically nonexistent in infants and children." And again—"It is generally believed that genuine pemphigus vulgaris rarely, if ever, occurs in infants and young children. It is essentially a disease of adolescents and adults. In the experience of one of the editors, extending over nearly thirty-five years, no genuine example of pemphigus vulgaris has been encountered in patients under eighteen."

Yet there is the voice of those who do not subscribe to the opinion of the above-quoted authors: "Chronic pemphigus occurs at any age."[15] "No age is exempt."[16] "It occurs at all ages."[17] "No age is exempt."[18] "The ages vary from four to seventy-six."[19] "The incidence is higher in the age groups above forty."[20] "More common in age groups over forty."[21] "It may occur at any age."[22] "It is observed in young girls with menstrual disorders."[23]

We propose to join with those who believe that no sharp age group demarcation can be drawn in pemphigus vulgaris. We feel that a detailed report of the presented case of pemphigus might be justified because of the tender age of patient and the fact that this case was followed by us and our fellow staff members throughout the patient's entire period of morbidity until the time of her death and the autopsy in the same hospital.

Case Report

On March 5, 1953, B. C., a white, American-born, eighth grade, non-Jewish girl student of Spanish racial stock, aged thirteen years and three months, was first examined and treated at the Dental Clinic of Queens General Hospital for severe membranous stomatitis of unknown origin. She was given parenteral penicillin and topical medications with no appreciable therapeutic response. For eleven weeks the lesions remained limited to the oral mucosa.

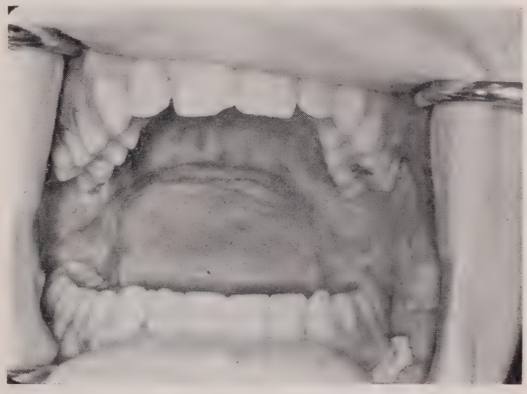

FIG. 1. Intraoral lesions.

On May 12, 1953, patient was seen in the Outpatient Department of the Department of Dermatology and Syphilology of the same hospital, on referral from the Dental Department.

Family history revealed no hereditary diseases. Father and mother are alive and well. Patient is only child.

Patient had had mumps, measles, chickenpox, and whooping cough. No reference to abnormal habits, injuries, venereal, or other diseases was elicited. Her menstruation was regular and normal. Her immediate previous history disclosed no prodromata.

The patient was found to be a well-developed and well-nourished, bright, although somewhat anxious and tense girl, not generally ill, who exhibited numerous eroded areas in her mouth (Fig. 1). Fetor ex ore was very noticeable. There were no intact bullae orally and/or any other type of lesions on the cutaneous surface. Nikolsky's sign was negative.

Suggestions that these oral processes were the early manifestations of lues, tuberculosis, blood

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Presented at a meeting of the New York Academy of Medicine, Section on Dermatology and Syphilology, December 1, 1953.

dyscrasia, cancer, food, or toothbrush trauma or those of aphthous, ulcerated, infectious, gangrenous, membranous, mycotic, and herpetic stomatitis were carefully checked and discarded. It was felt that patient was suffering from a toxic bullous eruption. The possibility of pemphigus was considered but held in abeyance because of patient's age. The parents were instructed to return patient biweekly or sooner if bullae or vesicles appeared on her skin surface.

Two weeks later patient was seen at the Outpatient Department with an exacerbation of intact bullae and a few denuded areas on her back. The lesions in her mouth, round or oval, denuded of epithelium and confluent in some areas had become bigger and begun to bleed and ulcerate. The presumptive diagnosis of pemphigus vulgaris was now entertained, and patient was immediately hospitalized for further studies and care.

First Admission

Physical Examination.—A careful search revealed no abnormality. Patient had no fever or other systemic manifestations except an alleged loss of 8 pounds of weight. She complained of no pruritus.

The mucous membranes were negative except for the intraoral lesions as described above. The scalp was negative. Only the interscapular and posterior lower thoracic regions showed an eruption of discrete, tense, thin-walled, and uncomplicated bullae of approximately the size of a pea, arising out of uninflamed bases. Nikolsky's sign was now positive over the entire cutaneous surface.

Laboratory Findings.—Urinalysis and blood serology were negative. Blood chemistry showed sodium 139 mEq. per L. of serum (normal range 137 to 147); chlorides 103 mEq. per L. of serum (normal range 97 to 106); potassium 5.4 mEq. per L. of serum (normal range 4.1 to 5.6); fasting blood sugar 84 mg. per cent. Blood study revealed hemoglobin 17 Gm., leukocytes 10,000, segmented neutrophils 67, lymphocytes 33, eosinophils 1.

Radiographic examination of chest disclosed no significant findings. Examination of cultures from mouth and throat showed hemolytic Staphylococcus aureus, coagulase positive (pathogenic strains), and enterococci, hemolytic type.

Histopathology.—The microscopic appearance of the lesions was highly suggestive of pemphigus vulgaris. (See below for detailed description.)

Course.—The in vitro effect of the various antibiotic concentrations upon patient's organisms was now determined. Armed with this knowledge of organism sensitivity, treatment was started with streptomycin and aureomycin orally and bacitracin, polymixin B, and Terramycin locally. ACTH, 50 mg. in 500 cc. of 5 per cent solution of dextrose, regulated for a slow eight-hour intravenous drip, was administered. The general therapeutic regimen consisted of low-sodium, high-vitamin, high-calorie, and high-protein diet, crude liver extract intramuscularly, and potassium chloride orally. In addition to the topical antibiotics, local therapy included potassium permanganate baths 1:20,000, sterile vaseline gauze dressings, and Dobell's solution for mouthwash.

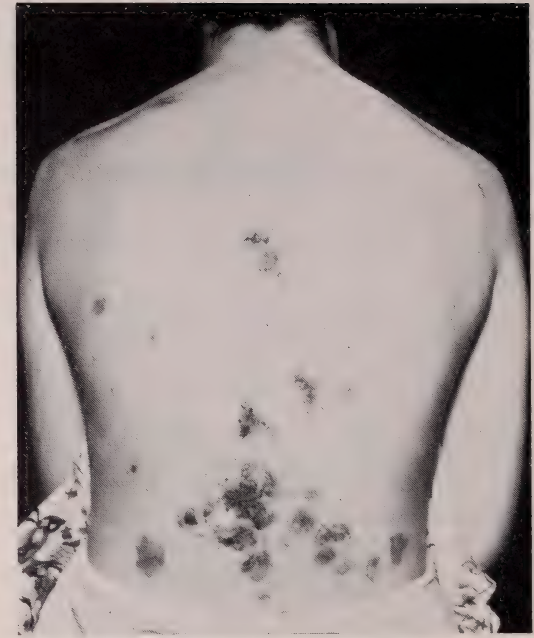

Fig. 2. Vesiculobullous lesions on back.

Almost immediately upon the institution of steroid therapy a marked symptomatic and emotional improvement of patient was noted. All bullae began to dry out. After five to six days ACTH was gradually reduced to 15 to 10 to 5 mg. daily and replaced by increasing doses of 25 to 50 mg. of cortisone. However, on this regimen patient developed new bullae. ACTH, therefore, was increased to 25 to 50 mg., and cortisone was cut. Again, both oral and cutaneous lesions improved considerably, presenting central healing and moist, crusted margins. After a few days the bullous eruption cleared up almost completely, leaving only a small number of lentil-sized vesicles on the abdomen and the thighs. ACTH was now stopped, and patient was placed on 150 mg. of cortisone daily, a dose which gradually was reduced to 12.5 mg. twice daily. Her condition continued to improve steadily, warranting her discharge from ward service. On June 17, 1953, and on above drug and maintenance dose patient was transferred to outpatient care with slightly erythematous patches on her oral mucosa and some pigmented maculae on her skin.

Eleven weeks after patient's discharge, a weekly follow-up examination in the Outpatient Department disclosed recurrent vesiculobullous dermatitis of generalized distribution with involvement of the oral membranes. This time there was some tendency to a circinate arrangement of the lesions. Patient was immediately rehospitalized.

Second Admission

Physical Examination.—Patient walked from

Outpatient Department to ward. She seemed to be in fair condition revealing no disturbance of her general health. Her temperature and pulse were normal. A comprehensive general examination disclosed no apparent pathology. However, an exacerbation of bullae—some confluent, some surrounded by an erythematous halo—on her back, abdomen, anus, and legs was noted (Fig. 2). There were also denuded patches at the sites of previous bullae, some with a fringe of detached epidermis peripherally. Eroded lesions were observed on patient's buccal, palatal, labial, and infralingual mucosa.

Laboratory Findings.—Urinalysis and blood serology were negative. Blood chemistry showed total serum protein 5.2 Gm. per 100 cc. (normal 6 to 8 Gm. per 100 cc.); albumin 3.2 Gm. per cent (normal 3.5 to 5.6 Gm. per cent); globulin 2.0 Gm. per cent (normal 1.3 to 3.2 Gm. per cent). Blood culture was sterile. Erythrocyte sedimentation rate was 40 mm. in one hour (Wintrobe method). Blood studies (done at periodic intervals) revealed hemoglobin 11.5, 15.3, 16.0, 13.0, 13.5 Gm.; leukocytes 8,900, 11,000, 16,400, 17,500, 23,500; segmented neutrophils 69, 80, 70, 76, 80; lymphocytes 29, 18, 30, 26, 20; eosinophils 6, 1, 8, 7, 5.

Radiographic examination of chest showed no significant findings. No abnormal mineralization, density, congenital or other abnormalities were noted on x-ray of long bones. Electrocardiographic examination indicated no changes due to potassium loss. Examination of cultures from mouth and throat showed hemolytic Staph. aureus, coagulase positive, and Streptococcus viridans.

Course.—She was placed on 35 mg. of intravenous ACTH and 1.0 Gm. of Terramycin daily. On this therapy patient's bullae began to dry out, and she looked and felt much better and lost the offensive odor from her mouth. When a few new lesions appeared, ACTH was increased to 40 mg., and lesions appeared drier, less ulcerated, clearer in the center, and later pigmented.

About four weeks after her admission patient's temperature suddenly rose to 104 F. A complete physical examination, including medical and ear, nose, and throat consultation, revealed a severe exudative oropharyngitis associated with bilateral cervical lymphadenopathy. The entire appearance of the oropharynx resembled the picture of "thrush." In view of the fact that this infection developed while patient was on Terramycin, 600,000 units of penicillin twice daily were substituted, and new organism sensitivity studies were ordered. Steroid therapy was temporarily discontinued, and patient was placed on larger doses of parenteral crude liver and vitamin B complex.

Two weeks after its inception, the fever and chills subsided, and patient felt wonderful again. Penicillin was discontinued and ACTH therapy resumed and alternated with intravenous heparin. About this time, because of difficulties with the intravenous route due to a severe phlebitis of both arms, we had to resort to the intramuscular administration of ACTH. During the latter mode of therapy patient's lesions became active again with fresh bullae erupting on the uninflamed skin, especially on her legs, anus, and abdomen, while her general condition remained fairly good. Shortly thereafter, however, her tongue began to swell, and numerous mouth lesions, this time involving her lips too, erupted again. As a result patient became more and more depressed. Intramuscular ACTH was increased to 50 mg. three times, then four times daily, and, as supportive therapy, the administration of ascorbic acid, testosterone with conjugated estrones, and frequent small transfusions of whole blood were ordered. On this regimen patient felt much better again. The lesions on the vermilion border of her lips dried up, and the rest of the bullae seemed to flatten out.

On the above plan patient continued doing fairly well for about five weeks when distinct vegetating lesions began to crop up in increased number in the axillary, inguinal, and perianal regions. Patient also showed signs of steroid overdosage reaction such as "mooning of face." ACTH was discontinued, and she was given increasing doses of Carbarsone (paracarbamidophenylarsonic acid, Lilly). While patient temporarily responded to latter drug, a sudden rise in her temperature to 105 F. signaled the beginning of her final deterioration. Combinations of various antibiotics failed to stop a septic type of pyrexia or influence the gradual worsening of a severe phlebitis of her left lower extremity. Besides the primary disease process and the phlebitis, medical consultants could find no explanation for her fever. There was no evidence of heart murmurs. During this period external therapeutic measures consisted of Neo-Cortef ointment 1 per cent, potassium permanganate baths, 2 per cent tannic acid sprays, and an abundance of excellent nursing care.

After a few brief spells of cutaneous and emotional improvement, a serious relapse occurred. The ensuing weeks saw a tremendous number of new bullae emerge at the old sites, upon some of which vegetating lesions developed in the intertriginous areas. Although these vegetating plaques responded fairly well to Carbarsone, patient's downhill course gained in momentum. Her temperature continued to spike to high levels. When she started to suffer from bouts of diarrhea and vomiting, Carbarsone was stopped, intramuscular cortisone added, and the use of antibiotics continued.

Approximately nine weeks after her second admission patient suddenly developed a right hemiparesis without the loss of consciousness. Neurologic consultants found right facial paralysis, right deviation of the tongue, positive Babinski on the right, aphasia, difficulty in swallowing, but no neck rigidity or Kernig's sign. The probability of a cerebral embolic episode and the remote possibility of a septic focus in the brain was considered. In spite of the most energetic medical measures patient's condition grew rapidly worse, and on March 9, 1954, she expired.

HISTOLOGIC EXAMINATION

Three biopsy specimens were taken, one during the first and two during the second hospitalization. For the last one a small fresh bulla was excised. The first two histologic examinations revealed

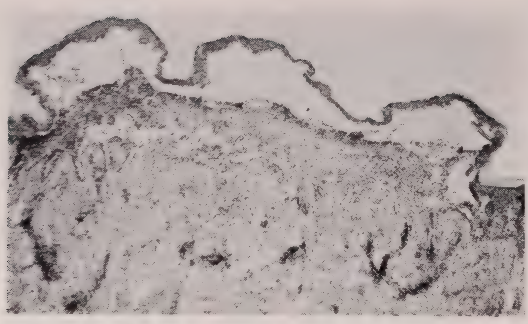

FIG. 3. Bulla in suprabasal position with suprabasal clefts at its periphery. Many epidermal cells lie free in the cavity of the bulla. (*Low power*)

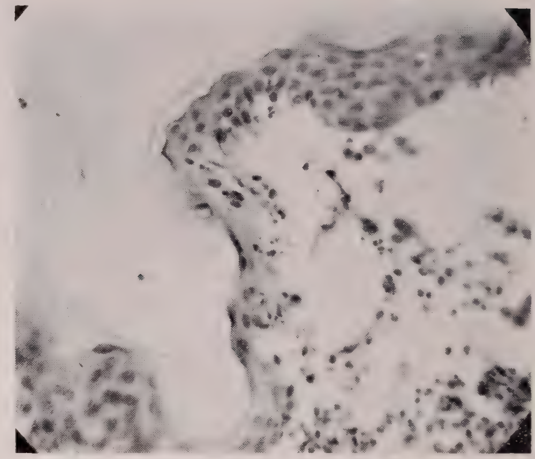

FIG. 4. Leftmost portion of bulla showing numerous epidermal cells, singly or in clusters, detached from their intercellular bridges and floating freely in the cavity of the bulla (acantholysis). Note the degenerative cellular changes manifested by the round, swollen nuclei surrounded by a narrow collar of cytoplasm. (*High power*)

findings consistent with pemphigus. The study of the third biopsy is reported in detail:

"In the center of the slide there is a large intraepidermic vesicle. Acantholysis is present. Many of the epidermic cells are floating free.

"Within the vesicle there are many leukocytes and cellular debris. The epidermis, away from the vesicle, shows intercellular edema and beginning acantholysis.

"The superficial blood vessels in the cutis are surrounded with a mild perivascular inflammatory reaction composed of round cells and wandering connective tissue cells. The cutis itself shows interstitial edema.

"Diagnosis: Pemphigus vulgaris" (Figs. 3 and 4).

Cytologic Examination (*Tzanck*).—Viewed under low-power magnification there were many acantholytic epithelial cells in the bulla. These cells had little cytoplasm and large nuclei.

AUTOPSY FINDINGS

The microscopic findings confirm the gross diagnosis as follows: (1) acute bacterial endocarditis with multiple infarcts of spleen, kidney, brain, and heart; (2) bilateral thrombophlebitis of femoral veins with multiple pulmonary emboli and infarcts; (3) pemphigus vegetans. The adrenal glands showed considerable cortical hyperplasia with lipoid depletion and interstitial edema.

Comment

Since it has no pathognomonic signs, pemphigus vulgaris often poses many differential diagnostic problems. The diagnosis should not be and was not made hastily in the case of this thirteen-year-old patient. Throughout our continued and prolonged observation of this patient, other vesiculobullous diseases, especially dermatitis herpetiformis and the different types of erythema multiforme, were carefully considered and excluded. Based on the following cardinal features we feel there is sufficient evidence to warrant the diagnosis of pemphigus vulgaris in the presented case.

Patient's illness began without prodromata and with the insidious involvement of her oral mucous membrane. The mouth lesions were severe, extended to her lips, and appeared persistently. The cutaneous lesions that followed erupted on unaltered skin and sites of predilection such as her trunk and extremities. Patient suffered from no systemic disturbance at the onset but lost ground gradually as her disease entered its stormier phases. Except for fever due to a bout of oropharyngitis, she had no temperature until about the inception of her terminal stage. She rarely complained of pruritus and had only residual hyperpigmentation at the sites of the healed bullae. Her eruption never remitted completely, and no type or amount of therapy influenced the eventual outcome of her illness. Laboratory findings indicated hypoproteinemia, increased erythrocyte sedimentation rate, secondary anemia, leukocytosis, and intermittent moderate eosinophilia. Sulfapyridine administered as a therapeutic diagnostic test failed to improve her condition. Nikolsky's sign remained positive throughout.

The histologic findings and the positive Tzanck test supported the above clinical picture.

We agree with the viewpoint expressed by Combes and Canizares[7] and supported by Kesten[24] that "our old concepts of toxic bullous dermatoses should be revised" and feel, therefore, that the factor of age ought not preclude the diagnosis of pemphigus vulgaris.

Since this patient received ACTH and cortisone, the findings of the microscopic examination of the adrenals cannot be ascribed to or correlated with the disease process in pemphigus. Similar changes have been produced with cortisone and ACTH alone. We are in no position, therefore, to verify the findings of Goldzieher[25] and others with regard to regressive changes in the adrenal glands in pemphigus.

Summary

A case of vesiculobullous dermatitis in a thirteen-year-old, American-born, Gentile girl, diagnosed as pemphigus vulgaris, is presented.

The literature referring to the age incidence is reviewed.

The essential clinic and histopathologic features of the case are emphasized.

Our thanks are due to Drs. C. Miller and W. Sachs, P. Sachs, and A. Hyman for the histopathologic report and the reviewing of the slides, respectively. Mrs. Pikuritz took the photomicrographs, and Dr. G. Silverman, pathologist, Queens General Hospital, reviewed the autopsy findings.

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AMA Plans New Type Health Exhibits

To acquaint people with their bodies and the size and location of various organs, the AMA's Bureau of Exhibits currently is planning a new series of exhibits depicting the basic anatomy of the human body. Each exhibit will feature life-size three-dimension models of particular parts of the body and should prove invaluable as a health education aid.

Typical of this new group of exhibits is "Life Begins" which tells the miraculous story of the beginnings of life. Actual human fetuses embedded in plastic will trace the growth of a baby from four weeks to nine months. Also included will be a three-dimension, life-size model of the female pelvis and diagrams showing the uniting of the sperm and ovum, the division of cells and the travel of the ovum into the uterus. The final section of the exhibit will portray in life size the actual delivery of a baby. This exhibit will be available about September 15.

Others in the series, scheduled for release next year, will be on vision and hearing. Tentative titles are "We See" and "We Hear." The first exhibit in this group, "You and Your Body," is currently available.

—*AMA News Notes, May, 1955*

A Case of Trichinosis Treated with Cortisone

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NOTWITHSTANDING improved methods of prevention and diagnosis of trichinosis, the United States has the highest incidence of many civilized countries.[1] McNaught and Anderson[2] found an occurrence rate of 24 per cent in San Francisco in 1936. Beard,[3] fourteen years later, reported a rate of 8 per cent in the same city. In 1944 Wright *et al.*[4] found that 16.7 per cent of men and 14.7 per cent of women in the United States were infected with trichinosis. Gould[5,6] estimates that 25 per cent of all persons in the United States become infected during their lifetime and that approximately 5 per cent become ill. Microscopic examinations of human diaphragms studied in areas of Canada and Mexico revealed an incidence of 4 to 15 per cent.[7,8]

Little progress has been made in the field of therapy. In 1951 Luongo *et al.*[9] reported dramatic symptomatic improvement in three cases of trichinosis treated with ACTH. It appeared to them that although the disease inevitably passes through a definite cycle, ACTH affords a favorable opportunity of altering the severe toxic manifestations. Rothenberg[10] used cortisone in two cases of trichinosis with immediate and lasting disappearance of all clinical symptoms. Solomon *et al.*[11] treated a patient with ACTH and described definite improvement in both mental and physical states. However, there was no alteration in the fundamental pathologic process of the disease. Spectacular results were seen in eight patients treated with ACTH by Buylla *et al.*[12] Fever, dyspnea, muscular pains, stiffness, and nervous symptoms were controlled within twenty-four hours. Stoner and Godwin[13] concluded that there was no change in the pathologic process nor was the course of the disease favorably altered in experimentally induced trichinosis in mice treated with ACTH or cortisone. Microscopic examinations on experimentally produced lesions of trichinosis treated with ACTH showed no detectable anatomic changes in the larvae themselves or in the encystment and inflammatory response on the part of the host tissue.[9]

The purpose of this paper is to report a case of trichinosis with severe symptomatic manifestations treated successfully with cortisone.

Case Report

A thirty-one-year-old, white, male dental officer, of Syrian extraction, was in good health until November 23, 1953, when he developed a sore throat, weakness, and malaise with generalized muscular aching. After self-treatment with chlortetracycline (aureomycin), he felt better but was still extremely tired. On December 1 he developed periorbital edema which became progressively worse over the next two days. Motion of the eyes produced pain and double vision. By December 3 his initial symptomatology recurred. On the following day his complaints were more severe, and he reported to a medical facility at Brunswick, Maine. Physical examination at that time revealed only marked periorbital edema and diplopia. The white blood count was 14,500 with 25 per cent eosinophilia, and the urinalysis was normal.

The patient was treated with salicylates, fluids, and bed rest. On December 6 he developed pain in the muscles of mastication, and shortly thereafter his entire face became "puffy." Two days later he experienced extreme tiredness and had chills and a fever of 103.4 F. followed by moderate dyspnea. He was transferred to the United States Army Hospital, Fort Hamilton, Brooklyn, on December 9.

The history on admission, in addition to the above, revealed the presence of loose, frequent stools since the onset of his present illness. He stated that he frequently ate raw lamb, rare venison, and uncooked pork. Physical examination revealed the patient to be a well-developed, well-nourished, irritable, uncooperative, acutely ill male in moderate respiratory distress. Marked periorbital edema was present, and his entire face was swollen. He had diplopia on lateral gaze. There was no nuchal rigidity. The lungs were clear to percussion and auscultation. A grade 2 systolic murmur was heard over the pulmonic area. Generalized muscle tenderness was elicited. The remainder of the examination was normal.

Laboratory data were as follows: Initial hemogram showed a white blood count of 14,400 with 30 per cent eosinophils and normal hemoglobin (Table I gives serial white blood counts and differential results). Repeated urinalyses revealed no abnormalities, and stool examinations were negative for ova and parasites. Total protein, albumin-globulin ratios, direct and indirect van den Bergh, bromsulfalein, and prothrombin times were all within normal limits. On December 30, 1953, a cephalin flocculation test was reported as 4 plus in twenty-four hours. Several specimens of venous blood were examined for trichina with negative results. Complement fixation tests for trichinosis were as follows: December 10, 0; December 22, 1:16; January 4, 0. The chest x-ray was normal. An electrocardiogram on December 9 revealed a low electromotive force with low T waves over the pre-

TABLE I.—Serial White Blood Counts

Date	White Count	Per Cent Eosinophils	Per Cent Neutrophils	Per Cent Lymphocytes	Total Eosinophil Count
1953—Dec. 7	14,500	25	...	...	...
9	14,400	30	52	12	...
10	16,000	36	56	7	...
11	14,000	30	53	11	...
14	14,000	58	25	16	...
15	18,800	64	20	13	...
16	19,200	50	34	15	...
17	22,000	51	32	16	...
18	17,000	55	19	23	5,687
21	17,400	42	33	20	6,039
22	16,000	34	32	32	...
23	14,800	33	29	35	4,378
24	15,850	38	19	35	...
28	17,500	36	22	38	...
30	12,600	34	15	50	3,146
31	9,900	37	19	52	3,267
1954—Jan. 4	19,200	37	15	54	3,009
6	12,250	22	35	36	2,557
8	10,850	23	25	47	1,958
11	9,600	14	27	43	1,925
26	12,800	17	33	46	2,387

cordium. These changes persisted on serial electrocardiograms until December 18 when the tracing became normal.

After clinical evaluation and initial laboratory studies, a diagnosis of trichinosis was made, and cortisone therapy was instituted on the afternoon of the day of admission. He received 200 mg. of oral cortisone daily in four divided doses for two days, followed by 100 mg. daily for two weeks, tapering the dose gradually. A total of 1.637 Gm. was given to the patient over a twenty-six-day period. By the second hospital day he had shown remarkable improvement; he was pleasant, cooperative, and asymptomatic. The periorbital edema, facial edema, and fever cleared over a three-day period. Except for a low-grade elevation in temperature on the fourth and fifth hospital days, the patient remained afebrile. He remained asymptomatic except for an occasional complaint of mild, generalized weakness. The patient was observed until January 27, 1954.

With the exception of oxytetracycline (Terramycin) for the first twelve days and occasional aspirin with codeine the first two days, no other medication was administered.

Comment

One aspect of immune response is the alteration of permeability of cell membranes.[14] This is seen in many infectious diseases and even in the absence of infection, as in serum sickness and urticaria. Periorbital edema, an early symptom of trichinosis, is an indication of disruption of the integrity of cell membranes. During the acute phase of infestation, evidence of immunity can be detected by means of a positive precipitation reaction or by dermal hypersensitivity. ACTH and cortisone, by restoring physiologic integrity of membranes, lessens the severity of the patient's reaction to the disease and may well shorten the period of convalescence. In the case reported an acutely ill patient was treated with cortisone with excellent symptomatic response. Within twenty-four hours after institution of therapy there was remarkable subjective and objective improvement, and after forty-eight hours the patient was asymptomatic despite the continued eosinophilia.

Summary and Conclusions

A severe case of acute trichinosis successfully treated with cortisone is reported. This disease has an estimated annual incidence of 350,000 new infections with approximately 16,000 revealing the manifestations of the disease.[15] The mortality in reported outbreaks has varied from 5 to 10 per cent.[5,6,10,15,16] From experience with this case and others reported in the literature, it is believed that cortisone is justified in those cases with severe symptomatology.

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An Unusual Case of Depressed Fracture of the Skull Due to a Rooster Peck

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(*From the A. Barton Hepburn Hospital*)

ON May 28, 1954, D. B., a twenty-two-month-old, white boy was admitted to the A. Barton Hepburn Hospital with fever and vomiting of two days duration. Four days prior to admission the child was pecked by an 8-pound Plymouth Rock rooster over the anterior aspect of the left parietal bone. The injury appeared trivial, and he continued with his usual activities. On May 26 he became feverish and listless. The following day he was anorexic and vomited several times. During the night the parents noted he had a "stiffness" of the right leg to the extent that they were not able to flex the ankle or knee.

On admission the only pertinent physical finding was an 11-mm. area of an apparently superficial infection of the scalp over the anterior aspect of the left parietal bone. The patient was alert and afebrile.

Laboratory studies showed a complete urinalysis normal. The blood had 3,510,000 red blood cells per cu. mm. with 9.3 Gm. of hemoglobin per 100 cc. There were 22,000 white blood cells per cu. mm. with a differential count of 86 per cent polymorphonuclears and 14 per cent lymphocytes. Although clumps of gram-positive cocci were demonstrated in the blood smear, a blood culture was sterile.

Before definitive treatment was undertaken, the patient developed a fever of 103.4 F. and began to have repeated grand mal type convulsions. Twitching of the right side of the face and extremities occurred between seizures. A spinal puncture was done. The cerebrospinal fluid had 76 leukocytes per cu. mm. with 50 polymorphonuclears, 24 monocytes, and 2 lymphocytes. Protein was 26 mg. per 100 cc. Sugar was 64 mg. per 100 cc. A culture grew out beta hemolytic streptococci. Massive doses of both rapid and long-acting penicillin, totaling 2,000,000 units, were given parenterally in the next eight hours. The child received phenobarbital and was kept in an oxygen tent. This regimen controlled the convulsions, but right-sided hemiparesis became evident.

Roentgenograms of the skull were taken and showed a small, depressed fracture involving the left parietal bone immediately posterior to the midportion of the coronal suture on this side (Fig. 1).

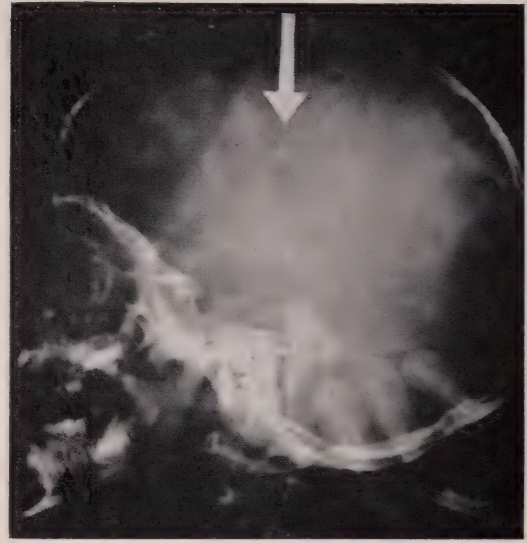

FIG. 1. Roentgenogram of skull showing depressed fracture of left parietal bone.

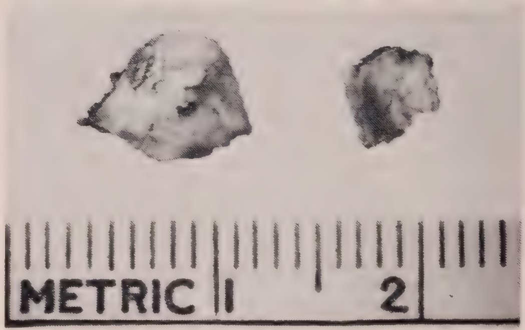

FIG. 2. Two fragments of bone removed from brain tissue.

Craniotomy was performed. A vertical linear incision approximately 5 cm. in length was made over the parietal area on the left side just posterior to the lesion. Retraction was used to pull the scalp forward over the skull. A round 1-cm. hole in the skull could then be seen. Brain tissue protruded through this opening. A rongeur was used to enlarge the skull opening, and the dura mater, which also had been pierced, was incised crucially. The four flaps were then reflected. Suction was used, and one small bleeding vessel was controlled with a brain clip. The necrotic, infected brain tissue was removed with a wet sponge and suction. Two small fragments of bone buried in the motor area here were lifted out with forceps (Fig. 2). The whole area was then flushed with normal saline. The incision was closed with a small rubber dam drain.

The child did well postoperatively and was using the right extremities the next day. Antibiotics were continued. By the third postoperative day he was feeding himself and was only slightly unsteady on his feet. Three months later there was no evidence of any residual defect.

Summary

Never underestimate the peck of a rooster!

Thrombocytopenic Purpura

Report of a Case with Profuse Hematuria Simulating Carcinoma of the Bladder

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(From the Departments of Urology and Medicine of Mount Vernon Hospital)

IT IS the purpose of this report to demonstrate how dramatically a case of acute thrombocytopenic purpura with alarming hematuria and radiologic evidence of marked subepithelial hematomas in the bladder responded to corticotropin and/or cortisone therapy after other methods of treatment failed. This case also demonstrates how purpura of the bladder may simulate infiltrating carcinoma radiologically.

There have been increasing numbers of cases of acute thrombocytopenic purpura which have responded to corticotropin and/or cortisone therapy.[1-4] This has been a temporary means of treatment before splenectomy. In the case reported splenectomy was resorted to for an ultimate cure.

Empirically it has been established that corticotropin and/or corticotropic substances have a beneficial effect in many cases of acute thrombocytopenic purpura. The exact manner in which they produce an effect has not been established. The weight of evidence, however, seems to be that corticotropin and/or cortisone inhibits the formation of autoantibodies which affect the capillary resistance.[5,6]

It is not unusual to have hematuria as the only symptom of the disease. In this case, however, the hematuria was of such nature as to threaten the life of the patient by exsanguination. X-rays of the bladder simulated carcinoma.

Case Report

Mrs. D. H., a Negro female, thirty-two years of age, employed as a clerk in a dry-cleaning store, was not acutely ill but showed evidence of marked pallor. The chief complaint was hematuria intermittently for two weeks and purpuric spots on mucosa of the mouth and tongue as well as on various parts of the skin.

The present illness began approximately two weeks prior to admission when the patient noticed a slight amount of blood in the urine, associated with frequency of urination (approximately every two hours) with some urgency. At the same time she developed purpuric lesions in the mouth as well as on the skin. The hematuria was present for approximately two days, then disappeared only to recur four or five days later, at which time it became quite pronounced. Urgency and frequency became more marked. On cystoscopy at that time it was noted that the urine was slightly blood-tinged. Examination of the bladder revealed purpuric spots diffusely scattered over the dome and lateral and posterior walls of the bladder. The ureteral openings were normal. There was no evidence of pathology of the trigone or the internal sphincter. The urethra was normal. The patient was sent to the hospital as an outpatient twelve days after cystoscopic examination to have an intravenous pyelogram done. At that time the hematuria was quite profuse, and it was decided to have her admitted to the Mount Vernon Hospital. There was no history of exposure to chemical fumes, and she had been taking no drugs. There were no chills or fever.

Past medical history revealed that a total hysterectomy had been done in December, 1952, at Mount Vernon Hospital because of fibroids of the uterus. Blood studies at that time were normal, and she made an uneventful recovery. However, on several occasions when she had tooth extractions, bleeding was somewhat profuse and lasted as long as twelve hours. Systemic history was essentially normal.

Physical examination showed an adult, Negro female, not appearing to be acutely ill. Skin and conjunctivae of the eyes showed moderate pallor. Head and eyes reacted to light and accommodation. Ears and nose were essentially normal. Several purpuric spots were seen on the mouth and buccal surface of the cheeks. Tongue protruded in midline. Neck revealed no adenopathy. Chest, heart, and lungs were essentially normal. Blood pressure was 110/70. The postoperative abdominal scar in the suprapubic area was noted. No abnormal masses were present in the abdomen. The spleen and liver were not palpable. No tenderness or distention was present. The skin revealed purpuric spots distributed profusely on all areas of the body. The extremities showed no abnormalities aside from the skin manifestations. Superficial and deep reflexes were normal. Findings of the vaginal examination were essentially normal. No purpuric spots were noted in vaginal mucosa. Tourniquet test was positive.

Laboratory findings included an intravenous pyelogram which showed the upper urinary tract to be normal insofar as morphology and kidney function were concerned. The bladder, however, showed filling defects which could easily be interpreted as tumor of the bladder. The urine contained innumerable red blood cells.

The complete blood count (Dr. Sharnoff) showed hemoglobin 69 per cent (10.05 Gm.), red blood cells 3,380,000 with anisocytosis, white blood cells 16,250 with neutrophils 79 per cent, lymphocytes 19 per cent, monocytes 1 per cent. Platelet count was 70,980; prothrombin time seventeen seconds (80 per cent); bleeding time three minutes, fifteen

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This case was presented before the Mount Vernon Hospital Medical Staff Conference.

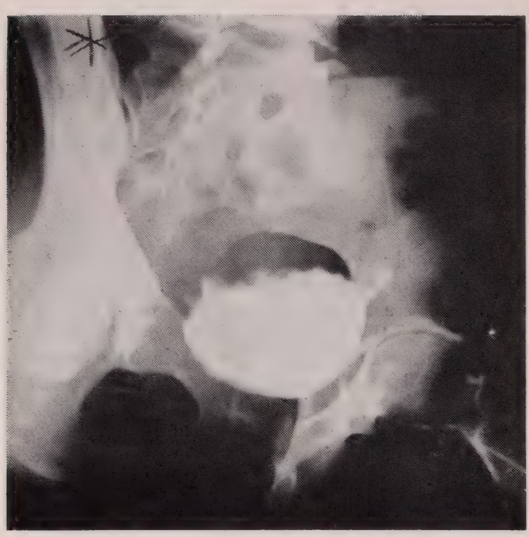

FIG. 1. Cystogram demonstrating subepithelial hematomas simulating carcinoma of the bladder prior to cortisone therapy.

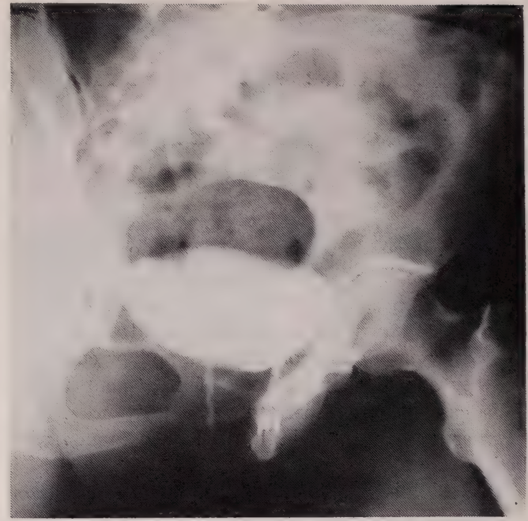

FIG. 2. Cystogram of same patient taken twelve days after beginning of cortisone therapy showing normal outline of bladder.

seconds; coagulation time five minutes, fifty seconds; clot retraction time—no clot after twenty-four hours. Blood type was international B type 3, Rh positive. Sternal marrow puncture showed nucleated cell count 339,200 and megakaryocytes 14 with differential count as follows: myeloblasts 1.5 per cent, promyelocytes 5 per cent, myelocyte neutrophils 6 per cent, myelocyte eosinophils 4.5 per cent, metamyelocyte neutrophils 13.5 per cent, metamyelocyte eosinophils 0.5 per cent, nonsegmented neutrophils 18.5 per cent, segmented neutrophils 22 per cent, lymphocytes 5 per cent, monocytes 1 per cent, plasma cells 2 per cent, megaloblast 0, erythroblasts 0.5 per cent, and normoblasts 20 per cent.

The patient continued to bleed profusely from the bladder. The hemoglobin was reduced from 60 to 54 per cent; platelets dropped to 3,250. Because of the profuse bleeding the patient was cystoscoped on January 21, 1954, with the hope of fulgurating any bleeding points. On cystoscopy the bladder did not contain any clots. There were petechial hemorrhages throughout the mucosa of the bladder with the exception of the trigone. There was no distinct bleeding area which could be fulgurated. Cystogram taken at this time showed numerous filling defects in the bladder suggestive of bladder tumor (Fig. 1). The patient was given blood transfusions with fresh blood as well as Adrenosem, 5 mg. intravenously, as well as directly into the bladder. Bleeding continued at the same rate. The patient was passing frank blood every three to five minutes. With a catheter inserted, there was no diminution of bleeding.

On the third day after admission the patient was given 300 mg. of cortisone in divided dosage, 75 mg. every six hours, along with fresh blood transfusions. Bleeding promptly diminished. Two days later the cortisone was reduced to 150 mg. in twenty-four hours. The patient's symptoms of frequency subsided, and the purpuric patches which were scattered profusely over the skin as well as on the buccal surface of the mouth gradually subsided. The tenderness in the lower abdomen became less; numbness in her left leg and foot continued. Temperature, which ranged between 100 and 101 F. during the first three days of admission, returned to normal. Cortisone was further reduced to 50 mg. and then to 25 mg. per day. By the fifteenth day after admission, she was on 25 mg. of cortisone in twenty-four hours.

The platelet count started to rise so that on the ninth day after admission it was 126,000. The bleeding and clotting time remained within the normal limits. A cystogram taken fifteen days after admission showed the bladder outline to be perfectly normal in both anteroposterior and oblique positions (Fig. 2). The filling defects previously noted had entirely disappeared. The patient was discharged on February 5, 1954, with the only residual symptom being a slight numbness in the left leg. At home on 25 mg. of cortisone per day she was symptom-free for a period of several weeks. She then began to have signs of purpura. It was then decided to perform a splenectomy. Following this procedure she has been symptom-free.

Comment

Idiopathic thrombocytopenic purpura is not a very common disease. In those cases reported it is unusual to have skin manifestations as well as urinary signs and symptoms. Some cases of idiopathic hematuria without urinary symptoms undoubtedly are manifestations of blood dyscrasia and should be worked up from this point of view. In the case reported the unusual features were the marked hematuria with subepithelial hematomas simulating infiltrating carcinoma. It is interesting to note that the patient did not respond to Adrenosem in spite of the claims made for its ability to produce clotting of blood. The patient did respond dramatically to cortisone therapy in conjunction with fresh blood transfusions. The subepithelial hematomas rapidly disappeared. The original cystogram showed marked filling defects in the bladder simulating infiltrating carcinoma. Fifteen days later the hematomas were completely absorbed, and the cystogram showed a completely normal bladder. The platelets increased from approximately 3,000 to 180,000 in a period of ten days. The pain in the lower abdomen could possibly be explained on the basis of subepithelial hematomas in the intestinal tract as well as in the bladder.

Summary

A case of acute idiopathic thrombocytopenic purpura with profuse hematuria responding to cortisone therapy has been presented.

Radiographic studies showing marked intrusion of the bladder as a result of subepithelial hematomas simulating infiltrating carcinoma have been shown. It has also been demonstrated how completely the hematomas disappeared in a period of fifteen days.

Adrenosem had little if any therapeutic value in controlling hemorrhage in this case.

We wish to express our thanks to Dr. Paul Reznikoff, Dr. George Sharnoff, and Dr. Nathan Serlin for their help in the treatment of this case.

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A Painful Supraclavicular Fat Pad

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(*From the Hospital for Joint Diseases*)

SUPRACLAVICULAR fat pads are seldom seen. Such a fat pad was found only once by me in 37 obese men and women. It is also an expression of natural hypercortisonism (Cushing's disease) or may follow cortisone overdosage. Apart from the above group of 37, I have seen bilateral fat pads twice, both times in women, and a unilateral fat pad in a man. When the pad of fat adheres to the deep fascia of the posterior triangle of the neck, it gives pain which is relieved by release of the fat pad. The following case describes this most uncommon clinical experience.

Case Report

A woman, forty-four years old, saw a swelling in each supraclavicular fossa on December 2, 1951, the day before she consulted me. A provisional diagnosis of Hodgkin's disease was made. The advised biopsy was not done until November 25, 1952, when, because of continued pain in the tender left supraclavicular mass, she consented to operation. The pain, sometimes burning and sharp, sometimes a dull ache, occasionally radiated to the left antecubital fossa. The mass had not grown in size. A significant observation was a weight gain of 20 pounds in the past two years. A mother of two children, she had passed through her menopause a year and a half ago.

The operation disclosed a supraclavicular fat pad which was adherent to the deep fascia of the posterior triangle of the neck. No lymph nodes were seen. It was decided to free the pad laterally and distally rather than to resect it. The wound healed by primary intention. Sections of the tissue showed only fat in which a small lymphoid follicle was embedded. She had no complaints on February 27, 1953, and the fat pads were smaller.

Since it was believed that the fat pad was an expression of natural hypercortisonism, the urinary excretion of 17-ketosteroids was estimated. This estimate on December 9, 1952, was 9.3 mg. in 1,820 cc. of urine, the volume of the twenty-four-hour sample. The normal level for a woman of her age varies from 7 to 10 mg. The urinary excretion of sodium chloride on a normal salt diet was 0.69 per cent, the normal being about 0.9 per cent. On a salt-free diet the excretion of salt was 0.26 per cent, and after the ingestion of 10 Gm. of salt, the level of excretion was elevated to 0.65 per cent.

Comment

The existence of the supraclavicular fat pad should be recognized in order to rule out lymphoblastoma or like illness. Release of the adherent fat pad gives relief from pain.

114 EAST 54TH STREET

Abnormal Lactation Following Radical Mastectomy

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THE occurrence of abnormal lactation in the female breast has been reported in a number of pathologic conditions. It has occurred during various hormonal disturbances such as acromegaly, in prolonged mechanical stimulation of the breast, in neoplasms of the ovaries or uterus, in burns of the chest wall, and in herpes zoster. It also occurs following certain surgical procedures. There have been reports of abnormal lactation after a hysterectomy,[1] after excision of a fibromyxoma of the round ligament,[2] after removal of a dermoid and corpus luteum cyst of the ovary,[3] and after thoracic operations.

In 1949, Salkin and Davis[4] reported ten cases of abnormal lactation following thoracic procedures. In nine patients it occurred after thoracoplasty; in one, following pneumonectomy. In 1950, Grossman *et al.*[5] also reported four cases occurring after thoracoplasty, and in 1951, Cavalcanti and Leal[6] reported three such cases following this same type of operation. In some of these patients, lactation, which was both unilateral and bilateral, continued for a number of months. These authors have thoroughly discussed the hormonal and neurogenic control of lactation. It is probable that abnormal lactation following thoracic operations is due to injury and stimulation of thoracic nerves.

However, not one case report of abnormal lactation occurring in the remaining breast after a radical mastectomy can be found in the literature. Haagensen,[7] in his wide experience, has never seen this entity. Because of its rarity the following case is reported.

Case Report

H. W., a thirty-eight-year-old, white female, was admitted to Montefiore Hospital on August 30, 1953. She had noted a very small lump in her right breast for the past ten months, and she thought there had been a slight increase in the size of the mass in recent months. The breast was not tender, and there had been no discharge from the nipple.

The patient had had a right oophorectomy in 1937, and a right salpingectomy for ectopic pregnancy was performed in 1938. Her menses were irregular, with thirty- to forty-day intervals; occasionally there was an increased menstrual flow.

Physical examination revealed a small, pea-sized, hard mass in the right breast, adjacent to the medial aspect of the areola. The mass was fixed to the skin, which was slightly retracted, and the nipple was inverted. No axillary nodes could be felt. Vaginal examination was negative, but it was suspected that a small fibroid tumor might be present. The remainder of the physical examination was negative, as were all laboratory data.

On August 31, under general anesthesia, the small mass, together with the surrounding breast tissue, was removed for immediate frozen section examination. The pathologic report was "a firm nodule, 0.9 cm. in its greatest diameter, lying in a mass of breast tissue. Microscopic examination shows the nodule to be an anaplastic carcinoma."

A radical mastectomy was performed. The breast, together with a wide segment of skin and the pectoralis major and minor muscles, was excised in the customary manner. The axillary vessels and nerves were stripped of all tissues and the axillary contents completely removed. No enlarged nodes were found during the procedure. The skin was closed with the aid of retention sutures, and a drain was placed to the axilla.

Postoperatively there was more than the usual drainage of blood; therefore, the patient was given a transfusion on the first postoperative day. Sanguineous serum was aspirated from the wound on the sixth and tenth postoperative days, and on the eleventh day the wound was partially opened, and a blood clot was evacuated. Following this procedure there was rapid healing of the wound, and the patient was discharged on September 18, 1953.

Except for the small tumor removed for biopsy, no carcinoma was found in the breast, axillary tissues, or nodes on pathologic examination.

On September 22, when the patient returned for a dressing, she stated that her left breast had become swollen and somewhat tender, and she had noted some white milky discharge flowing from the nipple. Examination revealed an engorged breast, with a milky fluid that could be squeezed out of the nipple. On September 25, because of the persistence of this fluid, a considerable amount was collected in a test tube for pathologic examination. The fluid was found to be milk. During the following ten days the swelling of the breast gradually decreased, and the mammary secretion disappeared. There has been no recurrence of the lactation.

Summary

1. A case of abnormal lactation following radical mastectomy is reported.

2. No similar case report has been found in the literature, although there have been reports of abnormal lactation following other thoracic operations.

1158 FIFTH AVENUE

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Bilateral Renal Carcinoma

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BILATERAL renal carcinoma is a rare occurrence. After a thorough review of the literature,[1–24] we were able to collect 25 cases of bilateral renal carcinoma. In many of these it cannot be stated categorically that carcinoma in one kidney is not a metastatic process from the opposite kidney. We wish to report an additional case of bilateral renal carcinoma which was diagnosed and confirmed by tissue study of the tumor during life. The case presented here is of interest because of the following points:

1. In 1936 this patient had a right nephrectomy for carcinoma.
2. Fifteen years later, in the year 1951, a carcinoma of the remaining left kidney was diagnosed on surgical exploration and biopsy report.
3. This is the third case in the available literature where the diagnosis of tumor in the remaining kidney has been confirmed during the life of the patient by tissue study.

Case Report

S. F., a fifty-six-year-old, white male, was admitted on the medical service at Maimonides Hospital on January 15, 1951, with the chief complaints of pain in the inferior lateral aspect of right chest and nonproductive cough for approximately three weeks. According to the patient the pain was sharp, usually noted in the evening, and was aggravated by coughing or deep inspiration. In addition, it had gradually increased in severity until he was forced to give up his job as supervisor in a dress factory. For one week prior to admission to hospital, the patient had an evening rise in temperature which continued thereafter for approximately five weeks. There were no complaints referable to the gastrointestinal or genitourinary tracts.

The past history revealed the patient to have had a right nephrectomy fifteen years ago for renal carcinoma at Beth-El Hospital, Brooklyn, New York. This was followed by x-ray irradiation to the spine and right and left lumbar areas. He reported at regular intervals to the follow-up clinic for ten years at Beth-El Hospital. On his last checkup five years ago he was told that there was no evidence of recurrence of the new growth. In May, 1949, he had a subtotal gastrectomy for duodenal ulcer with pyloric obstruction. The family history was essentially negative.

Physical examination revealed a fairly well-nourished and well-developed white male of stated age who appeared chronically ill. He was of somewhat nervous temperament. He complained of inability to take a deep breath because of right chest pain. The temperature was 101.4 F., pulse 84, respirations 32. The blood pressure was 118/66. Right chest on percussion and auscultation revealed dullness becoming flat, along with diminished to absent breath sounds, extending from the angle of scapula to the base of lung. The left lung showed no abnormal findings. The abdomen revealed a firm, nontender mass occupying the left upper quadrant which extended towards the loin, as well as downwards to the crest of ilium and mesially. The tumefaction was freely movable and descended with inspiration. There was a right lumbar scar and a midline scar extending from tip of sternum to the right and slightly below the umbilicus. The liver and spleen were not palpable. A moderate-sized varicocele was noted in the left side of scrotum. The rest of the examination was noncontributory.

Laboratory examination revealed normal blood counts and urinalysis on repeated occasions. Blood chemistry was within normal range. Serologic test for syphilis was negative. Between January 17 and January 26, 1951, the right chest was tapped on three occasions, and serosanguineous fluid was evacuated each time, varying in amount from 650 to 1,100 cc. Cell block performed on the evacuated fluid each time failed to demonstrate any tumor cells. Bone marrow aspirations failed to reveal any tumor cells. Electrocardiogram was normal. Chest x-ray showed fluid in the right chest obscuring the lower two thirds of the lung field. The cardiac shadow was not grossly displaced. Left anterior oblique view of chest revealed a metastatic nodule situated posteriorly at the left base below the level of the left diaphragmatic dome.

Barium enema study revealed that the upper descending colon, splenic flexure, and distal transverse colon were displaced anteriorly and laterally by a retroperitoneal suprarenal mass previously reported on excretion urography.

Intravenous pyelograms revealed nonvisualization of the right kidney and good excretion of Diodrast by the left kidney. The left kidney appeared to be depressed, and along its mesial and superior aspect there appeared to be a soft tissue mass. There was some evidence of compression and distortion of the calyceal system. Excretion urography performed in 1948 at Maimonides Hospital, while the patient was under observation for peptic ulcer, revealed at that time some depression of the kidney and also a soft tissue mass lying only on its superior aspect. Although it was reported by the X-ray Department, the Medical Service did not investigate this x-ray finding further. Comparison of these films with those of present admission revealed that the 1951 films exhibited more marked evidences of compression and distortion of the calyceal system than the former. No x-rays could be found at Beth-El Hospital for patient's hospitalization in 1936 for nephrectomy.

Urologic consultation was requested. Cystoscopy and retrograde pyelograms were advised to rule out pathology in the remaining left kidney, but the patient would not consent to this procedure. The Urological Department was of the opinion that this mass represented a renal or retroperitoneal neoplasm and appeared to be responsible for the pulmonary metastasis. Exploratory surgery was advised.

On February 12, 1951, through a left lumbar incision the kidney was exposed, and a large, firm, irregular mass was found which was attached to the kidney along its superior and mesial aspect. The mass extended superiorly up under the diaphragm and mesially, from its intimate attachment to the kidney, towards the right side of the abdomen. Because of the extent and fixation of the tumor, mobilization of the kidney was impossible.

Portions of the mass from three separate areas were removed for pathologic examination, and the microscopic report revealed nests, strands, and papillary processes of polyhedral clear cells. Areas of hemorrhage, necrosis, and fibrosis with pigment-laden macrophages, atypism, and mitotic activity were prominent. The diagnosis was fragments of neoplastic tissue compatible with renal carcinoma.

The postoperative course was very smooth and uneventful, and the patient was discharged on the fourteenth postoperative day with wound solidly healed. He has been observed since then in the outpatient department at regular intervals for the past eighteen months. Throughout this period his general condition has remained unchanged. Except for easy fatigability, he has maintained a good appetite and has shown no weight loss. X-ray investigation failed to demonstrate any metastatic spread of the carcinoma of the remaining kidney.

In this case, as well as in many of the reported cases of bilateral renal carcinomas, it cannot be definitely proved whether these tumors are independent primary growths or represent skip metastasis.

Summary

A case of bilateral renal carcinoma is presented in which the right kidney had been removed fifteen years ago for renal carcinoma. Surgical exploration and biopsy of the remaining kidney revealed carcinoma.

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After all, there is but one race—humanity.—George Moore

SPECIAL ARTICLE

The Role of the Cancer Institute in the Medical Community

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(*President, Medical Society of the County of Erie*)

I AM very happy to be present on this occasion and to be allowed to say a few words on behalf of the doctors of the Erie County Medical Society.

Today's program, here in the Roswell Park Memorial Institute, has been most impressive, informative, and interesting. Surely the doctors and scientists toiling in this place have been given magnificent tools and help to work with. Truly, however, all this marshalled help and impressive equipment is not too much for the job, for the conquest of cancer has proved to be an insurmountable problem for mankind to this date, and it goes without saying that the fervent hopes and prayers of thousands of citizens, both lay and professional, follow the career of this Institute. With every great privilege goes great responsibility, and we are all aware that the stewards of this undertaking are mindful of their obligation as well as privilege. Fighting cancer in any way is truly a crusade, and I believe all workers in this Institute must have a bit of the crusader's spirit, or they would not be here and lending their efforts to this monumental task.

I have been asked to discuss the role of this Institute in the medical community, and I'm happy to have this opportunity to state what I think and believe this role is. Let us look into the origins of the Institute for a moment before we consider its present place in the medical community and its future plans and career.

In 1896 Dr. Roswell Park, a great Buffalo surgeon, who was professor of surgery at the University of Buffalo Medical School and chief of surgery at the Buffalo General Hospital, believed that cancer was caused by a parasite or organism and that with about $10,000 for experimentation, he could isolate the cause of cancer within two years and thus furnish the definite means of attacking the problem. He persuaded the New York State Legislature to appropriate the $10,000, and with it he founded the New York State Pathological Laboratory at the University of Buffalo Medical School on High Street near Main. It was the beginning of what is now the oldest cancer research organization in the world. Not two, but many years had passed without finding cancer's cause. The research workers under Dr. Park soon decided that their efforts would be furthered if their studies were conducted in a suitable laboratory building of their own. Accordingly they began construction of the Gratwick Laboratory situated on High Street opposite the present entrance of South Building of the Buffalo General Hospital. The building was donated by Mrs. William Gratwick, and money for the land was obtained by popular subscription. Dr. Park was unable to accept the post of director, and Dr. Harvey R. Gaylord was chosen for this position.

But still the cause of cancer was not forthcoming. By 1912 the laboratory staff realized the need of an adjoining hospital where they could apply clinically what they learned in the laboratory. This resulted in building the 30-bed Cary Pavilion at the southeast corner of High and Oak Streets. It was named after Dr. Charles Cary who was active on the first board of visitors of the laboratory. In 1929 the Gaylord Building was constructed on Oak Street next to the Cary Pavilion. It contained diagnostic and therapeutic equipment and some of the research laboratories. In 1939 and 1940 the State put up another building on Oak Street, the Simpson Building, named after the late Dr. Burton T. Simpson, former director of the New York State Institute for the Study of Malignant Disease. This latter was the title for the Gratwick, Cary, Gaylord, and Simpson Buildings until 1946 when it was changed to the Roswell Park Memorial Institute. The last and greatest addition to the Institute that the State has just completed is about you and needs no particular comment from me at this time. I feel that it is largely a monument to Dr. Louis C. Kress, who became director of the laboratory in 1945, after having been associated with it since 1919.

It is too bad that he did not live to see his dream come true. Dr. Kress was a tireless worker in the fight against cancer and gave freely of his time, both in teaching students and lay people and in continuing the research plus the administration with which he was constantly surrounded. It should be noted here that Dr. Kress established within the State Department of Health an active Division of Cancer Control. The name of Dr.

Presented at the evening session of the Medical Open House and Cancer Teaching Day, Roswell Park Memorial Institute, Buffalo, March 2, 1955.

Louis C. Kress will always be high on the honor roll of this Institute.

Such then is the genesis and history of the Roswell Park Memorial Institute. The vastly expanded facilities and capacity of the Institute make its impact on the community a thing that must be weighed and measured. A few comparative figures serve to point up this problem. In 1935 some 2,951 patients were admitted to the Institute, and we see that in 1953 diagnostic and treatment services were furnished for approximately 23,406 patients. This figure grew in 1954 to 35,606 patients. The staff of the Institute now numbers approximately 700, and when the present expansion program is complete, the Institute will have a staff of some 2,000 persons.

Some members of our profession surveyed the rapid growth of this State-operated establishment and fell to pondering the relationship it would bear to the private practice of medicine. This concern was perfectly understandable in an era of rapid expansion of Federal and State health services to the public.

In this instance, however, if the policies for this Institute, as laid out both by the State Health Commissioner and the director of the Institute are adhered to, I cannot see any necessary conflict with the private practice of medicine. What are these policies? First let us refer to a letter of November 1, 1954, from Dr. Herman E. Hilleboe, State Health Commissioner, on the subject of admissions to Roswell Park Memorial Institute, as taken from the Operating Policy Manual: "Because the department is embarking upon a new and expanded cancer research and training program at Roswell Park Memorial Institute, it is desirable to establish certain policies which will aid the department in achieving its goal of the discovery of new knowledge in cancer control: (A) Only those cases who can contribute to the research and training program will be admitted to Roswell Park Memorial Hospital. (B) Only patients referred by their physicians will be accepted for these purposes. (C) The hospital services of Roswell Park Memorial Institute will not be used to provide routine treatment otherwise available; such treatment should be given at hospitals other than at the Institute. (D) Private physicians should be encouraged to keep these policies in mind when patients ask to be referred to the Institute."

Second, we can add to this the summary of Dr. Moore's talk as given in *Health News* October, 1954, as follows: "(1) Roswell Park Memorial Institute will be an investigative and educational center for the general problem of malignancy in New York State. (2) The Institute is not intended to provide medical care or care for terminal patients except when such patient's care is requested by the patient's own physician and the problem is one being actively studied by the staff. (3) Provision for extraordinary radiologic and chemotherapeutic treatment of unusual cases will be available."

Surely, these two statements should go far toward reassuring the private practitioner of medicine.

Let us turn to another facet of the problem which has to do with the activities of the full-time staff of the Institute. Here again, I quote from the General Administration Manual, dated November 18, 1954, on Administrative Policies-Personnel, referring particularly to "Outside," Private Practice, Full-time Staff Positions. I think this is important enough to read in its entirety at this point, and I ask your indulgence while I read it.

> It is the general policy of the State Department of Health not to permit full-time staff physicians to engage in "outside" private practice. The Attorney General has ruled that employes of the State have the right to engage in activities for remuneration, during off-duty hours, provided such employment does not interfere with their regular duties as employes of the State. The policy set forth is in line with this opinion. As the term is defined by the Department, "outside" private practice by full-time physicians consists of regular office or consultation hours or surgical operations at outside hospitals; these are considered to interfere with regular duties and responsibilities to the Department and its programs.
>
> It is the professional duty of physicians in the Department to make use of as much of their leisure time as possible for activities which would enhance their professional effectiveness. Time devoted to activities solely for the remuneration involved, such as "outside" private practice, is considered a violation of this principle. Professional services to private patients during evenings or on Saturdays and Sundays, involving responsibilities which may require attention at subsequent times during regular hours of employment, are not acceptable to the Department. An example would be the performance of surgery on private patients in outside hospitals with the attendant responsibility for professional care for emergency treatment and after-care of the patient. A regular private consultation practice, on a fee-for-service basis, is also considered a violation of Department policy.
>
> In the State Health Department there will be appointed a professional ethics committee of five members to consider special cases which may be in conflict with this policy and to make recommendations regarding each such case to the Commissioner of Health for appropriate action.
>
> This policy should not be construed as prohibiting activities in teaching or presenting lectures and discussions of a professional nature, which further the employe's scientific career. However, the time spent in such pursuits should not be such as to interfere with the regular duties of the individual concerned.
>
> It is recognized that the great majority of professional persons interested in careers in public health, especially research workers, will not require a set of rules regarding outside activities. It is natural for such persons to devote a large share of their free time to activities that improve their professional stature and reputation. Rewards in scientific research and public health do not come in the form of

large financial remuneration, but rather in the satisfaction of making original and significant contributions to science and human welfare. Those persons who are interested mainly in financial rewards will not find the same opportunities for professional advancement as those dedicated to the primary task of discovery of new knowledge. Individuals who are interested primarily in financial gains are well advised to avoid public health and medical research and to engage in full-time private practice.

The information in the preceding directives has been called to the attention of the medical profession in *The Bulletin of the Erie County Medical Society,* and the directive pertaining to outside private practice has also been sent to the directors of all hospitals in the area by the medical society at my request. It seems to me that there should be no room for misunderstanding on these subjects. I further understand that it is the policy of the Institute to be more or less self-sufficient and eventually to employ but a few part-time physicians. These will be of consultant status and devoting only a comparatively small amount of their time to work in the Institute. In a growing and transition period in which the institution now finds itself, it would seem the part of better judgment for all of us to have forebearance and understanding until all the final adjustments are made.

Let us turn now from matters of purely economic importance to a consideration of the impact of the Institute on the community at large. Dr. Moore has taken great pains to assemble a scientific staff of the first magnitude, and his efforts along this line are continuing until a complete and satisfactory staff is obtained. This necessitates combing the country for men of investigative ability and skill and who have shown promise in their respective fields. It goes without saying that bringing such men to our community cannot but help the community as a whole. These new additions to our great scientific fraternity must, of course, stimulate scientific thought and research. The connection of the Institute with the University of Buffalo School of Medicine, both in the undergraduate and in the graduate departments, is of prime importance and truly adds to the stature of the curriculum that the school can furnish. Teachers in the medical school, both in the preclinical and the clinical subjects, will benefit by association with members of the staff of the Institute.

Teaching days and programs for the entire profession will be of great interest and value to all concerned, and finally the benefits that will be derived by the entire surrounding population are hard to measure. I believe that we in Buffalo are extremely fortunate to have the opportunity of welcoming the further enlargement and expansion of this facility in our midst, remembering as we do that it was made possible through the far-sighted planning of such men as Drs. Park, Gaylord, Simpson, Louis Kress, and now Dr. Moore.

Kidneys React to Changing Emotions

Three medical researchers have found evidence that the kidneys, which help man adapt to his physical environment, also may help him to cope with the emotional problems of everyday life. They reported in the April 23 issue of the *Journal of the American Medical Association* that kidney action is affected by anxiety, fear, anger, and other reactions to daily difficulties.

The kidneys maintain a balance of water and salts in the body. In some illnesses the kidneys "work overtime" to keep the necessary balance. Now physicians are learning that the kidneys are affected by everyday crises as well as disease crises.

In 400 tests of five persons leading their normal lives, it appeared that when they needed "increased alertness and readiness for action," the kidneys helped them by damming up reservoirs of water and mineral salts in the body. When the crisis—a job problem, family illness, disapproval of colleagues—was over the kidneys flushed the extra water and salt from the body.

Drs. William W. Schottstaedt, Oklahoma City; Harold G. Wolff, New York City, and Major William J. Grace, now at Fort Knox, Kentucky, said kidney reaction to emotional warnings in daily living is similar to that in illness. In a pneumonia patient, for instance, the kidneys hold extra salts and water in the body during the danger period, and flush them out when the crisis is over, and they are no longer needed.

In the test cases it was discovered that anxiety, tension, and depression caused retention of sodium and potassium salts and water. Feelings of relaxation, pleasant anticipation, anger, and excitement were accompanied by an increased release of water and mineral salts.

The physicians said the changes caused by the kidneys' action due to differences in eating or drinking were slight compared to changes caused by emotional situations. In normal persons, the changes are important in meeting basic needs. The physician studying these changes must know about the person's life setting and his reaction to it in order to study properly his physical difficulty.

Department of

MEDICAL CARE INSURANCE

Conducted by GEORGE P. FARRELL, *Director*

BENEFITS paid for doctors' services during the three-month period ending March 31, 1955, in the New York State Blue Shield Plans amounted to $9,785,499, covering 263,481 claims, as compared to $8,212,830, covering 211,812 claims, for the same period in 1954, an increase in benefits of $1,572,669 and an increase in claims of 51,669.

During the same period membership increased by 156,059 to a total membership of 5,023,352 at March 31, 1955. Statistics follow.

TABLE I.—TOTAL MEMBERSHIP AND COMPARATIVE INCREASES FOR QUARTERS ENDING MARCH 31, 1955 AND 1954

By Types of Contracts	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown	Totals
Surgical								
Total Membership								
March 31, 1955	1,406,653	302,746	348,048	4,661	48,864	...	18,036	2,129,008
December 31, 1954	1,411,769	313,587	341,326	4,894	51,719	...	17,323	2,140,618
Comparative Increase								
March 31, 1955	−5,116	−10,841	6,722	−233	−2,855	...	713	−11,610
March 31, 1954	−39,286	− 9,989	5,856	11	−804	...	946	−43,266
Surgical, In-Hospital Medical								
Total Membership								
March 31, 1955	2,056,334	193,625	...	105,319*	133,482	216,036	...	2,704,796
December 31, 1954	1,923,038	174,198	...	101,614	131,090	215,295	...	2,545,235
Comparative Increase								
March 31, 1955	133,296	19,427	...	3,705	2,392	741	...	159,561
March 31, 1954	141,574	20,713	...	8,323	−193	2,764	...	173,181
Surgical-Medical (Home, Office, Hospital)								
Total Membership								
March 31, 1955	152,388	...	...	37,160	...	...	...	189,548
December 31, 1954	144,676	...	...	36,764	...	...	...	181,440
Comparative Increase								
March 31, 1955	7,712	...	...	396	...	...	...	8,108
March 31, 1954	5,030	...	...	115	...	...	...	5,145
Grand Totals								
Total Membership								
March 31, 1955	3,615,375	496,371	348,048	147,140	182,346	216,036	18,036	5,023,352
December 31, 1954	3,479,483	487,785	341,326	143,272	182,809	215,295	17,323	4,867,293
Comparative Increase								
March 31, 1955	135,892	8,586	6,722	3,868	−463	741	713	156,059
March 31, 1954	107,318	10,724	5,856	8,449	−997	2,764	946	135,060

* Indicates accumulated members with service type contracts; others in Syracuse plan on an indemnity basis.

TABLE II.—Income, Gain and Loss for Three Months Ending March 31, 1955

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown
Earned Premium Income	$9,584,977	$1,323,218	$1,080,142	$433,982	$409,438	$563,946	$50,075
Claims and Expenses Incurred	8,589,998	1,158,663	925,230	426,384	381,863	523,128	43,858
Gain from Underwriting	$ 994,979	$ 164,555	$ 154,912	$ 7,598	$ 27,575	$ 40,818	$ 6,217
Underwriting Adjustments							
Deferred Maternity Benefits	−$ 142,500	−$ 2,500	−$ 5,884	...	...	...	−$ 5,418
Provision for Special Contingent Surplus	− 396,728	− 53,058	− 43,319	− 17,360	− 13,118	− 22,558	− 2,069
Increase in Reserve for Unreported Claims	...	...	...	...	...	...	− 385
Profit and Loss Items	− 79,220	1,318	4,219	...	− 766	− 2,487	...
Total Underwriting Adjustments	−$ 618,448	−$ 54,240	−$ 44,984	−$ 17,360	−$ 13,884	−$ 25,045	−$ 7,872
Net Gain from Underwriting	$ 376,531	$ 110,315	$ 109,928	−$ 9,762	$ 13,691	$ 15,773	−$ 1,655
Gain from Investments	150,910*	14,593	6,657	3,070	6,172	7,050	772
Gain from Underwriting and Investments	$ 527,441	$ 124,908	$ 116,585	−$ 6,692	$ 19,863	$ 22,823	−$ 883
Surplus Adjustments							
Provision for Epidemics and Other Contingencies	$ 187,034	...	...	...	...	...	...
Provision for Potential Future Claims for Older Age Subscribers	188,256	...	...	...	...	...	...
Provision for Additional Claims for Minor Surgery	131,785	...	...	...	...	...	...
Total	$ 507,075	...	...	...	...	...	...
Increase in Unassigned Surplus	$ 20,366	$ 124,908	$ 116,585	−$ 6,692	$ 19,863	$ 22,823	−$ 883

* $37,036, provision for addition to Special Investment Valuation Reserve, not included in Investment Gain.

TABLE III.—Distribution of Earned Premium Income and Amounts Available for Unassigned Surplus for Three Months Ending March 31, 1955

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown
Earned Premium Income	$9,584,977 100.00%	$1,323,218 100.00%	$1,080,142 100.00%	$433,982 100.00%	$409,438 100.00%	$563,946 100.00%	$50,075 100.00%
Incurred Claim Expense	$7,176,624 74.87%	$1,004,795 75.93%	$ 820,453 75.96%	$370,889 85.46%	$307,929 75.21%	$447,090 79.28%	$36,392 72.67%
Administrative Expense	$1,413,374 14.75%	$ 153,868 11.63%	$ 104,777 9.70%	$ 55,495 12.79%	$ 73,934 18.06%	$ 76,038 13.48%	$ 7,466 14.91%
Provision for Future Maternity Benefits	$ 142,500 1.49%	$ 2,500 0.19%	$ 5,884 0.54%	... ...	... ...	... ...	$ 5,418 10.92%
Provision for Special Contingent Surplus	$ 396,728 4.14%	$ 53,058 4.01%	$ 43,319 4.01%	$ 17,360 4.00%	$ 13,118 3.20%	$ 22,558 4.00%	$ 2,069 4.13%
Increase in Reserve for Unreported Claims	... ...	... ...	... ...	... ...	... ...	... ...	$ 385 0.77%
Profit and Loss Items	$ 79,220 0.82%	−$ 1,318 −0.10%	−$ 4,219 −0.39%	... ...	$ 766 0.19%	$ 2,487 0.44%	... ...
Available for Unassigned Surplus	$ 376,531 3.93%	$ 110,315 8.34%	$ 109,928 10.18%	−$ 9,762 −2.25%	$ 13,691 3.34%	$ 15,773 2.80%	−$1,655 −3.30%

TABLE IV.—SURPLUS ACCOUNTS, MARCH 31, 1955

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown
Surplus, December 31, 1954							
Special Contingent Surplus	$ 6,158,073	$ 857,923	$ 559,285	$199,952	$377,318	$336,058	$12,498
Epidemics and Other Contingencies	1,865,318	...	...	...	...	...	...
Special Investment Valuation	357,430	...	...	...	24,000	...	...
Potential Future Claims for Older Age Subscribers	6,000,000	...	...	...	...	...	...
Additional Claims for Minor Surgery	1,000,000	...	...	...	...	...	...
Total Segregated Surplus	$15,380,821	$ 857,923	$ 559,285	$199,952	$401,318	$336,058	$12,498
Unassigned Surplus	2,249,996	1,061,245	1,142,739	237,792	405,096	409,018	27,753
Total Surplus	$17,630,817	$1,919,168	$1,702,024	$437,744	$806,414	$745,076	$40,251
Credits							
Other Income to Surplus			$ 11,327				
Gain from Underwriting*	$ 773,259	$ 163,373	$ 153,247	$ 7,598	$ 26,810	$ 38,331	$ 414
Net Gain from Investments	187,946	14,593	6,657	3,070	6,172	7,050	772
Total Credits	$ 961,205	$ 177,966	$ 171,231	$ 10,668	$ 32,982	$ 45,381	$ 1,186
Surplus, March 31, 1955							
Special Contingent Surplus	$ 6,554,801	$ 910,980	$ 602,604	$217,312	$390,437	$358,616	$14,566
Epidemics, Other Contingencies	2,052,352	...	...	...	...	...	...
Special Investment Valuation	394,466	...	...	...	24,000	...	...
Potential Future Claims for Older Age Subscribers	6,188,256	...	...	...	...	...	...
Additional Claims for Minor Surgery	1,131,785	...	...	...	...	...	...
Total Segregated Surplus	$16,321,660	$ 910,980	$ 602,604	$217,312	$414,437	$358,616	$14,566
Unassigned Surplus	2,270,362	1,186,154	1,270,651	231,100	424,959	431,841	26,871
Total Surplus	$18,592,022	$2,097,134	$1,873,255	$448,412	$839,396	$790,457	$41,437

* Includes provision for Special Contingent Surplus.

TABLE V.—CLAIM DATA (PAID BASIS)—YEAR TO MARCH 31, 1955, AND COMPARISON OF CLAIM INCIDENCE, MARCH 31, 1955 AND 1954

Plan Location and Type of Contract	Earned Premium Income	Claim Cost	Per Cent of Claim Cost to Earned Premium	Number of Claims	Average Cost per Claim	Claim Incidence per 1,000 Members per Annum 1955	1954
New York							
Surgical	$ 3,082,747	$2,248,224	72.93	37,548	$59.88	106.4	102.1
Surgical, In-Hospital Medical	5,515,736	3,835,468	69.54	70,172	54.66	142.9	131.1
General Medical	986,494	800,181	81.11	64,979	12.31	1,774.3	1,499.2
Total	$ 9,584,977	$6,883,873	71.82	172,699	$39.86	...	...
Buffalo							
Surgical	$ 707,150	$ 530,647	75.04	21,425	$24.77	277.5	262.1
Surgical, In-Hospital Medical	616.068	434,148	70.47	15,124	28.70	331.0	303.8
Total	$ 1,323,218	$ 964,795	72.91	36,549	$26.40	...	...
Rochester							
Surgical	$ 1,080,142	$ 799,572	74.02	18,338	$43.60	211.6	204.4
Syracuse							
Surgical*	$ 11,756	$ 12,482	106.18	429	$29.09	359.1	305.5
Surgical-Medical*	125,615	104,140	82.90	5,485	18.98	593.6	529.8
Surgical, In-Hospital Medical	296,611	252,646	85.18	8,215	30.75	317.6	299.8
Total	$ 433,982	$ 369,268	85.09	14,129	$26.14	...	...
Utica							
Surgical	$ 82,035	$ 63,818	77.79	2,659	$24.09	211.5	267.4
Surgical, In-Hospital Medical	327,403	215,475	65.81	8,024	26.85	242.6	326.0
Total	$ 409,438	$ 279,293	68.21	10,683	$26.15	...	...
Albany							
Surgical, In-Hospital Medical	$ 563,946	$ 446,900	79.24	10,189	$43.86	188.9	186.1
Jamestown							
Surgical	$ 50,075	$ 41,798	83.47	894	$46.75	202.3	132.4
Grand Totals	$13,445,778	$9,785,499	...	263,481	...	...	...

* Contracts on an indemnity basis and not offered to new groups.

NOTE: The variation of Claim Incidence per 1,000 members per annum in plans offering the same type of contract is generally due to additional benefits such as x-ray and anesthesia.

MINUTES OF THE COUNCIL

Following is a summary of the minutes of the April, 1955, meeting of the Council of the Medical Society of the State of New York.

THE Council met April 14, 1955, from 9:10 A.M. to 1:30 P.M. President Mellen was in the chair.

Secretary's Report

Executive Committee.—Dr. Anderton reported that the Executive Committee had considered the following:

1. A resolution from the Medical Society of the County of Wayne condemning Spear's Chiropractic Sanitarium and Hospital in Denver, Colorado.

It *was voted* that the Council instruct the secretary to write the American Medical Association for advice.

2. Correspondence with the New York State Department of Education regarding the Chiropractic Institute, 325 East 38th Street, New York City.

3. An invitation from the Anniversary Committee of the State Commission Against Discrimination. This requested permission to list our Society as cooperating, for an anniversary luncheon and panel discussion on May 2, 1955, and invited attendance of a representative.

It *was so voted.*

4. A request from the Association of American Physicians and Surgeons that our Society cooperate in their annual high school essay contest.

It *was voted* no action be taken.

5. A letter from the treasurer of the Medical Society of the County of Erie and another from the Medical Society of the County of Kings. Each requested refunding the dues of a member who had died this year.

After discussion, it was moved and seconded that, in the event of death, a member's dues be refunded to his estate provided the death occurred before June 1.

The motion *was lost.*

Dues Remissions.—The Council voted to remit annual State dues of two members for 1954 and six members for 1955 because of illness, and of one member for 1954 and 24 members for 1955 because of temporary service in the armed forces. It was also voted to request remission of American Medical Association dues of four members for 1954 and 36 members for 1955 and exemption from further payments of American Medical Association dues of 12 members who have passed the age of seventy years.

General.—Dr. Anderton reported details regarding preparations for the annual meeting and his activities during the preceding month. He stated that Dr. Theodore B. Russell had been appointed by the Board of Regents to serve on the Medical Grievance Committee of the State Education Department, in the footsteps of Dr. Leander H. Shearer.

Also he said: "Last month the Board of Trustees acceded to your request to lend an additional $15,000 to the Blood Banks Association of New York State and to place that amount in the budget. Your recommendation to the Board of Trustees that our office manager be requested to act in similar capacity for Blood Banks Association was referred back to the Council. The question was raised as to our legal liability, should the office manager so act at the request of the State Society."

The secretary's report *was approved.*

The treasurer's report was accepted.

Reports of Committees

Blood Banks Commission.—Dr. Renato J. Azzari, chairman, reported.

The Blood Banks Commission met October 13, 1954.

Dr. Margaret Loder was chosen to replace Dr. Samuel Sanes, who resigned because of his duties as president of the New York State Association of Public Health Laboratories.

It was decided to appoint a finance committee to meet with the budget committee of the Blood Banks Association to consider the budget of the latter.

The question of the Association's liability for bodily injury, sickness, disease, or death arising out of the existence of any condition in the blood falling within the scope of its agreement with member banks participating in the blood exchange and blood assurance programs was discussed. The present opinion of legal counsel was that it would not be necessary for the association to purchase liability insurance. This question is still pending.

On April 1, 1955, there were 11 organizations participating in the combined blood exchange and blood assurance programs of the Blood Banks Association of New York State. They are as follows:

Manhattan
  New York University-Bellevue Medical Center
  Blood Transfusion Association
Staten Island
  Richmond Memorial Hospital
  Staten Island Hospital

- Brooklyn
  - St. Mary's Hospital
  - Norwegian Lutheran Hospital
- Genesee County
  - St. Jerome's Hospital
  - Genesee Memorial Hospital
- Orange County
  - St. Luke's Hospital
  - Cornwall Hospital
- Queens County
  - Inter-County Blood Banks, Inc.

The Blood Banks Association had 51 institutional members, 37 associate members, and 204 individual members on April 1, 1955. Annual dues are $10.00 for an institutional member, $2.00 for associate member, and $5.00 for an individual member.

On March 31, 1955, there were 1,555 assurance certificates in effect. There were 1,469 family certificates and 86 individual certificates. Under the family certificates there were 5,475 persons covered, and under the individual certificates 86, a total of 5,561 persons.

For the year ending February 28, 1955, 38 claims had been paid, representing 75 pints of blood. This represents 1 pint of blood for each 603 member months of exposure or, in other words, 1 pint for every 50 persons exposed during this period.

On January 1, 1954, the Blood Banks Association had a deficit of $4,341. For the year ending December 31, 1954, the total income from all sources was $14,098. Total expenditures for the same period were $44,357, making a net loss for the year of $30,259. The total deficit on December 31, 1954, amounted to $34,600.

For the quarter ending March 31, 1955, total income from all sources was $3,804. Total expenditures were $24,515, representing an operating deficit of $20,711 for the period.

Total deficit as of March 31, 1955, amounted to $55,311.

The report *was received.*

Dr. J. Stanley Kenney reported further on the status of the Blood Banks Association of New York State, and the matter was discussed by Drs. Wolff and Bauckus.

Constitution and Bylaws.—Dr. Frederick W. Williams, chairman, reported.

Approval *was voted* of proposed amendments to the Broome County Medical Society constitution and bylaws.

Economics.—Dr. Renato J. Azzari, chairman, presented a detailed report of the work of Mr. George P. Farrell, director of the Bureau of Medical Care Insurance, during the preceding month. He attended the commission meeting of Blue Shield Medical Care Plans at Edgewater Beach Hotel, Chicago, March 18 and 19, and the Annual Conference of Blue Shield Plans, March 20 to 24, 1955.

Among items considered at the meeting and conference was the approval of an advertising program in national magazines. A resolution was adopted by the conference that each full member plan pay an assessment equal to $^{15}/_{100}$ of 1 per cent of its 1954 earned income from medical-surgical dues, premiums, or subscription charges to be used to finance the advertising program. It was recommended that the committee studying extended health benefits be continued and that it assist individual plans in development of extended benefits.

A report was received from the special committee on enrollment of Federal employes. The reference committee recommended that the Conference of Plans insist on the amendment of Section 3 (a) of the Legislative Bill. Such amendment would enable a Blue Shield Plan to enroll local groups on the local plan benefit basis, and also two or more Blue Shield Plans, acting in concert, would be able to enroll Federal employe groups which extend beyond the area of any one particular plan.

The following two resolutions were adopted by the Conference of Plans. Their purpose is to acquaint the medical profession better with the fundamental purposes of Blue Shield Plans:

> WHEREAS, Blue Shield was organized as an effort of the medical profession to render medical care to the public in the low and middle income groups at a price it could afford to pay; and
>
> WHEREAS, the public desires more complete financial coverage for the services against which they are insured; and
>
> WHEREAS, much controversy has arisen as to the relative value of indemnity versus service benefit plans; and
>
> WHEREAS, the medical profession is not fully aware of the functioning of Blue Shield and of the merits and demerits of indemnity and service plans; and
>
> WHEREAS, service benefits to be satisfactory to the public must be at a realistic level and the fee schedules of such plans must be satisfactory to the physicians rendering the service; and
>
> WHEREAS, Blue Shield has no desire or intention to enforce any plan or schedule of fees on the practicing profession since the practicing physicians must and should control Blue Shield and the arrangement of the fee schedules and control the professional policies under which physicians will render their services; and
>
> WHEREAS, the medical profession must decide what it wants to do to meet the needs and demands of the public if it wants the free practice of medicine to continue; and
>
> WHEREAS, the profession can best meet these needs and demands through their own organization of Blue Shield, which must be the Doctors' Plan in fact as well as in name; and
>
> WHEREAS, to keep the practice of medicine based on the principle of free choice of doctor and on a high level of personal doctor-patient relationship requires some sacrifices by the medical profession in order to meet competition from closed panel plans, commercial insurance plans, and to fulfill the demands of the public; and
>
> WHEREAS, wherever the medical profession has kept faith with the public and observed the principles on which Blue Shield was founded, other types of plans are less likely to succeed; and
>
> WHEREAS, Medical Indemnity of America and Health Service were established to make possible the writing of national contracts; and
>
> WHEREAS, these organizations have not been successful in writing such contracts, because it is impossible to write national enrollments until a uniform benefit of some nature is agreed upon, and because

> some plans are unable to take part in such national plans until this is accomplished; and
>
> Whereas, unless Blue Shield is enabled to write national contracts in the very near future, both Blue Shield and the medical profession will suffer tremendous loss of prestige; and
>
> Whereas, if Blue Shield fails to write these contracts, commercial insurance companies and panel plans, over which the medical profession has no control, will write such coverage; and
>
> Whereas, since commercial companies and panel plans cannot deliver the services of the vast majority of physicians, such a solution of the problem will inevitably lead to eventual government control of medicine; therefore, be it
>
> *Resolved*, that these opinions be reported to all Blue Shield plans and that they be urged to enter into an intensive campaign of professional relations among the local members of the medical profession, in cooperation with the sponsoring medical societies, to acquaint physicians with the problems of the medical profession in continuing the free practice of medicine.

The second resolution follows:

> Whereas, in the underwriting of interstate accounts, difficulty is constantly encountered due to the variations in the benefits offered by local plans; therefore, be it
>
> *Resolved*, that all plans be urged to unite in developing a uniform type of contract so far as the nature of the benefits is concerned.

Dr. James R. Reuling was appointed a commissioner-at-large, representing the American Medical Association on the Blue Shield Commission. The following are commissioners from New York State: Drs. Carlton E. Wertz, Dwight V. Needham, Max Fein, Louis H. Bauer, and Mr. James F. Coleman.

Included as part of this report was the year-end quarterly progress report on New York State Blue Shield Plans. It has been mailed to the secretary of each component county medical society and other interested persons.

It *was voted* to approve the report.

Ethics.—Dr. Thurman B. Givan, chairman, presented correspondence with the Board of Censors of the Medical Society of the County of Queens regarding the propriety of an announcement, sent to a number of doctors in Queens County, describing facilities at a member's office and suggesting referral of proctologic patients. Dr. Givan's letter pointed out that the *Principles of Professional Conduct*, Sections 1 and 4, covered the question.

The Council *voted* to approve the committee's letter.

Hospital and Professional Relations.—Dr. Harold F. Brown, chairman, presented the report of the Special Committee to Study Hospital and Professional Relations. There were four meetings, two with representatives of the Hospital Association of New York State. As a result the committee recommended adoption by the House of Delegates of the proposed agreement between the Society and the Hospital Association of New York State. The "Proposed Agreement and Statement of Policy" will appear in the minutes of the House of Delegates.

After discussion the report *was adopted*, Dr. Brown abstaining from voting.

Industrial Health.—In the absence of the chairman, Dr. Peter J. Di Natale, Dr. Anderton read the following:

"At the March 10, 1955, meeting of the Council of the Medical Society of the State of New York, the Board of Trustees referred back the subject of an employe to be in charge of industrial health activities.

"I wish to make the following specific comments to the Council regarding this:

"1. Recommend that the Council again refer to the Board of Trustees for positive action that portion of the Special Committee's report on Industrial Health as recorded in the November 11, 1954, minutes of the Council, page 16, beginning with the third line, 'We are asking that a consultant on Industrial Health be appointed as an assistant to Dr. Kaliski, whose fee will be $2,500 for the first six months of the coming year. We are asking that this proposal be activated on January 1, 1955.'

"Recommend changing latter date to July 1, 1955.

"2. Recommend to the Council and the Board of Trustees that serious thought be given to the original recommendations of the Public Health and Education Committee, third paragraph, page one, 'That a Council Committee on Industrial Health be established with the full prerogative of such a Council committee, set up according to the bylaws; also, that a sufficient appropriation of funds be authorized to permit the employing of a full-time executive to carry out the work of this committee.'

"3. Dr. Anderton suggested, and I concur, that Dr. David Kaliski be made director of Workmen's Compensation and Industrial Health without a special assistant at this time.

"This latter, it seems to me, does nothing but postpone definite action until perhaps it might be possible to obtain proper personnel.

Respectfully submitted,
Peter J. Di Natale, M.D., *Chairman*"

After discussion it *was voted* to table the report until the next meeting.

Legislation.—Dr. James Greenough, chairman, stated that information as to final disposition of bills introduced in the 1955 session of the Legislature would be available after May 1. He reported passage of S. 1513, A. 2617, to provide malpractice protection for interns and residents in public institutions; of S. 986, A. 1318, to allow residents and interns with a certificate of eligibility to take licensing examinations (but not a license) to practice in proprietary hospitals; and S. 2263, A. 2606, to allow reimbursement by insurance companies to bioanalytic laboratories which do not have medical supervision. He stated that the passage of S. 2263 was regarded as unimportant in view of the fact that a companion bill, S. 2262, A. 2604, failed of passage but that, nevertheless, the committee and the Albany office were expressing opposition to this bill and to S. 986 to the Governor, hoping for his veto.

Malpractice Insurance and Defense Board.—There was discussion of expenses in relation to malpractice suits and claims against uninsured members.

It *was voted* (1) that the uninsured member should be charged with out-of-pocket expenses in connection with malpractice liability claims and suits and (2) that if a member has more than three cases against him, his name should be referred to the Malpractice Insurance and Defense Board for appropriate action.

Office Administration and Policies.—Dr. John J. Masterson, chairman, reported that at a meeting on April 12 the committee approved various personnel matters, authorized painting of the office of the Public Health and Education Committee, and decided to receive a revised schedule of job classifications and salary ranges.

It *was voted* to accept the report.

Publications.—Dr. Masterson, chairman, reported that a meeting had been held on April 12, 1955. He stated: "There was a general discussion of starting a new department in the JOURNAL to publish information on the progress of medicine. It was decided to inaugurate this under the title, 'Recent Medical Advances,' with Dr. Robert Turell in charge, and that he be nominated to the Associate Editorial Board.

"It was decided to review the personnel of the Associate Editorial Board.

"Continuing publication of cartoons was discussed, and it was decided to continue for the balance of 1955.

"Dr. Redway reported he had been approached by the Audio-Video Products Company. This company proposes that it be permitted to record radio talks by Dr. Moore and Dr. Vickers and portions of the scientific program at the annual meeting. It was decided to recommend to the Council that it approve with the understanding that the matter be explored by the Public Health and Education Committee, legal counsel, and the Publication Committee.

"It was decided to publish a letter in the correspondence columns of the JOURNAL explaining difficulties in obtaining physicians' office assistants as being due to the inadequate salaries frequently offered.

"There was general discussion of the action taken by the committee at its February meeting not to accept advertising of pharmaceutic products which are directly advertised to the public. It was noted that the *Journal of the American Medical Association* accepts such advertising. It was decided that Dr. Redway be a committee to contact the American Medical Association and certain state journals to determine their policy.

"It was decided to explore the possibility of publishing the lectures on medical subjects for the New York Academy of Medicine over FM radio. This is to be by Dr. Anderton, Dr. Norton Brown, and Dr. Redway.

"The editor's and the business manager's reports were accepted.

"It was decided to print one free 'ad' for *Today's Health.*

"It was decided to grant the requests of the *Pennsylvania Medical Journal* and the *Delaware State Medical Journal* for exchange copies of our JOURNAL.

"It was decided to grant the request of Mr. William Michelfelder of the *New York World-Telegram and Sun* for a complimentary subscription to the JOURNAL."

The report *was accepted.*

History of the Medical Society of the State of New York, Subcommittee on.—Dr. Laurance D. Redway, editor, reported: "In Dr. Masterson's report last month Dr. Moore reported that there was no foundation or others he had been able to contact who would subsidize the writing of our history. The only alternative would be to have a brief history of the Society published in the JOURNAL, either as an extra issue in 1957 or to condense it in a regular issue."

Planning Committee for Medical Policies

Permanent Headquarters Subcommittee.—Dr. Andrew A. Eggston, chairman, stated: "We are continuing to explore possibilities of a suitable headquarters."

Public Health and Education.—Dr. Theodore J. Curphey, chairman, reported that he had attended three meetings and arranged 31 postgraduate lectures and teaching days in 15 counties since his last report to the Council.

He stated that at a meeting of the Subcommittee on Diabetes on April 12, a representative of the State Health Department presented arguments in favor of participation by that department in the diabetes detection program but that there had been disagreement as to the necessity for the State to enter this field. The value of the yearly detection drive was discussed, as well as the need for more adequate education of the patient, the public, and the physician, especially the need for expanded educational programs in hospitals and the possibility that county health nurses might start nutrition courses under the joint sponsorship of the local medical societies and health departments. Dr. Curphey quoted Dr. Schiff's summary of the proceedings: "(1) The detection of diabetics presents a problem; (2) the present program of the subcommittee has not brought about satisfactory results; (3) much more thought and discussion are needed; (4) it is premature to consider a State Health Department program."

He stated: "In view of the opinion of the subcommittee that education is even more important than detection drives, which are limited and temporary, Dr. Schiff requested the members to let him know whether the subcommittee should undertake an educational program next fall, as well as continue to stimulate the county medical societies to conduct detection drives."

Dr. Curphey then made the following proposal: "It has been customary for the Society to send to Chicago a member of the Subcommittee on School

Health, to the national conference. Therefore, I move that the chairman of the Subcommittee on School Health so represent the Society."

This *was voted*.

Dr. Curphey continued: "I have a letter that was given me yesterday by Dr. Larimore. It was addressed by the Regional Medical Director, Dr. A. L. Chapman, of the Department of Health, Education, and Welfare, Region II, in New York. It requests the support of the president of our State Society to aid in recruiting practicing physicians for the Inactive Reserve Corps of the Public Health Service, and it asks that the president send a letter to presidents of all county medical societies. It includes a draft:

> Dear Dr. ———:
>
> The Public Health Service, with the approval of the President, is undertaking an expansion of its Inactive Reserve Corps. The purpose of this expansion is to provide a readily available mobile reserve force of doctors, nurses, engineers, and others to meet the impact of any national emergency.
>
> Members of the Inactive Reserve Corps will not be called to active duty without their consent except in time of grave national emergency at which time every individual will have a defense role to play—locally or nationally.
>
> Since modern weapons have become so diversified, protective measures against these newly developed weapons need to be similarly diverse. Therefore, special training courses are in the process of being developed. These courses will be used in the training of groups of inactive reserve officers, on a voluntary, expenses paid basis, from time to time.
>
> The Public Health Service is just as interested in recruiting general practitioners, internists, surgeons, and other clinical specialists for the Inactive Reserve Corps as it is in recruiting public health trained physicians. Attached is a descriptive pamphlet which tells more about the Inactive Reserve Corps.
>
> It will be appreciated if you will call this recruitment program to the attention of the members of your Society. Anyone interested in receiving an application for the Inactive Reserve Corps of the Public Health Service may obtain one by writing to the Surgeon General, U.S. Public Health Service, Washington 25, D.C.
>
> Additional information may be obtained from Regional Office, Department of Health, Education, and Welfare, 42 Broadway, New York 4, New York (telephone WHitehall 3-2424).
>
> Sincerely yours,
> ————————, M.D.

"Mr. President, I move that you be requested to authorize the distribution of such a letter to the presidents of our county societies."

It *was voted* that this be done.

Dr. Curphey then read a letter from Dr. Olaf F. Larson, professor of rural sociology at Cornell University, expressing appreciation of interesting and popular lectures delivered by Dr. Jack R. Harnes and Dr. G. Alexander Galvin as part of the Farm and Home Week health program. Dr. Curphey felt that this letter reflected the effectiveness of the Course Outline lecture program.

This report as a whole *was adopted*.

Dr. Curphey added: "May I say this, too, that in light of the situation with respect to polio vaccine, we had a meeting yesterday at the State Health Department with Dr. Hilleboe's group. He was unable to attend because he was busy with the Governor. So I took the liberty of inviting him here this morning, with Dr. Larimore, to tell us the latest information on the vaccine."

He then introduced Commissioner Herman E. Hilleboe to the president and the Council.

Dr. Hilleboe spoke at length on the Salk poliomyelitis vaccine and asked that the Medical Society cooperate with the State Health Department in a joint statement of policy for its distribution. He outlined the points in the statement and proposed specific policies under each heading, as follows:

I Schedule of priorities for administration of vaccine by private agencies
  A. Children, ages five to nine years.
  B. Children, ages one to four and ten to nineteen.
  C. Pregnant women.

II Opposition to rationing, with reasons:
  A. Authorities consulted by Dr. Hilleboe regard it as unnecessary.
  B. The present shortage will be of limited duration.
  C. Many of the supplies are already distributed.
  D. Physicians or druggists who take advantage of the availability of the vaccine can be adequately disciplined by their professional associations.

III Schedule of priorities for use of vaccine by the Health Department
  A. Vaccine supplied by the Poliomyelitis Foundation—vaccination of 725,000 school children, those in the first and second grades and those in the third and fourth grades who did not receive vaccine last year in the 20 counties where the test was carried on.
  B. Vaccine purchased by the Department
    1. Booster shots for children vaccinated last year.
    2. Vaccination of third and fourth-grade children in 42 counties not covered last year.
    3. Reserve for epidemic use.
    4. Inauguration in the fall of a continuing program of vaccination for school children to consist of vaccination in the fall with booster shots in the spring.

He advocated, for the future, a program of voluntary vaccination administered through the same agencies as diphtheria, tetanus, and whooping cough vaccination.

After discussion it *was voted* that Dr. Hilleboe's recommendations be approved.

After discussion it *was voted* that a statement regarding the polio vaccine be issued under the aegis of the Medical Society of the State of New York in cooperation with the State Department of Health.

After further discussion it *was voted* that a telegram be sent to the president of every county society stating that within the next twenty-four or forty-eight hours the press would carry an announcement jointly prepared by the Department of Health and Medical Society and asking them not to release any guides until after they have read the Governor's announcement.

A vote of thanks *was extended* to Dr. Hilleboe.

Public Relations.—Dr. Floyd S. Winslow, chairman, reported regarding the work of the Public and Professional Relations Bureau in preparation for the annual convention and the work of the field men.

Under the direction of Dr. John C. McClintock, chairman of your committee's Subcommittee on Cooperation with Information Media, the Bureau assisted in three conferences at the Hotel Biltmore, New York City, on March 10 and 11. The purpose was to review the "Guide for Cooperation" between the medical profession and the information media.

During the meetings 20 representatives of television and radio stations, as well as organizations made up of newspaper reporters, science writers, and photographers, voiced opinions about the practical operation of the Guide. The consensus was that the Guide was functioning successfully.

Dr. Winslow said that all nine medical schools in this State requested copies of the American Medical Association's "A PR Pattern for a Successful Practice" which had been made available for senior medical students. A mailing was made to all county medical society public relations chairmen enclosing the American Medical Association booklet entitled "The Key to Community Health."

By means of news releases publicity was given to postgraduate lectures in the following counties: Fulton, Jefferson, Ontario, Suffolk, Tompkins, and Wayne.

Your committee met March 10 at the Hotel Biltmore, New York City. The committee discussed plans for our annual convention, training programs for physicians' office personnel, the public relations session, the sesquicentennial celebration, and exhibits.

The Bureau has arranged with the American Medical Association's Bureau of Exhibits to display "You and Your Medical Care" at the Saratoga Spa. This is composed of seven units. It uses three-dimensional figures portraying constructive programs to make medical care more readily available. Plans call for this public display from approximately Memorial Day to Columbus Day.

The Bureau assisted the Woman's Auxiliary in several ways.

Assistance was given in courses for physicians' office personnel, and a member of the staff participated in lectures at the Dutchess and Columbia county medical societies. This teaching has been much appreciated. A new leaflet in connection with these courses, "Seven PR Pointers for Medical Personnel," is in preparation.

It *was voted* to adopt the report.

Veteran's Administration, Liaison with.—Dr. Herbert H. Bauckus, chairman, reported that the customary request from the Veterans Administration for renewal of its contract with Veterans Medical Care Plan of New York, Inc., had not been received. He stated that if he received any communication from the Veterans Administration, he would report to the Council or to the Executive Committee. Renewal, if made, would be required by May 30, 1955, and the board of directors of the Plan always wishes the opinion of the Council. He reminded the Council that it had established a policy of not accepting a contract which did not provide for coordinators. He raised again the question of the necessity for continuing the Plan in view of the continued diminution in the number of fee-basis authorizations. He stated: "However, we have fee-basis patients remaining in all branches, and I feel that there are a certain number of patients living at a distance from VA clinics who should be continued. I do not doubt that such fee-basis patients will continue whether or not we have a Veterans Medical Care Plan."

He appended statements by Dr. Frederick S. Wetherell as "representing another possible viewpoint." Dr. Wetherell cited the valuable services of the coordinator in the Syracuse region. He expressed the opinion that the value of coordinators would be increased and that the difficulties arising when a physician believes that his authorizations for treatment are too infrequent, or delayed, would be diminished if fee-basis physicians were instructed to communicate their problems to the coordinator, rather than to the Veterans Administration.

Dr. Wetherell's communication stated, "This will take education; properly a function of our Plan. . . . Perhaps the Council might like to consider the proposal that the Veterans Medical Service Plan of New York, Inc., would do well to assume the responsibility for an educational program which would instruct fee-basis physicians about their rights and privileges. The Liaison Committee might prepare the material after study." He denied that the Home Town Care Plan has been discarded or that there has been a change in Veterans Administration policies. He stated, "no veteran patient has ever been refused legitimate authorization for care by a fee-basis physician" and reported that in the Syracuse Region from July 1, 1954, to March 25, 1955, office visits totaling 4,324 and home and night visits totaling 687 had been authorized.

Dr. Bauckus' report included information regarding the general activities of the Veterans Administration, the operation of the Brooklyn Regional Office, the policies of the American Medical Association Special Committee on Federal Medical Services, pending Federal legislation relating to establishment of a presumption of service-connection, hospital care of Spanish-American war veterans, and additional hospital construction. He stated that the American Medical Association is opposed to all of the bills which he mentioned.

The report *was accepted*.

Woman's Auxiliary, Advisory to.—Dr. Andrew A. Eggston, chairman, stated: "The poster contest was held at the Kings County Hospital. Mrs. Bennett, Dr. Mellen, Dr. Anderton, and I attended, and it was a very successful and entertaining occasion, a very beautiful affair. It carries on our tradition."

Report of the Judicial Council

Secretary Anderton read the following report, a copy of which had been distributed to the members:

The Judicial Council of the Medical Society of the State of New York have completed hearings on the appeal of Dr. Godfrey E. Arnold from the decisions, findings, and recommendations of the Membership Committee, Comitia Minora, and membership of the Medical Society of the County of New York, in connection with the application of Dr. Godfrey E. Arnold for membership in the Medical Society of the County of New York.

The Judicial Council after reviewing the records, testimony, and evidence submitted in connection therewith, and after hearing counsel for the appellant and for the respondent, rendered the following decision:

1. The decision of the membership of the Medical Society of the County of New York made at a stated meeting of said society on January 24, 1955, in excluding Dr. Godfrey E. Arnold from membership in the said county society is reversed.
2. It is the further decision of the Judicial Council that the findings and recommendations of the Membership Committee and Comitia Minora of the Medical Society of the County of New York, recommending that Dr. Godfrey E. Arnold be admitted to membership in the said county society, is affirmed.
3. It is the further decision of the Judicial Council that the secretary of the Judicial Council is directed to transmit the aforesaid decision to the secretary of the Medical Society of the County of New York for action by the said society not inconsistent with the foregoing decision.

Edward T. Wentworth, M.D., *Chairman*
Judicial Council
Medical Society of the State of New York
New York, New York
April 13, 1955

It *was voted* to accept the report.

After discussion it *was voted* that the legal counsel should notify the parties concerned.

New Business

Dr. Mellen.—Dr. Floyd S. Winslow stated: "This being the last meeting of the Council at which we will be honored by having Dr. Mellen preside, I think it is fitting that the members of the Council express to him our feeling for the work he has done for the Society. I move that the Council extend to Dr. Mellen a vote of deep and sincere appreciation for the wisdom, the enthusiasm, and the just judgment with which he has dispensed the duties of head of the Council and president of the Medical Society of the State of New York. Furthermore, that we extend to him our best wishes for happiness and success in carrying on his further work in the interest of medicine."

. . . The members arose and applauded. . .

Dr. Mellen responded: "Gentlemen, I rise out of respect to you. I want to thank you for the kindness you have shown me throughout this year. I sincerely appreciated it to the fullest extent of the word. Thanks!" (*Applause*)

Leukemia

Encouraging news concerning leukemia is reported by statisticians of the Metropolitan Life Insurance Company in a study of current trends in mortality from the disease.

Since 1951 there has been a slight decline in the death rate from the disease among the company's industrial policyholders, most of whom live in urban areas. This follows a rising death rate over many years, from 1.8 per 100,000 insured persons in 1930, to 4.7 per 100,000 in 1951.

Leukemia, a malignancy involving the blood and blood-forming organs, is now responsible for more than 10,000 deaths a year in the United States, which is about twice the mortality from cancers of the mouth, and three times that from skin cancer.

In reporting the slight decline in the leukemia death rate among the insured since 1951, the statisticians point out that it is difficult to say whether the mortality has reached the level at which it may become stabilized, or whether it will continue upward after a temporary interruption, as has happened in the past.

The report notes that even past mortality trends for leukemia are not as unfavorable as would appear at first glance.

"A large part of the long-term increase in the death rate undoubtedly reflects merely the more frequent detection of the condition through improved methods of diagnosis," the statisticians comment. "Also, some progress has been made in the treatment of the disease, particularly the acute form, through the use of hormones and chemicals. Continued intensive research holds out tangible hope for the future."

PHYSICIANS' HOME

BEVERLY C. SMITH, M.D., *President*

For several years it has been my privilege to explain the purposes, aims, and policies of "Physicians' Home" to members of the State Society at a number of State, county, and district meetings. Although many of the Society's members contribute annually to Physicians' Home, I have been impressed by the fact that so few actually know about its functions and administration. The editor of the New York State Journal of Medicine has kindly offered the use of these columns as a proper channel for better acquainting the Medical Society's members with Physicians' Home.

Physicians' Home is a corporation organized in 1919 by 16 founder members as a charitable organization under the Membership Corporation Law of the State of New York for the purpose, among others, of giving financial aid and other assistance to aged and indigent physicians and their wives, widows, and needy minor children, subject only to the provisions of its bylaws and the policies in that regard established by its board of directors.

Although it was originally contemplated at the time of formation that Physicians' Home might maintain its beneficiaries in a physical home, it does not now maintain one. Twice in the past, and during its early history, it endeavored to maintain a physical home, but both experiments were abandoned. These experiences convinced the directors that in most cases elderly physicians and dependents did not desire to live segregated and necessarily somewhat regimented lives in such a home but were much happier when maintained in familiar surroundings with relatives and in the communities in which they had lived and practiced. For years now the efforts of Physicians' Home have been directed toward the granting of beneficial aid in the form of financial assistance given monthly directly to the beneficiaries.

The members of the corporation consist of those individuals who make contributions to the corporation, of which the voting members are those who make regular annual contributions as prescribed by the bylaws. The general management of its business and affairs is conducted by its board of 27 directors, each of whom has a three-year term of office and one third of whom are elected annually by the members. The care, custody, and management of the property of the corporation are the responsibility of a board of five trustees, each of whom has a five-year term of office and one of whom is elected annually by the members. Directors are chosen from among individuals approved for the purpose by the Council of the Medical Society of the State of New York. An enthusiastic working board of directors meets monthly, and its executive committee and the trustees meet when required. The Hanover Bank is the consultant and advisor of the trustees on financial matters, and the accounts of the corporation are audited annually by Price-Waterhouse & Co. Directors and trustees, as such, serve without compensation.

The income of the corporation is derived from annual contributions received directly from members, per annum voluntary contributions collected from certain members by the county medical societies, annual contributions from woman's auxiliaries, and bequests under wills. Expenditures of the corporation consist primarily of beneficial aid extended to its beneficiaries, known as guests, with a relatively small expense for necessary administrative, legal, and accounting services. Generally speaking, the ordinary income of the corporation from contributions and from interest and dividends derived from its endowment fund is used up each year in extending beneficial aid to guests and in defraying administrative expenses, and its extraordinary income from bequests has been set aside in an effort to build up an endowment fund. Its endowment fund now amounts to nearly $300,000, and it is anticipated that in the very near future it will be greatly increased as the result of a substantial bequest.

In the light of provisions of the charter and bylaws and the traditions of the corporation, the directors have always maintained the clear conception that its benevolence was intended for, and only for, the benefit of physicians who have spent a considerable portion of their lives in the practice of medicine in the State of New York. To that end and in order that its benevolence should not be applied to purposes beyond its limited resources, the corporation adheres to certain basic policies in the granting of beneficial aid:

1. That it should be extended only to a physician who is a citizen of the United States of America,

who continuously resided in New York State for ten consecutive years, and who had continuous membership in a county medical society of New York State for ten consecutive years, or to the wife, widow, or dependent child of such a physician.

2. That it should be extended for the purpose of providing shelter, food, maintenance, and necessary living requirements and to provide maintenance in a moderate and reasonable style of living, but not to the extent of maintaining beneficiaries in their former or customary style of living, nor to enable beneficiaries to continue to practice or to enter into new enterprises.

3. That it should not be extended, except in exceptional circumstances, to individuals in cases requiring institutional treatment or custodial care, in cases of positively diagnosed mental diseases, or in cases in which the result would be a lessening of the responsibility to those individuals or other proper welfare agencies.

Any person may propose a beneficiary or guest for the consideration of Physicians' Home, and recommendations in that regard should be addressed to the Physicians' Home or in care of the State Society's office in New York City. All applications are referred in the first instance to the secretary of the local county society for recommendations and in most cases are investigated through a local social service organization. Thereafter, the application and any recommendations and supporting data are reviewed by the executive committee and by the board of directors and appropriate action taken thereon, depending upon the results of the review and investigation.

From meager resources and small income in its early years, the annual income and endowment fund have progressively increased until today, within the limitation of its financial means, Physicians' Home is making a significant social contribution within the profession. This has been due primarily to the continued interest and support of the members of the State Society and to the faithful and loyal service as directors and trustees of many prominent physicians and other professional men. As a result of the expected substantial addition to the endowment fund mentioned above and assurance of the continued interest and support of members of the State Society, the directors and trustees are confident that the benevolence of Physicians' Home will in the years to come be broadened and its aid become available to a progressively larger number of eligible and meritorious members of the profession in their declining years.

63 East 84th Street
New York City

"New" Theory on Skin Disease Shown to Be Not So New

The supposedly modern notion that many skin diseases result from psychologic difficulties is not so new after all, a Pittsburgh physician said. The writers of the Bible knew about it some two thousand years ago. The story of Job, whether believed to be a religious drama or an historical document, is typical of the mysterious cases seen by the modern physician, according to Dr. William B. Guy, in March *Archives of Dermatology*, published by the American Medical Association.

Dr. Guy said Job's disease and recovery are as baffling as the psychosomatic cases of the modern dermatologist's office. Job, he explained, was "a pious man and very prosperous." He had a large family, immense herds of livestock, and was as good as he was great.

Permission to test Job's religion was given to Satan by God, and Job was striken by a terrible skin disease. After losing his property, his family, and fleeing the city, he finally cursed the day he was born and begged God to explain to him why he was afflicted.

In answer to this wish God spoke "out of a whirlwind," Dr. Guy said. He told Job to look around and observe the wonder and mystery of the world, and realize the omnipotence of the Almighty. Job was satisfied, and repented. Miraculously, his health was restored and his prosperity doubled. He died "old and full of days."

The reasons for Job's physical sufferings were never explained, Dr. Guy said. Neither was his cure—but perhaps his spiritual experience had a soothing effect which healed him.

"Regardless, this profound and sophisticated work of religious literature should serve as a reminder to all physicians of psychosomatic bent that their thoughts have been pondered before, and long, long ago," Dr. Guy said.

CORRESPONDENCE

American Medical Education Foundation

W. P. Anderton, M.D., Secretary
Medical Society of the State of New York
386 Fourth Avenue
New York 16, New York

Dear Dr. Anderton:

We are most grateful for a recent gift from your Society in the amount of $4,445 for the American Medical Education Foundation and an additional check for $10 included with the list of physicians forwarded to us at that time.

This outstanding gift from the Medical Society of the State of New York indicates not only a vote of confidence toward the success of the Foundation's two million-dollar annual goal but also lends continued sustenance to the high standards of our approved medical schools.

Please extend our sincere appreciation to your membership.

Incidentally, in the report specifically from the Nassau County Medical Society, we note that three physicians are included in a list marked "1954 contributors." These physicians' names appear again with the 1955 group.

We are not in position to record their 1954 contribution since our 1954 funds received from the New York State Medical Society have already been transferred to the National Fund for Medical Education, and we must further advise that designated gifts to the Foundation must be recorded during the calendar year they are received. Therefore, we will accept the 1954 contributions of $10 as additional contributions for 1955 and credit such physician with a total contribution of $20, rather than $10.

Hiram W. Jones
Executive Secretary

American Medical Education Foundation
535 North Dearborn Street
Chicago 10, Illinois

Thrombocytopenia and Phenylbutazone

To the Editor:

I have read with interest "Hematologic Observations in Short and Long-Term Treatment of Rheumatic Disease with Phenylbutazone" by Harris and Klein, published in the Journal of January 1, 1955.[1] The central theme of this work seems to be concerned with the demonstration of the safety of phenylbutazone as shown by this drug's lack of effect on the platelets. The authors state, " . . . there have been many contradictory reports regarding the effect of phenylbutazone on the blood platelets. The present investigation was set up, therefore, in an attempt to evaluate short-term and long-term therapy with the drug, particularly in regard to its effects on the platelet count."

References to "many contradictory reports" in this field unfortunately are not provided. The literature reveals 34 instances of purpuric manifestations unrelated to thrombocytopenia, one death due to thrombocytopenic purpura,[2] one patient with nonfatal thrombocytopenia,[3] and the early report of Stephens *et al.*[4] in which the platelets were found to be reduced in 31 of 188 patients. As recently as February, 1954, Brodie *et al.*[5] studied the platelets in an effort to determine the cause of gastrointestinal bleeding following phenylbutazone therapy. They too found the platelets unaltered.

This body of literature hardly constitutes "many contradictory reports." It consists of two reports of thrombocytopenic purpura, one report of a decline in the platelet counts, and the contrary finding by Brodie and Harris and Klein.

The point at issue, however, is this: Having demonstrated no change in platelet counts during and after the administration of phenylbutazone, is it proper to conclude that this is a safe drug? The emphasis throughout this paper would lead one to this belief, yet the conclusions consist of five specific warnings, none related to thrombocytopenia!

Unfortunately the manufacturers of phenylbutazone have reprinted this paper and distributed it widely and have quoted from it as follows: "It is believed that with lower doses advocated at present (seldom exceeding 400 mg. per day for maintenance), serious side-effects from phenylbutazone are infrequent. . . . No evidence of blood dyscrasia such as agranulocytosis was found in spite of recent blood counts."

It is unfortunate that the manufacturers, lifting this quote from context and presenting it as a firm conclusion, choose to ignore the 22 fatalities now reported (I know of two others to be submitted for publication). They also choose to ignore the fact that of this number nine died with agranulocytosis. It is unfortunate, too, that thus far there have been reported six deaths in individuals who never exceeded 400 mg. of phenylbutazone per day. The drug manufacturers should learn that

> "A truth that's told with bad intent
> Beats all the lies you can invent"—William Blake.

Edgar F. Mauer, M.D.

1930 Wilshire Boulevard
Los Angeles 5, California

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[1] Harris, S. B., and Klein, R.: New York State J. Med. **55**: 95 (Jan. 1) 1955.

[2] Feldman, L., *et al.*: Illinois M. J. **105**: 83 (Feb.) 1954.

[3] Kuzell, W. C., *et al.*: Arch. Int. Med. **92**: 646 (Nov.) 1953.

[4] Stephens, C. A. L., *et al.*: J.A.M.A. **150**: 1084 (Nov. 15) 1952.

[5] Brodie, B., *et al.*: Am. J. Med. **16**: 181 (Feb.) 1954.

Comment by Drs. Harris and Klein

To the Editor:

Dr. Mauer has questioned the validity of our statement that there have been "many contradictory reports" respecting the effect of phenylbutazone on the blood platelets. We are not aware of any authoritative definition of the word "many," but nevertheless we can point out that in addition to the four references cited by Dr. Mauer, there are four others[1–4] of which we have knowledge. Insofar as collectively these reports ascribe to phenylbutazone (*a*) thrombocytopenia without bleeding, (*b*) thrombocytopenia with bleeding, (*c*) no effect on platelet count, they are surely poor grounds for taking issue with our usage of the term "contradictory."

Dr. Mauer's main point of contention, however, revolves around his question as to whether, on the basis of finding no adverse effect on platelet count, it is "proper to conclude this is a safe drug." The question itself is based on false premises insofar as it presupposes that our observations were confined to the effect of the drug on the platelet count and that we did actually come to the conclusion that phenylbutazone "is a safe drug." As indicated clearly in our paper, all our patients were watched carefully for all types of side-effects, and our conclusions were based on our total observations and not merely on our hematologic findings. Furthermore, we did not come to the conclusion that phenylbutazone "is a safe drug" but that in small dosage and with the added precaution of careful regular observation, phenylbutazone is "a valuable adjunct to our armamentarium." As for the absence of warning against thrombocytopenia, which Dr. Mauer apparently believes we should have included in our injunctions, we can only reiterate that we did state that there was one patient who in the first week of treatment developed a thrombocytopenia. Dr. Mauer states that in the five specific conclusions there is none related to thrombocytopenia; yet number 4 states blood counts should be carried out frequently, and number 5 states "since toxicity may be related to blood level of the drug, we suggest that medication be stopped for one day each week." We believe this clearly alerts the physician to be on guard for any blood dyscrasias.

With respect to the balance of Dr. Mauer's letter regarding the advertising policies of the manufacturing company, we do not feel it is within our province to enter a detailed defense on their behalf. We would state, however, that insofar as their distribution of our report had, as its main objective, encouragement of the trend toward lower and safer dosage, we find it entirely commendable.

Samuel B. Harris, M.D.
Rubin Klein, M.D.

Greenpoint Hospital
Kingsland and Skillman Avenues
Brooklyn 6, New York

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[1] Bruck, E., *et al.*: Lancet **1**: 225 (Jan. 30) 1954.

[2] Davies, H. R., Barter, R. W., Gee, A., and Hirson, C.: Brit. M. J. **2**: 1392 (Dec. 27) 1952.

[3] Englemann, E. P., *et al.*: J.A.M.A. **156**: 98 (Sept. 11) 1954.

[4] Strazza, J. A., and Ressetar, M.: J. M. Soc. New Jersey **50**: 333 (1953).

Correction

To the Editor:

I notice that my letter in the Journal (May 15, 1955) on Tyzine reads "experience with procaine." It should read "experience with Privine."

George S. Meister, M.D.

669 Van Siclen Avenue
Brooklyn 7, New York

NECROLOGY

Jerome Elliot Alderman, M.D., of Syracuse, died on May 11 of a heart attack in his hotel room while attending the American Psychiatric Association meeting in Atlantic City, at the age of forty-five. Dr. Alderman was graduated from Syracuse University College of Medicine in 1934 and interned at Mount Sinai Hospital. Dr. Alderman opened the first Department of Electroencephalography in Syracuse. He was a Diplomate of the American Board of Psychiatry and Neurology and a member of the American Psychiatric Association, the Association for Research in Nervous and Mental Diseases, the Mohawk Valley Neuropsychiatric Society, and the Syracuse Academy of Medicine.

Dr. Alderman was neuropsychiatrist at St. Joseph's and General Hospitals, consulting electroencephalist at Memorial Hospital, and assistant psychiatrist and consulting electroencephalist at University Hospital, all in Syracuse. At the time of his death, Dr. Alderman was a member of the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Philip Bunsick, M.D., of Brooklyn, died on May 15 after a brief illness, at the age of fifty-four. Dr. Bunsick was graduated from New York University and Bellevue Hospital Medical College in 1923. At the time of his death he was chief surgeon at the East New York Dispensary and a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Royal Edwin Cummings, M.D., of Brooklyn, died on May 7 at his home at the age of seventy-two. Dr. Cummings was graduated from Nashville Medical College in 1903. He was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Walter Henry Dane, M.D., of Albuquerque, New Mexico, formerly of New York City, died of a heart attack on May 15 in London enroute to attend the National Congress of Surgeons being held in Geneva, Switzerland, at the age of sixty-five. Dr. Dane received his medical degree from the University of Warsaw in 1922. At the time of his death, he was chief of otolaryngology at the Veterans Administration Hospital in Albuquerque. He was a Diplomate of the American Board of Otolaryngology. Before leaving New York, Dr. Dane was surgeon at the Bronx Eye and Ear Infirmary.

Boleslaw Gerzabek, M.D., of Buffalo, died following a long illness on May 18 at his home at the age of eighty-three. Dr. Gerzabek received his medical degree from the University of Cracow in 1898. In 1908 he became a Licentiate of the Royal College of Physicians and Surgeons and a Member of the Royal College of Surgeons of England. At the time of his death he was a member of the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Myrtle Anna Hoag, M.D., of Buffalo, died on May 20 at her home at the age of eighty-seven. Dr. Hoag graduated from the University of Buffalo School of Medicine in 1899. She was a member of the Buffalo Academy of Medicine, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Richard Jahiel, M.D., of New York City, died on May 31 following a long illness at his home at the age of fifty-six. Dr. Jahiel received his medical degree from the Université of Paris Faculté de Médecine in 1927. He was adjunct physician in gastroenterology and neoplastic diseases at Montefiore Hospital. Dr. Jahiel was a member of the New York Allergy Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Robert Koehler, M.D., of New York City, died on May 24 at his home of a heart attack at the age of seventy. Dr. Koehler received his medical degree from the University of Vienna in 1908. Before leaving Vienna in 1938, Dr. Koehler was head of the Vienna Women's Hospital. He was a member of the New York County Medical Society and the Medical Society of the State of New York.

Mitchell Kohn, Jr., M.D., of Albany, died at his home on May 3 at the age of thirty-five. Dr. Kohn was graduated from Cornell University Medical College in 1945. He was a radiologist at the Veterans Administration Hospital, Albany, and a Diplomate of the American Board of Radiology. At the time of his death he was a member of the Albany County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Frederick Arthur Lewis, M.D., of Auburn, died on May 14 in the Auburn Memorial Hospital at the age of ninety. Dr. Lewis was graduated from the Bellevue Hospital Medical College in 1891. He was an honorary staff member of the Auburn Memorial Hospital, a Fellow of the American College of Surgeons, and a member of the Cayuga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Basilia B. Lipetz, M.D., of Albany, died on May 26 after a brief illness at the age of seventy-one. Dr. Lipetz received her medical degree from the Université de Paris Faculté de Médecine in 1924. At the time of her death she was associate professor at Albany Medical College, psychiatrist at the Albany Hospital, psychiatrist-in-charge at the Albany Hospital Outpatient Department, and a member of the American Psychiatric Association, the Mohawk Valley Neuropsychiatric Society, the Albany County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Oswald Swinney Lowsley, M.D., of New York City, died at his home of a heart attack on June 4 at the age of seventy. Dr. Lowsley was graduated from Johns Hopkins University School of Medicine in 1912 and interned at Bellevue Hospital. He was consulting urologist at New York, St. Clare's, Jamaica, St. Agnes. White Plains, New York Hospital Westchester Division, Monmouth Memorial in Long Branch, Fitkin Memorial in Neptune, Jersey City, Englewood, New Jersey, and Stamford, Connecticut, Hospitals.

He was the first director of the James Buchanan Brady Foundation at New York Hospital, a past honorary consulting surgeon of the New York Police Department, a former medical director of the United States Lines, first director of the Urology Department at St. Clare's Hospital, and a former president of the American Urological Association. With Dr. Thomas J. Kirwin he invented an artificial kidney and was the author and coauthor of a number of textbooks and articles on urology.

Dr. Lowsley was a Diplomate of the American Board of Urology, a Fellow of the American College of Surgeons, a Diplomate of the International College of Surgeons, a Fellow of the International College of Surgeons, and a member of the American Urological Association, the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Harry Mandelbaum, M.D., of Brooklyn, died at his home on May 27 at the age of sixty. Dr. Mandelbaum graduated from the Long Island College Hospital Medical School in 1919. He was attending physician at the Jewish Chronic Disease Hospital and the Brooklyn Hebrew Home and Hospital for the Aged, and associate physician and physician-in-charge of the Hypertension and Nephritis Clinic of the Jewish Hospital of Brooklyn. He was past treasurer of the Kings County Medical Society and at the time of his death was clinical professor of medicine at the State University of New York College of Medicine at New York City. Dr. Mandelbaum was a Diplomate of the American Board of Internal Medicine, a Fellow of the American College of Physicians, and a member of the New York Academy of Medicine, the Brooklyn Society of Internal Medicine, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Hiland G. Shepard, M.D., of Rochester, died on May 15 in St. Petersburg, Florida, at the age of eighty-three. Dr. Shepard was graduated from the New York Homeopathic Medical College and Flower Hospital in 1898. Before retiring in 1945 Dr. Shepard was a staff surgeon at Genesee Hospital and at his death was an honorary surgeon there.

Howard Coke Stewart, M.D., of Albany, died on May 27 at the age of fifty-seven. Dr. Stewart was graduated from the University of Nebraska College of Medicine in 1920. He was a member of the American Public Health Association, the American Trudeau Society, the Albany County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Otto K. Stewart, M.D., of Hornell, died on May 2 at the age of seventy-seven. Dr. Stewart graduated in 1902 from the University of Buffalo School of Medicine. He was a consultant in surgery at the St. James and Bethesda Hospitals, a Fellow of the American College of Surgeons, and a member of the Steuben County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Jess Stubenbord, M.D., of Buffalo, died of a heart attack while attending a staff meeting at the Deaconess Hospital on May 19 at the age of fifty. Dr. Stubenbord graduated from the University of Buffalo School of Medicine in 1937. He was a surgeon at the Deaconess Hospital, a Diplomate of the American Board of Surgery, a Fellow of the American College of Surgeons, and a member of the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Joseph Henry Walsh, M.D., of Marcellus, died on May 3 of a heart attack in his home at the age of fifty-six. Dr. Walsh was graduated from Syracuse University College of Medicine in 1925. He was a member of the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Weil, M.D., of New York City, died on May 26 of a heart attack in the Jewish Memorial Hospital at the age of sixty-six. Dr. Weil received his medical degree in 1912 from the University of Wurzburg. A member of the New York Cardiological Society, he was also an Associate Fellow of the American College of Cardiology, and a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Leon Wolfson, M.D., of Brooklyn, died on May 21 of a heart attack while vacationing at the Inwood (Long Island) Country Club, at the age of sixty-six. Dr. Wolfson graduated from New York University and Bellevue Medical College in 1911. He was attending surgeon at the Adelphi Hospital. A Fellow of the American College of Gastroenterology, Dr. Wolfson was a member of the Brooklyn Gynecological Society, the Brooklyn Thoracic Society, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Speaker—Dr. Joseph C. Hinsey, former dean of Cornell University Medical College and associate dean, Cornell University Graduate School, spoke at the 125th Commencement.

Dr. Hinsey and Dr. Arthur Knudson, retiring chairman of the Department of Biochemistry at the College, were awarded honorary Doctor of Science degrees.

Alumni Celebration—The annual alumni day was held on May 19 with the 1955 graduating class as guests. Open house was held and was followed by a business meeting at the Mohawk Golf Club in Schenectady. At the dinner, Dr. George A. Burgin, Little Falls, was the toastmaster. Dr. Burgin is also the president of the Alumni Association.

Other officers of the Alumni Association present were: Dr. Philip D. Allen, New York City, president-elect of the association; Dr. John F. Filippone, chairman, Subdepartment of Cardiology of the College, treasurer; Dr. Thomas M. Aldrich, Rensselaer, corresponding secretary; Dr. Beverly L. Vosburgh, staff physician of the General Electric Company, recording secretary, and Dr. Emerson C. Kelly, historian, Albany. Dr. Clarence F. Ackerknecht, Schenectady, was chairman of the program committee.

Honored—Dr. Otto A. Faust, professor of pediatrics, and former director of the Department of Pediatrics, was honored by the College on May 18 by the presentation of his portrait and the establishment of a series of annual lectures in his name. Dr. Grover Powers, professor emeritus of pediatrics, Yale University School of Medicine, was the principal speaker.

Postgraduate Medical Education—A "master transmitter" will be used beginning in the fall of 1955 as a new approach to further postgraduate medical education. Receiving equipment and transmitters will then be placed in the larger hospitals in the area and the teachers at the College will broadcast on a prearranged schedule while the practicing physicians will assemble at the hospital nearest to them to listen to the broadcasts. The use of the transmitters as wells as the receivers will permit a free interchange of ideas and information among the area physicians and physicians at the College. This program is under Dr. Frank M. Woolsey, Jr., and will be in addition to the teaching days and special courses presented during 1954–1955.

Speakers—Dr. C. Stuart Welch, associate professor of surgery, and Dr. Ralph D. Alley, instructor in surgery, were speakers at the Third Medical Society Congress in Rabat and Casablanca, Morocco, April 12 to 16.

Dr. Alley lectured at St. Thomas' Hospital Medical School in London on March 30 and 31 and gave a demonstration at Brompton Hospital, London.

[Continued on page 1938]

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[Continued from page 1936]

Following the meeting at Morocco, he lectured at the medical school in Lyons, France.

Dr. Alley also spoke on "Resection of the Aorta Employing Plastic and Heterologous Shunts" at the fourth annual convention of the American College of Cardiology on May 21 in NewYork City.

Dr. John C. McClintock, assistant professor of surgery, was among the speakers at the annual meeting of the Medical Society of the State of New York in Buffalo in May.

Columbia University College of Physicians and Surgeons

Appointments—Effective July 1, 1955, Dr. John H. McClement, former chief, Tuberculosis Service, Veterans Administration Hospital, Salt Lake City, Utah, will assume the post of associate professor of medicine and visiting physician in charge of Chest Service of the First Division at Bellevue Hospital; Dr. Fred V. Lucas will become associate professor of pathology and also associate attending pathologist, Presbyterian Hospital, and Dr. John K. Lattimer, member of the Department of Urology, will succeed Dr. George F. Cahill as executive officer, Department of Urology, and professor of urology, as well as director, Urology Service, Presbyterian Hospital, and attending urologist.

Fordham University School of Medicine

Class of 1920—The thirty-fifth anniversary dinner was held at the Commodore Hotel on May 21. Among those who attended were: president—Dr. Julius J. Carucci; members of the dinner committee—Dr. James B. McGrath, chairman; Dr. Sigmund Dreiblatt, vice-chairman; Dr. Frank La Gattuta, treasurer; Drs. Louis Breglio, Morris Shlansky, and Alexander Zirpolo. Serving on the special committee were: Drs. William S. Bush, James F. Collins, William L. Corcoran, John J. Goller, Clinton H. Martin, Thomas J. O'Kane, Charles Windwer, Harry Zuckerman, and Martin MacDonnell.

New York Medical College, Flower and Fifth Avenue Hospitals

Expansion Program—The College has launched a ten-year expansion and development program by the completion of a new building which will provide space for lecture rooms, laboratories, research facilities, clinics, and offices. The Departments of Public Health, Urology, Obstetrics, Gynecology, and Psychiatry will also be moved into the new building.

Research Laboratory to Be Established—$150,000 has been awarded to the College to establish a new research laboratory for the causes and treatment of arteriosclerosis. Dr. Harold B. Eiber has been named research director.

New Library—$100,000 has been presented to the College and will be used for the new library now under construction. The library will be one of the best equipped and most up-to-date in the country when completed. It will be integrated with the Flower-Fifth Avenue Hospitals record library which will facilitate clinical studies of case histories in conjunction with textbooks and medical journals.

Hospital case histories will be on microfilm and a special room will be set aside in the library for audio-visual aids, including a microfilm projector, motion picture projector and screen, lantern slides, and tape recorders. A periodical room and a second study room will complete the library.

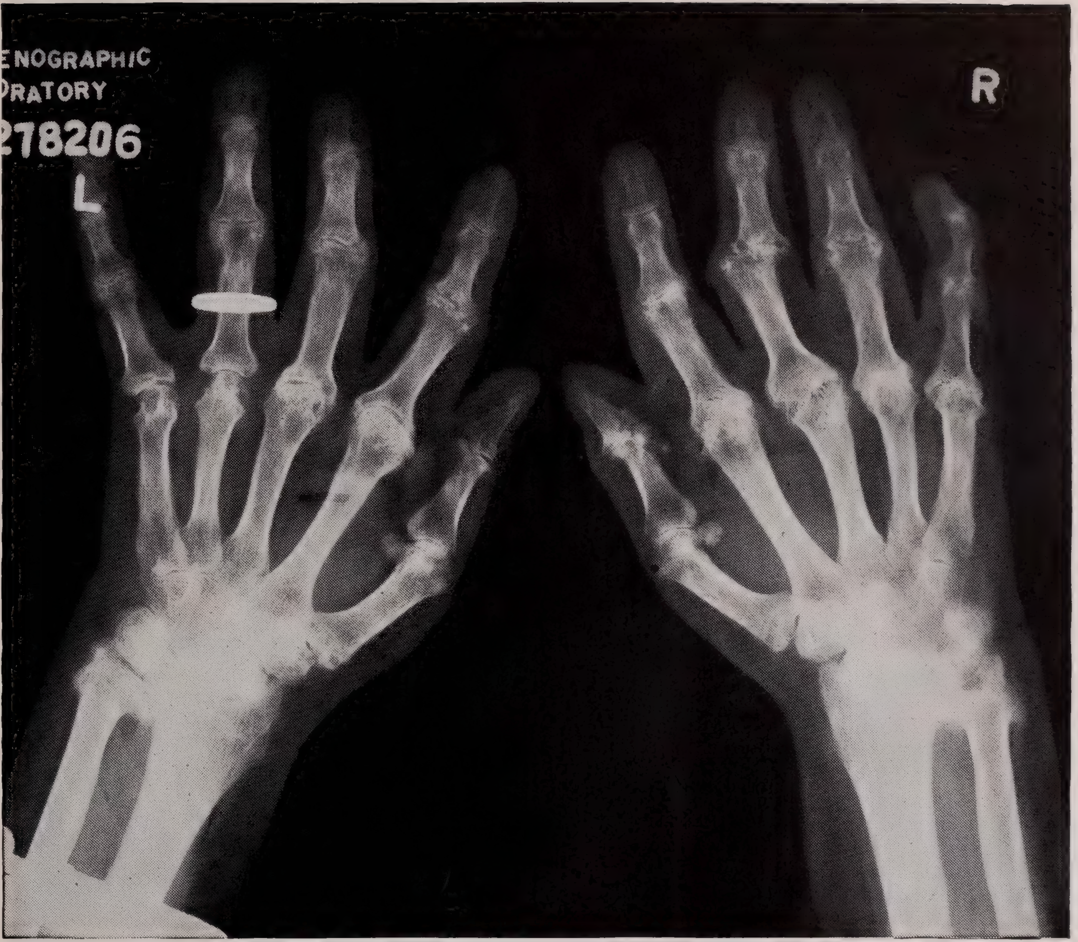
New York University—Bellevue Medical Center

Phi Lambda Kappa Fraternity, Eta Chapter—Dr. Albert B. Sabin, professor of research pediatrics at the University of Cincinnati College of Medicine, lectured on "Studies on Human Volunteers Infected with Chimpanzee Avirulent Poliomyelitis" on May 5 at the invitation of the Eta Chapter, Phi Lambda Kappa fraternity of the College.

Speaker—Dr. Edgar Douglas Adrian, First Baron Adrian of Cambridge, spoke on "Mass Effects in the Nervous System" on May 27 in the Bellevue Hospital Psychiatric Amphitheatre. Presiding at the lecture was Dr. Thomas I. Hoen, professor and chairman of the Department of Neurosurgery.

Lecturer—Dr. Kaj Ulrik Linderstrøm-Lang, director of the Carlsberg Laboratory, Copenhagen, Denmark, spole on "Deuterium Exchange Between

[Continued on page 1940]



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[Continued from page 1938]

Water and Proteins with Special Reference to Insulin" on May 31. Dr. Severo Ochoa, professor and chairman, Department of Biochemistry, presided.

Dr. Bernardo Alberto Houssay, 1947 Nobel Prize winner and director, Institute of Medicine and Experimental Biology, Buenos Aires, Argentina, lectured on "Production or Prevention of some Types of Experimental Diabetes by Estrogens or Cortico-Steroids" on June 1. Dr. Lewis Thomas, professor and chairman, Department of Pathology, presided at the meeting.

University of Rochester School of Medicine and Dentistry

Retires—Dr. George Hoyt Whipple, 1934 Nobel Prize winner in medicine and former dean of the University, retired June 30 after fifty years of distinguished service to medical education.

Dr. Whipple will continue to do research at the School.

Appointed—Dr. James Lowell Orbison, associate professor of pathology, Western Reserve University School of Medicine, Cleveland, has been appointed the first George Hoyt Whipple Professor of Pathology and head of the Department of Pathology and will begin his duties July 1.

State University of New York College of Medicine at New York City

Commencement—138 seniors received the degree of Doctor of Medicine at the College's 97th Commencement on Thursday, June 9, at the Brooklyn Academy of Music. President William S. Carlson of State University delivered the commencement address and Dr. Jean A. Curran, associate executive dean for medical education of the State University and professor of medical history at the College, administered the Hippocratic Oath. Dr. Howard W. Potter, acting dean of the College, presided at the exercises and Dr. Carlyle Jacobsen, associate executive dean for medical education of State University, addressed some special remarks to the graduating class.

Alumni Medallion—The College's eighth Alumni Medallion for Distinguished Service to American Medicine was presented to Dr. Alexander S. Wiener, Class of 1930, by Dr. Howard W. Potter at Commencement exercises on June 9. Dr. Wiener was cited for his basic work in the study of the genetics of the blood groups, the genetics of allergic diseases, and the clinical application of this knowledge to erythroblastosis, transfusion reactions, and exchange transfusions.

Research Society—The Research Society of the State University College of Medicine at New York City wound up its year's activities at a meeting on Wednesday, May 11, with the installation of new officers and the award of the Society's annual student research prize.

The 1955–56 officers are Dr. David M. Kydd, associate professor of medicine, president; Dr. Julius Belford, associate professor of pharmacology, vice-president, and Dr. Alvert Hirschman, assistant professor of anatomy, secretary-treasurer. The Society's annual student research prize went to Robert F. Porges, Class of 1955, for a paper entitled "A Method for Demonstrating Secondary Agammaglobinemia in Patients With Multiple Myeloma Using Paper Electrophoresis."

Parents Association—The Parents Association of the State University College of Medicine at New York City wound up its year's activities at a Spring Festival at the Barbizon-Plaza Hotel on May 10. Year-end reports indicated that $3,138 had been collected since September for the Association's Student Loan Fund, including $1,011 proceeds from the Festival, and that five students had received financial assistance from the Association during the 1954–55 academic year. In additon, two students received summer research fellowships.

Ciba Award—Dr. Jack Gross, associate professor of anatomy at the College, received the 1955 Ciba Award for meritorious accomplishments in the field of endocrinology at the 37th annual meeting of the Endocrine Society in Atlantic City on June 3. He was cited for his work on the thyroid gland since the introduction of radioiodine in the early 1940's, and especially for his discovery and isolation of a new iodine compound, tri-iodothyronine, in human blood.

State University of New York College of Medicine at Syracuse

Leaves of Absence—Dr. William H. Bergstrom, assistant professor of pediatrics; Dr. George H. Reifenstein, clinical associate professor of medicine, and Dr. Jacques P. Schaerer, instructor in neurosurgery, have been granted leaves of absence for military duty.

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MEDICAL NEWS

Academy of Preventive Medicine—The New York State Academy of Preventive Medicine was formally organized at a meeting held in Buffalo on May 11, during the annual meeting of the Medical Society of the State of New York, with the adoption of bylaws and the election of officers for the current year. Dr. V. A. Van Volkenburgh was elected president; Dr. Franklin M. Foote, president-elect; Dr. Morton L. Levin, vice-president; Dr. Walter C. Levy, secretary-treasurer, and Drs. Joseph H. Kinnaman, Michael Antell, and Milton Tully, directors for three-year, two-year, and one-year terms, respectively.

According to the bylaws, membership in this organization is limited to physicians who are diplomates of the American Board of Preventive Medicine, residing or employed in New York State. Qualified applicants are eligible for charter membership by application until December 31, 1955. After that date, eligible applicants can be elected to membership. Already, 113 of the approximately 164 diplomates of the American Board of Preventive Medicine in New York State have membership in the New York State Academy of Preventive Medicine as charter members. Application forms for charter membership may be secured by eligible physicians from Dr. Walter C. Levy, secretary-treasurer, New York State Academy of Preventive Medicine, 353 Broadway, Albany, New York.

Action was taken at the organization meeting for the New York State Academy of Preventive Medicine to apply for affiliation with the American College of Preventive Medicine as the New York State Chapter. Dr. V. A. Van Volkenburgh was elected as the representative of the New York State Academy of Preventive Medicine to the Board of Regents, the governing board of the American College of Preventive Medicine.

The objectives of the New York State Academy of Preventive Medicine as outlined in its bylaws are: (1) to encourage the continuing education of its members and other physicians in preventive medicine and public health; (2) to study, discuss and make recommendations relating to research, policies, and practice in preventive medicine and public health; and, (3) to promote the total health of the individual and of the community.

Represented in the membership of the New York State Academy of Preventive Medicine are physicians engaged in practice in a wide range of fields of preventive medicine including local and State official health agencies, voluntary health agencies both national and state, education, laboratory services, industrial health, hospital, and other medical administration.

Laboratory Diagnosis of Tuberculosis—A course in the laboratory diagnosis of tuberculosis will be offered from November 14 through 25 by the Bacteriology Laboratories of the Communicable Disease Center, Chamblee, Georgia, in cooperation with the Division of Special Health Services, Public Health Service.

This course is open to all grades of employed laboratory personnel who are approved by their state health officers. Practical laboratory training in all phases of tuberculosis bacteriology, including preparation of culture media, microscopy, cultural procedures, diagnostic use of animals, and testing of drug sensitivity will be included in the course.

Application forms may be obtained from Laboratory Training Services, Communicable Disease Center, Public Health Service, P. O. Box 185, Chamblee, Georgia.

Industrial Medicine for Physicians—A full-time eight-week comprehensive course in industrial medicine for physicians will be given in the Post-Graduate Medical School of New York University-Bellevue Medical Center beginning September 26, it has been announced by Dr. Norton Nelson, director of the Institute of Industrial Medicine.

Among the subjects being offered to physicians are: organization, administration, and economics of an industrial medical department; the practice of preventive and constructive medicine in industry; the clinical aspects of occupational diseases; industrial injuries and the elements of safety programs, and toxicology and industrial hygiene for the physician. Opportunities will be provided for attendance at medical surgical and clinical pathologic conferences during the course.

Applications should be sent to the Dean, NYU Post-Graduate Medical School, New York 16, New York.

Picture Magazine on Rehabilitation—Another in the Institute for the Crippled and Disabled's series of "Thumbs Up" publications is "The World the Handicapped Live In," a 30-page picture magazine which dramatizes pictorially the problems of children and grown-ups whose disabilities, congenital, accidental, and from disease, require comprehensive rehabilitation. Copies of the publication are available without charge upon request to the Institute at 23rd Street and First Avenue, New York City.

Hill-Burton Grants—The Department of Health, Education, and Welfare reports that as of April,

[Continued on page 1944]

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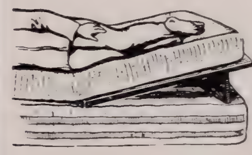

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[Continued from page 1942]

1955, the status of all Hill-Burton grants for New York State is: approved, but not yet under construction: eight projects at a total cost of $12,324,351, including $3,102,852 Federal contribution and designed to supply 831 additional beds. Under construction are 11 projects at a total cost of $42,014,762, including Federal contribution of $4,789,037 and designed to supply 944 additional beds. Completed and in operation are 71 projects at a total cost of $72,450,303, including Federal contribution of $20,857,683 and supplying 3,996 additional beds.

Sight-Saving Month—Plans for the fifth annual September "Sight-Saving Month" campaign to mobilize efforts against the increasing threat of blindness in this country have been announced by Dr. Franklin M. Foote, executive director of the National Society for the Prevention of Blindness.

Blindness in the United States, Dr. Foote reported, has reached the rate of more than 27,000 new cases annually.

Publications on eye care for children and adults are available from the National Society for the Prevention of Blindness, according to Dr. Foote. The National Society, which sponsors "Sight-Saving Month" every year, will send a complete catalogue of publications on request.

Interested individuals and agencies wishing to distribute eye health information during "Sight-Saving Month" are invited to obtain a catalogue by writing to the National Society for the Prevention of Blindness, 1790 Broadway, New York 19, New York.

Yonkers Academy of Medicine—At the May meeting of the Yonkers Academy of Medicine, the following officers were elected to membership for the year 1955-1956: President, Dr. Charles Brane; president-elect, Dr. Nicholas Locascio; vice-president, Dr. David Ramsay; corresponding secretary-treasurer, Dr. Robert Minervini; secretary, Dr. Thomas Broderick; and councillors, Drs. Ernest Gordon and Joseph Atkins.

Postgraduate Gastroenterology—The American College of Gastroenterology's annual course in postgraduate gastroenterology will be given at the Shoreland in Chicago, on October 27, 28, and 29. Dr. I. Snapper, director of medical education, Beth-el Hospital, Brooklyn, will serve as medical coordinator.

The subject matter will cover the advances in diagnosis and treatment of gastrointestinal diseases and a comprehensive discussion of diseases of the mouth, esophagus, stomach, pancreas, spleen, liver and gallbladder, colon and rectum, with special studies of radiology and gastroscopy.

For further information and enrollment write to the American College of Gastroenterology, Department P. G., 33 West 60th Street, New York 23, New York.

Medical Writing Workshop—A workshop in medical writing will be held on October 1 during the twelfth annual meeting of the American Medical Writers' Association, under the instruction of members of the journalism faculties of the University of Illinois, University of Missouri, and University of Oklahoma. Those who intend to enroll are invited, well in advance of the meeting, to send manuscripts of popular medical articles they may have on hand to Theodore Peterson, assistant professor, School of Journalism and Communications, University of Illinois, Urbana, Illinois. He will criticize some of these manuscripts at the workshop.

New York Academy of Gastroenterology—At the annual meeting of the New York Academy of Gastroenterology, an affiliate of the American College of Gastroenterology, the following officers were elected for the year 1955–1956: President, Dr. Franz J. Lust; president-elect, Dr. A. Xerxes Rossien; first vice-president, Dr. Jerome K. Marks; second vice-president, Dr. Milton J. Matzner; secretary, Dr. Joseph R. Van Dyne; recording secretary, Dr. Alexander Slanger, and treasurer, Dr. William C. Jacobson.

Personalities

Elected

Dr. Charles M. Brane, director of surgery at St. John's Riverside Hospital, and president of the Family Service Society, as president of the Yonkers Academy of Medicine . . . Drs. J. Hunter Fuchs, Samuel Garlan, and Louis J. Schneider, all presidents of sections of the American Academy of General Practice, and Dr. Aaron Kottler, president-elect of the Kings County Medical Society, to the board of directors of Group Health Insurance, Inc., New York City . . . Dr. J. Raymond Kelly, president of the board of trustees of St. James Mercy Hospital in Hornell . . . Dr. Erwin Neter, Buffalo, vice-president of the New York State Association of Public Health Laboratories.

Appointed

Dr. Robert S. Alexander, as chairman of the Department of Physiology at Albany Medical College . . . Dr. Paul J. Christenson, Averill Park, deputy commissioner in the Rensselaer County Health Department . . . Dr. Giles F. Filley, director of the Department of Physiology of the Trudeau-Saranac Institute, as assistant professor of medicine at the University of Colorado Medical Center in Denver and associate director of physiologic investigation at the Colorado Foundation for Research in Tuberculosis . . . Dr. John K. Lattimer, as director of the Presbyterian Hospital's urological service and as professor of urology and executive officer of Columbia

[Continued on page 1946]

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[Continued from page 1944]

University's College of Physicians and Surgeons . . . Dr. Arthur Reiniger, New York City, as chief of the Ear, Nose, and Throat Clinic of the Stuyvesant Polyclinic in New York City . . . Dr. James A. Halsted, as head of professional services at the Veterans Administration Hospital in Syracuse.

Speakers

Dr. Arnold P. Friedman, physician-in-charge at Montefiore Hospital, New York City, before the members of the hospital staff of the Veterans Administration Hospital at Northport on May 20, on "Differential Diagnosis of Headache" . . . Dr. Herman E. Hilleboe, State Commissioner of Health, before the delegates and advisers to the eighth world health assembly of the United Nations World Health Organization on June 1 . . . Dr. Richard H. Lange, director of the isotope laboratory at Ellis Hospital in Schenectady, before the Geneva Academy of Medicine on June 20, on "Radioactive Isotopes in Diagnosis and Treatment" . . . Dr. Scott N. Swisher, assistant professor of medicine at the University of Rochester School of Medicine, before the Ontario County Medical Society on June 14 on "The Use and Abuse of Blood Transfusions" . . . Dr. Lewis Robert Wolberg, specializing psychoanalyst, before the members of the hospital staff of the Veterans Administration Hospital at Northport on June 3, on "Modern Trends in Hypnotherapy."

New Offices

Dr. Paul E. Hoffman, general practice in North Collins . . . Dr. Samuel Kalman, general practice in Carmel . . . Dr. Robert D. Kummer, general practice in Mayville . . . Dr. Paul Lindenberg, practice of otolaryngology in Spring Valley . . . Dr. Alex Uljanov, general practice in Akron.

Awarded

Dr. William A. Sawyer, Rochester, the Rochester Academy of Medicine's 1955 Albert David Kaiser Medal for outstanding achievement in medicine and public health.

Honored

Dr. Theodore G. Klumpp, Sands Point, with the special award for distinguished service by the American Pharmaceutical Manufacturers' Association . . . Dr. Robert Frederick Loeb, professor of medicine, and Dr. Howard Canning Taylor, Jr., professor of obstetrics and gynecology, both of Columbia University College of Physicians and Surgeons, with Doctor of Science degrees from the New York University-Bellevue Medical Center at the dedication of its Medical Science Building on June 2 . . . Dr. Howard A. Rusk, director of the Institute of Physical Medicine and Rehabilitation of the New York University-Bellevue Medical Center, with a distinguished service certificate from President Eisenhower.

New Pamphlet Lists "Ups" in Medical Education

Record achievements by our nation's medical schools during the past year are emphatically pointed up in an attractive new 12-page pamphlet currently in production by the American Medical Association. The pamphlet entitled, "What's Up With Our Medical Schools?" discusses four main phases of medical education in which the 80 approved medical schools in the country now are surpassing all previous records. These areas are: (1) medical school enrollments, (2) number of medical school graduates, (3) medical school finances, and (4) medical school facilities.

Particularly suitable for distribution in doctors' reception rooms, through schools and at health fairs, quantities of the pamphlet will be available after July 1 from state medical societies or the AMA's Public Relations Department.—*AMA News Notes, May, 1955*

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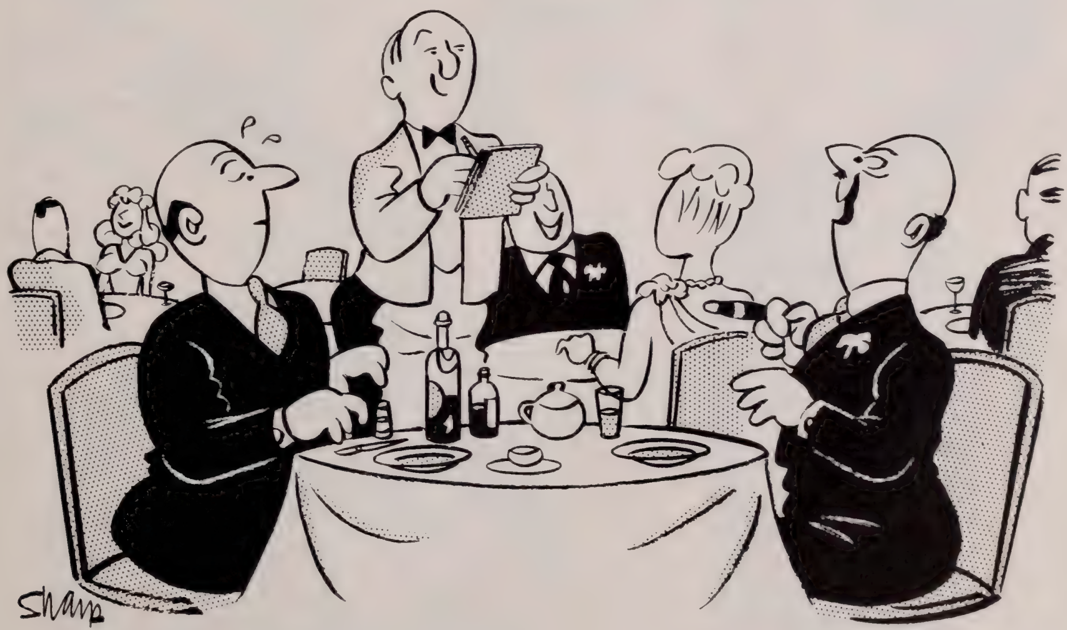

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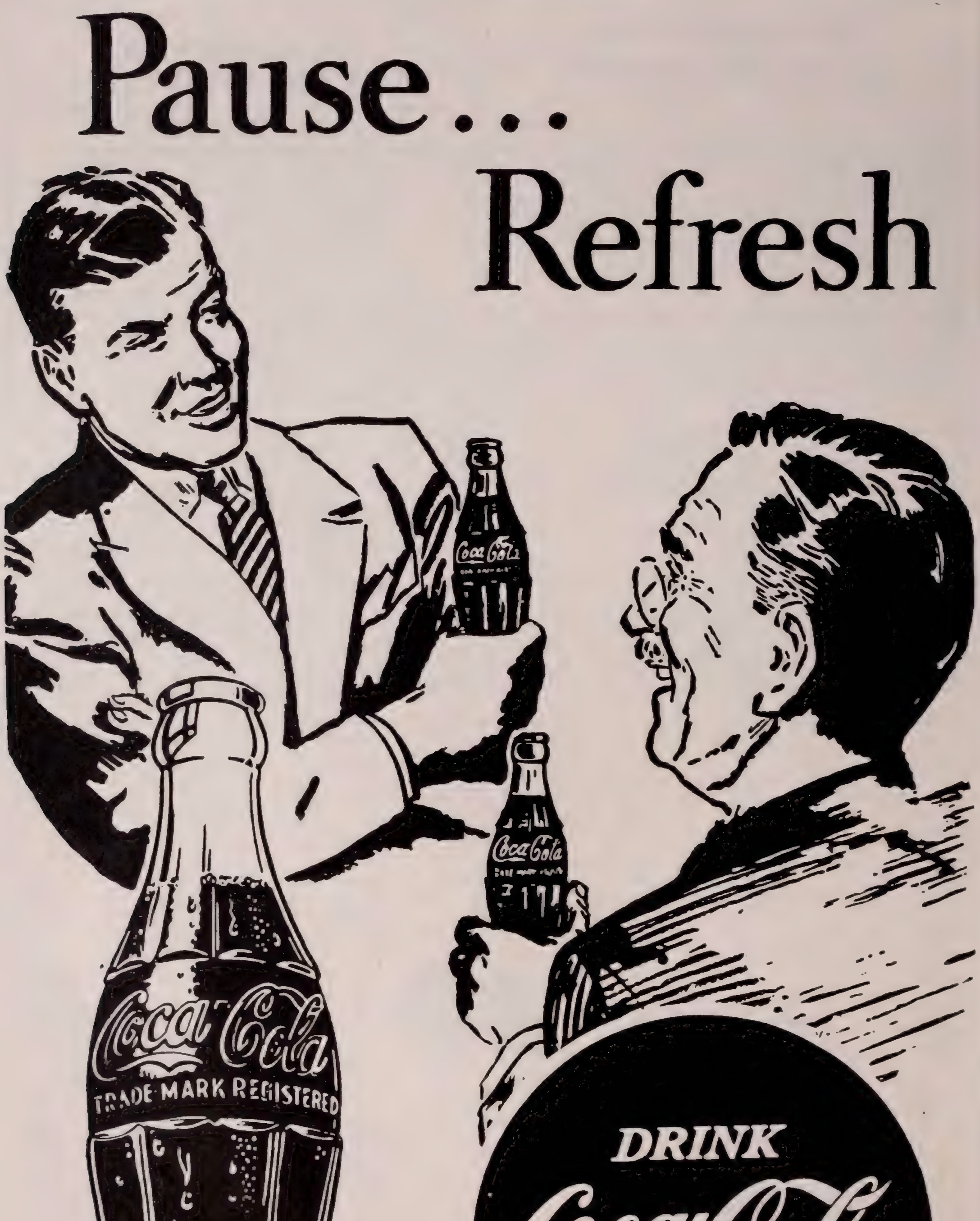
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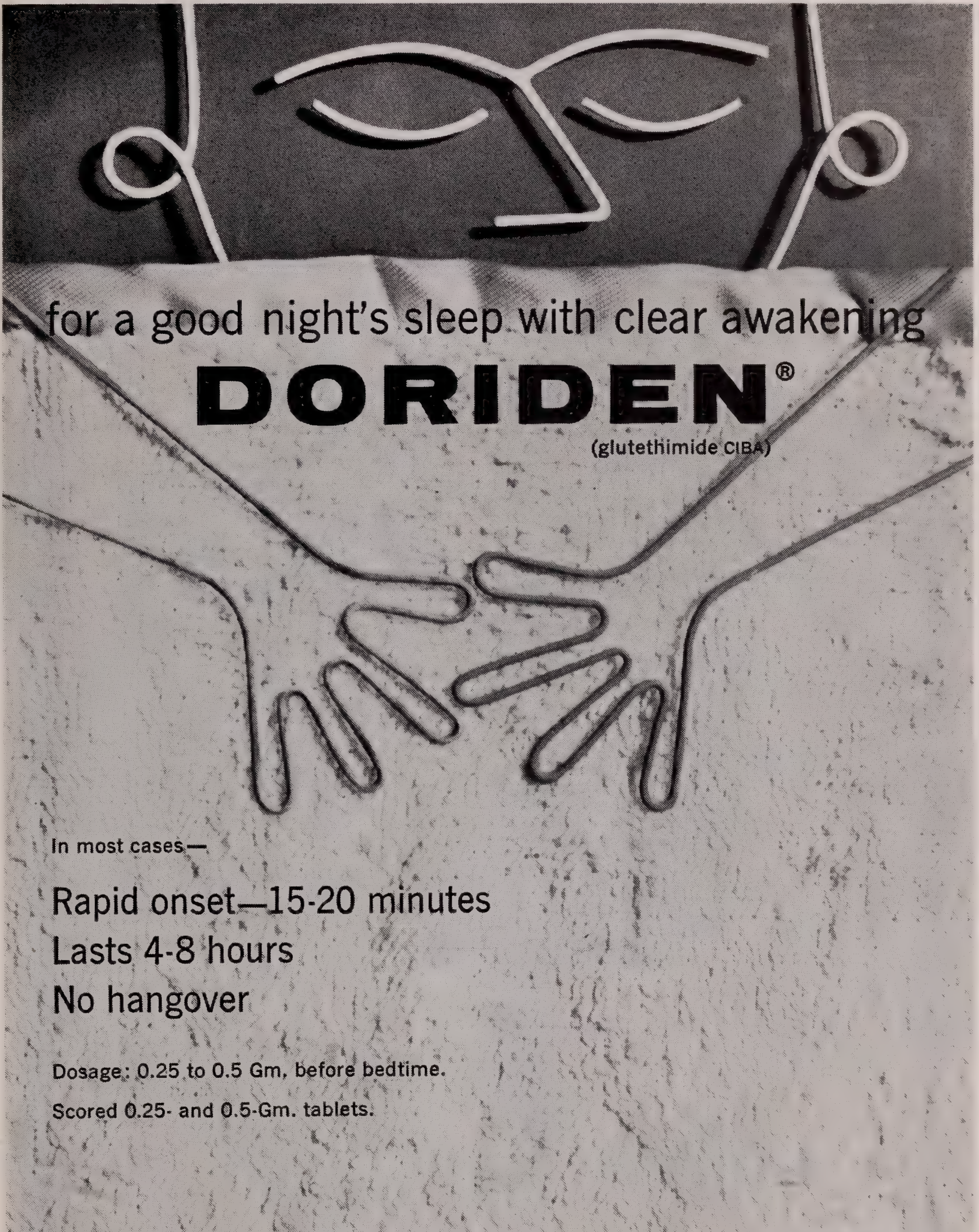

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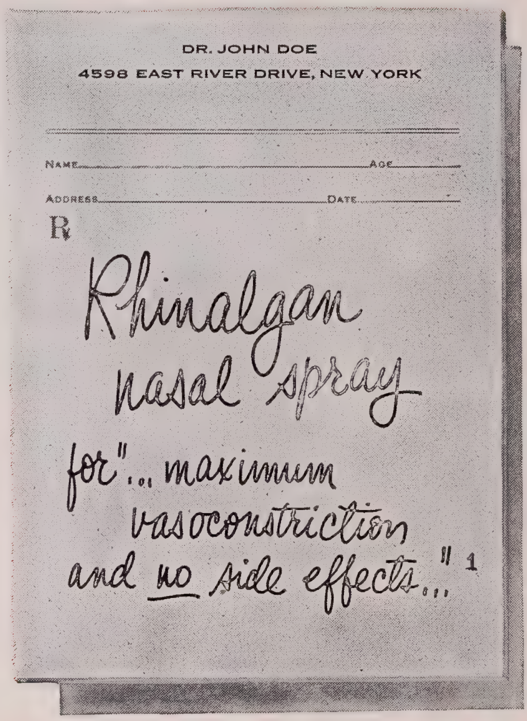

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1. Kulz, F. and Rosenmund, K.W., Klin. Wchnschr., *17*:344 (1938).
2. Weiss, S., Rev. Gastroenterol., *12*:426 (1945).
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5. Ohr, A., Therapie d. Gegenwart, *80*:29 (1939).

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VOLUME 55 JULY 15, 1955 NUMBER 14

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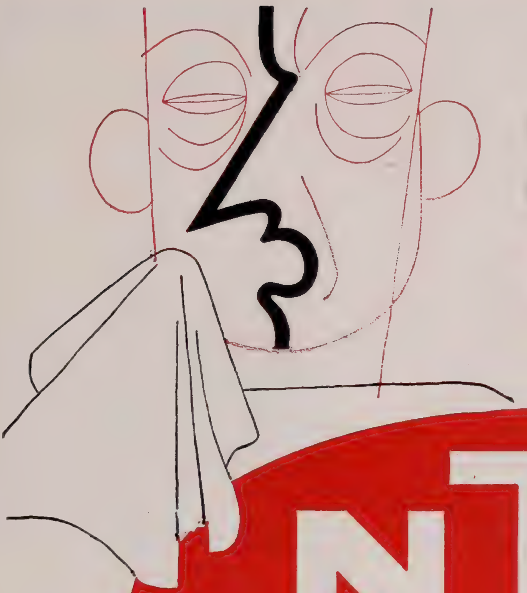

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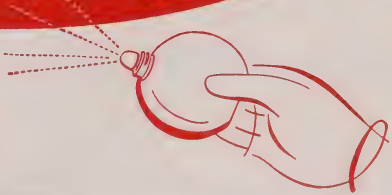

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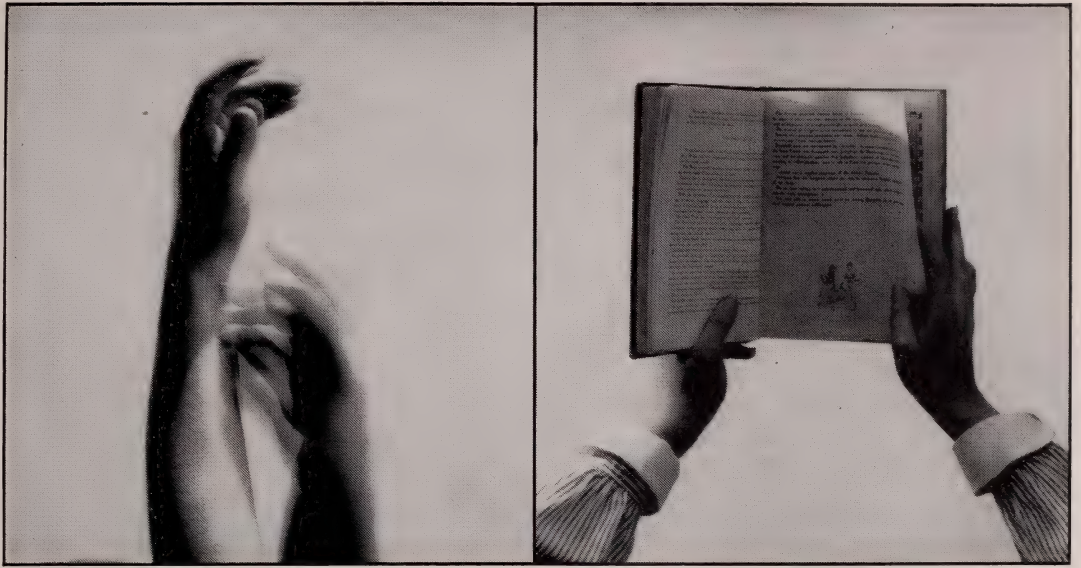

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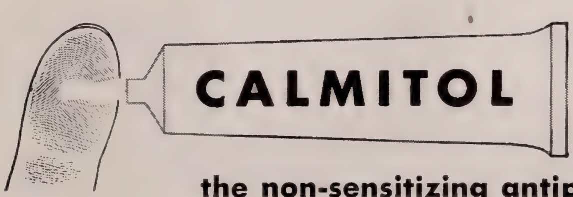

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1. Lubowe, I. I.: New York State J. Med. 50:1743, 1950.

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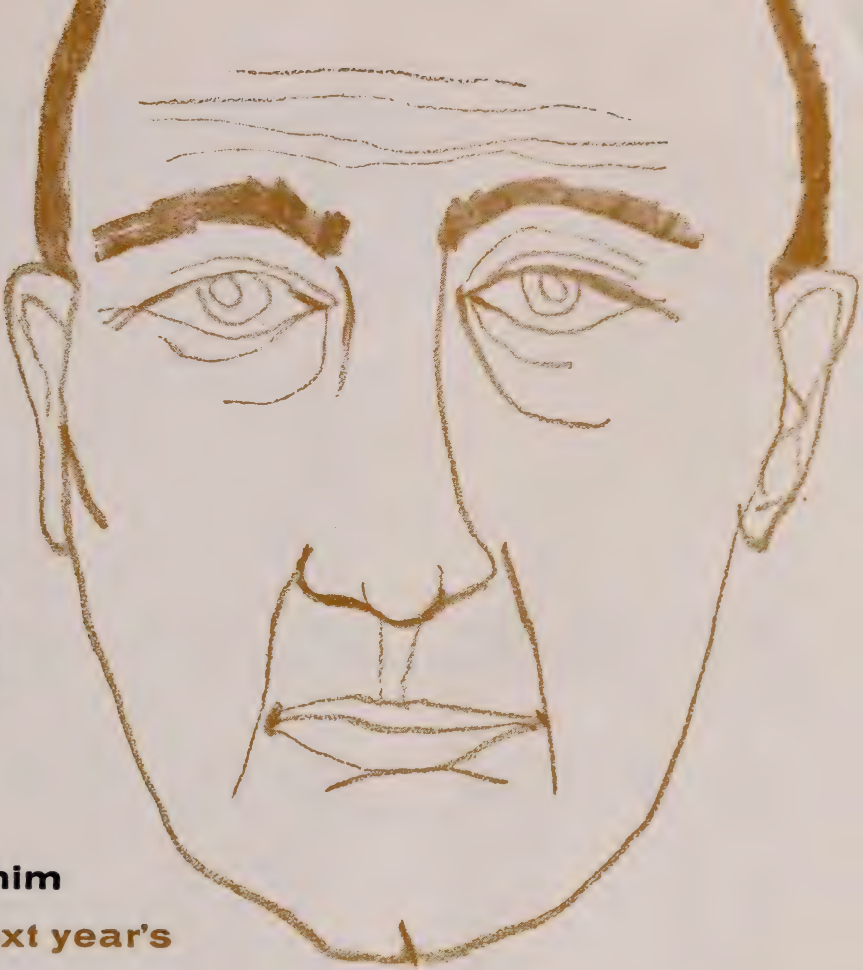

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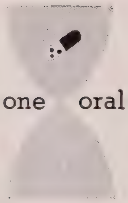

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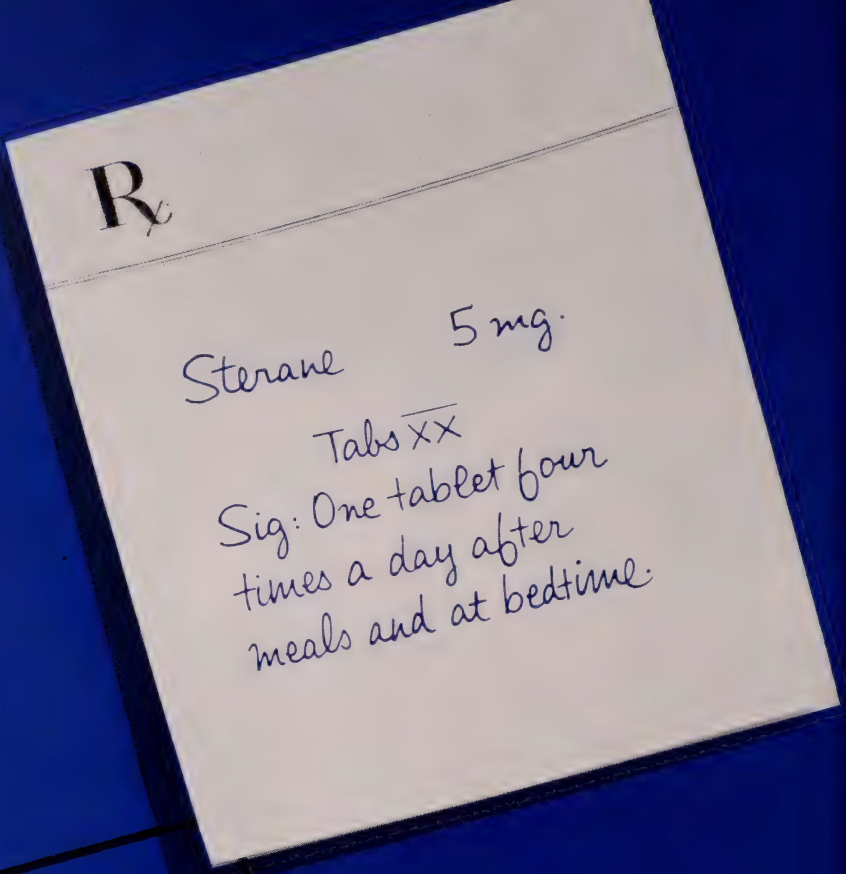

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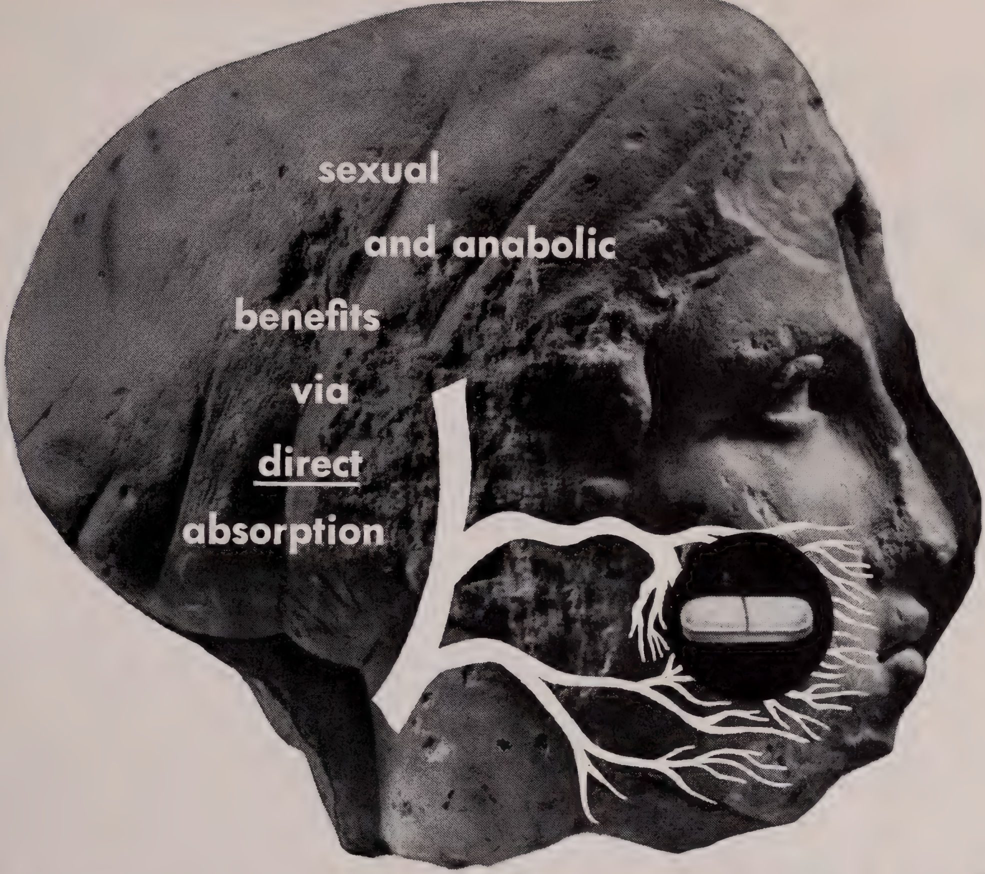

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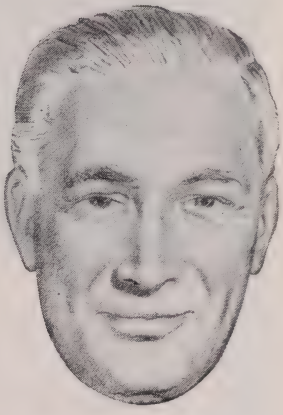

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Finnerty, F.A., Jr.: Am. J. Med. *17*:629 (Nov.) 1954.

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Livesay, W.R., et al.: J.A.M.A. *155*:1027 (July 17) 1954.

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Lipsett, M.B., et al.: California Med. *81*:412 (Dec.) 1954.

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"Its [Rauwiloid's] relaxing action may be responsible in part for the marked symptomatic relief it affords, especially in anxious, neurotic, hypertensive patients."
Wilkins, R.W.: Mississippi Doctor *30*:359 (Apr.) 1953.

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*Combes, F. C. & Canizares, O.: New York St. J. Med. 52:706, 1952; Marsh, W. C.: U. S. Armed Forces M. J. 1:1045, 1950.

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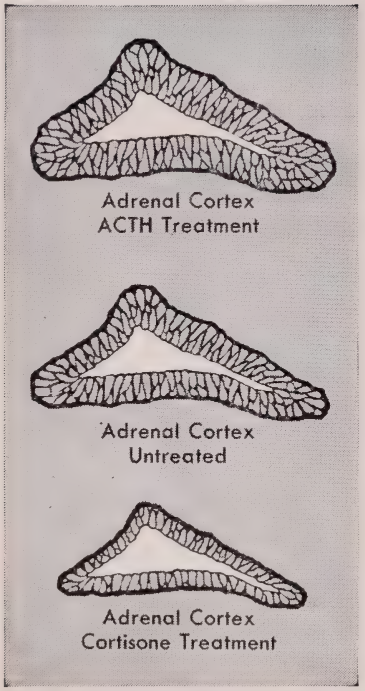

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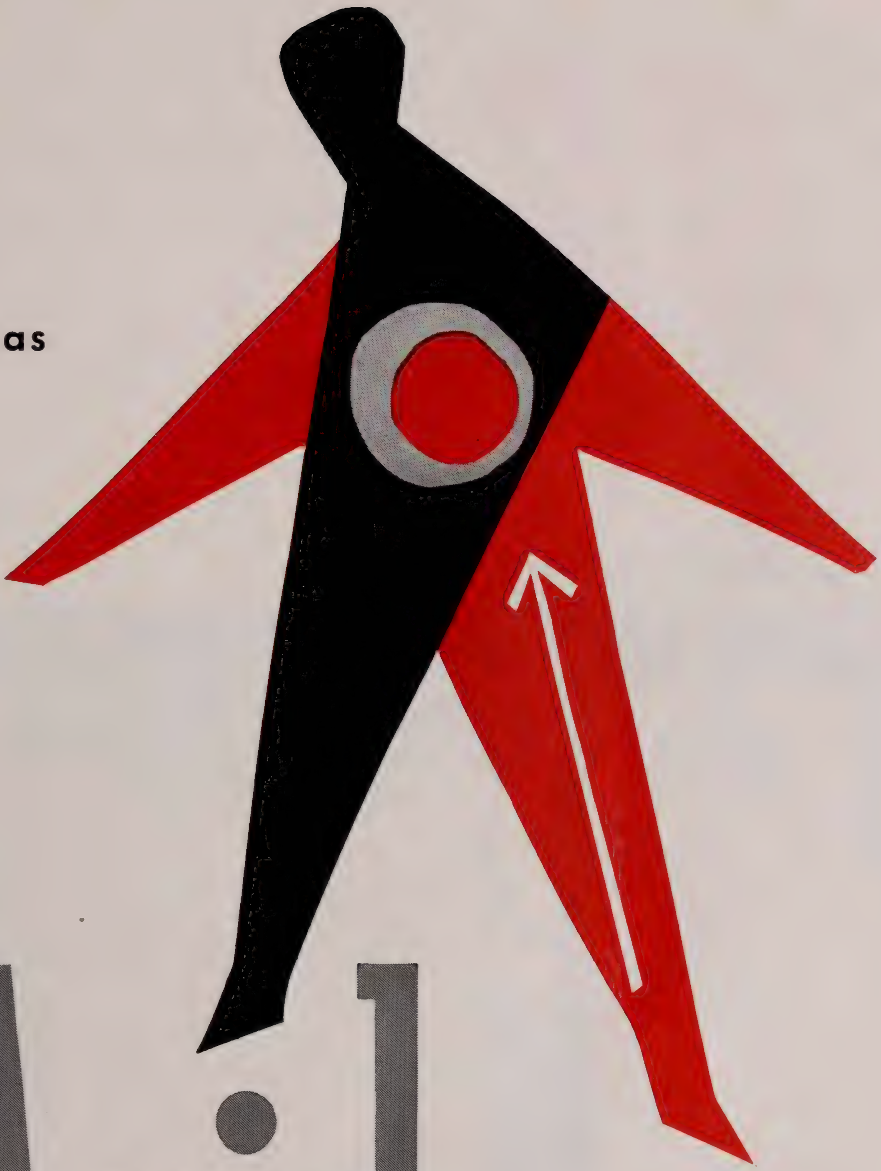

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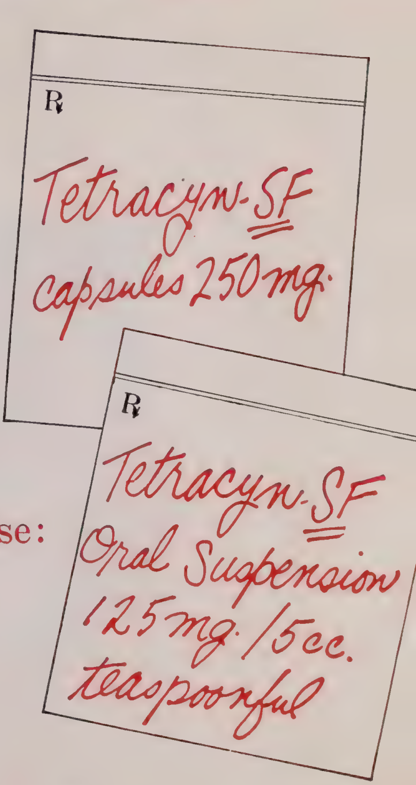

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1. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, Prepared in Collaboration with the Committee on Therapeutic Nutrition, Food and Nutrition Board, National Research Council, Washington, D. C., 1952.
2. Martí-Ibáñez, F.: Antibiotic Med. *1*:247 (May) 1955.
3. Dumas, K. J.; Carlozzi, M., and Wright, W. A.: Antibiotic Med. *1*:296 (May) 1955.

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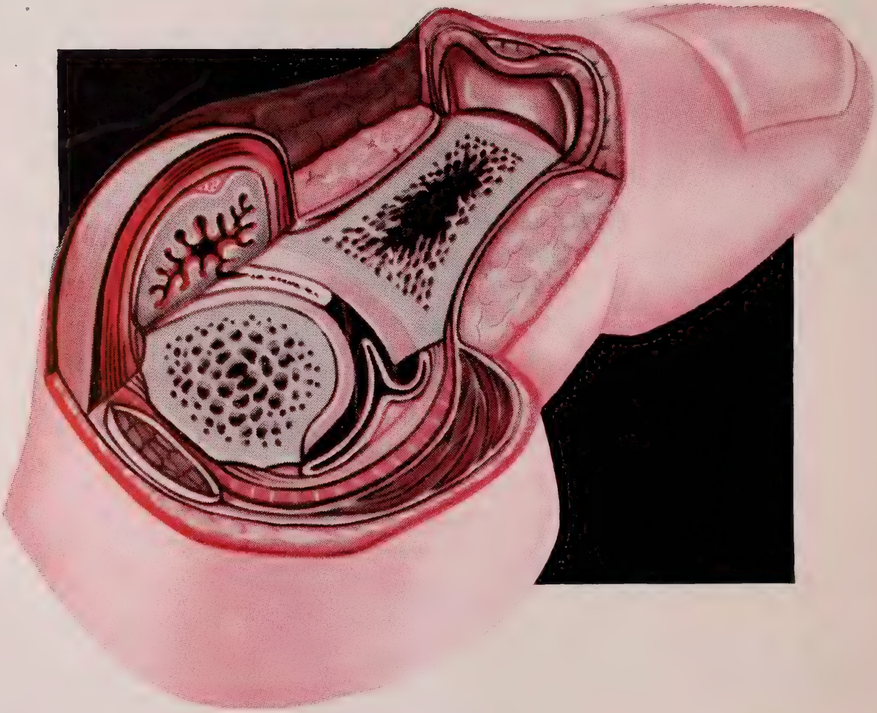
*Bunim, J. J.: Research Activities in Rheumatic Diseases, Pub. Health Rep. *69*:437, 1954.



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Levin, S. J. Ped. Cl. of N. A. 1:975,1954.

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Naterman, H. L. The Journ. of Allergy. 24:60,1953.

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Unger, A. H. and Unger, L. Annals of Allergy. 10:128,1952.

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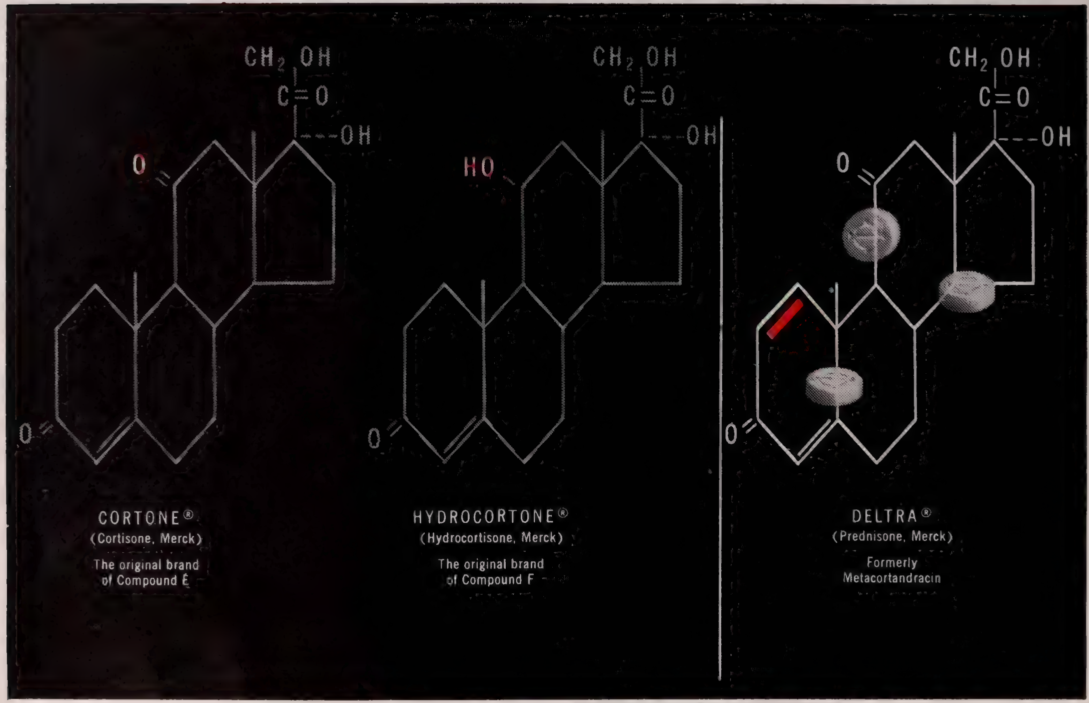
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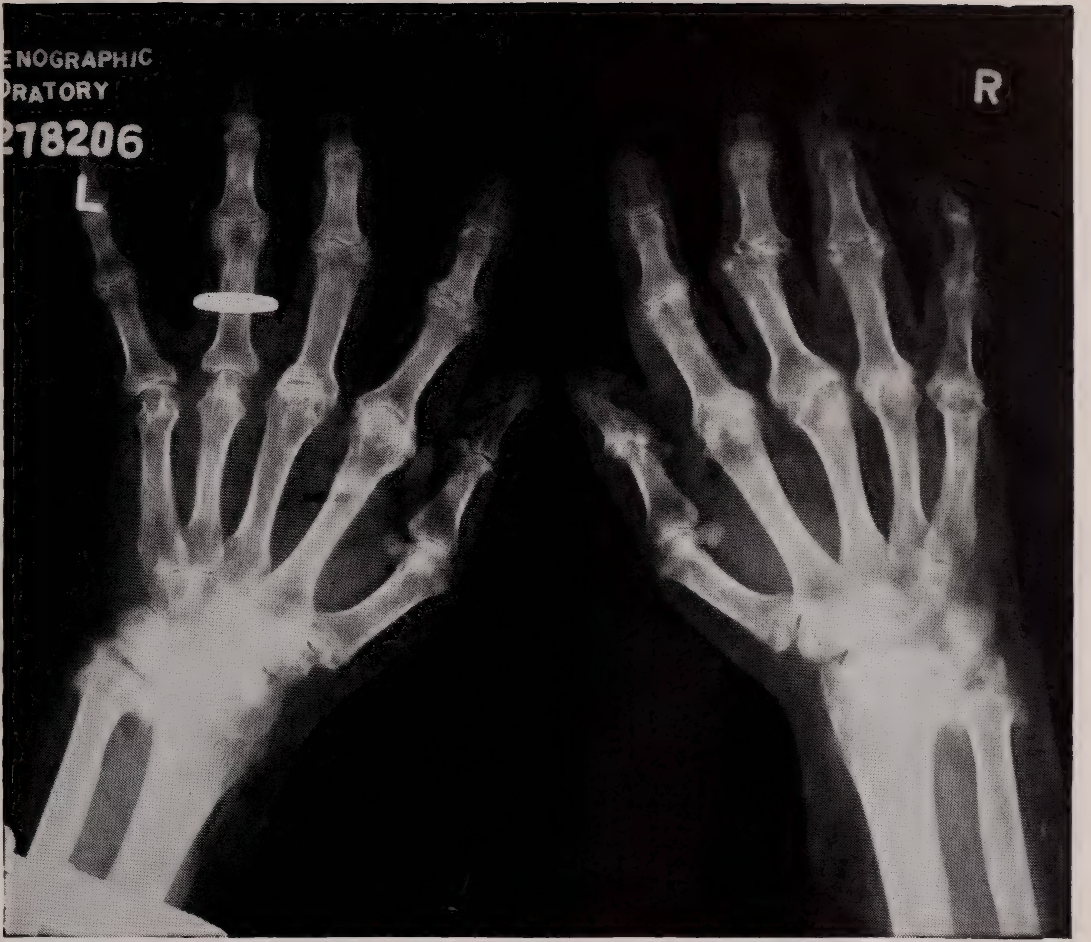

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References: 1. Fremont-Smith, P.: J.A.M.A. 158: 386, 1955. 2. J.A.M.A. 141: 124, 1949. 3. M. Times 81: 41, 1953.

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CHECK THE HIGH RATE OF RE-INFECTION FROM THE MALE

MARRIAGE PARTNER

IN VAGINAL TRICHOMONIASIS

"The available evidence indicates that one of every four or five adult women harbor the parasite . . . there are many recorded data suggesting coitus as a method of transfer."[1]

T.v. conquers man. "In the present study (926 men) there is a total of 144 cases harboring *Trichomonas vaginalis*. . . . This is a percentage incidence of 15.5. . . . The percentage incidence of non-specific urethritis cases which may be attributable to *Trichomonas vaginalis* was 36.9 percent."[2] Karnaky found the infection in the urethra and prostate and under the prepuce of 38 among 150 husbands with infected wives.[3]

Few symptoms—little concern. "The [female] patient seeks medical attention because of . . . leukorrhea . . . intense itching, dyspareunia and burning and frequency of urination."[4] However, when the male patient has an infection, he often considers the signs and symptoms as insignificant and accepts them with little or no concern.[5]

Protect the wife. In preventing re-infection, Trussell states, "Obviously a condom will be the most effective mechanical barrier. Eradication of the parasite in both sexual partners is of course the ideal."[1] Karnaky recommends that the husband wear a condom for four to nine months whenever *Trichomonas vaginalis* is resistant and recurrent.[6]

Prescribe top-grade condoms. To eliminate trichomonads "once and for all," take specific measures to win co-operation of the husband. In prescribing a condom, be selective and take advantage of Schmid product improvements.

When there is anxiety that the condom might dull sensation, the answer is to prescribe XXXX (FOUREX)® skins. Made from the cecum of the lamb, they feel like the patient's own skin, are pre-moistened and do not retard sensory effect. If cost is a consideration, prescribe RAMSES,® a transparent, tissue-thin, yet strong condom of natural gum rubber. SHEIK,® also a natural gum rubber condom, is even more reasonable in price.

Any husband, any wife, in your practice, would prefer to hand the druggist your *prescription* for a condom, rather than to ask for it "in public." Isn't that true? This is another instance of diplomacy in medicine to prevent an embarrassing situation. To assure finest possible quality and earn appreciation for your thoughtfulness, prescribe XXXX (FOUREX), RAMSES or SHEIK condoms by name. Prescribe Schmid protection for as long as *four to nine months* after the wife's infestation has cleared. The protection Schmid condoms afford is the very foundation of re-infection control.

References:

1. Trussell, R. E.: Trichomonas Vaginalis and Trichomoniasis, Charles C. Thomas, 1947, Springfield, Illinois. 2. Feo, L. G.: Am. J. Trop. Med. 24:195 (May) 1944. 3. Karnaky, K. J.: Urol. and Cutan. Rev. 42:812 (Nov.) 1938. 4. Kanter, A. E.: Postgrad. Med. 12:457 (Nov.) 1952. 5. Glen, J. E., Jr., and Bailey, R. S.: J. Urol, 66:294 (Aug.) 1951. 6. Karnaky, K. J.: J.A.M.A. 155:876 (June 26) 1954.

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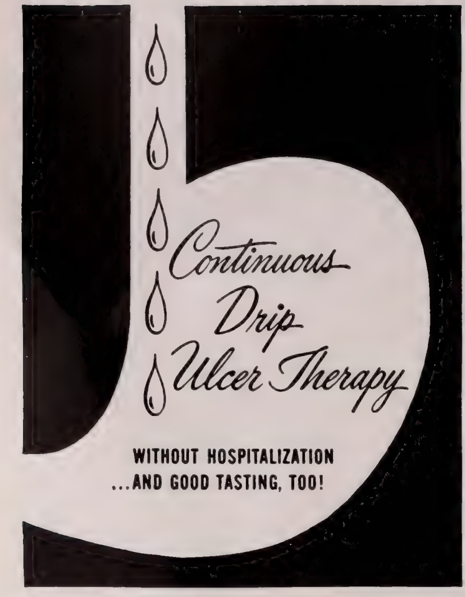
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WITHOUT HOSPITALIZATION
...AND GOOD TASTING, TOO!

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The delicately flavored tablets dissolve slowly in the mouth (not to be chewed or swallowed). They are not noticeable and do not interfere with speech.

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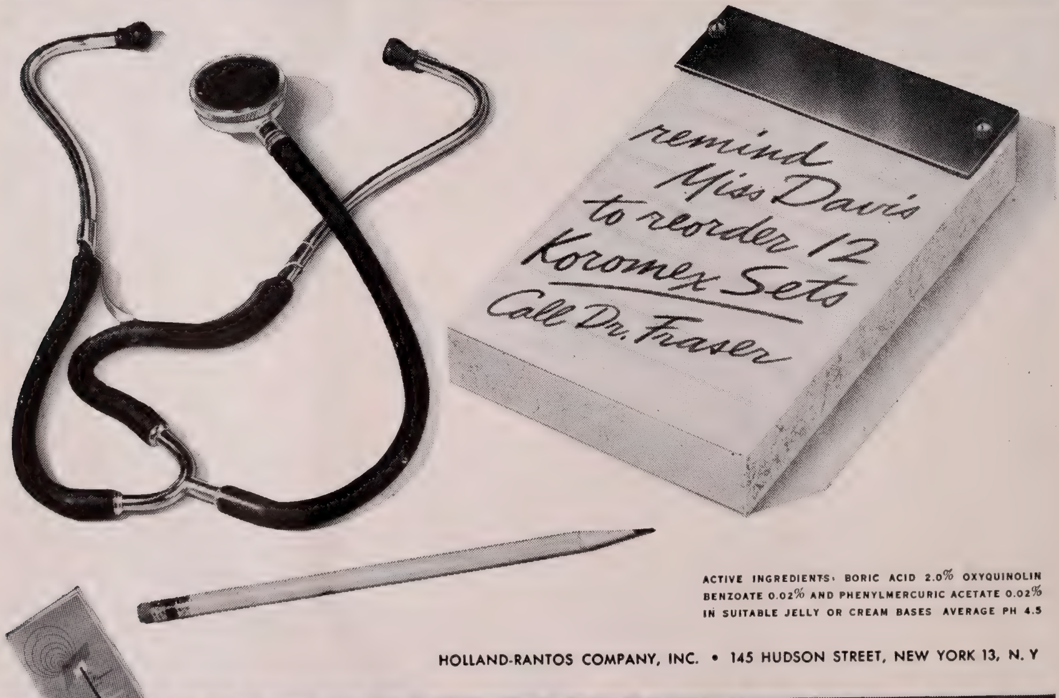
*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. *22*:67 (Mar.) 1955.

†Mg trisilicate 3.5 gr.; Ca carbonate 2.0 gr.; Mg oxide 2.0 gr.; Mg carbonate 0.5 gr.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1. Eisfelder, H. W.: Am. Pract. & Dig. Treat., 5:778 (Oct.) 1954.

2. Sebrell, W. H., Jr.: J.A.M.A., 152:42 (May) 1953.

3. Sherman, R. J., M.D.: Medical Times, 82:107 (Feb.) 1954.

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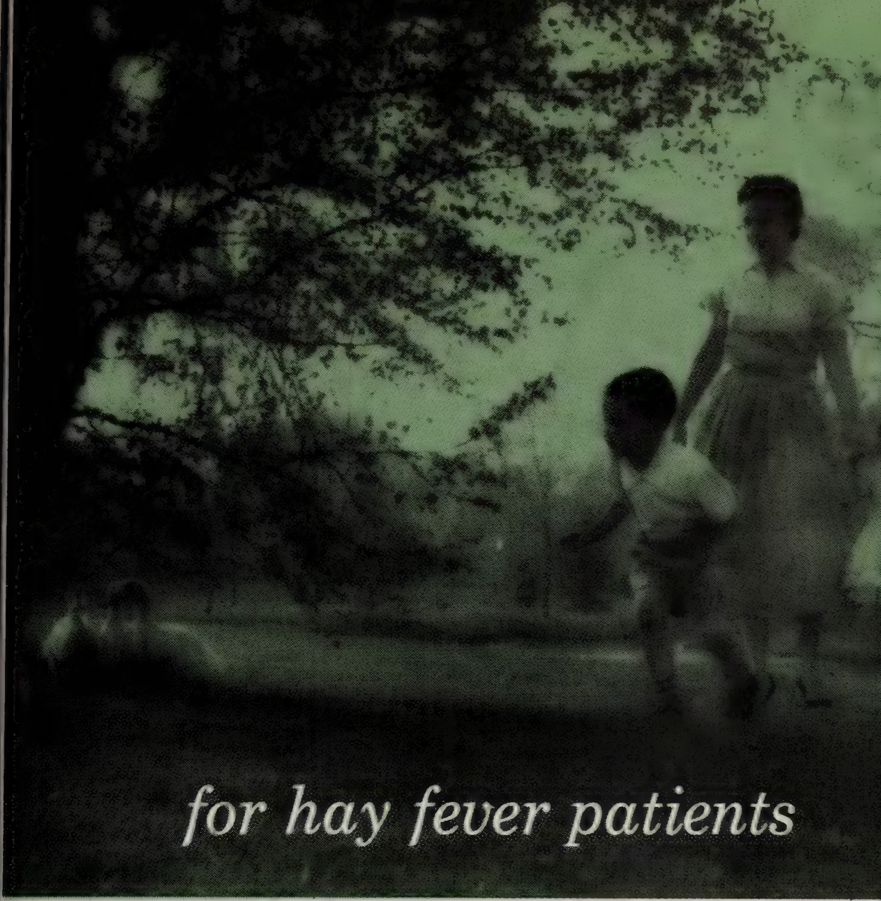
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Dose: Usually 1 or 2 pulvules every eight to twelve hours. Increase or decrease as needed.

Also: Suspension CO-PYRONIL
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E D I T O R I A L

Postwar Immigration

Recently, we commented upon an article, "The Educational Component of Medical Licensure," by Dr. Willard C. Rappeleye, Dean of the Faculty of Medicine of Columbia University.[1] In it he referred to the entry into this country of "large numbers of displaced persons. . . . They include a considerable number of physicians about whose professional ability no questions are asked."

How numerous are these immigrants? The Statistical Bulletin[2] of recent date says in part:

The number of immigrant aliens entering the United States during the postwar period has averaged nearly 190,000 a year. This is four times the annual average for the preceding fifteen years, during which time economic depression and war kept the international movement of population to a minimum. The number of recent immigrants, however, has been below the annual admissions in most years prior to 1931. In fact, during the heaviest influx—from 1903 through 1914—more than three quarters of a million people annually came into the United States, and in six of these years the number was more than a million. . .

People in the prime of life have constituted the majority of the postwar immigrants.

---

[1] NEW YORK STATE J. MED. **55**: 1848 (July 1) 1955.
[2] Metropolitan Life Insurance Co., Sept., 1954, p. 7.

During the eight-year period, two thirds of the arrivals have been in the age group eighteen to forty-nine. However, males have constituted a higher proportion of the immigrants to Canada than to the United States, the figures being 53 per cent and 43 per cent, respectively. The admission of war brides and fiancees of servicemen augmented the recent influx of women to both countries. The United States experience also reflects the quota preference for wives and relatives of immigrants already in the country.

Many of the people entering the United States do not settle there permanently. At times, in fact, emigrants outnumbered immigrants. For example, during the depression years 1932–1935, the number leaving the country exceeded the arrivals by 139,000. But even in normal years many migrants returned to their home country or remigrated. Since the end of World War II, for example, the number of emigrants has been equivalent to one eighth of the immigrants. Moreover, it is probable that as many as $12^1/_2$ million of the 41 million immigrants who came to the United States since its founding subsequently left the country.

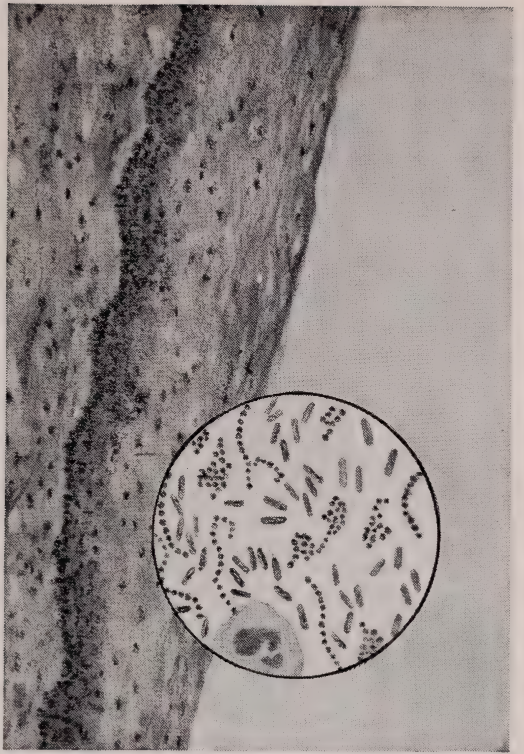
Much of the vitality of this nation has been contributed by previous and current immigration, and not a little of its genius. Such immigration has in the past and still does create some problems which time and understanding will eventually solve if they are faced courageously.

The matter of emigration on which the Statistical Bulletin touches has not been too widely publicized, apparently. Related to the 190,000 incoming persons during the postwar period, it means that some 23,750 persons have left the United States. It is possible that this centrifugal movement of people may modify the educational problems of medical licensure somewhat if it continues into the future.

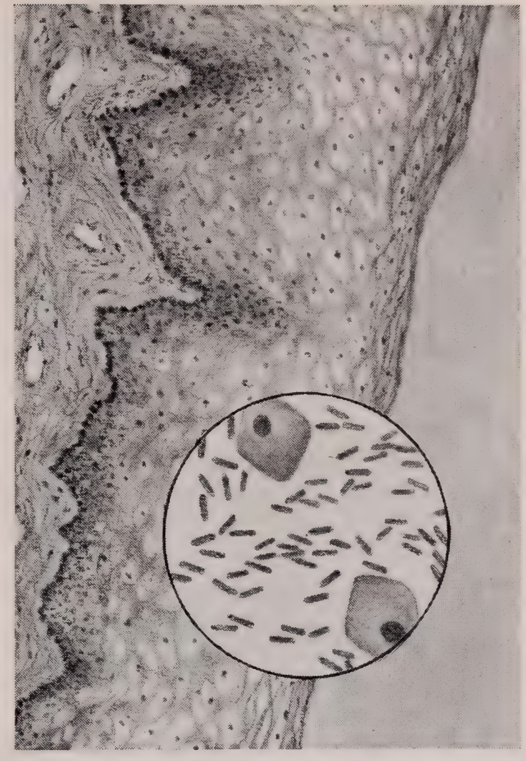
Announcement

Complete minutes of the 149th Annual Meeting of the Medical Society of the State of New York, held at the Hotel Statler, Buffalo, May 9 to 13, 1955, will appear as Part II of the September 1, 1955 issue of the JOURNAL.

FLORAQUIN® IN TRICHOMONIASIS



Senile vaginal epithelium is low in glycogen, low in acid and (inset) low in protective Döderlein bacilli, encouraging growth of pathogenic organisms.



Normal vaginal epithelium is high in glycogen, is definitely acid and (inset) contains adequate Döderlein bacilli to combat pathogenic organisms.

Restoring the Normal Acid Barrier

To discourage multiplication of trichomonads and to encourage physiologic protective mechanisms, a comprehensive therapeutic regimen with Floraquin is instituted.

The normal vagina, by reason of its acid reaction, is provided with a natural barrier against pathogenic microorganisms which require an alkaline medium. When the "acid barrier" is removed, a hypo-acid state results and growth of the protective, physiologic and nonpathogenic Döderlein bacilli is inhibited—to be replaced by such pathogenic organisms as the trichomonad, streptococcus, staphylococcus, colon bacillus and Monilia candida.

As infection develops, the epithelial cell layers, which normally number between forty-five and fifty-five, may decrease to as few as fifteen to twelve layers or may disappear entirely. With this loss of glycogen-bearing cell layers, the available carbohydrate released by physiologic desquamation into the vaginal secretion and ultimately converted into lactic acid is proportionately decreased.

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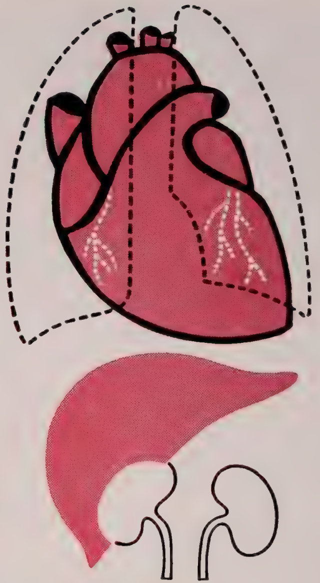

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SCIENTIFIC ARTICLES

Evaluation of Drug Therapy of Hypertension

Experience with Ansolysen, Hexamethonium, Apresoline, and Reserpine

MARVIN MOSER, M.D., SCARSDALE, NEW YORK

During the past five years a dramatic change in the physician's approach to the treatment of hypertension has occurred. He is no longer placed in a position of offering only palliative therapy, drastic dietary management, or extensive surgery to the patient with severe hypertension. Elevated blood pressure can now be effectively lowered and some of the sequelae of hypertension delayed or prevented in a fairly large percentage of cases by the controlled administration of one or more of the presently available, highly potent antihypertensive agents. These drugs are not ideal or universally effective. They are not without side-effects and do not correct the basic factors producing hypertension, but until more "perfect" agents are forthcoming, their use should be encouraged in selected cases. It has now been demonstrated that the long-term, continuous administration of the most effective of these drugs, Ansolysen (pentapyrrolidinium), hexamethonium, Apresoline, and reserpine, is feasible, not only in the larger medical centers but in the private practice of medicine.[1-3]

Unfortunately, the appraisal of the results of any method of therapy of hypertensive cardiovascular disease is extremely difficult since our major criterion of effect, the blood pressure, is subject to so many variable factors. For this reason all results of drug therapy must be classified as preliminary until a satisfactory long-term follow-up period has elapsed. Careful comparative studies must then be carried out to determine accurately whether or not survival rates are improved by this form of treatment as compared with the surgical or dietotherapy of hypertension.

Some preliminary observations would appear justified, however, concerning the use of Apresoline, hexamethonium, reserpine, and Ansolysen during the past four years. These observations will be based on our own experience with over 150 hypertensive patients and the experience of other physicians as reported elsewhere.[1,2,4,5]

Should Hypertension Be Treated?

It has been pointed out in several carefully controlled long-term studies of the natural history of hypertension that the disease is relatively benign in many instances.[6,7] This is especially true in women who are often able to tolerate extremely high levels of blood pressure for many years without any secondary effects on the heart, kidney, or cerebral circulation.[8] A thirty-five-year follow-up of a group of twenty-five-year-old men with transient blood pressure elevations and no organ involvement has also demonstrated only a slightly greater (3 per cent) increase in cardiovascular disease as compared with the general population.[9] Griep *et al.*[10] in another study have demonstrated that over a ten-year period there is only a 20 per cent mortality in patients with definite fixed hypertension without cerebral, renal, or cardiac complications. A mortality of 80 per cent occurs, however, if these complications are present. White's series of 100 patients with cardiovascular complications of hypertension followed for from three to seven years also revealed an 82 per cent

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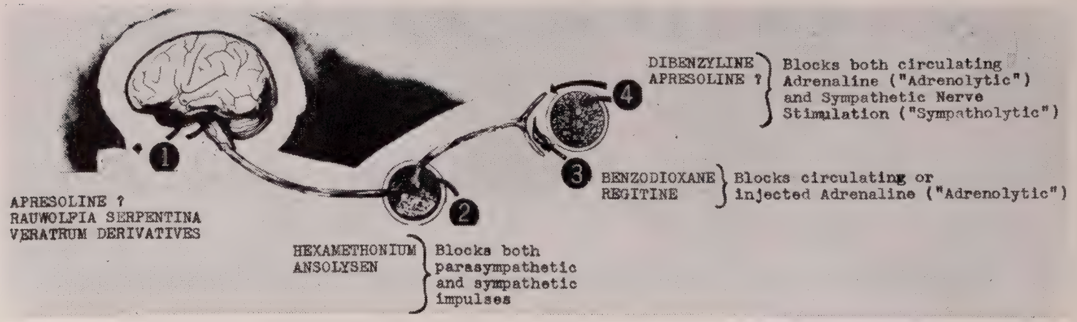
DIBENZYLINE
APRESOLINE ?
Blocks both circulating Adrenaline ("Adrenolytic") and Sympathetic Nerve Stimulation ("Sympatholytic")
4
1
3
BENZODIOXANE
REGITINE
Blocks circulating or injected Adrenaline ("Adrenolytic")
APRESOLINE ?
RAUWOLFIA SERPENTINA
VERATRUM DERIVATIVES
2
HEXAMETHONIUM
ANSOLYSEN
Blocks both parasympathetic and sympathetic impulses

FIG. 1. Site of action of the commonly employed autonomic blocking agents. Although the ideal site of blockade for the treatment of hypertension would be the periphery (at the cell) where a "sympathetic" block could be achieved, practically the most potent drugs produce their effect at the ganglion (Ansolysen and hexamethonium).

mortality.[11] It is in this latter group of patients that vigorous therapy is indicated. This is especially true when hypertension with cardiovascular, renal, or cerebral changes is observed in young males or in Negro individuals.

The onset of hypertension in elderly patients is usually benign, as is the occurrence of an elevated blood pressure on the basis of arteriosclerosis (diastolic pressure rarely over 100 mm. of Hg). These patients obviously do not usually require energetic therapy unless careful follow-up reveals a definite progression of organ system changes and increasing blood pressure levels.

Before attempting to treat any patient with hypertension the above factors of age of onset, sex, race, rate of progression, organ system involvement, and family history must be considered in order to answer accurately the question, "Is the risk and the time and expense justified, or will the patient do just as well without specific treatment?" Once the decision to treat a patient is made, the objectives of therapy and the type of treatment must be decided upon.

Objectives and Rationale of Therapy

Blood pressure should be lowered because elevated pressure (1) increases cardiac work and contributes to cardiac hypertrophy and cardiac failure, (2) increases the rate of development of atherosclerosis, (3) contributes to pathologic changes in the kidney, and (4) possibly contributes to rupture of arteries already diseased (cerebral hemorrhage, dissecting aneurysm).

In carefully selected cases (i.e., some risk inherent in therapy is justified in view of an unfavorable prognosis), blood pressure should be lowered to levels that will prevent the above complications but will not result in serious side-effects, hypotensive reactions, or excessive reduction of blood flow to vital organs. Ideally, therapy should be aimed at a twenty-four-hour effect in both the recumbent and upright positions. Since hypertension is most probably sustained by both neurogenic and nephrogenic (hormonal) factors, attempts to control each of these should be made. If the neurogenic or "vasospastic" factors can be controlled, it is believed that renal ischemia may be lessened, the release of various pressor substances by the kidney decreased, and permanent organ damage prevented. Therapy with autonomic blocking agents is primarily aimed at the neurogenic factor of hypertension.

Although agents, such as the veratrum, dihydroergot, and dibenamine derivatives are potent sympathetic blocking agents, their use in the treatment of hypertension is limited because of the development of side-effects or tolerance to drug effect. We have utilized these drugs alone and in combination and do not believe that they have a place in the long-term management of the disease. Reserpine, Apresoline, hexamethonium, and Ansolysen are, in our opinion, the most promising antihypertensive agents presently available (Fig. 1). A new ganglionic blocking agent, an isoindoline derivative, designated SU-3088,* may also prove to be of great value in the therapy of hypertension, but experience with it is limited.

Reserpine

Reserpine† is one of the active alkaloids contained in the whole root of Rauwolfia serpentina.**

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* Ciba Pharmaceutical Products, Inc., Summit, New Jersey.

† Supplied as Serpasil by the Ciba Pharmaceutical Products, Inc., Summit, New Jersey.

** Supplied as Rauwiloid by the Riker Laboratories, Inc., Los Angeles, California, and as Raudixin by E. R. Squibb & Sons, New York City.

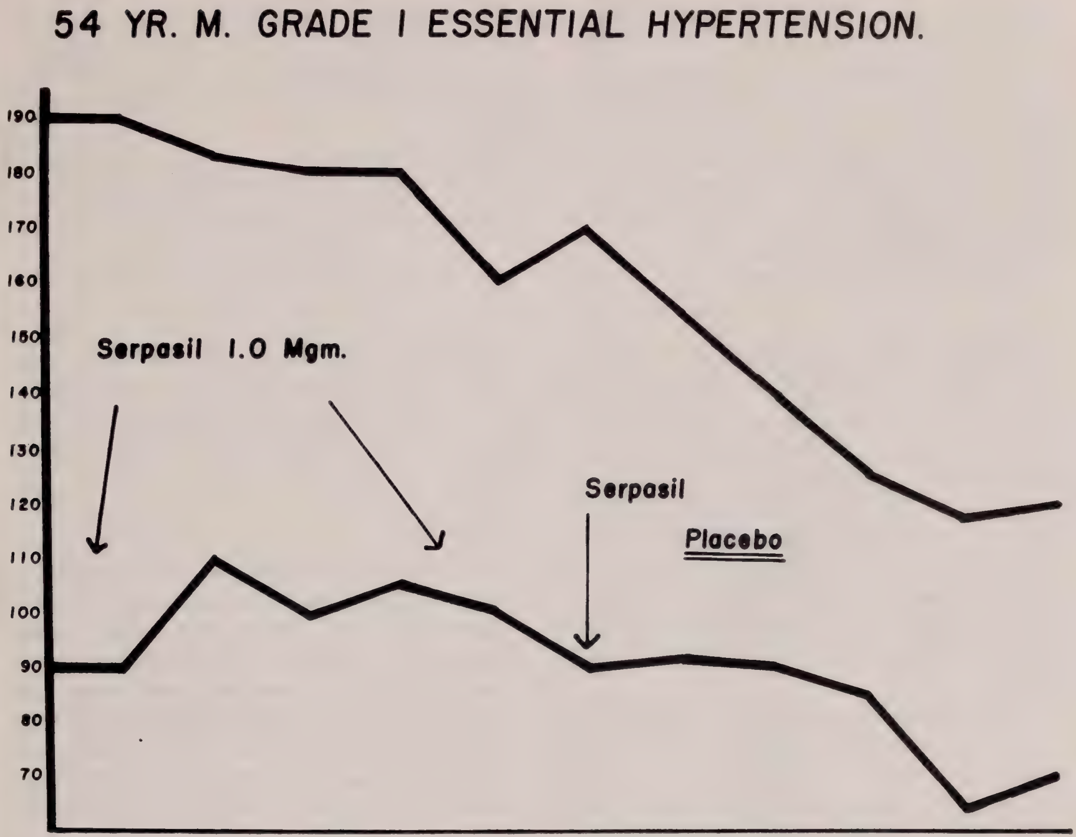

FIG. 2. Early labile essential hypertension. No response to Serpasil after three and one-half months of treatment. Reassurance and continuous placebo administration have produced a good blood pressure response.

It is a mild antihypertensive agent which most probably exerts its effect by an action on the cerebral sympathetic centers. A direct action on blood vessels has also been suggested.[12] The drug produces a bradycardia, nasal congestion, and some increase in gastrointestinal activity. The fact that blood pressure may be reduced below the so-called "basal" pressure noted after sedation strongly suggests that reserpine has an active hypotensive effect and does not merely act as a sedative.

The drug is nontoxic and produces few side-effects. Occasional diarrhea, nightmares, nasal stuffiness, tremors, depression, and weight gain are the most common. The latter effect further suggests some hypothalamic action of eserpine. Bronchospasm and exacerbation of ulcerative colitis have also been reported in occasional patients.[2] The administration of Rauwolfia and its derivatives is safe in older patients, and careful control of the patient is not necessary as it is with the more potent drugs.

Results with the use of this agent alone in patients with progressive or severe Grade II, III, and IV hypertension** have been extremely disappointing, and only a rare patient will show a significant response following the use of tolerated doses (0.5 to 1.5 mg. per day of reserpine; 50 to 250 mg. of the whole root). In early labile Grade I or nonprogressive Grade II hypertension with minimal cerebral, renal, and cardiac involvement, some blood pressure and symptomatic response has been noted in approximately 25 per cent of the patients treated.[2,3] In appraising the results obtained with a drug such as reserpine, careful observation and placebo substitution are necessary. In treating early labile hypertension it is often the doctor's enthusiasm or establishment of doctor-patient rapport that lowers blood pressure

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** Keith-Wagener-Barker classification.

TABLE I.—SUGGESTED APPROACH TO THE TREATMENT OF HYPERTENSION*

Degree of Hypertension	Symptoms	Initial Therapy	Additional Therapy
Mild, labile, Grade I†	None or minimal	Sedatives Rauwolfia	Usually none
Grade II† or III,† not progressive	Minimal to significant	Rauwolfia	Add Apresoline
Grade II, III,† or IV,† progressive	Significant to severe	Oral Ansolysen** and Rauwolfia	Add Apresoline
Hypertensive encephalopathy	Severe	Parenteral hexamethonium** or Ansolysen**	

* The more potent drugs, Apresoline, hexamethonium, and Ansolysen, are not used in patients with early, labile, or nonprogressive hypertension.

† Keith-Wagener-Barker classification.

** With caution if renal insufficiency.

and not the administered therapeutic agents. For example, a fifty-four-year-old, white male with Grade I hypertension of two years duration was being treated with Serpasil, 1.0 mg. per day. A significant blood pressure response was not noted (Fig. 2), but the patient was told that he was doing very well. After three and one-half months of therapy placebos were substituted. During the next few months pressure continued to fall. At present the blood pressure is within normal limits, and placebo therapy is being continued.

In other instances reserpine has definitely produced blood pressure lowering in excess of that noted with sedatives and bed rest. Although the drug is not effective in many instances, it is worth trying in early labile hypertension or in elderly patients with marked arteriosclerotic changes where more potent agents might produce severe reactions.

The major use of reserpine has been in combination with Apresoline in Grade II or III nonprogressive hypertension or with Ansolysen or hexamethonium in progressive Grade II, III, and IV hypertension. A suggested approach to the use of these drugs in various grades of hypertension is outlined in Table I. Doyle *et al.*[2] report that in 53 of 69 cases treated with Ansolysen and reserpine, the effect of the more potent drug (Ansolysen) was enhanced and the dosage and side-effects lessened (after reserpine was added). These observers feel that at present this combination of therapy is the most satisfactory for the treatment of severe hypertension. Our own experience has been similar, and at present we routinely use reserpine in combination with any other drug that is employed. Although the side-effects of Apresoline are reduced when reserpine is used in combination with it, our results have been poor in patients with renal or progressive hypertension. Naegale *et al.*[13] report similar findings but note "good" results in "most" patients with mild to moderately severe hypertension with this combination. In our experience only about 40 per cent of cases with Grade II, nonprogressive (mild to moderately severe) disease respond to this therapy.

Apresoline

Apresoline (hydralazine)* is one of a group of drugs which affects the "nephrogenic" factors of hypertension. Pherentasin and other pressor substances are inhibited by Apresoline which, when given in large doses, may also have a central and peripheral blocking effect upon the sympathetic nervous system.[1] Blood pressure is lowered considerably, but renal and cerebral blood flow are not decreased when the drug is administered parenterally.

Apresoline potentiates the action of histamine indirectly by its antihistaminase activity and thereby produces numerous side-effects. Most of these are of no great significance; occasionally they are severe and potentially dangerous. Among these effects are the following:

1. Headaches which usually disappear after ten to fourteen days of therapy and are often partially relieved by antihistaminic compounds.
2. Tachycardia which usually disappears after two to three weeks but may persist and cause increasing angina or contribute to the initiation of congestive heart failure. (Therapy may have to be stopped.)
3. Ankle and periorbital edema and stuffy nose; these may be partially eased by antihistaminic compounds.
4. Joint aches and pains, with or without fever and positive "L.E." preparations; these findings will usually disappear when the drug is stopped. Three patients in our series who experienced this "rheumatoid-like" syndrome had all been on Apresoline for more than twelve

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* Supplied by the Ciba Pharmaceutical Products, Inc., Summit, New Jersey.

months. In one, symptoms persisted after the drug was stopped, the "L.E." preparation was negative, and the exact causal relationship between the drug and the symptoms was not established.

Perry, Schroeder, and Morrow[14] and Dustan *et al.*[15] report the occurrence of this "collagen-like disease" syndrome in from 8 to 10 per cent of patients on long-term therapy.

We have not used Apresoline in early labile or Grade I hypertension and do not feel that the use of a potentially toxic drug is justified in patients whose blood pressure may be elevated but whose prognosis is good. When given orally in patients with nonprogressive Grade II or Grade III hypertension, Apresoline will rarely produce normotension or even a sustained significant lowering of blood pressure. When utilized in combination with reserpine in milder cases and hexamethonium or Ansolysen in severe hypertension, however, the drug will contribute to the effectiveness of these agents. The use of the reserpine combination will allow for a greater tolerance to Apresoline and, as noted before, a good result in about 40 per cent of patients without renal or advanced cardiovascular changes. We do not use Apresoline in patients with proved coronary insufficiency since angina may be increased. The use of the drug in combination with hexamethonium or Ansolysen will be discussed in detail below. Apresoline is absorbed when given orally and is effective for approximately four hours. Adjustment to proper dosage may require many weeks; tolerance to drug effect develops quickly but may usually be overcome by increasing the dosage. The average effective dose of the drug when utilized in combination with other agents is between 300 and 500 mg. per day given in four divided doses.

Hexamethonium

Hexamethonium* is a potent ganglionic blocking agent that is capable of lowering blood pressure to any desired level regardless of the severity of the hypertension. Effect is produced by blocking sympathetic vasoconstrictor impulses. Unfortunately, parasympathetic impulses are also blocked and side-effects produced. Absorption from the gastrointestinal tract is incomplete, only about 10 per cent of the drug being absorbed. Excretion of hexamethonium occurs within a relatively short time (50 per cent of an ingested dose within ten hours), and duration of effect is only four to six hours.[14] In patients with renal insufficiency, blood levels of the drug may persist for many hours with an enhanced blood pressure-lowering effect.

Parenteral hexamethonium (15 to 60 mg.) has proved to be an extremely valuable agent for the treatment of hypertensive encephalopathy or rapidly progressive malignant hypertension. Blood pressure may be lowered and symptoms alleviated within a matter of minutes in many of these cases. Intramuscular administration or a slow intravenous drip (1 mg. every one to two minutes) may be utilized. This method of treatment has been described elsewhere. In many instances patients have been "tided over" critical periods by the intermittent (every four to six hours) parenteral administration of hexamethonium until oral therapy could be instituted. We have seen several dramatic examples of recovery from semicomatose or comatose states following acute blood pressure lowering with this agent. Drug administration *must* be controlled carefully and the patient kept in the recumbent position for from one and one-half to two and one-half hours after each dose in order to avoid severe postural hypotension. It is our impression that patients with the most severe hypertension are most sensitive to drug effect. Although the elevated blood pressure of patients with renal insufficiency may respond to therapy, these patients invariably do poorly, and consequently the objective of therapy should be symptomatic relief only and not blood pressure lowering.

We do not feel that long-term parenteral therapy is practical and consequently have not utilized this method of treatment as extensively as other observers. The oral administration of hexamethonium is feasible but presents many difficulties. Major deterrents to its use are the following:

1. *Poor Absorption.*—The administration of a definite dose at a certain hour does not always produce an effect when desired.

2. *Side-effects.*—There are several important undesirable effects of the drug.

(*a*) Blurring of vision and impotence: These are common and occasionally severe enough to cause difficulty. In our experience, however, only two patients have refused to continue with medication because of either of these effects.

(*b*) Constipation: This may occasionally be severe and persistent with "paralytic ileus." Most often, however, it can be controlled by the routine daily use of a laxative (cascara, milk of magnesia). In no instance should a patient continue to take oral hexamethonium if constipation is not controlled. A bowel movement must occur at least once every other day, or therapy should be stopped or the dosage greatly reduced. We have not observed a serious or fatal reaction in patients who have adhered to this program. If constipation occurs, the accumulation and subsequent absorption of large quantities of the drug will result in a profound lowering of blood pressure with all of the possible sequelae.

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* Supplied as Methium by the Warner-Chilcott Laboratories, New York City.

(*c*) Chilliness: This is occasionally quite annoying to the patient but can be controlled by the use of extra clothing, blankets, etc.

3. *Postural Hypotension and Syncope.*—Some postural hypotension is the desired and expected effect of hexamethonium therapy. If the above precautions regarding constipation are followed, the degree of hypotension can be controlled. The patient should be instructed to lie down or sit down immediately and reduce or eliminate the next dose of the drug if he experiences any feelings of weakness, dizziness, lightheadedness, or nausea. All patients should be carefully instructed not to stand still for prolonged periods of time, especially at cocktail parties, at the beach, and in other instances where peripheral vasodilatation may contribute to the degree of postural hypotension. It often requires a great deal of "juggling of doses" and persistence and effort on the part of both the physician and the patient to achieve a satisfactory fall in blood pressure without this side-effect, but it usually can be done. We have had only a few isolated instances of syncope, and no serious accidents have occurred in our patients who have followed this regimen; all of these episodes occurred because the patient did not heed definite warning signs.

4. *Interstitial Pneumonia.*—This serious complication has been observed in a small number of patients with malignant hypertension who were receiving hexamethonium.[1] It may represent a reaction to the drying effect of the drug on bronchial secretion, may be coincidental, or may result from some unknown action of the drug. Further study of this possible complication is necessary.

In progressive Grades II, III, or IV hypertension the long-term oral administration of hexamethonium in combination with reserpine and/or Apresoline has produced excellent results in approximately 35 per cent of the patients we have treated. A "good" or "excellent" result implies (1) a persistent lowering of blood pressure (diastolic lowering in excess of 15 to 20 mm. of Hg), (2) an alleviation of symptoms if present, and (3) a failure of the hypertensive process to progress as expected from our present knowledge of the natural history of the disease. In some patients blood pressure lowering has not been consistent, reactions to the drugs have not allowed an increase in dosage to effective levels, or blood pressure has been lowered but the length of time on therapy has not been sufficient to allow for an appraisal of results.

Other observers have reported a much greater degree of success with combined hexamethonium-Apresoline-reserpine therapy utilizing the technic of home blood pressure recording.[1] The patient or a member of the family records the blood pressure before each dose of medication and adjusts the dosage accordingly. Although there may be an element of safety in this method, we feel that the hypertensive patient has already focused enough of his attention on his blood pressure, and the psychologic effect of increased "blood pressure consciousness" is extremely detrimental to an already anxious individual. The results obtained by the home blood pressure method, as opposed to our method of pressure recording in the hospital, clinic, or office by a nurse or physician, may actually be quite different and may account for the different statistics published by different investigators. It is a common experience, for instance, to find home blood pressure lower than pressures recorded by nurses. These in turn are usually less than those recorded by a physician.

All of these factors must be considered in evaluating any results of therapy. In most instances the follow-up period of patients on therapy has been too short to classify results conclusively regardless of the method of study employed.

The average dose of hexamethonium that we have utilized has been between 2 and 3 Gm. daily in four divided doses. In several cases the dosage has been progressively decreased after the first year of therapy to 1 Gm. daily without loss of effect. In patients with renal insufficiency dosage adjustment is difficult, and if a rising blood urea nitrogen is noted, hexamethonium should be stopped.

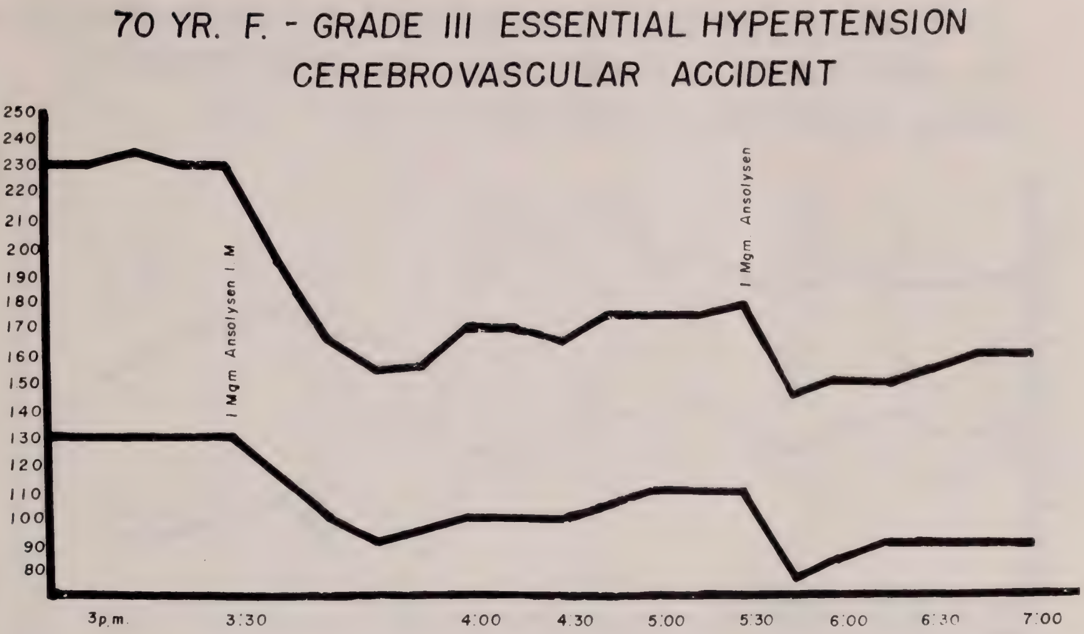

Fig. 3. *Case 1*—Dramatic blood pressure response to a small parenteral dose of Ansolysen in an elderly female with a recent cerebrovascular accident. Care should be exercised in lowering blood pressure in these individuals.

Ansolysen

Ansolysen* is similar to hexamethonium, is an extremely potent ganglionic blocking agent, and at present is the most effective antihypertensive agent available. Experience with Ansolysen has been limited to the past nine months, but certain preliminary comments regarding this compound appear to be justified.

Ansolysen is approximately four to five times as potent as hexamethonium when administered parenterally and two to three times as potent orally. Its administration presents many of the same difficulties as that of hexamethonium, but the lower dosage required to reduce blood pressure may account for the fact that the degree of parasympathetic blockade produced is less with Ansolysen. Absorption of the drug is irregular, but constipation is not a serious problem since the decrease in intestinal motility may be counteracted by the use of pilocarpine nitrate or Urecholine (5 to 10 mg. three times daily). Blurring of vision is occasionally severe, but impotence has not been a serious problem with Ansolysen therapy, especially if the parasympathetic-stimulating agents are used concurrently. Ansolysen has proved to be an easier and safer drug to administer to patients who must remain on therapy and continue their daily activities. In our experience the duration of action of this drug has not been significantly longer than that of hexamethonium. Parenterally, Ansolysen is effective in doses of 1 to 10 mg. Administration must be carefully controlled to prevent severe hypotension.

We have utilized Ansolysen parenterally in hypertensive encephalopathy and in patients with cerebrovascular accidents; a dramatic example of the drugs effectiveness is illustrated by the following case.

Case 1.—A seventy-year-old female was admitted to the hospital with a history of unresponsiveness for several hours. Evidence of right-sided paralysis was present; the patient was unable to answer questions but responded to painful stimuli. Blood pressure varied between 210/120 and 230/130, and the spinal fluid was normal (Fig. 3). Shortly after admission 1 mg. of Ansolysen was given intramuscularly. Within thirty minutes the blood pressure had fallen to 155/85; the patient was able to respond to questioning and recognized her daughter who had been standing by her bedside during the entire time. The patient was maintained on Ansolysen, 1 to 2 mg. every three to six hours, blood pressure was kept at 150/90 to 170/100 for the next thirty-six hours, and she made an uneventful recovery.

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* Supplied by Wyeth Laboratories, Philadelphia.

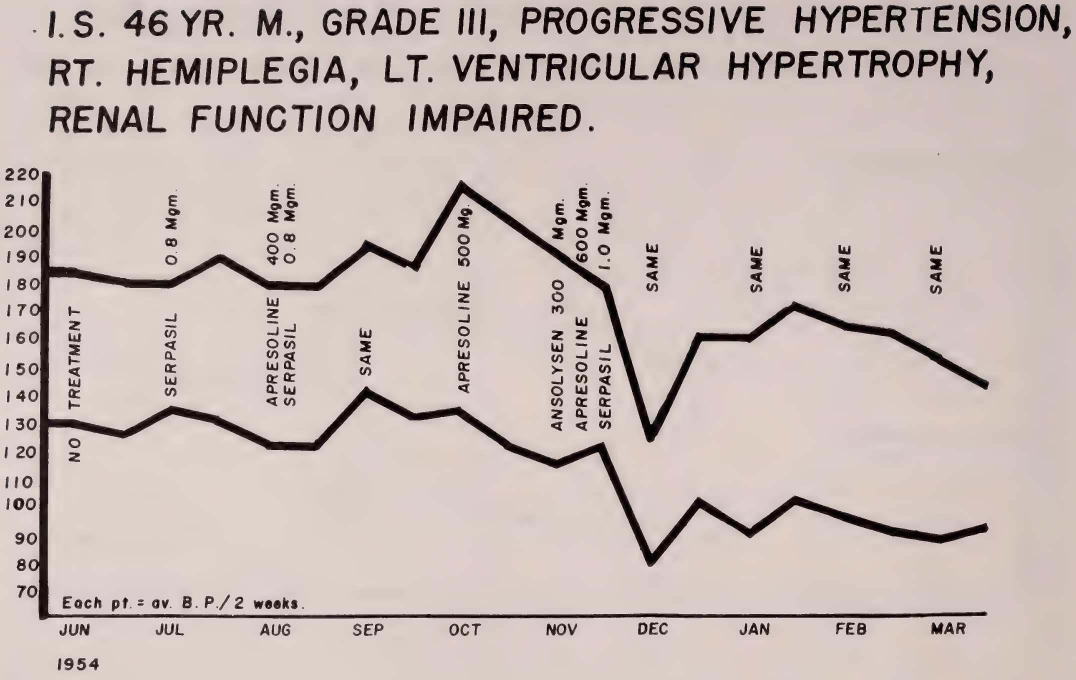

FIG. 4. *Case 2*—Good long-term response to combined Ansolysen-Serpasil therapy. Patient has remained ambulatory and is essentially asymptomatic.

Although such experiences may represent coincidence and the return of responsiveness of the patient may have nothing to do with blood pressure lowering or change in cerebral vascular resistance, we have seen several patients during the past three years who responded in a similar manner to acute blood pressure lowering with hexamethonium or Ansolysen. Extreme caution must be exercised in treating elderly individuals by this method since cerebral blood flow may actually be decreased if blood pressure is lowered too rapidly.

Oral Ansolysen in combination with Apresoline and reserpine currently represents the safest, most effective medical therapy for the patient with progressive, severe, essential or malignant hypertension (Table I). Although only a small series of patients has been treated thus far, it can be expected that results with this drug will be superior to those obtained with combination hexamethonium therapy in view of the greater patient acceptability of Ansolysen and fewer side-effects of the drug. Good results are not to be expected in patients with azotemia or severe degrees of arteriosclerosis, but occasionally a patient with renal functional impairment and some urea retention will respond to therapy.

CASE 2.—A forty-six-year-old, white male was referred to the clinic with a history of hypertension of three to four years duration, cardiac hypertrophy, and recurrent episodes of congestive heart failure of two years duration and a cerebrovascular accident resulting in a right hemiplegia six months before. Blood pressure ranged between 170/130 and 230/160; left ventricular hypertrophy was present, and a 1 to 4 plus albuminuria with a maximum urine specific gravity of 1.020 was noted. Total two-hour phenol red excretion was 36 per cent, and the blood nonprotein nitrogen varied between 60 and 90 mg. per cent. Funduscopic examination revealed arteriolar nicking, hemorrhages, and blurring of the disk margins, a Grade III to IV retinopathy. Blood pressure following Sodium Amytal fell to 160/115.

Following an attempt at regulation of blood pressure with Serpasil (0.8 mg.) and Apresoline (500 mg.), the patient was placed on increasing doses of Ansolysen (Fig. 4). At present he is being maintained on Ansolysen, 300 mg. daily in four divided doses, Apresoline 600 mg., and Serpasil 1.0 mg. An excellent blood pressure response was noted following the initiation of Ansolysen therapy, and the patient has done remarkably well with blood pressures of 130/80 to 170/90 for the past four months. Exertional dyspnea has disappeared; funduscopic examination shows clearing of the hemorrhages and

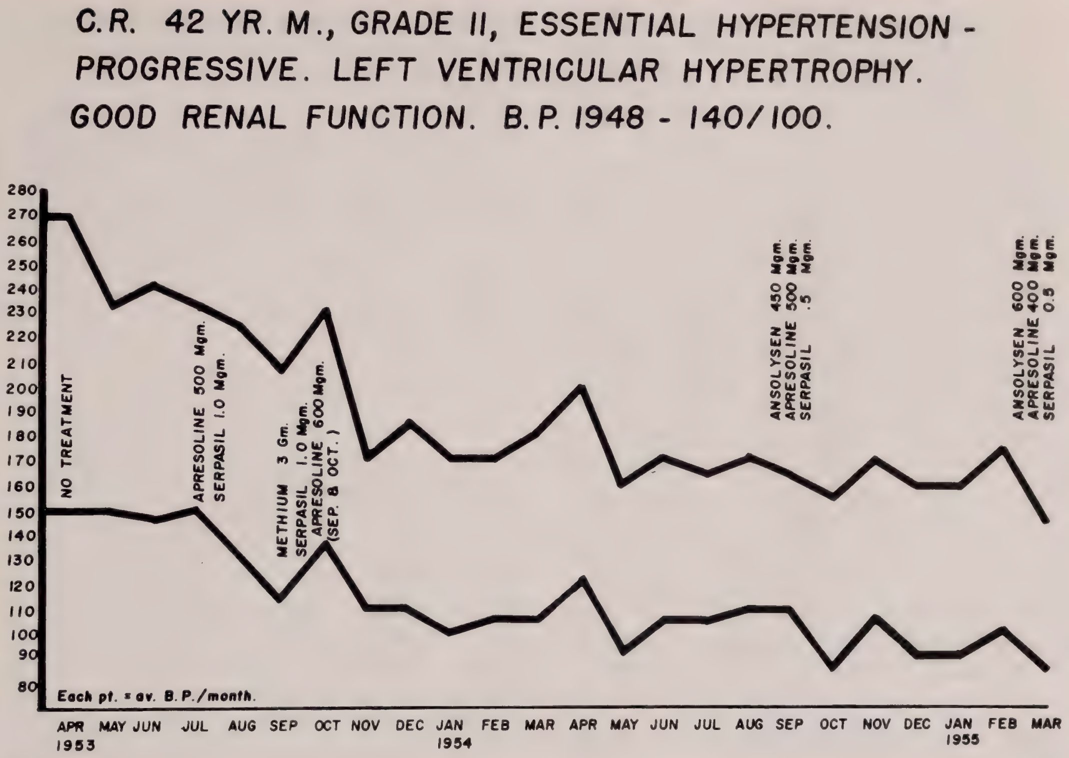

FIG. 5. *Case 3*—Excellent long-term response to combined hexamethonium or Ansolysen-Apresoline-Serpasil therapy.

sharp disk margins, and the blood nonprotein nitrogen has not risen above 50 mg. per cent. The patient is asymptomatic and with the exception of chilliness has had no side-effects from the drugs. He has taken 5 mg. of pilocarpine nitrate three times daily since Ansolysen was started.

This patient appears to have obtained an excellent response to therapy, but whether or not his survival time will be increased can only be determined by careful follow-up studies.

Another patient illustrates the ease of substitution of Ansolysen for hexamethonium (Methium) and an excellent result from combined therapy.

CASE 3.—A forty-two-year-old, white male with hypertension of five years duration presented with blood pressures of 210/140 to 270/160, left ventricular hypertrophy, good renal function, and narrowing of the arterioles and arteriovenous nicking on funduscopic examination (Fig. 5). Because of a rapid rise in blood pressure he was classified as Grade II progressive hypertension. Therapy with Apresoline (500 mg.) and Serpasil (1 mg.) produced a minimal blood pressure fall, and hexamethonium was added to the regimen (3 Gm. per day) in four divided doses.

The patient was maintained on this therapy for one year with an excellent blood pressure response. The electrocardiogram showed a change from inverted to upright T waves in leads I, aVL, V_5, and V_6. The patient, however, continued to experience marked impotence despite Urecholine therapy, and consequently he was placed on Ansolysen (450 mg. per day). He has continued on this therapy (Ansolysen 600 mg., Apresoline 400 mg., and Serpasil 0.5 mg. per day) for seven months. Blood pressures have varied between 120/70 to 180/100, impotence has been relieved, and with the exception of chilliness and an occasional "sinking feeling" the patient is asymptomatic.

Unfortunately, results such as the above are not obtained in all patients, and even in those who eventually get a "good" result, it is not as easily obtained.

Comment

Whenever a new method or drug is introduced for the treatment of a disease with an unknown etiology and a course which is predictable only from knowledge of "statistical" follow-up studies, the method must be subjected to careful study. The drug therapy of hypertension is relatively new, and results must be critically analyzed, therefore, before a final opinion can be forthcoming. Until that time, however, the drugs that appear to be effective—Ansolysen, hexamethonium, Apresoline, and reserpine—should be utilized in selected cases, and any new agents that are introduced should be carefully appraised.

Many physicians have been reluctant to use effective drugs in the treatment of hypertension because of possible serious side-effects. They point out that they have seen patients, especially women, who have tolerated high blood pressure for many years without ill effects and that it would be wrong to risk serious reactions or, for that matter, any real discomfort to treat them. Many patients with hypertension *should not* be treated, and the use of reassurance and mild sedatives will produce as good a long-term result as any other therapy in these individuals. However, when presented with a patient with progressive disease or cardiovascular complications, it is necessary to initiate treatment which, of necessity, may cause side-effects.

Once the decision to treat a patient is made (some risk is justified in view of the unfavorable prognosis), the physician and patient must be prepared to "battle through" the inevitable side-effects of any therapy that is given. Many patients are treated without preliminary instructions and are disturbed by the unexpected side-effects. Properly instructed patients will continue treatment.

Although many patients, especially those with arteriosclerotic changes, will experience side-effects during the initial period of treatment and feel quite ill for days or weeks during the period of blood pressure lowering, the absence of serious reactions during this period seems to refute the idea that a "high blood pressure" is necessary in these individuals to allow adequate cardiac, cerebral, and renal blood flow. After an initial period these patients are able to go about their daily tasks without too much difficulty despite the fact that pressure has been lowered. In fact, the incidence of cerebral vascular accidents and coronary occlusions in patients whose pressure has been lowered has been quite low.

The findings of Schroeder[1] in a group of 94 patients with Grade III and IV hypertension who were treated for from two to three years with hexamethonium and Apresoline with only one death would appear to indicate that survival time in this group of patients may be increased by drug therapy.[1] At present no one observer is in a position to judge the long-term effectiveness of drug treatment as compared to dietotherapy or surgical treatment, but results at present with the more effective drugs appear encouraging.

Summary

1. Experience with four effective antihypertensive drugs, Ansolysen, hexamethonium, Apresoline, and reserpine, is summarized. The long-term oral administration of these drugs either alone or in combination is believed to be feasible if the patient is carefully observed. Side-effects of drug therapy can usually be controlled.

2. In properly selected cases of severe, progressive hypertension good results may be obtained in approximately one third of the patients treated. Although a final appraisal of results cannot be given, it would appear that drug therapy with these agents provides an effective, practical method of blood pressure control.

KENILWORTH APARTMENTS

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So absolutely good is truth, truth never hurts the teller.—ROBERT BROWNING

Sympathectomy in the Treatment of Essential Hypertension

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In the past the ineffectiveness of medically managed hypertension has been most discouraging. Whether the newer drugs so enthusiastically detailed to the profession will prove as disappointing as has hexamethonium remains to be seen. Despite the glowing claims made for these agents, which have been available for only a few years, the proved efficacy of the surgical treatment of hypertension by sympathectomy over the past fifteen years must not be forgotten.

The following presentation is a review of 90 consecutive cases representing private patients operated on at the Millard Fillmore Hospital between 1944 and 1952. The operation usually consisted of minimal bilateral sympathectomy from the seventh or eighth thoracic to and including the first or second lumbar ganglia, together with bilateral splanchnicectomy from the midthoracic level to the celiac ganglion. In all cases the adrenal glands were either palpated or visualized to ascertain whether a pheochromocytoma was present. Also in most cases a biopsy was taken from one kidney.

An extrapleural approach was used, resecting the posterior 3 inches of the eleventh and twelfth ribs and incising the diaphragm down to its vertebral attachment. On 15 patients a more extensive sympathectomy was performed.

Patients were selected for operation who failed to respond to the medical hypotensive therapy used at the time. They had all been treated for from six months to ten years without relief of symptoms or substantial reduction in blood pressure. In no instance was sympathectomy denied a patient if the preoperative examination and tests indicated that he could survive this procedure and that there was a reasonable chance of symptomatic and clinical improvement.

Chronologic age was not a criterion in selection of patients to undergo the surgical procedure; physiologic deterioration was considered more important. For example, the oldest patient in the series was sixty-six years of age, but her appearance and the results of tests indicated that physiologically she was younger than many of the patients under forty-five years. She was eager to have the operation because during the time she was receiving medical therapy, she had on three different occasions lost consciousness while shopping or socially engaged, and no significant reduction in blood pressure had been effected by treatment. Eight years later, at the age of seventy-four, she has a blood pressure of 160/90, and she has had no recurrence of hypertensive headaches or unconsciousness.

Patients were operated on only after careful evaluation of the clinical and laboratory evidence obtained while they were under observation in the hospital. Their response to drug therapy before hospitalization and to bed rest while in the hospital indicates the flexibility of the vascular system. This can be substantiated by hyperventilation, which normally lowers the blood pressure 20 to 30 mm., and by inhalation of aromatic spirits of ammonia which raises the blood pressure.

In addition to routine urinalysis, complete blood count, physical examination, and ophthalmoscopic examination of the fundi, specific examinations and tests were made as indicated on these patients, including Sodium Amytal, urea clearance, phenolsulfonphthalein excretion, and Mosenthal concentration tests; blood chemistry as indicated; blood urea concentration; the benzodioxane or regitine test for the presence of a pheochromocytoma; cardiac roentgenography; electrocardiography; a skull roentgenogram for the presence of a pituitary tumor; intravenous pyelography; determinations of 17-ketosteroid; the sodium nitrite test; the cold pressor test; response to high spinal anesthesia; hyperventilation, inhalation of aromatic spirits of ammonia, and standard exercise tests.

It must be emphasized that tests per se are no

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absolute indication of the results to be obtained by sympathectomy in individual cases. Occasionally in this series final results were much better than had been indicated by the results of the tests, and the converse was also true. However, tests help in determining the condition of the three major organs (heart, brain, kidney) affected by longstanding or rapidly developing hypertension. If one or two of these organs are badly damaged, the evidence must be carefully weighed. If all three are badly damaged, sympathectomy should not be done. There were four operative deaths in the first 32 cases in this series, but there was no operative death in the subsequent 58 cases.

The factors influencing prognosis have been evaluated on a numerical basis by Smithwick and Thompson,[1] and hypertensive patients have been classified into four groups according to the severity of the disease. These are simplified in the following tabulation, and this grouping was followed as closely as possible in the present series:

Group	Criteria
I	Eyegrounds 0 or 1. No pathologic change in brain, heart, or kidney.
II	(A) Eyegrounds 0 or 1 with brain, heart, or kidney changes. (B) Eyegrounds 2, 3, or 4 without brain, heart, or kidney changes.
III	Diastolic blood pressure below 140 mm. Hg. Brain, heart, or kidney changes excluding cerebrovascular accident with marked residual or frank congestive failure; phenolsulfonphthalein test below 15 in fifteen seconds, and poor response to sedation.
IV	Diastolic blood pressure below 140 mm. Hg with factors given in group III. Or diastolic blood pressure of 140 or more mm. Hg.

Case Reports

The following cases are examples of results obtained in groups II, III, and IV of the four groups cited. They are cases in which there were some unusual symptomologic features.

CASE 1 (GROUP II).—A forty-seven-year-old man was admitted to the Millard Fillmore Hospital on November 6, 1945, with the complaints of frequent headaches, chronic fatigue, vertigo and palpitation, and nocturia. He had a history of having been treated medically for hypertension for five years without improvement. The patient had a speech defect and club feet. In 1938 he had undergone nephropexy for correction of a kinked ureter.

His blood pressure on admission was 230/124. Following the Sodium Amytal test it was 98/88. Ophthalmoscopic examination of the fundi showed a grade 3 hypertensive retinopathy.

The erythrocytes numbered 4,000,000 and the leukocytes 7,350 per cu. mm. of blood; the hemoglobin content was 12.4 Gm. per 100 cc. The blood urea nitrogen was 14 mg. per 100 cc., and the nonprotein nitrogen was 29 mg. per 100 cc. The urine concentration (Mosenthal test) was 1.008 to 1.030; urea clearance was 47 per cent and 60 per cent of average normal function, and phenolsulfonphthalein excretion in one hour was 15 per cent, in two hours 55 per cent. This patient was in hypertensive group II according to the classification used.

Two days after admission the patient's infected teeth were extracted. On intravenous pyelography on November 12 there was prompt visualization of the collecting system on both sides. The right kidney appeared to be slightly low. Roentgenographic examination of the gastrointestinal tract showed atony of the stomach.

Sympathectomy from the eighth left thoracic ganglion to and including the first left lumbar ganglion, together with splanchnicectomy, was performed on November 13 and was repeated on the right side ten days later. The patient was discharged on December 5, at which time his blood pressure was 120/90.

Six months later the ophthalmologist reported the patient's hypertensive retinopathy improved from grade 3 to grade 1 with, however, considerable persistent narrowing of the retinal arteries.

On follow-up examination on November 10, 1953, eight years after operation, this patient's blood pressure was normal (136/90), and he was completely free of symptoms of hypertension.

CASE 2 (GROUP II).—A forty-five-year-old housewife was admitted to the Millard Fillmore Hospital on October 5, 1945, because of a history of hypertension over a period of eight or ten years with no relief from medical treatment. She complained of vertigo, nervousness and irritability, headaches, fatigue, palpitation, and shortness of breath. Five months prior to this admission thyroidectomy had been performed for diffuse colloid goiter. (Her preoperative basal metabolic rate had been plus 30.) The operation had no effect on her blood pressure or hypertensive symptoms. Her past history was otherwise irrelevant.

The patient's blood pressure on admission was 260/130. Following the Sodium Amytal test it fell to 140/104. Ophthalmoscopic examination of the fundi showed grade 2 hypertensive retinopathy.

The hemoglobin content of the blood was 14.2 Gm. per 100 cc.; the erythrocyte count was 4,900,000, and the leukocyte count was 7,300 per cu. mm. of blood. The blood nonprotein nitrogen was 28 mg. per 100 cc., and the urea nitrogen was 15 mg. per 100 cc. The urine concentration (Mosenthal test) was 1.001 to 1.016, and the urine was clear in color. Urea clearance was 80 and 63 per cent of average normal function, and phenolsulfonphthalein excretion was 7 per cent in one hour and 55 per cent in two hours.

Sympathectomy from the eighth left thoracic ganglion to and including the left first lumbar ganglion was performed, including splanchnicectomy, on October 12. The kidney biopsy was reported as within normal limits. Three days later laparotomy was performed; a volvulus of the cecum was found and released, and cecostomy was done. On November 6 thoracolumbar sympathectomy, with splanchnicectomy to include the eighth thoracic and first lumbar ganglia, was done on the right side. Three days later biopsy of a nodule of the right breast was done and revealed lobular hyperplasia with cyst formation. The patient was discharged on November 2.

On follow-up examination eight years after surgery (November, 1953) the patient stated that she had had no recurrence of hypertensive symptoms. Her blood pressure at that time was 150/90.

This case illustrates the lack of effect of thyroidectomy on hypertension and also, as has frequently been observed, that sympathectomy often has a disturbing effect on the motility of the bowel.

Case 3 (Group III).—This fifty-three-year-old man was admitted to the Millard Fillmore Hospital on April 10, 1946, complaining of dyspnea on exertion, epistaxis, irritability, weakness of the right arm and leg, and difficulty in speaking and writing following a cerebrovascular accident three months previously. He had had a similar cerebrovascular accident in 1944. He had been hypertensive for five years.

On admission his blood pressure was 180/120 following a period of bed rest and dropped to 128/80 after the Sodium Amytal test. Ophthalmoscopic examination of the fundi showed a grade 1 hypertensive retinopathy.

The erythrocyte count was 6,170,000 and the leukocyte count 7,600 per cu. mm. of blood; the hemoglobin content of the blood was 17.1 Gm. per 100 cc. The blood Wassermann test yielded a negative result. The urine concentration (Mosenthal test) was 1.012 to 1.026; urea clearance was 112 and 122 per cent of average normal function, and phenolsulfonphthalein excretion was 17 per cent in one hour and 69 per cent in two hours.

Sympathectomy, extending from the eighth thoracic ganglion to and including the second lumbar ganglion, together with splanchnicectomy, was performed on the left side on April 19 and on the right side on April 26.

The patient was discharged on May 5 and resumed his regular work as an accountant four months later. He has worked steadily since then with no recurrence of a cerebrovascular accident, and his only complaint is that he requires more rest than he formerly did. His blood pressure seven years after operation was 150/100.

Case 4 (Group III).—A fifty-nine-year-old widow was admitted to the Millard Fillmore Hospital on December 19, 1944, complaining of frequent epistaxis upon bending over which was so troublesome that she was unable to do her housework. She had a history of hypertension of ten years duration with no relief from medical treatment. She had had rheumatic fever in childhood and a toxemia of pregnancy at the age of thirty-five. She had been asthmatic from age fourteen to forty-four; at age forty-four her menses had ceased. In 1921 she was operated upon for volvulus of the sigmoid colon.

Her blood pressure on admission was 250/130 which was lowered to 140/90 by the Sodium Amytal test. Ophthalmoscopic examination of the fundi revealed a grade 2 hypertensive retinopathy.

The erythrocyte count was 3,810,000, and the leukocyte count was 6,450 per cu. mm. of blood. The hemoglobin content of the blood was 12 Gm. per 100 cc. The blood urea nitrogen was 12 mg. per 100 cc., and the nonprotein nitrogen was 35.5 mg. per 100 cc. Urea clearance was 79.8 per cent of average normal function; phenolsulfonphthalein excretion was 20 per cent in one hour and 45 per cent in two hours, and the urine concentration (Mosenthal test) was 1.006 to 1.017. The urine contained a trace of albumin.

Sympathectomy, combined with splanchnicectomy, from the twelfth thoracic to and including the second lumbar ganglion was performed on the left side on December 26, 1944, and on the right side on January 6, 1945. A stitch abscess developed, but recovery was otherwise uneventful; the patient was discharged on January 19. Her blood pressure on discharge was 130/80.

On April 27, 1948, the ophthalmologist reported the patient's eyes to be "in healthy, normal condition for her age," with normal corrected vision, normal retinas, and blood vessels normal for her age, and commented, "certainly this has been a remarkable result."

The following year the patient underwent a cholecystectomy and choledochostomy and in September, 1953, a vaginal hysterectomy and anterior-posterior colporrhaphy. On follow-up examination on October 3, 1953, her blood pressure was 160/90. She stated that she had had no episodes of epistaxis since the sympathectomy, was doing her housework, and that she was feeling good.

This case illustrates the good response of incapacitating hypertensive epistaxis to sympathectomy.

Case 5 (Group IV).—A thirty-four-year-old housewife complaining of constant nausea, hourly nocturia, shortness of breath, headaches, obesity, and failing vision was admitted to the Millard Fillmore Hospital on March 2, 1949. She had become temporarily blind in 1948. Her past history was otherwise irrelevant.

On admission her blood pressure was 280/170. This was brought down to 140/100 by the Sodium Amytal test. Ophthalmoscopic examination of the fundi showed grade 4 hypertensive retinopathy.

Erythrocytes numbered 4,400,000 and leukocytes 12,600 per cu. mm. of blood. The hemoglobin content of the blood was 14 Gm. per 100 cc. The blood urea nitrogen was 15 mg. per 100 cc. Urea clearance was 160 per cent and 89 per cent of average normal function; the urine concentration (Mosenthal test) was 1.002 to 1.014, and phenolsulfonphthalein was 40 per cent excreted in two hours. The urine contained 2 plus albumin.

Thoracolumbar sympathectomy from the seventh thoracic ganglion to and including the first lumbar ganglion, together with splanchnicectomy, was done on the left side on March 15 and on the right side on March 23. Biopsy of the kidney revealed hyaline thickening of arterioles with extreme luminal narrowing. The patient was discharged on April 2, 1949, at which time her blood pressure was 180/130.

On September 26, five months postoperatively, the patient's blood pressure was 260/160. After exercise this dropped to 210/130. The patient stated that following sympathectomy she was again able to read the newspaper; she was, however, able to work only one day a week.

On March 28, 1951, this patient was again admitted to the hospital because of weakness, fatigue, and loss of vision of six weeks duration. At that time her blood pressure had risen from the post-sympathetic level to 280/154, although there was symptomatic improvement during this two-year period. Ophthalmoscopic examination of the fundi showed grade 4 hypertensive changes of the retinal vessels. The heart was enlarged to the midaxillary line. Neck veins were dilated. The fingers were swollen, and there was 2 plus pitting edema of the left ankle. The specific gravity of the urine was low, and blood analysis revealed a severe anemia. Blood urea nitrogen was 108 mg. per 100 cc. The patient was treated for uremia. On April 20 the blood urea nitrogen was 198 mg. per 100 cc., and on this day the patient died.

Necropsy revealed a chronic glomerulonephritis in the nephrotic stage. Concomitant pathologic changes included concentric hypertrophy of the left ventricle of the heart, nodular bronchopneumonia, mild uremic enteritis, gastromalacia, endometriosis of the uterus and left ovary with adhesion to the sigmoid colon, and multiple infarcts in the spleen.

This case was rated as a failure despite symptomatic improvement. It illustrates the fallibility of kidney function tests as to the degree of the pathologic state. Far-advanced retinopathy is a fairly good criterion of the degree of vascular damage in the three major organs, and in such cases one can predict only from 10 to 15 per cent good results from sympathectomy.

Comment

The longer a patient lives with this disease, the greater will be the damage to the blood vessels of his heart, kidneys, and brain. An adequate blood supply to these organs is essential to life and health. In general, nature maintains this supply by raising the systemic blood pressure when the vessels of the brain and kidneys are narrowed and by slowing down the patient with anginal pain when the blood supply to the heart muscle is impaired.

It is obvious, therefore, that the results of sympathectomy are dependent upon the degree of spasm and the amount of sclerotic narrowing in the vessels of these organs and other systemic vessels. The best results are usually obtained in hypertensive patients who have a great degree of spasm, while in those with markedly sclerotic vessels in these organs a poor result can be expected or the condition may actually be worsened by sympathectomy. For example, in this series several cases of cerebral thrombosis were caused by a reduction in blood pressure, and one case of ascites and leg edema was due to inadequate filtration pressure in the kidney. Better selection of patients for operation prevented this in the last 60 cases.

To evaluate the results of the treatment of hypertension by surgical measures, one should ask the following questions:

1. Are the symptoms relieved?
2. Are the fundi of the eyes improved?
3. Are results of kidney function tests improved?
4. Are angina and heart size improved?
5. Is the blood pressure lowered?

Only the first and last questions can be an-

TABLE I.—Average Changes in Blood Pressure in 90 Surgically Treated Hypertensives

Number of Cases	Group	Average Age	Average Blood Pressure Pre-operative	Average Blood Pressure Post-operative
10	I	40	215/120	140/86
35	II	46	220/130	148/92
28	III	46	230/130	168/100
16	IV	42	247/155	169/113
1	Pheochromocytoma	23	270/140	130/80

TABLE II.—Results in 90 Surgically Treated Hypertensives

Number of Cases	Group	Results (Per Cent of Each Group) Good	Fair	Poor	Deaths
10	I	90	10	0	0
35	II	74.3	11.4	5.7	8.5
28	III	32.1	7.1	10.7	50.0
16	IV	12.5	18.7	12.5	56.2
1	Pheochromocytoma	100	0	0	0

swered in all cases without creating undue strain on the finances of the average private patient. The other criteria were determined in this series in only a few instances.

Symptoms are nearly always relieved following some reduction in blood pressure, although an occasional patient may complain of new symptoms such as periodic palpitation or mental and physical depression. These can usually be relieved by medical treatment. Some have temporary intercostal neuralgia, the result of eleventh- and twelfth-rib resection, but this usually disappears by the third postoperative month. The degree of reduction in pressure which enables the results of operative treatment to be classified as "good," "fair," or "poor" is variable and must depend not only on the thoroughness of the sympathectomy but also on the stage of advancement of the disease. Except for malignant hypertension, usually the longer the duration of the disease, the greater is the progress of the pathologic changes. I have rated some cases as good, however, even though the postoperative blood pressure was still higher than normal, because the patient was symptomatically relieved and a significant reduction in pressure had been obtained. Return to normal pressure is not necessary nor always desirable.

Table I shows the number of patients, average ages, and average preoperative and postoperative blood pressures for each group. One pheochromocytoma was found in these 90 cases, which is twice the incidence usually reported. It will be noted that although the "poor results" are included, the averages show a significant reduction in blood pressure for each group. The best result of course is in the first two groups, in which the average postoperative blood pressure for the average age of the group is close to normal. The results in groups III and IV are better than might be expected from hypotensive drug therapy alone.

In Table II the percentage of good, fair, and poor results and of deaths is shown for the entire series. A good result was obtained in 90 per cent of cases in group I, in 74 per cent in group II, and in only 12.5 per cent in group IV. If the good and fair results in groups I and II are combined, it is evident that more than 85 per cent of patients classified in these two groups obtained considerable benefit from sympathectomy and splanchnicectomy.

However, 50 and 56 per cent, respectively, of the patients in groups III and IV have died within the nine-year period of the study. These figures tend to confirm that delayed surgical treatment for hypertension is apt to yield poor results. On several occasions an inoperable case has been seen in which, according to the criteria previously mentioned, sympathectomy done six months earlier would probably have yielded a good result. The sudden, rapid physiologic deterioration of the heart and kidneys is at times startling and tragic.

In answer to questionnaires a number of patients reported improvement, even though no significant reduction in resting blood pressure had been obtained. This can be explained by the observation of Lord and Hinton[2] that patients with advanced hypertension who have had bilateral sympathectomy and splanchnicectomy often show a drop in blood pressure after exercise, the opposite to what was shown before sympathectomy. This observation was confirmed in many of the patients in this series. It is quite possible that this phenomenon is responsible for the increased life and work span of hypertensives who have undergone sympathectomy.

Although routine funduscopic examinations were not made on all patients, there are on file a sufficient number of reports from ophthalmologists to indicate that many of these patients have had demonstrable improvement in their eyegrounds. Many other patients have stated that their vision has improved. In a few instances it has been possible to obtain postoperative renal function tests which indicated improvement several years after surgery.

Summary

Ninety consecutive cases of hypertensive patients subjected to sympathectomy during a nine-year period have been analyzed as to classification of the disease and results of the operation. The evidence indicates that:

1. Relief of disabling symptoms was obtained in most of the cases.
2. A significant reduction of both systolic and diastolic blood pressure was obtained in 90 per cent of group I, 74.3 per cent of group II, 32.1 per cent of group III, and only 12.5 per cent of group IV.
3. Progress of arterial damage was retarded.
4. Postoperatively, improvement was suggested in the results of kidney function tests and of ophthalmoscopic and electrocardiographic examinations in all groups.
5. The life and work span of these patients has been increased for each group except group IV.

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Cutaneous Manifestations of Systemic Diseases

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The cutaneous manifestations of internal diseases are so numerous that it would require a book the size of a modern textbook on dermatology to present the subject adequately. Therefore, a harmonious, adequate presentation is not possible at this time. I shall present the common but not too obvious cutaneous manifestations of internal diseases.

The skin is a unique "mirror," frequently reflecting the manifestations of internal disease, and it is at other times a great mask giving no clue to the diseases that affect the internal organs. The skin must be considered, not as an envelope separated from the rest of the body, but as an actively functioning and protective external organ of the body endowed with nervous, vascular, and hormonal intercommunications with the internal organs and the various systems of the body. The skin is the largest organ in the human body and is about one sixth of the total weight of the body. About one third of the circulating blood is in the skin.[1]

The color changes in the skin may be an easy clue to the diagnosis of a disease of internal origin. Pruritus and pigmentary abnormalities often accompany internal, malignant tumors and blood dyscrasias. The accessibility of the skin and mucous membranes to direct observation and biopsy for histologic study of early lesions is a great convenience. The ease in performing patch, scratch, and intradermal tests to determine the causes of contact and drug dermatitis and to investigate the allergic status or susceptibility of the person to disease is of inestimable value.

Dermatologists especially and internists also have been long interested in the skin manifestations of internal diseases.[2] For example, pruritus with parallel excoriations suggest the lymphoblastomas; carbuncle and carotenemia may reflect diabetes mellitus; pitting and transverse furrowing of the fingernails may indicate infection or an acute cardiac episode. The accen-

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tuation and hyperpigmentation of the normal markings of the palms and of the mucous membranes, accompanied by fatigue, indicate the possibility of Addison's disease; the appearance of an excoriated papular urticarial eruption on the extremities and cutaneous tags on the sides of the neck occasionally reflect the pregnant state of the female.

The art of clinical diagnostic medicine is fast losing its lustre because of the easier, sometimes more accurate, methods of laboratory investigation. It was the rule to perform only routine laboratory tests unless in a very obscure case or unless they were performed with the idea of confirming the clinical diagnosis. The physician may place little importance on the skin manifestations of internal diseases when the diagnosis is definitely made by other methods. The internist should familiarize himself with the cutaneous manifestations of internal diseases because subsequent cases may present only the skin manifestations of the diseases before the signs and symptoms in other organs make their initial appearance. Conversely, the dermatologist should familiarize himself with the internal manifestations of the diseases of the skin.

Diabetes Mellitus

The skin manifestations of diabetes mellitus are many and of protean nature:

1. Pruritus, generalized itching, is probably the most common cutaneous symptom of diabetes and is present in 25 per cent or more of the cases. It may be localized to the genital and anal regions.
2. Folliculitis, furuncles, carbuncles, paronychia.
3. Fungous infections, usually of the monilial type, involving genitals, anus, and body folds. Erosio interdigitale blastomycetica.
4. Xanthoma eruptivum diabeticorum.
5. Necrobiosis lipoidica diabeticorum.
6. Ulcers and gangrene, usually of the extremities.
7. Hypovitaminoses.
8. Hemochromatosis.
9. Diabetic balanitis.
10. Malum perforans.
11. Xanthoma palpebrarum.

Necrobiosis lipoidica diabeticorum is an eruption which in the majority of cases occurs in patients with diabetes mellitus, although the disease has been known to persist for a long time without signs of diabetes.

The eruption consists of from a single to half a dozen coin-sized lesions on the anterior surface of the legs, mostly over the shins; the lesions are sharply circumscribed and solid with a smooth, shiny, atrophic, somewhat infiltrated surface devoid of hair and showing a play of color from yellow to dark red. Once these lesions are seen, they are seldom forgotten and rarely confused with any other eruption. Another type of eruption is associated with diabetes, known as xanthoma eruptivum or xanthoma diabeticorum. This consists of the rather gradual development of numerous, discrete, solid, elevated, matchhead-sized lesions, having a xanthomatous hue. This condition disappears rather promptly after the institution of an antidiabetic regimen.

Malum perforans, trophoneuritic ulcer of the sole, usually occurs under the head of one of the metatarsal bones or in the center of the heel. The ulcer is torpid with a protective, raised, hyperkeratotic, callous-like rim. It is usually deep, and the base of the ulceration is covered by a dirty, grayish, serous, malodorous discharge. When the lesion begins to heal, which is rare, it is filled in with a pulpy, keratotic plug. Lesions in this stage are not infrequently mistaken for verrucae or calluses. The cause of this trophoneuritic ulcer may also be central nervous system syphilis or tumor of the spinal cord.

Hemochromatosis (bronzed diabetes) is a disease of metabolism. There are all gradations of color due to the production of pigment in the skin. The skin of the body is of a bronze hue with hyperpigmentation on the exposed parts. The cutaneous manifestations resemble argyria. There is production of pigment in this condition in all the organs of the body, as well as the skin, in over 50 per cent of the cases. It offers a very poor prognosis.

Amyloidosis

There are three types of amyloidosis.[3] The generalized type of amyloidosis is seen in wasting diseases, such as longstanding tuberculosis and chronic suppuration. The process affects particularly the spleen, liver, kidneys, and adrenal glands. Involvement of the skin in this type is infrequent, and when it occurs, it is usually slight.

The second form of amyloidosis is called the systematized type. A characteristic, painful macroglossia and a diffuse, amyloid infiltration of skeletal muscles, lungs, intestines, and skin are present. The most characteristic lesions are small, firm, shiny, glistening, honey-colored papules and nodules separated by hyperpigmented skin. They are usually grouped together over large areas of skin surface. The affected skin may be so thickened, waxy, and hardened that these plaques resemble scleroderma.

The third type seen and recognized most frequently by the dermatologist is the localized form of amyloidosis and is not associated with systemic involvement. The lesions appear as discrete, closely aggregated, hard papules covering the anterior and posterior surfaces of the legs. Pruritus is severe and may precede the eruption by several years. The lesions may resemble lichen planus and papular neurodermatitis, but the shiny, golden yellow, discrete papules, the complete resistance to therapy, the characteristic histologic findings, and the positive Congo red intracutaneous test help the physician to distinguish them.

The Congo red test is of value in cutaneous amyloidosis. This test is performed by injecting 0.1 cc. of 1 per cent aqueous solution of Congo red intradermally or subcutaneously. A positive test is indicated by the diffusion of the Congo red solution over a larger area than the limited site into which it was injected.

Cutaneous Calcinosis Circumscripta

This disease consists of nodules, plaques, and tumors, varying in size from a pinhead to the size of a filbert.[4] Usually small lesions of stony hardness occur most frequently on the palmar aspects and sides of the thumb and first two fingers, on the palms, the extensor aspects of the elbows and knees, and at the wrist, ankle, shoulder, and hip joints. They are almost invariably situated on the tips of the fingers or along the course of flexor tendons in the previously mentioned locations, those areas more frequently subject to trauma and repeated muscular activity. At the onset the skin over the nodules is normal in appearance, and as the lesions enlarge, they become tender; the inflamed skin adheres to the calcium deposits, which later break through and sluggishly discharge a white, creamy material with small, gritty particles of calcium. In metabolic calcinosis circumscripta there is no bone destruction. Scleroderma-like changes of the fingers (sclerodactylia) and Raynaud's phenomena are part of this disease. Small, macular telangiectases are evident on the face, the "V" of the chest, forearms and the back of the hands, tips and sides of fingers, the lips and mucous membranes of the oral cavity.

Dermatoscleroses

The dermatoscleroses are collagen diseases and include scleroderma, acrosclerosis, morphea, localized scleroderma, scleredema adultorum, and dermatomyositis.[5] A diffuse, widespread, collagen alteration has been thought to be the determining factor for the similarity of certain of these diseases. The similarities are not limited to the histologic manifestations alone but apply also to the clinical appearance.

There is a type of scleroderma which confines itself to a localized patch on the skin with a sharply demarcated, lilaceous border, somewhat depressed beneath the niveau, and enclosing an area of skin having an ivory-like color and consistency. The lesions are single, multiple, or generalized. It is known as the localized type of scleroderma (morphea) and is rarely associated with visceral involvement.

The more serious types of scleroderma are the generalized form and the destructive, less extensive type, known as acrosclerosis, both of which are associated with visceral involvement.

Scleroderma of the generalized type is a chronic, progressive disease in which the skin bears the brunt of involvement. It becomes edematous, hard, follicularly hyperpigmented with depigmentation of the interfollicular areas. The skin soon becomes taut with ironing out of its normal markings. There is impairment of the mobility of the joints following flexural deformity. Visceral changes occur in the gastrointestinal tract, heart, kidneys, etc. There is absorption of the bones (osteoporosis), demineralization, and deposits of calcium in the skin.

The condition is referred to as acrosclerosis[5] when the brunt of the severe changes are progressive on the face and extremities. Acrosclerosis involves mainly the skin and secondarily the muscles of the scalp, the face, neck, shoulder girdle, upper extremities including the fingers, the anterior chest, and the upper part of the back. The cutaneous involvement from this point downward becomes less severe except to become accentuated again on the ankles and feet. The prognosis in this type is good as to life, but it is a seriously incapacitating disease. The skin on the face becomes taut, as though it were drawn tightly over the skull and bones of the face. The lips become thin and the face expressionless.

There is a limitation of the movements of the mouth; mastication becomes difficult; deglutition is impaired, and eventually there is separation of the teeth by cystlike formations in the gingival margins of the upper maxilla. All of these changes may be preceded or accompanied by hyperpigmentation of the skin. The increase in pigmentation of the skin accompanied by profound fatigue and loss of appetite and weight at times leads the physician to make the erroneous diagnosis of Addison's disease. There is involvement of the internal organs of the gastrointestinal, renal, cardiovascular, pulmonary, and osseous systems in acrosclerosis and in generalized scleroderma. There are often diffuse, fibrotic, pulmonary changes, and the other viscera, especially the heart and kidneys, become involved in the process. However, the localized, circumscribed type of scleroderma known as morphea is practically never accompanied by visceral changes.

In acrosclerosis there is formation of adherent keratoses and ulcerations of the tips of the fingers and diffuse hyperkeratosis of the palms with underlying sclerosis, causing the obliteration of the normal skin markings and leading to shortening, narrowing, tapering, and spontaneous amputation of the tips of the fingers.[6] Throughout the course of this disease, there is present stiffness and immobility of the joints and Raynaud's phenomena.

Dermatomyositis

This rare disease of unknown origin with extensive cutaneous manifestations is usually characterized by inflammation, great weakness, and tenderness of various groups of affected muscles, including the extraocular muscles. At this stage the disease may be mistaken for anterior poliomyelitis.[7] The systemic findings also include intermittent fever, hyperhidrosis, loss of hair, dysphagia, creatinuria, and enlargement of the spleen. The cutaneous eruption may resemble dermatitis venenata, dermatitis medicamentosa, trichinosis, and lupus erythematosus of the acute disseminate type. Urticarial and angioneurotic edema-like lesions may appear on the skin over groups of affected muscles, especially those of the face, neck, shoulder girdle, upper extremities, the hands, and over the knuckles. The eruption in the beginning consists of erythema, severe edema, puffiness of the eyelids and lips. When these acute symptoms abate, poikiloderma vasculare atrophicans-like patches remain on the joints (shoulders, elbows, wrists, knuckles, hips, knees, and ankles). Many reports and my own personal observations list malignant, neoplastic disease coexisting with or causing dermatomyositis.[8] Among the most common are adenocarcinoma of the ovary. In one of my own cases lymphoepithelioma in a Chinese patient was the probable cause.

Acute Lupus Erythematosus (Disseminate Type)

The acute disseminate form of lupus erythematosus is rare, occurring mostly in young adult females. It is associated with grave, constitutional symptoms and is generally a fatal illness. Some patients probably recover from mild chronic, disseminate forms of the disease which run a long course. There is considerable polymorphism of the cutaneous phenomena. The latter present the picture of a severe toxic, erythematous, edematous, occasionally bullous eruption appearing on those areas of the skin normally exposed to the direct sunlight.

The clinical course is characterized by prolonged, irregular fever with a tendency to remissions of variable duration. There is usually involvement of synovial and serous membranes (arthritis, pericarditis, pleuritis), depression of bone marrow function (leukopenia, thrombopenia, anemia), and vascular changes in the kidneys (albuminuria, hematuria), heart, lungs, and other viscera.

The skin lesions (1) may precede the appearance of the other symptoms, (2) may be associated with them, (3) may not be present at all, or (4) usually follow the visceral prodromata. The cutaneous eruption, although usually present, is not essential for the diagnosis of acute disseminated lupus erythematosus. However, in the usual case the disease is ushered in by a well-circumscribed, superficial, symmetric erythema and edema of the cheeks and of the nose and ears (butterfly pattern), "V" of the chest and extensor aspect of the extremities, the arms, legs, and hands. There is erythema and telangiectasia of the palms, especially of the palmar pads. The eruption is characterized by capricious evolution, rapid extension, and alternating remissions and exacerbations. Telangiectasia, atrophy, hyperpigmentation, hypopigmentation, follicular plugging, and the characteristic adherent scale are not present unless preceding lesions of the fixed, discoid type of chronic lupus erythematosus have been present for some time. With repeated attacks of fever in the acute type the eruption appears on other parts of the body, such as the torso and the extremities below the hem of the dress. It may be erythematous, edematous, erysipelas-like, purpuric, telangiectatic, or vesiculobullous, but most often it simulates erythema multiforme, even to the predilection for the extensor surfaces of the extremities. The disease may run a fulminating course terminating in death with the first known attack of the disease. Usually the temperature recedes, and the lesions undergo partial involution and are followed in a few days or weeks by exacerbations. Herpetic or small aphthous lesions are present in the mouth during the height of an attack and rapidly develop into shallow ulcers with erythematous areolae. Severe thrombocytopenic purpura may precede the cutaneous eruption but usually occurs in the late stages.

The Libman-Sacks syndrome is acute disseminated lupus erythematosus in which there is also present an atypical verrucous endocarditis.[9] This disease presents many clinical analogies with other collagen diseases, such as dermatomyositis and scleroderma.

The lupus erythematous cell (Hargraves' cell), the so-called "L.E." phenomenon, may occur in other conditions but rarely.[10] It is found most frequently in lupus erythematosus of the acute type. Acute lupus erythematosus of the disseminate type may go through the cycle of rheumatoid arthritis; purpura, usually of the thrombocytic type; characteristic eruption, and accompanying visceral changes in the heart, blood vessels, kidneys, etc.

Psoriasis and Arthritis

Psoriasis occurs in approximately 8 per cent of arthritics. Psoriasis arthropathica occurs in association with rheumatoid arthritis, rheumatoid spondylitis, and Still's disease. Psoriasis accompanies a severe, deforming rheumatoid type of chronic multiple arthritis, associated with extensive, recalcitrant lesions. Psoriatic arthritis characteristically involves both large and small joints. It may single out the distal interphalangeal articulations, in which case there is invariably psoriatic nail involvement. The arthritis parallels the cutaneous psoriatic remissions and exacerbations.

Pustular psoriasis reported by Barber[11] and manifested by numerous pinhead-sized superficial lakes of pus in psoriatic lesions on the palms and soles is usually associated with characteristic lesions of psoriasis elsewhere on the body. It is to be differentiated from the palmar and pustular bacterids described by Andrews.[12] The latter is usually caused by a focus of infection in the teeth, tonsils, sinuses, etc. Exacerbation is usually associated with leukocytosis and low-grade fever.

Trophoneuritic Ulcers

Trophoneuritic ulcers occasionally follow in the wake of encephalitis, especially of influenzal type. The lesion begins with itching and redness, usually of the left ala nasi; this area soon becomes edematous, excoriated, and ulcerated. After many weeks of slow progression of the ulceration, there is complete destruction of this portion of the nose.

Trophoneuritic ulcers may follow gasserian ganglion section. I have observed two such cases. The persistent, pruritic, erythematovesicular eruption corresponds to the limited unilateral distribution of the area supplied usually by the maxillary branch of the trigeminal nerve. In addition to involvement of the nose and cheek, lesions occur on the mucous membrane of the mouth on the affected side. After a considerable period of time these lesions undergo spontaneous involution and leave areas of atrophy with gradual improvement in the disturbance of sensation.

Purpura

Purpura simplex is a mild disorder manifested by the appearance of small, oval petechiae and purpuric puncta on the arms and legs, usually not accompanied by constitutional disturbances. The purpura may occur as petechiae, vibices, ecchymoses, and hematomas.

Schonlein-Henoch's nonthrombocytopenic purpura is a type of purpura which has a normal platelet count, normal bleeding and coagulation time, and normal clot retraction. Usually the tourniquet test is positive. This name is given to those cases of purpura of the skin and viscera associated with arthritis, fever, high leukocyte count, and rapid sedimentation rate. The name may be misleading inasmuch as some cases are associated with purpuric, urticarial, or erythema multiforme lesions. The eruptions may be limited to the vicinity of the affected joints.

Essential purpura hemorrhagica (morbus maculosis of Werlhof) consists of petechiae and ecchymoses which appear suddenly. Hemorrhages from mucous membranes are frequent occurrences.

Secondary symptomatic thrombocytopenic purpura may be simulated by some recognized disease which directly or otherwise influences the production of blood platelets.

Among the etiologic agents are drugs (benzine, aniline, arsenic, gold salts, quinine) and radioactive substances.

Eruptions of Pregnancy

Prurigo gestationis (Besnier) is the most common eruption of pregnancy. It occurs in the second trimester of pregnancy and consists of numerous pruritic, excoriated, closely aggregated papules having a predilection for the extensor surfaces of the extremities, the abdomen, and across the upper back. It strikingly resembles prurigo mitis or papular urticaria of young children. It disappears soon after delivery.[13]

Herpes gestationis (dermatitis herpetiformis of pregnancy) is a rare, generalized, vesiculobullous grouped, herpetic eruption occurring during pregnancy, usually about the fifth month, accompanied by severe pruritus and bullous formation. It is believed that herpes gestationis is related to Rh isosensitization in some cases.[14] There is occasional history of fetal monstrosity. The eruption disappears in most cases promptly after delivery. It recurs during succeeding pregnancies.

Acne Rosacea

Acne rosacea is an eruption which occurs in middle-aged adults who have poor peripheral circulation and indigestion. It involves the middle vertical third of the face, the so-called "flush areas."

The eruption consists of edematous papules and papulopustules on a seborrheic, oily, orange peel-like, telangiectatic skin, which is devoid of comedones. On the above-mentioned area these papules and papulopustules recur and are oftentimes associated with gaseous eructation and hypochlorhydria. Other signs of vascular stasis are varicose veins, hemorrhoids, cold hands and feet, etc. Rosacea is not infrequently accompanied by keratoconjunctivitis and vitamin B deficiency.

The severe advanced form of rosacea occurring exclusively in men is referred to as rhinophyma. The disease is controlled mainly by the following ointment:[15]

	Gm.	Cc.
Salicylic acid	1	0
Sulphur precipitate	1	0
Unguent quinolor compound	1	5
Neobase unguent or Aquaphor unguent as required	30	0

Herpetic Eruptions

Herpes simplex consists of groups of vesicles on an erythematous base. They are frequently observed in various acute febrile diseases, especially pneumonia, malaria, cerebrospinal meningitis, and upper respiratory infections. A generalized herpetic eruption with systemic symptoms including fever is occasionally observed. Eczema herpeticum is a generalized herpes simplex infection superimposed as a rule on atopic dermatitis. However, the infection may be generalized without a pre-existing dermatitis.

Herpes zoster consists of grouped vesicles on an erythematous base accompanied by neuralgia in a unilateral area following the course of a spinal or cranial nerve. Herpes zoster of the generalized, extensive, severe, gangrenous type with varicelliform or varioliform lesions is occasionally observed in association with Hodgkin's disease and leukemia of long standing.

Cutaneous Tuberculosis

Papulonecrotic tuberculide is the most common tuberculide and the most common representative of cutaneous tuberculosis. This disease is of gradual onset in symmetric distribution. It is generalized and has a predilection for the elbows, knees, and lower extremities. The lesions begin as red spots, which soon become firm, pea-sized papules. At the end of a week a small vesiculopustule appears on its summit and then softens and undergoes central necrosis. There is complete involution in about a month. There is pain and especially tenderness when the lesions occur on the soles. They occur in crops and last for months or years, eventually disappearing spontaneously. Most of the patients are apparently healthy, and few have other evidence of active tuberculosis.

Sarcoidosis

Sarcoid (Boeck) masquerades as tuberculosis, syphilis, and leprosy. The disease is of gradual onset. The eruption is unilateral, bilateral, asymmetric, or symmetric, and generalized.

There are three types of sarcoid:[16]

1. Localized sarcoid, which involves the face, nose, glabella, and forehead.

2. Darier-Roussy type, which occurs on the body, torso, and legs. This is the deep subcutaneous variety where lesions are also produced in the lymph nodes.

3. Systemic type, which occurs not only in the skin, but in the small bones of the hands and feet, the lungs, mucous membranes, osseous system, gastrointestinal system, the lacrimal glands, salivary glands, testes, kidneys, spleen, and eye.

The lesions consist of nodular grouped infiltrations which show a tuberculoid structure. They form macules, papules, nodules, plaques, and tumors that are multiple, firm, elastic, and extend deeper than one would suspect. There is little change in the epidermis which may be thinned, discolored, telangiectatic, or scaly. The lesions undergo involution in the center and extend by a raised border and usually heal without trace. They may persist for years, spreading from one part of the body to the other, frequently relapsing and healing spontaneously. Ulceration is rare, although it occurs. I have seen severe ulceration of the tips of the fingers at times, eventuating in foreshortening and spontaneous amputation of the digits. I have also seen an eruption of generalized sarcoid, every ulcerative lesion of which contributed to form a picture resembling severe, extensive, papulonecrotic tuberculide, all the lesions being in the same stage of development with negative tuberculin reaction and positive sarcoid and positive BCG vaccine intradermal tests. Sarcoid seldom produces constitutional symptoms.

Sarcoid usually begins in early adult life. The reaction to tuberculin is negative in 60 to 70 per cent of the cases. There is a positive anergy reaction due to neutralization of tuberculoproteins by the anticutins and procutins. Ten per cent of the cases have coincident, active tuberculosis or develop it later. The intradermal sarcoid (Williams-Nickerson-Kveim) test reaction is positive.[17,18] The BCG vaccine skin reaction is also positive in those sarcoid patients who are hypoergic or anergic to tuberculin. There develops in the injection site in a week or later a purple, button-shaped lesion resembling one of the sarcoid lesions, and it persists for a long time. There are radiolucencies in the bones of the hands and the feet, particularly in the distal phalanges. These are circumscribed rarefactions in which the central portion gives a punched-out appearance. These cystlike lesions consist of masses of epitheloid cells. Analogous lesions are found in the lungs and mediastinal glands, resembling acute miliary tuberculosis, pneumoconiosis, or carcinomatosis. There is absence of exudation, caseation, and cavitation observed in pulmonary tuberculosis.

Conclusion

It is obvious from this presentation that most dermatoses are part of the systemic pathologic disease processes which cause them. A sound knowledge of the various manifestations of systemic diseases affecting the skin will give us early clues in the detection of otherwise hidden diseases of the internal organs. The interdependence of general medicine, surgery, and dermatology are self-evident. This presentation is of necessity incomplete. Only one or two common representative eruptions of the several classifications of cutaneous diseases of internal causation were discussed.

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Diagnostic and Surgical Aspects of the Shoulder Girdle Syndromes

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It is an unusual circumstance when surgical therapy of a disease is well developed and diagnosis lags behind. This is the essential problem, however, in the management of the shoulder girdle syndromes. Even in the hands of those most interested, differential diagnosis is often in error. This is due to the fact that anatomic studies of the shoulder girdle region have been static for the most part, whereas clinical problems arise because this area is one of the most dynamic in the body. The acquisition of anatomic knowledge of a dynamic nature should lead to accurate clinical diagnosis and in turn to the selection of the suitable surgical procedure.

Symptoms of the shoulder girdle syndromes result from interference with the function of the subclavian and axillary artery and/or vein and of elements of the brachial plexus. The subclavian artery leaves the thorax by arching over the first rib passing behind the scalenus anticus muscle, in front of the scalenus medius, then passes beneath the subclavius muscle and clavicle, and enters the axilla beneath the pectoralis minor muscle. The axillary and subclavian vein has an identical course except for passage anterior to the scalenus anticus muscle. The brachial plexus follows the route of the subclavian artery only a little more posteriorly and laterally.

Most individuals are so constructed that the artery, vein, and nerves mentioned have adequate space to perform their functions. There are five factors to consider: dynamic, static, congenital, traumatic, and, last, that of aging.

There is a moderate degree of motion at the sternoclavicular articulation, this being one of the few universal joints in the body. Second, the acromioclavicular articulation permits the scapula to move approximately 45 degrees. Finally, the humeroscapular articulation has the widest range of motion of all. The postion of the axillary artery when the arm is in full hyperabduction is 180 degrees away from its position in full abduction.

The second factor, the static factor, depends on the individual's bony and muscular development. Some people exercise strenuously by indulging in vigorous work and sports. The increased bulk of the muscles, therefore, reduces the space through which the artery, vein, and nerves must pass. On the other hand, there is the middle-aged sagging which occurs in many with a reduction in muscle mass and tone and a worsening of posture. Therefore, the vessels and nerves may be stretched and pinched by changes in the relation of the first rib to the clavicle.

The third factor is the congenital one, wherein the subject may have a cervical rib or a bifid clavicle or bony protuberance on the first rib. There are other examples, such as a fascial band behind the scalenus anticus and an abnormal insertion of the scalenus medius onto the first rib.

The fourth factor, trauma, is most commonly seen in fracture of the clavicle or subacromial dislocation of the humeral head. Occasionally a crushing injury of the upper thorax may stretch unduly parts of the brachial plexus and/or thrombose the artery or vein.

Finally, the fifth factor is the intrinsic atherosclerotic change observed in the subclavian artery of some patients of advancing years. The same dynamic activity of a healthy, flexible artery may cause thrombosis of a sclerotic, somewhat narrowed vessel. This has been observed in several individuals in the seventh and eighth decades with anatomically "normal" shoulder girdles.

The currently recognized shoulder girdle syndromes of cervical rib, scalenus anticus, costoclavicular, and hyperabduction have been described well by Beyer and Wright.[1] Falconer and Weddell[2] defined clearly the evidence for costo-

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TABLE I.—ANALYSIS OF 21 CASES

Patient	Sex	Age	Artery	Vein	Brachial Plexus	Operation	Result
CERVICAL RIB SYNDROME							
E. L.	F	45	3+ Small fusiform aneurysm found at operation	0	4+ Pain radiating down inner aspect right arm, forearm, and fourth and fifth fingers. Numbness and paresthesia. Atrophy of hypothenar eminence and weakness of fourth and fifth fingers	Exploration and excision of cervical rib and section scalenus anticus, right—Nov. 19, 1953	Good, 3 months postoperative
SCALENUS ANTICUS SYNDROME							
E. O.	F	24	3+ Intermittent	0	2+ Numbness, hypesthesia	Exploration and section scalenus anticus, right—Mar. 16, 1951	Good, 3$^1/_2$ years postoperative
N. E.	F	38	3+ Intermittent	0	2+ Numbness and paresthesia fourth and fifth fingers and medial aspect forearms	Exploration and section scalenus anticus, left—Dec. 18, 1952	Good, 2 years postoperative
COSTOCLAVICULAR SYNDROME							
F. B.	M	35	3+ Intermittent	4+ Thrombosis	0	Exploration, section scalenus anticus, total claviculectomy, left—Dec. 14, 1951	Artery pulsates in all positions; arm no longer swollen; symptomatically patient unimproved. Poor, 3 years postoperative
J. R.	F	42	4+ Intermittent	4+ Thrombosis	0	Exploration, total resection clavicle for post-traumatic nonunion, left—July 23, 1953	Good, 18 months postoperative
J. S.	M	47	4+ Intermittent	0	0	Exploration, section scalenus anticus and pectoralis minor muscles, right—Dec. 22, 1953	Major compression due to clavicle and first rib clinically, not appreciated on operating table. Poor, 5 weeks postoperative. Good, following subsequent claviculectomy
HYPERABDUCTION SYNDROME							
B. O'D.	F	28	2+ Intermittent	0	0	Exploration, section scalenus anticus, total claviculectomy Right—July 6, 1951 Left—July 16, 1951	Associated Raynaud's phenomena required upper thoracic sympathectomies on May 22 and Oct. 15, 1952. Good, 3 years postoperative
M. G.	F	33	3+ Intermittent	0	0	Exploration, section scalenus anticus, total claviculectomy, left—Aug. 22, 1951	Full function of artery, considerable shoulder pain. Fair, 4 months postoperative
N. H.	F	50	3+ Intermittent	4+ Thrombosis	0	Exploration, section scalenus anticus and pectoralis minor muscles, right—Jan. 5, 1953	Good, 1$^1/_2$ years postoperative
C. S.	F	39	4+ Intermittent	4+ Thrombosis	0	Section scalenus anticus elsewhere, right—July 31, 1953. Section pectoralis minor, right—Nov. 6, 1953	Good, 11 months postoperative
G. C.	M	26	4+ Intermittent	4+ Thrombosis	0	Exploration, section scalenus anticus and pectoralis minor muscles, right—Jan. 14, 1954	Good, 1 year postoperative

				SCALENUS ANTICUS AND COSTOCLAVICULAR SYNDROMES			
S. B.	F	47	4+ Thrombosed Bilateral	0	0	Exploration and resection congenital bifid clavicle, section of scalenus anticus muscle Right—July 19, 1950 Left—Aug. 2, 1950	Pain relieved, function of arm improved, feeble pulsations appeared. Good, 12 months postoperative
P. K.	F	20	4+ Thrombosed	4+ Thrombosed	0	Exploration, section scalenus anticus muscle, total claviculectomy, left —July 23, 1951	Pulses returned; function of arm returned to normal; slight swelling of arm persists. Good, 3$^1/_2$ years postoperative
R. P.	M	42	3+ Intermittent	0	3+ Numbness, pain	Exploration, section scalenus anticus, claviculectomy Right—July 23, 1951 Left—Aug. 3, 1951	Pulses strong in all positions except for obliteration of left radial pulse on costoclavicular maneuver; some symptoms persist; strong psychosomatic element. Fair, 9 months postoperative
D. C.	F	28	4+ Surgically ligated 1 year earlier elsewhere	0	2+ (?)	Total claviculectomy, right—Oct. 1, 1951	Patient was advanced psychosomatic case; had been operated upon 5 times previously, 2 on left and 3 on right for scalenotomies and upper thoracic sympathectomies. Was symptom free for 2 months; recurred. Suicide 3 years postoperative. Poor, 3 years
S. P.	M	50	4+ Intermittent	0	0	Exploration, section scalenus anticus, total claviculectomy Right—Nov. 30, 1954 Left—Dec. 9, 1954	Pulses strong in all positions and symptom free. Good, 3 months postoperative
				SCALENUS ANTICUS AND HYPERABDUCTION SYNDROMES			
A. S.	F	44	4+ Thrombosed	0	0	Exploration, section scalenus anticus and pectoralis minor muscles, left —Nov. 19, 1953	Artery was thrombosed behind scalenus anticus muscle. Use of hand and arm has improved markedly; pain has cleared; a feeble radial pulse has appeared. Good, 14 months postoperative
				SCALENUS ANTICUS, COSTOCLAVICULAR, AND HYPERABDUCTION SYNDROMES			
R. P.	M	65	4+ Thrombosed	0	0	Exploration, section scalenus anticus, resection middle $^3/_5$ clavicle, left, and upper thoracic sympathectomy—Nov. 14, 1950	Hand improved; gangrenous fingertips amputated. Good, 4 months postoperative
J. R.	M	33	4+ Intermittent	0	0	Exploration, section scalenus anticus, partial claviculectomy Left—Mar. 1, 1951 Right—Mar. 9, 1951 Total claviculectomy, right and left—July 6, 1951	Complete relief of obstruction to arterial flow; pain in shoulders relieved by section of cutaneous branches cervical plexus (left Mar. 8, 1954; right Mar. 31, 1955). Good, 4 years postoperative

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Patient	Sex	Age	Artery	Vein	Brachial Plexus	Operation	Result
CERVICAL RIB, SCALENUS ANTICUS, AND COSTOCLAVICULAR SYNDROMES							
F. M.	F	38	2+ Intermittent	0	Numbness, paresthesia	1947—Operation elsewhere; excision cervical rib and section scalenus; good result for 2 years. Symptoms recurred; total claviculectomy—Oct. 13, 1951	Good, 3 years postoperative
CERVICAL RIB, SCALENUS ANTICUS, COSTOCLAVICULAR, AND HYPERABDUCTION SYNDROMES							
M. R.	F	44	4+ Thrombosis; aneurysmal	4+ Thrombosis	0	Exploration, section scalenus anticus, subperiosteal removal middle third of right clavicle—Mar. 31, 1951. Total claviculectomy—Oct. 17, 1951	Raynaud's phenomena largely cleared postoperatively; pulses returned to normal; right arm and forearm slightly larger than left. Good, 3 years postoperative

clavicular compression and delineated it sharply from the scalenus anticus syndrome. In the latter, hyperextension of the neck dampens the radial pulse, whereas a backward and downward thrust of the shoulders narrows the space between the clavicle and first rib, thereby blocking the subclavian artery and vein. In an analysis of 100 asymptomatic "normal individuals," Falconer and Weddell observed positive responses in approximately 50 per cent when the above maneuvers were applied. Wright[3] in 1945 described the hyperabduction syndrome and found 63 per cent of asymptomatic individuals with positive responses. It was Wright's impression that the subclavian and axillary artery is angulated in the position of hyperabduction at two sites, the clavicle and the pectoralis minor muscle.

According to Wright the diagnosis of a shoulder girdle syndrome in a patient with symptoms in the hand and arm should include the following: (1) reproduction or aggravation of the patient's symptoms by performing the maneuver in question; (2) obliteration of the peripheral pulses (confirmed by oscillometric examination) when the position under study is assumed; (3) elimination of other causes for pain in the upper extremity, i.e., cervical disk, lesion of the spinal cord, etc.; (4) relief of symptoms and signs by appropriate medical and, when necessary, surgical therapy.

The consideration of surgical intervention has been reserved for those patients whose vascular or neurologic symptoms and signs have persisted in spite of medical measures[1] or for those who have progressed to thrombosis of the subclavian artery and/or vein. The majority of patients with isolated subclavian vein thrombosis respond to conservative measures including warm moist packs, elevation of the arm, and anticoagulants. If symptoms and signs of venous obstruction persist, then surgical measures should be instituted.

What has the surgeon to offer? There are several procedures available, and each one is highly effective when applied to the right problem. Unfortunately, clinical studies do not delineate precisely the site or sites of interference with the neurovascular structures in every case. Hence, when there is any possible clinical doubt, the surgeon should proceed in such a fashion that further diagnostic information will be obtained at the operating table and will make possible the performance of the correct surgical maneuver. Telford and Mottershead[4] have repeatedly stressed this point.

If clinical and operative diagnoses indicate that the scalenus anticus muscle is alone at fault, then this muscle is sectioned without loss of any important function. If the patient is suffering from a pure form of the hyperabduction syndrome, then section of the pectoralis minor muscle is sufficient.[5] If there is a combination of thrombosis of the subclavian vein and obstruction of the subclavian and axillary artery in the position of hyperabduction, then combined section of the scalenus anticus and pectoralis minor muscles is of value.[5] It is possible that the more exacting procedure of section of the scalenus anticus muscle combined with partial[2] or complete[6] resection of the first rib and its periosteum would be more efficacious in completely relieving venous obstruction. If there is marked narrowing of the space between the clavicle and first rib resulting in the costoclavicular syndrome, then total claviculectomy, resection of the periosteum to prevent regeneration, and section of the scalenus anticus have been most satisfactory.[7] The one patient who has noted persistent aches in the shoulder areas after this procedure has been relieved by section of the cutaneous nerves of the cervical plexus which innervate the supra- and infraclavicular areas. Falconer and Weddell[2] relieved their patients with the costoclavicular syndrome by sectioning the scalenus anticus muscle and resecting a small segment of the first rib and its periosteum.

Finally, from the neurologic viewpoint there are a number of abnormal fascial bands and bony knobs, including the cervical rib, which may elevate or press on elements of the brachial plexus; cure follows correct operative diagnosis and removal of the offending structure.[8]

A summary of the author's experience with the operative management of the shoulder girdle syndromes during the past four and one-half years is shown in Table I.

There were 16 patients who obtained good results from a variety of operative procedures for "pure" and "compounded" shoulder girdle syndromes. There were two fair and three poor results. Two of the patients came under workmen's compensation, and it has been difficult to evaluate properly their subjective complaints. Objectively the arterial flow is improved, and in one the venous collateral has overcome the effects of a thrombosis of the subclavian vein to the extent that there is no longer edema of the arm. However, in view of our failure to relieve symptoms completely, we must assume that either an accurate diagnosis was not made or an inadequate operative procedure was performed.

Three patients are classified as poor results. In one, operative diagnosis was faulty and in disagreement with the clinical impression. This led to the performance of an inadequate operation. The remaining two patients were severe psychoneurotics and were operated on as a "last resort." Psychiatric care should have been instituted instead of surgical intervention.

Summary

When careful clinical appraisal of the patient with a shoulder girdle problem leads to an accurate diagnosis, then a properly selected surgical procedure will afford relief. However, until a better understanding of the static and dynamic anatomy of this area is forthcoming, errors in management will continue. In a series of 21 patients undergoing 26 operations (bilateral in five), good results followed in approximately three fourths of the patients. It is to be remembered that this group of 21 patients was recommended for an operative procedure from a much larger number who had responded satisfactorily to medical measures. If in the selection of potential surgical candidates patients with definite psychosomatic tendencies are assiduously avoided, then a highly favorable outcome can be expected in better than 90 per cent of patients.

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CAPITAL DISTRICT CONFERENCE ON AGING

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Social Rehabilitation of the Older Person

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SOCIAL rehabilitation is not a new concept, but there are some new "slants" in our approach to it. There are important medical implications for any social worker engaged in work with older people and social implications for any medical worker so engaged. And the current trends indicate that neither will have any real choice of an "either/or" consideration, for even in our work with young people there is an increasing number of interrelationships which inevitably involve older people also.

Especially is the new slant in medical care noticeable in the current word "rehabilitation," so popular since the days of World War II, for it usually connotes "rehabilitation and physical medicine." And equally naturally "rehabilitation and physical medicine," with the advances in repairing shattered bodies and returning shadowed minds to a brighter and more useful functioning, have come to be the twentieth-century words for miracles. When one compares the results before us with the human tragedies of yesterday, we have no trouble in believing that the practitioners in this branch of medicine have indeed wrought miracles! Without in any way minimizing this or the remarkable work of the leaders who have taught us what can be accomplished, I should like to submit to you my belief that "rehabilitation and physical medicine," as we now know it, is but the inevitable coming of age of the science and art of medicine or, perhaps more accurately, of its reaching its true stature as an art.

The scientific facet of medicine has long been in evidence in the treatment of the illness or condition which constitutes any departure from normal health and physical capacity to perform. Physicians and surgeons have applied their technical skill and knowledge so assiduously and effectively that today they are practically "hoist with their own petard," confronted as they are with the necessity of learning more about the so-called degenerative diseases and of alleviating and preventing the chronic diseases with their crippling sequelae. But in this latest phase, science becomes handmaiden to the art of medicine for here it is essential to bring into play not only all that is known of a man's illness, but all that is known of the individual, his personality, his social assets, and much that initially may be unknown or hidden. Thus, the social worker, because of his training and skill with people as human beings, becomes *ipso facto* an indispensable member of the team in this process. So, rehabilitative medicine and social work in active partnership both approach, more nearly than ever before, the prospect of realizing the goal of healing the sick and salvaging to humanity's service many once condemned either to early death or to a useless living death.

It is interesting to note that "rehabilitation" is usually thought of in the words used by Dr. Magnuson[1] of Chicago as a "complete process of taking some nonproductive 'unit' of society, giving him some incentive, restoring his confidence in himself; retraining him to *work under competitive conditions*." The subject is a *unit of society*, and he is to be retrained to work "under competitive conditions." This makes clear the economic aspect of any rehabilitation service. It also undoubtedly explains why these programs are more apt to receive more public support than those programs with less easily demonstrable economic values. Presumably they save money because the handicapped "unit of society" becomes a working and *earning* unit, most acceptable in a money-conscious culture such as ours.

With this impersonal definition all we have to do is to compound that impersonality further with the stereotype of age by speaking of an "older unit of society" (who may or may not be able to return to either full or partial self-support) in order to grasp one of the reasons why there is often reluctance to weigh the human as well as the economic values in this work of salvage. Since the older person has often lost his standing as a "unit of society" by virtue of age alone, the full meaning of his social rehabilitation, whether carried on in social agencies (public or private) or institutional programs, is much more difficult to demonstrate, much more elusive, and less capable of being translated into terms of the "coin of the realm."

There is, of course, no clear-cut division between social and economic rehabilitation of a person for they are as indivisible as are the health and welfare of that individual. They are part and parcel of each other. Therefore, overlapping of discussions of social and of economic rehabilitation is unavoidable and perhaps should be intentional. Social rehabilitation of a person, whether that person be a patient or not, should for our purposes include hopefully complete reinstatement in his way of life. If that be impossible, and realism compels acknowledgment that this may well be so for both old and young, then the goal should be modified so that the aim is to achieve at least maximum improvement in the patient's ability to be a person and personality in his own right; to be a member of his family or group of peers in the community; to maintain any and all relationships at a level as nearly as possible normal to him and presumably satisfying to him wherever he may spend his days—in his own home, in a substitute home, or in an institution such as an infirmary or hospital.

It is important to remember that many old people have difficulty in holding their own in social situations without suffering from any apparent illness or infirmity. Society has deprived them—as we have previously noted, often on the basis of age alone—of the place they once had or the place they hoped "to have and to hold." The handicap of illness or infirmity with the added handicap of social displacement proves to be extremely discouraging, if not actually defeating, for many older citizens from the middle years on. Therefore, to be effective in any measure social rehabilitation depends primarily on an understanding of the individual *as he is*, combined with a comprehension of the social situation in which he finds himself and about which he can probably do little or nothing working by himself. Thanks to the efforts of the doctors and to social change, the "unit of society" about whom we are talking has found his role shifted from one of "rugged individualism" to one of being "individually rugged." Beyond an understanding of this shift with its personal gains and social losses, there is needed on the part of all those associated with him—family, friends, professional personnel—a new optimism about his future which can be communicated to him with real conviction. This is immeasurably helpful in the attempts to capitalize on the will to live which every person has to a surprising degree, even under the most miserable conditions, and to restore his own confidence in himself by exhibiting confidence in him on the part of others. And so far as older people are concerned, this calls for a "volte face" in attitude for pessimism still characterizes the attitudes of most of us about old age—and all too frequently middle age—which carries over to the later years.

Optimism about people in our work can come from two sources: a conscious willingness and patience in trying to find the strengths that exist in everyone, old or young, and an effort to know the person *as he is*, not as he looks nor as we *think* he is. It is habitual for us to judge a person by his looks. When these include gray hair, wrinkling skin, and changes in body structure and appearance, which spell growing older, it is easy to endow the person with the negative characteristics that are commonly attributed to all older people or to those older people we have known. We in social and health work are not exempt from these tendencies, although our training should make us less suspect than others in this regard. Not so long ago, at a meeting at which old people were being talked about, a number of visual aids were used. The figure representing the middle-aged group was somewhat misshapen by what is slangily known as a "corporation" or middle-aged "bulge," and the group sixty-five and over was represented by a bent, trembling figure leaning on a cane. The point I wish to make is that today, with what modern medicine and rehabilitation are doing for us, these portrayals are no longer sound for the great *majority* of people in those age groups. Can we then in our attempts to understand older people, sick or well, try first to see them as they are—if with the eyes of yesterday, at least with lenses adjusted to today's changes? It would be even more encouraging if we could see them as they *might* be, given the advantages of "rehabilitation," economic, social, and physical.

Next, can we and our staffs, if we are to achieve any degree of social rehabilitation for older people, come to understand the personality of each individual sufficiently not to be misled by surface symptoms, with which we almost automatically endow older people, without giving much thought to the causes of the symptoms? This means an understanding of ourselves and our own attitudes—what underlies our reactions to older people—and knowing whether we are *really* as unbiased and unprejudiced as we would like to believe ourselves. Then it means coming to know the older person not only as he thinks of himself but, equally important, as his family, his colleagues, and the community in general thinks of him. Reconciling the differences in these—and there are differences—gives us the composite picture, a profile if you will, which helps us to help him in the adjustment to changes, both those within himself and in his situation.

The most pertinent question is the desirability of modifying the goal of "rehabilitation and physical medicine" so as to encompass personal and social well-being with or without renewed vocational activity. So far, in order to make such modified goals part of formal programs of rehabilitation, it has been necessary to point out that the achievement of self-care, of renewed ability to assume responsibility for household duties, are in themselves real "economic" objectives. This does save money. It saves the time of the family, of professional and other personnel. It means a money saving which often exceeds the expense of rehabilitative therapy. But no one who has been associated with people who have regained their ability to care for themselves, even though they may never return home from an institution or return to work, can be persuaded to the belief that the economic factor outweighs in value the personal and the social factors.

The return of many "rehabilitated" patients to their homes, where they can be welcome because of the reduction in the burden of care their presence otherwise might impose on the family, is a social gain of high order. The mere fact of a "welcome" is a morale builder and becomes a positive element in the family life which carries over into the community. And again the close teamwork of the doctor, the nurse, and the social worker is the determinant in the wisdom of the plan for patient and family. The social worker and nurse learn from the doctor the lengths to which a patient can safely go, and equally vital to the plan, the doctor learns what are the elements in the home situation which are conducive to maintaining or improving the level of health of the patient. This to me is real progress for in many of our cities at least the complexity of our professional development with its system of office appointments has meant that the home and the climate of the life in it as potent factors affecting physical and mental health have been lost sight of or have disappeared altogether from our considerations.

In our hospitals and in our institutions, whether infirmaries or homes for the aged or nursing homes, the "social rehabilitation" of the patient must be as definite an aim as the physical improvement. This is not any mysterious something apart from the daily care of patients. It is again the result of the attitude created in the patient, as in the members of his family, as to what he may yet be able to do, stemming from the favorable attitudes of doctors, nurses, social workers, and family. Most older people and those associated with them need to be helped to understand the length of the future ahead of them and the worthwhileness of working toward as much participation in living throughout that future for the individual as he can attain, given all the assistance of which modern science, hand in hand with human understanding, is capable. One specific asset in this process, once a person has shown his desire and willingness to get better and demonstrated his hope that life can have more meaning for him, is the thorough evaluation and synthesizing of what is known of the existing physical, psychiatric, personal, and social potentialities. This in itself provides the soundest basis for prognosis and has all too often been lacking for most older persons, whether in social or medical care agencies, since they have not been, nor are they yet, ordinarily regarded as social assets. For this reason these persons have not had the advantages of many of the new curative discoveries or preventive programs.

For those who are patients—and to some extent most older persons are the hosts of illness or handicap, although most of them are not seriously limiting—we must come back to the everyday care which is given. It is in this that the essence of real rehabilitation lies. It is in the unremitting patient application of all we know, in the best way known to us, that the seeming miracles happen. And for most of us who work with older people, as chronically ill patients or chronic invalids, this is the most vital concept of rehabilitation, social and physical, to bear in mind at all times. Therapeutic nursing, nutritional therapy (meaning balanced nutrition according to individual need), diversional as well as occupational therapy are all recognized today as rehabilitative measures which can bring some patients, no matter how old, how sick, how handicapped, to a better state of health and a more conscious part in life around them. But none of these gains can be made unless staff believes in them and can communicate a lively feeling of hope to those for whom they care, simply because they do *care* about the patients as people. Imagination and persistence in the use of existing institutional and community resources, sometimes very uphill work, are so necessary and obvious it seems trite to mention them here.

In the world of employment where older workers have become more numerous, as older people have everywhere, the experience of people like Dr. Howard A. Rusk, Dr. George Deaver, Dr. M. B. Ferderber, should prove enlightening enough to serve as a guide to better thinking and practice in the vocational rehabilitation program. Age limitations are artificial when it comes to either physical or social assets, and a man should be assessed on what he has now, and what he still may have to offer. Length of life can mean lengthened working life, and until there is some acceptable substitute for work as a way of maintaining one's self and family, denying a person the opportunity seems socially, as well as economically, wasteful. Again a careful evaluation of the person should be the basis for the decision as to retraining. Dr. Ferderber's[2] statistics of the people from fifty to seventy who left an apparently hopeless situation in a county home for paid work in the labor force indicate that age is no barrier to this as a possibility. Certainly if it can "happen here," it can happen in different and more optimistic situations.

But hand in hand with rehabilitation of any kind, there must be, if failure or frustration or wastefulness is not to result, the opportunities for the person to exercise his regained abilities, socially as well as otherwise. In the most limited setting, the hospital or infirmary, this means sympathetic staff and a climate of feeling congenial to the promotion of activity on the part of the individual in his own behalf or in that of others. It means having the facilities and equipment to aid and abet him. It means having staff and volunteers to carry on the programs of recreational and work activity within the limits established by the physician. It means constant attention to the correlation of the nursing and other therapeutic measures, called upon almost more than any other at the beginning, with those indicated by better understanding on the part of the social workers, dietitians, and other professional staff. It means working much more intensively with the community to be sure that transfer or discharge can take place *when* indicated by the needs of the patient. Discouragement, even as a sense of utter defeat because such discharge cannot take place, can more than undo the good work done up to that point. Rehabilitation, whether vocational or other, just as our efforts in preparation of an individual for retirement, can be an almost complete waste of effort and of manpower and can destroy morale if the opportunities for using the skills renewed or acquired are not made available. So, success of rehabilitation of any kind requires, over and above the staff and the skills for the process itself, the community organization of those services and facilities which provide the older person and his family with the opportunities to benefit from the advances of science and of the humanities.

We hear much about the funds needed for such a program, the difficulties surrounding our provision of these services, but there is little doubt in my mind that once there is in the community an abiding conviction in the "social desirability and economic soundness" of these measures, they can and will be made available. Perhaps Mr. Abrams[3] of the Desmond Committee was on the right track recently in Atlantic City when he suggested that the stake of business in these so-called humanitarian programs is even greater than that of the social worker. This is just another way of saying that the problems of older people and the task of social work in their interest constitute a socioeconomic situation of such magnitude and importance to everyone that it is indeed fortunate it is being considered here today from the more favorable point of view which the phrase "social rehabilitation" implies.

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The Economic Aspects of Rehabilitation of the Older Person

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MY SUBJECT is "The Economic Aspects of Rehabilitation of the Older Person." I wonder if it would startle you if I said that I didn't think that is what we should be talking about, but that instead we should be talking about the rehabilitation of the point of view of our friends, and even you and me, toward the older person. I can say that more succinctly, even though a bit crudely. It is time we stopped talking out of both sides of our mouths. I know you will understand what I mean if I use this illustration:

I read that some time ago the National Association of Manufacturers completed a survey of employer attitudes in 2,794 companies, which employ a total of about two and one-half million people. This study was concerned with employer attitudes toward performance, attendance record, safety record, and work attitudes of older as compared to younger employes. Only 7 per cent of the employers felt that older people were lower in work performance than younger people, whereas 23 per cent reported that older workers were superior in performance. Seventy per cent of the employers considered the working performance of the groups to be equal. The responses to questions concerning attendance, safety records, and work attitudes were even more favorable toward the older people. The findings of that study are a tremendous endorsement of the older worker. You would almost expect, as a result, that we have very little reason to be meeting here today. We are, though, because we are not naive. Way back in 1890 the percentage of men sixty-five years of age and over in the labor force was 68 per cent. In 1950 this had fallen to 45 per cent. In 1948 of the 11 million persons in this country over sixty-five years of age, one third of them had no income of their own, and of the seven and one-half million with some income, 50 per cent had less than $500. Do you see why I think it is the attitudes of the general public that need rehabilitation, as much as our aging fellows may need it?

One of the subjects that receives the greatest amount of space in the newspapers each day, that is a constant topic of conversation at our dinner tables, is the problem of whether the economy in this country can remain sound under our terrific tax burden. Yet, and certainly unintentionally, we are dealing with our senior citizens in such a way that they must be a party to building that tax burden when, with the known capacities that they have, they could play a major role in reducing it.

I would like to say something now that, if you remember it and remember nothing else I say today, I'll be perfectly satisfied. Let's stop thinking about the chronologic age of people and just think about their capacity to perform. I read about a devastating situation the other day. A fifty-one-year-old businessman had a stroke and became a hemiplegic. He was kept in a hospital bed for three years where he was helpless and gained up to 240 pounds. The only time he was out of bed was when he was lifted into a chair by two orderlies to sit for one-half hour each day. His condition persisted for three years without the hospital personnel becoming aware that hemiplegics could be taught to walk and to take care of themselves. This man could have been returned to the useful life he had led before he had his stroke.

It would be hard for me to estimate how many hundreds of medical examinations report forms I have seen that ask the question, can he bend, stoop, squat, lift, etc. Maybe this gives the appearance of a dynamic approach to evaluation of a person's capacity, but I'm afraid that it is really a very static one. We must adopt, I believe, an approach to evaluation of individual performance ability along the lines of the job-sample or job evaluation technic. Probably because it is the easiest thing to do, we have adopted age as the criterion for ability to perform. It is time that we approach this problem from an entirely different angle for the question of criteria for retirement or for rating disability or incapacity is one of the biggest social, economic, and administrative problems confronting us. Five years ago it was difficult for a man of seventy or a man with disabilities to do certain jobs in a factory. That is not true today because so many of the same jobs are mechanized, and the use of machines greatly reduces the physical demands.

Billions of dollars are being spent each year for research by industry to perfect machines and methods of production. Isn't it only fair and logical that we spend some money too for research into the problems of proper criteria for retirement of man, for determining proper materials and methods for evaluating older persons in terms of their mental capacities, their ability to change and to be flexible in their thinking? We must, for it is in these areas that the public is most critical of the aging. Fortunately, this need has been recognized by some of the unions, such as the United Automobile Workers, and some of the universities, and they are beginning the research. However, this, I think, is a responsibility of industry and government as well.

Our hearts tell us that we have no right to snuff out the desire of man to work for a living for when he is involuntarily added to the discard pile, he may experience a family disapproval and loss of social acceptance that can only result in a devastating personality deterioration. Furthermore, our heads tell us that this is sheer waste of production power and a wholly unnecessary attack upon our superior standard of living.

I'd like to speak for just a minute about personality deterioration. We know what a terrible impact it is to suffer the shock of work stoppage simply because of age alone. Now consider how this is complicated by the added factor of illness or injury. The younger person, when disability appears, having a whole life ahead of him, tends in his immediate reaction to have more hope. When a person past fifty gets a disability, he very likely will overreact. He is an individual with a personality pattern that is already well established, and that pattern will have a great bearing on what will happen to him. He may have certain responsibilities which he cannot continue to support, and his attitude toward these makes a great deal of difference. We know that some persons are happy for the excuse which age combined with disability may afford to be relieved from these responsibilities. Like you and me, the disabled individual lives in an emotional atmosphere that induces some type of reaction in him. If his friends and neighbors think it is bad to be disabled, he too thinks it is bad. If they think he is getting along well, his attitude toward his disability will improve. When the older worker becomes disabled, he immediately becomes threatened and insecure, and he may experience a whole series of resulting personality changes. After a year or two with this disability, he may be virtually unrehabilitable. Therefore, the attitude of the family, the general public, management, the union, the physician, and the hospital directly affect this factor of personality change.

Again let me illustrate: The very routine of life in many hospitals is such that the disabled patient can't help suffering personality deterioration. Often in hospitals, unless the hospital has a rehabilitation viewpoint, the individual is in a situation where he can hardly avoid becoming egocentric, neurasthenic, dependent, demanding, because everyone waits on him "hand and foot" and the world seemingly revolves around him. It may be the first time in the patient's existence that his family has paid any real attention to him, and as a result he may not care to develop into an individual who wants to go back to work. Suppose his doctor says, "You have had a heart attack; you'll have to take it easy from now on." To the man, his employer, the union to which he belongs, that often means that the worker must relinquish his job and go into a form of retirement. The doctor does not have time to know the situation in our complex and huge industrial plants today. He can't know what is involved in the operation of different types of machines. As a result, when he says that a worker is disabled, it is often true that the worker is not actually handicapped to the extent that he cannot work again. The doctor, however, has unwittingly set in motion a series of emotional reactions that will result in the man's personality deterioration.

The man's doctor, dealing with the combined factors of age and disability today, must have a concept of rehabilitation, and to have that concept he must view himself as a part of a team of experts, each with something special from his own field that, given to the man in an integrated and coordinated manner, can make that man well and useful again. The man's doctor is the keystone of the team, but he must know when it is necessary to call on the neurologist, the psychiatrist, the orthopedic specialist, the psychologist, the social worker, and the vocational counselor. It is this comprehensive approach—this diagnosis of the total man—that will avoid the kind of deterioration that has resulted in the large public assistance rolls, the overcrowded hospitals, and the harrassed, overworked physicians that we have today. When any one of us risks treating an individual solely with the knowledge we have in our specialty, we are risking failure that may not need to occur. That failure may mean an unnecessarily filled hospital bed, an expenditure for the support of the individual's family, and a loss of production because the individual's skill is no longer available. Every failure to rehabilitate has implications not only for the individual but for his family and society around him.

You know, we men have a tendency to lose our sense of proportion at times or at least to inflate the importance of our proportion. Still in terms of the economy of rehabilitation, therefore, I'd like to talk a little about women. They bear a triple burden in our society. In a pamphlet, "Doing Something for the Disabled," that was written by Mary Switzer and Dr. Howard Rusk and issued recently by the Public Affairs Committee, this triple role was very well described. As the focal point of family life, the mother feels the full force when disability, either through age, illness, or accident, strikes another member of the family group. Three out of every ten members of our labor force in this country today are women; therefore, as workers, many thousands are disabled in our industry and business. As homemakers, they are subject to accidents on a scale which seldom is realized, for homemakers, the largest single occupational group, have an accident rate 123 per cent higher than that of employed men. If we examine the causes of broken homes and the disintegration of healthy family life, disablement of the wife and mother will appear high on the list. We know that handicapping conditions are as prevalent, as serious, and as costly among women as among men, but we know also that far too little attention has been given to the rehabilitation needs of women. The disability of a wife and mother can destroy a home, cast children adrift, exhaust the husband's earnings, and produce public costs which are so large and so prolonged as to be almost immeasurable. For the thousands of women who have assumed the dual responsibilities of mother and wage-earner, a disabling condition presents especially severe problems. Of 11,500 families whose children were cared for in day-care centers in California in one year, over half the mothers were the only wage-earners in their families. Among such a group a disabling accident or illness spells catastrophe for the family and usually brings another case to the rolls of the state public assistance agency. Combined with the factor of age, the catastrophe takes on even more appalling significance. Whether it is to result in wages earned in a factory or simply to continue providing the intangible as well as the tangible things that a housewife furnishes, rehabilitation of women is at *least* as important as the rehabilitation of men. There is probably no more dramatic and moving demonstration to a community of the far-reaching effects of rehabilitation than the disabled wife rehabilitated and returned to the family circle as the homemaker and focal point of a family's life. The economy? It is obvious, isn't it?

In that very interesting pamphlet, "Doing Something for the Disabled," there is the telling of a highly dramatic story about what is being done to restore to a productive, or at least a much more satisfying life, the people who have been living in a certain institution. Maybe you know this story because it is told also by Dr. Ferderber in the 1953 report of the New York State Joint Legislative Committee on Problems of the Aging, one of the most valuable documents about this subject that has been published anywhere. The county home at Woodville, Pennsylvania, and its hospital-infirmary nearby had operated for years in the familiar pattern of many county homes for the poor, providing little more than food, shelter, and other essentials of life. A civic-minded doctor and some forward-looking public officials in the spring of 1946 decided to see what could be done to change this pattern through a small program of physical rehabilitation. Their beginning was not particularly impressive; the quarters were small, the equipment mostly home-made, and there was no full-time staff. Yet in a matter of months, patients who had been bedridden for months and years were out of bed. Others dependent upon the home for so long that they had almost forgotten about life "outside" were beginning to leave and take jobs. As an interesting sidelight—where married couples were involved, restoring the husband to work meant that both left the home, a two-for-one bonus in rehabilitation. Encouraged by the initial success, the project was adopted as a part of the total institutional program. Physicians and hospitals cooperated; the state vocational rehabilitation agency and the state employment service joined in.

At the end of four years the results looked like this: Of nearly 400 patients who entered the rehabilitation program, 25 per cent returned to jobs. An equal number returned home able to take care of themselves. Another 25 per cent were able to move about within the institution and to look after most of their needs. A final group, 25 per cent of the total, derived no noticeable benefit. When we realize that these men and women were generally considered to have no future except as permanent wards of the State and county, the results are tremendously impressive, not only in terms of their very great economic significance but also in terms of humanitarian and social significance.

Rehabilitation of the aging is difficult, and rehabilitation of the aging handicapped by disability is more difficult, but it can be done, as the Pennsylvania story I just told you illustrates. Let's bring this whole matter home; let's talk about New York State. My office is located in the Wall Street district of New York City. It is that environment where the luncheon table conversation is about good investments and promising speculations; where people say you can't make a better buy than one of the gilt-edged bonds or the blue chip stocks. I'd like to tell you about a better buy that you—you as citizens of this State—made last year. You have in New York two significant organizations, the Division of Vocational Rehabilitation and the Division of Vocational Rehabilitation of the Blind. They made that better buy for you.

In 1952 the Division of Vocational Rehabilitation rehabilitated back into employment 1,017 disabled persons over forty-five years of age. These persons, at the time they became known to the Division, were on public assistance, were unemployed and being supported by other members of their families, or were in jobs that they were about to lose because they couldn't carry on any longer in their disabled condition. When the Division started giving services to these 1,017 people, they had combined earnings of approximately $430,000. To rehabilitate them it cost $197,000; a one-time, nonrecurring expenditure. When they went back into employment after their rehabilitation, they earned in their first year approximately $2,336,000.

The Division of Vocational Rehabilitation of the Blind last year rehabilitated back into employment 89 persons over forty-five years of age. These persons, like the others just mentioned, at the time they became known to the Division, were on public assistance, were unemployed and being supported by other members of their families, or were in jobs that they were about to lose. When the Division started giving services to these 89 blind persons, they had combined earnings of the pitiful amount of approximately $13,000. To rehabilitate them it cost about $55,000. In the first year after they went to work again, they earned $174,000. You know, we talk about growth stocks as good investments because they may appreciate in worth 25, 50, or 100 per cent in from three to ten years.

You have just had an investment made for you by these two divisions of your State government that appreciated in one year over 950 per cent in the case of the Division of Vocational Rehabilitation and more than 300 per cent in the case of the Division of Vocational Rehabilitation of the Blind. That isn't all. In three or four years these rehabilitated older people will have paid back in taxes on their income all of the money the State and Federal governments spent to rehabilitate them. Wall Street doesn't have an investment to offer you that is as good as the one you made last year in these aging disabled citizens of your State.

The two Divisions of Vocational Rehabilitation operating in New York State rehabilitated back into employment in 1952 a total of nearly 4,500 people. Twenty-five per cent of all those rehabilitees were at least forty-five years of age. I feel sure that if we can give some of our time to rehabilitating the point of view of the general public, the unions, and industry toward the aging and the disabled aging; if we can get all of our physicians and hospitals and medical schools to adopt a rehabilitation concept of treatment, and if we can bring all of the professions—social work, psychology, vocational counseling, physical and occupational therapy, and doctoring—to view the patient as a total man needing their services, not in solo approach but in an integrated and coordinated manner, we can bring our aging population back into the economic activity of our country to the extent that they properly belong and want to be in it.

Food—The Key to Health

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NATHAN W. Shock, chief of the Section on Gerontology, National Heart Institute, has stated that the field of aging is broad and that no exact answer can be given to the general question, "What is normal aging?" In the human it is difficult to separate the accumulated effects of disease and pathology from the normal process of aging. Age changes must be expressed in terms of some performance, and on this basis he believes that the beginning loss of function, detectable at about age thirty, is the beginning of aging. Once growth ceases, something else begins.[1]

Where does one begin to describe the influence of nutrition in the biologic cycle? One frequently starts at the moment of conception, but this is not early enough because it is necessary to consider the genetic makeup and the state of health of the parents. Therefore, it is reasonable to start in adolescence or early adulthood. The genetic contribution of each of the parents renders the individual unique, except in the case of identical twins. This combination of genes contains his potentialities, which may be influenced by the state of his parents' health. Once the individual is created, he is influenced by environmental conditions within the mother and, indirectly, by those environmental conditions which affect her physically, mentally, and emotionally. Throughout the period of gestation he grows and develops to the extent of his capabilities, provided that he is supplied with the necessary means to do so. There is ample evidence of the untoward effect on the offspring of poor health and poor nutritional state of the mother during pregnancy. When he is born, he is already nine months old. The placenta is senile and is discarded. He grows and develops in his own way and at his own rate following an orderly sequence of events. He may be well fed or he may be poorly fed at one time or another; he gets sick, gets hurt, plays hard, may or may not get enough sleep; he may be happy or he may be a worrier; too much attention to diet may create emotional tension, and emotional tension may create a poor eater. He becomes a preschooler, then goes to school, struggles through adolescence, becomes a mature adult and eventually a senior citizen. Physically, mentally, emotionally, spiritually, physiologically, pathologically, anatomically, chemically, pharmacologically, nutritionally, socially, and personally he is an individual. He is the sum total of everything that happened to him. He doesn't suddenly assume certain characteristics at age forty, fifty, sixty, or sixty-five, even though broad generalizations may be made about such age groups.

Steiglitz[2] states that the nutritional problems of later maturity are significantly affected by aging changes within the organism. The first attribute of maturity particularly significant to nutrition, which he lists, is individual variation. It is essential that there be individualization in analysis of the nutritional status and any diet therapy. Generalizations are dangerous; oversimplification is hazardous.

He then mentions factors which affect absorption and transportation of foods. Changes occur in the alimentary canal. Loss of teeth interferes with chewing, and older persons frequently choose only the softer foods. The secretion of digestive enzymes and hydrochloric acid by the stomach and intestinal canal diminishes so that considerable interference with the digestion of foods may be anticipated. The ingestion of fats may account for considerable flatulence and discomfort since impaired gallbladder function interferes with their utilization. Atrophy of the intestinal mucosa makes the bowel more vulnerable to trauma and may impede absorption. Diminished secretion of mucus contributes to the tendency to impaction and constipation.

The so-called physiologic constants, such as temperature, pulse rate, blood level of sugar, protein, calcium, etc., are about the same in age as in youth. The steady states in the organism tend to be maintained by complex physiologic processes. However, the ability to maintain such constancy decreases with age, and this ability may be further decreased by accumulated injuries of previous disease. Consequently, stresses are not well tolerated—extremes of temperature, excessive carbohydrate intake, dehydration, starvation, and the like.

An exception to the above is the basal metabolic rate, which appears to diminish with age in the majority of instances. This decline in the use of calories and in oxygen consumption is taken into account in the calculation of normal levels. This is a reason why older people do not need so many calories and why they tend to put on weight when the caloric intake of the younger years is maintained. Recent studies have demonstrated the undesirability of the weight gain commonly occurring in persons after they attain full maturity.

Aging fixes habits, and habits of eating are most significant in the etiology of nutritional disorders and other problems. Past habits are as important as present ones, and habits may influence the following generation. Cost of food is frequently the most important factor affecting eating habits, and ease of preparation is another, especially where the older person prepares his own meals. It is so easy to develop and persist in an unbalanced dietary.

Steiglitz emphasizes the complicated nature of the etiologic, pathogenic, symptomatic, and functional interrelationships existing between nutrition and the chronic progressive disorders of later maturity. He pleads for consideration of the mature person as a whole and for treatment of the entire patient and not his disease.

Basic nutritional requirements are essentially similar to those of the younger adult with certain modifications introduced by aging and chronic metabolic disorders.[3] Of first concern is water, which contributes 70 to 72 per cent of the total weight of the body. It is important to recognize that the ability of the organism to eliminate excesses of water is far greater than its ability to conserve fluids when the intake is inadequate. Urine output should be maintained at not less than 1.5 L. in twenty-four hours, which indicates a total beverage intake of 2 quarts, much of which may be flavored if plain water is disliked. Edema is not a justification for radical water restriction because the fluid is toxic and will accumulate whether water is ingested or not.

In the matter of calories the intake should be sufficient to maintain desirable weight. Obese individuals are more prone to have difficulties and a shorter life, and the hazards of obesity are greater in the presence of heart disease and diabetes. To control obesity, dietary restriction in calories is essential, but the composition of the diet should be varied until a successful formula is found for the individual by which he loses weight slowly and comfortably. It must be remembered that the fewer the calories, the greater the need for an intelligent selection of foods to provide a sufficiency of essential nutrients. A loss of less than a pound a week is suggested for older persons for whom weight reduction is indicated. If a fat oldster comes from a family of stout nonagenarians and is himself otherwise healthy, it is difficult to see why any attempt should be made to change his life to any great extent.

Older persons are more apt to suffer from protein deficiency than from any other. Inadequacy of protein is a significant factor in tissue wastage, anemia, and edema. Mild protein deficiencies may be manifest by a feeling of habitual fatigue. Plasma protein determinations frequently reveal a moderate degree of insufficiency in older people. It takes about a month to restore a 5 per cent plasma protein level to the normal 7 per cent in a 150-pound man by doubling his daily protein intake. Let us say that he consumes his 70 Gm. of protein needed daily for maintenance by eating 3 cups of milk, 2 eggs, a large serving of meat, and 4 servings of bread or cereal. The additional 70 Gm. of protein needed to make up his deficit would double these amounts to a quart and a half of milk, 4 eggs, 2 large servings of meat, and

8 servings of bread or cereal. Fortunately, there are simpler ways of increasing the protein intake without such an increase in the volume of food. The use of dried skim milk, or nonfat milk solids as it is now called, and other protein concentrates makes the inclusion of this amount of protein practical. The role of nutrition, and particularly adequacy of proteins, is extremely important in preoperative and postoperative care of the elderly.

Neither excessively high or low blood levels of carbohydrates are desirable, and appropriate restrictions are indicated for the diabetic. There is as yet no sound, confirmed clinical recommendation as to fats. Studies in United States, England, Italy, and Spain and comparisons of per capita consumption of fats with death rates from degenerative heart disease in several countries suggest that a greater proportion of calories from fat is associated with high mortality rates from degenerative heart disease as one of the many factors which may be involved in its causation.[4]

Most minerals are available in ample quantities from foods, but both calcium and iron are frequently deficient. Major food sources of calcium are milk, cheese, ice cream, green vegetables, and legumes. Senior citizens not only tend to dislike milk and milk products, but they also have a difficulty in absorbing and using calcium. Food sources of iron are liver, certain greens, dried beans, meat, cereals, and bread. Supplemental sources of iron are frequently indicated for older persons.

Low-grade or minor deficiencies of vitamins may be assumed to be the rule, and it has been shown that liberal additions of vitamins B and C increase general vitality and vigor in the older person. About twice the Recommended Allowances is a good rule.

An adequate amount of soft bulk is essential to prevent constipation, and the old intestinal mucosa does not tolerate roughage. Bran, scratchy fibers from celery, and hulls of corn are frequent offenders. Any fruit or vegetable that can be strained through a colander contains little or no roughage. Major vegetable sources of soft bulk are roots, as beets, turnips, parsnips, and carrots, and leaves, as spinach, lettuce, cauliflower, Brussels sprouts, and broccoli. The control of bulk as well as other items must be individualized.

Excesses of condiments and spices, particularly those that burn the tongue, are undesirable because they are irritating to the gastrointestinal tract and contribute to vascular and renal irritation.

Raymond Harris stated at the First Capital District Conference on Aging[5] and at the special session on aging at the Annual Health Conference last June[6] that many of the persons admitted to the Ann Lee Home were suffering from malnutrition. Most of them improved rapidly on appropriate nutritional therapy. Perhaps if they had been properly fed, a large proportion of these older persons would not have had to come to the county home.

The following statement has been taken from "Therapeutic Nutrition," prepared by Herbert Pollack and Seymour L. Halpern, with the collaboration of the Committee on Therapeutic Nutrition of the Food and Nutrition Board, National Research Council.[7]

> Malnutrition may be classified as primary or secondary. Primary malnutrition is defined as an inadequate (or excessive) intake of nutrients for normal requirements. This condition usually is associated with faulty selection of foods, with actual food shortages, or with economic limitations in the purchase of protective foods. Less well-recognized conditions also lead to primary malnutrition. These are the loss of appetite due to the stress of anxiety, inability to eat because of fractures of the jaw or obstructive lesions of the gastrointestinal tract, poor dentures, or the inadequacy of a ration or of a therapeutic diet.
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> Malnutrition also may be "secondary" or "conditioned," even when the diet would be adequate for normal conditions. It results from failure to absorb and utilize nutrients and from increased nutrient requirements or excessive body losses. Examples of such conditions are (*a*) increased metabolic requirement from hyperthyroidism or sustained high fevers; (*b*) increased losses of nutrient elements, such as proteins, due to the disturbance in metabolic processes which accompany injury or illness; (*c*) increased losses of proteins, electrolytes, and vitamins from the body secondary to burns, peritonitis, dysentery, ascites, uncontrolled diabetes, nephrosis, and exudates; (*d*) poor utilization of metabolites, as in liver disease where there is impairment of protein synthesis; (*e*) increased requirements from physiologic causes, such as pregnancy and lactation in women, sustained heavy work, or abnormal environmental factors.

This report is a conservative and well-documented presentation of the relationship of nutrition to health and disease. It describes the results of nutritional deficiency essentially as follows: Persons with nutritional deficiencies may have a delayed convalescence, poor wound healing, impaired tissue and organ growth, increased susceptibility to infection and lowered resistance to disease, disturbed functioning of the gastrointestinal tract, the nervous system, and the cardiovascular system, liver injury, reduced enzyme activity, anemia, hypoproteinemia, weight loss, and signs and symptoms of vitamin and specific amino acid deficiencies.

Rehabilitation is essentially making the best use of what is left, be it the results of aging or the results of disease or accident. Good nutrition will rehabilitate the older person suffering from starvation and also speed convalescence and prevent some of the complications of chronic illness. Many of the complications of chronic illness may be primarily nutritional in origin. "Good nutrition is essential for normal organ development and function; for normal growth, maintenance, and reproduction; for optimum working efficiency; for maximum resistance to infection; and for the ability to repair injury. It is one of the most important environmental factors affecting health."[7]

It is obvious that the greatest contribution medicine can make to the care of the aging is maintenance of dwindling function. Periodic examinations, which detect these decreases in function at their beginnings, are essential for prevention or at least postponement of many of the ailments affecting our older population. Attention to dietary needs, which are essentially no different from those of the younger adult, appears to be of particular significance in the care of the aged, whether they are sick or well.[8]

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Cardiovascular Rehabilitation of Geriatric Patients

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CARDIOVASCULAR rehabilitation is one significant phase of the total panorama of geriatric rehabilitation whereby the cardiovascular cripple successfully adjusts to his medical, economic, vocational, emotional, and social dilemmas within the functional limitations of his physical and mental capacities. No longer purely experimental or utopian, such rehabilitation is practical, realistic, and economically necessary, challenging the patient, the physician, and the community. Success in this cooperative endeavor is measured by the degree of imagination, integration, and ingenuity exercised in re-establishing a healthy relationship between the patient, his family, and his environment.

Rehabilitation of elderly cardiovascular patients is important. Since people now live longer, they develop more chronic diseases, especially cardiovascular ones. During the second half of life the primary cardiovascular problems are arteriosclerosis, hypertension, myocardial infarction, angina pectoris, congestive heart failure, senile heart disease (presbycardia), cerebrovascular accidents, and chronic myocardial disease produced by rheumatic, luetic, and other infections during younger and happier days. Congenital heart disease assumes a minor role among senior citizens. Arteriosclerosis, although unrelated to the normal aging process, is more prevalent with age, reducing coronary, cerebral, renal, and peripheral arterial blood flow. With aging the incidence of hypertension also increases. Hypertension often accelerates the development of arteriosclerosis and alters its distribution. Approximately 40 per cent of adults over the age of forty suffer from hypertension. There are over one million hemiplegic patients in the United States today. These illnesses produce a grim picture of chronic disability and economic chaos which rehabilitation attempts to avert.

The long-term goal of rehabilitation is the restoration of the patient to a self-supporting, gainful, productive existence. But the degree of rehabilitation in the older age group depends upon the individual factors encountered. The elderly cardiovascular patient is more difficult to rehabilitate than his younger counterpart since he is also handicapped by the normal physiologic changes of aging, such as decreased adaptability to stress, diminished muscle power, impaired learning and retention ability. Concomitant ailments are also more prevalent in this group. In addition, socioeconomic problems confronting the older age group, such as discriminatory hiring practices and compulsory retirement at sixty-five, further impede rehabilitation efforts. Consequently we may have to be content with bringing the elderly cardiovascular patient along the scale of rehabilitation to ambulation and self-care but not necessarily to complete self-sufficiency and economic solvency.

Bronstein *et al.*[1] found that the employment experience of cardiac patients over fifty-five years of age is less successful than that of younger persons because (1) the cardiac capacity of patients whose heart disease develops after fifty-five is usually diminished to a greater extent than that of younger cardiacs and (2) selective job placement presents greater problems in elderly individuals. Retraining of an individual over fifty-five years of age frequently is not emotionally or economically feasible, especially if the rate of progression of the cardiovascular disease exceeds the rate of retraining. For skilled industrial workers age is usually less of an employment obstacle than for the unskilled.

The physician must initiate the job of rehabilitation during the acute illness phase by providing the patient with expert medical and psychologic care aimed at restoring his usefulness in the shortest time possible. Fortunately, proper medical treatment at all ages will frequently arrest further deterioration and improve the function of the cardiovascular system, establishing a more favorable prognosis. In elderly patients with a variety of concomitant ailments the multiphasic therapy of cardiovascular disorders is important. Elderly cardiovascular patients should not only get special drugs for their cardiovascular disease but additional medicine and food as well which enhance their nutrition, correct any body deficiencies, and prevent the breakdown of other body systems. In our age of pharmacologic miracles we are fortunate to have such new cardiovascular drugs as rauwolfia and reserpine, which benefit hypertension and emotional tensions at all ages.[2] Stronger antihypertensive agents may combat hypertension in younger individuals and retard hypertensive and arteriosclerotic ravages. Anticoagulants improve the therapy of angina pectoris, myocardial infarction, arterial occlusion, cerebral thrombosis and embolus, and venous diseases. Improved diuretics and digitalis derivatives help the heart muscle to function better. Antibiotics have also produced important therapeutic advances. We can now treat bacterial endocarditis and endarteritis as well as control infections in all cardiovascular states which previously proved fatal. Although we still have no real treatment for arteriosclerosis, a breakthrough in this field seems more likely today.

Next in importance to expert medical care is the treatment of the emotional factors of anxiety, fear, and depression which accompany any serious illness, especially of the cardiovascular system. Optimistic, careful explanation, reassurance, and cheerfulness on the part of the doctor and his staff will usually reduce the incidence of iatrogenic disorders frequently more disabling than the organic cardiovascular disease.

During the convalescent phase the physician must complete an unprejudiced appraisal and evaluation of the cardiovascular disease, the individual, and his environment. He must determine the degree of functional disability and ascertain whether the condition is mild, moderate, or severe; temporary or permanent; stationary, progressive, or regressive. He must decide whether the condition is prognostically good or bad, therapeutically hopeful or hopeless. He must also determine the rate of change of the condition.

Traditionally the physician has performed this task by time-honored clinical methods based upon the patient's subjective complaints and physical signs which still yield reliable results, depending upon the knowledge and skill of the attending doctor. Today electrocardiography, roentgenography, ballistocardiography, and other cardiovascular measurements during and after physical activity round out his clinical evaluation on the basis of fact rather than fancy. Still, machines can never replace experienced clinical acumen! It must be remembered that there is no close correlation between the electrocardiogram at rest and the functional capacity of the cardiovascular system. Consequently a person may be able to work despite an abnormal trace. The value of the ballistocardiogram is limited to those cardiacs under fifty years of age since the ballistocardiogram becomes abnormal with increasing age. In patients under fifty years of age the resting ballistocardiogram, when normal, may be a useful tool in evaluating the functional or working capacity of certain groups of cardiac patients for rehabilitation purposes and vocational guidance. It may serve as a screening device for those cardiacs with the functional capacity to perform jobs or activities whose energy requirements are known or can be estimated.[3]

The following New York Heart Association classification offers a practical method of classifying heart patients functionally and therapeutically, which is also useful in geriatric patients:[4]

FUNCTIONAL CAPACITY

Class I. Patients with a cardiac disorder without limitation of physical activity. Ordinary physical activity causes no discomfort.

Class II. Patients with a cardiac disorder with slight to moderate limitation of physical activity. Ordinary physical activity causes discomfort.

Class III. Patients with a cardiac disorder with moderate to great limitation of physical activity. Less than ordinary physical activity causes discomfort.

Class IV. Patients with a cardiac disorder unable to carry on any physical activity without discomfort.

THERAPEUTIC CLASSIFICATION

Class A. Patients with a cardiac disorder whose ordinary physical activity needs no restriction.

Class B. Patients with a cardiac disorder whose ordinary physical activity needs no restriction but who should be advised against unusually severe or competitive efforts.

Class C. Patients with a cardiac disorder whose ordinary physical activity should be moderately restricted and whose more strenuous habitual efforts should be discontinued.

Class D. Patients with a cardiac disorder whose ordinary physical activity should be markedly restricted.

Class E. Patients with a cardiac disorder who should be at complete rest or confined to bed.

Many elderly patients belong to Class IA or IB. Despite minor hypertension or arteriosclerosis they have no cardiovascular symptoms, cavort freely, and pursue any occupation suitable for their declining physical prowess. Bronstein *et al.* found that 53 per cent of the cardiac patients fifty-five years or older belonged to Class IIC. Elderly patients in classes up to and including IIC worked full time in selected occupations. A certain proportion in Class IIIC worked eight hours daily in sedentary occupations! Working per se did not cause any diminution in cardiac reserve.[1]

Many elderly cardiac patients are highly experienced employes whose skills can be utilized by selective job placement where industry finds a position for the worker which utilizes his ability without taxing his cardiac condition. This process requires patience, time, and money, but it retrieves the elderly skilled cardiac patient from the scrapheap of forced retirement and keeps him productive and self-supporting.

Class IV patients, young or old, are usually beyond rehabilitation unless the condition is temporary or can be improved with treatment. For these patients it may be feasible to provide a type of employment which they can perform at home with a minimum of physical activity. Frequently proper therapy will improve the cardiovascular status, even in elderly individuals of Class IV.

Rehabilitation of elderly persons with cerebrovascular accidents is important because so many are afflicted. The degree of rehabilitation depends upon the location of the lesion, the nature of the lesion, and the amount of damage. The prime requisites are early treatment and ambulation. Prolonged bed rest produces widespread metabolic changes with significant loss of calcium, phosphorus, potassium, and protein with further impairment of cardiovascular function.[5] Treatment of cerebral emboli and thrombosis may begin several days after the onset. In patients with cerebral hemorrhage, hypertension, and disturbances of sensory function, rehabilitative efforts should be confined to bed activities for three or four weeks. Many publications provide the details of simple technics that may be utilized.[3]

At the Ann Lee Home we have many hemiplegic patients who become unbearable financial and social burdens to their family. By the time we get them, they have usually developed muscular contractures and decubitus ulcers; their joints are stiff and their equilibrium sense destroyed. Some can be salvaged, but the majority are disabled forever. Earlier efforts to rehabilitate and ambulate them might have prevented this sad state of affairs.

Other vascular accidents involving the peripheral arteries and veins cause less physical destruction but may also result in total invalidism of the older patient. If older people are not encouraged to maintain their interests and activities, they become despondent and depressed, gradually sinking into a lethargic condition that lapses into a pathologic state. Here, in addition to drugs, occupational therapy and reassurance are frequently the best prescription to restore elderly patients to gainful occupations.

Since work performance depends not only upon the status of the cardiovascular condition but upon the motivation of the individual, the physician must evaluate the desires of the invalid and provide motivation for work if it is lacking. By unselfish assistance and devotion the family can encourage the patient in his darkest days. It is truly amazing how some greatly disabled patients carry on their regular activities despite major physical defects. Rehabilitation furnishes a hope-giving light that illuminates the dark crevices of despair in the mind of the disabled man, giving him revitalizing energy that enables him to overcome the paralyzing, depressing effects of his disease through proper medical and psychologic care, helpful assistance, determined will power, and spiritual guidance.

The third major factor in rehabilitation is the patient's environment or community. The community must assume its proper role in the rehabilitation of the elderly cardiovascular patient. It is responsible in part for the solution to his medical, economic, vocational, emotional, and social problems. The community must provide well-trained physicians capable of guiding the patient along the path of rehabilitation and furnish adequate medical resources and facilities where the patient can be restored to health by these physicians. For patients unable to work full time it can establish a sheltered workshop where patients can work according to their ability or be retrained for other work. It can provide a work classification unit to test, classify, and integrate cardiovascular patients of all ages into industry with the help of the doctor, social worker, vocational counselor, employer, family, and friends. The community can also influence labor and management to hire properly rehabilitated cardiovascular patients of all ages by selective job placement or by redesigning of jobs to fit their capabilities. The advent of automation may make employment of these people an easier proposition since less physical effort will be required. And finally, since studies by the New York State Employment Service show time is the most single important factor for giving service to older workers, the community must also supply trained vocational counselors to work with these elderly cardiovascular patients. The patient's desire, the physician's ability, and adequate community resources insure successful cardiovascular rehabilitation of geriatric patients.

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NOTE: An additional paper in this Conference on Aging, "Psychiatric Aspects of Geriatric Rehabilitation," by Eugene Davidoff, M.D., will appear in the August 1 issue. Reprints of the entire Conference will be available.

New Film on Rheumatic Fever

A new health education film—"Stop Rheumatic Fever"—has just been added to the AMA's Motion Picture Library.

The film was developed to impress upon parents, teacher, and the public the fact that rheumatic fever can be prevented by early diagnosis and treatment of streptococcal infections. This twelve-minute black and white sound film, employing symbolic animation to emphasize the point, is suitable for parent groups, service clubs, public health nurses, and high school students.—*AMA News Notes, June 1955*

The Present Status of Topical Chlorophyll Therapy

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Now that the hysteria associated with the extravagant and largely unjustified promotional claims relating to chlorophyll derivatives in the deodorant field has largely subsided, it seems an appropriate time to review impartially and critically the other side of the picture, that associated with the legitimate, ethical, therapeutic use of chlorophyll derivatives in medical practice. Only in this way can we as physicians arrive at any honest opinion as to whether or not "chlorophyll" has any place in our therapeutic armamentarium.

While this article is in one sense a review of a not inconsiderable segment of the literature on chlorophyll as it relates to medicine, in another sense it attempts to point the way to further research in its future therapeutic application and to bring out certain of the errors which have become apparent as to our earlier understanding of the problem. Obviously in a brief critique of this nature it is possible to mention individually the work of but a comparatively few of the investigators in this broad area of research. Their very numbers are impressive, and their names in the majority of instances rank high in the scientific world. The accompanying bibliography gives the original source references for the material presented in this review for those readers not already familiar with it. Certainly the problem of "chlorophyll" as it applies to human economy is a challenge to scientists of every discipline the world over, and with its ultimate solution many fundamental biologic problems will have been cleared away.

In the somewhat restricted field to which this review is limited, i.e., the topical application of chlorophyll derivatives and particularly as this relates to wound healing, it is interesting to note that although earlier studies by Buergi and his associates[1,2] had suggested that chlorophyll derivatives might prove to be of therapeutic value, it was only with the publication of a paper on the use of "chlorophyll," especially the water-soluble chlorophyllins, in the treatment of suppurative lesions by Gruskin[3] in 1940 that interest in this fundamental concept was aroused in this country.

Since Verdeil's[4] discovery of the similarity in structure of chlorophyll and hemoglobin in the middle of the nineteenth century, chemists have been seeking to understand the role of chlorophyll in nature, especially as it applies to photosynthesis. For the first fifty or sixty years following Verdeil's studies all efforts were aimed at identifying the molecular structure of chlorophyll. These culminated in the publications of Willstaetter and Stoll[5] and others in the decade from 1910 to 1920. Since then some 800 chlorophyll derivatives have been prepared, the great majority of them of academic interest only.[6] Very few of these derivatives have been investigated from a clinical standpoint, and of those which have, many are totally inert. Evidence is accumulating, however, to suggest that certain other derivatives or modifications of existing derivatives may well be developed in the future to enhance the therapeutic usefulness of currently available "chlorophyll" preparations. It would be strange if this should not prove to be true in the case of "chlorophyll," just as has occurred in the case of most chemotherapeutic agents employed today, including even the sulfas and antibiotics. For example, scientists have come a long way in scarcely more than a decade from the days of high cost, low yield, crude, dirty brown amorphous penicillin to its present pure, white, crystalline salts and esters and correspondingly greater beneficial clinical results, even though from the very outset penicillin was recognized as a "miracle" drug.

In the same way therapeutic "chlorophyll" products have been undergoing a similar continuous program of improvement but at a slower pace than has been true of the sulfa drugs and antibiotics. Indeed, the very intensiveness of the program in the development of these latter strictly antibacterial agents during the war years has tended to delay the program in the case of "chlorophyll" in spite of its established position of importance in the field of wound healing. The talent required for this kind of research was largely diverted to the sulfonamide and antibiotic programs, and save for a very few specially skilled workers conversant with chlorophyll chemistry, studies in this direction were sadly restricted. However, with the ever-increasing interest of the medical profession in the outstanding advantages of chlorophyll therapy in the treatment of ulcerative lesions of any etiology, and especially in chronic recalcitrant cases associated with circulatory disturbances, the research and development program in the chlorophyll field once again is rapidly extending.

Much of the early work in this country with "chlorophyll," both in the laboratory and clinically, was open to the criticism that the material employed was of poorly defined composition, and as a result many of the experiments were inadequately controlled. However, regardless of this legitimate scientific criticism, the fact emerged that empirically these relatively crude chlorophyll preparations *did* have therapeutic activity in promoting more rapid wound healing. Gradually, with more uniform standardization of products and more adequately planned experiments, the original observations on the clinical effectiveness of chlorophyll derivatives have been repeatedly confirmed and chlorophyll therapy established on a sound basis.

While even today our knowledge regarding the pharmacodynamic mechanisms of chlorophyll activity is far from complete, we have learned considerable regarding its mode of action. We know that "chlorophyll" in the form of the sodium or potassium salts of chelated, water-soluble chlorophyllins possesses bacteriostatic activity in varying degrees. We know that these same chlorophyllins exert a growth-stimulating effect on connective tissue cells, both in tissue culture and in wound healing, producing healthy granulations and cutting down the total elapsed healing time of experimentally induced lesions. We know that these chlorophyllins have shown remarkable deodorizing effects in the case of infected wounds and that the major part of this deodorization is dependent upon the action of the "chlorophyll" on bacterial metabolism. We know that these activities reside in the tetrapyrrolic nucleus of the molecule and that the phytol portion of the total molecule can be removed chemically by saponification without changing the clinical effectiveness of the remaining structure. Indeed, on a weight basis the remaining tetrapyrrolic nucleus shows proportionally greater activity.

It is interesting that from the phytol portion of the molecule it is readily possible to synthesize vitamins E and K. Experimental work with the pyrrolic nucleus suggests that certain of its pharmacologic functions can be similarly modified by substituting various side chains and by chelating with various metals.

The fundamental precursor that gives rise to the tetrapyrrolic nucleus of chlorophyll is porphin, exactly the same precursor from which is derived the red coloring matter of the blood and the prosthetic groups of several indispensable respiratory pigments including catalase, peroxidase, and the cytochromes. Some or all of these respiratory pigments are involved in the oxidation-reduction phenomena without which life in any form is impossible. It was the recognition of this fact that early prompted study of oxidation-reduction behavior of bacteria treated in the test tube with chlorophyll derivatives. From these studies it was suggested as the most likely explanation that in the case of anaerobic organisms, chlorophyll is bacteriostatic by reason of its interference with oxidation-reduction mechanisms, although at that time the precise nature of this interference had not been determined.[7]

One of the most striking characteristics of chlorophyll, as of hemoglobin, is the centrally bound or chelated metal, completely encompassed and protected by the tetrapyrrolic ring structure. In nature the metal in chlorophyll is magnesium, just as it is iron in the case of hemoglobin. In either instance the metal can easily be removed chemically from its central, sheltered position and replaced by almost any other metal. Indeed, chlorophyll represents one of the classic illustrations of the chelation phenomenon. When such chelation exists, the complex containing the metal fails to give the common inorganic ion reactions for the particular metal involved and behaves more like a single but complex organic substance.

From this fundamental concept certain facts with respect to the pharmacodynamic potency of chlorophyll and chelation have emerged. For maximum effectiveness, either from the antibacterial or growth-stimulating viewpoint, a metal must be present in the molecule. For example, pheophytin and pheophorbide are both relatively inert in either capacity. The different metals seem to modify appreciably the action of the molecule as a whole. Studies on various chelates of chlorophyll, including copper, nickel, cobalt, zinc, cadmium, iron (ferrous), manganese, magnesium, and other metals, suggest that the magnesium chelate is the least stable and possesses essentially no hematopoietic activity.[8]

The copper compound has been the one most generally employed and has been demonstrated to have to a very adequate degree the antibacterial cell growth-stimulating, and hematopoietic activity needed for clinical effectiveness.

The dependence of life on traces of metals is once again emphasized, and with it develops an old controversy in new form—the relative value of "inorganic" versus "organic" metals, likening chelated metal forms to "organic."

No purpose is to be served in this discussion in elaborating upon the more general chemical features of chlorophyll. These are readily available in a number of encyclopedic monographs by the greatest authorities in the field[6, 9–13] (see also various reviews in the *Annual Review of Biochemistry*). However, certain salient points might appropriately be brought to light by way of demonstrating that the generic term "chlorophyll" has been used in the loosest possible sense with little or no scientific meaning.

On the basis of even our current knowledge of "chlorophyll," it is apparent that the various relatively impure chlorophyll derivatives employed in many of the so-called deodorant products commercially promoted during the past few years could not possibly be so effective as certain manufacturers attempted to claim. This statement does not necessarily apply to all preparations for which reasonable deodorization claims have been advanced. Among this latter group should be included toothpastes, chewing gums, lozenges, and even oral tablets where the beneficial action is not entirely dependent upon contact deodorization, but also results from the antibacterial activity of the "chlorophyll." In general, however, "chlorophyll" is not a particularly effective contact deodorant. Even Hainer[14] in his recent report brings out the fact that "chlorophyll" is limited in its adsorptive deodorant capacity, tending to show some selective action in the case of the mercaptans and sulfides, neither of which offer any problem in wound healing.

Even the lay public rejected many of the rid culous products carrying the magical green color, such as insoles, toilet paper, diapers, bed linens, and other similar preparations wherein the crude degradation products of "chlorophyll" were added without rhyme or reason. Much of the claimed efficiency of "chlorophyll" as a deodorant in these products was based on speculative implication because of its recognized value in the deodorization of infected wounds. In this latter instance the principal mechanism involved is interference with bacterial metabolism. To a limited extent contact adsorption may also play a minor role.

After the Gruskin report appeared, it became obvious that there was need for "standardizing" the chlorophyll preparations used in the clinic. Based on the fragmentary but sound evidence then in existence from Europe and America, an ethical pharmaceutical company was formed* to refine such "chlorophyll" as was commercially available and to convert it to the form then believed to be the most effective for the treatment of wounds and burns.[3] The crude chlorophyll was freed from phytol, cleared of most of the nondescript degradation products of chlorophyll decomposition, and properly rechelated. These refined water-soluble chlorophyll preparations were prepared as solutions or ointments for clinical use and were marketed under the trade name Chloresium. In that form they were accepted by the Council on Pharmacy and Chemistry of the American Medical Association.[15]

The Temple University studies gave new impetus to the study of how "chlorophyll" aids in the healing of wounds and burns. A series of reports from that institution were published over a period of the following two or three years.[16–18] None of these reports furnished a complete or final answer to the problem, but each pointed more and more to certain facts which, since that time, have been more fully integrated by others. What was of greatest importance in the decade following the issuing of the Temple University report was the almost universal corroboration of the original clinical findings. Some of the results were exceptional. These clinical reports have continued to appear in the medical literature and have continued to show uniformly outstanding results. Criticism has been raised from time to time that the effectiveness of these "chlorophyll" products has been based on empiricism, that they have not been adequately controlled, and that no satisfactory explanation as to the mechanism has been propounded. If these arguments are tenable, then similar arguments could have been raised validly in respect to many of our most useful drugs and would still hold today for a smaller number. It would appear that the *clinical value of "chlorophyll" therapy has been established* in the treatment of wounds and burns whether or not accompanied by infection. It would also appear to be incontrovertible that Council-accepted, ethically marketed "chlorophyll" products have an unusual degree of safety.

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* Rystan Company, Mount Vernon, New York.

So far as the criticisms are concerned, the one most constantly and justly raised questioned the uniformity of composition of the chlorophyll derivative being employed, both in the early animal studies and later in clinical use. For this reason, in this review reference is made only to reports in which the so-called water soluble chlorophyllins have been the material used. In this way one variable, that incident to chlorophyll composition, has been reduced to a minimum, and the results can be better compared. These compounds will hereafter be referred to as "chlorophyll."

Deodorization of Wounds

One of the most gratifying features of "chlorophyll" therapy in the treatment of foul-smelling, secondarily infected, ulcerative lesions has been its ability to deodorize promptly such conditions as chronic osteomyelitis, infected compound fractures, sinus tracts, ulcerative carcinomas, and chronic decubitus and leg ulcers.[19-24] Criticism has been raised from time to time that such reports have been on a purely arbitrary, empiric basis. But interference with the malodorous putrefactive process in these cases is a dramatic reality, attested to by patient, nurse, physician, and visitors alike, regardless of the various interpretations offered as to the mechanism involved.

Certainly it has been shown on innumerable occasions, both in the test tube and clinically, that "chlorophyll" possesses definite antibacterial activity of a relatively low order of magnitude. Thus it does interfere with bacterial metabolism and stops the further breakdown of tissue by proteolytic organisms.[24] As has been stated previously, this appears to be the major mechanism involved, although some adsorption of odors undoubtedly contributes to the rapidity of the deodorization.[14,25-27]

As Bowers[19] states after commenting that it is his belief that chlorophyll therapy has been the means of saving several limbs from amputation, "even if chlorophyll did nothing in these cases but to stop odor, decrease suppuration . . . its use would be amply justified." This deodorization of foul-smelling lesions by "chlorophyll" therapy has been an almost universal experience and undoubtedly has been one important reason for the continuously increasing demand for "chlorophyll" medication.

Absence of toxicity has been another outstanding feature throughout more than a decade of clinical use, and agreement on the following clinical opinions is common to all the reports:

1. "Chlorophyll," whether in the form of ointment or solution, promotes the growth of healthy granulation tissue.
2. It is conducive to the production of a clean, granulating wound base.
3. Itching, pain, and local irritation, which so frequently are the outstanding symptoms associated with ulcers, burns, wounds, and dermatoses, are usually relieved promptly, and this relief is gratefully ackowledged by the patient.
4. Normal repair and epithelization proceeds more rapidly under "chlorophyll" treatment of burns and dermatoses than with other agents.
5. Malodorous lesions are deodorized (an action not to be confused with mere contact deodorization as implied by certain less accurate promotional claims in some instances).
6. Blandness of action, freedom from tissue damage, and lack of toxicity as well as comforting, soothing relief are almost invariably characteristic of "chlorophyll" therapy.

Tissue Stimulation Action

From the early experimental studies by the Temple University group it was shown conclusively that even the relatively impure "chlorophyll" preparations which were available at that time were highly effective in stimulating fibroblastic proliferation, both in tissue culture and in various types of induced skin lesions. These studies were carefully controlled except in respect to the absolute purity of the particular water-soluble sodium copper chlorophyll preparations employed. The results accordingly were strictly comparable insofar as these laboratory prepared products were concerned. Of particular interest perhaps were the studies by Smith and Sano[18] on the effect of these chlorophyll derivatives on the growth of fibroblasts in tissue culture. It was shown that the addition of as little as 0.05 per cent of the above-mentioned "chlorophyll" produced an almost complete elimination of the usual lag period before growth ordinarily could be observed. These observations were confirmed by Dunham[28] entirely independently. The obvious implication of this biologic activity in the clinical application of such "chlorophyll" derivatives in wound healing requires no elaboration.

Clinical Application

It was not long before clinical reports on the use of these "chlorophyll" preparations in the treatment of a wide variety of conditions began to appear. These included various types of ulcers, particularly those of the chronic, indolent type associated with circulatory deficiencies, such as those of arteriosclerotic, diabetic, varicose vein, and decubitus etiology,[3,19–21,23,29–34] as well as cases of radiation origin.[35]

Similarly "chlorophyll" was reported as being highly effective in the treatment of wounds in general, including traumatic injuries of the soft tissues, compound fractures, chronic osteomyelitis, postoperative wounds, sinus tracts, fistulas, amputation stumps, and gunshot injuries to mention but a few typical examples.[3,19–21,23,29–38]

Likewise several authors reported the successful use of "chlorophyll" in burns both experimentally in animals[16,17] and clinically, including those due to thermal and chemical sources such as dry heat flash burns, moist heat scalding burns, sunburn, and various chemical or acid burns.[39–41] Holmes and Mueller[35] found "chlorophyll" of inestimable value in controlling postirradiation erythema. They state, "a check-up examination of the patients. . .showed the healing process to be better than any we had previously obtained. . . As a matter of fact we have rarely had an opportunity to see a severe radiation reaction since we began the use of chlorophyll early and routinely."

Haughton,[40] Bowers,[19] Lowry,[42] Carpenter,[20] and others all uniformly report that because of the action of "chlorophyll" in producing a healthy granulating base to the lesion, it is a useful agent both for preoperative preparation of patients for grafting and for successful maintenance of skin grafts.

No particular purpose would seem to be served by more detailed discussion of these clinical reports as such. They exhibit an amazing uniformity as to the effectiveness of "chlorophyll" therapy in topical therapy, especially in the case of chronic, infected lesions. They all emphasize the complete lack of toxicity, the relief of pain and itching, the deodorizing action in cases of foul-smelling infected lesions, the stimulation of healthy granulation tissue formation, and accordingly the relative acceleration of healing in such cases. Nowhere is this better brought out than in Pollock's paper[34] on the treatment of decubitus ulcers in which a comparative study was made with ten other well-recognized agents: (1) soap and water, (2) hydrogen peroxide, (3) ultraviolet radiation, (4) zinc oxide ointment, (5) nitrofurazone ointment, (6) sulfathiazole ointment, (7) iodochlorhydroxyquin U.S.P. (Vioform) ointment, (8) petrolatum U.S.P., (9) thiomerosal N.F. (Merthiolate), and (10) bacitracin ointment. These authors conclude "the least effective agent was found to be sulfathiazole, and the *most effective* agent is generally agreed to be chlorophyll ointment and liquid." It is perhaps of more than passing interest that Smith and Livingston[16,17] made essentially the same comment nine years earlier, namely, that the sulfa preparations alone caused actual delay in healing, whereas there was "acceleration of healing. . .in 71 per cent of the chlorophyll topically treated lesions" in guinea pigs.

Antibacterial Activity

Clinicians in general are not concerned with *how* a product works so long as it *works*, but the more strictly scientifically trained man is not satisfied with this approach. He must search for a reason to explain the *how* and *why* some particular product has such irrefutable beneficial activity, while another preparation very similar in character is virtually of no clinical value.

In some of the early studies from Temple University, Spaulding, quoted by Smith,[7] reported that water-soluble sodium copper chlorophyllin showed definite antibacterial activity against both gram-positive and gram-negative bacteria, including certain of the more common anaerobes. They postulated the theory that such chlorophyllins interfered with the oxidation-reduction mechanism of bacterial respiration to account for the marked bacteriostatic and even bactericidal effect under optimal environmental conditions. In general, their observations pointed toward a greater effectiveness against gram-positive organisms than against gram-negative bacteria.

Daly and his associates[43] had found that "chlorophyll" derivatives were even more active against both avian and human type tubercle bacilli. Certain specifications concerning such active in vitro "chlorophyll" derivatives became matters of patent.[44,45] Actually it requires but very low concentrations of certain selected water-soluble "chlorophyll" derivatives to inhibit the growth of avian or human tubercle bacilli in the test tube.[46] On the other hand, the effect of chlorine on retarding the growth of the organisms is virtually nil.

More recent studies on the effect of chlorophyll as an inhibitor of tubercle bacillus growth strongly suggest that the effectiveness may be enhanced by the preservation of the fifth ring in the molecule, making it operative in gamma dosage.[47] Another point of interest in this connection is the apparent similarity of action of such dicarboxylic "chlorophyll" derivatives and streptomycin in certain respects. The initial bacteriostatic requirements of each are of about the same order of magnitude. However, in successive transplants there is a striking difference in their effectiveness. In the case of streptomycin the tubercle bacilli become increasingly resistant to its action, whereas in the case of the "chlorophyll" derivatives the organisms become increasingly sensitive so that diminishing doses are able to bring about prolonged bacteriostasis and even at times a bactericidal effect.

Another evidence of the importance of "chlorophyll" as an antimetabolic agent is seen in the case of Bacillus prodigiosus which normally produces a tripyrrolic pigment, prodigiosin, having marked antibiotic activity but unfortunately associated with a rather high order of toxicity, so as to render it of very little practical value therapeutically.[48, 49] If, however, B. prodiogiosus is grown in the presence of certain "chlorophyll" derivatives, the pigment fails to develop, and extracts of the dried organisms are devoid of toxic effect.

The action of even relatively impure water-soluble "chlorophyll" derivatives has been demonstrated repeatedly to alter the metabolism of colon bacilli in the intestinal tract. There have been numerous clinical observations that indol and skatol formation are lessened after feeding "chlorophyll," such as those of Weingarten[50] and Joseph.[51] One practical application of this antimetabolic action has been the use of "chlorophyll" in the treatment of colostomy wounds. Laboratory evidence likewise confirms the lessened indol and skatol production by Escherichia coli in the test tube in spite of the fact that the growth of the organisms themselves is not inhibited by the "chlorophyll." Parenthetically in this connection it is interesting to note that colon bacilli grow profusely in the presence of bile pigments which likewise are porphin derivatives with the same basic pyrrol nuclear structure as that of "chlorophyll."

A few paragraphs back we commented briefly on certain streptomycin or antibiotic-like characteristics of "chlorophyll." We would be remiss, indeed, if we did not call attention to various other contributions which tend to emphasize this common denominator feature of "chlorophyll" and streptomycin. Some five years ago Provasoli and his associates[52] observed that streptomycin inhibited the development of "chlorophyll" in the growth of certain algae (Euglenophyta), although *not* interfering with their multiplication.[53] Lwoff and his collaborators[54] confirmed these observations and likewise demonstrated the analogous structural relationship of "chlorophyll" and streptomycin. Van Niel[55] had commented some three years previously that the so-called "purple" sulfur bacteria tended to be inhibited in their growth by the presence of streptomycin, but in this instance no interference with pigment production is noted. This of course suggests that metabolic interference by streptomycin with the transsulfuration mechanism of bacteria is involved. Further corroborative evidence of this relationship is found in the report of the German investigators, Erbring, Niedner, and Wulf.[56]

Since the porphin nucleus which may ultimately produce either "chlorophyll" or hemoglobin is derived from simple amino acids, including glycine in particular, coupled with acetic acid,[57–62] the reports of the antagonism between streptomycin and "chlorophyll" immediately suggested that an isosteric resemblance between the two could explain the clinical findings and the isolated experimental findings that had accumulated up to that time. The next question was how to establish such isosteric antagonism on an experimental basis. Research work in progress but as yet unpublished[63] tends to confirm this suspected antimetabolic activity in relation to transsulfuration, namely, the prevention of the appearance of mercaptan sulfur in the urine following the feeding of asparagus along with certain "chlorophyll" derivatives. Further evidence[63] is to be found in data obtained from an extensive clinical study in which suitable "chlorophyll" derivatives were given orally to a series of women in an attempt to learn whether such preparations would interfere with transsulfuration mechanism during the menstrual period to suppress mercaptan, acetylcholine, and trimethylamine secretion in the apocrine sweat. There is objective and subjective correlation of the data which tends to indicate that such oral "chlorophyll" therapy does suppress such odoriferous secretions about three times more frequently in the experimental group than in the control group who were given "chlorophyll"-free placebo tablets.

We have dealt at some length with the reports in the literature regarding the antibacterial features of "chlorophyll" and its points of similarity and disparity to streptomycin, another rather more limited type of antibiotic, primarily to emphasize that it is our conviction from a review of the literature and from our own personal experimental, laboratory, and clinical experience that "chlorophyll," when further developed, will prove to be *one* of the most important, if not *the* most important pharmaceutic "materia prima" from which new antibacterial derivatives tailored to specific jobs will be developed by the biochemist for our needs. All of the published data point toward its antibacterial activity as being its most important function so far as the treatment of acute or chronic suppurative lesions topically is concerned. The key to this mechanism lies in the direction of a metabolic antagonism wherein "chlorophyll" modifies the growth pattern and functional capacities of the infecting bacteria. This modification is primarily in the direction of decreasing or destroying the toxicity of the bacterial metabolic products, while at the same time promoting or stimulating normal cell proliferation which in turn accelerates comparatively the healing process. Wasielewski and Albrecht[24] emphasize the importance of such alteration of metabolism in the case of B. proteus in the presence of "chlorophyll."

This concept in turn raises the whole problem of host resistance (immunity) or sensitivity to bacterial invasion. This is still one of the most important biologic mysteries to be solved. Perhaps the streptomycin-"chlorophyll" relationship discussed above will serve as a signpost toward its solution. In the meantime the work of a number of investigators in the general field of immunology and tissue response offer theoretic approaches toward answering the problem.

Barnes[64–66] has developed an ingenious technic whereby he can measure the electrical potential developed at the injured site following the production of a standard abrasion of the skin by means of coarse sandpaper. This method lends itself particularly well to carefully controlled studies using a variety of agents and determining not only the actual time required for healing to take place objectively but also the time required for the electrical potential to become restored to its former negative phase. In a series of studies Barnes found that healing was accelerated when "chlorophyll" was applied topically to such experimental abrasions and that the measurement of decline of the electrical potential served as a very accurate index of the rate of healing. He obtained this index by subtracting the per cent loss of positive potential in the control wound from that noted in the experimental lesion. The index with "chlorophyll" ran as high as 1.30, indicative of a marked shortening of the healing time. This differential was much higher than that of his control preparations, including sulfanilamide powder, scarlet red, penicillin, and vitamin D ointment, as well as the ointment base itself in which the "chlorophyll" was incorporated.

In a recent paper on the biometric method of measuring the rate of healing of wounds Barnes[67] reports that statistical analysis of his data in 76 wounds in man treated with Chloresium shows that the increased healing rate produced by such preparations is statistically significant. These studies would seem to support further the hypothesis advanced earlier in this discussion that "chlorophyll" exerts a direct growth-stimulating effect upon tissues. Incidentally, it is of more than passing interest to note that this growth-stimulating action might properly be termed physiologic in nature. Only rarely has granulation tissue formation been reported as going on to a pathologic hyperplastic state and then only under rather notably adverse conditions. It is almost as if there were a teleologic element involved, as so often appears to be the case with other natural phenomena. While these experiments of Barnes have little to do with the concept of the infectious aspects of the immunologic phenomena in man, they do lend support to that phase of the hypothesis which deals with cell resistance to injury generally.

In line with the immunity approach to the problem, Barnard[68] has recently come forward with some very broad hypothetic views, backed up by a limited amount of preliminary experimental laboratory data. He has felt, as others have, that while the clinical benefits of "chlorophyll" therapy have been validated repeatedly, the mechanism by which these effects have been produced has *not* been precisely defined.

Barnard has been particularly interested for more than ten years in those phenomena of the blood associated with hemolysis and agglutination. He and his associates[69–72] have shown that as little as 0.01 to 0.1 per cent of "chlorophyll" derivatives will delay or even prevent red cell hemolysis in oxalated or citrated blood samples stored under the usual temperature precautions. On the basis of previous work they were of the opinion that spontaneous hemolysis is caused by the presence of mucoproteins and that the so-called Rh "blocking antibodies" responsible for many transfusion reactions and for fetal deaths in Rh-sensitized mothers are also mucoproteins, so that it was simple to set up a series of tests incorporating the same "chlorophyll" derivatives in varying concentrations to determine whether the "chlorophyll" would act in a similar manner in this analogous system. It was found that agglutination was definitely inhibited or abolished if the concentration of "chlorophyll" was sufficiently great. Following these preliminary experiments "chlorophyll" was tested against a wide range of specific hemagglutinins including mucoproteins from the blood of patients with leukemia, hemolytic anemia, vaccinia, and other infections. Other agents such as Dextran, gamma globulin, partially depolymerized hyaluronic acid, and Menkin's necrosin failed to yield the same results.[73]

The studies with necrosin are of particular interest in that this material, isolated from the exudate of wounds, produces necrosis with the development of nonhealing ulcerations when injected subdermally in rabbits. If "chlorophyll" is added, the phenomenon is prevented. Barnard feels that these two properties of "chlorophyll"—preventing hemagglutination and protecting the tissue cells from the necrotizing action of toxic substances in the inflammatory exudate—go far toward explaining one aspect of action of the "chlorophyll" in promoting healing. He supports his contention with both laboratory and clinical data of cases from whom such "aggressins," as he terms them, have been isolated and checked for activity. He notes that serial samples of exudate from cases under "chlorophyll" treatment show a progressive quantitative decrease in these substances. His studies open up a comparatively unexplored approach to the entire problem of wound healing. As he states in conclusion, "there is no doubt . . . that it (chlorophyll) is a highly active substance and it will be very surprising if broader and more important therapeutic applications are not found for chlorophyll derivatives than have been even preliminarily investigated to date."[68]

There is need of course for a great deal more study of the pharmacodynamic potentialities of the "chlorophyll" molecule. This review of the literature has attempted to bring out such knowledge as has accumulated during the past quarter of a century to help explain the underlying mechanisms involved in the uniformly effective clinical applications of "chlorophyll" therapy. Each new advance in our knowledge will bring continuing improvement to the form in which "chlorophyll" can be most advantageously used in ethical medical practice.

Summary

Meanwhile, a summary of the clinical and experimental research with "chlorophyll" over this twenty-five-year period reveals that:

1. As a porphin derivative involved in the fundamental mechanism of oxidation-reduction, "chlorophyll" ranks with the red coloring matter of the blood, catalase, peroxidase, and the cytochromes. All are of deep significance and of indispensable importance to life in any form.

2. Over 800 derivatives of "chlorophyll" have been described. Even the earliest impure ones made commercially have proved their therapeutic value. There is every indication that other, newer, improved derivatives will be of even greater scientific interest and therapeutic importance.

3. We are gradually learning about the properties that must be conserved in the molecule of "chlorophyll" to exert effective pharmacodynamic activity. The side chains are of tremendous importance. The preservation of the fifth ring appears to be of considerable advantage. Chelation with various metals other than magnesium or copper holds promise of even greater therapeutic application.

4. Twenty-five years of laboratory and clinical experience have proved consistently that certain water-soluble "chlorophyll" derivatives are effective in the treatment of acute and chronic suppurative disease, as well as in both infected and noninfected wounds and burns. More spectacular treatments have developed during this period in respect to many of the *acute* infections, especially during the past decade with increasing use of the antibiotics. Despite the advent of these invaluable new drugs clinicians return re-

peatedly to the use of "chlorophyll" alone or in combination with such drugs, especially in the treatment of chronic, stubborn, ulcerative lesions.

5. The vast amount of research invested in the sulfonamides and antibiotics has taught us what to look for in our attempts to conquer bacterial infection. The newer thinking is in the direction of nutritional antagonism or competition, in which the antimetabolic agent tends to inhibit the action of a specific enzyme indispensable to the life of the bacterium, but nonessential to the life of the host's tissues. This is essentially the extension in terms of modern chemical and pharmacologic knowledge of Ehrlich's basic postulate. Its significance is being realized more and more each day.

6. The clinical use of "chlorophyll" preparations, notably Chloresium, in the past has been completely justified on the basis of the generally excellent therapeutic results obtained empirically and even more rationally today on the further basis of objectively demonstrable mechanisms in line with those whereby all respiratory pigments carry on their functions.

7. The indications are that "chlorophyll" may well prove to be a "materia prima" from which the chemist can synthesize antibiotic-like preparations against specific infectious agents. As in the case of vitamin B_{12}, their pharmacodynamic power may be enhanced because of the chelation which is common to the green coloring matter of plants, the red coloring matter of blood, and the prosthetic groups of catalase, peroxidase, and all the cytochromes. Studies exploring the effect of "chlorophyll" on certain aspects of the serologic and immunity factors in wound healing open up a new approach to the problem which requires further development and confirmation.

Conclusion

In conclusion, a review of the literature as it relates to ethical "chlorophyll" therapy, particularly over the past decade, gives every justification for its widespread acceptance in the field of burns and wound healing in particular.

In the deodorization of such secondarily infected, ulcerative lesions its position is secure. The mechanism of this deodorizing property has been clearly shown to be dependent principally on the antibacterial action of "chlorophyll" and *not* on its capacity as a contact adsorbent.

New laboratory evidence indicates certain points of similarity between at least one major antibiotic, streptomycin, and specific "chlorophyll" derivatives, suggesting a vast future research program with the development of selective antibacterial agents using "chlorophyll" as the starting "materia prima."

Preliminary experimental work with many new chelated "chlorophyll" compounds likewise promises to expand the fields of usefulness for "chlorophyll" therapy, especially in the geriatric chronic degenerative diseases.

All in all, a careful review of the literature reawakens one's enthusiasm as to the tremendous possibilities for the development of "chlorophyll" derivatives which can be just as revolutionary in the future, although probably not so spectacular, as the antibiotics have been during the past decade.

119 East 26th Street

Acknowledgment is herewith gratefully given to the several people who have assisted me in the preparation of this report, especially to my associate, August J. Pacini, whose broad biochemical experience over the past thirty-five years in the chlorophyll field is unequalled, and to the members of our library research and secretarial staff, Lorraine Sarver and Rosalie Beyrodt, who have contributed unsparingly of their time in the preparation of the manuscript, and more particularly in checking the selected references. My gratitude is also expressed to the Rystan Company, Inc., of Mount Vernon, New York, for placing at my disposal much unpublished experimental data and for making available certain references from their library otherwise almost impossible to secure. John C. Kephart, research director of National Chlorophyll & Chemical Company, has helped us directly and indirectly in the spectrophotometric identification of chlorophyll compounds and in other ways, and to him I also express thanks.

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How much we suffer from failure to convey our wishes correctly to our patients. Listening to one's colleagues shows how much time and effort are wasted by lack of liaison.

> Lie on our back on the couch—No, on your back, please.
>
> Show me where the pain comes—No, on your own back please.
>
> Please stand up—now, raise your right leg—thank you, and now your left leg—thank you, and now get up off the floor.

There is clearly an urgent need to revise the technic of medical questioning, and at the next twelve unselected outpatient clinics we are giving a trial to the following phrases:

> Lie on the couch with your tummy upwards.
>
> Show me on your own back where the pain is.
>
> Bend your knee crooked—and now bend it straight.

I would welcome suggestions how to avoid the inevitable contraction of the calf muscle just as I withdraw the tendon hammer from my pocket. "Relax," "Pretend you're asleep," "Don't bother about me," "Go loose," and "Pretend you're dead" have been tried and found wanting.—*The Lancet, May 7, 1955*

Special Committee on

INFANT MORTALITY

Medical Society of the County of New York

HAROLD ABRAMSON, M.D., *Editor*

EDITOR'S NOTE: *In view of the present-day enthusiasm for the use of high humidity and of aerosols in the prevention and treatment of respiratory disorders of newborn infants, Dr. Clement Smith's paper represents a cogent and timely analysis of the problem.*

Physiologic Basis of High Humidity in the Prevention of Neonatal Morbidity

CLEMENT A. SMITH, M.D., BOSTON, MASSACHUSETTS

(*From the Department of Pediatrics, Boston Lying-In Hospital, Harvard Medical School*)

MOST of us who work in neonatal pediatrics are distressingly familiar with the sight of a small infant surrounded by a fog of vapor within a closed tent or incubator. This situation perhaps symbolizes the present status of my subject, which is essentially a very small body of facts enveloped in a misty atmosphere of speculation, which is walled off from its surroundings by a rigid container of prejudice. We are often restrained by our more enthusiastic clinical colleagues from opening the container and examining the infant within lest we do harm by attempting to find out something about it, but here at least we can start by examining the few facts available. Let us take them up historically, an approach which tends to make information look a little more impressive than it actually is.

Since 1933, if not before, it has been known that a steady and moderately high relative humidity of 60 to 70 per cent is a useful adjunct to the regulation of the premature infant's body temperature.[1] For this reason, rather than because of any theoretic assistance to respiration, incubators were first equipped with devices for raising and maintaining atmospheric humidity.

With the general increase in the use of oxygen for therapy of respiratory and circulatory disturbances in patients of all ages, some attention has been devoted to the irritation of tracheobronchial surfaces by high oxygen concentrations in respired air. It was shown long ago that such an effect occurred in experimental animals[2,3] and that discomfort was noticed by normal human volunteers after a few hours of breathing 100 per cent oxygen at sea level pressure.[2,3] Since direct bronchoscopic observation demonstrated the drying effect of such inhalations upon the mucous membranes and secretions of human patients,[4] additional humidification appeared to be an important adjunct in oxygen therapy. However, little information on the susceptibility or resistance of young animals and newborn human infants to oxygen irritation was available in 1944 when Stadie, Riggs, and Haugaard[2] published their review of oxygen poisoning. The few studies of age in animals suggested that youth was accompanied by relative resistance; Dr. Chapple's observations were quoted as indicating that premature infants are either resistant to oxygen irritation or may be protected by the conventionally high humidity of usual incubator atmospheres.

Another factor in the historical background is the clinical impression that the obstructive effects

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of any tenacious and disseminated fluid substance in the airways are diminished by inhalation of steam or water vapor. The familiar example is the common capillary bronchitis or bronchiolitis of infancy, in which I hold the general belief in the therapeutic value of the croup tent or steam room. Nevertheless, if anyone were brave enough to try a study of alternate cases in wet versus dry atmosphere, my curiosity would not cause me to dissuade him.

Into this historical background came a recent reawakening of interest[5] in the long-recognized "hyaline," "vernix," or "asphyxial" membranes so commonly found in the lungs of infants dying in the first few days after birth.[6] Whether we like it or not (and I am not sure I do), our old acquaintance, formerly identified as "intrauterine anoxia, aspiration of amniotic sac contents, and atelectasis," seems now to be firmly re-established as "hyaline membrane disease." Thus far, the greatest single advantage I see in this development is the modern concept that atelectasis in the newborn is usually a resorption or secondary process rather than failure of primary expansion. Potter's terms, "resorption atelectasis with hyaline membrane" and "congestive pulmonary failure,"[7] seem to me to have real merit because they stress this implication.

In view of the similarity between the unfortunately common clinical picture for which Potter coined these terms and that of infectious bronchiolitis and because the former syndrome was thought to result primarily from obstructive hyaline plugs or membranes, supersaturated atmospheres were soon widely used for the newborn infant with respiratory distress. Added evidence came from demonstrations by Potter[7] and Gruenwald[8] that lungs removed at autopsy from infants with congestive pulmonary failure could be expanded by a liquid introduced into the trachea under less pressure than was required when air was the dilating material.

In the hope of reducing the effort so obviously manifested by these infants in breathing, not only supersaturated atmospheres but aerosols of wetting agents have been sprayed into their tents or incubators. Increased concentrations of oxygen have always been used for the good clinical reason that cyanosis is observably reduced when oxygen pressure is increased on the alveolar side of the respiratory epithelium. But objective evaluation of therapeutic water vapor or wetting agents has been much less easy. Perhaps the main difficulty is that the condition under treatment is one of relatively good ultimate prognosis. Probably 80 per cent of infants with early and increasing respiratory distress, cyanosis, scattered rales, and a mixed picture of atelectasis and emphysema in varying combinations—in other words, the symptom complex now so promptly diagnosed by most clinicians as 'hyaline membrane disease"—recover in a few days whether or not they receive any treatment beyond increased atmospheric oxygen. Since extremely varying degrees of severity are encountered and since the condition is perhaps most common in premature infants in whom other handicaps are often present, a satisfactory alternate case study would require relatively large numbers in mist and nonmist groups.

Another element of difficulty is the accurate diagnosis of what is being treated. The certified diagnosis of the "hyaline membrane syndrome" must under present knowledge be an autopsy diagnosis. Even then the amount of hyaline material found may be quite different in two infants both of whom have died with much the same degree and duration of respiratory distress. Sometimes little or no membrane formation is present. In the 34 liveborn premature infants who came to autopsy at the Boston Lying-in Hospital during 1950, 16 had a clinical picture of congestive pulmonary failure or hyaline membrane disease. Of those 16, nine showed little or no hyaline material in postmortem lung sections, although their lungs showed as much congestion and atelectasis as did those of the seven with widespread hyaline membranes. Thus one has no way as yet of knowing whether therapy should be specifically directed toward dissolving or reducing hyaline obstruction.

But with all these handicaps to the appraisal of supersaturated atmosphere in prophylaxis or therapy, one should be able to learn something from neonatal mortality statistics. The vogue for surrounding newborn infants with mist is largely a development of the last two years. It was seldom if ever practiced in our nurseries before 1950 and has been almost universally adopted since 1951. Dr. Clifford, who keeps the statistics for premature and full-term infants born at the Boston Lying-in Hospital, informs me that our neonatal death rate from roughly 5,000 deliveries per year was not appreciably different last year from that in 1949. The records of other large maternity hospitals might be worth objective investigation, in view of the recent general adoption of humidification, to obtain an evaluation of its success.

Faced with this situation in which a treatment which may not work is being enthusiastically prescribed for a disease we do not understand, perhaps more effort should be devoted to studying the disease rather than applying the treatment. In our hospital Dr. Charles D. Cook and a team of workers are launching an investigation of the basic physiology of breathing during neonatal respiratory distress. Most of their studies are made upon infants who, if they failed to survive, might be expected to show the gross and micropathology of congestive pulmonary failure. In the present early stage of investigation all that can be reported is that these infants have a much increased minute volume of breathing, achieved by an equally increased respiratory rate. Tidal air is, somewhat to our surprise, not significantly reduced in those babies thus far studied. Obviously, their work is increased by the need for performing the same act twice as fast as the normal infant performs it; to this simple evidence of greater work we are beginning to add indications that the state of the lungs makes each breath physically more difficult to draw. We will be happy to report any change in these factors resulting from experimental introduction of supersaturated atmosphere as soon as numerous technical aspects are sufficiently mastered to allow definite conclusions.

Meanwhile, we have been interested in another aspect of supersaturated atmosphere: the effect of surrounding the infant with wet air upon his body water metabolism. The work of O'Brien and Hansen[9] has just been published. Their conclusions were that supersaturated atmospheres reduce the insensible water loss of the newborn infant from approximately 27 Gm. to about 14 Gm. per Kg. of weight per day and that the saving of some 13 Gm. of water per Kg. is effected in the lungs. Although the evidence indicated almost complete prevention of pulmonary water loss when such atmospheres were breathed, O'Brien and Hansen were not able to state whether the atmospheric water was actually absorbed by the pulmonary epithelium. In any case the resulting economy is important enough to justify supersaturation of the atmosphere for an infant in whom one may wish to postpone the dangers of oral feeding, whatever the effects of such atmospheres on respiratory distress.

There has been much speculation as to the effects of particle size in aerosols (an extremely difficult problem of measurement), the effects of water on ciliary activity along the airways, and the question of whether respiration of air supersaturated with water can add anything advantageous to alveolar air supposedly already saturated. I would prefer not to speculate on any of these matters until we have the clinical or laboratory proof that neonatal respiratory distress is unquestionably prevented or relieved by excess atmospheric humidity. Meanwhile, we are safe in concluding that we need more facts about the underlying pathology. Until we get them, I should say that additional atmospheric oxygen is a reasonable provision for cyanotic infants and one which cannot increase local pathology unless used far longer than the critical few days of cyanosis. Addition of water to the atmosphere probably decreases any likelihood of irritation and certainly provides some reduction of body water loss, although there is as yet no proof that it directly reduces respiratory effort or improves respiratory efficiency. It has seemed logical to us that infants with diffuse pulmonary pathology might either have actual bacterial pneumonia or be poorly equipped to resist invasion of the lungs by such an infection. Therefore, we treat them as though they were so infected and prefer combinations of sulfadiazine and penicillin in therapeutic dosages continued at least five days.

Finally, we feel that roentgenology has been a neglected adjunct in the better evaluation of the pathology and therapy of these patients. Only by a careful but thorough clinical, roentgenologic, and physiologic approach to the newborn infant in respiratory distress can we hope to substitute facts for vague clinical impressions and loose terminology.

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CLINICOPATHOLOGIC CONFERENCE

DEPARTMENT OF MEDICINE, NEW YORK UNIVERSITY POST-GRADUATE MEDICAL SCHOOL AND FOURTH MEDICAL (N.Y.U.) DIVISION, BELLEVUE HOSPITAL

Conducted by RAYMOND S. JACKSON, M.D.

SEPTEMBER 30, 1954

Case History

DR. MARIE C. ROSATI: A sixty-five-year-old, married, white female was admitted to the Emergency Ward on March 7, 1954, because of chest pain. On the day prior to admission, while walking along the street, the patient was suddenly seized with severe pain in the left posterior chest, shortness of breath, and dizziness. She fell to the ground, experienced marked diaphoresis, and had to be carried home. The pain was steady, severe, and noncolicky; it became centered in the midabdomen and epigastrium, radiated to the back, and was associated with weakness, nausea, and vomiting. The pain persisted to the time of admission.

For two or three weeks prior to admission the patient had frequent episodes of vague epigastric pain following meals and accompanied by vomiting of ingested food. The system review was otherwise negative.

In 1953 she was told of hypertension by a private physician.

Physical examination revealed an obese woman appearing acutely ill with normal vital signs. Blood pressure was 225/110. The fundi revealed moderate arteriolar narrowing with slight arteriovenous nicking. The lungs were normal. There was a loud systolic murmur over the entire precordium, normal sinus rhythm, and frequent premature beats. An area of ecchymosis was noted over the left posterior chest. The abdomen was obese with moderate epigastric tenderness, but no organs or masses were palpable. The rest of the physical examination was normal.

Admission laboratory work gave the following results: hemoglobin 13.5 Gm., red blood cells 4,260,000, hematocrit 44 per cent, white blood cells 8,950 with transitionals 12, polymorphonuclears 68, lymphocytes 12, and monocytes 8. Erythrocyte sedimentation rate was 43 mm. in one hour. The urine contained no albumin but did show 5 to 6 white blood cells, 2 to 4 red blood cells, and many bacteria in the sediment. Culture of the urine grew out Bacillus proteus and Aerobacter aerogenes. Stool guaiac was positive. Blood chemistries were within normal limits (including albumin-globulin ratio and serum amylase).

The electrocardiogram taken on admission was normal except for frequent premature beats. The tracing done on the following day showed no essential change.

The chest x-ray was read as showing a dilated, tortuous aorta, elevation of the left diaphragm, and questionable adenopathy at the left hilum. On fluoroscopy the left diaphragm was found to have poor motion. There was a marked degree of hypertrophic spondylitis of dorsal and lumbar spine. The gastrointestinal x-rays were normal; the gallbladder was faintly visualized and did not show filling defects. The skull revealed a slight degree of hyperostosis frontalis interna, and the esophagram showed indentation of the lower esophagus suggestive of mediastinal adenopathy. Bilateral reduplication of the renal pelvis and upper ureter was seen on intravenous pyelogram. Bronchoscopy was negative.

On the second hospital day the blood pressure was found to be 125/78. The patient ran a low-grade fever and required frequent analgesic medication for her pain. By April 12, 1954, she had improved somewhat symptomatically and decided to sign herself out of the hospital.

The patient was seen in the clinic several times and then was persuaded to return to the hospital on May 6 for completion of the workup. In the interval of three weeks the patient had noted generalized weakness, dull backache, and pain in the left leg. On admission the blood pressure was 155/100 and the physical examination essentially as before.

The laboratory data included a white blood count of 4,750 with 2 transitionals, 39 polymorphonuclears, 52 lymphocytes, 5 monocytes, and 2 eosinophils. The blood smear was said to show several "leukosarcoma" cells. The bone marrow was somewhat hypocellular with numerous myeloid and erythroid precursors but not pathognomonic of any disease entity. She continued to run a low-grade fever (99 to 101 F.) and on May 6 was discharged to be followed in the hematology clinic because of the abnormal findings in the peripheral blood and the questionable hilar adenopathy.

On the first clinic visit the patient complained of back pain and at that time was found to have a normal white blood cell and differential count.

The patient's final admission on August 1, 1954, was necessitated by the sudden onset of severe left chest and back pain one-half hour before admission. She was found to be in severe distress, cold and pulseless, and blood pressure was not obtainable. She regained consciousness for a few minutes after an infusion containing Levophed had been started but soon became very irritable and comatose and expired. An electrocardiogram taken shortly before death showed an idioventricular rhythm with a rate of 30 per minute.

Discussion

DR. JACK NELSON: The initial episode of pain in the left posterior chest, shortness of breath, dizziness, and sweating is essentially the pattern of pain followed by a shocklike state. There would seem to be relatively few conditions that cause such a pattern. Its suddenness suggests a vascular episode, and the age of the patient and the presence of hypertension favor this, e.g., coronary occlusion, aortic aneurysm with rupture, dissecting aneurysm of the aorta (suggested by the location of the pain), and pulmonary embolism. For the last of these possibilities there is no subsequent support. The location of the pain in the midabdomen, epigastrium, and back are consistent with the diagnosis of posterior basal myocardial infarction which frequently simulates an upper digestive syndrome and with which nausea and vomiting are frequently found. The distribution of pain here described is also frequently found in acute pancreatitis. The onset seems sudden for an inflammatory condition, but pancreatitis with its hemorrhagic aspects is sometimes extremely abrupt. The location of the pain stands against the likelihood of biliary colic.

If we try to relate the symptoms of epigastric pain and vomiting which the patient experienced for two to three weeks prior to admission to the presenting episode, a primarily digestive disturbance such as intestinal, biliary, or pancreatic disease must be considered. Of course there is also brought up any one of a large number of abdominal conditions related to neoplastic disease: carcinoma or retroperitoneal sarcoma. However, it is difficult to see how any of these conditions could precipitate so acute an onset.

The area of ecchymosis noted over the posterior chest is a sign which, paradoxically, may be most important or which may mean nothing. In 1920 Greyg,[1] writing in the *British Journal of Surgery,* noted discoloration of the skin of two patients with acute pancreatitis. It is usually located in the flanks, the left more than the right, occasionally extending over the lower rib cage in the back. The color ranges from mottled brownish to a blue-purple variation resembling an ecchymosis. It is probably consequent upon the direct extension of blood and pancreatic secretions backward from the retroperitoneal space. However, it must be pointed out that this sign generally does not appear before the fifth day.

Occasionally, blood from aneurysmal rupture will dissect into the flanks and appear in the subcutaneous tissues as an ecchymosis; this possibility also must be borne in mind. And also to be remembered is the possibility that the ecchymosis noted may have been nothing more than the result of the patient's fall at the onset of pain.

The laboratory data are significant in that there is no anemia, inclining us against a neoplastic process, particularly against one within the lumen of the intestinal tract, despite the finding of guaiac-positive stools. The lack of leukocytosis confronts us with some difficulty in connection with the question of acute pancreatitis for most of these cases produce enough peritoneal irritation to cause a significant elevation of the white blood count.

Although there is evidence of some urinary tract infection, I do not see how it can contribute significantly to the clinical developments noted.

The blood chemistries were normal. May I mention that they included albumin, globulin, cholesterol, its esters, icteric index, cephalin flocculation, alkaline phosphatase, and blood serology. The blood amylase was 42 units on March 8 and 73 units on March 17 as against a normal range of 80 to 160 units. This is important. Most cases of pancreatitis of major degree will show elevation of the serum amylase at the outset of the attack. The failure to find it here stands against this condition. We may not rule it out on this basis, however, for it is well known that in some cases, even of marked pancreatitis, the amylase falls to within the normal range quite rapidly. Indeed, in Elman's[2] classic study of 18 cases of acute pancreatitis, the amylase dropped to 100 units or less within forty-eight hours (the time span in the case we are considering) in six cases.

The electrocardiogram was normal but for the presence of frequent premature beats, both on admission and on the following day. One would certainly expect, I should think, electrocardiographic changes by the third day of a myocardial infarction of such degree as to produce the clinical picture here presented.

The roentgenogram of the chest shows a dilated and tortuous aorta, such as is consistent with this patient's habitus and hypertension. The hilar shadows I would regard as no more than suggestive, not definitely abnormal. There is, however, a remarkable and persistent elevation of the left diaphragm with a good deal of gaseous distention of the splenic flexure of the colon under it. In this connection may I call to your attention a case of acute pancreatitis presented to this conference in December, 1953, in which there was noted distention of the large bowel, particularly the splenic flexure. This is a phenomenon not infrequently recognized in pancreatitis as is, incidentally, pathology about the left diaphragm consisting either of elevation of that leaf or pneumonic and pleuritic phenomena above it. The diaphragm here moved in consonance with the other side; although its motion was restricted, it was not paralyzed.

The esophagus is described as showing indentation suggestive of mediastinal adenopathy. The stomach is normal, but its position seems somewhat farther forward than normal. I am not impressed with the report of abnormality of the gallbladder; it fills well. The kidneys, although reduplicated, are otherwise normal. The x-rays of the spine show partial collapse of two thoracic vertebrae in the context of marked generalized osteoporosis. There is nothing in them to suggest the focal lesions of metastatic disease.

The second admission approximately a month later adds little to the picture except that pain in the back and legs persisted as did a low-grade fever. A few "leukosarcoma" cells were found in the blood smear together with leukopenia and a slight increase in lymphocytes. The finding of such cells would be of the highest diagnostic importance if it could be confirmed, but it was not confirmed on subsequent study. Moreover, the bone marrow was not significantly abnormal.

The final episode was catastrophic; almost five months after the initial attack the patient experienced the sudden recurrence of intense pain in the left chest and back and promptly went into collapse from which she died within a half hour. The electrocardiogram taken about ten minutes before her death disclosed an idioventricular rhythm at a rate of 30 beats per minute.

If a vascular accident seemed the likely cause of the first episode, it seems even more likely now. It is difficult to see how even a fulminant pancreatitis could be lethal in so short a time. It is among the possible vascular accidents then that one must choose: coronary occlusion, rupture of an aneurysmal sac, or dissecting aneurysm of the aorta. The initial episode was not a coronary so there is no reason to believe that the terminal one (which was the same except that it was lethal) was of this nature. The electrocardiographic abnormality in a tracing taken so shortly before death is substantially nonspecific and does not of itself require the diagnosis of indigenous myocardial disease. There is no evidence of an aneurysmal sac, although this may exist nevertheless.

I think this patient had a dissecting aneurysm of the aorta, that she survived the first attack and succumbed to the second. If this be the case, it is possible that the terminal electrocardiographic abnormality may have been the result of retrograde dissection of the aneurysm toward the heart causing occlusion of a coronary artery or rupture into the pericardial sac with cardiac tamponade.

Acute pancreatitis is a possibility, although it leaves a number of questions unanswered.

Similarly, retroperitoneal sarcoma is a possibility, but the findings in this regard are not striking, and it would be impossible—unless one invoked the mechanism of erosion of an artery—to explain the suddenness of the presenting episodes.

Dr. Raymond S. Jackson: Dr. Weiner,

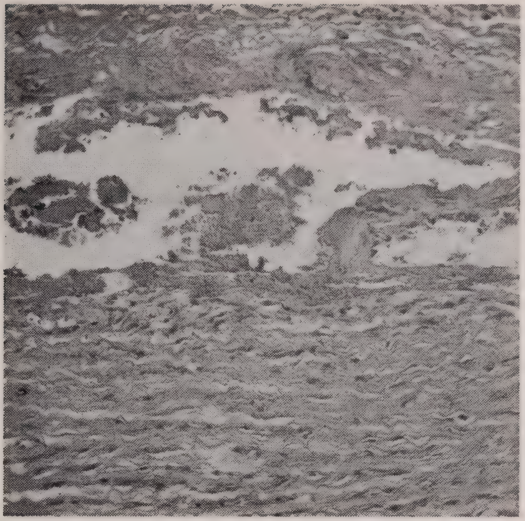

FIG. 1. A portion of the recent dissection. Strands of thrombus border the cleft and lie within its lumen. (*Hematoxylin-eosin*)

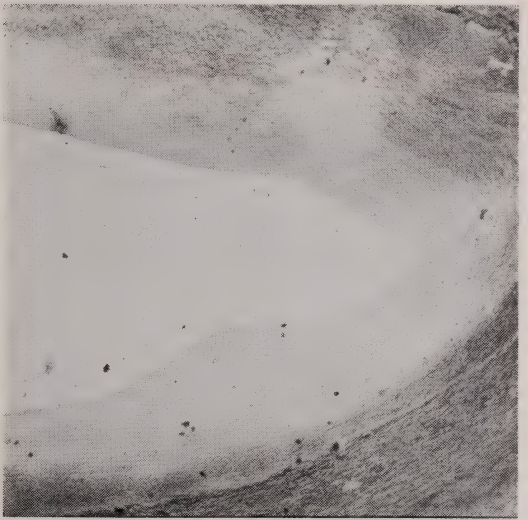

FIG. 2. A thick, collagenous layer lines the lumen of the old dissection. This new "intima" is clearly separated from the media; the latter coat is recognizable in the lower part of the field by the presence of black elastic fibers. (*Elastica-van Gieson*)

would you comment on the hematologic findings in this case?

DR. LEO WEINER: The hematologic picture revealed a mild neutropenia. There was a report of some questionable leukosarcoma cells, young lymphoblasts with large nucleoli that are occasionally observed in the peripheral blood of patients with lymphosarcoma. The presence of these leukosarcoma cells was not confirmed by others who examined the peripheral blood smears. The bone marrow was somewhat hypocellular, but this hypocellularity may have been due to the peripheral dilution of the marrow aspirated. A diagnosis of a hypoplastic bone marrow cannot be made on only one bone marrow aspiration. No definite diagnosis could be made on either the blood smear or on the bone marrow examination.

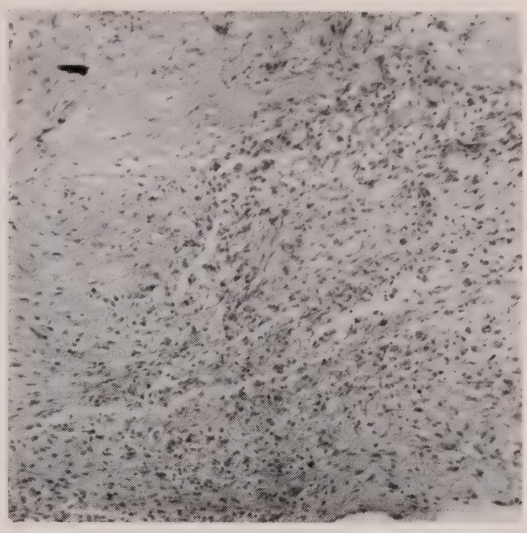

FIG. 3. Granulation tissue and collagen replacing much of the thrombus in a portion of the older dissection. (*Hematoxylin-eosin*)

Diagnoses

Clinical.—*Hypertension; vascular accident.*

Dr. Nelson.—*Dissecting aneurysm of the aorta.*

Anatomic.—*Dissecting aneurysm of the aorta; hemopericardium; old dissecting aneurysm of the aorta.*

Pathologic Report

DR. NORMAN COOPER: Autopsy revealed about 450 cc. of fluid and clotted blood in the pericardial sac. The source of the hemopericardium was a small, irregular tear in the aortic adventitia, about 2 cm. above the aortic valve. This defect communicated with a fresh medial dissection, containing clotted blood, which extended from the root of the aorta to a point just beyond the arch (Fig. 1). No communication between the dissection and the aortic lumen could be demonstrated with certainty.

Beginning a short distance distal to the end of

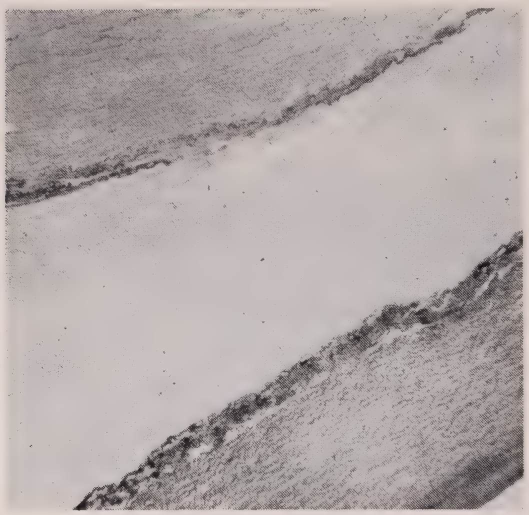

Fig. 4. An area of recent dissection. The aortic media is identified by the presence of closely packed parallel black elastic fibers. The upper border of the dissection is formed by the outermost portion of the media. The great bulk of the medial elastic fibers can be seen below the dissection. (*Elastica-van Gieson*)

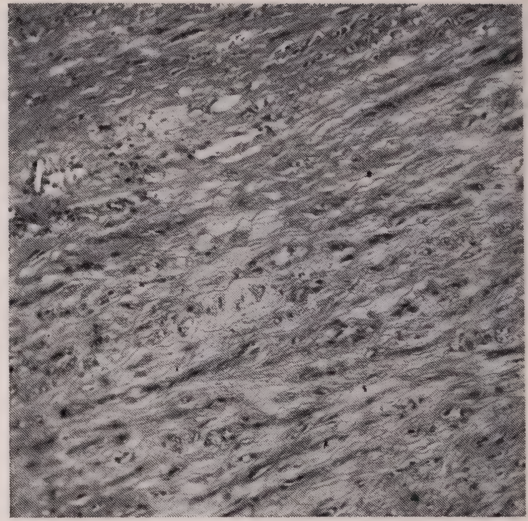

Fig. 5. A high-power view of the outer portion of the media in an area not yet affected by dissection. The muscle and elastic fibers are thinner and sparser than normal. The spaces between them are filled by pools of material resembling mucin. There are several dilated capillaries in the weakened media. (*Hematoxylin-eosin*)

the fresh dissection and extending down into the common iliac arteries, the aorta had a "double-barrelled" lumen. This dissection was old, as indicated by the fact that the surfaces of the extra "lumen" were endothelialized (Fig. 2) and even contained some atheromatous deposit. A portion of the lining of the dissection was covered by an adherent thrombus. The lumen of the dissection communicated with that of the aorta via the orifices of several intercostal vessels. Histologically, the degree of organization of the thrombus in the old dissection was compatible with a duration of several months (Fig. 3).

Histologic examination revealed that both of the aortic dissections had occurred in the characteristic place, namely, the outer third of the media (Fig. 4). There were aggregates of mucin-like material bordering the dissection and elsewhere in the media (Fig. 5). Degeneration of both elastic tissue and muscle in the media was demonstrated (Fig. 6).

The aortic intima showed only moderate atherosclerosis, as did the coronary arteries. The latter were not significantly narrowed. The myocardium showed no evidence of infarction, recent or old.

It appears evident that the chest pain which led to the patient's first admission was associated with the onset of the older dissecting aneurysm. The failure of this lesion to rupture through the adventitia enabled the patient to survive for several months after this episode. However, the widespread nature of the aortic medial degeneration made a new dissection inevitable. In a recent large series of autopsied cases of dissecting aneurysm, the longest survival after initial

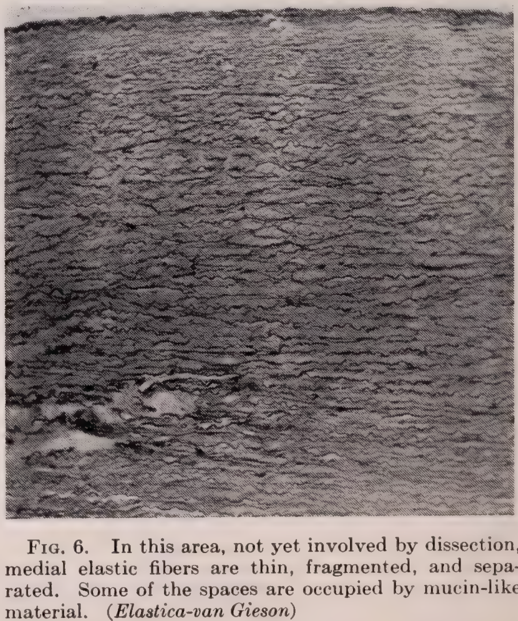

Fig. 6. In this area, not yet involved by dissection, medial elastic fibers are thin, fragmented, and separated. Some of the spaces are occupied by mucin-like material. (*Elastica-van Gieson*)

symptoms was two years; the patients usually died of a new dissection.[3]

The high incidence of hypertension in patients with dissecting aneurysm is well known.[3-5] However, the fact that hypertension is not a necessary feature of the disease is evidenced by the finding of normal pressure in 20 to 40 per cent of the cases. Normal aortic media cannot be split by the pressures present even in severe hypertension.[6]

The most reasonable explanation[4] of the pathogenesis of this disease is that the primary lesion is an idiopathic degeneration of muscle and elastic tissue in the aortic media. During the sluggish repair of this injury, a few thin-walled vessels penetrate into the aortic media. Since most of the supporting stroma in the area has degenerated these vessels are likely to rupture, particularly if the blood pressure is elevated. The resulting hematoma may cause pressure necrosis sufficient to produce a tear in the underlying aortic intima or adventitia; dissection of the hemorrhage through adjacent degenerated media may also occur. The striking deposits of mucoprotein probably represent ground substance filling the areas left vacant by the loss of muscle and elastic tissue.

A PHYSICIAN: What is the explanation for the elevation of the diaphragm?

DR. COOPER: At autopsy the diaphragm was not elevated.

A PHYSICIAN: Was there a tear connecting the aortic lumen with the recent dissection?

DR. COOPER: There was no intimal tear in either dissection. Although such a tear is usually present, the absence of any communication between the aortic lumen and a medial dissection is not rare. It is perfectly understandable because the dissecting aneurysm starts as hemorrhage into the weakened media from a medial vessel, not by dissection of blood from the aortic lumen into the media.

A PHYSICIAN: What is the relation of hypertension to dissecting aneurysm?

DR. COOPER: Hypertensives are more susceptible to dissection for the same reason that hypertensives are prone to cerebral hemorrhage. A normotensive individual is just as likely to suffer medial degeneration and invasion of thin-walled vessels; however, the hypertensive is more likely to rupture the vessel once the ground has been prepared, simply because of his higher intervascular pressure.

A PHYSICIAN: How did the blood get into the pericardium if the aneurysm did not rupture?

DR. COOPER: The terminal dissection did rupture into the pericardial space.

DR. NELSON: Can we explain the esophageal changes noted on x-ray and the forward displacement of the stomach by the enlargement of the aorta resulting from the dissection.

DR. COOPER: Yes, we can.

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Medical Mystery Shows!

A wholesome and instructive medical who-dunit transcription series became available after June 15 from the AMA's Bureau of Health Education for airing over local radio stations. Entitled, "Dr. Tim, Detective," this series relates some of the novel experiences which the doctor and his teen-age pals—Sandy and Jill—have solving mysteries related to health.

Written and produced by the Rocky Mountain Radio Council under the supervision of the Bureau, this series is particularly suitable for those radio listening hours directed to the small fry. Medical societies sponsoring "Dr. Tim" transcriptions might wish to inform the local P.T.A. of the hour the programs will be aired.

Subjects included in the 13-program series: diabetes, rabies, hearing, dope peddling, hookworm, appendicitis, asthma and allergies, anesthesia, nursing care, blood and fractions, rheumatic heart disease, Rocky Mountain Spotted Fever, and patent medicines.

—*AMA News Notes, June, 1955*

TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

with the cooperation of

Bureau of Cancer Control
New York State Department of Health

The Treatment of Skin Cancer

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At present the routine management of basal and squamous cell cancer of the skin narrows down to therapy with some form of ionizing radiation, electrosurgery, or scalpel surgery. In many instances any one of these modalities might be expected to produce an equally favorable result. Frequently, however, the peculiar requirement of type, size, anatomic location, and other complicating factors will determine a choice of method. This selection must be made in the light of established fundamental principles and accumulated experience.

Radiation

Radiation is the treatment of choice for cutaneous cancer located in facial areas where surgical excision might result in objectionable cosmetic deformity. This is especially so in lesions involving the nose where the preservation of contour is essential. Also, if the lesions are not too large, excellent cosmetic results are obtained in the canthus and eyelid regions.

In most parts of the country, roentgen rays are the more accessible and popular form of radiation therapy. Moderate low voltage with a peak of 100 kilovolts (half-value layer 1.5 mm. aluminum) produces a quality of radiation with sufficient depth dose for most cutaneous cancer. Unless the area is unusually large, a target skin distance of 15 to 20 cm. is adequate.

The selection of optimum dosage is fundamentally dependent upon a consideration of the time over which the total dose is spread. The time-dose relationship figures of Paterson, Strandquist, and others are excellent guides for the formulation of any dosage scheme. From these figures cancerocidal doses can be determined for treatment time periods varying from a single massive dose to a total dose consisting of component daily fractions spread over days or weeks.

Prolongation of the over-all treatment time results in increased skin tolerance and probably enhances therapeutic effectiveness. Therefore, a protracted treatment scheme is preferable to the single massive dose technic. It is suggested that cutaneous cancer of ordinary depth requiring a field size up to 3.5 cm. in diameter be given 500 r daily until a total dose of 4,500 to 5,000 r has been administered. For lesions requiring a field size larger than 3.5 cm., smaller daily fraction doses, such as 400 r or less, may be given until a total dose of about 5,600 to 6,000 r is reached. For the larger fields to be irradiated, it is essential that all dosages be calculated to include backscatter.

For thick, bulky lesions, harder quality radiation from a peak of 140 to 200 kilovolts (half-value layer 0.4 to 0.9 mm. copper) is recommended. In these tumors the dose should be a calculated cancerocidal depth dose delivered to the estimated depth of the base of the tumor. Here it is even more important to build up the total dose with daily fractions. The larger the area to be treated, the smaller should be the fraction doses and, consequently, the greater the over-all time span.

Very low voltage, 45 kilovolts (half-value layer 0.3 mm. aluminum), short-distance (2.0 cm.) radiation with the Phillip's tube can be used for extremely superficial skin carcinoma requiring a field size of 2.5 cm. or less. Because of its feeble power of penetration, this quality of radiation has the advantage of sparing underlying structures where little depth is required. However, this type of machine has a comparatively limited range of usefulness and usually is found only in large institutions.

While not so generally popular as it once was, radium is still a valuable modality in the treatment of skin cancer. Indeed, in some parts of the country it is regarded as the method of choice. Radium is especially useful where it is imperative to restrict the radiant energy to the tumor itself and deliver a minimum to underlying tissues. It can be used in plaques or tubes applied to the surface. The latter are sometimes held in place by a specially fitted moulage application which is particularly suitable for the treatment of irregular surfaces. Deeper and more bulky lesions usually require that the radium be implanted in the tissue so as to provide an interstitial source of homogeneously distributed radiation. This can be achieved by the use of radium-containing needles which are made in varying sizes or by the implantation of radon seeds. Because of the variation in the form and structure of radium containers and the complexities of their positional relationship to each other and to the tumor tissue, categoric recommendations as to dosage are less feasible with this modality than with x-rays. It is to be emphasized that the proper manipulation of radium in the treatment of skin cancer requires a personal skill and individual judgment that can be found only in the thoroughly trained with long experience.

Electrosurgery

Electrosurgery in the form of electrocoagulation is most useful in the treatment of premalignant lesions, such as leukoplakia and solar keratoses. Also, it can be employed for the eradication of very early and superficial skin cancer. Particularly, it is suitable for the treatment of the small, slowly growing, multiple cancerous foci which develop in areas of late radiodermatitis.

Electrocautery with a flat-tipped applicator is sometimes preferable to electrocoagulation in treating the broad, flat, so-called "psoriasiform" or "eczematoid," extremely superficial basal cell carcinoma. Such lesions are frequently too large in area for x-ray therapy and, if treated with scalpel excision, require rather extensive grafting for repair.

The so-called "electric knife," using cutting current, can be nicely employed to excise carcinoma projecting from the surface and those situated on the rim of the ear. In this latter situation under local anesthesia the involved area including underlying cartilage can be easily amputated.

With proper selection of cases the scars resulting from all forms of electrosurgery are usually quite acceptable cosmetically, often surprisingly so.

Scalpel Surgery

Surgical excision can be used to remove almost any cutaneous cancer. It is the method of choice for most lesions situated on the extremities, forehead, scalp, and concha of ears. Likewise, surgical excision with plastic repair is perhaps the most suitable approach for bulky carcinoma of the eyelids where the entire lid is involved. Also, it is unquestionably the best treatment for cancers which have been proved to be refractory to one course of radiation therapy. It is strongly felt that while an unusual situation might constitute an exception, generally speaking, cancers which have reappeared after radiation should not again be irradiated.

Methods Not in General Use

In the last few years the application of solutions of podophyllum to cutaneous cancer has been the subject of considerable investigative effort. Likewise, thorium-X has been studied for its effect on very superficial basal cell carcinoma. The injection of tissue extracts into skin cancer has been similarly explored. All of these must be regarded as experimental methods and at this time not suitable for routine application.

Although not in general use, so-called "chemosurgery," as developed by Mohs, is beyond the experimental stage and is quite definitely a reliable form of therapy. In a substantial series of five-year results, this unique method compares quite favorably with radiation or scalpel surgery. It is a particularly useful approach in cutaneous cancers of long standing with ill-defined limits and suspected distant peripheral projections. However, the method is not generally available since it is practiced only by its originator and perhaps several others.

Causes of Treatment Failure

1. Failure of the therapist (no matter which modality is employed) to anticipate the possible peripheral extent of the tumor, in the light of what is known concerning the cell type, anatomic location, and age of the lesion, may account for microscopic extension of strands of tumor cells beneath normal skin considerably beyond the visible and palpable limits of the tumor bulk.

2. Most failures following radiation therapy are due to the employment of insufficient dosage or lack of regard for the time-dose relationship. All too frequently the approach to therapy with this modality is one of haphazard guesswork rather than a carefully planned scheme calculated to deliver a cancerocidal total dose to the base of the tumor within a specific span of time.

3. The failures following electrothermic destruction are due largely to error number 1 and to a lack of awareness of the limitations of the method. Since this usually is an office or outpatient procedure, the inexperienced have an oversimplified conception of the technic. Electrosurgery can be an excellent modality in the hands of the experienced, but its deceptive simplicity too often tempts the untrained to enter a realm fraught with danger.

4. Surgical failures are due to error number 1 or to the technical inability of the operator to excise beyond the known extensions of the cancer.

Malignant Melanoma

Malignant melanoma accounts for less than 5 per cent of skin cancer but is the most highly malignant of all cutaneous tumors. There is practically general agreement that surgical excision is the only choice of treatment that offers hope of cure. While there is considerable controversy as to how radical the surgery should be, the question really narrows down to a decision as to which of the following procedures offers the best chance of survival:

1. Local excision of the primary tumor with a wide, apparently free margin.

2. Excision of the primary lesion plus prophylactic dissection of the regional lymph nodes. Some feel that where feasible, this should be done in continuity.

3. When an extremity is the site of a primary melanoma, partial and complete amputations at various levels have been urged by their respective advocates.

Since it is statistically somewhat unsatisfactory to compare the survival rates of various operative procedures in different institutions at different times, the final answer to the question of how radical one must be in the management of malignant melanoma is not yet available.

There is, of course, no question as to the absolute necessity of wide local excision of the primary melanoma with very careful histologic check on the farthest edges of the excised material for possible remaining junctional changes. Also, in the light of evidence so far accumulated and in consideration of accepted parallel approaches to other highly malignant tumors, it would appear that there is considerable justification in prophylactic dissection of the regional lymph nodes.

Follow-up Routine

The regular systematic observation of the patient after treatment must be regarded as an indispensable phase in the management of any skin cancer. Following therapy patients with basal cell carcinoma, which rarely metastasizes, should be seen for periodic checkups, chiefly for the purpose of determining whether or not there is any visible or palpable residual of the tumor. It is suggested that they be seen in three months, again in another three months, and subsequently every six months for at least three years. Lesions in exceptionally dangerous anatomic locations, such as about the nose and the canthi, lesions larger than average, or any which have constituted a therapeutic problem where the possibility of recurrence might be anticipated to be greater than usual require more frequent inspection.

Patients who have been treated for any carcinoma which has the potentiality of metastasizing, such as squamous cell carcinoma and malignant melanoma, should be examined at more frequent intervals. These people must be seen for inspection of the original site and palpation of the adjacent node-bearing areas every four to eight weeks during the first year, at least every two to three months during the second and third years, and thereafter every four months until at least a five-year observation period has been completed. In the case of malignant melanoma the observation period should be continued throughout the lifetime of the individual.

(*Number four of a series on Treatment of Cancer*)

Mental Health Problems

Although the mental health problem in the United States has been growing in magnitude over the past twenty years, certain features of the problem appear worse than they really are, a current report by the Metropolitan Life Insurance Company's statisticians sets forth.

Although the number of first admissions of psychiatric patients to hospitals for long-term care has increased more than 60 per cent over the twenty-year period, and the number of patients under care in these institutions has risen almost as rapidly, a substantial part of the rise reflects merely the increase in population and the growing proportion of people at the older ages.

In New York State, for example, about 30 per cent of the increase in first admissions of women to mental hospitals during the past two decades is accounted for by these population factors. The statisticians note as significant that patients with mental disorders associated with old age constitute an increasing proportion of all first admissions to mental hospitals, and now account for one fourth of the total.

"A more enlightened attitude has lessened the reluctance of the public to seek institutional care for persons with mental disorders," the report states. "Because the proportion of people living in small dwelling units has increased, mental patients who in the past might have been kept at home now are more likely to be placed in hospitals for treatment."

A brighter spot in the over-all picture is seen in the fact that substantial progress has been made in the treatment of various types of mental disease. The long-term outlook for recovery is favorable, it is noted, and survivorship among insurance applicants with a history of mental illness compares not too unfavorably with standard risks.

The report points out that the attack on the problem of mental illness has been gaining momentum in recent years.

"While much is being done, the effort is still far from commensurate with the magnitude of the problem," the statisticians comment. "There is good reason to expect that a broadened and intensified program would bring marked progress in the field of mental health, as it has in so many others."

SPECIAL ARTICLES

Medical Rehabilitation in Israel

BENJAMIN KOVEN, M.D., F.A.C.S., BROOKLYN, NEW YORK

(From the Departments of Orthopedic Surgery of the Brooklyn Jewish Hospital, Beth-El Hospital, Brooklyn Women's Hospital, and Brooklyn Hebrew Home and Hospital for the Aged and the Department of Physical Medicine and Rehabilitation of the Jewish Chronic Disease Hospital of Brooklyn)

When in May of 1948 Israel became an independent state, the doors of the new nation were opened wide to Jews of the whole world. This was against all rules of economics and of self-interest for this country had not as yet recovered from the wounds of the war of liberation (1947–1948).

In 1949 Israel was visited by a great scourge in the form of an epidemic of infantile paralysis. Up to this time this disease was practically unknown in this region. This epidemic continued with greater intensity and severity in 1950 and 1951. Most of the available hospital beds were occupied by wounded veterans. Barracks previously used by American and British soldiers were hastily converted into hospital wards. In some rural communities prefabricated houses and Quonset huts were quickly constructed to isolate and treat the afflicted. These added difficulties occurred during the time that the tide of immigration was at its peak. Under ordinary circumstances such an epidemic in any nation, especially one in its infancy, would have wrought havoc among the populace. In many cases it could have been the cause of total abandonment of the project.

There were two great factors that had existed prior to the birth of this nation which resulted in a healthy development and growth of this new state. First was the spirit of the people within the boundaries of this land. In this present century the Jewish population in Palestine had risen from 60,000 to 450,000 to the time of the inception of the state of Israel. This increase was mostly composed of persons not wanted in their land of birth or adoption. Many of them who had come to the shores of Palestine were of pioneer stock, possessing a great desire to rebuild their ancestral home. With this pioneer spirit they were able to change this country into a livable land.

In 1905 active colonization in Palestine began. Most of the emigrees were from Russia. This was followed by two decades of further increase that coincided with the awakening of pride of homeland among the Jewish youth who had volunteered to form the brigades attached to the British armies in the first world war. The Nazi regime with its persecutions stimulated a very large emigration from Central Europe. This influx was very helpful to the future of Israel because among these refugees were found many leading scientists and eminent medical men. The aftermath of the war of liberation and the creation of the Jewish state culminated in the "gathering in" to the homeland of Jews of every nationality and condition of life. During the past fifty years immigrants from Asia and Africa, particularly from Iran and Yemen, constantly reached Israel in small numbers. The creation of the new state caused friction with the surrounding Mohammedan states which resulted in nearly a total Jewish exodus from these Arabian counties. These were supplemented in large numbers by refugees from North Africa, especially Egypt, Libya, and Morocco.

The second great factor was the deep concern of Jewry the world over in the re-establishment of their homeland. When the burdens of Palestine and later of Israel were greatest, the response for help was of Herculean proportions. Sufficient to say that these efforts to help and support the new state by the world at large were the greatest ever known in the history of civilized existence. Special credit must be given to the efforts of three great agencies that assumed the responsibilities for the necessary welfare and medical programs.

First perhaps in importance and early in the colonizing period was that splendid group of American women, the Hadassah. In the formative years the Hadassah did a magnificent job in the establishment of child health centers. It set up milk stations to supply the population with pasteurized milk. It brought the knowledge of sterilization and personal hygiene to pioneer communities. Together with the General Federation of Labor, which was organized at about the same time, it helped in the establishment of more health centers and

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Presented at the meetings of the International Society for Welfare of Cripples, The Hague, Holland, September 15, 1954.

Editor's Note: A previous article, entitled "My Medical Mission to Israel," by Dr. Koven was published in the June 15, 1952, issue of the New York State Journal of Medicine.

infirmaries. With increased health security due to the efforts of these agencies, wages and production went up, illiteracy declined, and, the mortality rate went down. These health measures not only were available to the Jewish population but were also extended to their Arab neighbors. Many Arabs took advantage of this help, but most of them refused to adopt these modern health measures because of superstition and of their desire to live according to the ways of their ancestors. In 1936 statistics showed that the tubercular and mortality rate among the Jews was about ten times less than their Arab neighbors.

One of the great achievements of Hadassah was the role it played in the founding of the Hebrew University and its medical departments. With the aid of the American Jewish Physicians Committee in 1927, these organizations, working hand in hand, drew up the plans which brought into being a medical center that included a hospital, a medical research institute, and nurses' training school with all departments for complete medical care. The first unit to be organized was a microbiologic institute. Its organization was dictated by the knowledge gained from experience that it was essential to disseminate exact knowledge regarding diseases peculiar to the Near East—malaria, trachoma, and various skin diseases. To transform a country characterized by lack of knowledge of hygiene and sanitation, it entered upon a wide program of education. This led to the recognition of the great need for further knowledge of subtropical medicine and hygiene and to the establishment of postgraduate courses concerned with preventive medicine. In due course there followed the creation of departments of parasitology, bacteriology and hygiene, pathologic physiology, and experimental pathology. In brief, it may be said that most of the efforts of these postgraduate schools were toward solving problems that had immediate bearing on the health conditions of the then existing Palestine. The results of these researches were among the greatest contributions to the welfare and future of Palestine and proved a great addition to our own present-day medical literature.

Today, one of the greatest medical needs in Israel is the training of young doctors. As stated previously, the misfortune of the Jews in Europe have brought to Israel some of the most eminent scientists and medical authorities of Europe. The great majority of the present practicing physicians have passed their fiftieth birthday, and they will require replacements if the future health of Israel is to be assured. The American Jewish medical profession together with Hadassah established an undergraduate school about three years ago. This school has the facilities for teaching the basic sciences and clinical medicine, the foundations of any grade A medical school anywhere. The first department of physical medicine and rehabilitation has been organized by Hadassah under the able guidance of Dr. Emil Adler. These facilities serve an important role in providing student teaching in the latter subject.

At this point mention must be made of the Youth Aliyah movement. Founded by Hadassah, the task became so tremendous that the burden was taken up by other women's organizations. Of the latter, credit must indispensably go to the Council of Women Workers of Israel and its sister organization in America, the Pioneer Women; the Women's International Zionist Organization; the Mizrachi Women's Organization of America; and the Women's League for Israel.

These women's organizations set themselves two goals: first, the care and rehabilitation of refugee children and, second, their education. The first refugee children, arriving while Israel was still Palestine, came from Central Europe where the shadow of Hitler had already darkened their young lives. The great majority arrived shattered in health both psychically and physically. Most of them arrived without their parents, who for the most part were detained in the countries of their origin. After the establishment of the state of Israel, the great majority of children came with their parents from the Arab countries. They comprised a very large group because among these Jews the birth rate was very high. The sickness rate was also very high because at least 65 per cent were found to be suffering from trachoma and ringworm.

The women's organizations set themselves various tasks in their aim of rescuing the children. Some provided nurseries, visiting nurses, and hospital facilities. Others devoted themselves to methods of social betterment, stressing a program of general education that included language study, modern sciences, and the behavior and customs of the new society. Some of their greatest efforts were in the direction of vocational guidance and the development of natural skills. The results of these endeavors proved to be so remarkable that sociologic students from many countries visited Israel to study the rehabilitation of the youth and their subsequent conversion into fine and productive young citizens.

The second great agency for medical care is the Kupat Holim, or the Medical Branch of the General Federation of Labor, known in Israel as Histradut. The Kupat Holim represents a form of prepaid medicine and provides full medical care for all members of the Federation. It also maintains a nonemployment fund, a disablement fund, and special funds for assistance to the aged, widows, and orphans. One of the important characteristics that distinguish the Kupat Holim from similar trade union health services in other countries is that the medical service it provides is almost exclusively in establishments belonging to the Kupat Holim. This carries with it the important psychologic factor of giving the patient a feeling of being at home and not being an object of charity but the recipient of care to which he or she is entitled. Because present-day Israel's colonization is chiefly along its periphery, Kupat Holim has followed the new settlements closely. Geographically, conditions have made it necessary to establish and maintain a permanent medical unit in every settlement. This service is augmented by traveling clinics of different specialists, who make visits to outlying districts at frequent intervals or whenever the need arises. While maintaining their own staff of full-time physicians, they are thus able to alternate the doctor's time and services between city and rural practice. This agency's special contribution to the rehabilitation program of Israel is that it was the first to maintain complete programs of physical medicine in its larger health centers. Regular lecture tours are conducted in the various settlements, many of which contain large numbers of immigrants. The health education program includes lectures on nutrition, personal hygiene, sanitation, first aid, and preventive medicine. There are now physiotherapy departments in many of the rural district dispensaries.

Kupat Holim was the first to build and maintain a hospital purely for rehabilitation, the Fineston House, which consists of a home for chronic invalids, to which 25 beds were later added to receive victims of infantile paralysis. These facilities are already outgrown, and another hospital, the Pulmonary Disease Hospital of Rananna, has been built. This institution acts also as a training school for technicians in physical medicine and its allied branches.

Through its affiliation with the Federation of Labor, the Kupat Holim in its rehabilitation program has been able to create sheltered workshops for chronic invalids. The Federation of Labor in Israel is not only a trade union but also owns and controls many of the important industries. The latter provide them with facilities for placing their disabled members in vocations compatible with their limitations of physical and mental health.

The Ministry of Health, the third important medical agency, came into existence as a regular governmental agency. This department carries the major share of responsibility for the medical care of new immigrants.

These new immigrants are first placed in detention camps under full quarantine measures. In the three months of their detention the immigrants receive complete medical and psychologic checkups. Aptitude tests are given to determine their abilities and aptitudes. The sudden and overwhelming arrival of so great a mass of immigration has put a very great burden and strain on the personnel of the Ministry. The recent epidemic of poliomyelitis has further aggravated the strain. From personal observation one may say that the personnel is composed of exceptionally hard-working, self-sacrificing, and competent people.

A major function of this agency is the supervision and control of water supply and especially the prevention of pollution. It supervises disease prevention by means of vaccination and immunization. Its present main problem lies in the search for and application of the most effective modern means to prevent the spread of any disease which immigrants may bring to Israel.

Since the terms of entry for the new arrivals were extremely generous, a substantial proportion of those who entered were found to require a great deal of rehabilitation. These widely opened gates brought individuals who presented every variety of human ills and disabilities. The blind, the maimed, the tubercular, and mental cases were not barred. Although often presenting no apparent ailments or deformities, many of these emigrees suffered the effect of severe malnutrition. Many were unaware of the most elementary rules of personal hygiene. Many were mentally retarded, although not actually deranged. These immigrants presented a vast panorama of medical and social maladjustments. They often found it difficult to adjust themselves to their new environment because of their previous patterns of life. Changed language and altered customs hampered their adaptability to a new environment. A great difficulty in this vast influx of immigration lay in the fact that among them were very few physicians or nurses.

Within five years over 700,000 immigrants were admitted. Providing proper measures of rehabilitation to such a large number of persons with an immense variety of languages and customs was a tremendous task. Rehabilitation has been defined as the restoration of displaced persons to the fullest physical, mental, vocational, or economic usefulness of which each may be capable. Defining the displaced person broadly, one may rightly assume him to be one who either by disease, injury, or racial ostracism finds it difficult to compete in the struggle for existence. In this sense no nation can count so high a ratio of displaced persons among its population as Israel does today.

Providing proper measures of rehabilitation for so large a number of persons with these handicaps has proved a tremendous task. The limited funds available to the government alone proved inadequate. At this point in 1949 the American Joint Distribution Committee, a branch of the United Jewish

Appeal, stepped in with aid. The Ministry of Health and the National Fund jointly formed a new organization named the Malben. The main objective of this new medical agency is to develop a care and rehabilitation program for the physically and mentally handicapped. They also concern themselves with the aged immigrant. Since 1951 the entire financial burden of Malben has been assumed by the Joint Distribution Committee.

Much time was spent in studying the needs of these disabled and retarded persons and the availability of means for their proper placement and care. It was found that a major factor in the success of their rehabilitation was the preservation of the family unit wherever possible. It was decided to build special settlements and villages for the disabled persons and to accommodate those suffering from similar diseases or disabilities in communities, instead of segregating them in hospitals and nursing homes. A village, Kfar Uriel, was created for about 100 families in which the head of each family was blind. Another center at Neve Chaim was set up for arrested tubercular patients. Another is composed of active tubercular cases. Settlements for nontubercular disabilities, for people suffering from chronic ailments, cardiacs, diabetics, arthritics, and paralytics or amputees have also arisen. Each village is flanked, on one side, by complete hospital and infirmary facilities for frequent medical inspection and treatment and, on the other side, by facilities for gainful employment, such as factory or workshop buildings. A normal family and social life, as the circumstances permit, exists in these communities.

In summary, the results of these experiments showed: (1) the feasibility of maintaining a home environment for the disabled person instead of hospital confinement with its many defects, (2) the possibility of providing these handicapped people with interesting and gainful employment to prevent the effects of idleness, and (3) providing means of employment within transportable reach of the handicapped person.

It is really a great thrill to watch many of these cripples, especially the paralytics and amputees, come into the workshop, by means of wheel chairs and crutches, and reach their work bench by their own efforts. Work is supplied to them by means of a conveyor system. The work produced by these disabled people is chiefly confined to weaving, upholstery, carpentry, sewing, metal and leather work. More and more rehabilitation centers have been added, and now they number about 14. The employables usually earn and produce no less than healthy workers in similar enterprises. Funds in the form of a grant or loan without interest are provided for a substantial number of the physically or mentally retarded (especially the aged) whose earning power is markedly reduced. With these allotments they may establish a small business which they can run with the assistance of the healthy members of their families. It is interesting to learn that one of the finest agricultural developments in Israel is to be found in a colony of the blind. This achievement was made possible by the devotion of the seeing members of the families.

Summary

1. Palestine has set a great example in acting as a proving ground for the demonstration of the effectiveness of modern technics in saving thousands of lives that would otherwise have succumbed to the ravages of disease and pestilence. It has conquered malaria, dysentery, trachoma, and other ailments common to the Middle East.
2. The creation of the Youth Aliyah camps has proved a valuable rehabilitating agency. Thousands of children wandering in wild desolation in the various countries of war-torn Europe were transported into Palestine and Israel. The great number of diseased and illiterate children, brought by the recent tide of mass immigration, are receiving medical care and are being rehabilitated into a life of happiness and usefulness.
3. Despite the harassments of an unstable peace and besieged borders, Israel is able to assimilate a large number of people coming from strange lands and imbue them with her spirit. Their integration into Israeli citizenship is only a matter of time. The nation has assumed the colossal task of guardianship of a vast number of homeless and displaced persons who have been broken in body and spirit by the horrors of war and concentration camps.
4. It is to be noted that at the beginning of this century Palestine played an important role in demonstrating the great value of modern medical science in the prevention and treatment of diseases. The new state of Israel is now acting as the proving ground in showing the world that maintaining and retaining the family unit is the major factor in making a success of the rehabilitation of the maimed and blind.
5. The work of this new nation is far from completed for many refugees are still knocking at its doors.

135 Eastern Parkway

The writer desires to record his thanks to several colleagues in Israel whom he has consulted regarding most of the material for this contribution. They include Dr. S. Syman, assistant director general of the Health Ministry; Dr. A. Ghiora, department head of physical medicine of the Kupat Holim; Dr. B. Pliskin, medical director of Malben, and Dr. Joseph Hirsch, medical director of Hadassah (American branch).

A Review of Narcotics Regulations for Practicing Physicians

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(*From the White Plains Regional Office of the New York State Department of Health*)

THE purpose of this article is to clarify the regulations with respect to narcotic control as they affect the individual practicing physician. Smuggling activities are so well under control today that it is believed much of the illegal drug supplies are diverted to addicts through the so-called legal channels, namely, physicians, hospitals, and retail drug stores. The appearance of such preparations on the market as meperidine hydrochloride (Demerol) has increased the problem because it was not believed that people would become addicted to this drug.[1] Physicians are urged to be on guard concerning patients who are receiving unusual amounts of this preparation or any narcotic preparation since, without realizing it, they may be supplying an addict or a person who may be considered a habitual user. Such persons usually visit several physicians and frequently make a practice of altering prescriptions.[2]

Physicians obtain their narcotic registration from the Federal government and may order narcotic drugs on Federal opium blanks. They may not be aware, however, that narcotics in New York State are regulated by Article 33 of the New York State Public Health Law, which is concerned with narcotic control. After having obtained a narcotic tax stamp from the Federal government, a licensed physician, in good faith and in the course of his professional practice only, may prescribe, administer, and dispense narcotic drugs or may cause them to be administered by a nurse or intern under his supervision (Section 3330, New York State Public Health Law).

Physicians who wish to have narcotic drugs to dispense in their practice must obtain these by using Federal opium order blanks. The practice of a physician's obtaining narcotics by writing a prescription in his own name or in the name of a patient is illegal and may lead to embarrassment or prosecution should it be uncovered in investigations conducted by narcotic control officers.

Records to Be Kept

The New York State law requires every physician who is authorized to administer or make professional use of narcotic drugs to keep a record of such drugs received by him and a record of all such drugs administered, dispensed, or professionally used by him otherwise than by prescription. However, no record need be kept of narcotic drugs administered or dispensed in the treatment of any one patient when the amount administered, dispensed, or professionally used does not exceed in any forty-eight consecutive hours (*a*) 4 grains of opium, (*b*) $^1/_2$ grain of morphine, (*c*) 2 grains of codeine or any of its salts. All such records shall be kept for a period of two years from the date of transaction. Records required by Federal narcotic laws containing the same information shall constitute compliance with this section. Every such record should contain a detailed list of narcotic drugs lost, destroyed, or stolen. Notice of the theft, loss, or destruction should be furnished promptly to the State Narcotic Control Section (Section 3333, New York State Public Health Law).

Reporting of Addicts

Section 3344 of the Public Health Law states that it shall be the duty of every attending or consulting physician to report to the State Health Department the name and, if possible, the address of any person under treatment if it appears that that person is a habitual user of any narcotic drug. Forms for this purpose can be obtained from the full-time health officer of your district. All such reports are confidential (Section 3344, New York State Public Health Law). Physicians treating patients with chronic diseases requiring large amounts of narcotic drugs may indicate on the report a brief notation of diagnosis or physical conditions necessitating narcotic sedation.

Physicians in Industry

Physicians who are employed on full or part-time basis by industrial firms should register with their Director of Internal Revenue as practitioners at the industrial plant if they wish to maintain stocks of narcotic drugs at the plant for administration or if they wish to prescribe for the industrial firm's employes. The Federal narcotic registration at the industrial plant may be in addition to the physician's registration at the point of his private practice. By obtaining the Federal narcotic registration at the industrial firm address and the payment of the $1.00 fee therefor, the physician then would be in control of the narcotic drugs at the employment point.

Official order forms for purchase of narcotic drugs are effective only for the name and address shown in the forms.

Registration and order forms for private practice will bear the private office address, while those obtained for medical service at an industrial plant should bear the practitioner's name and his address at the point of employment. Narcotic drugs purchased under one registration address may not be possessed at the other registration address.

Summary

Prescriptions for narcotic drugs are authorized only for the individual patient named in the prescription, and the prescription must contain the following information:

1. The full name, address, and narcotic registry number of the prescriber.
2. The full name and address of the patient.
3. The date on which the prescription is written.
4. The identity, strength, and amount of the drugs to be dispensed.
5. The signature of the prescriber (full name, no initials, no abbreviation).

The use of prescriptions by physicians to obtain narcotic drugs for their professional use or self-medication is illegal.

Official narcotic order forms may be purchased from the Director, United States Internal Revenue Bureau, at the office of each physician's tax district at a cost of 10 cents per book of ten purchase forms.

A physician should register annually by July 1 to use and possess narcotic drugs. This can be done by sending $1.00 to the Director of Internal Revenue in your district.

The U.S. Director of Internal Revenue is located as follows:

FEDERAL OFFICES

1. Brooklyn District
   210 Livingston Street
   Brooklyn 2, New York
2. Lower Manhattan District
   U.S. Custom House, Box 82
   New York, New York
3. Upper Manhattan District
   70 East 45th Street
   New York, New York
4. Albany District
   Federal Building
   Albany, New York
5. Syracuse District
   Federal Building
   Syracuse, New York
6. Buffalo District
   Federal Building
   Buffalo, New York

STATE OFFICES

1. 18 Dove Street
   Albany, New York
2. 270 Broadway
   New York, New York
3. 113 E. Onondaga Street
   Syracuse, New York
4. 374 Delaware Avenue
   Buffalo, New York

References

1. Rasor, R. W., and Crecraft, H. J.: J.A.M.A. **157**: 654 (Feb. 19) 1955.
2. Council on Pharmacy and Chemistry: *ibid.* **149**: 1220 (July 26) 1952.

Baby Boom To Continue

The great United States baby boom, which sent births to an all-time high of 4,076,000 last year, may be expected to continue for several more years, according to a current report by Metropolitan Life Insurance Company statisticians.

The current upsurge in births, unparalleled in the country's history, has been unchecked since the close of World War II.

From 1946 through 1954 the number has averaged more than 3,750,000 annually, or $1^3/_5$ times the low figure of 1933.

Important factors in the rise in the number of babies born yearly, the report states, has been a marked increase in the number of married women, and an almost uninterrupted rise in the fertility rate from its low level in the 1930's.

"Wives at ages fifteen to forty-four have increased in number by $^1/_7$ since 1945, and by more than $^1/_3$ since 1933," it is pointed out. "In each of the postwar years about one out of every six married women at these ages bore a child, but in the mid-'30's the proportion was only one in eight."

Particularly noteworthy is the sustained high rate for second births, the rapid rise in the rate for third and fourth births, and the current upward tendency in the rate for fifth births. This presages a return to moderate size families in the United States, according to the statisticians, although not to the large families of several decades ago.

With the continuation of favorable economic and social conditions, it is noted, an expected decline in the birth of second and third children may be offset by a rise in births of the fourth and higher orders.

"The outlook is that the total number of births will decline only gradually during the balance of this decade," the statisticians comment.

NECROLOGY

William Edward Achilles, M.D., of Geneva, died on May 28 at his home after a short illness, at the age of sixty. Dr. Achilles was graduated from the University of Buffalo School of Medicine in 1919. He was a charter member and a past president of the Central New York Roentgen Ray Society. A Diplomate of the American Board of Radiology, Dr. Achilles was attending radiologist at the Geneva General Hospital and Seneca Falls Hospital and consulting radiologist at the Willard State Hospital. Dr. Achilles was a member of the American College of Radiology, the Radiology Society of North America, the Geneva Academy of Medicine, the Central New York Roentgen Ray Society, the Ontario County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Stephen G. Di Pasquale, M.D., of Buffalo, died on June 1 at the age of fifty. Dr. Di Pasquale was graduated from the University of Buffalo School of Medicine in 1929. He was an attending surgeon at the Sisters of Charity Hospital of Buffalo, a member of the Baccelli Medical Club, a Diplomate of the International College of Surgeons, a Fellow of the International College of Surgeons, a member of the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

John A. Ferguson, M.D., of Wyckoff, New Jersey, formerly of Brooklyn, died on June 9 at the age of eighty-two. Dr. Ferguson was graduated from Long Island College Hospital School of Medicine and became a physician in 1902. From 1906 until his retirement in 1949, Dr. Ferguson had his office on Bushwick Avenue. From 1920 until 1927 he served as physician to the Board of Education and during World War II he served on the draft board and Office of Price Administration board in the Bushwick section. Dr. Ferguson had been a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Louis Marcus Friedman, M.D., of New York City, died on February 23 at the age of sixty-nine. Dr. Friedman was graduated from the College of Physicians and Surgeons, Baltimore, in 1912. At the time of his death he was a member of the New York County Medical Society and the Medical Society of the State of New York.

Joseph O. Hayes, M.D., of Detroit, Michigan, formerly of Buffalo, died of a heart attack on May 27 at the age of thirty-three. Dr. Hayes was graduated from the University of Buffalo School of Medicine in 1947. He had been a member of the American Society of Anesthesiologists, a former secretary of the Erie County Anesthesiology Society, and a former member of the Erie County Medical Society.

Ransome Otha Jackson, M. D., of Savannah, died on June 12 at the age of sixty. Dr. Jackson graduated from Rush Medical College in 1927. He was a member of the Wayne County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Julius I. Klepper, M.D., of New York City, died of a heart attack at his office on June 15 at the age of seventy-four. Dr. Klepper was graduated from the Long Island College Hospital School of Medicine in 1909. He was attending surgeon in otolaryngology and chief of the Otolaryngology Outpatient Department at the New York Polyclinic Hospital. Dr. Klepper was a Diplomate of the American Board of Otolaryngology, a Fellow of the American College of Surgeons, and a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Frederick H. Knoff, M.D., of Cazenovia, died on May 26 at his home at the age of seventy-eight. Dr. Knoff was graduated from Syracuse University College of Medicine in 1905. At the time of his death he was a member of the Syracuse Academy of Medicine, the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

David Howard Russell Lester, M.D., of Schenectady, died on June 4 in a plane accident at the age of fifty. Dr. Lester was graduated from Albany Medical College in 1929. He was a member of the Pan American Medical Association, the Schenectady County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Maurice James McGrath, M.D., of Oswego, died on May 30 after a brief illness at the age of seventy-two. Dr. McGrath graduated in 1911 from Albany Medical College. At the time of his death he was an emeritus member of the staff of the Oswego Hospital. At one time he had served as president of the Oswego Academy of Medicine and for several years had been assistant health officer. Dr. McGrath was a member of the Oswego County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Jean Harwood Pattison, M.D., of New York City, died on May 31 at Falmouth, Massachusetts, at the age of seventy-nine. Dr. Pattison graduated from Cornell University Medical College in 1919 and interned at Bellevue Hospital. She had been a member of the New York Academy of Medicine.

Ernest David Resnik, M.D., of Brooklyn and New York City, died on June 20 after a long illness at his home at the age of fifty-eight. Dr. Resnik graduated from Long Island College Hospital School of Medicine in 1922. He was an associate obstetrician and gynecologist at the Caledonian and Maimonides Hospitals of Brooklyn. A Diplomate of the American Board of Obstetrics and Gynecology, and a Fellow of the American College of Surgeons, he was a member of the Brooklyn Gynecological Society, the American Academy of Obstetrics and Gynecology, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Elizabeth Latimer Shrimpton, M.D., of Syracuse, died on June 6 at her home at the age of eighty. Dr. Shrimpton graduated from Syracuse University College of Medicine in 1901. At the time of her death she was a member of the Syracuse Academy of Medicine.

Joseph Spira, M.D., of the Bronx, died in May at the age of sixty-seven. Dr. Spira was graduated from New York University and Bellevue Hospital Medical College in 1913. At the time of his death he was a member of the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Joseph Augustus Winter, M.D., of New York City, died in the Englewood, New Jersey, Hospital on June 9 at the age of forty-four. Dr. Winter graduated from Marquette University School of Medicine in 1937.

MEDICAL MEETINGS

American Congress of Physical Medicine and Rehabilitation

The 33rd annual scientific and clinical session of the American Congress of Physical Medicine and Rehabilitation will be held August 28 through September 2 at the Hotel Statler in Detroit.

Scientific sessions and annual instruction seminars will be held. The lectures will be open to physicians as well as to therapists who are registered with the American Registry of Physical Therapists or the American Occupational Therapy Association.

Further information may be obtained by writing to the executive secretary, Dorothea C. Augustin, American Congress of Physical Medicine and Rehabilitation, 30 North Michigan Avenue, Chicago 2, Illinois.

Occupational Skin Problems Course

The Institute of Industrial Health of the University of Cincinnati has announced that the course of instruction in "Occupational Skin Problems" will be given during the week of October 10 through 14. It will be presented by the Department of Preventive Medicine and Industrial Health, University of Cincinnati, in collaboration with the Occupational Health Program of the United States Public Health Service, and the Department of Dermatology and Syphilology of the University of Cincinnati. The objective of this course is to give physicians a greater understanding of cutaneous problems of occupational origin.

Physicians interested in attending the course should write for an application blank to Secretary, Institute of Industrial Health, Kettering Laboratory, Eden and Bethesda Avenues, Cincinnati 19, Ohio. Early application is advised since attendance will be limited.

New York Academy of Medicine

The New York Academy of Medicine will hold its 28th annual graduate fortnight from October 10 through 21 on the subject "Problems of Aging." All inquiries regarding fees and requests for registration should be addressed to the Secretary, Graduate Fortnight, The New York Academy of Medicine, 2 East 103 Street, New York 29, New York.

MEDICAL NEWS

American Dermatological Association—The American Dermatological Association is offering a series of prizes for the best essays submitted for original work, not previously published, relative to some fundamental aspect of dermatology or syphilology.

Manuscripts of not more than ten thousand words, typed in English with double spacing and ample margins, together with illustrations, charts and tables, all of which must be in triplicate, should be submitted not later than November 15, 1955 to Dr. J. Lamar Calloway, secretary, American Dermatological Association, Duke Hospital, Durham, North Carolina.

Papers should be submitted under a nom de plume with no information anywhere in the paper as to the institution or clinic where the work was done. A plain, sealed envelope bearing the nom de plume plus the full name and address of the author should also be submitted. Further information regarding this essay contest may be obtained by writing to the secretary of the American Dermatological Association.

Postgraduate Clinical Medicine—Postgraduate courses in clinical medicine will be given at the Mount Sinai Hospital in New York City, from July, 1955, through June, 1956, in affiliation with Columbia University. There will be part-time courses of varying length, intensive full-time courses, and courses for specialists. For application forms and information, address the Registrar for Postgraduate Medical Instruction, Mount Sinai Hospital, 11 East 100th Street, New York 29, New York.

Air Pollution Control—In a report recently released by Oveta Culp Hobby, Secretary of Health, Education, and Welfare, the Ad Hoc Interdepartmental Committee on community air pollution urged a broad Federal program of research and technical assistance in air pollution problems.

The committee recommended legislation authorizing such a program, and suggested the program be administered by the Department of Health, Education, and Welfare, with the assistance of a permanent interdepartmental committee on community air pollution.

The committee report reaffirmed the principle of state and local responsibility for community air pollution control. It is recommended that the Federal government aid state and local agencies by conducting and supporting research in this field, collecting and disseminating information, providing technical assistance, and demonstrating new principles and methods.

Cystic Fibrosis Association—The first of a proposed series of grants for research in cystic fibrosis has been made by the Cystic Fibrosis Association to the Presbyterian Hospital at the Columbia-Presbyterian Medical Center. The grant was for $5,200.

Research work under the grant will be directed by Dr. Dorothy H. Andersen, associate attending pathologist and associate professor of pathology, Columbia University, and Dr. Paul di Sant'Agnese, assistant attending pediatrician and assistant professor of pediatrics, Columbia University.

American Medical Education Foundation—New York State contributors to the American Medical Education Foundation for the month of May, were: *Angola*—Dr. Lee R. Sanborn; *Arcade*—Drs. G. G. Davis and Leo Trnka; *Astoria*—Drs. Martin Dollin, Rosario M. Gualtieri, N. Iannotti, and Abraham Jackson; *Baldwin*—Dr. Joseph J. LaVine; *Batavia*—Drs. Peter DiNatale, Sawyer Glidden, Robert Jenks, Roger Knipe, Joseph Krawczyk, and Biagio S. Mansueto; *Bayside*—Drs. Michael Smitonick and William Young; *Beacon*—Dr. Frank E. Hacker; *Binghamton*—Dr. A. H. Fotouhi; *Brasher Falls*—Dr. Ralph L. Cudlipp, Jr.; *Bronx*—Drs. S. Alexander, William Belinkin, J. Berger, J. Beckman, T. G. Caceci, Domenic C. Calamia, Julius J. Carucci, M. M. Eckert, C. L. Engelsher, Abraham J. Fleischer, Joseph Giuffre, J. S. Hory, Salomon Jollek, J. Juskowitz, M. Kaslow, M. D. Klein, I. I. Koslin, M. Leff, A. J. Lentine, Edward Levy, B. B. Littman, Alfred F. Marra, L. J. McTague, J. Rohr, M. I. Salomon, I. H. Schotter, M. Widmann, and Monroe Yudell; *Bronxville*—Dr. George W. Brooks; *Brooklyn*—Drs. Ralph Blumberg, Joseph Brody, David Levine, Gladys M. Muller, Paul Raia, and Milton H. Stapen.

Also: *Buffalo*—Drs. William D. Dugan, and Harold M. Robins; *Canaseraga*—Dr. Abraham Rabin; *Canton*—Drs. William Sapsin and Ernest H. Stretton; *Castile*—Dr. G. Baker; *Colton*—Dr. Richard L. Hatch; *Corfu*—Dr. Sydney L. McLouth; *Corona*—Drs. Stanley Altschuler and Arnold E. Aszody; *Cortland*—Drs. Edward P. Cummins, Hugh Frail, and George F. Nevin; *Dunkirk*—Drs. Joseph F. Cellino and Roman J. Shubert; *East Norwich*—Drs. Mary MacFadyen and Frank H. Netter; *Ellenburg Depot*—Dr. William P. McKenna; *Elmhurst*—Drs. Attilio Morpurgo, Alvin Slipyan, and Eugene J. Tortora; *Far Rockaway*—Dr. Harry Richman; *Floral Park*—Dr. Jack Rubin; *Flushing*—Drs. Julius Blankfein, Angelo Bologna, Thomas M. D'Angelo, Francis DiFabio, Leo Dobrin, Abraham Dumanis, Charles A. Hoffman, George J. Lawrence, Jr., Abraham S. Lenzner, John D. Mountain, Herbert H. Pomerance, M. Rosenbusch, George Sabrin, M. Schocket, B. Shankman, Henry Shankman, Leo P. Skolnick, M. E. Sullivan, Alex Weiss, Harry Weiss, and Joseph B. Weynert.

Also: *Forest Hills*—Drs. Bruno Rosenhain, Edward L. Seretan, W. E. Stumpf, Fannie I. Tomson, Mandel Weinstein, Selma Wertheimer, Ezra A. Wolff, and Herman Wolff; *Franklin Square*—Dr. Bruno Landau; *Fredonia*—Dr. B. S. Custer; *Frewsburg*—Dr. Russell M. Weidler; *Garden City*—Dr. Earle G. Brown; *Geneseo*—Drs. Julia Delehanty and Gerald Manley; *Glendale*—Drs. H. R. Woodel and Helmut Zeiger; *Glens Falls*—Drs. Charles R. Bannon, Richard C. Batt, Harry Depan, Stanley Edmunds, Frank M. Falkenbury, James Glenn, C. F. Hawkins, Robert W. Howard, Hans Huessy, Leonard Hulsebosch, David L. Little, Raymond L. Rhodes, Philip T. Schlesinger, James B. Shields, William P. Simmonds, B. C. Tillotson, and Saul Yafa; *Goldens Bridge*—Dr. Vonnie M. Hicks; *Gouverneur*—Dr. Ernest L. Adler; *Grant City*—Dr. T. Talbot; *Great Neck*—Dr. J. C. Greenwald; *Hamburg*—Dr. Amos J. Minkel, Jr.; *Hempstead*—Drs. Otho C. Hudson, Janith S. Kice, Ward L. Mould, and Robert Park, Jr.; *Heuvelton*—Dr. Carl G. Alverson; *Hewlett*—Dr. B. R. Allison; *Hicksville*—Drs. David Annunziato, Russel S. Burdge, and Samuel P. Oast; *Hollis*—Drs. Peter V. Gugliuzza, Michael M. Schultz, Wallace M. Shaw, and Albert E. Stahl; *Hudson*—Drs. Elah C. Bliss, Roger C. Bliss, Everett A. Jacobs, and Heinz Salm; *Indian Lake*—Dr. Hubert F. Carroll; *Irvington*—Drs. E. Ellison and Donald R. Reed; *Ithaca*—Drs. Henry Ferris and George McCauley; *Jackson Heights*—Dr. Kurt Walder.

Also: *Jamaica*—Drs. Ernani D'Angelo, Sidney Diamond, Louis Guardino, James P. McManus, Eugene B. Riley, Francis G. Riley, James V. Rizzi, Sydney J. Rose, Arthur Sawitsky, T. Schneller, Abram Sohmer, Jack Spivak, Vincent G. Tosti, Alfred A. Trivilino, Philip H. Waldman, and Milton C. Wilson; *Jamestown*—Drs. Harold A. Blaisdell, Raymond C. Fess, T. J. Holmlund, John W. Karr, Ernest J. Kelley, Jr., William L. King, Julius S. Prince, A. W. Rappole, Russell J. Sacco, Peter P. Vitanza, and Edward Zimmer; *Kew Gardens*—Dr. Harold Linsky; *Kinderhook*—Dr. Edward F. Urba; *Lancaster*—Dr. Albert J. Addesa; *Laurelton*—Drs. Harold Friedlander and Felix Schwarz; *Lawrence*—Dr. Adrian Brodey; *Levittown*—Dr. David J. Posner; *Liberty*—Dr. M. A. Baker; *Lima*—Dr. Ernest Sanders; *Long Beach*—Dr. John Pisacano; *Long Island City*—Drs. Rosario F. Drago, A. J. Emmi, S. Equale, and Wilmer H. Randel, Jr.; *Mamaroneck*—Dr. C. N. Jeffries; *Maspeth*—Dr. Anthony J. Stalkus; *Massena*—Drs. Abraham J. Levine, Philip Mardon, J. Benton Pike, Ulric R. Plante, and Lampher C. Weston; *Merrick*—Dr. R. C. Grant; *Millbrook*—Dr. E. G. MacKenzie; *Monticello*—Dr. Ralph S. Breakey; *Mt. Morris*—Dr. Gerald Murphy; *Mount Vernon*—Drs. Louis S. Blancato, M. B. Brahdy, Raymond K. Bush, and Harry Wallerstein; *Nanuet*—Dr. Leo G. Weishaar, Jr.; *New Hyde Park*—Drs. E. D. Rosenfeld and Sylvan Surks; *New Rochelle*—Drs. Raymond F. Kiernan and F. H. Lutze; *Newton Falls*—Dr. Robert V. Persson.

Also: *New York City*—Drs. Albert H. Aldridge, Joseph C. Andriola, Paul Angelillis, Edward M. Armstrong, Louis Barash, Julian I. Barish, David N. Barrows, Louis H. Bauer, Simon A. Beisler, David M. Bosworth, Paul H. Brauer, Paul W. Casson, Mather Cleveland, John R. Cobb, Maurice J. Costello, Robert L. Craig, J. H. Daniels, Lewis J. Doshay, Wilhelm Eilbott, Joseph J. Eller, William D. Eller, B. Esterman, William A. Feirer, Jacques R. Fischl, W. G. Frey, Paul Friedman, Alfred Glauber, L. W. Gorham, Leonora L. Gretemen, Herman Hennell, Edward A. Horowitz, William A. Horwitz, George H. Hyslop, Murray Israel, Jetti Katz, Joseph T. Kauer, M. R. Kaufman, Raphael Landau, Charles W. Lester, Maurice J. Lewi, A. L. Mancini, Nathan Markus, Louis M. Mascitelli, and Nina M. Mazzola.

Also: Drs. Samuel Milbank, C. R. Miller, L. C. Miller, Saul D. Miller, James Monsour, Thomas M. Mulcahy, Henry B. Nachtigall, Joseph Neuburger, F. T. Neuhaus, Melvin N. Newquist, B. J. Pisani, Proviso V. Prewitt, William Rechter, Robert Richman, Bernard Ross, Milton Rothman, Udall J. Salmon, Leo M. Satlof, William Schick, Irving Schwartz, Otto F. Schwartzer, Michael Silvert, George Simon, Eli Sinins, Beverly C. Smith, James J. Smith, Anthony Spinelli, Sophie Spitz, Edward F. Stanton, Aaron Stein, Bianca Steinhardt, Lee R. Straub, B. R. Susman, Irving Terman, T. C. Thompson, Thomas J. Tobin, Morris Touriel, Alfred J. Vignec, Jan J. Waller, Ernst B. Weiner, Jerome Weiss, F. J. Wertz, Robert S. Wilkinson, Philip D. Wilson, and Harry Yarnis.

Also: *Niagara Falls*—Dr. Edwin W. Gates; *North Creek*—Dr. Jacques Grunblatt; *Northport*—Dr. Cyril E. Drysdale; *Norwood*—Dr. Henry Vinicor; *Nunda*—Dr. Howard Schneckenburger; *Oakfield*—Drs. Clara Diasio and Joseph Diasio; *Oswego*—Dr. Umbert Cimildoro and Kent W. Jarvis; *Parishville*—Dr. Max Thaler; *Pawling*—Dr. M. B. Morrison; *Peekskill*—Dr. Abraham H. Marvisch; *Perry*—Dr. W. J. Chapin; *Plattsburgh*—Dr. Eric D. Pearson; *Pleasantville*—Dr. Henry A. Rogan; *Port Chester*—Drs. John R. Finlay and Harmon H. Perry; *Potsdam*—Drs. Jennie Carson and William R. Carson; *Poughkeepsie*—Drs. William H. Meyer, Joseph Sorrentino, and Willes Travis; *Queens Village*—Drs. F. J. Martell, Sheldon Schwartz, and Paul Tomlinson; *Richmond Hill*—Drs. Isaac E. Edelman, Sophie Hirsch, and William P. Riley; *Ridgewood*—Dr. John F. Wolfram; *Rockaway Park*—Dr. William E. Werner; *Rockville Centre*—Dr. Wilbur G. Holz; *Rome*—Dr. Richard Schulenklopper; *Roscoe*—Dr. Alfred Hesse; *Rye*—Dr. Anthony V. Sisca; *Saratoga Springs*—Dr. William J. Hickey; *Sayville*—Dr. Warren H. Eller; *Scarsdale*—Dr. D. W. Follett; *Schenectady*—Drs. D. H. Lester, Kencil L. Mitton, Edward B. O'Keefe, and Joseph G. Vacca; *St. Albans*—Drs. Harold J. Egan, Joseph T. Judge, and Hans Schleimer; *Stottville*—Dr. R. D. Shaw; *Strykersville*—Dr. Michael Valente; *Syracuse*—Drs. Ralph V. Chester, Robert O. Gregg, Juda M. Katz, T. Perl, and John A. Root; *Troy*—Dr. Charles E. Bessey; *Utica*—Drs. Roy C. Ainsworth, Frank A. Graniero, John W. Platt, and Alex J. Wysocki.

Also: *Valatie*—Dr. Gene S. Rogati; *Valhalla*—Dr. Harold F. Bishop; *Valley Stream*—Dr. Alfred H. Smith, Jr.; *Waddington*—Dr. Ludwig Auerbach; *Wappingers Falls*—Dr. William A. Abruzzi; *Warrensburg*—Dr. Patrick H. Huntington; *Warsaw*—Drs. P. A. Burgeson, C. H. Harville, J. W. Leachman, G. W. Nairn, C. O. Wagenhals, and R. T. Williams; *Watertown*—Dr. Charles F. Goodnough; *Wellsville*—Dr. Roger W. Blaisdell; *Westbury*—Dr. Robert S. Millen; *Westfield*—Drs. Carlton A. Heist and Robert R. Northrup; *White Plains*—Dr. Ralph T. DiPace; *Whitestone*—Drs. Arthur Schwartz, William Sharkey, and Joseph Warshaw; *Winthrop*—Dr. Ralph L. Cudlipp, Sr.; *Woodside*—Drs. Martin L. Quinn and Harry K. Stone; *Wurtsboro*—Dr. Bernard Lauterstein, and *Yonkers*—Dr. Louis Keating.

Finger Lakes Neuropsychiatric Society—The Finger Lakes Neuropsychiatric Society held a dinner meeting at the Veterans Administration Hospital, Canandaigua, on June 9. Dr. William Malamud addressed the society on the subject of "Research in Schizophrenia."

American Urological Association—The American Urological Association is offering awards totaling $1,000 for essays on the result of some clinical or laboratory research in urology. Competition is limited to urologists who have been graduated not more than ten years, and to men in training to become urologists.

For further information write to the executive secretary, William P. Didusch, 1120 North Charles Street, Baltimore, Maryland. Essays must be in his hands before December 1, 1955.

Nassau Pediatric Society—A scientific meeting of the Nassau Pediatric Society was held on June 13 in Westbury. Dr. Joseph W. Jailer, associate professor of medicine, College of Physicians and Surgeons, Columbia University, spoke on "Adrenal Virilism, a Possible Error of Steroid Synthesis."

New York Society for Clinical Ophthalmology—Newly elected officers of the New York Society for Clinical Ophthalmology for 1955–1956, are: Dr. Bernard Kronenberg, president; Dr. Max Chamlin, vice-president; Dr. Jesse M. Levitt, recording secretary; Dr. Leon H. Ehrlich; corresponding secretary; Dr. Henry M. Kera, treasurer, and Dr. Robert S. Coles, historian.

Committee chairmen are: program, Dr. Abraham Schlossman; instructive session, Dr. Arthur Linksz; legislative, Dr. Benjamin C. Rosenthal; membership, Dr. Howard Agatston, and industrial, Dr. Edward M. Douglas.

Hill-Burton Grants—The Department of Health, Education, and Welfare reports that as of May 31, 1955, the status of all Hill-Burton Grants for the State of New York was: approved, but not yet under construction, six projects at a total cost of $6,091,458, including $2,016,069 Federal contribution and designed to supply 464 additional beds.

Under construction are 14 projects at a total cost of $47,926,402, including Federal contribution of $5,889,570 and designed to supply 1,308 additional beds.

Completed and in operation are 71 projects at a total cost of $72,424,266, including Federal contribution of $20,849,004 and supplying 3,996 additional beds.

Central New York Surgical Society—Dr. Dante Tocco, Endicott, has been elected president of the Central New York Surgical Society at a meeting in Syracuse. Other officers are: Dr. Russell Anderson, Syracuse, vice-president; Dr. Ernest Sarason, Syracuse, secretary, and Dr. Edward G. Hixson, Oneida, treasurer.

Named to the executive committee were Dr. E. C. Merrill, Canandaigua; Dr. John W. Hirshfeld, Ithaca, and Dr. Gerald Jones, Utica.

American College of Chest Physicians—The 21st annual meeting of the American College of Chest Physicians was held in Atlantic City, June 1 through 5. Dr. Donald R. McKay, of Buffalo, was elected second vice-president of the organization. Dr. Edgar Mayer, of New York City, was re-elected regent of the College for New York State. Dr. Foster Murray, of Brooklyn, serves as governor of the College for New York State.

Personalities

Elected

Dr. David M. Bosworth, director of orthopedic surgery at St. Luke's and Polyclinic Hospitals in Manhattan, president, and Dr. Mather Cleveland, chief surgeon of the House of St. Giles the Cripple in Brooklyn, treasurer, of the American Orthopedic Association. . .Dr. Frank A. Calderone, Great Neck, president of the Occupational Health Institute, Inc. . . .Dr. Howard H. Higgs, president, Dr. Carl G. Frost, vice-president, and Dr. Benjamin Smallen, secretary-treasurer, of the Buffalo Eye and Ear Hospital and Wettlaufer Clinic. . .Dr. Douglas E. Johnstone, Rochester, to fellowship in the American Academy of Pediatrics. . .Dr. Lester E. Shapiro, Rockville Centre, president; Dr. Ursula G. Stewart, Elmont, vice-president, and Dr. Irving Chipkin, Hempstead, secretary, of the Nassau District Branch of the American Psychiatric Association. . . Dr. Frederick W. Williams, New York City, first vice-president of the American Diabetes Association.

Honored

Dr. Cewsme S. Barresi, Silver Creek, by the naming of an Alfred University Dormitory in his honor.

Appointed

Dr. Philip V. Buckley, Poughkeepsie, chief of the Radiology Department at Vassar Hospital, to succeed Dr. Chesyer O. Davison. . .Dr. Mark Lewis Gerstle, New York City, associate attending psychiatrist at Mount Sinai Hospital, New York City. . . Dr. David Lehr, chairman of the research committee of the New York Medical College-Metropolitan Medical Center, as director of the new Department of Pharmacology at the New York Medical College, Flower and Fifth Avenue Hospital. . .Dr. John F. Mokrohisky, Binghamton, chief radiologist at Lourdes Hospital, Binghamton. . .Dr. Harrison Wood, associate at the Rockefeller Institute for Medical Research, as medical director of Irvington House at Irvington-on-Hudson.

Speakers

Dr. Oskar Diethelm, professor of psychiatry, Cornell University Medical College, and psychiatrist-in-chief at New York Hospital Payne-Whitney Psychiatric Clinic, before the hospital staff of the Veterans Administration Hospital at Northport, June 7 and 8 on "Research Methodology and Mental Illness," and "Psychodynamics of Schizophrenia". . . Dr. Herman E. Hilleboe, State health commissioner, before the annual convention of the State Pharmaceutical Association, on the Salk vaccine, on June 16 at Saranac Inn. . .Dr. Wesley T. Pommerenke, Rochester, before the Planned Parenthood League of Rochester and Monroe County.

New Offices

Dr. Arthur A. Adler, general practice in Spring Valley. . .Dr. James McGrane, and Dr. John Timpane, practice of obstetrics and gynecology in Schenectady. . .Dr. William R. Walsh, New York City, general practice and practice of dermatology, in Hornell. . .Dr. Porter H. Warren, general practice in the Highland Fling Building in Cornwall.

Retires

Dr. Frieda S. Robbins, Rochester, as associate in pathology at the University of Rochester Medical School, after 32 years' service.

New Method Devised for Storing Corneas

Animal experiments indicate that new vacuum pack method of preserving corneas may make human corneal transplants more readily possible.

The report on transplants of the cornea, clear covering over the iris and pupil of the eye, was made by two Army physicians in the April *Archives of Ophthalmology*, published by the American Medical Association. They said ability to preserve donated corneas without damage for some time may prevent difficulties previously caused by deterioration during storage. It also may alleviate the problem of not always being able to find donors just when they are needed.

In corneal transplant operations, the section needed is removed from a donor's eye and used to replace the damaged cornea of another. Stored corneas used in such operations sometimes became cloudy or failed to "take" on the patient's eye.

The Army physicians, Lieut. Col. Joel N. McNair and Col. J. H. King, Jr., of Walter Reed Medical Center, Washington, D.C., said their experiments with cats resulted in successful grafts which remained clear.

Entire corneas removed from cats' eyes were dehydrated and vacuum packed in glycerin. Some were stored as long as four months in an airtight container at room temperature. When taken out of storage and transplanted, the corneal grafts became transparent and have remained clear for ten months. In some cases it was hard to tell the normal eye from the repaired one.

"This method of storing corneas at room temperature may have wide application in the future in making human corneas more readily available and thus prevent the shortage and waste that exists at present," the physicians said.

Successful human corneal transplants recently have been performed with corneas frozen and stored at extremely low temperatures in glycerin-saline solution.

In the animal experiment, the physicians carried this process a step further by removing all water from the corneas and placing them in about 100 per cent glycerin. They said this left the corneal cell structure undisturbed and prevented the damage sometimes caused by crystallization of water on freezing.

Woman's Auxiliary

to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

Auxiliary Officers Elected for 1955–1956

Mrs. Isadore Zadek, New Rochelle, was elected president of the Woman's Auxiliary to the Medical Society of the State of New York at its 19th Annual Convention in Buffalo during the week of May 9. A native of Atlanta, Georgia, Mrs. Zadek has long been active in community social service work, serving as a board member of the Visiting Nurse Association and as a member of the New Rochelle Council of Social Agencies during the early 1930's. She joined the Home Service Corps of the American Red Cross during World War II and after the war accepted the chairmanship of the community polio drive, became active in the League of Women Voters and the Girls' Club of Mount Vernon. She recently was on the board of the Adoption Service of Westchester.

When the Medical Society of the County of Westchester organized its auxiliary in 1947, Mrs. Zadek was elected first vice-president, becoming president-elect in 1948 and county president in 1949. For two years she served as public relations chairman for the State Auxiliary, during which she introduced and developed the annual Health Poster Contest, and was elected a district councillor in 1953.

Officers and Directors

In addition to the election of Mrs. Zadek, Mrs. Albert Vander Veer 2nd, Albany, was chosen president-elect. Other officers elected include Mrs. Leif Jensen, Richmond, first vice-president; Mrs. Milton Kogan, Oswego, second vice-president; Mrs. Colgate Phillips, Bronxville, recording secretary; Mrs. Arthur P. Holding, Albany, treasurer, and Mrs. James Wolfe, Westchester, who will serve as corresponding secretary to Mrs. Zadek.

Members of the board of directors include the following: for three years—Mrs. Arthur L. Bennett, Buffalo, and Mrs. Harry F. Pohlman, Middletown; for two years—Mrs. Thomas M. d'Angelo, Flushing, and Mrs. Adolph H. Emerson, Brooklyn; for one year—Mrs. Harry I. Norton, Rochester, and Mrs. Arthur Gaffney, Clinton. In addition, Mrs. Luther H. Kice, Garden City, past president of the Woman's Auxiliary to the American Medical Association, is an honorary director.

District Councillors

Chairman of the district councillors is Mrs. Alfred S. Grussner, Schenectady. Councillors are as follows: First District—Mrs. Louis Harris, Brooklyn; Second District—Mrs. Joseph H. Kinnaman, Hempstead; Third District—Mrs. Frederic W. Holcomb, Kingston; Fourth District—Mrs. Michael Slovak, Schenectady; Fifth District—Mrs. Raymond J. Pieri, Syracuse; Sixth District—Mrs. William E. Low, Johnson City; Seventh District—Mrs. Osbern P. Willson, Phelps; Eighth District—Mrs. Maurice G. Sheldon, Olean; Ninth District—Mrs. Willes E. Travis, Poughkeepsie.

Committee Chairmen

Chairmen of committees include the following: American Medical Education Foundation—Mrs. K. Wood Jarvis, Oswego; Archives—Mrs. Elliott V. B. Vurgason, Baldwin; Blood Bank—Mrs. Joseph Tannenberg, Batavia; Civil Defense—Mrs. Windsor R. Smith, Binghamton; Convention—Mrs. John L. Neubert, Roslyn Heights; Fall Conference—Mrs. John F. Rogers, Poughkeepsie; *Distaff*—Mrs. John N. Dill, Yonkers; *Distaff* Circulation—Mrs. Robert McKittrick, Yonkers; Finance—Mrs. Herman Galster, Scotia; Historian—Mrs. Leonard C. Evander, Lockport; Legislation—Mrs. Charles M. Brane, Yonkers.

Also: Mental Health—Mrs. Albert M. Biglan, Central Islip; *National Bulletin*—Mrs. John F. Glosser, Wellsville; Nurse Recruitment—Mrs R. T. Corey, Cortland; Organization—Mrs. Alton B. Thompson, Pulaski; Parliamentarian—Mrs. Luther H. Kice, Garden City; Physicians' Home—Mrs. John Adler, Watertown; Poster Contest—Mrs. Sol. Feinstein, Brooklyn; Press and Publicity—Mrs. Ferdinand R. Pitrelli, Central Islip; Printing and Supplies—Mrs. Marion K. Colle, Catskill; Program—Mrs. Eugene Wolff, Newburgh; Public Relations—Mrs. Edward P. Ryan, Glens Falls; Recommendations—Mrs. Arthur Howard, Johnstown; Revisions—Mrs. Matthew E. Fairbank, Rochester; State Fair—Mrs. Bernard Brown, Syracuse; *Today's Health*—Mrs. Joseph A. Squillace, Brooklyn; Voluntary Health Plans—Mrs. William J. Godfrey, Flushing.

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BOOKS RECEIVED

(*The following books were received during the month of May, 1955*)

The Medical Clinics of North America. New York Number. May, 1955. Octavo, illustrated. Philadelphia, W. B. Saunders Company, 1955. Published bimonthly (six numbers a year). Cloth, $18 net; Paper, $15 net.

Annual Review of Medicine. David A. Rytand, M.D., Editor, John Anderson, M.D., Associate Editor. Octavo of 459 pages. Stanford, Calif., Annual Reviews, 1955. Cloth, $7.00.

Fundamental Considerations in Anesthesia. Second edition. By Charles L. Burstein, M.D. Octavo of 219 pages, illustrated. New York, The Macmillan Company, 1955. Cloth, $5.50.

The Care of Your Skin. By Herbert Lawrence, M.D. Duodecimo of 95 pages, illustrated. Boston, Little, Brown & Company, 1955. Cloth, $2.50.

Psychotherapeutic Intervention in Schizophrenia. By Lewis B. Hill, M.D. Octavo of 216 pages. Chicago, University of Chicago Press, 1955. Cloth, $5.00.

Cerebral Palsy. Methods of Evaluation and Treatment. By George G. Deaver, M.D. Quarto of 57 pages, illustrated. New York, The Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, 1955. Paper, $1.00. (Rehabilitation Monograph IX)

Prolonged and Perplexing Fevers. By Chester S. Keefer, M.D., and Samuel E. Leard, M.D. Octavo of 248 pages. Boston, Little, Brown & Company, 1955. Cloth, $5.50.

Leukocytic Functions. Albert S. Gordon, Ph.D., John W. Rebuck, M.D., and Robert S. Spiers (Conference Co-Chairman). Octavo of 406 pages, illustrated. New York, New York Academy of Sciences, 1955. (*Annals of the New York Academy of Sciences*, v. 59, Art. 5, pp. 665–1070)

La Obra y la Gloria de Finlay Reconocidas por e XIV Congreso Internacional de Historia de la Medicina. By Prof. Dr.F élix Hurtado Galtés, Dr. Horacio Abascal y Vera, and Sr. César Rodríguez Éxposito. Octavo of 99 pages, illustrated. La Habana, Ministerio de Salubridad y Asistencia Social [Republic of Cuba], 1955.

Borden's Review of Nutrition Research. Nutrition and Endocrine Function. Vol. XVI, No. 2, March-April, 1955. Octavo of 32 pages. New York, The Borden Company, 1955.

Bickham-Callander Surgery of the Alimentary Tract. Edited by Richard T. Shackelford, M.D. Assisted by Hammond J. Dugan, M.D. In three volumes. Quarto of 2,575 pages, 1,705 illustrations. Philadelphia, W. B. Saunders Company, 1955. Cloth, $60 per set.

Should the Patient Know the Truth? A Response of Physicians, Nurses, Clergymen, and Lawyers. Edited by Samuel Standard, M.D., and Helmuth Nathan, M.D. Octavo of 160 pages. New York, Springer Publishing Company, 1955. Cloth, $3.00, hard cover, $2.00, soft cover.

Angiographic Localization of Intracranial Masses. By Arthur Ecker, M.D., and Paul Riemenschneider, M.D. Octavo of 433 pages, illustrated. Springfield, Ill., Charles C Thomas, 1955. Cloth, $13.50.

Annual Report Bureau of Child Health, 1954. Quarto of 72 pages, illustrated. New York, Department of Health, 1954.

Practical Endocrinology. By Lewis M. Hurxthal, M.D. In cooperation with A. Seymour Parker, M.D., and Hirsh Sulkowitch, M.D. Octavo of 318 pages, illustrated. Clinton, Mass., Landsberger Medical Books, distributed solely by the Blakiston Division of the McGraw-Hill Book Co., 1955. Cloth, $7.00. (Handbooks for the General Practitioner)

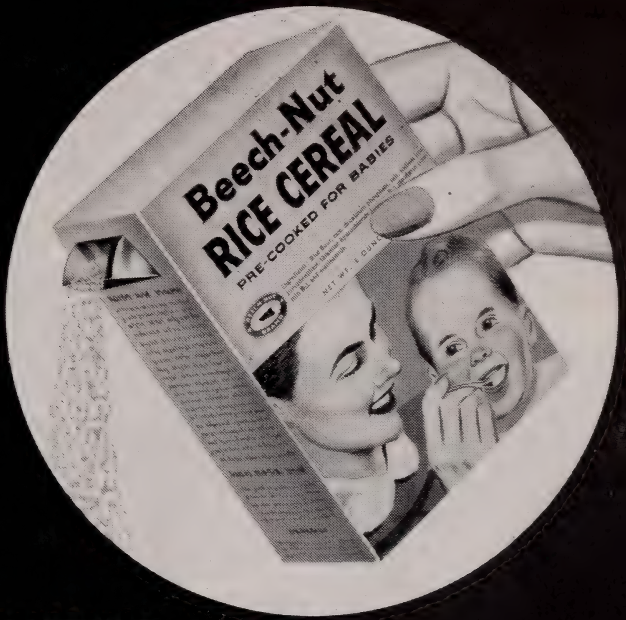
Cornell Conferences on Therapy. Vol. 7. Edited by Harry Gold, M.D., Managing Editor, David P. Barr, M.D., McKeen Cattell, M.D., Frank Glenn, M.D., and George Reader, M.D. Octavo of 264 pages. New York, The Macmillan Company, 1955. Cloth, $4.50.

The Year Book of Endocrinology (1954–1955 Year Book Series). Edited by Gilbert S. Gordan, M.D. Duodecimo of 392 pages, illustrated. Chicago, The Year Book Publishers, 1955. Cloth, $6.00.

Anxiety and Stress. An Interdisciplinary Study of a Life Situation. By Harold Basowitz, Ph.D., Harold Persky, Ph.D., Sheldon J. Korchin, Ph.D., and Roy R. Grinker, M.D. Octavo of 320 pages, illustrated. New York, The Blakiston Division, McGraw-Hill Book Company, 1955. Cloth, $8.00.

Obstetrics. By J. P. Greenhill, M.D. Eleventh edition. Quarto of 1,088 pages. 1,170 illustrations on 910 figures, 144 in color. Philadelphia, W. B. Saunders Company, 1955. Cloth, $14.

[Continued on page 2080]



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[Continued from page 2078]

Practical Physiological Chemistry. By Philip B. Hawk, Ph.D., Bernard L. Oser, Ph.D., and William H. Summerson, Ph.D. Thirteenth edition. Octavo of 1,439 pages, illustrated. New York, The Blakiston Company, 1954. Cloth, $12.

Perinatal Mortality in New York City. Responsible Factors. A Study of 955 Deaths by the Subcommittee on Neonatal Mortality, Committee on Public Health Relations, The New York Academy of Medicine. Analyzed and Reported by Schuyler G. Kohl, M.D. Octavo of 112 pages. Cambridge, Mass., published for The Commonwealth Fund by Harvard University Press, 1955. Cloth, $2.50.

Essentials of Orthopaedics. By Philip Wiles, M.S. (Lond.) Second edition. Quarto of 538 pages. 7 colour plates and 393 text figures. Boston, Little, Brown & Company, 1955. Cloth, $10.

Gynaecology. By Douglas H. MacLeod, M.S. (Lond.), and Charles D. Read, M.B. (N.Z.). Section on Anatomy by James Snyder, M.D. Section on Physiology and Endocrinology by Russell Fraser, M.D. Fifth edition. Octavo of 864 pages. 551 illustrations including 27 in colour. Boston, Little, Brown & Company, 1955. Cloth, $16.

Breast Cancer and Its Diagnosis and Treatment. By Edward F. Lewison, M.D. Quarto of 478 pages, illustrated. Baltimore, The Williams & Wilkins Company, 1955. Cloth, $15.

Reserpine in the Treatment of Neuropsychiatric, Neurological, and Related Clinical Problems. By Fredrick F. Yonkman, M.D., Frank L. Mohr, M.D., Jock L. Graeme, (Conference Co-Chairmen), *et al.* Octavo of 280 pages, illustrated. New York, New York Academy of Sciences, 1955. (*Annals of the New York Academy of Sciences,* v. 61, Art. 1, pp. 1–280)

The Ciba Foundation. For the Promotion of International Co-operation in Medical and Chemical Research. Report 1954. Octavo of 40 pages. London, England, [The Ciba Foundation, 1954].

Morbidity in the Municipal Hospitals of the City of New York. Report of an Exploratory Study in Hospital Morbidity Reporting. By Marta Fraenkel, M.D., and Carl L. Erhardt. Octavo of 229 pages. New York, Russell Sage Foundation, 1955. Cloth, $4.50.

Foundations for Better Government. First Annual Report. Mayor Robert F. Wagner to the City Council and to the People of New York City. 1954. Quarto of 79 pages, illustrated.

Cardiac Auscultation. Including Audio-Visual Principles. By J. Scott Butterworth, M.D., Maurice R. Chassin, M.D., and Robert McGrath, M.D. Octavo of 111 pages, illustrated. New York, Grune & Stratton, 1955. Cloth, $4.50.

The Hypophyseal Growth Hormone, Nature and Actions. Editors, Richmond W. Smith, Jr., M.D., Oliver H. Gaebler, M.D., and C. N. H. Long, M.D. Octavo of 576 pages, illustrated. New York, The Blakiston Division, McGraw-Hill Book Company, 1955. Cloth, $12. (International Symposium)

Neuropharmacology. Transactions of the First Conference, May 26, 27 and 28, 1954, Princeton, N. J. Edited by Harold A. Abramson, M.D. Octavo of 210 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1955. Cloth, $4.25.

Cerebral Vascular Diseases. Transactions of a Conference Held under the Auspices of the American Heart Association, Princeton, New Jersey; January 24–26, 1954. Irving S. Wright, M.D., Chairman, and E. Hugh Luckey, M.D., Editor. Quarto of 167 pages. New York, Grune & Stratton, 1955. Cloth, $5.50.

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selections for review will be based on merit and interest to our readers.

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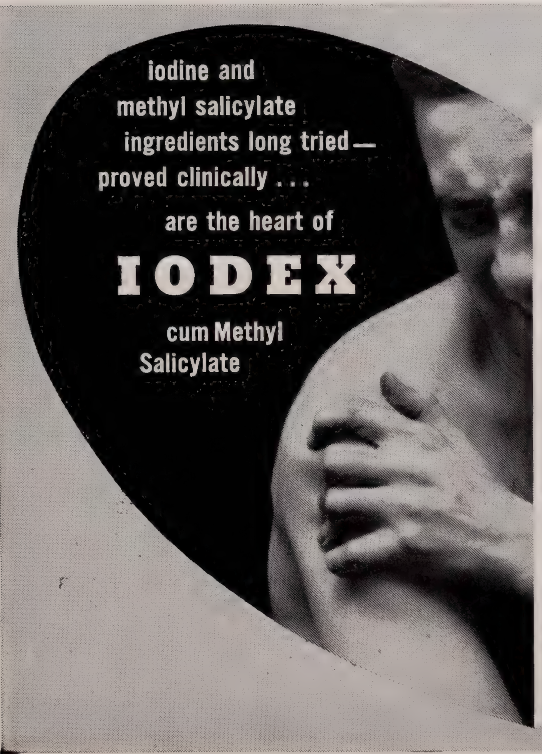

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BOOKS REVIEWED

Smoking and Cancer. A Doctor's Report. By Alton Ochsner, M.D. Octavo of 86 pages, illustrated. New York, Julian Messner, 1954. Cloth, $2.00.

Within the ordinary meaning of the term "proof" the evidence associating cigaret smoking and lung cancer must be accepted as proved. This is the conclusion of the distinguished *New England Journal of Medicine, The British Medical Journal*, the American Cancer Society, and many outstanding scientific men such as Evarts A. Graham and Alton Ochsner, the author of this book.

In a generation, the incidence of cancer of the lung has risen from a medical rarity to a frequency which displaces cancer of the stomach, heretofore the commonest cancer in the human male. As the result of a large amount of research, it is now possible to state that the chief factor responsible for this awesome increase is excessive cigaret smoking.

Ochsner states that a man of fifty who has smoked a pack of cigarets a day for twenty years has 50 times more of a chance of contracting lung cancer than a nonsmoker. The Hammond-Horn report of the American Cancer Society dealt with the smoking habits of 187,766 men between the ages of fifty to seventy. This report concludes that:

1. Cigaret smoking is associated with an increase of the general death rate.
2. Even light cigaret smoking is associated with increasing death rates.
3. Cigaret smoking is associated with an increase in the death rate from most of the more common sites of cancer in men.
4. Heavy smoking nearly doubles the death rate from diseases of the coronary arteries.
5. Heavy cigaret smoking more than doubles the death rate from cancer.
6. The findings were essentially the same for rural areas as for urban areas.
7. The findings were based on the study of all other available experimental as well as statistical evidence bearing on the subject.

Dr. Hammond found not merely "an association between cigaret smoking and death rates," but "a cause-and-effect relationship." In the light of the foregoing, as with any other preventable disease, it becomes the obligation of the physician to counsel against cigaret smoking.

The cigaret smoking problem appears serious enough and should not be underestimated. The problem of prevention of lung cancer, however, has lately been gravely compounded by the inhalation of radioactive fallout material.

Our headlong and reckless plunge into atomic weapon experimentation has produced irreversible radioactive contamination, the inhalation of which will, in the opinion of this reviewer, be reflected in a probable further rise in the incidence of lung cancer. While this may truly dwarf the hazards of cigaret smoking, it nonetheless behooves the conscionable physician to prevent disease where he finds it and to take a strong stand against both.

Doctor Ochsner's book makes easy reading and should be recommended to patients, left in waiting rooms, and be prescribed reading for the physician himself.—MORTIMER R. CAMIEL

The Digital Circulation. By Milton Mendlowitz, M.D. Octavo of 182 pages, illustrated. New York, Grune & Stratton, 1954. Cloth, $6.75.

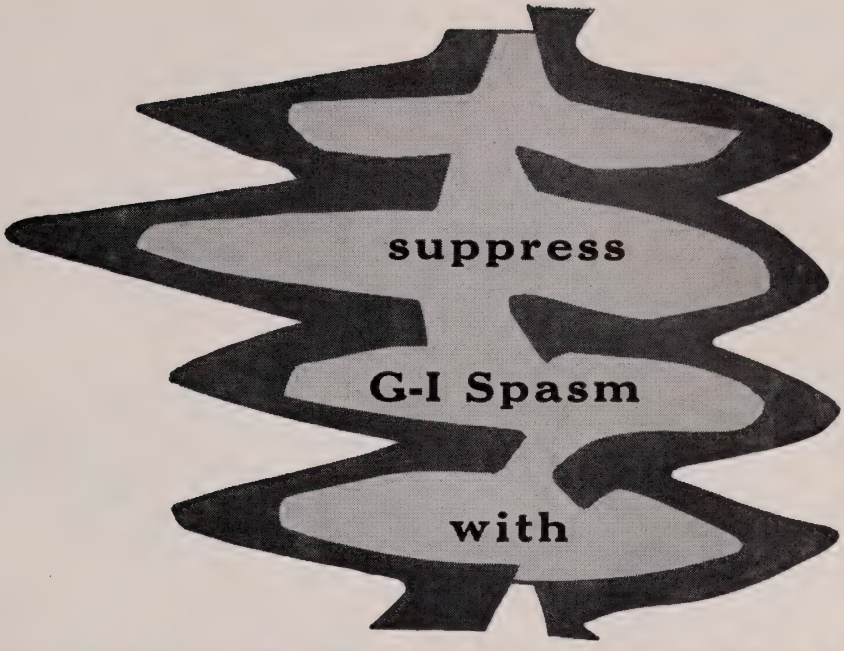
This is an unusually well-written book on circulation of the digits as an approach to better diagnosis and understanding of the vascular components of an easily accessible member. The anatomic, physiologic, and pharmacologic concepts are well treated by the author. Pathologic conditions are discussed in the light of basic principles and effects of progress and response to our present-day treatments with special reference to their neurogenic elements such as psychogenic, sympathomimetic, and traumatic effects. Enlightening and very reasonable theories are presented on such peripheral vascular diseases as Buerger's disease, arteriosclerosis obliterans, Raynaud's disease, frost bite acrocyanosis, and causalgia and hypertension. A new concept of clubbing of fingers is well presented. The book is highly recommended to the surgeon, internist, and peripheral vascular specialist.—HUGH L. MURPHY

Ciba Foundation Symposium on Hypertension. Humoral and Neurogenic Factors. G. E. W. Wolstenholme, M.B., and Margaret P. Cameron, M.A., Editors. Assisted by Joan Etherington. Octavo of 294 pages, 73 illustrations. Boston, Little, Brown & Co., 1954. Cloth, $6.75.

Under the chairmanship of Dr. Pickering, the Ciba Foundation Symposium on Hypertension provides an interesting summary of the problems of hypertension and its effects on the cardiovascular system.

Dr. Page reviews the present status of neural and humoral control of the cardiovascular regulation. Dr. Heymans suggests that a decrease in the tone and resistance to stretch of the sino-aortic arterial wall could be the primary mechanism of hypertension. Dr. Perera cites his experience in normotensive hyperreactors with positive family history of hypertension. Professor Diaz reviews his experiences showing how stimulation of the arterial nerve supply results in a release of hypertensive substances,

[Continued on page 2084]



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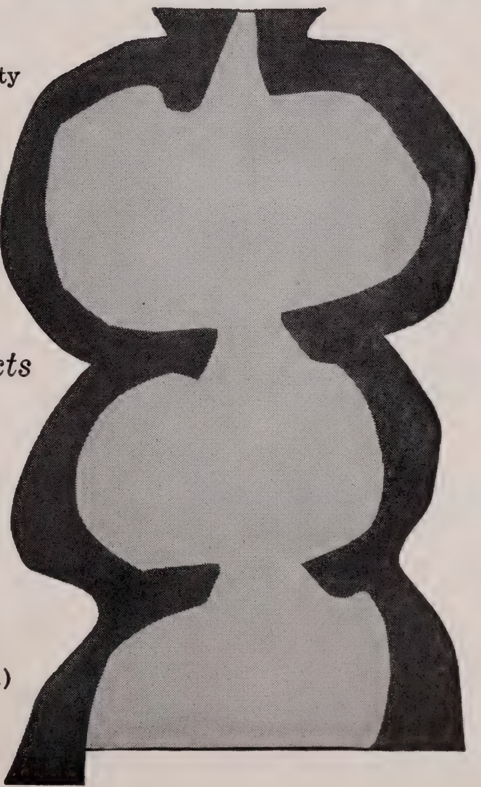

[Continued from page 2082]

mainly noradrenaline, and suggesting that the artery is an active organ.

Dr. Goldenberg's review of chemical screening for phaeochromocytoma and Professor von Euler's studies of urinary catechol amines in 500 unselected hypertensive subjects cover the subject fully.

Dr. Grollman offers his concept that hypertension is the result of deficient incretory function of the kidney. Dr. Paton's remarks on ganglion blocking agents and the statistical study of Dr. McMichael on the treatment of malignant hypertension with methonium salts are interesting. Braun-Menendez's extensive studies of the genesis of experimental hypertension leads him to the conclusion that plethora alone cannot cause hypertension but that it is due primarily to increased peripheral resistance; that renin does play a role and that the electrolyte concentration of intracellular and extracellular fluid and the state of hydration form important factors.

A discussion by members of this distinguished panel following each presentation reviews experimental and clinical data so fully that the reader will delight in this extra dividend.—Harry Mandelbaum

Fundamentals of Internal Medicine. By Wallace Mason Yater, M.D. This edition prepared with the assistance of William Francis Oliver, M.D. Fourth edition. Octavo of 1,276 pages, illustrated. New York, Appleton-Century-Crofts, 1954. Cloth, $13.50.

Each edition of Yater's *Fundamentals* is an improvement on its predecessor. There is much new material in this fourth edition but the size of the book has not increased. As before, the bulk of the text devoted to what is commonly called "internal medicine" is written by Yater. There are useful chapters devoted to the ancillary specialties such as eye, ear, skin, and mental diseases. More space is devoted to therapy than in comparable textbooks and that valuable chapter, The Physician Himself, has been retained. Yater is recommended as a first-rate textbook of internal medicine.—Milton Plotz

The Concept of Schizophrenia. By W. F. McAuley, M.D. Octavo of 145 pages. New York, Philosophical Library, 1954. Cloth, $3.75.

Schizophrenia is responsible for one fifth of all admissions to psychiatric hospitals and for approximately one half of the resident population of mental institutions. It is a disease which provides a serious social problem and one which has now been receiving a good deal of attention from all progressive workers in the field of mental diseases. The author has made a comprehensive survey of existing views regarding the various aspects of the disease process and has not overlooked the contributions made by the old masters in the field of psychiatry. There are eight chapters dealing with the major topics: the Scientific Recognition of Schizophrenia, the Dynamic Concept of Schizophrenia, the Role of Heredity, the Impingement of Social and Environmental Conditions upon the Personality, Neurophysiology and Metabolism, Diagnosis, Survey of Modern Treatments, and Conclusions.

The author discusses the contributions made by Kraepelin, Meyer, McDougall, Massermann, Kahlbaum, Kretschmer, Jung, Halliday, Bleuler, Freud, and others. The book is truly an epitome on the present knowledge of schizophrenia. There is a list of references to basic work on the different aspects of this disorder. This is a valuable book, one which will be of great help to students of medicine, to physicians, and to psychiatrists.—Irving J. Sands

Proceedings of the Second National Cancer Conference. (In two volumes.) American Cancer Society, Inc. National Cancer Institute of the U.S. Public Health Service and American Association for Cancer Research, Netherland Plaza Hotel, Cincinnati, Ohio, March 3, 4, 5, 1952. Octavo of 1,687 pages, illustrated. New York, American Cancer Society, 1954. Cloth, $7.50 for set.

As a reference source and a review of contemporary thinking in cancer therapy these volumes cannot be excelled. They belong in the library of every physician actively engaged in the conduct of a cancer service and in the library of every hospital. While there is material with which one may take issue, by and large the presentations and the discussions are fundamental, factual, and concise. The Conference was good and the editing of the *Proceedings* excellent. The list of contributors to these volumes is a *Who's Who* in the cancer field.

It is hoped that the next National Cancer Conference will yield additional new and valuable contributions. Your reviewer has added these volumes to his library and recommends them to his resident staff as an important part of their reading program.—Asa B. Friedmann

Shock and Circulatory Homeostasis. Transactions of the Third Conference, September 14, 15, and 16, 1953. Princeton, N. J. Edited by Harold D. Green, M.D. Octavo of 230 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1954. Cloth, $3.50.

Transactions of the Third Conference of the Josiah Macy, Jr. Foundation on Shock and Circulatory Homeostasis is designed to bring together investigations in several branches of science in order to exchange new knowledge and fresh ideas. In discussion form the book is highly technical but very readable and interesting.—Charles A. Gordon

Emergencies in Medical Practice. Edited by C. Allan Birch, M.D. Fourth edition. Octavo of 610 pages. 143 illustrations. Edinburgh, E. & S. Livingstone (Baltimore, Williams & Wilkins Co.), 1954. Cloth, $7.00.

The usefulness of this popular book is reflected in the publication of a fourth edition only two years

[Continued on page 2086]

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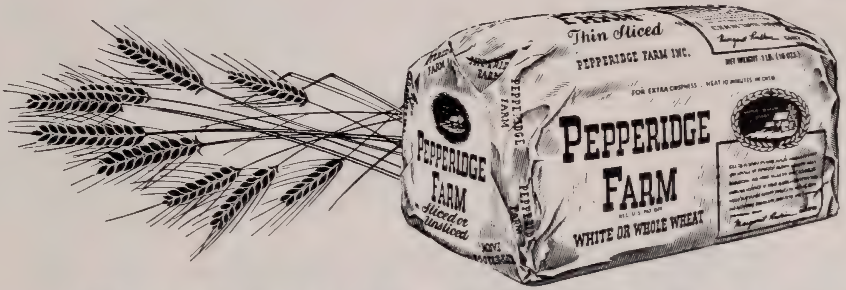

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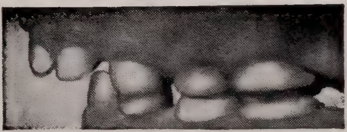

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[Continued from page 2084]

after the third. The new edition is essentially a complete revision.

The few faults of the third edition have been eliminated and the fourth is a spectacular success which will please everyone who may be confronted with a clinical emergency, as who may not? The sections are concise, well written, and easily accessible. The book is highly recommended.—Milton Plotz

Proceedings of the Fourth International Congress of the International Society of Hematology, Mar del Plata, Argentina, September 20–27, 1952. Associate Editors, F. Jimenez de Asua, William Dameshek, M.D., and Sol Haberman, Ph.D., and five Advisory Editors and two Assistant Editors. Quarto of 473 pages, illustrated. New York, Grune & Stratton, 1954. Cloth, $10.

This volume contains most of the hematologic contributions by pioneers in the subject. The outstanding presentations are for the most part printed in full, whereas the numerous communications are presented in abstract form.

The subject material was taken up in eight principal categories, thus covering the entire field of hematology. Authoritative information may be gleaned on all phases of hematology including the controversial aspects of leukemia, coagulation, sicklemia, and the L. E. phenomenon.

This book is primarily intended for the hematologist and represents a tremendous effort in the exposition of recent hematologic thought by masters of the subject.—Maurice Morrison

Legal Medicine. Edited by Comm. R. B. H. Gradwohl, M.C., U.S.N.R. (Ret.) Quarto of 1,093 pages. 222 illustrations. St. Louis, C. V. Mosby Co., 1954. Cloth, $20.

This voluminous reference book is a compilation by 29 collaborators who have substantially contributed to the extensive survey of legal medicine.

Although there are at present various excellent authoritative textbooks on medicolegal jurisprudence, there is certainly room for one like this. Especially interesting are the chapters on the history and development of forensic medicine by the editor, and on forensic psychiatry. It is well printed and illustrated.

The average physician or attorney would not find time to read this book from cover to cover, nor would some of its chapters be of much value to him. However, this monograph has value for the psychiatrist, medical examiner, coroner, or those physicians who possess an LL.B. degree or who are doctor-lawyers towards a better understanding of the relationship of medicine to law and vice versa.—S. Ingram Hyrkin

Biochemistry and Human Metabolism. By Burnham S. Walker, M.D., William C. Boyd, Ph.D., and Isaac Asimov, Ph.D. Second edition. Octavo of 904 pages, illustrated. Baltimore, Williams & Wilkins Co., 1954. Cloth, $10.

The second edition of this text follows the same general pattern of its first edition (1952) which departed from the traditional treatment of this subject. The subject matter is presented under five functional headings: Structure, Control, Growth, Metabolism, and Pathology, a meaningful method of organizing this subject. The first section, for instance, gives major emphasis to the proteins and amino acids as the all-important tissue constituents.

Section 2 covers the related subjects of enzymes and hormones in their function as regulators. Section 3, dealing with growth, includes chapters on cancer, reproduction, and heredity. In the latter a comprehensive discussion of genetics, blood groups, and the application to cases of disputed parentage, subjects not usually found in textbooks of biochemistry are lucidly and logically presented here.

Section 4 covers the biochemistry of digestion, food and nutrition, heat and work, respiration and excretion. In this, as in other sections, constant reference to the practical application of biochemistry to clinical medicine is a distinctive contribution and one which will be welcomed by the medical student. So that, for instance, the biochemistry of the carbohydrates is discussed in connection with diabetes, lipid metabolism in relation to ketosis, and proteins in relation to the biochemistry of starvation.

The fifth section deals with the pathology of infection and the vitamin deficiency diseases.

In this, as in the previous edition, the authors admirably succeed in their stated aim to orient their text to the needs of the medical student, to stress *human* biochemistry and to integrate theory with clinical practice.

While the text continues to hold its place in medical literature, it seems to this reviewer, at least, that a second edition after a period of only two years was not warranted by the relatively few and minor changes.—Morris Ant

Introduction to Psychiatry. By O. Spurgeon English, M.D., and Stuart M. Finch, M.D. Octavo of 621 pages. New York, W. W. Norton & Co., 1954. Cloth, $7.00.

This book marks a milestone in the progress of psychiatry since it is the first comprehensive text in psychiatry oriented along psychoanalytic lines. It comprises 23 chapters divided into nine sections under the respective headings of Concepts of Dynamic Psychiatry, Child Psychiatry, Psychoneurotic Disorders, Personality Disorders, Psychophysiologic Disorders, Functional Psychotic Disorders, Organic Brain Disorders, Mental Deficiency, and Therapy. A comprehensive bibliography aids in the selection of papers on various aspects of the topics mentioned. It is well written and the subject matter is dealt with clearly, simply, and yet thoroughly.

This book will have a wide appeal to all physicians and is a "must" book for medical students, practicing psychiatrists, and all others who are interested in the different aspects of mental health and disease. It is highly recommended.—Irving J. Sands

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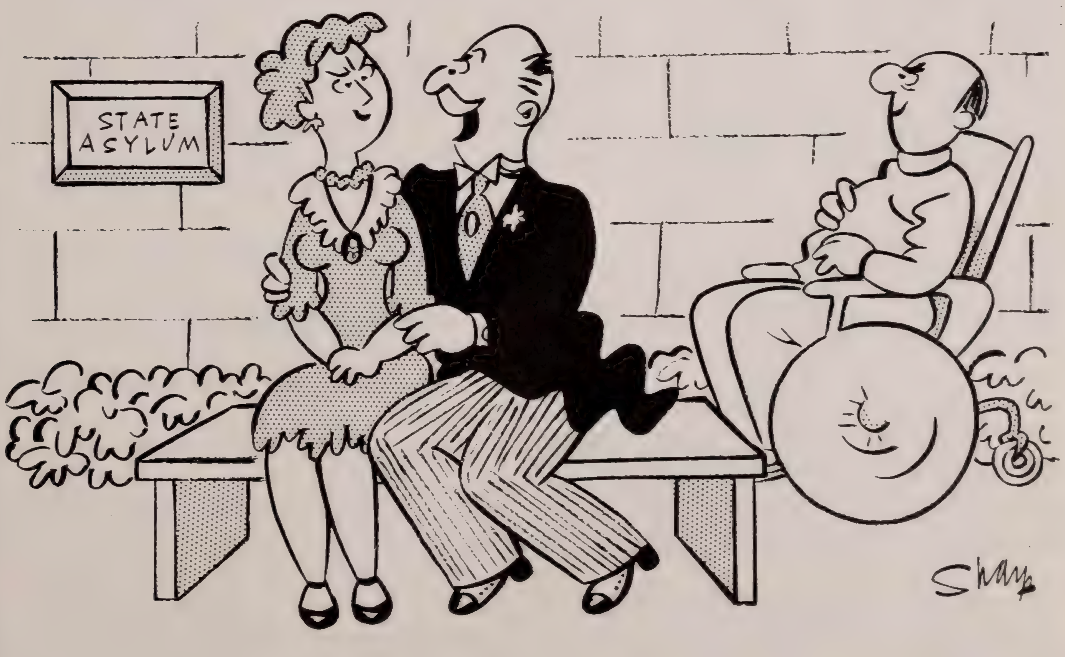

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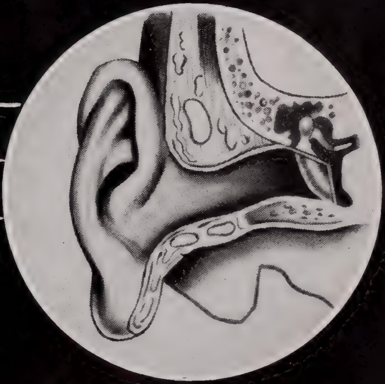

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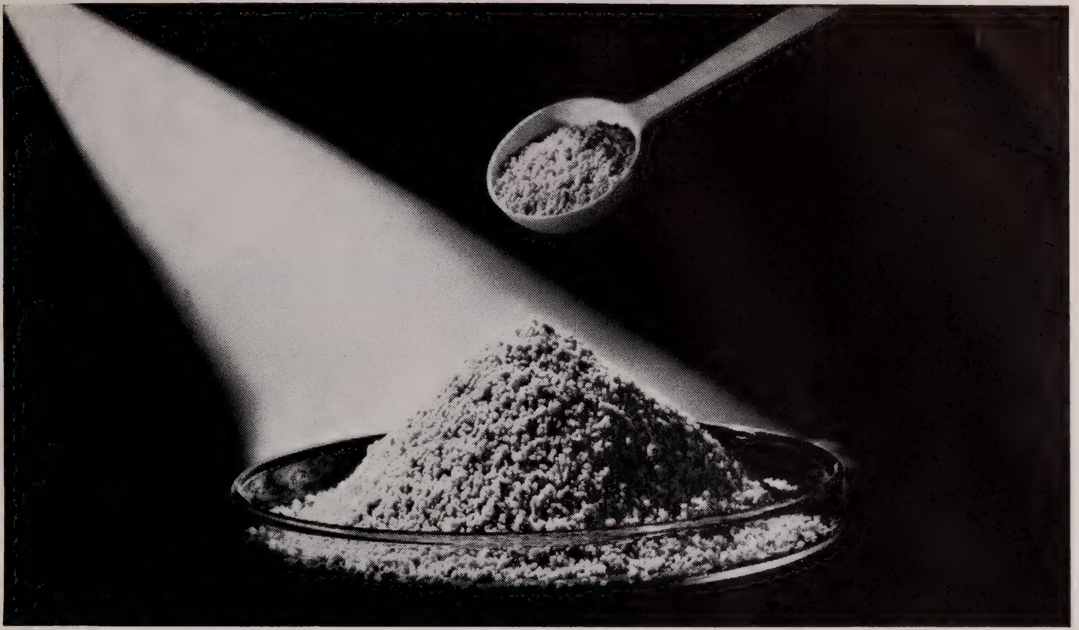

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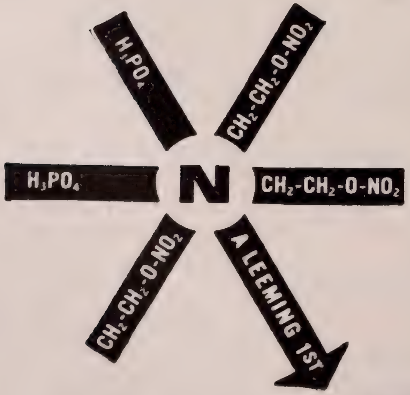

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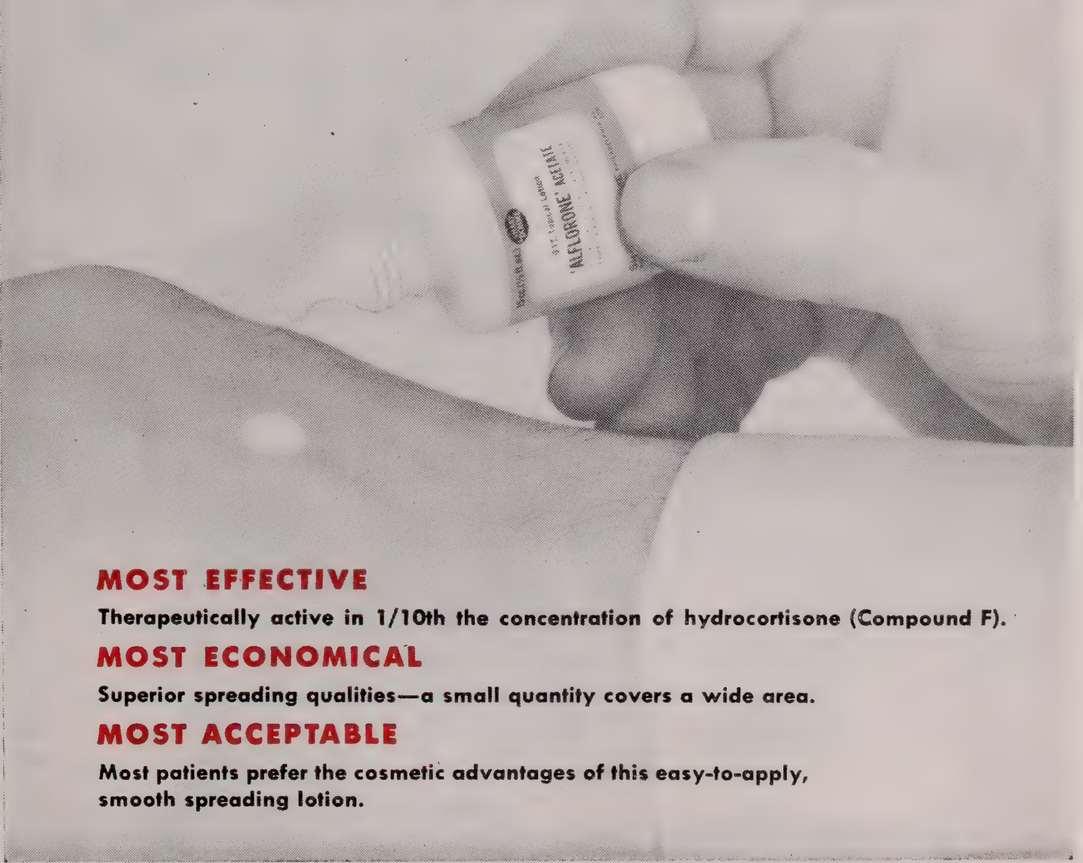

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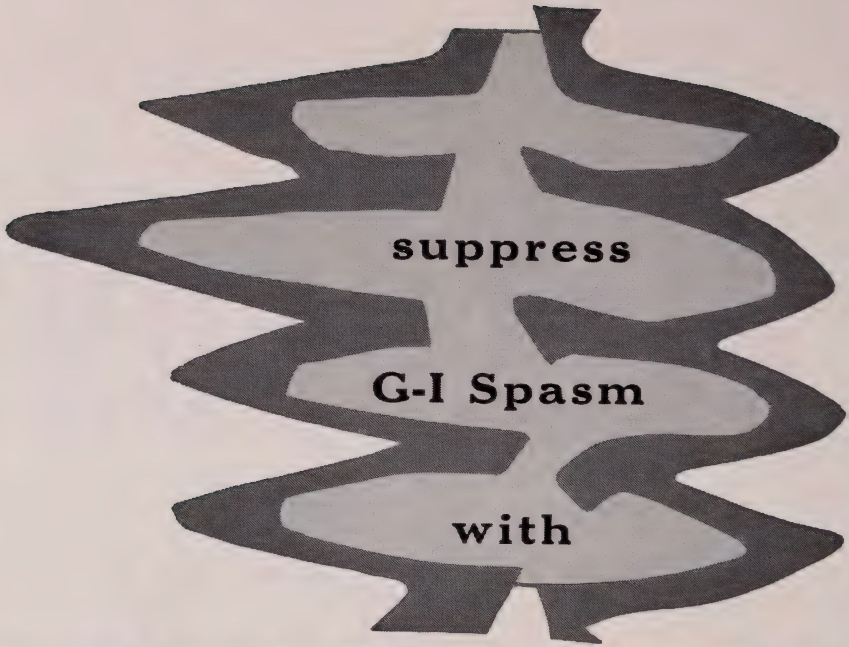

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G-I Spasm
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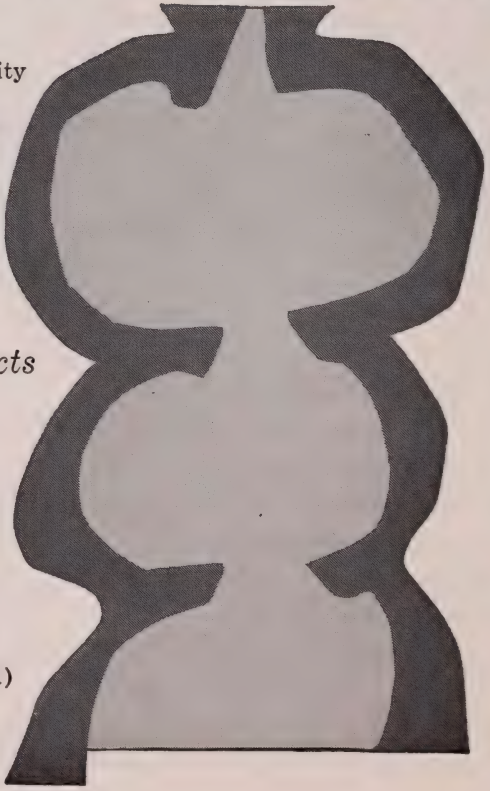

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"Alarm Agent"

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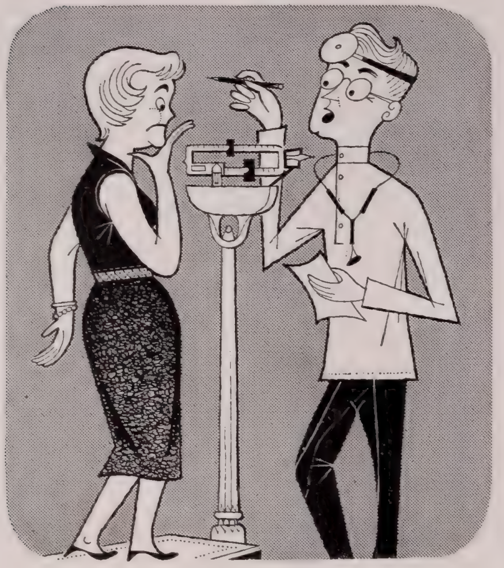

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all the flavor is in . . . all the sugar is out!

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BRAND OF MECLIZINE HYDROCHLORIDE

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Bonamine has proved unusually effective to prevent and treat this minor but distressing complaint. And a new agreeable method of administration is now offered by the incorporation of this well-tolerated agent, with its prolonged action, in a pleasantly mint-flavored chewing-gum base. 90% of the drug content becomes available in only five minutes of chewing.

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Bonamine Chewing Tablets *25 mg.*

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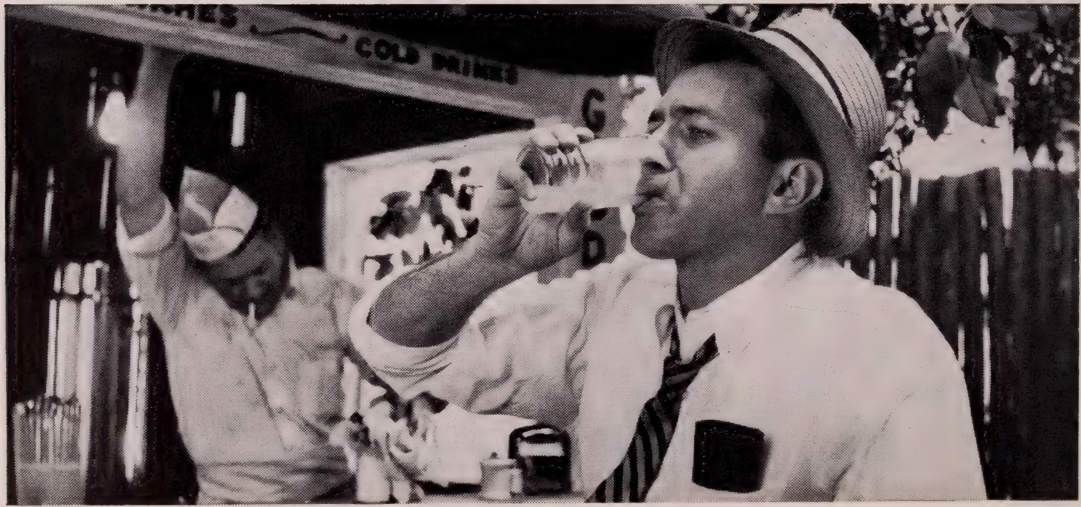

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SULFASUXIDINE® SUSPENSION WITH PECTIN AND KAOLIN

MAJOR ADVANTAGES: Has pronounced antibacterial action. Detoxifies and adsorbs intestinal irritants. Soothes the mucosa. Tasty chocolate-mint flavor.

Adult dosage: 1½ to 2 tbsp. six times a day. *Children and infants* in proportion.

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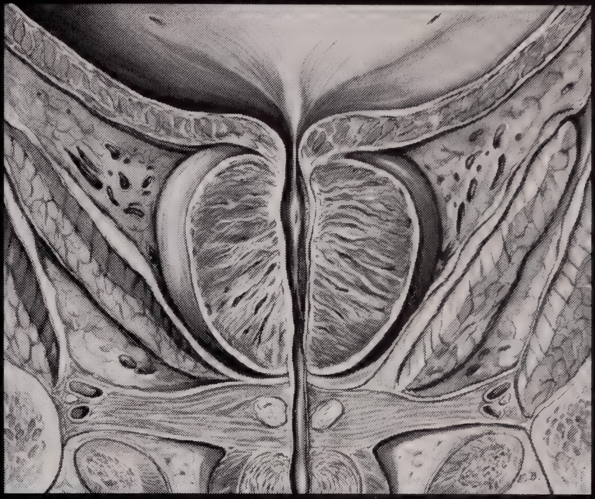

acute and chronic

prostatitis...

76.6% cured or improved with

Furadantin®

brand of nitrofurantoin, Eaton

137 cases of prostatitis were treated with Furadantin with the following results:

	Acute prostatitis	Chronic prostatitis	Total
No. cases	20	117	137
Cured	15	30	45
Improved	4	56	60
Failed	1	31	32

(Personal communications to the Medical Department, Eaton Laboratories.)

Furadantin has a wide antibacterial range

Furadantin is effective against the majority of gram-positive and gram-negative urinary tract invaders, including bacteria notorious for their resistance. Furadantin is not related to the sulfonamides, penicillin or the 'mycins.

With Furadantin there is no blood dyscrasia...no proctitis...no pruritus ani...no crystalluria...no moniliasis...no staphylococcic enteritis.

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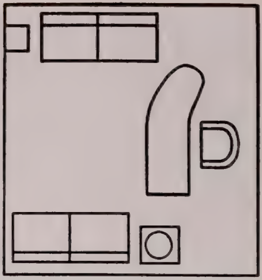

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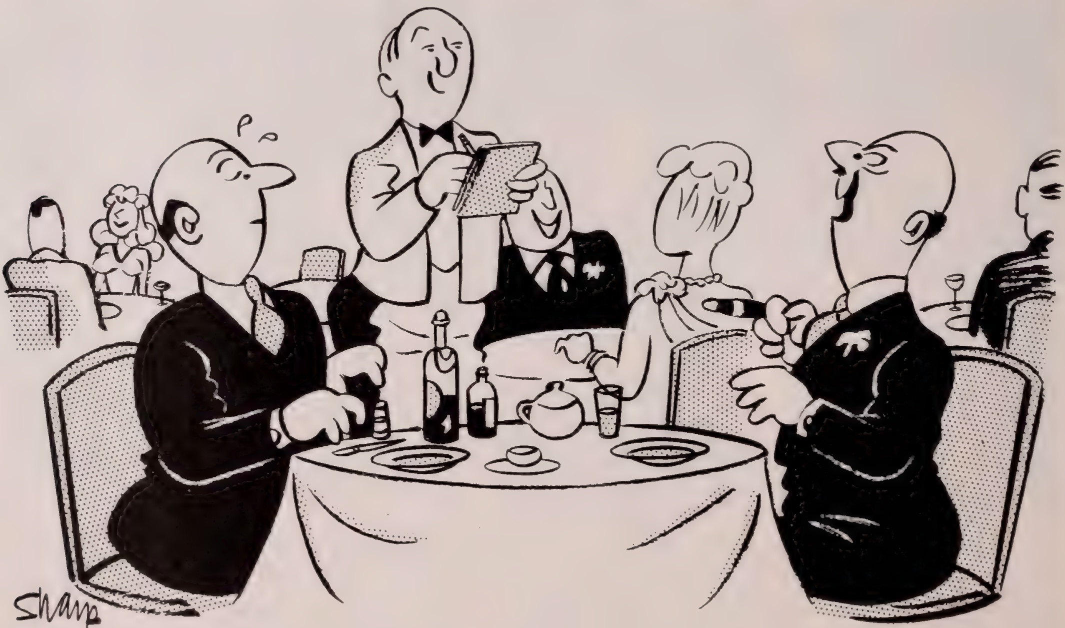

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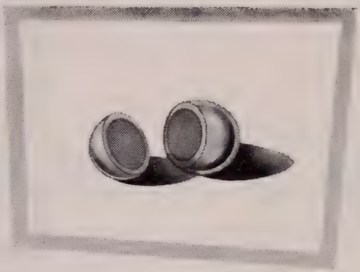

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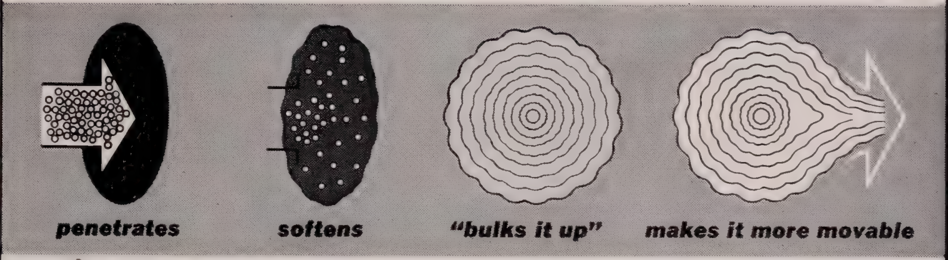

KONDREMUL (Plain)—Colloidal emulsion of mineral oil and Irish moss...pleasant-tasting and non-habit-forming. Contains 55% mineral oil. Supplied in bottles of 1 pt.

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IN CONCEPTION CONTROL

"...WHEN THEIR LIVES DEPEND UPON IT"

Recently, discussing the contraceptive efficacy of the "jelly-alone" method, Jackson predicted that in time it "will find its own level of usefulness, but it should not be handed out to highly fertile parous women, particularly when their lives depend upon it, in the mistaken belief that it will protect them as fully as one of the combined methods (cap or sheath plus spermicide)."[1]

"The added protection of a diaphragm..."

"Where avoidance of pregnancy is important... the added protection of a diaphragm should be prescribed,"[2] stresses Gamble. And Greenhill,[3] Novak,[4] Reich and Nechtow,[5] and the Council on Pharmacy and Chemistry of the A.M.A.[6] agree that the diaphragm-jelly method offers the most dependable conception control, with reliability of 95% to 98%.[2,4]

Indications for the jelly-alone method

Although "diaphragms can be fitted to almost all women,"[3] some women do not use them for anatomical, physiological, economic or psychological reasons: ■ Relaxed pelvic floor[5,7] ■ Extensive cystocele[3,5,7] ■ Extensive rectocele[3,5,7] ■ Intact hymen[3] ■ Short anterior vaginal wall[7] ■ Third degree retroversion of uterus[7] ■ Acute anteflexion of the uterus[7] ■ Complete prolapse[3] ■ Personal preference ■ Crowded living conditions ■ Inability to learn technic ■ No urgent need to avoid pregnancy[8,9] ■ Unwillingness to use the diaphragm ■ Fear of impairing future fertility ■ Low parity[1,8,9]

Selective safety

For such patients the physician may prescribe Ramses Vaginal Jelly* alone with confidence, as demonstrated in a study by Guttmacher and associates.[8] In 325 women observed who had used the jelly-alone (Ramses Vaginal Jelly) method from 3 months to 3 years, the total unplanned pregnancy rate was only 16.7 per 100 patient-years of exposure. Of these pregnancies, *over 35% were due admittedly to patient's negligence or failure to use method properly. Thus the actual pregnancy rate was 10.82 per 100 patient-years of exposure.*[8]

All women in this study had one child or more. Significantly, those with more than one child had almost twice as many unplanned pregnancies as those with one child only. Guttmacher and associates conclude that the jelly-alone method *will be more effective in nonparous women and in women of low parity.* They believe that the patients' "intelligence, motivation, parity, and ready access to new supplies all affect success or failure."[8]

Prescribing for the individual

The physician may choose the method best for the patient. When high parity, normal anatomy, or need for maximum protection indicate the use of the diaphragm-and-jelly method, the Ramses® "Tuk-a-way"® kit is recommended. The Ramses diaphragm is flexible and cushioned. It provides an optimum mechanical barrier with utmost comfort. In combination with Ramses jelly, it offers an unsurpassed contraceptive technic. Where anatomical, psychological, or economic factors indicate the use of jelly-alone, Ramses Vaginal Jelly can be confidently prescribed. *Both products are accepted by the appropriate Councils of the American Medical Association.*

References: 1. Jackson, M. G.: Lancet 2:346 (Aug. 15) 1953. 2. Gamble, C. J.: Ann. New York Acad. Sc. 54:840 (May 2) 1952. 3. Greenhill, J. P.: Office Gynecology, ed. 5, Chicago, The Year Book Publishers, Inc., 1948. 4. Novak, E.: Textbook of Gynecology, ed. 3, Baltimore, The Williams and Wilkins Co., 1948. 5. Reich, W. J., and Nechtow, M. J.: Practical Gynecology, Philadelphia, J. B. Lippincott Co., 1950. 6. Council on Pharmacy and Chemistry of the A.M.A.: New and Nonofficial Remedies for 1954, Philadelphia, J. B. Lippincott Co., 1954. 7. Tietze, C.; Lehfeldt, H., and Liebmann, H. G.: Am. J. Obst. & Gynec. 66:904, (Oct.) 1953. 8. Finkelstein, R.; Guttmacher, A., and Goldberg, R.: Am. J. Obst. & Gynec. 63:664 (March) 1952. 9. Barnes, J.: Lancet 2:401 (Aug. 22) 1953.

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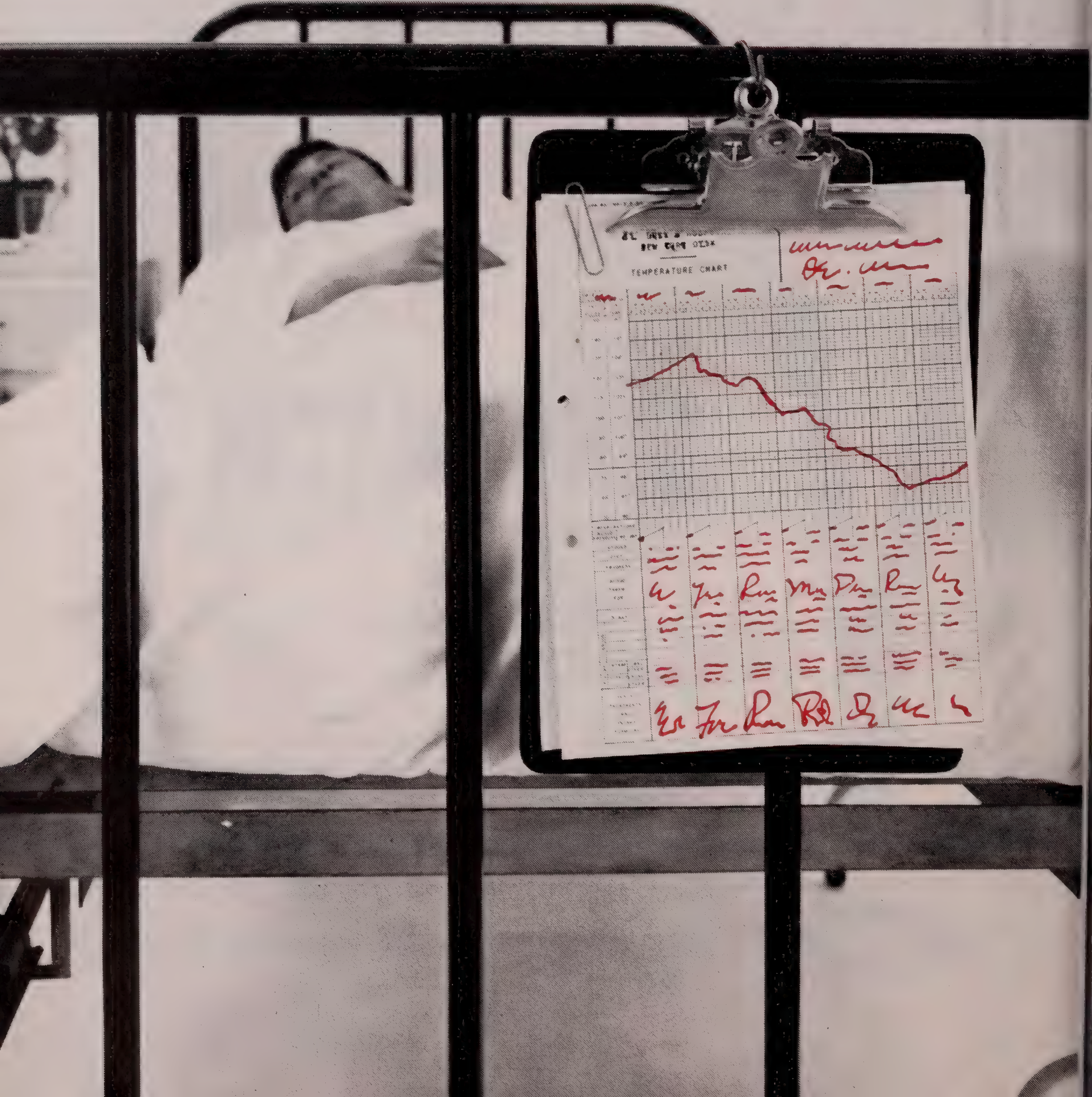
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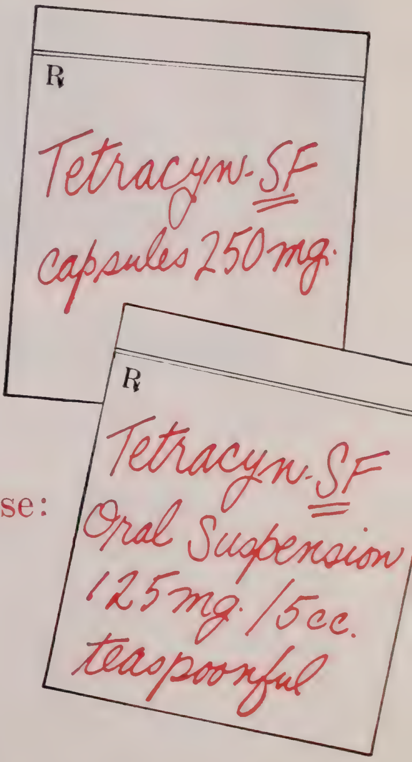

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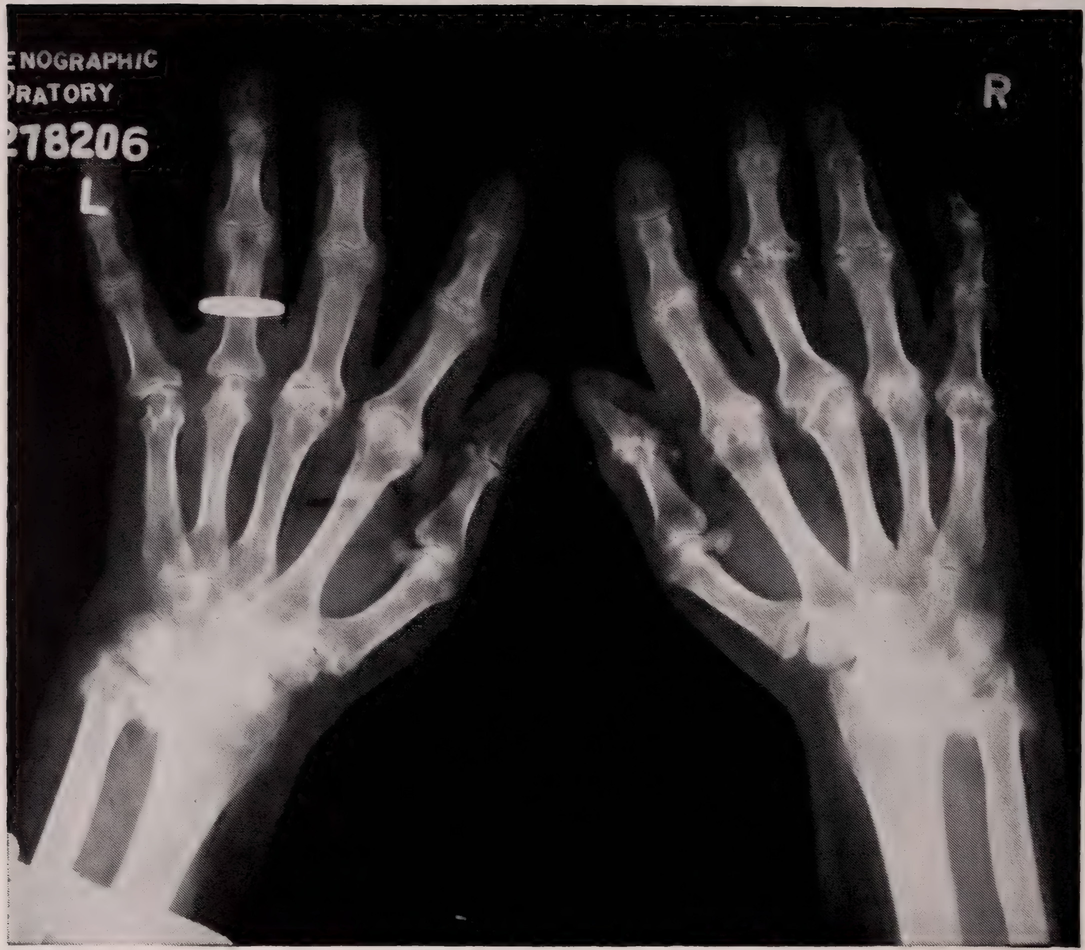

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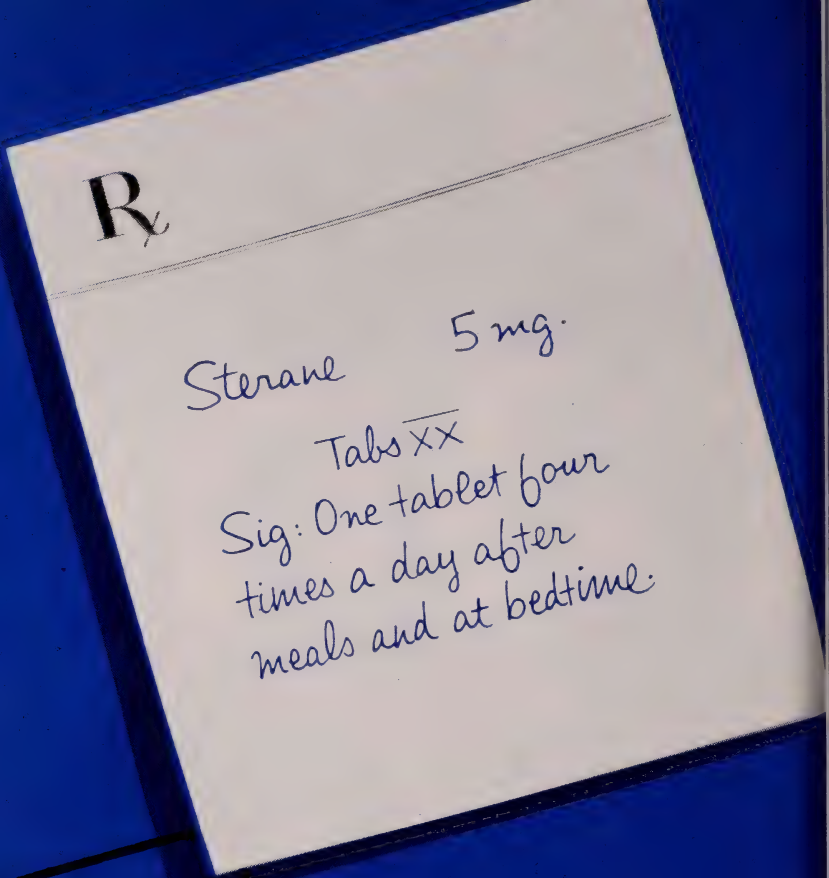

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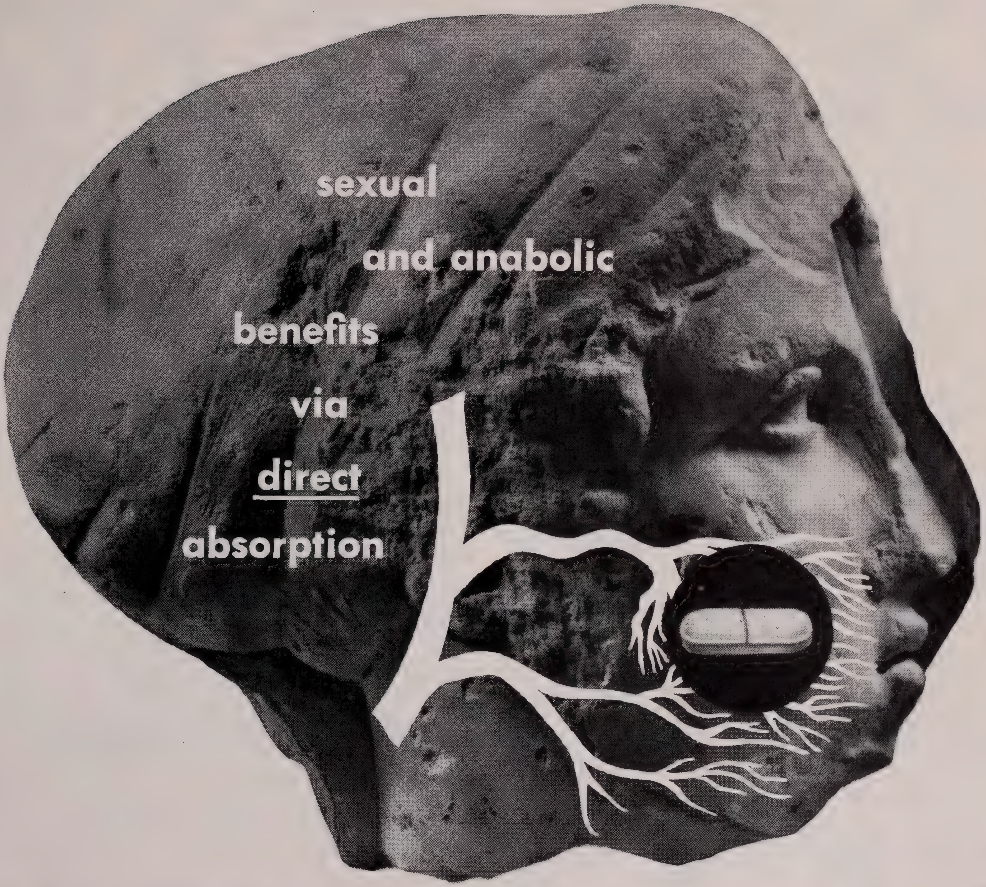

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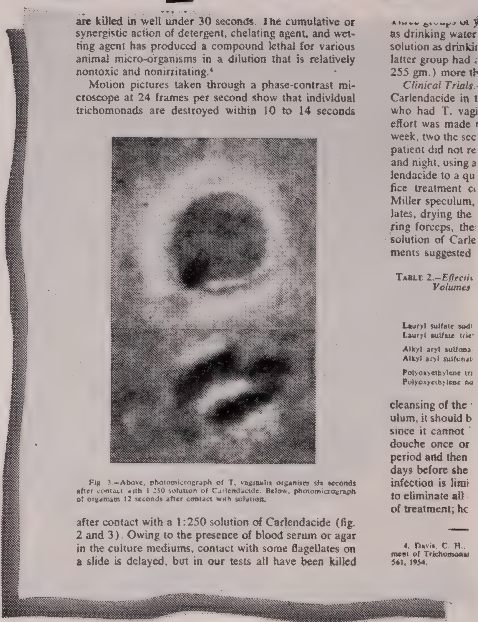

are killed in well under 30 seconds. The cumulative or synergistic action of detergent, chelating agent, and wetting agent has produced a compound lethal for various animal micro-organisms in a dilution that is relatively nontoxic and nonirritating.[4]

Motion pictures taken through a phase-contrast microscope at 24 frames per second show that individual trichomonads are destroyed within 10 to 14 seconds

Fig. 3.—Above, photomicrograph of T. vaginalis organism six seconds after contact with 1:250 solution of Carlendacide. Below, photomicrograph of organism 12 seconds after contact with solution.

after contact with a 1:250 solution of Carlendacide (fig. 2 and 3). Owing to the presence of blood serum or agar in the culture mediums, contact with some flagellates on a slide is delayed, but in our tests all have been killed

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In his new *J.A.M.A.* article, Dr. Carl Henry Davis reviews his experience with the new trichomonacide which he and C. G. Grand, research physiologist, developed under the name of "Carlendacide." Now available as VAGISEC jelly and liquid, it has been shown on clinical trial to clear up even stubborn cases of vaginal trichomoniasis. "Adequate office and home treatment can effect a cure of T. vaginalis infections, if limited to the vagina, within four weeks."[1]

Synergistic action. VAGISEC liquid attacks the trichomonad with three surface-acting chemicals.[2] The *chelating agent* tears out the calcium of the calcium proteinate from the cell membrane of the trichomonad. The *wetting agent* lowers surface tension and removes waxes and lipid materials from the cell membrane. The *detergent* denatures the protein. With the cell membrane destroyed, the cytoplasm imbibes water from its surroundings, swells up and explodes.[3] *Synergism accomplishes this within 15 seconds!*

Thorough peneration. VAGISEC jelly and liquid penetrate the cellular debris and mucoid material that line the vaginal wall and reach hidden trichomonads that lie buried among the rugae. They dissolve mucinous material and explode hidden trichomonads as well as trichomonads on the surface of the vaginal wall.[4]

Trichomonads destroyed in 15 seconds. No other agent or combination of agents kills the trichomonad in this specific fashion, or with the speed of VAGISEC liquid.[2] Dr. Davis studied this action under the phase-contrast microscope and actually *saw* individual trichomonads destroyed within 15 seconds of contact with a 1:250 solution.[1]

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Write for: reprint of Dr. Davis' article,[1] file card giving complete details of Davis technic, and pad of patient instruction sheets for home treatment. Address Julius Schmid, Inc., 423 West 55th Street, New York 19, N. Y.

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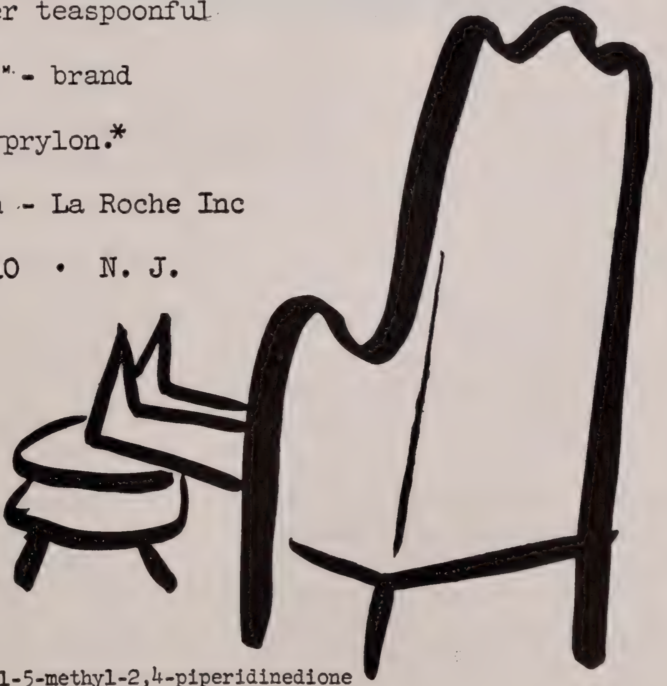

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2. Becker, B.: Decrease in Intraocular Pressure in Man by a Carbonic Anhydrase Inhibitor, DIAMOX. Am. J. Ophth. 37:1, 13-15 January 1954.

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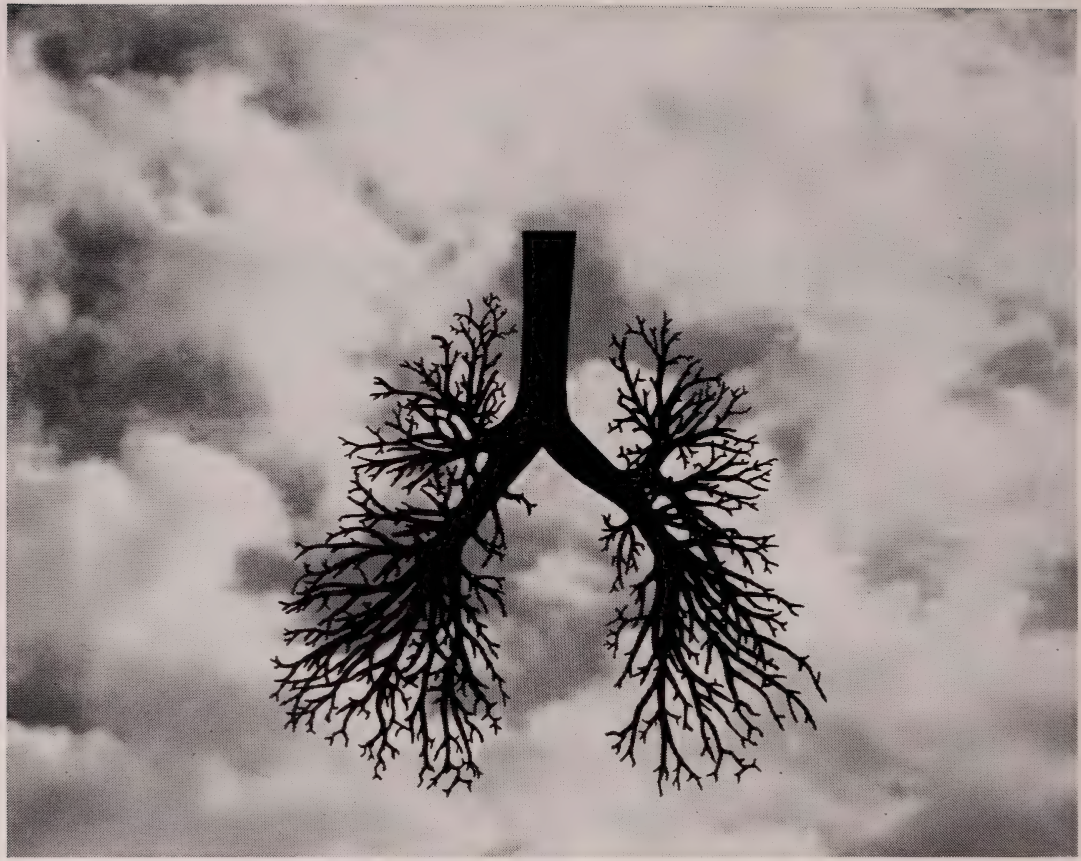

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EDITORIAL

Medicine and Public Health

Speaking before the 51st Annual Health Conference at Lake Placid, on June 7, 1955, Dr. Renato J. Azzari, president of the Medical Society of the State of New York, touched on the advances made in the promotion of the public health by the Society during its nearly one hundred and fifty years of existence and by the cooperative enterprise of the Society and the Department of Health of the State of New York since its founding. Dr. Azzari said, in part,

> On the occasion of your 50th anniversary last year, Dr. Herman E. Hilleboe,[1] State Health Commissioner, gave a very complete and able résumé of activities in the public health field. At that time he traced public health activities in this State from the earliest of a long list of quarantine laws enacted in 1778 and the creation of the first State board of health in 1880 down to the present.
>
> Allow me to mention in passing that during that many years of its history the Medical Society of the State of New York has been instrumental in promoting and improving medical education both in medical schools and in postgraduate education work. As you know, the State Health Department has been closely allied with the State Society in postgraduate lectures. Among other activities in which the State Medical Society has engaged has been the more rapid distribution of medical knowledge by the publication of the NEW YORK STATE JOURNAL OF MEDICINE, which carries

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[1] Hilleboe, H. E.: NEW YORK STATE J. MED. 54: 3257 (Dec. 1) 1954.

> news of medical organizations in addition to scientific articles. The Society also has sponsored better medical care for the chronically ill, the tubercular, and those afflicted with mental illness in State institutions.
>
> All in all, both the public health workers and the private practitioners of medicine can well be proud of their accomplishments during the past century and a half.

Still, Dr. Azzari said, much remains to be done. He quoted from the preliminary report of the Wolverton Committee of the House of Representatives investigating major diseases:

> More is now known about the prevention and control of many diseases than is being applied. Research in many fields has provided a stockpile of detection, diagnosis, and treatment methods that are not being fully utilized. As one example, almost half of all cancer can be cured if it is detected and treated in the early stages; yet of this half, only one-half is cured. The report goes on to say, and I quote: "Failure to apply existing knowledge can be traced to many sources, and success in fully applying knowledge will depend on a broad attack. Too few people know the symptoms of chronic disease. This is a problem of public education. Too few of those who do are inclined to do anything about it. This is a problem of motivation. Too few of those who are motivated have good diagnostic help available to them at a price they can afford. This is a problem of medical economics."

Dr. Azzari called on both public health officials as well as private practitioners to do all in their power to solve this problem, "particularly in the field of education." He paid tribute to the "ever-increasing spirit of cooperation" between the State Medical Society and the State Health Department and praised the objectivity of the two groups where controversial matters were under consideration.

Dr. Azzari spoke of the development of communications. He said

> It is basic that in order for State policy to be properly carried out there must be proper and adequate channels of communications to and from the policy-makers and the field workers. It is my earnest wish that what has been accomplished in this vital area of internal communications will be carried on with continuing improvement throughout the years to come.
>
> Speaking of communications, I should like to say a word about a current detriment to public health, which I call the "premature birth of medical news." Allow me to emphasize that we in the State Medical Society strongly favor a greater and smoother flow of medical news from the medical profession and the hospital associations to those who collect and disseminate such news. It was for this specific purpose that we promulgated our Guide for Cooperation between the medical profession and the various media of public information, which has been widely acclaimed. The point I wish to make is that too often news is released about scientific data before an investigation has been completed or without full knowledge concerning the earliest available date for the public distribution of a particular product. As a result of such premature releases, private physicians and public health officials are besieged by misinformed, worried individuals for new products which have not been effective or are unavailable. We must remember that in these troublesome times emotion rather than reason governs the actions of many of our citizens. Consequently, the ultimate outcome of premature releases is the undermining of people's faith in medicine and the creation of bad public relations.
>
> Our ultimate goal should be better health for more people through the prevention of disease before it strikes, its treatment and control after it occurs, and the rehabilitation of the person after disease has been conquered. To accomplish this objective, there must be a live, working partnership of all forces directly or indirectly concerned with health in any of its multitudinous phases . . . In New York State much already has been accomplished. Much more, nevertheless, needs to be done and must be done. If the history of the past one hundred and fifty years however in the field of the private practice of medicine and public health in any sense foreshadows future events, there is no doubt that the result of our long, arduous labors will be better health and longer life for every citizen of the Empire State.

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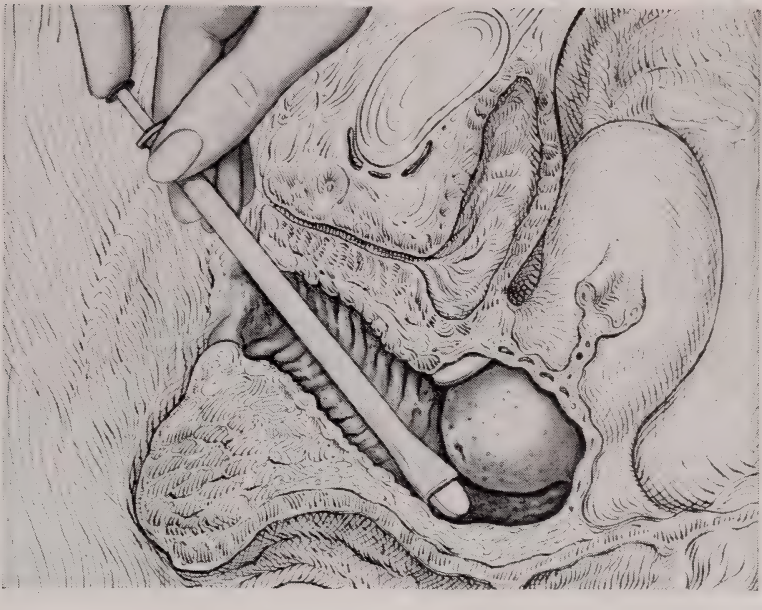

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A Floraquin applicator is supplied with each box of 50 (a new package size) Floraquin tablets. G. D. Searle & Co., Research in the Service of Medicine.

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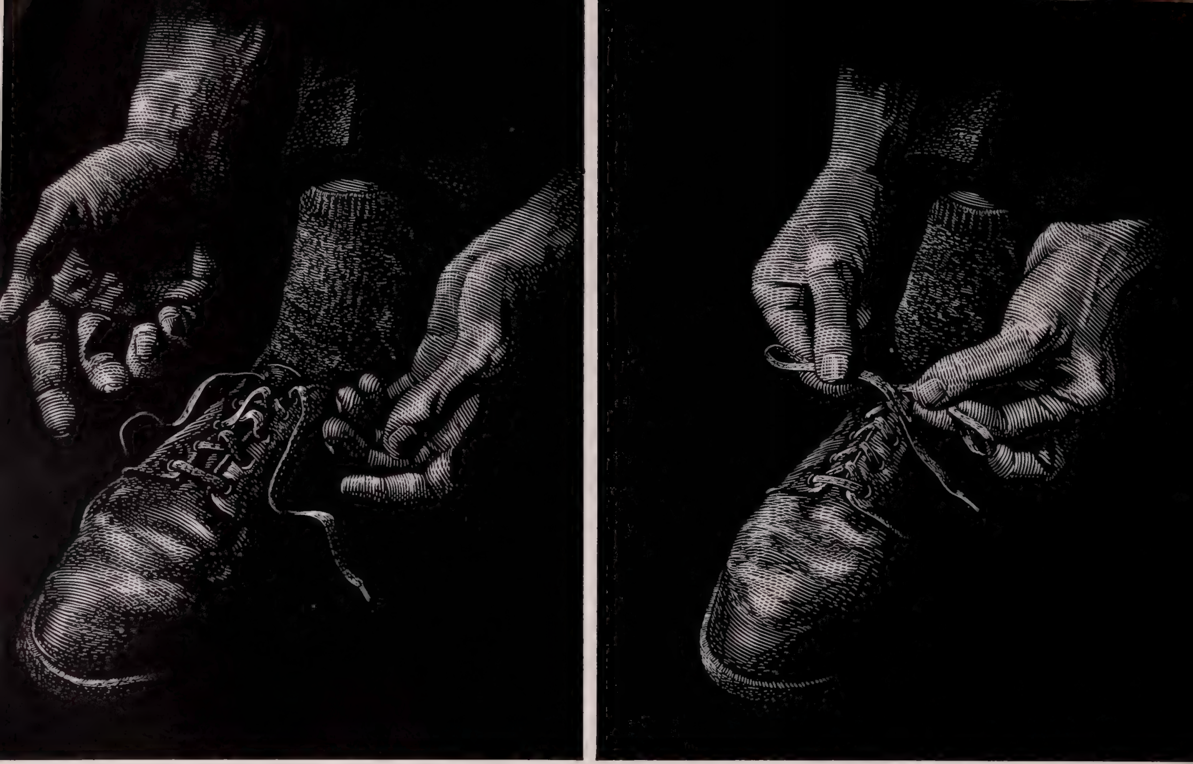

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Aspirin	325.0 mg.
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Colchicine, salicylated	0.25 mg.
Ascorbic acid	20.0 mg.
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SCIENTIFIC ARTICLES

The Use of Intermittent Positive Pressure Therapy in Various Pulmonary Disorders

THEODORE H. NOEHREN, M.D., BUFFALO, NEW YORK

(*From the Department of Medicine, Buffalo General Hospital, and the University of Buffalo School of Medicine*)

THE use of intermittent positive pressure therapy (IPPB) is not new, although it may not be generally recognized by this title. The principle of varying pressures to effect ventilation has been around for a long time. It is only with the recent introduction of more highly refined, mechanical means for effecting this principle that the title of intermittent positive pressure therapy and its abbreviation (IPPB) have been in general usage.

Some of the procedures to effect ventilation by pressure manipulations which are already familiar include (1) artificial respiration (rib compression), (2) infant resuscitation (mouth-to-mouth), (3) Drinker respirator (iron lung), (4) anesthesia bag compression, (5) pressure face mask, (6) pulmotor, and (7) resuscitators. It can be seen that the common denominator in all these procedures is ventilation effected by a force outside the patient. The patient may be partially or completely apneic and require mechanical substitution for his own bellows apparatus.

Recent engineering developments have resulted in mechanical devices to accomplish this same purpose in a comfortable and efficient manner, even to the point where the patient no longer has to be apneic to fit comfortably into the pattern of mechanical ventilation. Unfortunately, research and commercialization in this field have moved so rapidly that we are faced with so many apparatus variations that it has become complicated and confusing.

For the purpose of this discussion, however, we will consider only one type of intermittent positive pressure therapy and its applications to clinical and physiologic problems. In this type mechanical gas flow occurs on *inspiration* only (Fig. 1). Expiration is completely passive and accomplished by the natural recoil within the lungs and thoracic cage. The patient exhales against no pressure. Figure 1 also shows that only a very small portion of inspiration is accomplished under pressure per se. There is a rapid flow of gas from the oxygen or air cylinder until the lung is nearly expanded, making for rapid *pressure* increase only with further expansion at that point as the flow of air continues. It is like blowing up a paper bag in which there is no effort until the bag is "filled" and further distention demands effort in the form of pressure.

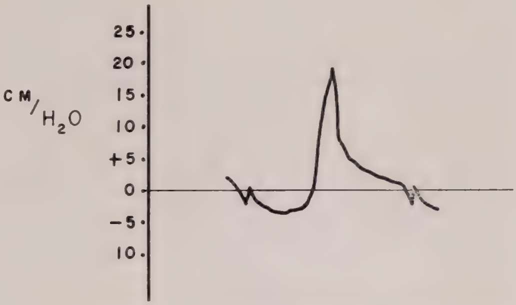

FIG. 1. Mouth pressure recording during intermittent positive pressure therapy with the Pulmonary Ventilator.

In this apparatus the rapid development of resistance (pressure) by the distended lung trips a valve which automatically stops the flow of gas. Expiration then progresses with no influence from the machine and against no pressure. The demand valve then reactivates the gas flow with the patient's inspiration. In short, the gas flow

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Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, General Sessions, May 11, 1955.

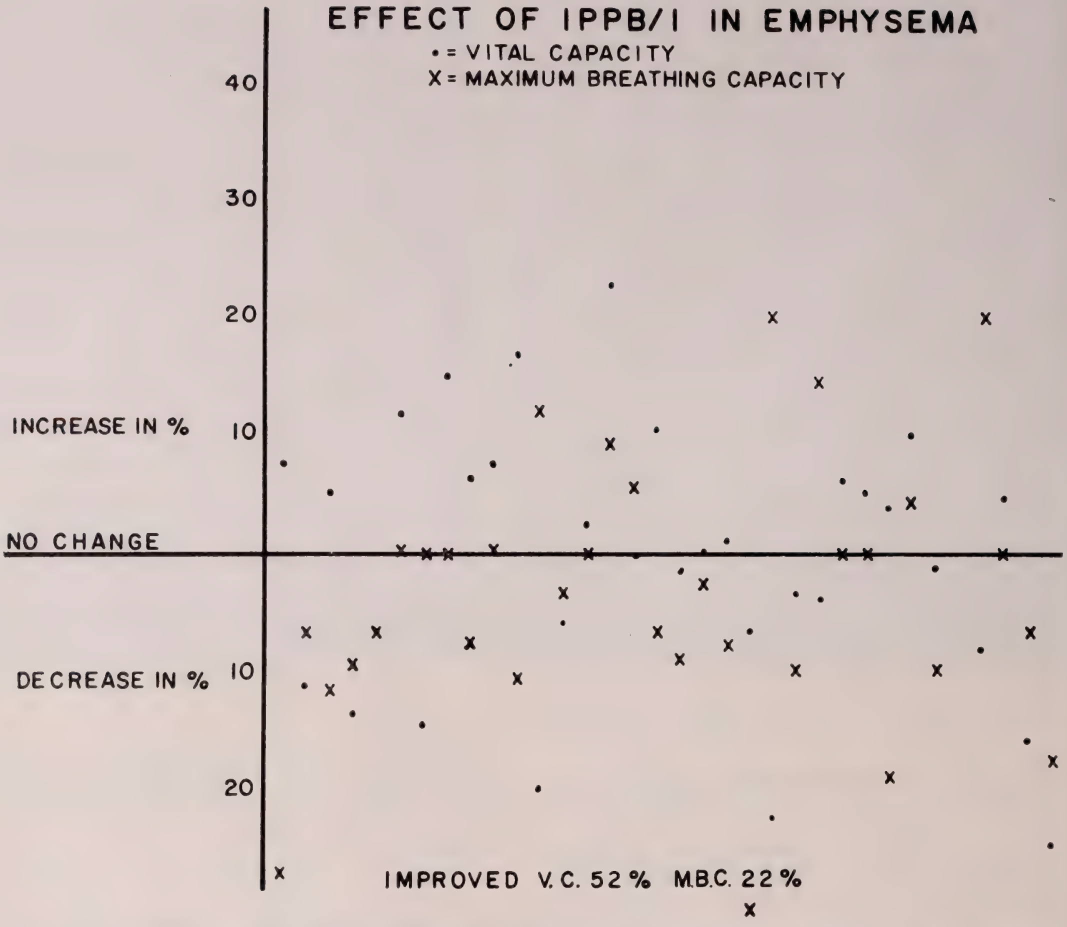

FIG. 2. Pulmonary function determinations after fifteen minutes of intermittent positive pressure therapy on the Pulmonary Ventilator (33 patients).

is effective as *pressure* for a very short fraction of the entire cycle.

An understanding of this principle is important for an accurate physiologic concept of what this machine can accomplish. Pressure is a significant factor but not nearly so important as the longer and associated gas flow ventilation. This then might be understood better as intermittent ventilation therapy rather than intermittent positive pressure therapy, and this difference is significant. The physiologic effects are accomplished by the flow of air more than by the pressure under which that air flows. This effect can be used with considerable benefit on patients with emphysema, silicosis, bronchial asthma, status asthmaticus, bronchiectasis, bronchitis, and various other conditions.

Inhalation Therapy

A study of the use of one of these machines in a group of patients with pulmonary emphysema will help to explain the principle of its actions. We have studied the effects of the Pulmonary Ventilator* on about 100 patients with this disease and measured the effects in the laboratory on 33 of them.

The procedure has been to measure ventilation before and after fifteen minutes of intermittent positive pressure therapy on the Pulmonary Ventilator. The results may be seen in Fig. 2.

From Fig. 2 it is apparent that there are as many or more values below the line (the area of decreased pulmonary function) as there are above in the area of increased pulmonary function. Furthermore, since the values of the vital capacity and the maximum breathing capacity for each patient are in the same vertical line, it is apparent that in many cases the one value may have im-

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* Mine Safety Appliances Co., Braddock, Thomas, and Meade Streets, Pittsburgh 8, Pennsylvania.

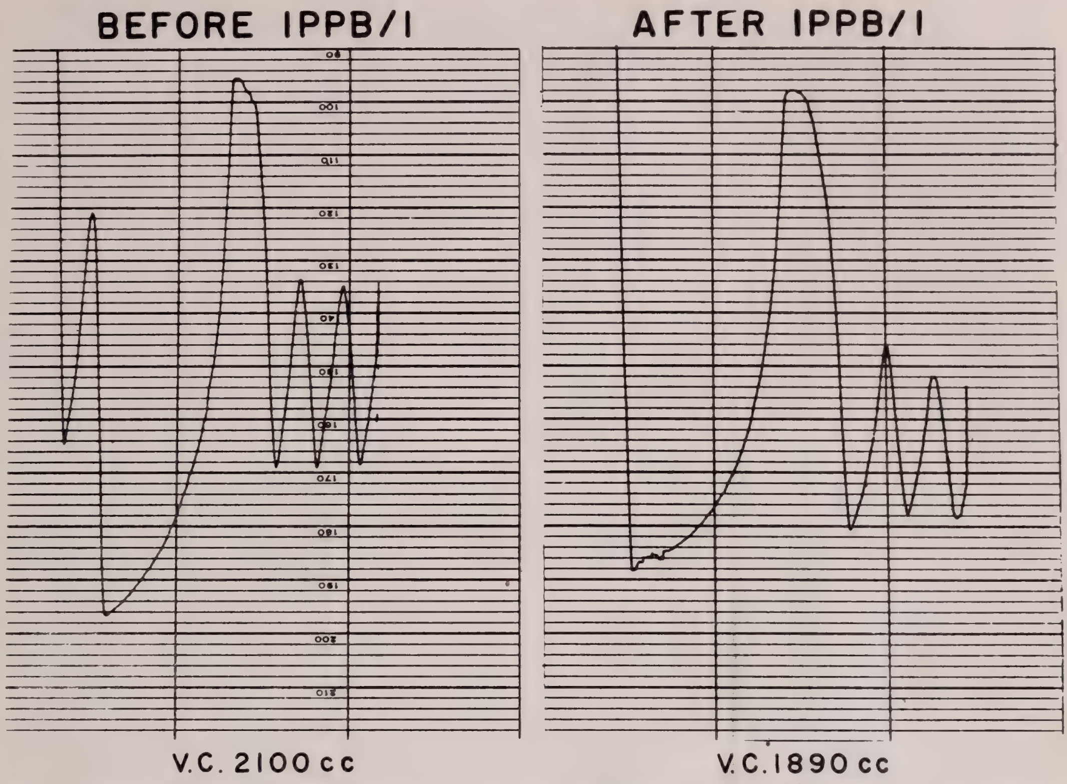

Fig. 3. Spirometric measurement of vital capacity before and after treatment with pressure and no aerosol by the Pulmonary Ventilator.

proved, while the other became worse. The more important determinant of pulmonary ventilation, the MBC, was made worse more frequently than it was improved. One possible explanation for this can be seen in Fig. 3.

In this tracing of a spirometric measurement of vital capacity before and after treatment with this machine, the pretreatment curve is longer than the post-treatment curve, denoting greater lung volume and a larger vital capacity. It is to be noted that the difference between the two curves lies in the bottom or exhalation phase of the curve. In other words, the patient is able to inspire just as deeply in both tests, but expiration is less after the pressure "treatment." Thus, he cannot exhale as completely as before the therapy and must have trapped air in his emphysematous alveoli. Pressure alone then is not the effective remedy for the dyspnea of emphysema.

However, if we now add a bronchodilator drug to the slipstream of air flowing into the lungs, we see a somewhat improved result (Fig. 4). It is apparent from this scattergram that in contrast to the previous figures in the same patients, there are many more values in the improvement area. There are relatively few values below the horizontal axis in the region of decreased ventilation. The improvement varied from very little to over 50 per cent increase in their ventilatory capacity. These percentage figures, however, must be accepted judiciously for they represent per cent improvement over the original poor function levels. A value of 50 per cent improvement does not mean a restoration of 50 per cent of normal respiratory capacity. It means the patient's ventilation is 50 per cent better than it was, which may mean only a small increment in cubic centimeters of air. But, like the man who is financially embarrassed, these unfortunate patients are in respiratory embarrassment, and additional air, even a small amount, can be valuable.

Improvement has resulted in patients with pulmonary emphysema from the bronchodilator drug and its distribution by the air flow of the IPPB machine. It becomes, in essence, aerosol therapy for patients with pulmonary emphysema, and there are those who would like to consider it nothing more. The improvement in some patients without aerosol indicates this is something more than that.

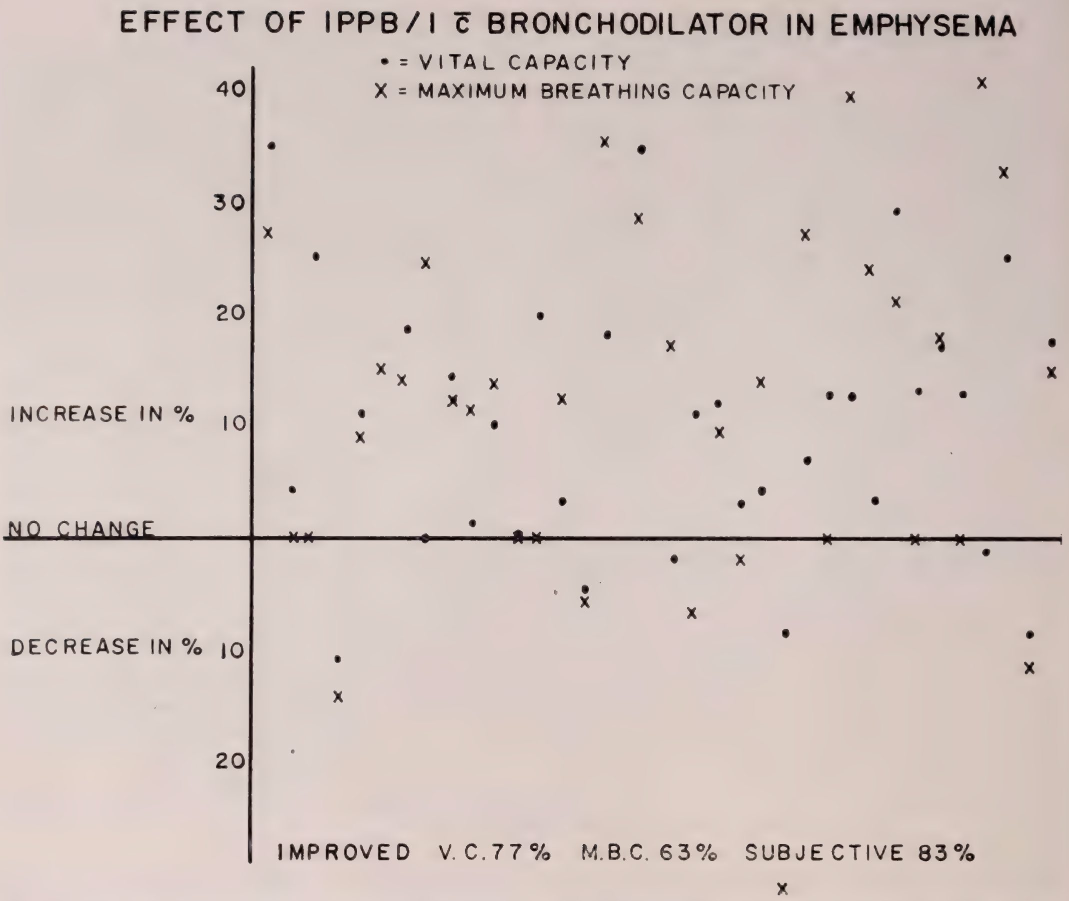

Fig. 4. Changes in pulmonary function measurements in 33 patients after addition of bronchodilator drug to intermittent positive pressure therapy.

One might logically ask what this form of therapy has over the hand-bulb aerosol dispenser. Some investigators feel it has nothing additional to offer. However, in this type of patient, ventilation is the big problem, and poor ventilation begets poor aerosol distribution. We have allowed many of these patients to use both the hand and machine type therapy and choose honestly which seems most effective. Some do find the difference less significant than the cost of a machine. Others, however, prefer the machine and feel quite strongly about it. We have several patients in whom the machine has made the difference between ambulation and a bedridden patient.

Secondary benefits from the air flow are reflected in the loosening of secretions. This can be further facilitated by the addition of a detergent, Alevaire or a similar wetting agent. The aerosol principle can also be used as a vehicle for carrying antibiotics into the chronic bronchitis which generally accompanies emphysema. All three medications can be combined with satisfactory results.

The same principles which make this treatment effective in emphysema suggest its use in other diseases. Bronchial asthma and its concomitant, bronchial spasm, are naturally suggested. The ordinary asthmatic spasm does not necessarily demand mechanical supplement to the generally successful measures. However, in a small percentage of cases, particularly those in status asthmaticus, it becomes very difficult, if possible at all, to get the bronchodilator medication to the distant constricted bronchioles. We have had very good success in several episodes of status asthmaticus, where the effectiveness of other measures has been exhausted, by bronchial insufflation of the bronchodilator with positive pressure therapy. It is not always possible to obtain dramatic relief of the spasm, but the combination of partial dilatation with increased oxygenation (using the machine on 100 per cent oxygen) has been most gratifying in several cases. Here too aerosol detergents help in liquefying the retained secretions. In these cases it has been necessary to repeat the ventilation therapy as frequently as the condition of the patient demands, as often as every forty minutes, until the hormones or other more lasting treatment takes effect.

A third use of this type of ventilation therapy is in patients with bronchiectasis. Once again it is apparent that pressure is not the needed factor except as a vehicle for the aerosol medicants. However, as such, it is effective in distributing either the antibiotics, the detergents, or, of equal importance in this condition too, the bronchodilators. In a disease where sputum production is the main determinant of symptoms, it is logical that a method to ease the bronchial toilet would be helpful. Mechanical ventilation therapy is quite effective in many cases.

Exhalation Therapy

So far, we have discussed the use of intermittent positive pressure therapy and its ventilation power as an *inhalation* assist to aerosol distribution and oxygenation. The next general classification of usage involves this machine for *exhalation* assist. In this situation it becomes a means of hyperventilation for the excretion of excessive carbon dioxide. The same principle could be applied to an excess of other substances, alcohol, anesthetic gases, etc.

A certain small percentage of patients with pulmonary emphysema and cor pulmonale develop a paradoxic situation known as carbon dioxide narcosis. It is postulated that the inefficiency of the respiratory system allows a buildup of carbon dioxide in the bloodstream to a dangerously high level—so high in fact that, like an excess of alcohol, certain central nervous centers become narcotized, "drunk," so to speak. The most important center to become insensitive is the respiratory center, the "control tower" of respiration. With this center out of commission the body is forced to depend on a secondary center in the carotid body for maintenance of respiration. The carotid body, unlike the basic respiratory center, is stimulated by anoxia. Thus we have the paradoxic situation whereby a patient who is already anoxic depends on that pathologic state to maintain his breathing. If you treat the deficiency by giving him oxygen, you destroy the only remaining stimulus for breathing and with increased oxygenation he stops breathing. This is known as the oxygen paradox and can best be illustrated by an actual case.

This patient is a fifty-seven-year-old, Italian bellhop who was admitted to the Buffalo General Hospital in acute cardiac and pulmonary decompensation. His complaints were of wheezing, productive cough, and intermittent dyspnea for seven years. This had become progressively worse, especially during the last few months, and was associated with edema of his lower extremities. In addition, he had noted a progressive drowsiness, even while working. He told us that he frequently would lapse into sleepiness while standing and talking to someone. His pulmonary status made it difficult for him to carry even the small handbags very far. This had been aggravated in the preceding three weeks by the superimposition of an upper respiratory infection.

On admission to the hospital he looked like a textbook picture of the "black cardiac." His membranes were a deep purple color, and his extremities showed marked dependent edema. He was drowsy but not particularly dyspneic. His x-ray showed pulmonary emphysema with some cardiac enlargement. The electrocardiogram was consistent with cor pulmonale. On admission he was started on a full cardiac regime with digitalis, diuretics, low-salt diet, penicillin, and chloramphenicol. He lost 13 pounds in fluid weight, but clinically he was unimproved. Attempts to relieve his cyanosis with oxygen aggravated his condition, made him irrational, and had to be discontinued. Attempts were then started to rid him of the excess carbon dioxide in his system. This was accomplished by continuous ventilation on the intermittent positive pressure machine for three days. The results can be seen in Fig. 5. The carbon dioxide and oxygen returned to normal levels. Cardiorespiratory function was restored quite dramatically.

He is now back at work as a bellhop. He says he carries small trunks up one flight of stairs where previously he was unable to carry suitcases more than a few yards. He has maintained this improvement for almost a year, which is not uncommon in cases of compensated cor pulmonale such as this.

Hyperventilation then is a second large category for the use of intermittent positive pressure therapy.

Artificial Ventilation

A third use of this principle is for artificial ventilation. This is applicable to patients in partial or complete apnea, such as in the various neurologic disorders, poliomyelitis, postoperative complications, etc., or the drug coma patients.

R_x CARDIAC REGIME THROUGHOUT	CONTROL		PULMONARY VENTILATOR IPPB/1 c̄ COMP. AIR AT 20 CM / H_2O						FOLLOW—UP				
DAYS	1 ——	7	8–9	10	11	12	13	14	15–16	17	18	49	96
WEIGHT LBS.	149	136		136	138	133	133	134		133	130	136	134
TEMP. °	100^2	101		99^2	99^8	101^2	99^8	99^8		98^6	98^6		
pCO_2 MM HG NORMAL 40		63		49	42	47	46	47		42	44	47	38
O_2 % SAT. NORMAL 90		63		94	86	92	86	97		96	91	90	92
pH NORMAL 7.4		7.36		7.38	7.43	7.33	7.35	7.31		7.38	7.39	7.38	7.49
HGB NORMAL —		15.5		15.7	17.5	16.9	18.3	15.8		17.2	16.4	16.6	14.0
VITAL CAP. PRED. 3400cc		1680			1957			2039		2018	1978	1590	1764
MAX. BR. CAP. PRED. 93 L/M		15.7			30.9			36		36	30.6	34.1	31.5

FIG. 5. Results of continuous ventilation on the intermittent positive pressure machine in patient with carbon dioxide narcosis.

For artificial ventilation an adaptation may be required to make the machine both demand and automatic in cycling mechanism. Adequate oxygenation and the prevention of atelectasis is accomplished automatically without effort on the part of the patient. This is a big advance in our armamentarium of ventilation therapy. Further work is in progress in this field.

Contraindications

We have discussed three general principles by which so-called intermittent positive pressure therapy is effective and the diseases to which these principles can be applied. It is perhaps even more important to discuss the conditions in which this therapeutic principle is not helpful.

While we are convinced that this is an effective therapeutic aid, we are even more convinced that its misuse will more than offset any values it may have. From our own observations the complications of treatment, if used properly, are very few. From these same observations, however, it is quite apparent that use of these machines for any and all cardiopulmonary conditions has been the basis for discouraging results and, perhaps, the eventual discarding of intermittent positive pressure even for those cases which could be helped. It is apparent that any increase in intrathoracic pressure will be deleterious to patients in any degree of shock. When the blood return to the heart is already compromised, use of positive intrathoracic pressure of any degree is contraindicated and harmful. Also to expect results from this type of intermittent positive pressure therapy in conditions other than those which have been discussed, such as pneumonia, tuberculosis, etc., while not actually causing direct damage, will discourage the physician from further use.

Currently, this type of treatment is somewhat of a fad with many good elements in it. But, like all fads, injudicious overenthusiasm only results eventually in despair and distrust. It cannot be emphasized too strongly that if there is an occasion where this type therapy may be of assistance, you must make sure that you know what you are treating. You must be relatively sure the principles outlined apply to that condition, and you must make sure that the therapy is being administered properly. It is not hard to do. It is also not hard to overdo.

Recent Trends in Therapeutic Radiology

WALTER T. MURPHY, M.D., BUFFALO, NEW YORK

(*From the Department of Radiology, Roswell Park Memorial Institute*)

It is a little more than half a century since the first clinical application of radiation was made. During these relatively few years therapeutic radiology has evolved from trial and error methods to its present scientific stage. This has been facilitated by the accurate observations of both radiologists and allied scientists in experiments on animals and the clinical study of humans following accidental and purposeful exposures to sources of radiant energy.

Occasionally, it is rewarding to stop and think of the great strides that have been made in the clinical application of a modality whose major biologic effect is destruction. It is to the credit of the many early pioneers and to the investigative and clinical scientists of today that such destructive forces may be harnessed in a manner that can cure as well as palliate human cancer patients.

In our enthusiasm for the newer supervoltage and better publicized radiologic instruments, however, it is most imperative that tried and true instruments and methods are not wholly discarded without scientific reasons.

One should digest carefully the clinical claims made for any new method or radiation source. It is quite often that one reads or hears of spectacular cancer results that are based on a few months post-treatment observations. Many times comparable immediate results have been possible with conventional equipment and methods. Much of the so-called conventional equipment has been improved, not only as far as the x-ray tube is concerned but also in its tube stand or mounting. A beryllium window in an x-ray tube allows the transmission of very long wavelength radiation which may be utilized successfully in the treatment of superficial cancers. Moderately high voltage in a small-sized unit is possible because of revolutionary advances in transformer and tube design along with gas-insulating systems. Newer developments in the tube carriage permit flexibility not only for stationary fields but also for moving beam therapy (rotation, pendulum, converging, etc.).

It is most important that the investigative and clinical aspects of radiation therapy are encouraged to progress. Expensive equipment, if proved superior, should be made available to any cancer patient who needs it. That life is very precious to the patient.

It is pertinent here to point out that the most common and accessible radiation therapy machines and radium sources are not always used in a way that would be best for a patient. There are very few cancers that cannot be adequately irradiated with radiation qualities under half value layer 5.0 mm. of copper (400 kilovolt peak). If as much care and effort were expended on the patients treated by the conventional and less spectacular x-ray machines as is spent on the patients irradiated by the "Big Berthas" and "atomic cannons," the caliber of radiation therapy would be measurably improved. The skill and conscientious efforts of the radiation therapist are and always will be more important than the limitations of his radiologic equipment. It is just as sane to remark the obvious—that the combinations of skill, conscientious effort, and adequate instrumentation will add up to a total of excellence which must result in more cancer cures with fewer biologic complications.

When it is clinically obvious that neither cure nor palliation is possible, any application of radiation is merely prostituting the specialty of radiology. All clinicians should recognize this and refrain from using radiation as a "placebo." In investigative centers it is sometimes necessary to try newer instruments and technics on the obviously hopeless cancer patient. In these instances the procedures are well controlled and administered, and from these clinical trials much useful information as well as notable advances in palliative procedure have been forthcoming.

General indications for radiation therapy in cancer at the present time are as follows:

1. A localized lesion for which irradiation offers as much curative value as surgery but better cosmetic and functional results, e.g., cancers of the lip, skin (except vulva, extremity),

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Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, General Sessions, May 12, 1955.

laryngeal cord, tongue, female urethra.

2. A localized lesion which because of its location or behavior characteristic precludes surgical interference (except biopsy). Here may be grouped cancer of the oral cavity (except invasion of bone), nasopharynx and hypopharynx, extrinsic larynx, uterine cervix, vagina, Ewing's tumor of bone, reticulosarcoma of bone, neuroblastoma.

3. A localized lesion which because of anatomic location frequently entails such operative difficulties that irradiation may be the therapeutic choice. Such cancers may be found in the trachea, lung, esophagus, mediastinum, liver, bone, urinary bladder, brain, and spinal cord.

4. A localized lesion in a patient who is a poor operative risk. Here may be found primary cancer of bone, lung, brain, gastrointestinal tract, breast, and urinary bladder.

5. A generalized malignancy such as chronic leukemia, polycythemia vera, Hodgkin's, lymphosarcoma, reticulosarcoma.

6. Certain inoperable cancers with regional or widespread metastases, e.g., breast, corpus uteri, ovary, kidney, testis, soft tissue sarcoma.

7. Preoperative measure in certain cancers such as breast with fixed axillary involvement, rectum with fixation, corpus uteri, bone, and some fixed kidney tumors.

8. Postoperative measure in stage II breast, thyroid, ovary, testis, Wilms's tumor of the kidney, carcinoma of the kidney with renal vein involvement or permeation through the capsule, accessory nasal sinuses.

Radiation therapy is rarely indicated in cancer of the stomach, intestines, gallbladder, pancreas, liver, kidney, penis, miscellaneous "adult" sarcomas, osteogenic and chondrosarcomas, acute leukemia, melanocarcinoma. Although cancers vary in radiosensitivity, radiocurability depends more on anatomic limitations than on histologic differentiation.

Trends in radiation therapy must be cataloged under several topics since both the science of medicine and the basic sciences are involved. At the same time any scientific appraisal and decisions should be tempered by common sense and appreciation of the humanities.

The most noteworthy advance is the better training of the radiologic resident and the availability of better postresident experience. There is a definite trend in the larger cancer centers to make diagnostic roentgenology and therapeutic radiology separate specialties. This allows much more time to be spent in the training of either specialty, and the resultant longer period of training is bound to improve the caliber of the physician who is to practice radiotherapy. The newly trained therapist today has a much better understanding of the physical-chemical foundations of radiology than the trainees many years ago. This is not only because of the basic information that is available today but is also due to the training programs which therapeutic centers are able to provide. In their quest for knowledge concerning the physical foundations of radiology, it is most important that these same candidates do not disregard the importance of clinical acumen which, in this case, could be defined as the appreciation of the relative importance of organ systems as related to the entire human being. It is already too true that sometimes the therapeutic procedure is so directed to a cancer site that the so-called tumor dose in roentgens tends to be more important to the therapist than the eventual welfare of the patient. The radiotherapist should control the medical as well as the radiologic management of his patient. A few radiotherapy departments have their own assigned beds, as has this department. A more liberal and tolerant attitude by other clinicians would encourage this same situation in more hospitals. The radiotherapist who is trained to welcome and accept clinical responsibility will accomplish better results. He should be of such a clinical stature and status that he could act as a referrer of patients as well as a receiver.

Now that radioactive isotopes are being so widely used, both as diagnostic and therapeutic agents, the therapist has not only the welfare of the patient to consider but the health of the whole community. This is necessitated by the fact that after application in the body many radioactive isotopes are stored and released from the body in different ways and in different proportions of radioactivity, which could create dangers to the health of the professional attendants and, through the water supply, etc., to the entire community. For these and other reasons proper and adequate training and experience are necessary before permitting use of radioactive isotopes. Experience and innate ability will nurture the background of physics, etc., so that the therapist will be able to utilize best his radiation sources.

Recently, there has been an international attempt to standardize depth dose data and methods for measurement of dose rates. It has been needed for a long time because of the variations in different radiotherapeutic centers. The well-known quantitative terms "r" (roentgen) for x-ray and gamma radiation and rep (roentgen equivalent physical) for beta radiation have not adequately expressed the true "tissue dose." Therefore, the term "rad" has been adopted. "Rad" means an amount of energy absorbed, namely, 100 ergs per Gm. of irradiated material.

Any possible success with radiation therapy depends upon a safe ratio or differential between the cancerocidal dose and the accompanying normal tissue dose. There is recent experimental evidence that the radiosensitivity of tumor cells may be increased by greater oxygen tension. Gray *et al.*[1] found that in albino stock male rats, alterations in cell sensitivity to radiation followed almost instantaneously upon changes in concentration of dissolved oxygen. These authors believe that a substantial differential gain in effectiveness of irradiation in tumor tissue as compared with well-oxygenated normal tissue is inherent whenever there are regions of partial anoxia in a human tumor. Their findings also suggested that oxygen may increase the incidence of radionecrosis of bone. These observations as well as those on chemicals like Synkayvite[2] offer some promise that a selective, increased radiosensitivity may eventually be created in cancer cells. Until such agents are available and practical, the goal of radiocurability with minimal morbidity provides the driving motive for better technics. One must consider the following:

1. The site and extension of the cancer. What modality and/or quality of radiation would be best indicated?

2. What is the minimum total amount of radiation in physical dosage within an optimum period of time that could destroy all the cancer without creating a normal tissue or whole body reaction or impairment that would be unendurable by the patient or fatal to the patient?

3. How would this dose be applied? Here the number, size, and positions of external radiation ports would be considered as well as type, strength, and number of intracavitary, interstitial, or whole body radiation sources. One must consider what daily dose to the cancer site would be optimum and best tolerated by the normal structures.

From these questions it is obvious that while a great many cancers may be easily, adequately, and safely irradiated, there are other cancers where it is difficult or impossible to secure good results with equipment and technics formerly available. The most common difficulty is that many cancers are situated deeply in the body or are encompassed wholly or partly by bone. In these instances it is necessary to utilize a radiation source that can penetrate to the cancer site without having its energy depreciated too much by intervening bone and soft structures. This necessitates the utilization of hard, penetrating radiation.

It is also important that this radiation beam be as straight and as uniform across its width as possible (Fig. 1). The intensity of the radiation in the center of a radiation beam may be much greater than at the edge, which might leave the periphery of the cancer underdosed. As the quality or hardness of the beam increases, at least up to ranges of half value layer 7.6 mm. lead (2 million volt peak), the isodose planes flatten out so that the intensity at the edge more nearly approximates that of the center. With radiation beams from very high voltages, such as in the betatron range, forward scattering is of such a nature that the center of the beam is of much greater intensity than the edges. It is necessary to use wedge filters in order to "flatten out" the beam.

It is a physical fact that the energy absorption of radiation in bone is dependent on the quality of that radiation. With qualities of radiation up to half value layer 0.5 mm. copper (140 K.V.P.; filter of 0.25 mm. copper and 1.0 mm. aluminum), energy absorption in bone increases, whereas after this quality the energy absorption in bone decreases.

It is sometimes practical to take advantage of such bone absorption factor in the treatment of a skin cancer invading bone and cartilage. Figure 2 shows a patient with a squamous cell carcinoma of the skin involving both cheeks and medial canthus of each eye and invading the nasal passage with destruction of the nasal bone. In this case the use of an x-ray quality of half value layer 0.5 mm. copper (140 K.V.P.) allowed the maximum bone absorption in order to give adequate irradiation to the cancer cells in the bone and adequate penetration to irradiate the nasal passages and ethmoid area, while at the same time made it practical to protect the eyes adequately

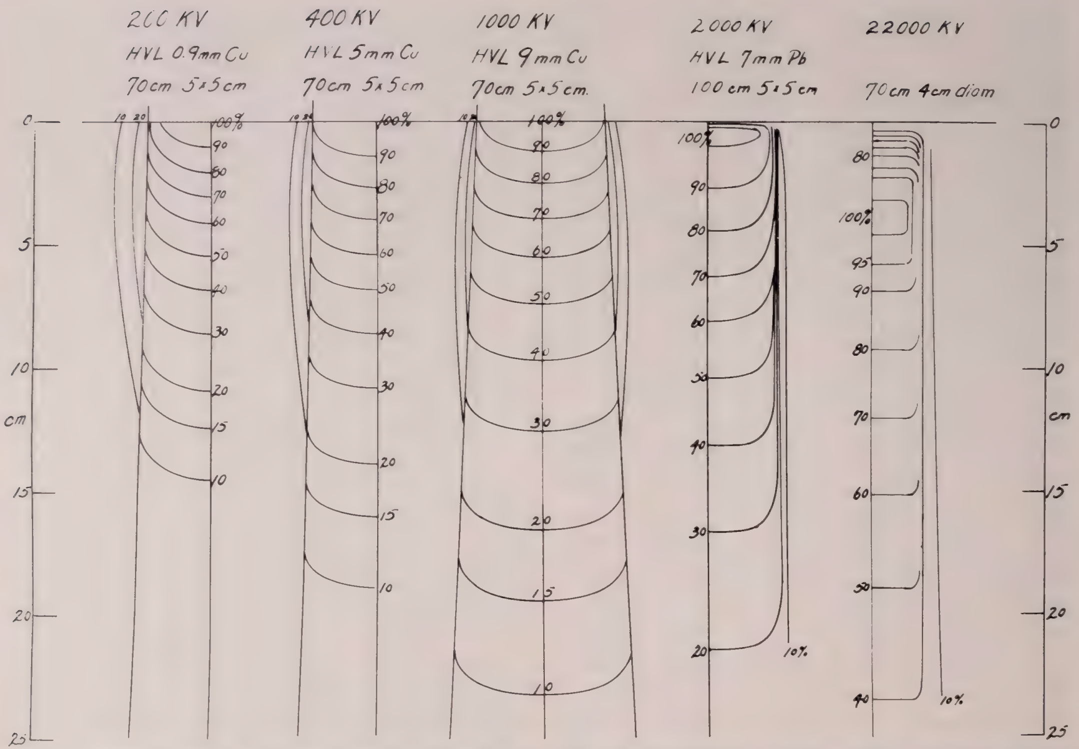

Fig. 1. Isodose curves for x-rays from 200 to 22,000 K.V.P. With increase in hardness the x-ray beam attains a greater depth intensity with more uniform width and with less lateral or backscatter.

by lead shields from the irradiation.

At half value layers of 3.0 mm. lead (1,000 K.V P.) and harder or with cobalt 60 and radium, the absorption in soft tissue and bone approximate one another. Along with this behavior the electronic equilibrium of the radiation beam takes place under the surface of the skin. With qualities of radiation emerging from a betatron and synchrotron (24 million electron volts and up),[3] the intensity of the radiation at a point 5 cm. under the surface of entry may be 60 per cent more than the energy absorption on the surface. The practical application of this physical fact is apparent. One may deliver to anatomic depth points large amounts of radiation energy with less skin surface or bone absorption than would occur with softer radiation (for example, 140 K.V.P. with half value layer 0.5 mm. copper to 250 K.V.P. with half value layer 2.5 mm. copper). At the same time the amount of radiation leaving an anatomic site is great, which fact necessitates care in estimating exact contributions to exit portals.

The advantages of radiation of 1,000 and more K.V.P. x-ray machines or radium and cobalt 60 sources may be listed as follows:

1. Greater penetration and hence better depth dose.
2. Better beam definition and uniformity.
3. Energy absorption in bone and soft tissue is closely similar.
4. Less volume or integral dose.
5. Skin reaction is not a limiting factor to depth dose.

Since the mild biologic changes in the skin might delude the uninformed observer into a state of complacency, it is important to realize that the effect of such increased depth intensities must be a first consideration. It is not necessarily true that the greater the dose delivered, the better will be the result. The increased depth dose might be more cancerocidal, but it might at the same time create such irreversible effects upon the contiguous normal tissue bed or organ system that unendurable tissue changes or death would result.

With the qualities of radiation delivered by a betatron or synchrotron, coaxial entrance ports or other multiple port arrangements are not always practical. Here, many cases must be treated through a single port, utilizing the fact

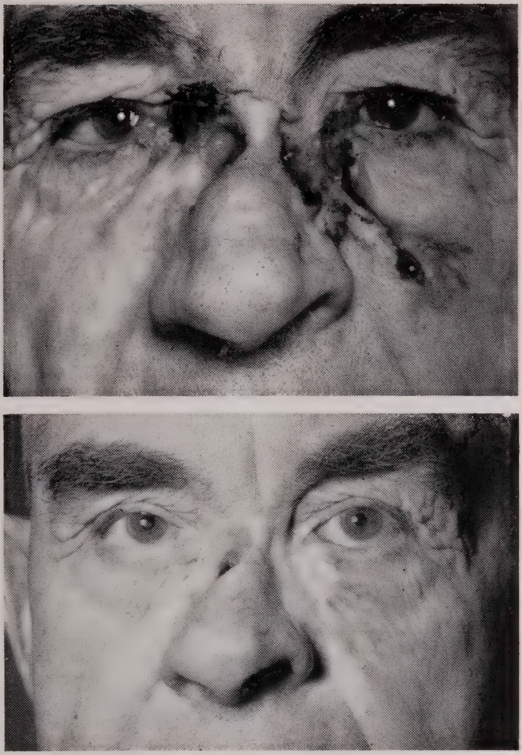

FIG. 2. Results attainable with a conventional low-voltage machine.

Before treatment (*top*). Treatment factors: half-value layer 0.5 mm. copper; ports (cheek, nose, canthus)—right $5^{1}/_{2}$ by 5 cm., left 8 by 7 cm.; skin target distance 18 cm.; daily increment 300 r. Total surface dose to each port was 5,400 r with depth dose at 1 cm. of 4,428 r on right and 4,487 r on left and with depth dose at 2 cm. of 3,624 r on right and 3,747 r on left.

After treatment (*bottom*). No clinical evidence of cancer three years and nine months after treatment.

that such beams at certain areas of depth, e.g., 3 to 6 cm., might be approximately 60 per cent more energizing than at the surface. However, with beams of radiation in the range of 400 to 2,000 K.V.P. x-rays or gamma radiation from radium or cobalt 60 sources, multiple stationary port settings or rotational methods are necessary to deliver optimum depth dosage. Recent years have seen the popularization of careful multiple port planning as well as rotational and scanning technics. With these methods the tumor dose is delivered through multiple entrances and pathways which spares the normal tissues while allowing much greater tumor doses.

Fractionation of the total dose over a period of many days or a few weeks also permits higher total tumor doses. When this fractionation with multiple daily doses is applied so that several ports of entry are treated each day with small increments instead of one port each day with a large increment, the effect upon the skin and subcutaneous tissue is much more tolerable.[4] This may be illustrated by cervix patients treated through four converging pelvic ports. Should each of the four skin ports receive 125 r* each day for a total dose to each skin surface of 4,500 r within six weeks, the late skin and subcutaneous changes would be very mild (slight atrophy, temporary epilation, and very minimal subcutaneous fibrosis). However, in the same patient should only one of four successive ports be treated each day with 500 r within the same period of time and for the same total skin dose, the changes would be severe (scarring, epilation, telangiectasis, and marked subcutaneous fibrosis). Comparable relative changes would accompany groups treated with 100 r to four ports versus 400 r to one of four ports daily and 150 r to four ports as against 600 r to one of four ports daily.

It has also been apparent that in the treatment of superficial lesions through one port, e.g., skin cancer, that fractionation of the dose minimizes the occurrence of late inflammatory breakdowns at the site of the treatment. This knowledge has led to the abandonment of massive dose technics in the treatment of skin and lip cancer, e.g., 1,000 r times 5 or 1,500 r times 3, etc.). Instead, today the greatest increment is 500 r, e.g., 500 r times 8 or 9, for small lesions. The majority of lesions receive 400 r times 13 to 15 or 300 r times 18 to 20 given daily.

There has been a general trend to more individualization of irradiation. The therapist realizes that he must be first a clinician and examine each patient together with a review of all pertinent laboratory or other investigative findings. Following this he can better plot out a method of attack.[5] Usually life-sized anatomic contour drawings are made at the cancer level. By manipulating isodose charts over this patient outline, the percentages of the surface dose which reach the cancer sites as well as the normal organs are recorded. Summation isodose curves may be made in addition to adding up the contribution of each port to any anatomic point. The final technical diagram is recorded on suitable clinical treatment forms and outlined on the skin of the patient or a plaster cast which may be placed on the patient previous to each treatment.

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* All roentgen doses are tissue doses.

Again it must be said that there are limits of dosage beyond which end results get worse. Many years ago, it was found at the Roswell Park Memorial Institute that total tumor doses delivered to the uterine-paracervical area by x-ray and gamma radiation over the aggregate of 9,000 r within four to six weeks (depending upon proportion of roentgens from either x-ray or radium) resulted in fewer five-year apparent cures. Recent analysis of 1,396 cases of cancer of the cervix treated between January 1, 1944, and July 1, 1949, showed that the most successful dose in the paracervical triangle (a point 2 cm. lateral to the center of an endocervical tandem radium applicator) was 7,500 to 8,000 r within thirty-five to forty-five days when this total dose was made up of 1.5 parts of roentgens from x-ray and 1.0 part of roentgens from radium. The most favorable total dose in the outer parametrial area (a point 5 cm. lateral to the center of an endocervical tandem radium applicator) was found to be approximately 5,200 (4,500 r from x-ray and 700 r from radium). This particular dosage problem is being investigated further by the irradiation of alternating cases with different dosage schemes. Comparable lessons regarding tolerable doses have been learned from the irradiation of other intra-abdominal, pelvic, and chest cancers.

Increase in depth dose resulting from the use of hard radiation (high voltage, etc.) is usually accompanied by a rise in radiation complications. This is clearly shown in Table I which records the incidence of bladder and rectal complications in a series of cervix cancer patients, all of whom received radium applications to the cervical canal and face of cervix, as well as the external x-ray treatments. It is seen that the complications increase with the increase in hardness of the x-ray beam. It is also noted that the five-year apparent cure rate in these cases was 75.8 per cent. This was higher than the no evidence of disease rate of the entire cervix group during the same period, 39.6 per cent.

TABLE I.—LATE BLADDER AND/OR RECTAL REACTIONS IN CERVIX CASES, 1941–1946

Half Value Layer (Mm. Copper)	Total Cases	Reactions	
		Number	Per Cent
0.9 (200 KVP)	399	27	6.8
5.0 (400 KVP)	67	7	10.4
9.0 (1,000 KVP)	145	24	16.5
TOTAL	611	58	9.5

5-year no evidence of disease rate of 58 cases was 75.8%.
5-year no evidence of disease rate of all cervix patients during the same period was 39.6%.

Advances in physical knowledge and engineering have resulted in generators and port designs that allow the clinical utilization of the electron beam. Its peculiarities permit confined irradiation. Widespread skin lesions such as mycosis fungoides have been successfully palliated by an electron beam from a 2,000-kilovolt Van de Graaff machine.[6] The electron beam from a linear accelerator operating at 14 million electron volts (and higher) would penetrate into the tissue to a depth beyond which no appreciable irradiation effect would take place. Although such equipment is very scarce, the possibilities for clinical application are apparent.

The opportunity to select a quality of radiation which is tailored to the individual clinical problem and the application of careful treatment planning, utilizing multiple or infinite portal technics, have opened more hopeful fields for the radiation therapist. There has been renewed interest in the treatment of lesions of the brain; pituitary gland; oro-, naso-, and laryngeal pharynx; larynx; breast; esophagus; lung; urinary bladder, and uterus. The consciousness of the pattern of lymphatic spread of breast cancer and the reported results of simple mastectomy combined with irradiation[7] have revived interest in breast cancer management not only by radiotherapists but also by many cancer surgeons. The ability of radiation to arrest metastatic cancer has been proved in some head and neck cancers as well as in many uterine cervix cancers.

In order to alter the hormonal influence upon cancer cells, irradiation of endocrine glands has proved efficacious in certain cases. X-ray therapy directed to the pituitary[8] and adrenal glands has created remissions in some metastatic prostatic cancer patients who were in relapse following orchidectomy and stilbestrol medication. In certain cases such irradiation has obviously enhanced the effect of orchidectomy and stilbestrol as seen in Fig. 3.

Probably the most spectacular trend in recent years has been in the utilization of radioactive isotopes. As far as cancer therapy goes, however, their accomplishments do not match their diagnostic and investigative importance.

Cobalt 60 has proved a good substitute for radium sources with its own advantages and

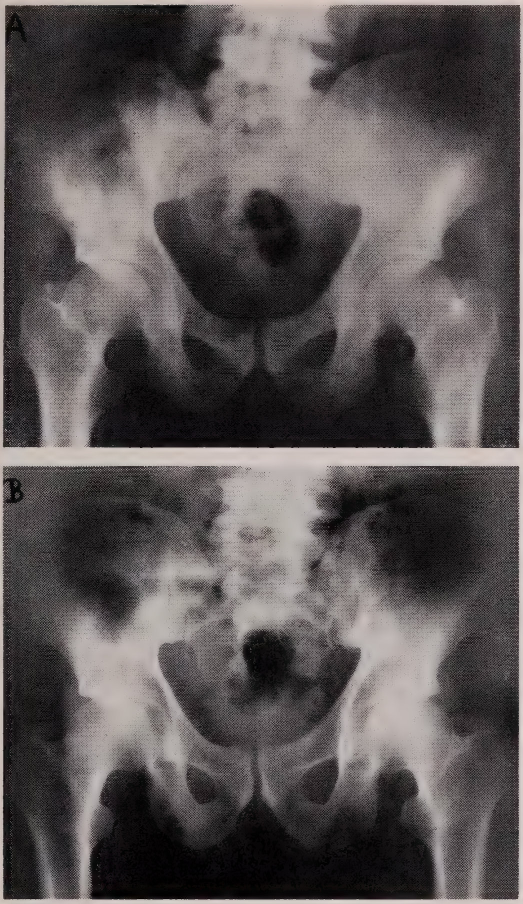

FIG. 3. Carcinoma of prostate metastatic to bones. (*A*) Before treatment (pituitary-adrenal irradiation, stilbestrol medication, and orchiectomy were all inaugurated concurrently). (*B*) Five years after treatment. Almost complete disappearance of metastases.

disadvantages. The former might include its lower cost, its monochromatic gamma radiation, and its very low-energy beta radiation which is more easily screened out than the beta ray of radium. Cobalt is solid, relatively unbreakable, magnetic, and may be machined to various shapes and sizes before being made radioactive. At a suitable time during its life (half life 5.3 years) it may be "reactivated." It does not generate any radioactive gas and has a greater flexibility and accuracy in the physical planning of treatment. Its main disadvantage is its relatively short half-life. Although its immediate cost is much cheaper than radium for unit strength, the ultimate long-term cost would be markedly increased due to reactivating expense.

Iodine 131 is most effective in those metastatic thyroid cancers which show histologically differentiated, follicular, colloid-forming structure. Surgery and conventional irradiation remain the best treatment for the primary tumor site. The uptake of I^{131} in these metastatic lesions may be enhanced by removing the thyroid gland or decreasing its function by administering antithyroid drugs and I^{131}. It is one instance where a specific therapeutic agent is indicated since no other form of treatment can accomplish what I^{131} can in those 20 to 30 per cent of metastatic thyroid cancers that will "take up" suitable amounts of this radioisotope.[9]

Phosphorus 32 is the treatment of choice for polycythemia vera and is a valuable tool in the management of chronic myelogenous leukemia, although in the latter it does not necessarily surpass conventional x-ray treatment. In the form of chromic phosphate P^{32} is efficacious in the control of pleural effusions due to cancer. It has an advantage over radioactive colloidal gold in that it is a pure beta emitter with a longer half-life and greater energy which allows a smaller millicurie dose. Thus a patient without complications does not have to be hospitalized as long or to be isolated from other humans as is necessary with Au^{198}.

Gold 198 may be used in a colloidal form in the palliation of some pleural and peritoneal serosal effusions due to cancer. It is also being injected by some into the unresectable malignant prostate and into the parametrial tissues of cases with cancer of the cervix. Gold 198 in wire or seed form is now being investigated for its interstitial effect upon tumor sites.

There are others, such as Yttrium 90 which, because of their own peculiar radioactivity, may prove to be useful clinically. Yttrium 90 may be injected in pellet form into the pituitary gland in order to destroy it or at least to decrease its function. This technic should prove most successful in advanced or uncontrolled cancer such as breast and prostate cases.

It is fervently hoped that in the future a labeled radioactive organic compound will be found which, like I^{131} in thyroid cancer, will be specific for other types of cancers and their metastases.

Since all ionizing radiations are destructive to a degree, it is well to devote a final few words to the possible sequelae of such radiations. It is the aim of every alert radiation therapist to recognize the hazards of radiation, to detect and avoid unnecessary exposure, and to insure maximum protection for unavoidable exposure.

However, certain tissue changes are inevitable, especially with cancerocidal irradiation.[10] With modern and still improving technics, tissue changes, such as radiation dermatitis, bone necrosis, and bowel ulceration, are being kept to a minimum. However, in a conscientious effort to eradicate a cancer the clinician must consider not only whether such sequelae are possible but whether they are probable. The carcinogenesis of radiation is a limiting factor in the determination of safe dosage. This is not only true of externally applied radiation but also of long-lived isotopes.

From animal experiments[11] using radioactive elements such as strontium, phosphorus, and plutonium as sources of radiation within the body, it became known that relatively large doses were required to produce cancer. These doses not only were delivered over a long period of time but were in excess of what would be used in modern radiation therapy. Leukemia, carcinoma of the skin, and bone sarcoma have been caused in some patients by exposure to x-ray and radium sources (often injudicious). These cancers are usually preceded by prolonged tissue changes. The current popular use of artificial radioactivity demands the protective restrictions imposed by the Atomic Energy Commission so that unfortunate sequelae may be kept to a minimum in future years. It has been shown that single doses of radioactive isotopes in animals may have an effect very similar to that of repeated or prolonged dosage.

All this clinical knowledge and experimental data have prompted revisions of an estimated tolerable daily body dose which should not produce any permanent physiologic changes in an average person. This "tolerance" daily amount of roentgen or gamma radiation adds up to 0.3 r per week. Whether this amount should or could be exceeded repeatedly is a question that places upon the radiologist a tremendous responsibility for the safety of the professional attendants as well as the patients.

Recent experimental work on animals has demonstrated that there are many factors which afford protection against radiation effects. A beneficial influence upon radiation effect and radiation recovery has been obtained by (1) the transplantation into a peritoneal cavity of an infantile spleen,[11,12] administration of spleen suspension, [12,13] mouse embryo suspension,[12,13] and spleen homogenate,[14] (2) bone marrow injections,[15] (3) large doses of streptomycin,[16] (4) desoxycorticosterone injections,[17] (5) massive blood transfusions,[18] and (6) pre- and post-irradiation parabiosis.[19-23]

Conclusion

The future of radiation therapy like other medical-surgical specialties will be strongly influenced by the sincerity and interests of the men and women who are today entrusted with the training programs. The radiologist should share with his scientific colleagues a greater respect for their specialties, but at the same time he should demonstrate aggressive radiologic opinions when these opinions are based upon verified radiobiologic evidence.

Greater knowledge of the basic scientific and clinical facts, together with sound judgment, will permit the newer and improved radiologic instruments and technics to fulfill the great expectations that cancer patients hold for them.

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Newer Knowledge of the Virus Diseases

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This is a golden age for virology, a time of rapid, exciting advances. New developments rush along as they must have in the heyday of bacteriology during the turn of the century. New viruses are being discovered. Methods of isolating and identifying them have been revolutionized by the use of tissue culture, and a host of technical improvements have been made. What requires emphasis, it seems to me, is that this is a golden period for the clinician interested in infectious diseases as well as the virologist.

I will begin with a premise. The response of man to a virus infection is just as characteristic of the virus as any of its properties that can be observed in the laboratory. There is more to be seen and learned from the patient than the mouse and certainly much more than from an infected tissue culture. The weakness of the clinical approach has been the difficulty of verifying clinical diagnoses and distinctions often enough to establish their reliability. But of course the laboratory man has an equal handicap for once he has found new viruses or distinguished between viruses, he has no way of knowing whether the distinctions are of any moment or even whether the viruses are responsible for disease without clinical study. Laboratory men are at times arrogant in their attitude toward clinical observation, but this is usually true only of those who know nothing of medicine and the beautiful and precise definitions of disease that have been and are daily made by keen clinical observers.

The laboratory man has the advantage of experimentation. He can repeat and modify and continue, independent of the natural occurrence of disease. But he never has the real thing to work with. The best arrangement is, of course, combined clinical and laboratory study, which is what I favor. But at this time and place it seems appropriate to emphasize that clinical diagnosis of the prevalent virus diseases becomes increasingly reliable and simple and that diagnostic precision can be expected to grow. The diagnosis of virus diseases is not the property of laboratory people and is not necessarily complicated and burdensome.

Consider measles. Measles is traditionally and presumably reliably diagnosed clinically. The measles virus has been isolated, and serologic tests are on the way. It may be they will teach us that there are subvarieties of measles. They are hardly likely to become very important to medical practice. Moreover, my colleague, Dr. Victor Tompkins, working with Dr. John Macaulay of the Albany Hospital, has found that prodromal measles can be simply and easily diagnosed by aspirating nasal mucus, spreading it on a slide, and staining with Wright's or the Papanicolaou technic. The characteristic multinucleated giant cells which pathologists have long associated with measles occur in the nasal exudate as well. Here then is a quick, simple examination available to every physician with a microscope.

Poliomyelitis illustrates something we will do well to remember. The clinical diagnosis of paralytic poliomyelitis is, with very few limitations, reliable and definite. The problem was complicated years ago by the virologists who taught that the nonparalytic cases, or so-called abortive poliomyelitis, were also due to poliomyelitis virus. Nothing else was known to blame, and from a few cases poliomyelitis virus had been isolated. We have now learned to recognize this for the assumption it truly is. Indeed, several series of cases have shown that many and perhaps most of such cases are actually due to other viruses, often Coxsackie viruses but also unknowns, mumps virus, choriomeningitis, or what not. In other words, the clinical diagnosis of poliomyelitis based on some degree of paralysis is valid, but a laboratory diagnosis based on the isolation of poliomyelitis virus from a patient's feces means little more than that the patient is infected. It does not mean that his illness is poliomyelitis. For that we must rely on signs and symptoms.

Poliomyelitis virus infection seems to be largely

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silent; poliomyelitis seems to be paralytic poliomyelitis. The so-called abortive and nonparalytic forms are poor names, as a rule, for diseases commonly caused by cousins of the poliomyelitis viruses.

Once we had the Coxsackie viruses in hand with fairly simple means of isolating and identifying them, it has pleased me to discover how quickly some clinicians learned to recognize the diseases they cause. Herpangina is a case in point. Here the basic symptoms—sudden onset, headache, fever, perhaps a little stiff neck or sore throat—were combined with a crop of minute, superficial, herpes-like blisters on the pharynx and the tonsillar pillars. These evanescent little blisters were full of Group A Coxsackie viruses. They were distinctive, and we now know they are distinctive of Group A Coxsackie virus infection. That infection may be diagnosed by finding them in the throat, surely a striking example of the specificity of the clinical response to specific agents.

Epidemic pleurodynia or Bornholm disease, the other well-known disease due to Coxsackie virus infection, is quite as distinctive as paralytic poliomyelitis, and the clinical diagnosis, I suspect, is quite as reliable. The sudden onset of severe, excruciating pain in the lower chest, at times in the abdomen, shoulders, or elsewhere, sometimes with headache and stiff neck, always with fever and malaise, as far as I know, is a hallmark of Group B Coxsackie virus infection. If there is improvement and relapse, the evidence is still more conclusive. It is true that seeing only one case, perhaps a patient with pain in the lower abdomen, can be confusing. One would probably suspect appendicitis and operate. But this would be an unusual mistake. Most cases of epidemic pleurodynia are recognized forthwith.

Moreover, Bornholm disease and herpangina are seasonal; they occur in late summer when poliomyelitis is common. This too is as significant a feature of the virus as many of the properties which are seen in the laboratory.

A pediatrician friend of mine who has closely followed our work with the Coxsackie viruses and referred many cases to us for study has become so proficient in identifying the various forms of the Coxsackioses that when she sends a specimen and says she thinks it is, it almost always is, and when she says she doubts that it is, we find that it isn't. So I am led to believe that with a little effort and an opportunity for laboratory confirmation, it is already feasible to recognize these illnesses at the bedside.

Consider the respiratory viruses. Epidemic influenza is characteristic. Individual illnesses are typical during epidemics, and epidemics are even more characteristic. Even when the illnesses are fairly nondescript, the occurrence of a few cases in a community one day and hundreds the next is a significant clue. School attendance figures or plant absenteeism are often diagnostic. And influenza infection can be easily verified in the laboratory.

We may hope that the respiratory viruses that have been recently discovered will prove to be equally distinctive clinically. The Commission on Acute Respiratory Diseases of the Army, which did such splendid work at Fort Bragg during the war, sorted out several of the acute upper respiratory infections on the basis of their symptomatology. The viruses responsible were then unknown. The commission verified its observations by experimental infection of volunteers and showed that while the common cold had an incubation period of one or two days, what they called ARD, or acute respiratory disease, had an incubation of five or six days. It was different, therefore, from the common cold clinically and in its incubation period.

We now know the virus that causes ARD, or in British parlance, febrile catarrh. And we may be able to recognize the illness it causes since it seems to be fairly distinctive. It is a disease of short duration; onset is abrupt with rather severe symptoms. In the Army patients are usually hospitalized. Their throats are sore, but there are no streptococci. And, as I have said, cases follow one another by five or six days. I suspect that this condition, which probably deserves a better name, will be subject to at least a presumptive clinical diagnosis and that if clinicians have an opportunity to verify their diagnoses, they will discover other characteristics that will lead to still more reliable diagnoses.

Something of that kind has already happened. Bell[1] describes what he calls pharyngoconjunctival fever, an illness of all ages but most often of the young and of both sexes. His cases were sporadic or in small outbreaks. The fever often reaches 104 F.; symptoms persist for four to six days, and there is pharyngitis and a nonpurulent follicular conjunctivitis, often of only one eye. The appearance of the eye in photographs is very striking. It is a highly infectious and distinctive disease and is due to one of the newly discovered adenoidal-pharyngeal-conjunctivae (APC) respiratory viruses (Type 3). This is another example of the distinctiveness of the clinical response to particular viruses.

In the Albany laboratories we have been especially interested in what we speak of as the enteric viruses: poliomyelitis, Coxsackie, the orphans, hepatitis, and acute gastroenteritis. My colleague, Dr. Irving Gordon, has studied outbreaks of gastroenteritis both in the laboratory and experimentally with volunteers. Since these are minor illnesses, there is no concern about the use of human volunteers. Gordon had characterized virus gastroenteritis rather sharply when with Dr. William Jordan he undertook to compare it with what seemed, clinically, to be a different form of gastroenteritis. They then demonstrated that two distinct agents are involved because infection with one did not protect against the other. And they showed that these two are quite characteristic clinically and epidemiologically.

What they call the afebrile form of gastroenteritis is marked by minor constitutional symptoms and fever with nausea, anorexia, severe cramps, and many watery stools. The patients are sick for several days. As the name indicates, they have little or no fever. You have all encountered this disease often as an epidemic in a closed community.

In contrast, the febrile form has an incubation of only one day, lasts only one day, but causes fever, marked constitutional symptoms, headache, pain, and cramps, with either a desire to vomit or vomiting early in the illness. These patients do not have the watery, frequent bowel movements of the afebrile form; indeed, they are at times constipated.

The viruses which cause these illnesses have not yet been cultivated in tissue explants or animals, but I do not doubt they will be, hence becoming accessible to laboratory study. With confirmation of the etiology, clinical evaluation will become sharper and more prying and clinical diagnosis more and more reliable and certain. Or so I suspect.

These are only samples, selected largely for their timeliness. It is clear that further clinical study is in order and that the clinical criteria are of the utmost importance. Each sign and symptom tells a story. As the old song went, "Every little movement has a meaning all its own." Now that deductions from clinical observation may be more readily and frequently verified, it is all the more productive to search for the clinical clues.

Our best account of epidemic pleurodynia or Bornholm disease was the work of Dr. Einar Sylvest[2] who was vacationing on the island of Bornholm in 1930 when the big epidemic occurred and who observed, recorded, reported, and defined without benefit of laboratory aids. Indeed the laboratory would have been of no value to him in 1930. I was delighted to receive from Sylvest a copy of his monograph which he sent to me when it became clear that the Coxsackie viruses are the cause of Bornholm disease. In this case the disease had been meticulously defined more than twenty-five years before the laboratory had done its part. And it was Gregg,[3] the ophthalmologist, who noted the association between cataracts in the eyes of the very young and a history of German measles in their mothers, an observation of the greatest importance not only for its own value but because it raised the question of whether other congenital abnormalities are at times the result of minor or inapparent virus infections during gestation. As you know, it is now clear that this is true. Abnormalities of the heart and brain as well as the eyes can follow maternal rubella, and there is fairly good evidence that other infections are sometimes responsible. What an opportunity for the family physician who can note and record the entire medical history of a family!

Surely in this lively period in the study of virus diseases, the physician has an unusual opportunity. I would like to venture three suggestions that may be helpful. The first is to collect good specimens and data, to collect and document. The specimens should be collected freely, early, repeatedly, and, if they are suspected to contain viruses, should be held frozen in the refrigerator. Collect blood specimens for serologic tests as early and as late as possible, and communicate with the nearest laboratory interested in such problems. So much depends on the quality of the specimens, and no one is so well able to obtain them as the physician in charge of the patient.

The second suggestion is to document what is happening generally. Epidemiology is a useful medical tool, and the physician with a wide practice has a unique opportunity to practice epidemiology, as Dr. W. N. Pickles[4] demonstrated. Epidemiology is clinical observation applied to the group. Often the time of occurrence of secondary cases, the nature of the outbreak as a whole, the age pattern, etc., will prove as distinctive as the symptoms in the individual. Physicians use this kind of knowledge automatically, but they don't often bother to document it. If you find something interesting, be complete and thorough. Then the chances are the laboratory will seem much less necessary, and the virologist will be much better prepared to proceed effectively and successfully.

Finally we must face the fact that adequate communication and understanding are very difficult in a time of radical change and rapid advance. Conditions are fluid, and advice given today may be obsolete next summer. We must all be patient with one another and use all our resources, our medical societies, our laboratory associations, and our journals to keep abreast of developments.

In such a time the description of human disease, the history and physical examination, seem to be a guiding star for all to see. I recommend we follow it. The clinical method has tremendous potentialities in the study and unraveling of the virus diseases.

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Shingles Patients Respond to Gamma Globulin

Five of six patients treated with gamma globulin were relieved of painful symptoms of herpes zoster, also known as shingles, a Florida physician said recently.

Dr. I. Irving Weintraub, Gainesville, reported on the cases in the April 30 *Journal of the American Medical Association.* Gamma globulin has been used previously in treatment of measles.

Dr. Weintraub said in four of the six patients, a "dramatic relief of pain occurred within the first twenty-four hours." Skin outbreaks were stopped by the treatment and no further infection was seen. A patient whose skin eruptions had been present for seven days before treatment was relieved of pain in forty-eight hours. Complete healing of the eruptions required from one to three weeks.

Only one patient, with nerve involvement, did not respond to treatment, Dr. Weintraub said. All patients, except one hospitalized for bleeding skin eruptions, continued to work in spite of "extensive involvement" in some cases.

Herpes zoster is a virus infection of the nerves of the body or face which produces severe pain and scarring skin blisters.

Why Is Your Patient Dizzy?

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Dizziness is not a disease, and because it is not, it never kills anyone. But dizziness is a terrifying symptom. It stands at the top of the list of unwanted warnings of illness. And for a good reason. After passing through the tumbling and falling episodes of very early life, everyone unconsciously lives by the axiom that the earth is solid and stable, and his relation to it is fixed. "Though we may voluntarily give up this comfortable state, as when we travel by sea or by air, we know what to expect. For the patient with dizziness, however, this trust in the behavior of his surroundings no longer exists. From time to time he has experienced the sensation of movement of his surroundings or himself when reason tells him that they should be still."[1] For him a fundamental law of life has been violated. When an axiom of everyday living has been violated, the patient is scared—truly terrified. So the dizzy patient feels that his sense of security is threatened. It may also be undermined by accompanying nausea and vomiting. In addition, his distress may be further increased by deafness and tinnitus. The dizzy patient deserves more than many others the sympathetic attention of the physician who is dedicated to helping his fellow men.

The physician who is consulted by a patient suffering for the first time with an attack of dizziness is at a disadvantage compared to the doctor who is consulted by a patient who has had many attacks. This is because the repetitive character of such attacks together with associated signs and symptoms often furnishes clues for an accurate diagnosis and satisfactory treatment. The first attack may be the only one a certain patient may ever have, but it is well nigh an impossibility for a physician to predict that this will be so. More often attacks are multiple, and usually their occurrence is totally unpredictable. As a matter of fact, their unpredictability is a significant factor in creating the horrible insecurity which so thoroughly possesses the dizzy patient.

The delineation of the symptom of dizziness can be the opening of the door to successful management. True vertigo or dizziness implies the presence of a sense of motion, either of the patient or his surroundings. This need not be a sense of turning, although more often than not it is. Feelings of tilting, falling, or veering to one side or the other in walking carry the implication of motion. Both turning and tilting, falling, or veering are possible features of an attack of dizziness because there are two parts to the labyrinth: (1) a kinetic portion and (2) a static portion. The kinetic function is located in the semicircular canals, and disturbance here gives a sensation of turning. The static function is located in the remaining part of the labyrinth which includes the saccule and the utricle. Disturbance here gives a sensation of a change of one's position in space. A combination of the two sensations may exist, or only one may be present. Patients who have true dizziness may minimize this symptom, calling it lightheadedness when in reality their trouble may have serious importance. On the other hand, giddiness and lightheadedness are not really dizziness. Patients who have these sensations, however, often complain that they are dizzy. A good question to ask such a patient is this: "Do you have sensations of dizziness when you are lying down or sitting down as well as when you are up and about?" A negative answer to this question together with some additional investigation such as blood findings, blood pressure readings, urine analysis, study of the cardiac function, etc., may eliminate the possibility of a problem of vertigo. The ability to assess the true value in the patient's history, to distinguish between dizziness and lightheadedness, is one of the doctor's major responsibilities in the management of these patients.

Nothing up to this point has been said about the use of the phrase "Ménière's disease." In the past it has been used as a catchall to categorize altogether too many varieties of dizziness. This has led to confusion and improper management of many patients with vertigo. It would be better if everyone would agree to use the term "Ménière's syndrome" for the classic picture of vertigo, nystagmus, nausea,

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vomiting, hearing loss, and tinnitus and drop the use of the phrase "Ménière's disease" entirely. Everyone would then know in a given case that no diagnosis had been reached, and each would then try to find the cause. The succeeding sections of this paper will attempt to point out some facts which will aid in arriving at a proper diagnosis when vertigo is present.

As one seeks a solution to the troubles of a dizzy patient, it is well to have in mind the systems which can be involved if dizziness is present. They are three in number: the labyrinthine (ear), the ocular (eye), and the proprioceptive (muscle-joint) systems. Of the three the ear is the most important for it is the true organ of balance. A patient can get about if one of these three systems is destroyed, but when two of the three no longer function, he is an ambulatory cripple. This is the principle involved in the performance of the Romberg test.

The proprioceptive system is gone, and when the eyes are closed, two of the three systems necessary for maintaining one's position in space are no longer functioning, and the patient falls. Similarly, if a patient has no labyrinthine function and he attempts to walk in the dark, he staggers and falls without knowing why. Disturbance of motion may be due to involvement of any one of these systems, but most frequently and most importantly, it is the ear which is at fault. With disturbance of any of these systems a sense of turning is present only when the ear or its intracranial connections are involved. With the ocular and the proprioceptive systems the response may be staggering, falling, tilting, veering, a loss of the sense of position in space, but never true turning unless the pathologic process involves the ear or its intracranial connections.

A word should be added here as to the reason why nausea and vomiting are frequent accompaniments of dizziness when an attack of vertigo is due to ear disease. In the brain stem the centers for the labyrinthine function and the vagus are adjacent. A mild stimulus from the ear may be contained within the labyrinthine center, and in such an instance dizziness will be the only symptom which the patient will experience. A somewhat stronger stimulus from the ear may cause impulses to "spill over" to the neighboring vagus nucleus and cause nausea. A strong stimulus from the ear causing marked "spillover" will surely cause vomiting as well as nausea.

This reference to the ear and its intracranial connections suggests two possibilities. The balance functions of the ear may be disturbed by pathology in the ear or disease in the central nervous system. If the pathology is in the ear, the vertigo is peripheral in origin, and if it is in the central nervous system, the vertigo is central in origin. There are methods of examination which may be employed that will demonstrate which of these two important areas is responsible for the vertigo which is present.

One should never lose sight of the fact that the ear has two functions, hearing and balance. If there is a hearing loss as well as dizziness, the lesion causing these symptoms is more than likely peripheral, i.e., in the ear. If there is normal hearing and dizziness, the lesion can be either peripheral or central. If under these circumstances the lesion is peripheral (in the ear), the etiologic pathology is never so severe nor as likely to be irreversible as when hearing loss and dizziness accompany each other. Hence, a complete (and I mean complete) hearing evaluation is mandatory in the proper examination of a dizzy patient. The type of hearing loss will be demonstrated and may be extremely useful in arriving at a diagnosis. It should be remembered that a hearing loss may be present which in no way is related to the dizzy attack. The proper hearing test will point this out. To omit a hearing test in examining a dizzy patient is comparable to keeping your stethoscope in your pocket when examining a chest.

Parenthetically tinnitus is a frequent accompaniment of the hearing loss present in dizzy patients. Tinnitus is only the "cry" of the ear. It says, "I am in trouble," but it is not otherwise valuable diagnostically.

Further observation of the patient will furnish additional information as to the origin of the vertigo present in a given patient.

Nystagmus is a sign which sometimes is present in an attack of dizziness. Nystagmus is a motion of the eyeball which can be seen easily if the eyes are properly examined. It must be kept in mind that there are two types of nystagmus which are in no way related to the problem of dizziness. These are physiologic nystagmus and ocular nystagmus. Physiologic nystagmus is that to-and-fro movement of the eyes sometimes present when the patient is directed to gaze well to one side or the other. This is a natural phenomena well marked in some individuals and totally absent in others. Ocular nystagmus is an oscillatory movement of the eyeballs with quick to-and-fro motion, both components of which have equal speed and duration like the oscillations of a metronome.

Labyrinthine nystagmus is entirely different from physiologic and ocular nystagmus. There is a to-and-fro motion of the eyeballs, to be sure, but one component is quick (of short duration) and the other component is slow (long duration). It may be present only on lateral gaze, but if so, it is present on lateral gaze to one side and not the other. If labyrinthine nystagmus is present no matter what position the eyes take, either straight ahead or to one side or the other, the quick and slow component will be discernible, and the quick component will be consistently to the same side. Labyrinthine nystagmus may be in the horizontal plane, in the vertical plane, or it may be rotary, but whatever the type, a quick and a slow component must be present. If the nystagmus is horizontal or rotary, the lesion may be in the semicircular canals and, therefore, peripheral. If the nystagmus is vertical, however, the lesion is central and usually is in the brain stem or the cerebellum.

If the nystagmus is present many consecutive days, the lesion is central because labyrinthine nystagmus is fatigable. With sudden total loss of one labyrinth the resulting nystagmus which will at first be severe will last only a few days. A local peripheral lesion of an irritating character may cause a continuing nystagmus, but even this will tend to diminish and disappear. An irritative lesion in the labyrinth itself will cause a nystagmus, the quick component of which will be toward the homolateral side. If this lesion increases in severity to the extent that there is paresis of labyrinthine function, the quick component of the nystagmus will shift to the contralateral side. A sudden destructive labyrinthine lesion will cause the quick component of the resulting nystagmus to go to the opposite side. One can easily remember to which side the quick component will be directed by thinking of the two labyrinths as a team of horses. If one whips the left horse of a team, the resultant pull will be to the left side. However, if the left horse is whipped until he tires so he no longer pulls his usual share, the team will go to the right.

When no stimulus is needed to demonstrate the presence of nystagmus, it is called spontaneous nystagmus.

Labyrinthine function can be measured. The measurement of this function should be part of the examination of every patient who has dizziness, on account of the valuable information it may furnish. The intracranial pathways of the eighth nerve may be involved in a manner similar to the second cranial nerve. The findings from proper ear tests are similar to the information gleaned by the ophthalmologist from his examination of the second cranial nerve. No doctor would fail to include in the evaluation of a patient who was losing vision an examination of the eye fundi and a refraction to appraise the degree of visual loss. So, too, dizzy patients should not be treated empirically without examination of their labyrinthine function.

There are many methods employed to measure labyrinthine function, but only two will be mentioned here. One is a test for positional nystagmus, and the second is a particular type of caloric test.

A search for positional nystagmus can be simple and can be performed in two or three minutes by any physician. The patient is placed on a table sitting in the erect position. With the head turned well toward one side, the patient is then guided to a supine position with the head still turned to the same side, and the eyes are examined for ten to fifteen seconds to note if nystagmus appears. If it appears, the time of onset and the duration of the nystagmus are noted. The patient is then returned to the erect position and the eyes examined again to note the presence or absence of nystagmus. The whole procedure is repeated with the patient's head turned to the opposite side and finally repeated once more with the head in the midline. If on such testing nystagmus appears at once and it continues to be present, there is likelihood of a central lesion.

There is further confirmation of a central lesion if the direction of the quick component of the nystagmus changes sides when the head is directed to one side and then to the other. If the onset of nystagmus is delayed and it soon disappears and, further, if it is fatigable, i.e., it lessens in strength and duration on repetition of the test or is finally lost, then there is a peripheral lesion present. Positional nystagmus can be demonstrated in relatively few patients who have vertigo but, when present, is valuable diagnostically.

The second test of the function of the labyrinth which will be described is one of the many ways of performing a caloric test. It is mentioned in preference to others including the use of iced water because, for this observer, (1) it is more informative, (2) its measurement of the function is more definitive, (3) it is easily recorded for future reference or for reporting, and (4) it is repeatable. All these are valuable and desirable features. This method is known as the bithermal method or the Hallpike-Cawthorne caloric test. Each ear is douched with water at 12 F. above and 12 F. below body temperature for forty seconds, and the duration of the nystagmus which the douching produces is noted. This test furnishes the same stimulus to each ear both for the warm and the cool douching. Nystagmus is produced by the change of temperature in the tested ear contrasted to the other on the principle that heat rises and cold descends. Thereby a convection current is set in motion in the ear tested.

Inasmuch as this convection current has one direction following warm douching and a directly opposite one following cool douching, the nystagmus which appears has a quick component to one side after one temperature and a quick component to the opposite side after the other temperature. The bithermal characteristic of this test then furnishes four readings (two for each ear) in place of only two which most other caloric tests furnish, and these four readings are often valuable when compared to one another. The readings are written on a chart which is called a calorigram, and this graph is filed with the patient's record, the same as his hearing chart or audiogram.

A normal calorigram is obtained in about two thirds of all patients who complain of vertigo. A normal test does not rule out dizziness, but it does signify that there is no irreversible pathology in the labyrinth and that there is no involvement of the central nervous system in the region of the intracranial pathways of the eighth nerve.

A diminution or an acceleration of caloric response from one ear, compared to that obtained from the other, points to a peripheral lesion or to pathology which involves the intracranial pathway of the eighth nerve of the ear. The history, positional nystagmus, the hearing test, and neurologic findings can confirm which of these two is present.

Other responses from this particular caloric test offer valuable information in certain supratentorial brain tumors and in disease of the static portion of the labyrinth. These responses are those of directional preponderance, and their reactions are too complicated to detail here but should be mentioned.

With the employment of this caloric test at biweekly or monthly intervals, if there is gradual but certain diminution of the response of one ear, it is obvious there is progressive disease in the labyrinth or in the central nervous system. Such information is strong substantiating evidence of the presence of a brain tumor if such a tumor involves the intracranial pathways of the eighth nerve.

In addition to the measurement of hearing and of the labyrinthine function, a few clinical principles are pertinent.

There is a considerable difference between individuals in their responses to derangement of their balance function. This variation ranges from those who can scarcely ride in an automobile or a train without suffering from dizziness to those who are rarely affected, even when at sea in a violent storm. These are respectively the "hypersensitives" and the "hyposensitives." The sensitivity sometimes parallels other sensitivities (excessive response to fright, worry, etc.), but occasionally a marked hypersensitivity may be present in an otherwise phlegmatic individual. The clinical significance to be kept in mind is that a minor stimulus may cause excitation of dizziness in one individual when the same degree of stimulus will arouse no response in another. This is often overlooked in the evaluation of the cause of dizziness in certain patients.

Motion sickness does not represent disease of the labyrinth. It is present because there is an overstimulation of the labyrinths whether this is caused by the ocean, in the air, or on a roller coaster. The reaction to the stimulus is more violent in a person with hypersensitive labyrinths.

In a normal individual there is a physiologic balance between the two labyrinths. Impulses from the labyrinths which reach the brain centers are normally equal in degree and intensity when there is no dizziness. When the intensity of impulses from one ear differs from that of the other, dizziness results. The degree of difference between the two ears spells out the intensity of the resulting sensation of dizziness. If the change is minor, the dizziness will be slight; if it is a major one, the vertigo will be severe. This is true whether a difference between the two ears is caused by a lesion which depresses the function of one ear or an irritating lesion which causes an excitation of this function. Either will create a difference between the two ears, and the difference is responsible for the sensation of vertigo. If there is sudden total loss of one labyrinth (as sometimes happens in skull fracture or in infection) and the other ear remains normal, because this represents the greatest difference there can be between the two ears, the resulting dizziness will be the most severe that one can suffer.

Nature is kind. An individual can adjust to a difference between the two ears if the difference remains constant for a sufficient period. In the example of the skull fracture above, there is violent dizziness at first. This gradually subsides, and in a matter of months the equilibrium of such a person is re-established; he learns to live with one labyrinth. The younger the individual, the sooner this equilibrium is reached. A young child can acquire it in weeks. An elderly person will not become stable much short of a year.

All of these clinical observations must be kept in mind in certain patients who have vertigo. Obviously, the patient who has an acoustic neuroma (which is usually slow in growth) will have minimal dizziness compared to the patient who has a sudden and complete interruption of the blood supply to the labyrinth (hemorrhage or thrombosis). A sudden toxic labyrinthitis will cause a greater disturbance than the gradual changes which sometimes result from endocrine imbalance.

The remissions which are so characteristic of certain types of labyrinthine disease are explained when these principles are applied, even when it is known that there is an increasing, irreversible pathology present in one labyrinth. During the time of the "attack" there is dizziness because there has been a departure from the normal balance of the two ears. When the "attack" ceases, the dizziness gradually wears off, and the patient learns to live at this new level of difference between the two labyrinths. Another "attack" reintroduces dizziness because there is a new difference, but when the "attack" is over, even though there is more irreversible pathology present in the diseased ear than after the first "attack," the patient soon learns to live at the latest level. This is why there is no dizziness between "attacks." Remissions between attacks can be for as long as a year or even five years. On the other hand, an irritative lesion of one labyrinth can produce daily dizziness for as long as the irritation is present, provided it produces daily differences between the two ears. A constant minimal etiologic factor can produce mild dizziness daily as long as it is present, while one sudden destructive lesion can cause total loss of labyrinthine function with accompanying violent dizziness, only to have the vertigo disappear after a reasonable time. Between these two extremes there can be infinite variation in the degree and character of responses.

Remissions are frequent, particularly in peripheral disease. There are few instances in medicine where cures are so likely to be attributed to a certain drug when, as a matter of fact, the particular medicine used had nothing at all to do with the relief of symptoms.

It should be mentioned here that in peripheral lesions there also may be a variation between the degree of involvement of the hearing function and the balance function. Severe hearing lost can occur with only slight dizziness or none as all. Likewise, there may be severe dizziness with little or no hearing loss. Also, one part of the cochlea may be more affected than the others, just as one part of the labyrinth may be more involved than the remainder. The combinations possible reach to infinity.

Another clinical fact of importance is that sudden explosive or violent attacks are almost always due to changes in the ear itself (a peripheral lesion), while mild reactions which can be slowly progressive are often due to changes in the central nervous system (a central lesion), although they can be peripheral as well.

It is almost imperative for the examining physician to employ some simple neurologic testing in all instances of dizziness which come to his attention. It is true that in the very great majority of such patients neurologic signs will be absent, but in some the information gained from the use of such tests will be invaluable.

Some examples of the causes of dizziness follow. These will be related to the principles and the examination procedures mentioned above. No instances of lesions of the proprioceptive system or the ocular system will be given since the presentation of these should be the prerogative of an internist, a neurologist, or an ophthalmologist:

Brain Tumors.—There are three types of brain tumors to be considered:

1. Cerebellopontine angle (acoustic neuroma, meningiomas, etc.): Usually a marked hearing loss, perceptive in type, and an equally severe diminution of vestibular function. Spontaneous nystagmus and other neurologic signs may be present. In the later stages there is almost complete loss of cochlear and vestibular function.
2. Supratentorial tumors: No hearing loss. In most instances with increased intracranial pressure, there is a disturbance of the vestibular function (directional preponderance).
3. Tumors in the midbrain: No hearing loss but total absence of labyrinthine response in both ears. This is a pathognomonic sign of midbrain tumor.

Concussion due to Head Injury.—Often a moderate or sometimes a severe perceptive type of hearing loss is present. Occasionally a demonstrable diminution of vestibular function. This latter loss of function is often recoverable. A fracture, however, may cause total, irreversible loss of cochlear and labyrinthine function.

Vascular Accidents (Hemorrhage or Thrombosis).—According to the degree of the pathology present, there is moderate to severe loss of both of the ear's functions, rarely complete loss. This is one of the causes of sudden explosive attacks of dizziness with loss of hearing, tinnitus, nystagmus, nausea, and vomiting. These losses are almost always irreversible. Cardiovascular disease affects the labyrinth to the degree of its severity if there is ear involvement.

Toxic Labyrinthitis or Toxic Neuronitis.—These are due to general disease such as mumps, encephalitis, etc., local infection, drugs (streptomycin, etc.). Hearing loss may or may not be present; violent attacks of dizziness are. Spontaneous nystagmus is often present.

If the etiologic factor is mild, the responses may be irritative, and the labyrinthine function will be increased. If the toxemia is severe, there will be marked diminution of labyrinthine function, some of which will be irreversible.

Allergy.—Allergic reactions can be confined to one ear. Attacks can be explosive or merely irritative. If explosive, both the cochlear and labyrinthine functions can be diminished and be irreversible. If mild and irritative, there may be increased labyrinthine function or no demonstrable change.

Endocrine and Metabolic Disorders (Menopausal, Hypothyroidism).—Usually there is no hearing loss and only mild variation from normal labyrinthine function. Pathology is usually reversible.

Functional; Psychogenic (Stress).—In the majority there is only mild symptomatology with no irreversible pathology, both cochlear and vestibular. The exact manner by which the symptoms are brought about is the subject of much debate. Apparently, by whatever mechanism it may be, there is an altered blood supply to the ear, and due either to edema or anoxemia the physiology of the ear is altered and sometimes is so changed that irreversible pathology comes to pass. This in my opinion is the most frequent of all the reasons why patients are dizzy. Because other causes must first be ruled out, the diagnosis must be made with caution. The therapy is equally difficult for the physician cannot change the cause, i.e., "in-law" trouble, a financial predicament, a philandering husband. It is the physician's duty to point out the relationship between the cause and the symptoms and to show clearly that a lack of acceptance of a situation or an adjustment to it must be paid for by continued dizziness which is poor coin indeed.

Hydrops of the Labyrinth (True Ménière's Disease).—The etiology of this is unknown. Some believe it is merely a continuation of some of the causes mentioned above in especially sensitive ears, while others believe it is a specific condition of as yet undetermined origin. Whatever the cause, the picture is definitive. There are explosive attacks of dizziness with all the accompanying signs and symptoms. Despite the use of the best diagnostic acumen and of all known medication, the attacks recur, and the hearing and labyrinthine function continue to deteriorate. The periodicity of the attacks may vary. They may occur daily, weekly, monthly, or yearly or in any combination of these, but the constant feature is certain continued loss of cochlear and labyrinthine function after each attack. When the hearing in the affected ear arrives at the stage where it is no longer useful, sure relief can be given by the employement of surgery, i.e., total destruction of the ear. This entirely eliminates further attacks of dizziness and relieves the patient of another very annoying symptom, distortion of hearing. The hearing in an ear so affected sooner or later is useless for hearing speech, for the patient hears sounds in that ear in a frightfully distorted manner. The relief afforded by the elimination of this symptom is no less remarkable than that enjoyed by the absence of dizziness.

Therapy

The reason why therapeutic help for the vertiginous patient leaves much to be desired is because too frequently the cause of the patient's dizziness has not been established. Often there will be no need for therapy, once the cause has been eliminated.

One of the most widely used therapeutic measures is a low-sodium regime, the so-called salt-free diet. When edema is the reason why a patient is dizzy, the use of a salt-free diet can give excellent results. But it is of little or no value in the alleviation of the dizziness caused by brain tumors, hemorrhage into the labyrinth, or a thrombosis of the artery which supplies blood to the labyrinth. Vasodilators apparently have some value when used where vasomotor changes have affected the ear, but they are certainly inappropriate for conditions not due to these changes. Sedation is of some value in most patients with dizziness if only for quieting some of the invariably accompanying psychic reactions.

Dramamine is almost a specific for motion sickness, but in my hands when taken orally for the relief of vertigo, it has often been of little benefit. The same can be said of several other drugs which have been heralded as wonder drugs for the relief of dizziness. However, Dramamine and similar drugs, if administered parenterally, can furnish relief for the acute stage of a violent, explosive attack. These must be administered intramuscularly or intravenously to be effective. The vomiting which accompanies these attacks precludes effective oral administration of any dosage. The principle of the drugs used is sedation, the result of which is a diminution of the effect of the impulses from the labyrinth. It cannot be mentioned too often that dizziness is a symptom and not a disease. Any therapeusis directed toward relief rather than the elimination of the cause is temporary and is the explanation for many therapeutic failures—far too many, I fear.

Summary

Every physician confronted by a patient with dizziness can be helped if he will keep the following things in mind:

1. A careful history and physical examination are essential. The latter should include a reasonable number of neurologic tests.
2. A sense of motion must be present if a patient is really dizzy.
3. Three body systems can give a sensation of disturbance of one's position in space: (*a*) the labyrinthine, (*b*) ocular, and (*c*) proprioceptive systems.
4. The presence or absence of spontaneous and positional nystagmus can have diagnostic value.
5. An evaluation of both the cochlear and the vestibular function in every patient with vertigo is essential.
6. Intracranial causes give rise to gradually increasing dizziness with little or no periodicity in the attacks.
7. Explosive dizziness with accompanying nystagmus, nausea, vomiting, hearing loss, and tinnitus almost always represents peripheral pathology.
8. Minimal dizziness often is representative of pathology elsewhere in the body acting on the ear. Very frequently no irreversible pathology is present in the ears. Explosive attacks, on the other hand, are frequently the result of local pathology, some or all of which may be irreversible.

Conclusion

The plight of the patient with dizziness need not be so serious as it has been in the past if all doctors will direct their attention to etiology rather than therapeusis.

These patients deserve, more than most others, the sympathetic attention of the physician consulted. They are frightened, worried, and carry a feeling of insecurity out of all proportion to their appearance. Kindly reassurance, which should be more than a mere "Oh, you'll be all right," and the use of our best diagnostic acumen are their due.

1100 East Genesee Street

Reference

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Hermaphroditism and Dysgerminoma (Neuter Cell Tumor)

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This paper deals with two clinical and pathologic conditions. On the one hand, there is the problem of the intersexual state and, on the other, a tumor of the gonad, the ramifications and significance of which have not as yet been satisfactorily explained. It is emphasized that each of these conditions may occur in the absence of the other; in fact, most cases of either tumor or intersex have been reported as such and constitute the overwhelming majority of the cases to be found in the literature. Their association in the same individual further adds to the difficulties in interpreting already complicated entities. There are no more difficult or more fascinating problems in gynecology than those involving hermaphroditism and/or ovarian tumors.

Hermaphroditism has been known and recognized for many centuries, and the different civilizations devised different methods of dealing with the individuals so afflicted. In contrast, the gonadal tumor has been recognized only since 1906 when Chevassu[1] described it in the testicle of a male. The first reference to the tumor in the female was that of Chenot[2] in 1911 who called it a seminoma because of its resemblance to the tumor in the male described by Chevassu. Since that time an estimated 550 cases comprising tumors with and without sexual developmental aberrations have been reported. Mueller, Topkins, and Lapp[3] recently collected and reviewed 427 cases in which the tumor was present and added seven of their own.

The term "dysgerminoma" was coined by Meyer[4] in 1931 to suggest a loss of germinal potentials in certain indifferent germinal cells occurring early in the development of the gonad of both males and females, and this, he believed, resulted in the formation of the tumors in later life. The term is in common usage at the present time. That considerable confusion and controversy have existed in classifying the tumor is evidenced by the fact that the following names have been used at one time or another to describe it: seminoma, chorioepithelioma ectodermale of Pick, embryoma, embryonal carcinoma, alveolar large cell carcinoma, carcinosarcomatoides, giant cell sarcoma, and round cell sarcoma. The combination of a tumor and defective sexual development, while not rare, is uncommon. No attempt has been made in this presentation to estimate the exact number of cases in which hermaphroditism has been associated with various gonadal tumors in both sexes since a great variety of neoplasms have been described, including dysgerminoma,[4] tubular adenoma,[5] arrhenoblastoma,[6] teratoma,[7,8] embryonal carcinoma,[9] granulosa cell tumor,[6] chorionepithelioma (chorioma),[6] mesonephroma,[10] and certain types of cysts. The combination of dysgerminoma and male hermaphroditism (male gonads, female sex characteristics) has been described in only about 40 cases, but it is emphasized that the tumor may be present in female hermaphrodites (female gonads, male sex characteristics) as well as in true hermaphrodites (ovotestes). The following case is another to be added to the literature. It is hoped that in reporting it some contribution towards the clarification of this complicated subject can be made.

Case Report

A. P., white, age forty, married, was first seen in the office of one of us (F.S.) on May 29, 1953. She stated that twenty-four hours previously she had experienced a sudden severe attack of pain over the left lower quadrant of the abdomen, accompanied by dysuria and frequency of urination, so that she felt she could not completely empty her bladder. Her family physician saw her at the time, palpated an abdominal tumor, and administered sedation. Her family history included parents who were living and well, one normal, healthy brother, and one sister.

Examination of the sister, who presented herself

Presented at a meeting of the Section on Obstetrics and Gynecology of the New York Academy of Medicine, March 20, 1954.

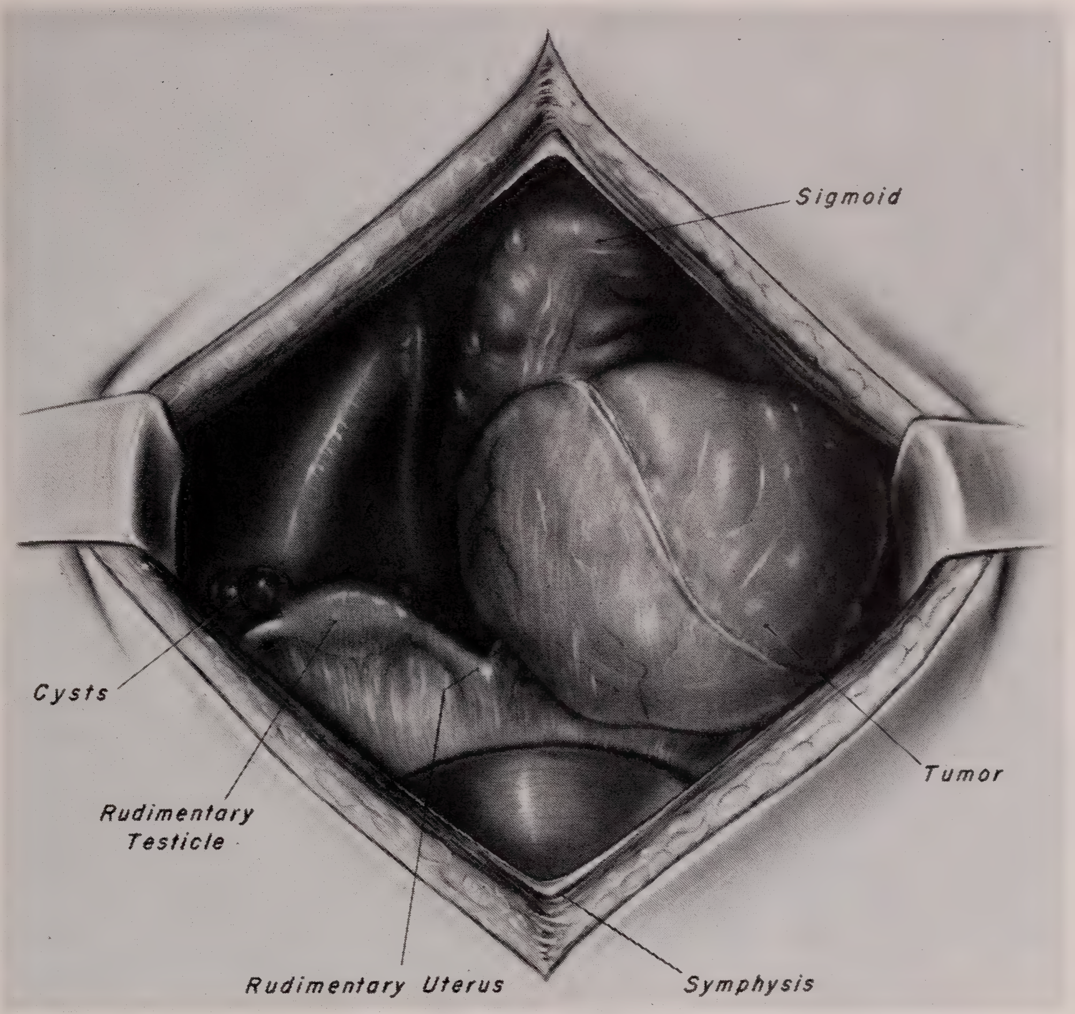

FIG. 1. Drawing of operative findings.

because of sterility, showed an extremely small female, age twenty-four, who gave the impression of being much younger than her chronologic age. Her bony frame was delicate and childlike, and there was obvious evidence of a growth deficiency. She menstruated only at long intervals, and her sex organs showed hypoplasia. There was no evidence of a tumor. She had been married for three years but had never been pregnant. Careful interrogation failed to elicit any sexual abnormalities in other members of the family.

The past history of the patient under consideration was essentially negative except for an attack of appendicitis at the age of twelve for which no operation was performed and an osteomyelitis of the jaw following the extraction of a tooth at the age of fifteen. She had been happily married for six years, and her sexual relations were normal and satisfactory. She had never menstruated, nor had she been pregnant.

Her general physical examination was essentially negative except for the abdominal and pelvic findings. There was a fixed mass over the lower abdomen which filled the pelvis and extended into the left flank. The mass was firm, nodular, and tender. Pelvic examination revealed moderately hypoplastic external genitalia and an extremely small clitoris. Pubic hair development was normal, and the escutcheon was of the female type. The vagina admitted two fingers easily and was entirely normal with well-developed rugae and normal-appearing epithelium. There was no cervix, the vagina ending in a blind pouch. On digital examination the mass was found to have filled the pelvis, extending to the left pelvic wall, reaching to the umbilicus and across the midline to the right lower quadrant of the abdomen. It was firm in consistency, tender on attempted manipulation, and could not be pushed out of the pelvis. Uterus, tubes, or ovaries as such could not be felt.

Other examinations showed a well-developed skeleton with a tendency toward obesity; she weighed 172 pounds and was 5 feet 7 inches tall. Texture of the skin and hair distribution were of the normal feminine type, and voice was alto in pitch. Her breasts were large, well-developed, and pendulous. Examination of the heart and lungs showed no abnormality; blood pressure was 120/70, urinalysis negative, and the blood picture entirely normal. Her hemoglobin was 95 per cent. The diagnosis was solid left ovarian neoplasm, probably twisted, with absence of the uterus. She was admitted to the Woman's Hospital where laparotomy was performed on June 5, 1953. The operative findings consisted of an irregularly nodular, solid tumor about the size of a large cantaloupe, occupying the left half of the pelvis and extending across the midline to the right (Fig. 1). Its surface was smooth, and it was completely covered by peritoneum. Extending obliquely over its anterior surface and intimately connected with it, there was a fibrous band which at first gave the impression of being a fallopian tube but which turned out to be a reduplication of the peritoneum. To the right of the neoplasm but not connected with it, in the right side of the pelvis, a thin cord about 3 inches in length, running longitudinally behind the bladder to the pelvic floor, could be seen. Attached to the right upper border of this cord a rounded gonad about the size of a hickory nut was recognized. A small transparent cyst was continuous with the gonad, and a short, thick cord formed its attachment to the right pelvic wall. The tumor, rudimentary cord on the right, gonad, and cyst were easily removed by ligating their fibrous attachments to the lateral pelvic walls.

The patient's convalescence was normal, and she left the hospital on the seventh postoperative day. Examinations up to the present time have shown the pelvis to be free from disease. There have been no flushes or disturbances of any kind to suggest hormonal deficiency.

Pathologic Report

Gross Examination.—The specimen consisted of a large tumor and a smaller structure received separately.

The large tumor represented the left gonad and measured 18 by 14 by 8 cm. It was covered by peritoneum which formed a longitudinal double fold extending over its entire anterior surface. On sectioning it presented a homogeneous gray surface which was firm in consistency and lobulated in texture. The capsule of the tumor was distinct, was formed partly by peritoneum, and had not been penetrated by tumor tissue.

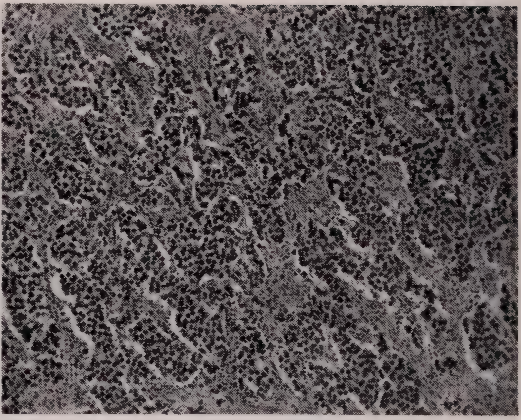

Fig. 2. Section of tumor (left gonad) showing loosely arranged, irregular clusters of large cells and delicate lymphoid stroma. Note the typical alveolar pattern. (*Low power*)

The smaller structure consisted of a firm band composed of muscle-like tissue which measured 2 by 1.5 by 2 cm., was covered by peritoneum but showed no evidence of a central lumen. From its gross appearance it was probably a rudimentary uterus. Attached to its right upper aspect a fibrous band was seen which represented the right round ligament. Above and posterior to the latter, a peritoneal fold about 6 cm. in length was continuous with a cordlike structure measuring 3.5 cm. in length and 1.2 cm. in diameter, which was stretched over a semitranslucent cyst measuring 6 cm. in diameter. The posterior aspect of the solid structure representing the rudimentary uterus was continuous with an ovoid mass measuring 3.5 by 2.5 cm., to which it was connected by a bridge of tissue 1.5 cm. in diameter and about 1 cm. in length (gonadal ligament ?). Cut section through the ovoid mass showed it to be composed of a well-defined nodule measuring 1.5 cm. in diameter. The bridge of tissue (pedicle), mentioned above, on section was found to be the site of another nodule measuring 8 mm. in diameter and separated from the larger nodule by a distance of 3 mm. Both nodules were gray in color and of a texture suggesting increased cellularity. There was no evidence of any distinct lobular pattern.

Microscopic Examination.—The sections of the tumor of the left gonad presented clusters of loosely arranged large cells occupying alveolar spaces separated from each other by septa composed of lymphoreticular tissue (Figs. 2, 3, and 4). The tumor cells showed occasional mitoses. In areas there was a marked proliferation of lymphoid stroma showing edema (Fig. 5). Some of the tumor cells

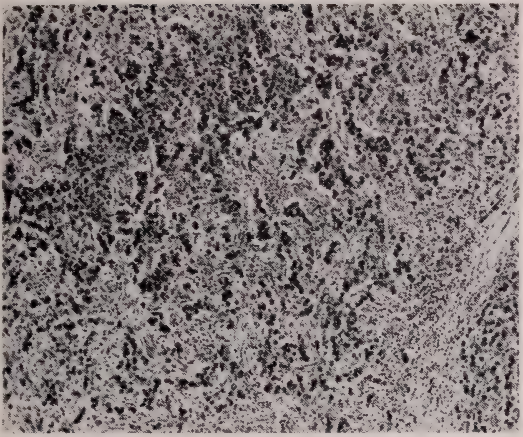

FIG. 3. Section of tumor; same as Fig. 2. Note the marked predominance of lymphoid stroma. (*Low power*)

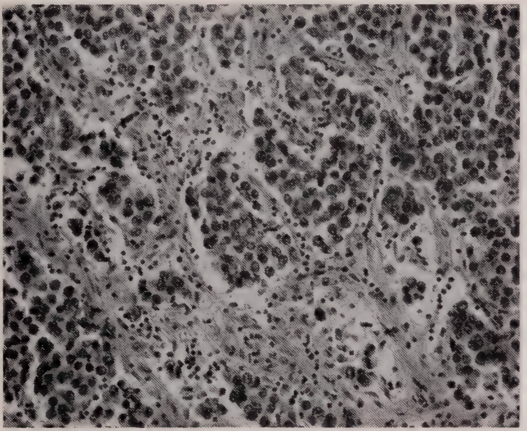

FIG. 4. High power magnification of Fig. 2. Note the loose arrangement of tumor cells and the delicate lymphoid stroma.

could be seen extending into the serosal membrane forming the tumor capsule, and there was a tendency on the part of the cells to form cords. The absence of any evidence of ovarian cortical stroma in the peripheral portions of the tumor suggested an undifferentiated stage of development of the gonad. The tumor was indistinguishable from that which is seen in the male gonad.

The structure replacing the gonad on the right side presented more or less confluent groups of contorted tubules typical of the seminiferous tubules found in the early development of the male gonad. They were separated from each other by stroma, composed largely of typical Leydig cells (Figs. 6, 7, and 8), which formed nodular aggregates in the hilum of the gonad where a rudimentary rete was also evident (Figs. 9 and 10). The epi-

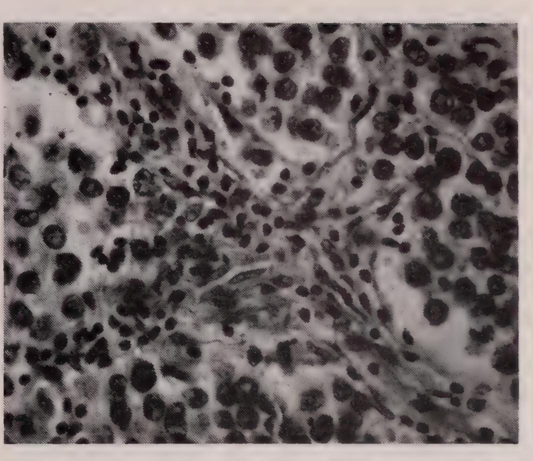

FIG. 5. Higher magnification of Fig. 4, emphasizing the loose arrangement of tumor cells (sarcomatoid pattern). Typical lymphoid stroma.

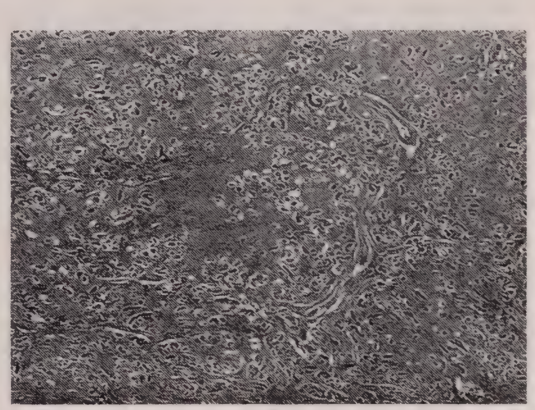

FIG. 6. Section of right gonad (rudimentary testicle). Contorted tubules show tendency to lobular arrangement (not a tubular adenoma!). (*Low power*)

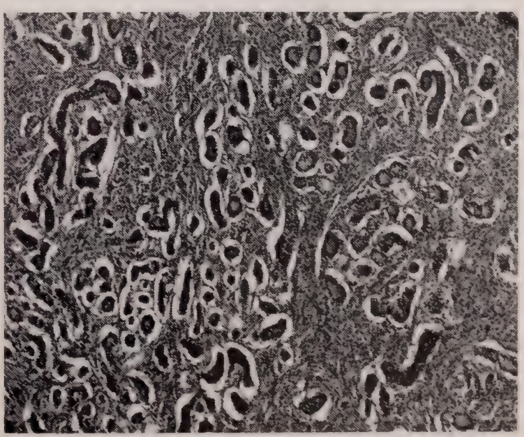

FIG. 7. High power magnification of Fig. 6. Primitive differentiation of epithelium of tubules of rudimentary testis. Note the cellular stroma.

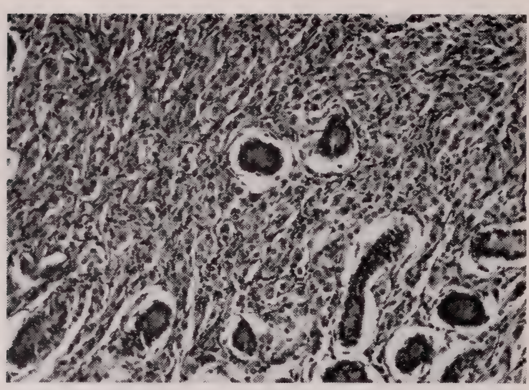

FIG. 8. High power magnification of Fig. 6, emphasizing the predominance of stroma composed of typical interstitial cells. Note marked capillarization of stroma.

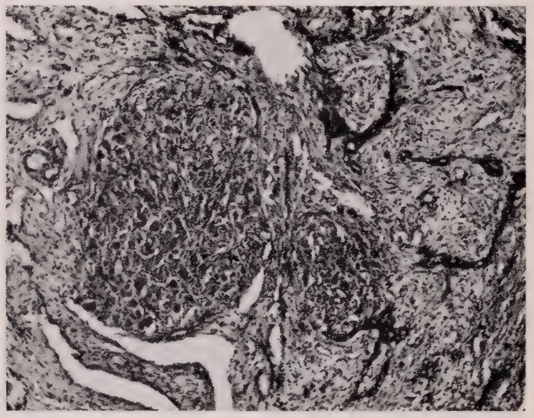

FIG. 9. Section of the hilus of rudimentary testis (right gonad). Note the tubules of the rete (on the right side) and two discrete nodules of interstitial cells (on left). (*Low power*)

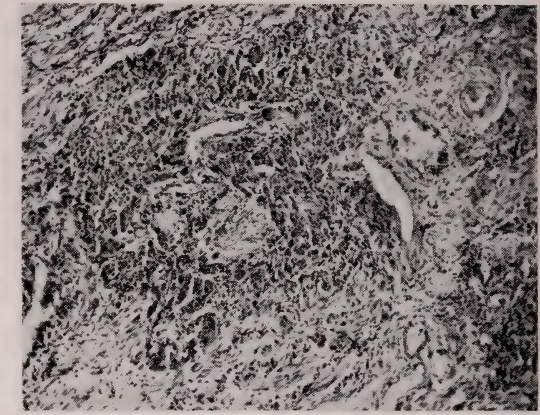

FIG. 10. Section of rudimentary testis (right gonad) near the hilus. Diffuse (sarcomatoid) pattern of interstitial cells and paravascular arrangement. (*Low power*)

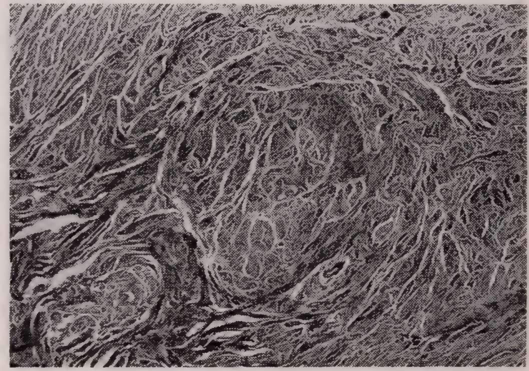

FIG. 11. Section of rudimentary uterus (uterus rudimentarius solidus). Note the organoid arrangement of muscle bundles. (*Low power*)

thelial lining of the contorted tubules, in the main, was composed of a single layer of low columnar and cuboidal epithelium whose nuclei were large and occupied most of the cell bodies (Fig. 7). In areas solid cords composed of these cells could be seen (Fig. 8). Whether the epithelial lining of the primitive seminiferous tubules represented the supporting (Sertoli) cells or spermatogenic cells is difficult to determine because of the primitive state of differentiation (reserve or basal cell differentiation) of the epithelium. The periphery of the gonad presented loose, fibrous connective tissue, largely oligocellular and closely resembling the tunica albuginea of the testis.

Sections taken through the muscular structure thought to be the rudimentary uterus failed to reveal any evidence of a lumen. The inner circular and outer longitudinal fibers suggested a rudimentary anlage of a tubular organ (Fig. 11).

Diagnosis.—Rudimentary uterus (uterus solidus rudimentarius); dysgerminoma of left gonad ("embryonal cell carcinoma" with lymphoid stroma); rudimentary testis with interstitial cell hyperplasia (right).

It is obvious that this patient was a male hermaphrodite who harbored a dysgerminoma which developed from one of the gonads (the left). The only recognizable gonad, the right, was a rudimentary testis. The cause of the occurrence of hermaphroditism is still unknown, and any explanations offered lie within the realm of speculation. This is also true in considering the genesis of certain gonadal tumors of which the dysgerminoma is one, although to a somewhat lesser extent. Any discussion involving the evolution of combinations of intersex and gonadal tumors entails a consideration of three factors: (1) sex determination, (2) hormonal considerations, and (3) the embryology of the gonad.

Sex Determination

Most modern investigators are agreed that the sex of the organism is determined in the genes at the time of fertilization. Each ovum possesses one X chromosome which contains feminizing genes. The sperm may contain either X or Y chromosomes; the latter contains the masculinizing genes. The union of the X chromosomes of both ovum and sperm results in a female child; union of the ovular X and spermatic Y results in a male.[11] This concept is true in a general sense, but actually the genes carry within their structure potentials of bisexuality so that every cell in the body is really bisexual. As one sex predominates, the other is inhibited.

Hereditary factors are of prime importance in determining the development of normal or abnormal sex types. Thus, Witschi and Mengert[12] described two groups of intersexes based on heredity: "In the first, the daughters are normal while the sons are hermaphrodites. The available records of affected families indicates that a dominant gene causes heterozygous mothers to produce hormones or hormone-like substances which in early pregnancy effect a feminization of male fetuses. In accordance with expectations half the daughters prove to be carriers of this modifying gene. In typical cases undescended testicles are present together with tubes, uterus, and vagina. At the time of puberty male secondary sex characters begin to appear with partial change of voice, male type of hair growth, and enlargement of the clitoris." In the second group the females are afflicted, showing a combination of testes with feminine sex characteristics including large breasts, soft skin, feminine hair distribution, but no uterus, tubes, or ovaries. The case here reported falls within this group.

Goldschmidt,[13] assuming the presence of bisexual factors in the organism, has elaborated an intersexuality theory in which the appearance of the individual will depend upon which factors predominate, the masculine or the feminine. These predominating factors have the ability to resist any tendency toward sex change. If their resistance is lowered, the other factors gain the upper hand, and a sex reversal occurs. The organs already formed, however, will retain the characteristics they possessed up to the time of change. An ovotestis will result if the gonad has developed partially toward one sex and at the time of reversal the original cells are retained in addition to those of the new sex type. In this way all gradations of hermaphroditism may be explained.

As evidence that hereditary factors play an important role in the evolution of hermaphrodites with and without gonadal tumors are the cases reported in sisters by Novak,[14] Ward-Mc Quaid and Lennon,[15] and Witschi and Mengert.[12] In the case here reported, a sister, although not an intersex, showed evidence of hypoplasia of the genital organs as well as a growth deficiency.

Hormonal Considerations

At the present time hormonal investigations, in addition to the study of genetics, offer the greatest hope for clarification of both hermaphroditism and ovarian and testicular tumors. The classic work of Lillie[16] on the freemartin proved that at least in the lower animals fetal sex reversal can take place because of hormonal influences. In the case of male and female twins in cattle, the female twin at birth will often show signs of masculinization involving both the external and internal genitalia as well as the ovaries. The explanation lies in the fact that the anastomosis of the two placental circulations results in the female being subjected to the influence of the androgenic hormone from the male. Sex reversal in chicks by injection of estrogenic and androgenic hormones and in insects has also been described.[17]

In the normal human adult both estrogenic and androgenic hormones can be demonstrated, estrogen dominating in the female and androgen in the male. Some of each is undoubtedly ingested in the food, but one can postulate that a balance exists. Sex reversal does occur, however, under certain pathologic conditions, but the change is seen much more frequently in the female than in the male and is usually associated with tumor formation. In the female the masculinizing effects of Cushing's disease,[9,18] arrhenoblastoma,[19,20] adrenal carcinoma,[21] and adrenal hyperplasia[22] are well known. Feminization of the male is seen in cases of teratomatous chorionepithelioma and in Cushing's disease.[18] Huggins and Moulder[23] have recently described Sertoli cell tumors in male dogs in which, not only did feminization occur, but from which large quantities of estradiol benzoate could be extracted, suggesting that estrogen is produced by the Sertoli cells of the testis. There is also evidence that androgen is produced by the interstitial cells of Leydig.[24]

Morris[25] has suggested the term "testicular feminization" to denote male hermaphroditism usually with undescended or abdominal testes with or without tumor formation. The case here presented obviously belongs to this type, but to describe a syndrome based upon hormonal action on the part of certain cells in the testes found in these individuals is unwarranted. In the first place, in most of the cases reported, as in ours, the testicle is rudimentary, usually showing atrophic or hypoplastic tubules without Sertoli cells and hyperplasia of the Leydig cells. If we are to assume that the Sertoli cells produce estrogen and the Leydig cells androgen, one would expect masculinization of the individual rather than feminization. Wachstein and Scorza[5] also described a combination of male intersex and testicular tubular adenoma which they regard as a clinical entity and collected 20 cases of this type from the literature. However, so many different types of tumor have been described in association with hermaphroditism that to singleout one group as being unique is also untenable. Hormonal studies which would undoubtedly help to clarify both hermaphroditism and the neoplasm involved have heretofore been too few in number to warrant absolute conclusions. That testes can produce estrogen is seemingly proved by the cases which occurred in sisters, as reported by Witschi and Mengert[12] and by Novak.[14] In these intersexes removal of the gonads, which appeared to be well-developed testes, resulted in typical menopausal symptoms requiring estrogen preparations for control. Here again, however, the likelihood of the presence of functioning ovarian tissue must be kept in mind. Novak[14] in his cases definitely described ovarian stroma in addition to the testicular tissue.

The one constant finding, from the hormonal point of view, on which practically all investigators are agreed, is the increase in the gonadotropic hormones. This is true of almost all cases of hermaphroditism with or without neoplasm and even in many cases of dysgerminoma which have been reported without sexual anomalies. Not only is there an increase in the follicle-stimulating fraction but also in the luteinizing hormone to the point of showing positive pregnancy tests. Potter,[26] Moreton and Desjardins,[27] Hain,[28] and others report positive Aschheim-Zondek or Friedman tests, and in practically all of these cases the patients were children. Hain's case is particularly interesting because this eight-year-old female child showed a large ovarian dysgerminoma, signs of precocious puberty (swelling of breasts and growth of pubic and axillary hair), a positive pregnancy test, and intermittent vaginal bleeding. After the removal of the tumor, the signs of precocious puberty regressed, and the Aschheim-Zondek test became negative. This case suggests a possible relationship between teratomatous elements associated with the dysgerminoma and adrenal stimulation to produce a hyperplasia which resulted in premature development of the secondary sex characteristics. Spielman and Morton[29] extracted considerable quantities of follicle-stimulating hormone from an ovarian dysgerminoma, which suggests that the tumor is a repository for the hormone or possibly that it manufactures it, which is doubtful.

In the case here described no hormonal studies were made. From the evidence presented, however, we would postulate that the reason for the increase in the gonadotropic hormones is to be found in the fact that we are dealing primarily with patients, both male and female, whose gonads are defective so that the inhibiting influence of either estrogen and/or androgen upon the pituitary gland is lost. The quantitative increase in the anterior pituitary hormones will vary in inverse ratio to the degree of aplasia or hypoplasia of the gonads. A positive pregnancy test must be associated with a chorionepitheliomatous element of a teratoma, irrespective of the dominating type of tumor present. Increased androgen excretion in the absence of an ovarian arrhenoblastoma is due to hyperplasia of the adrenals, as Herweg, Ackerman, and Allen[22] have demonstrated in hermaphroditic children, or possibly to Leydig cell activity. An increase in estrogens is due to granulosa cell elements in the neoplasm and, in well-developed gonads, to Sertoli cell activity.

Embryology

It is obvious that the embryology of the gonad must be explored in considering sexual developmental defects with or without gonadal tumor formation. It is not our intention to describe the origins and growth of the gonads in detail. We would refer those interested to the standard works dealing with embryology in general, and here we shall only touch on the important points involved.

The human gonad has a threefold origin: (1) from the celomic epithelium of the genital ridge, (2) from the underlying matrix of mesenchyme, and (3) from the primitive sex or germ cells which reach the mesenchymal primordium from an extragenital region, the primitive yolk sac.[30] In the early stages the celomic or surface epithelium undergoes proliferation, its cells pushing into the underlying mesenchyme or supporting structure to form cords which develop in the direction of the future hilum as the latter is gradually being pinched off from its connection with the mesonephros. As they push deeper into the primitive gonad, the cords form three layers: an outer cortical, a middle medullary, and an inner rete layer. The mesenchyme forms the supporting framework for the cords.

From an indifferent gonad differentiation into a testis occurs early, as seen in the C. R. 14 to 16-mm. embryo.[31] The cords form the seminiferous tubules which are separated from each other by a proliferation of the mesenchyme into connective tissue. The interstitial cells are also formed by the mesenchyme and proliferate rapidly so that in the 30-mm. C. R. embryo they outnumber the cord cells. A thick tunica albuginea, probably arising from both the surface epithelium and the mesenchyme, is also recognized. Continued growth of the cords results in the formation of three zones, as seen in the fully formed testis: the rete testis or inner zone, the tubuli recti or middle zone, and the seminiferous tubules or cortical zone, the three appearing in that order. Proliferation of the interstitial cells occurs up to the fifth month of fetal life, after which they gradually disappear so that few are present at birth.[31,32] Just before and after puberty they are present again in large numbers to become an integral part of the adult testis. The primitive germ cells arise from the yolk sac (endoderm)[30] and, after making their way through the primitive mesentery to the gonadal primordium, intermingle with the cord and tubule cells but always remain distinct and recognizable. They later give rise to the spermatogonia in the male and the oögonia in the female.

Development of the ovary is the same as that of the testis in the early stage, but differentiation occurs relatively late. The cords, which in the male quickly take on a tubular appearance, in the female are broken up into masses of cells forming isolated collections of cells, the egg balls. A latent period of several months occurs before further development is seen. A division into three zones as in the testis is not as clear cut but does exist, the rete cords being easily distinguishable. In the 150 to 200 C.R. embryo a condensation of connective tissue from the mesenchyme results in rapid proliferation from the hilum toward the periphery of the gonad so that the egg balls are broken up, and many of the sex cells as well as the primitive germ cells are destroyed. This connective tissue ultimately forms the stroma of the ovary and the theca layer of the primordial follicles. The primitive surface sex cells tend more and more to surround the individual germ cells that survive, forming the granulosa cells, until the primordial follicles are established. Furthur proliferation of the connective tissue results in the division into a cortex and a medulla, the rete being represented by a few atrophic tubules. The germ cells at first give rise to the oögonia, forming part of the egg ball structure, and later become the ova. Follicle formation first appears in the 280-mm. fetus and is accompanied by formation of the fetal stroma. Follicle fluid is formed by the granulosa cells ultimately to accumulate in the follicular cavity. Three stages, therefore, may be recognized in the development of the ovary: the undifferentiated primitive stage, the long stage of latent growth, and the stage of full definition. There is nothing in the ovary to correspond to the hyperplasia of the interstitial cells in the testis.

It is emphasized that the indifferent gonad has potentialities for development of both testis and ovary. The outer cellular layer, the middle sex cords, and the rete are common to both males and females. The cells of the sex cords in the female give rise to the granulosa cells, in the male to the Sertoli cells; the germ cells become spermatogonia or oögonia; the mesenchyme in the testis forms the interstitial cells and, in the ovary, the stroma and the theca cells, and the rete ovarii and rete testis have the same origin from the deepest layers of the sex cords.[31]

From these embryologic considerations it is evident that the dysgerminoma originates from the undifferentiated primitive gonadal cells, including both surface epithelium and mesenchyme, and is common, therefore, to both sexes. The morphology of the tumor is so typical in both males and females that there can be little controversy. The tubular adenomas, however, which are also seen in both sexes, contrary to the generally accepted belief, do not appear to exert a masculinizing influence. So many cases of this neoplasm in male hermaphrodites have been described[5,25] in which the patients' sex characteristics were entirely feminine that it seems logical to remove it from the masculinizing group, the arrhenoblastoma,[4] and relegate it to a cell type intermediate between the dysgerminoma which is neuter and the arrhenoblastoma which is masculinizing. Teilum[6] has suggested that the tubular type of arrhenoblastoma doesnot cause masculinization because it contains Sertoli cells which are estrogen producing. Again we wish to point out that the primitive tubules seen in the rudimentary testis of the case here presented can have no hormonal effects, and this is true of many of the other cases of tubular adenoma which have been reported. Meyer himself stated that the "typical" form of arrhenoblastoma produced masculinization much less frequently than the "atypical."

As to failure of development of uterus and tubes, it is evident that this is part of the general picture of agenesis. The presence of a well-formed vagina, however, may be explained by the fact that it originates from the urogenital sinus and is independent of the müllerian ducts. The dysgerminoma may occur not only in cases of defective gonadal formation but also in normal males and females. It has been described in children and in the aged, but it is most frequently seen in the younger age groups. Friedman and Moore,[33] reviewing a large series (922) of testicular tumors in young males, found that "seminomas" constituted 35 per cent of all testicular tumors. In the female, dysgerminomas have been found even during pregnancy.[34] Whenever the dysgerminoma is present, it represents proliferation of cells of the earliest stage of gonad formation, actually primitive cells of a neuter type. The association of the tumor and intersex in our case represents proliferation of these neuter cells in a genetic female who showed only a rudimentary gonad that resembled a testis.

Tumor formation in rudimentary organs is to be expected. Many observers[35,36] speak of gonadal neoplasms from "totipotent" cells capable of producing combinations of tumor tissue which show morphologically varied and bizarre pictures. If the triple origin of the gonad is accepted, i.e., that it arises from celomic (surface) epithelium, mesenchyme, and primitive germ cells, it is evident that each of these structures in itself is capable of producing tumors. Profound disturbances affecting the gonad during its development may produce changes resulting in formations of all three elements in gonadal tumors of later life. Friedman and Moore[33] call attention to various forms of mixed neoplasms found in their study of testicular tumors. In short, the concept of a "totipotent" cell is unnecessary since it would entail a reclassification of gonadal tumors in general and ovarian tumors in particular. Teilum,[36] in an effort to demonstrate homologous tumors of the ovary and testis, describes a "seminoma series" in which transitions from dysgerminoma to chorionepithelioma are traced. That other homologous tumors besides the dysgerminoma may also occur in the gonads of both sexes is entirely logical, but to postulate that chorionepithelioma arises from any other but primitive germ cells appears to us to be invalid.

Treatment

The treatment of any tumor of the gonad including the dysgerminoma is removal. Malignancy is so common that procrastination is hazardous. Since the dysgerminoma is a tumor of young people, the question of complete castration arises. Where the neoplasm is limited to one ovary or testis without extension through its capsule, metastases to the regional lymph nodes, or ascites, the normal gonad may be retained, but only after one is certain that it does not harbor tumor tissue. X-ray therapy has been found to be very efficacious, since the neoplasm is composed of an embryonal, rapidly growing type of cell, and may be utilized even in the presence of a retained gonad by screening the normal side prior to administration to the side affected. Instances of normal pregnancies following this type of irradiation have been reported by Ball and Javert[37] and by Santesson.[38] In individuals of forty years or older castration, particularly in women, is the treatment of choice, to be followed by radiotherapy.

Treatment of the intersexual state, on the other hand, is often a difficult and vexing problem. In the absence of a tumor it is advisable to wait until the age of puberty before any decision is made as to the actual sex of the individual involved. It is at this age that the genetic sex characteristics may first appear, and a seeming sex reversal, e.g., from female to male, may occur. Psychosexual adjustment at this age is not too difficult since signs of masculine or feminine sexual orientation can be detected fairly early. Many cases have been reported in which plastic surgery with removal of gonads prior to adolescence has had disastrous results. Most hermaphrodites are brought up as females because the external genitalia appear to the casual observer as feminine in type. If gynecoid orientation continues into adult life, these individuals should be treated as females and their adjustment helped by appropriate surgery as well as estrogen therapy. The reverse, of course, is true of those showing masculine traits. Hamblen *et al.*[39] and Greene[40] have also stressed these ideas.

This is in marked contrast to the point of view formerly held, which was to fashion the individual according to the gonad present, irrespective of sex characteristics or orientation. Suicide has been a not infrequent sequel to such an approach. Certainly in the case here reported it would be unthinkable to tell the patient that since her gonad is masculine, she is a male. Treatment with estrogens or androgens has produced good results in appropriate cases,[10] but it must be continued over a long period of time. It is emphasized that the foregoing has no relationship to overt homosexuality in morphologically normal males and females. Homosexuality is a problem sui generis and plays no part in this discussion.

Terminology

It is evident that throughout this paper we have employed the terms "intersex" and "hermaphrodite" interchangeably. We look upon the former as a generic term to signify any form of sexual anomaly without classification into groups. The term "hermaphrodite," however, is classifiable. Originally it arose from Greek mythology and represented a combination of Hermes and Aphrodite, to denote both male and female sex organs. Modern classifications of hermaphroditism have been needlessly varied and complicated and have been based on attempts at all-inclusive individual descriptions, which in our opinion has led only to confusion. At the outset we would eliminate entirely the prefix "pseudo," as Cawadias[11] has suggested, since, as he says, "there are no false diseases, but only false diagnoses." Instead of the long, involved classification of Klebs[41] we propose simplification by dividing the hermaphrodites into three groups: (1) male hermaphrodites, those having testes only but showing female external sex characteristics, (2) female hermaphrodites, in whom the reverse is true, and (3) true hermaphrodites, in whom both ovarian and testicular tissue is present in the same or opposite gonads. This classification is intended to place the emphasis upon the genetic characteristics rather than the morphologic or anatomic.

In reviewing the literature on embryology it was surprising to see the confusion that exists in employing the terms "germ cells" and "sex cells." Thus, Gillman[31] in his excellent study speaks of the "primitive sex cells," the "germ cells," the "primary sex cords," and the "sex cells," the variations of which are confusing. We would suggest that the term "germ cell" or words in which "germ" is used, such as "germinal," be reserved entirely for the progenitors of the ovum or sperm cells. The cells of the parenchyma of the early gonad may be designated as celomic epithelial, surface epithelial, or mesenchymal cells. We would also propose eliminating the term "sex cell" as being indefinite. On the basis of such a limitation, which appears to us to be logical, the name of the tumor known as "dysgerminoma" or "seminoma" would also have to be changed, the former because it implies origin from the "germ cell" and the latter because it indicates origin from the seminiferous tubules or cords, which relegates it only to the testis. The term we offer instead is "neuter cell tumor" to denote genesis from retained neuter cells from the undifferentiated primitive gonad. Friedman,[35] in reporting a remarkable case of dysgerminoma of the pineal gland, suggested the term "germinoma," but this does not differ much from "dysgerminoma" and has the same drawbacks.

Summary and Conclusions

1. A case of gonadal tumor, known heretofore as dysgerminoma or seminoma, in association with male hermaphroditism has been presented.

2. Considerations of sex determination, hormonal aspects, and embryology involving both tumor and intersex have been discussed.

3. Treatment directed toward both the tumor itself and the intersexual state has been recommended.

4. The term "neuter cell tumor" has been proposed to replace "dysgerminoma" or "seminoma," and changes in certain terms used in describing the embryology of the gonad have been suggested.

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Infectious Hepatitis

Emergence of infectious hepatitis as an important health problem in the United States is reported by the Metropolitan Life Insurance Company statisticians.

Incidence of the disorder, described as an acute virus infection usually accompanied by jaundice, approximated 50,000 cases in 1954, which is about one and a half times the total reported in 1953 and nearly three times the total for 1952. Although the number of cases has fallen off somewhat thus far in 1955, it is still above the level for 1953.

On the basis of its current incidence, the statisticians note, infectious hepatitis now ranks among the leading communicable diseases. Although the disease strikes at every period of life, its highest incidence is among school-age children. A fortunate aspect of the problem is that only a very small proportion of the cases terminate fatally, and these occur mostly at the ages past midlife. Altogether, there are only about 800 deaths a year from the disease in the United States, which is equivalent to only one death per 200,000 of population.

Difficulty of controlling the disease is increased by limited knowledge concerning the causative organism, and the fact that the disease does not respond to chemotherapy, antibiotics, or any other specific therapy.

"Despite these difficulties, hepatitis is to some extent amenable to control," the statisticians report. "Gamma globulin has proved effective in preventing cases among persons exposed to the disease, and outbreaks in institutions and camps can be reduced by greater attention to personal hygiene and environmental sanitation."

Topical Therapy with Antibiotics

Effectiveness of Erythromycin, Erythromycin-Neomycin, and Oxytetracycline Contrasted with Placebo

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THE effectiveness in vitro of erythromycin against pathogenic staphylococci and streptococci prompted us to evaluate its therapeutic effectiveness in pyogenic infections of the skin since in our previous studies[1-3] the coagulase-positive staphylococcus had been the predominant pathogen recovered from cultures of these infections. Emergence of strains resistant to any one drug has accompanied widespread use. Establishment of the degree of clinical effectiveness of a new antibacterial agent is, therefore, of prime importance in coping with the individual infections resistant to the action of the older drugs. Early evaluation of a new drug also serves to establish a baseline of susceptibility of bacterial species from clinical material for future documentation of possible increase in resistance to the drug.

In addition to a group of cases treated with erythromycin alone, it was decided to treat a second group with a combination of erythromycin and neomycin. Theoretically a combination of antibiotics offers an advantage in that not only may the antibacterial spectrum be widened, but the risk of resistance to both agents is less. Although extremely effective against staphylococci and hemolytic streptococci, erythromycin has no appreciable inhibitory action in vitro on the gram-negative bacilli, such as Escherichia coli, Proteus, and Pseudomonas. Neomycin is active against this group and also against the staphylococcus but is relatively weak in its action on the beta hemolytic streptococcus.

The question has been raised at times that local therapy with compresses and soothing ointments is sufficient to cure pyogenic infections of the skin without the inclusion of antibiotics in the medication. To study this problem a third group of patients was treated in exactly the same manner as the first two groups except that the ointment base contained no antibiotic. The results of this study will be reported in considerable detail.

For added comparison the results of a fourth group of patients treated with oxytetracycline alone in 1951 and not previously reported by us are included.

Procedure

The majority of our patients were seen in the outpatient clinic, the remainder in the hospital. Before any therapy was instituted, cultures were taken in all cases to determine the organisms present and to test their susceptibility to penicillin, bacitracin, streptomycin, oxytetracycline, neomycin, and erythromycin. Repeat cultures were made each week to determine persistence of the original organisms, appearance of new organisms, and to elicit evidence of development of resistance to the antibiotic being used.

All patients were instructed to apply warm saline compresses to the involved areas twice a day until all crusts were removed. Compresses remove crusts painlessly as a rule and effectively and do not irritate the skin as soap and water may. Following the compresses the salve was gently rubbed on all areas. The first group of patients used an ointment with 10 mg. of erythromycin per Gm. of petrolatum base; the second group, an ointment of 10 mg. of erythromycin and 5 mg. of neomycin sulfate per Gm. of base; the third group used only the petrolatum base, and the fourth group, treated in 1951, had used 30 mg. of oxytetracycline per Gm. of petrolatum base.

Results

Our standard of adequate follow-up required that patients be seen after supposed cure and after stoppage of all treatment. Therefore, there is a large variation between the number of pa-

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This study was supported in part by a grant from Abbott Laboratories. The erythromycin and the neomycin-erythromycin ointment were supplied by Abbott Laboratories..

The oxytetracycline ointment was supplied by Chas. Pfizer & Company, Inc.

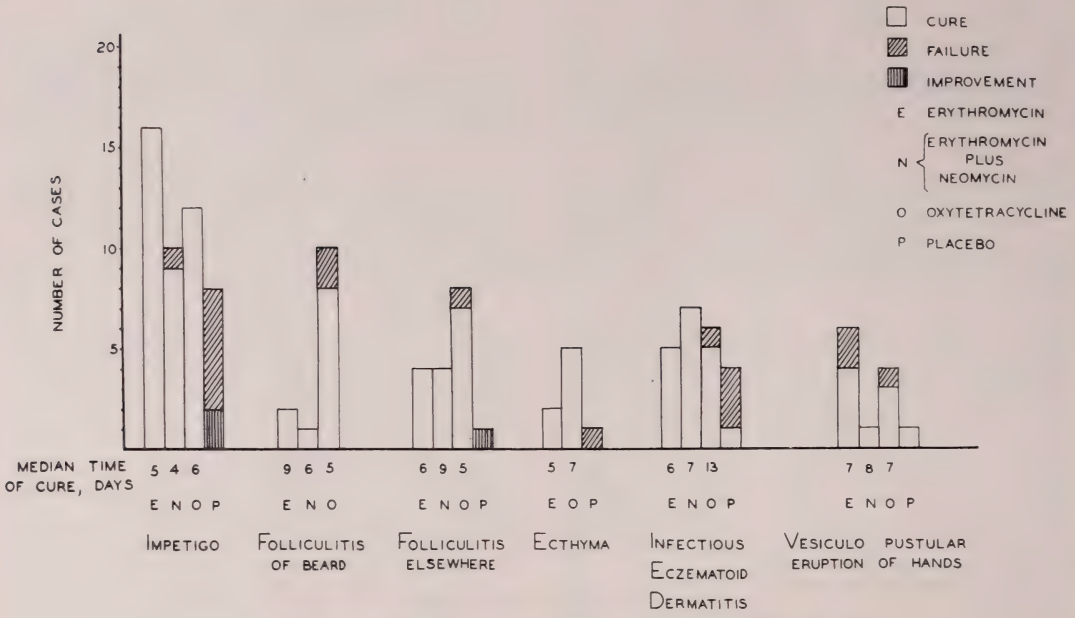

FIG. 1. Results in treatment of primary superficial infections of the skin.

tients treated and those listed as adequately followed. In the combined erythromycin, erythromycin-neomycin, and placebo group, a total of 106 patients was treated, but only 84 are listed as adequately followed. In the oxytetracycline series 120 patients were treated, and 72 are considered adequately followed.

Examination of Fig. 1 shows a cure in all cases of impetigo except one failure with erythromycin-neomycin ointment. This failure occurred in a baby, four months of age, who had an impetigo involving the arms and scalp. The impetigo cleared on the arms in one week, but furunculosis continued to develop on the scalp. Erythromycin by mouth cleared this infection. The median time of cure with the various antibiotics varied from four to six days, the least time being when the combination of erythromycin and neomycin was used.

Folliculitis of the beard is well known to run a variable course. The two cases listed as failures with oxytetracycline had had their infection six months and two years, respectively, and although temporarily improved, the infection recurred. However, the number of patients treated with erythromycin and erythromycin-neomycin is too small for comparison of difference in therapeutic efficacy.

The failure with oxytetracycline, listed under folliculitis elsewhere, developed resistance of the organisms to this antibiotic after fourteen days. Continuation of treatment with oxytetracycline for fourteen more days produced no improvement in the lesions.

In infectious eczematoid dermatitis there was one failure in a patient using oxytetracycline ointment. This patient had had his eruption for one year. Repeat cultures showed development of resistance by the organisms to this antibiotic, and continuation of the therapy resulted in no favorable effect. It is in this group that evidence of sensitization of the patient to the antibiotics is more likely to occur. One patient did complain of burning from the oxytetracycline ointment, but the eruption cleared, and patch test was negative.

In the six cases of vesiculopustular eruption of the hands treated with erythromycin, two are listed as failures. The initial cultures from both patients showed coagulase-positive Staphylococcus aureus. After one week both patients improved; repeat cultures showed only coagulase-negative Staph. albus. Recurrence despite continuation of treatment followed. The same sequence of events occurred with the patient listed as a failure with oxytetracycline.

Examination of Fig. 2, which groups various dermatoses with secondary infection, shows that the pyogenic infection was cured in all patients except in three using oxytetracycline. Two of these failures were in patients with acrodermatitis continua, and the third failure was in a patient with folliculitis decalvans, in whom the organism

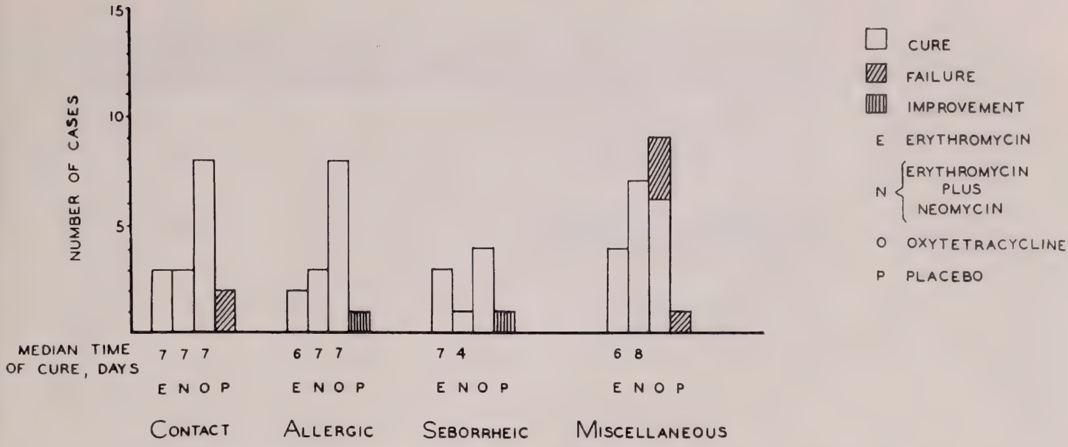

Fig. 2. Results in treatment of secondary infections in various dermatoses

present developed resistance to the antibiotic. One patient with an infected varicose ulcer was treated for eighty-four days with erythromycin-neomycin ointment and supportive bandage. The ulcer measured 5 by 10 cm. Cultures showed Pseudomonas aeruginosa, Proteus, and nonhemolytic streptococcus, all of which were sensitive to neomycin. Repeat cultures after two months showed only Bacillus pyocyaneus still sensitive to neomycin. When the ulcer was completely healed, only coagulase-negative Staph. albus was cultured.

In Figs. 1 and 2 are listed 20 patients who were treated with the exact same routine, namely, warm saline compresses, removal of crusts, and a thorough application of the ointment. The only difference was that the ointment contained no antibiotic. These were unselected cases, and the severity and duration did not differ materially from that in the other three groups. Of eight patients with impetigo six were unimproved, and two were improved. Of the six unimproved the results were as follows: The first patient's lesions enlarged and spread to new areas over nine days of treatment with the placebo ointment; cure in four days resulted from application of the erythromycin-neomycin ointment. The second patient's lesions had spread after ten days treatment, and the patient consulted a local doctor who cured the patient with penicillin injections. The third patient developed new lesions, and the old lesions spread during seven days of placebo treatment; this patient's lesions all healed in three days with erythromycin ointment. The fourth patient had one small lesion of impetigo. After one week with placebo ointment, many new lesions had appeared; with erythromycin ointment clinical cure occurred in five days. The fifth patient with many lesions continued to develop new lesions and spread of old lesions for one week; with the use of erythromycin ointment he cleared in six days. The sixth patient remained unchanged after one week of placebo ointment treatment and cleared after five days with erythromycin ointment.

The first patient with impetigo which improved on using placebo ointment had an impetigo on the right axillary fold. After fourteen days the lesions were much smaller but still infected in the center, and a new lesion had appeared on the arm. Under erythromycin she cleared in four days. The second patient, although improved at the end of fourteen days, was not well. She cleared in three days using erythromycin ointment. Only coagulase-negative Staph. albus was cultured at the end of fourteen days. One patient with ecthyma was treated for fourteen days with no improvement while using placebo ointment, and cultures remained positive for hemolytic streptococcus. Using erythromycin ointment, she was well in seven days, and cultures were negative.

The results in the three patients with infectious eczematoid dermatitis were as follows: The first patient had a lesion on the ear which spread while under treatment with placebo ointment for fourteen days. With the use of erythromycin-neomycin ointment she improved quickly and then disappeared from observation. The second patient had lesions on the face, chest, and back. After seven days of treatment the lesions on the back spread. After fourteen days the patient stopped the placebo ointment, saying that it made

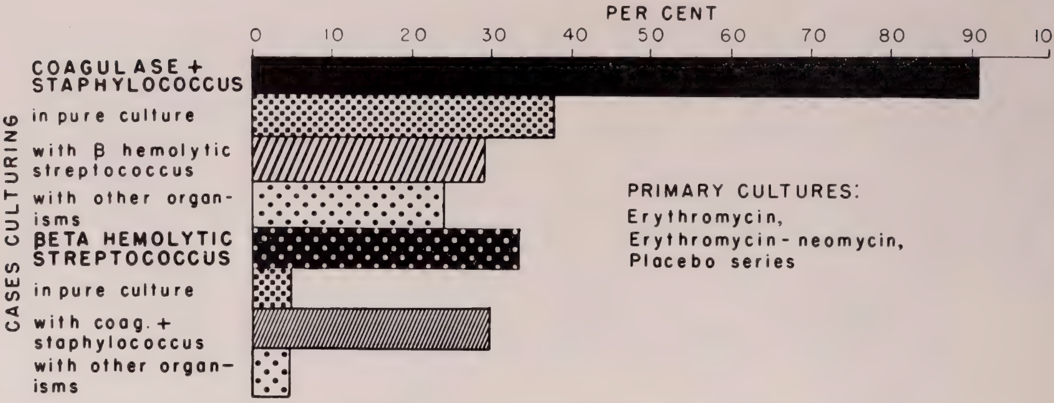

FIG. 3. Analysis of bacterial flora in 92 cases of pyogenic skin infections, 1953.

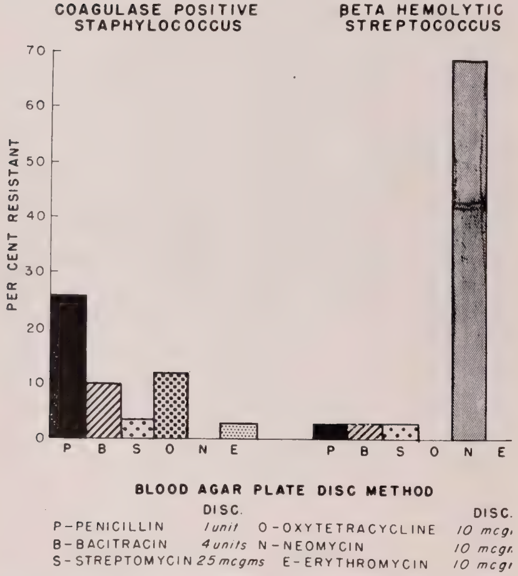

FIG. 4. Bacterial resistance to antibiotics in pyogenic infections of the skin, 1953.

her worse. She was well after using erythromycin ointment for one week. The third patient had a lesion on her ear which on culture showed a Staph. aureus. No improvement was noted after using placebo ointment for sixteen days, and the patient was not cured after twenty-four days, although some improvement was present. On application of erythromycin ointment she was completely well in seven days.

One patient with vesiculopustular eruption of the left hand cleared in fourteen days. Hemolytic streptococcus, which was originally found on culture, was still present fourteen days later on repeat culture.

Of the two patients with secondarily infected contact dermatitis, the first was much worse after five days of placebo ointment. She stopped the ointment. In seven days she was well after using erythromycin-neomycin ointment. Coagulase-positive Staph. aureus was found on two occasions while the patient was using placebo, but only coagulase-negative staphylococcus was recovered after the use of erythromycin-neomycin ointment. The second patient's condition remained stationary while using the placebo ointment, and cultures remained positive for Staph. aureus. The lesions cleared in seven days with erythromycin ointment.

One patient with secondarily infected allergic dermatitis showed moderate improvement after fourteen days use of placebo ointment. Staph. aureus and hemolytic streptococcus were originally found in the cultures, and the Staph. aureus persisted in the repeat cultures. On use of erythromycin-neomycin ointment the patient was clinically cured in seven days, and cultures showed no growth.

One patient who had seborrheic dermatitis of the scalp with secondary infection showed slight improvement after eight days of placebo treatment. She cleared in three days while using erythromycin-neomycin ointment.

One patient with infected operative scar showed no clinical improvement after the use of placebo ointment for seven days. Lesions cleared in four days when erythromycin ointment was used.

Bacteriologic Studies

An analysis was made of the bacterial flora of the primary culture from 92 cases of the erythromycin, erythromycin-neomycin, and placebo groups (Figs. 3 and 4).

The beta hemolytic streptococci were not grouped, and, therefore, groups other than A may be included. In our experience we have not encountered a known group A hemolytic streptococcus resistant to penicillin. It is of interest to compare the incidence and distribution of the predominant species of bacteria in this present series with that from similar cases of infection studied in 1949.[2]

It would seem that there has been little change in flora of pyogenic infections of the skin. The drop in the percentage of hemolytic streptococcus in 1953 will have to be substantiated in future studies before it will have any real significance statistically. However, a comparison of susceptibility of the coagulase-positive staphylococcus to various antibiotics isolated from infections in 1949–1953 does reveal a statistically significant drop in resistance of Staph. aureus to penicillin and a slight rise in resistance to oxytetracycline.

Organisms other than coagulase-positive staphylococcus and hemolytic streptococcus had a chance distribution and probably represent contaminants from the contiguous skin areas except in varicose ulcers and otitis. A possible exception to this is the coagulase-negative staphylococcus isolated in pure culture from some cases of folliculitis. Sixteen strains of gram-negative bacilli were recovered from 13 cases of the erythromycin, erythromycin-neomycin, and placebo groups. All 16 strains were susceptible to neomycin, although the Ps. aeruginosa could only be considered "slightly sensitive" by the disc plate method, and this organism persisted in repeat cultures for over two months.

Comment

Erythromycin proved to be an effective agent for the topical treatment of pyogenic infections of the skin. When judged by median time of cure and percentages of cure and failure, the results are similar to those with oxytetracycline and those reported in our previous studies with other antibiotics.[1−3] Sensitization of the patient to erythromycin was not noted in this series. One patient complained of burning following application of the ointment. However, two other patients complained of the same sensation. One was using erythromycin-neomycin and the other oxytetracycline. A patch test to the antibiotic used was negative in each instance. One of the patients, a beauty parlor operator, had a positive patch test to "nutrine" used in her work, and this preparation was thought to be responsible for her dermatitis. This patient has not been included in the series of therapeutic results since she was lost to observation. These findings agree with those of Robinson and Zeligman[4] and Livingood *et al.*[5] who found erythromycin effective with no evidence of attendant sensitization of the patient.

Haight and Finland[6] reported development in vitro of resistant strains of organisms to erythromycin. In repeat cultures we found no evidence of development of resistance by the organisms present in this series of infections. However, the duration of treatment in the majority of cases was short; deep tissues were not invaded, and the concentration of antibiotic was very much greater than could be obtained in parenteral therapy. We did have three strains of coagulase-positive staphylococci which were resistant to erythromycin on original culture (disc-plate method).

Lepper, Moulton, Dowling, Jackson, and Kofman[7] have reported that during a three-month intensive study of erythromycin, the carrier rate of staphylococci resistant to erythromycin rose from 0 to 75 per cent among hospital personnel concerned with patient care. Four months after the conclusion of the erythromycin study this rate had dropped to 29 per cent. However, the same phenomenon has been observed with other antibiotics under similar circumstances. A discussion of whether the resistant strains represent an acquirement of resistance by originally sensitive strains or an elimination of sensitive strains and cross implantation with originally resistant strains is beyond the scope of this paper.

In our studies with Tyrotrace[3] we were unable to demonstrate any distinct advantage with the combination of bacitracin and tyrothricin over these antibiotics used singly. This combination, however, did not broaden the antibacterial spectrum, and any advantage would have been due either to a synergistic action of the two antibiotics or to a susceptibility of an individual strain to one of these agents where treatment would have failed because of resistance to the other. The results obtained with the combination of erythromycin and neomycin are in general agreement with those found when these antibiotics have been used singly, and no distinct advantage was found in the combination in infections with this restricted type of bacterial flora.

For the purpose of evaluating whether the local use of high concentration of an antibiotic could overcome "resistance," it was unfortunate that the three instances where the Staph. aureus was resistant to erythromycin on original culture should occur in patients treated with the erythromycin-neomycin combination. Another case from which only Ps. aeruginosa and Proteus, which are erythromycin resistant, were recovered was by happenstance also treated with the combination of these antibiotics. However, these cases could be used as examples of the desirability of use of a combination, especially before the bacterial flora has been ascertained.

In informal discussions the necessity for the use of any antibiotic in the local treatment of pyogenic infections has been questioned. Thorough removal of crusts and soothing ointments have been claimed to be sufficient to produce a cure. Strauss and Baldridge[8] stated that this had been their experience. Careful analysis of the results reported in detail here shows that although an occasional patient may be cured by using these methods alone, the over-all picture shows an unquestionable advantage when antibiotics are used. Repeat cultures remain positive for the organisms present originally; the infections persist, and spread is more prone to occur without use of the antibiotic. It is interesting that when the antibiotic was used after the placebo had failed, cure seemed to occur consistently more rapidly than was the case when the antibiotic ointment was used initially.

Following our findings of 5 per cent sensitization of patients following topical use of sulfonamides and a similar high rate with penicillin, we took the position that antibiotics widely used for internal administration should not be used locally because of the danger of sensitizing the patients.

For local therapy we have advocated bacitracin, neomycin, and polymyxin B. Livingood and Mullins[9] have expressed the same views. However, experience with bacitracin, chlortetracycline, oxytetracycline, and now with erythromycin shows sensitization to these antibiotics of only 1 per cent or less of the patients. Widespread use of these antibiotics locally has produced little evidence that sensitization of patients has been a factor in preventing their use when needed for internal administration. Today the evidence indicates that while, in general, antibiotics not intended for parenteral use and of proved effectiveness locally should still be given preference, the use of chlortetracycline, oxytetracycline, and erythromycin in local therapy seems justified. The use of sulfonamides or penicillin in local therapy is not justified.

Meleney and Johnson[10] report 31 per cent occurrence of resistance to penicillin by the Staph. aureus present in surgical infections in the outpatient clinics in 1952 and 26 per cent in the early months of 1953. This corresponds closely with the 26 per cent found in this series and is of interest because the patients in both instances came from the same geographic location.

Oswald, Reedy, Randall, and Welch[11] report that only 17.6 per cent of staphylococci strains recovered in 1953 from nose and throat cultures of "inductees" in the Washington, D.C., area were penicillin resistant. This is in sharp contrast to the 72 per cent resistance from similar recoveries from the personnel of the "antibiotic laboratory."

The 12 per cent resistance of Staph. aureus to oxytetracycline encountered in our 1953 studies suggests that increased resistance to each of the antibiotics will be a continuing problem as they are more widely used. This is another argument for local use of antibiotics not widely used internally.

Conclusions

1. Erythromycin and oxytetracycline are effective antibiotics for local therapy of pyogenic infections of the skin.
2. No example of sensitization of the patient to the antibiotics used was encountered.
3. The combination of erythromycin-neomycin in an ointment base gave no decided advantage over the antibiotics singly in this type of infection.
4. The same routine of treatment with omission of an antibiotic gave decidedly poorer results than those when antibiotics were used.

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Clinical Evaluation of Large Doses of Methylparafynol (Dormison) Liquid in Psychiatric Patients

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RECENT investigators have reported favorably on hypnotic effect and low toxicity of Dormison. Chevalley and associates[1] state, "Methylparafynol (Dormison), representing a new class of drugs, possesses hypnotic activity of rapid onset and short duration when doses of 200 to 300 mg. are administered orally. The drug may be employed with complete clinical safety, even in large overdoses. It is quickly metabolized to simple end products and is thus free from 'hangover' symptoms. However, due to its rapid breakdown, it is most effective in those patients who are free from severe pain and marked mental agitation."

Lemere[2] describes an attempted suicide with 35 capsules of Dormison (250 mg. each) and four capsules of Nembutal (total of 6 grains). Recovery following stimulation was essentially uneventful.

May and Ebaugh[3] discuss the value of Dormison in the treatment of aging and senile patients. They regard Dormison as the hypnotic agent of choice. Even in large doses, action was said to be short, toxicity low, and adverse side-effects few. The authors stress the increased danger of toxic reactions to hypnotics in older persons. Barbiturates may depress or excite the higher centers.

Therapeutic administration of barbiturates can become hazardous when renal or pulmonary disease is present. Bromides should be given with great care in advanced arteriosclerosis, chloral hydrate conservatively when the patient is very old or debilitated. Paraldehyde seems equally safe, but its taste and persistent smell may be a source of disturbance.

Malone, Klimkiewicz, and Gribetz[4] present the case history of a four-year-old female child where favorable effects on restlessness and bed wetting were obtained with repeated doses of 200 mg. of Dormison during the day and 100 mg at bedtime.

Scope of Clinical Investigation

This study included 51 psychiatric patients. Dormison liquid in doses of 1,000 mg. (16 cc.) was given at bedtime daily for a period of two to ten days. A small control group of eight patients received a placebo liquid preparation. The patients were observed for the effectiveness and toxicity of large doses of Dormison.

Patients were selected for their degree of insomnia regardless of psychiatric diagnosis. Other hypnotic drugs given prior to Dormison were discontinued and a sufficient interval permitted to eliminate the possibility of a cumulative effect from other soporific agents.

Criteria for determining effectiveness of the drug were based on the patient's ability to fall asleep, maintain sleep, and fall asleep again after waking up. After-effects were evaluated according to the patient's condition on awakening, particularly in regard to "hangover," drowsiness, and such side-effects as nausea, headaches, and dizziness. The group receiving Dormison for ten days was tested for any possible effect on kidney function, liver function, and the hemopoietic system. Laboratory studies were also done in these patients prior to the administration of the drug. Our interest focused further on the effectiveness of the drug for various age groups and on special suitability in some and ineffectiveness in other syndromes.

Procedure

A group of 51 patients was tested. Each patient took 1,000 mg. Dormison daily for two to ten days. Ages ranged from sixteen to eighty. Both sexes were represented with males outnumbering females. The degree of insomnia was classified as severe, ranging from total insomnia to two hours sleep; moderate, patients able to sleep three to four hours; and mild, patients able to sleep from four to five hours. The effect of

TABLE I.—Age Distribution of 51 Patients

Age (Years)	Number of Patients
10 to 19	5
20 to 29	12
30 to 39	10
40 to 49	13
50 to 59	5
60 to 69	2
70 to 79	3
80 or over	1

TABLE II.—Analysis of Results According to Sex

Results	Males	Females
Good		
Number	26	7
Per cent	67	58
Fair		
Number	3	3
Per cent	8	25
Poor		
Number	10	2
Per cent	25	17
Total patients		
Number	39	12
Per cent	100	100

the drug was termed good if the patient slept seven to eight hours, fair if he slept four to five hours, and poor if he slept one to three hours. Effects and side-reactions were largely determined according to the patients' statements but also after consultation with nurses' notes. Subjective observations were carefully evaluated. If the results were borderline, such as fair to good or fair to poor, the ultimate reaction, e.g., either good or poor, was recorded in our tables.

In addition to the 51 patients taking Dormison, eight controls were tested over a period of ten days. For our control patients a specially prepared placebo was used. This liquid preparation had all the outer attributes of Dormison liquid but differed slightly in taste. However, since our Dormison and control patients never took both liquids, no problem arose in this respect. Laboratory data on our patients included urinalysis, complete blood counts, icteric index, van den Bergh, cephalin flocculation, and nonprotein nitrogen.

Clinical Observations

There were 39 male and 12 female patients given methylparafynol (Dormison). Seventeen patients suffered from severe insomnia, 23 from moderate insomnia, and 11 from a slight insomnia. The largest representation of patients was obtained in the forty to forty-nine age group (Table I).

A total of 33 patients (65 per cent) obtained good results from 1,000 mg. of Dormison liquid, including rapid action as well as prolonged hypnotic effect. Six patients (12 per cent) were rated as fair in regard to initiation, duration, and maintenance of sleep, and 12 (23 per cent) were rated as poor.

In our control group no beneficial effect of the drug was noted except in one patient whose response was classified as fair. The degree of insomnia in the Dormison group corresponded to the control group and was predominantly moderate.

Of 39 male patients there were 26 good, three fair, and ten poor results (Table II). These figures indicate somewhat better results in the female group than in the male group. The importance of these findings, however, should not be overrated in view of the limited number of cases. Further investigations along these lines will contribute to a more comprehensive picture.

No appreciable side-reactions or after-effects were reported. One patient complained of a "hangover" after the initial medication, two of a slight "hangover" the following morning, and one of a morning headache.

Two patients who had been tried on a variety of hypnotic drugs before stated that Dormison was the only drug which helped. One of these patients, age fifty-five, suffered from severe insomnia; the other, age forty-four, from moderate insomnia associated with chronic alcoholism. One patient, age twenty-eight, suffering from an anxiety reaction reported an improvement of sleep but complained that her somatic symptoms persisted. One patient with otherwise good results reported that he had difficulty in staying asleep; another emphasized the fact that he was better able to return to sleep since taking the drug.

Mild gastric distress was noted by two, slight headache by four, and dizziness by one. However, complaints of headache and grogginess were also elicited in the control group. Inasmuch as the patients included in this study represented a cross section of all wards of the Psychiatric Division, many subjective complaints may have had their roots in a certain suggestibility of the patient or were part of the patient's psychiatric symptomatology and not otherwise connected with his sleep habits.

As for the 18 fair or unsatisfactory results, it was noted that 12 patients with more severe psychiatric syndromes, such as schizophrenic reactions of long duration, severe anxieties, and pronounced agitation, showed a poorer response to Dormison than those suffering from milder neurotic states or pseudoneurotic schizophrenia. Resistance to drugs commonly found in patients with chronic alcoholism applied also to Dormison and rendered it relatively ineffective in six cases. The degree of residual sleep impairment depended in those cases more on the severity of the psychiatric disturbance than on any particular diagnostic entity.

Four patients with arterioslerotic or senile syndromes responded well, two poorly to Dormison. However, the relatively small number of patients in the old age group did not permit definite conclusions as to the effectiveness of the drug in disorders of the senium.

Laboratory Findings

Urinalyses.—Urinalyses before and after the administration of Dormison showed only minor changes, if any. In one patient a faint trace of albumin before onset of medication was still detectable after ten days. There were slight but not significant fluctuations in specific gravity in both directions. One patient showed a small number of white blood cells after ten days. Findings thus obtained were not conclusive of any pathologic effect on the kidney or urinary tract attributable to Dormison.

Blood Counts.—Complete blood counts before and after medication failed to indicate any noteworthy variations.

Blood Chemistry.—Icteric index ranged generally from 3 to 6 and was recorded as 7 in one instance. There were no noticeable fluctuations which could have been caused by Dormison.

Cephalin flocculation showed values from negative to 1 plus; van den Bergh was recorded negative in every instance. Nonprotein nitrogen remained within normal range. Evaluation of all laboratory data showed that there was no alteration due to the effect of Dormison.

Comment

Dormison (methylparafynol) was evaluated in previous reports in dosages up to 500 mg. per day. Our study has confined itself to Dormison liquid in dosages of 1,000 mg. per day. We have shown that in increased dosage methylparafynol is a safe, rapidly acting drug which causes few and only transient side-effects. Previously established dosages may be exceeded without hazard to the patient. Even after 1,000 mg. of Dormison, the patient awakens without the feeling of fatigue and unsteadiness commonly experienced when hypnotic doses of barbiturates are given.

In the range of clinical disorders it was our impression that patients with a milder psychiatric symptomatology showed a better response to Dormison than patients suffering from more severe and chronic conditions. Laboratory findings indicated that blood counts, blood chemistry, and urinary findings are not materially altered after 1,000 mg. of Dormison per day has been given for ten days. Large doses of Dormison liquid, although varying in effectiveness, are well tolerated by patients with various psychiatric syndromes, ranging from simple anxiety to severe schizophrenic or organic reactions, who suffer from a mild, moderate, or severe degree of insomnia. Somatic functions were not affected.

Previous observations showing Dormison to induce sleep appear to retain their validity when the drug is given in higher concentrations and in liquid form.

Conclusions

1. Dormison liquid, 1,000 mg. per hypnotic dose, is an effective, rapid-acting drug without major side-reactions.
2. Patients suffering from mild and moderate psychiatric syndromes with corresponding insomnia respond more favorably to the drug than those more severely and chronically disturbed.
3. No adverse effect on kidney, urinary tract, liver function, and blood-forming system was observed.

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A Survey of General Surgical Procedures in a Group of Emotionally Disturbed Women Patients

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IN MAKING a diagnosis of an organic illness requiring surgical intervention, one often must depend to a large extent upon the accuracy of the patient's symptomatology. The story obtained is always a mixture of the actual effects of pathology present and the patient's individual emotional reaction to the changes taking place. In the patient suffering from an emotional illness, the report can vary from frank malingering or completely emotionally determined symptomatology, through overemphasis or underemphasis on symptoms, up to complete uncommunicativeness on the patient's part.

The decision as to the existence and extent of the pathologic process and whether a surgical procedure is indicated is usually based on our estimation of the patient's accuracy, on the way in which the history holds together, and on the physical and laboratory findings in the particular case. Most physicians can probably recall several cases in their experience in which it was believed that organic disease existed to an extent requiring surgical intervention and in which it was subsequently discovered that no such pathology was present.

As an example a twenty-six-year-old nursery school teacher was treated in the women's division of the New York Hospital-Westchester Division. She comes of sturdy Scandinavian Lutheran stock, and no history of frank mental illness is noted in her forebears. Her father went through a period of agitation and depression shortly after the patient's birth associated with prolonged vomiting. She developed normally during childhood, did well in grammar school, high school, and college, becoming a normally gregarious, social, active adolescent.

At the age of twenty-six she received a nursing position as a nursery school teacher in a general hospital. After approximately eight months at this work, while watching a physician dress a wound, she became "dizzy, weak, and nauseated" and reported off duty to the employes' infirmary. She improved in a week on bed rest, soft diet, bismuth, and antispasmodics. She reported for duty at the end of that week, vomited her breakfast, and was immediately readmitted to the infirmary where she vomited everything taken by mouth about ten minutes after eating. She was put on a regime of intravenous fluids, nothing by mouth, and light sedation. The nurses in charge complained that she was "uncooperative, difficult to manage, and resentful of their efforts to help her." She "acted depressed, morose, and didn't seem to recover." Her physical and laboratory findings were unremarkable.

During this second admission to the infirmary a gastrointestinal series was done and read as showing "congenital anomaly of the stomach either due to malrotation of the gut or possibly a band cradling the antrum and causing tension upon the duodenal swing." She was admitted to the main hospital, and an exploratory laparotomy was performed during which "her organs were found to be normal." Beginning at the fundus the greater curvature of the stomach was attached to the parietal peritoneum and anterior abdominal wall. Postoperatively, she was able to retain small amounts of fluids but had attacks of severe epigastric cramps associated with excessive thirst and marked trembling, unaltered by antispasmodics or antacids. About two weeks postoperatively, nausea and vomiting began again. The patient became depressed, was markedly uncooperative, and read her doctor's order sheet. She became more disturbed when she noted that a "sterile hypo" had been ordered. A psychiatric consultant saw her for the first time, "discussed the problem of eating," and after a few days the patient improved. Upon discharge she almost immediately began to vomit and have epigastric pain.

She was admitted for the third time and treated with intravenous fluids, sedation, and isolation. She became resentful, antagonistic, pulled the intravenous infusion needle from her vein, refused to stay in bed, and was finally admitted to the New York Hospital-Westchester Division where she demonstrated no food intolerance but had occasional epigastric soreness. A review of her initial gastrointestinal series has now been reread as negative.

An even more difficult decision is faced when organic pathology is present but the decision to operate must be based on a patient's subjective

TABLE I.—RESULTS

	All Subjects		Psychoneuroses		Manic Depressive Psychoses		Dementia Praecox (Schizophrenia)		All Other Psychoses	
	Patients	Controls	Patients	Controls	Patients	Controls	Patients	Controls	Patients	Controls
Number of patients	300	300	61	61	65	65	151	151	23	27
Average age	32	32	29	29	28	28	33	33	47	47
Number having operations	129	68*	39	14*	29	14*	46	33	15	7
Total operations	183	83*	64	18*	42	17*	58	37	19	11
Per cent having operations	43	28*	65	23*	45	21	31	22	65	30
Number of gynecologic and rectal operations	80	20*	26	3	21	5	23	6	10	3
Per cent gynecologic and rectal of total operations	44	22*	41	16*	50	34*	40	16*	53	27*

* Probable error less than 0.01.

symptomatology, as in the treatment of some hemorrhoids or hernias. The occasional unhappy consequence of intervention in cases when most of the symptomatology is emotionally determined is either an increase in the symptomatology postoperatively or the transfer of the symptomatology to some other organ system. Many such patients very readily blame their physician bitterly after such procedures.

Several surveys of surgical procedures in mentally ill patients have been reported in the literature.[1-3] They have consistently shown a slight increase in the rate of surgical procedures in mentally ill patients as compared with controls from the general population. The increase is most marked in the psychoneurotic patient. For instance, in a study of 214 chronic psychoneurotic women by Ulett and Gilday,[1] 60 per cent of these patients were found to have had major surgical procedures, while only 32 per cent of the control group had had major operations. Surgery in the pelvic region was even more prevalent, 43 per cent of the psychoneurotics having had such procedures while only 13 per cent of the control group had had gynecologic intervention. Similarly in a study by Clarke and Ziegler[2] of 356 hospitalized psychiatric patients, 63 per cent of the total group including all diagnostic categories had had operations, while 57 per cent of the controlled group had had surgical procedures. Seventy-three per cent of the psychoneurotic patients in this study had been operated upon.

All of the studies reviewed, however, have suffered from the lack of an adequate control group. Hence, it was decided to study a group of 300 patients from the women's service at the New York Hospital-Westchester Division and to compare them with a control group from the same social and economic setting of the same age and of the same marital status. This was achieved by matching each patient with a control subject of the same age, social group, and marital status who had neither been hospitalized for mental illness nor treated by a psychiatrist. All surgical procedures performed after the subject's fifteenth year, excluding tonsillectomy, removal of skin lesions, obstetric procedures, and repair of traumatic lesions were recorded (Table I).

Of the total 300 patients, 129 had had major operations, while only 68 of the controls had been operated upon. These 129 patients had had 183 operations, while the 68 controls had had only 83 operations. Thus, multiple procedures are more common in the patient group. In view of the psychologic importance of the genital and rectal areas, an interesting comparison is seen in the rate of surgery in these areas. Of the 183 operations in the patient group, 43 per cent were genital or rectal, while only 21 per cent of the controls' operations were in this area.

When one considers the diagnostic categories separately, other interesting findings are apparent. In the psychoneurotic group 65 per cent of the patients had had operations as against 23 per cent of the control group. The 39 operated psychoneurotic patients had had 64 operations, while the 14 controls who had had operations underwent only 18 operations. It appears then that multiple procedures were especially common in the psychoneurotic group.

The patients in all the separate diagnostic categories had significantly more operations than the respective control groups with the single exception of the dementia praecox group where the rate of operations between patients and controls was statistically similar.

It is particularly interesting to note that while the schizophrenic patients have significantly no more operations than their control group, they tend to have a much higher percentage of gynecologic and rectal operations, 40 per cent versus 16 per cent. Thus, while the schizophrenic patients do not have a large number of surgical procedures, when they do have surgery done, it tends to be in the pelvic or rectal areas.

The increased rate in both the patient and control group in the category "other psychoses" is probably a reflection of the higher age in this group since it contains a relatively larger proportion of involutional reactions.

Thus, from the survey we can say that there seems to be an increase in the surgical rate in emotionally ill people and that there seem to be certain differences in the separate diagnostic categories. We can only conjecture as to the reasons for this increase, but we can offer some hypotheses to explain the differences.

Perhaps emotionally ill individuals tend to have more disease as a result of some constitutional inferiority, or the organic lesions may arise from the somatic effects of psychic events. Perhaps the increase in rate of operations is due to an increased emotional reactivity to symptoms on the part of patients, whereas such symptoms might not be a matter of concern to a more stable person. Perhaps the difference in surgical rates is explicable on the basis of the meaning of surgery to an emotionally ill patient. Such a dynamic fact could operate several ways: first, on a more superficial level of the patient's being allowed to blame his symptoms on the socially acceptable organic illness, this being coupled with the desire to lose all of his symptoms in a definitive way; second, the advantage of being an invalid temporarily with a chance to regress and be cared for. On a deeper psychologic level there is probably some masochistic factor in the surgical procedure. The fact that genital and rectal procedures are preferred by patients also makes us look toward the symbolic meaning of such procedures to the patient.

Probably, however, the increase is more likely not to be assigned to any one of the above reasons but rather to a combination of all, varying in importance from patient to patient. It is obvious that we are not going to be able to exclude from operations all patients whose symptoms are primarily emotionally determined. In the area of a surgical emergency the benefit of the doubt should certainly be on the side of the existence of organic disease. On the other hand, we would suggest careful consideration of the elective surgical procedures, particularly gynecologic, rectal, and plastic operations, from a psychologic point of view. In the process of such consideration we would suggest the following: first, a level of clinical suspicion can be aroused by the manner in which the patient describes his illness; second, a short history of the life situation in which the patient's symptoms first arose should certainly be taken and will often point out important psychogenic factors. Once a clinical suspicion is aroused, several courses of action suggest themselves before surgery. One might try such simple procedures as allowing the patient to ventilate his feelings followed by an attempt at reassurance by the clinician. A psychiatric consultation can be sought when some doubt exists as to the importance of the emotional factors of patients' symptoms. In some cases it might even be efficacious to attempt a brief trial of psychotherapy in an effort to determine whether a temporary alleviation of symptoms can be achieved. Almost never, we would state categorically, should a general surgical procedure be aimed at the alleviation of symptoms which are not believed to be based on an organic lesion.

Summary

The difficulties encountered in diagnosing pathologic processes requiring surgical intervention in emotionally ill persons are discussed. The case of a twenty-six-year-old nursery school teacher who was operated on for what appears in retrospect to have been psychogenic vomiting is presented.

The results of a survey of 300 women patients at the New York Hospital-Westchester Division with a control group matched with respect to age, marital, and socioeconomic status are presented. The main findings are as follows:

1. The surgical rate among patients was 43 per cent, in the controls 28 per cent.

2. The psychoneurotic group had a surgical rate of 65 per cent, the matched controls 23 per cent.

3. Each diagnostic category had a surgical rate significantly higher than the controls with the exception of the schizophrenic group where the rate was not significantly higher than the control group.

4. Patients tended to have multiple procedures.

5. In the patients in all diagnostic categories gynecologic and rectal procedures made up 44 per cent of the operations, but in the control group these procedures constituted only 20 per cent of the operations.

Several hypotheses are offered to explain these differences, and some suggestions are made to the end of avoiding surgery for emotionally determined symptoms.

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The Henry Approach to Femoral Hernia

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THE traditional routes for repair of femoral hernia are through the femoral and inguinal areas. There has been an unwarranted complacency concerning the end results obtained by these operations. Recently it has been estimated that the recurrence rate following the usual methods of repair is about 4 to 6 per cent.[1] Others have observed that the incidence of recurrence approximates that of direct inguinal hernias. Zimmerman and Anson[2] state that, "the results should serve to jar the profession from the complacent attitude which so frequently prevails toward the operative repair of femoral hernia and offer further incentive to the development of a procedure which offers better prospects of permanent relief."

Despite their widespread use the femoral and inguinal operations are anatomically inadequate in several respects. In the femoral approach it is often technically difficult or impossible to approximate the shelving border of the inguinal ligament to Cooper's ligament since exposure of the femoral ring is usually unsatisfactory, the larger end of the cone-shaped femoral canal being approached from the apex of the cone (Fig. 1).[2] In this situation the inguinal ligament is coapted to the pectineus fascia. This structure often lacks sufficient substance and strength to provide satisfactory repair.[3]

With the femoral approach an anomalous obturator artery is not easily accessible if it is torn. This anomalous vessel originates from the external iliac or inferior epigastric artery and is present in 25 to 30 per cent of cases.[4] It courses over the neck of the sac and represents a very real surgical hazard because of this critical position (Fig. 2).[3]

The inguinal approach, while considered more satisfactory than the femoral approach, has the disadvantage of invading the intact inguinal mechanism, and inguinal hernias have been reported following femoral herniorrhaphy through this incision (Fig. 1).[3]

In both inguinal and femoral approaches there frequently is difficulty in assessing bowel viability, and exposure is poor when bowel resection is necessary. The importance of this is emphasized by the fact that about 25 to 40 per cent of femoral hernias incarcerate or strangulate.[2] It is of further interest to note that approximately 20 per cent of cases present with bilateral femoral hernias.[5] With both of these commonly used approaches, ligation of the hernia sac flush with the peritoneal contour may not be achieved, resulting in a peritoneal dimple which may act as a starting point for recurrent hernia.[5,6]

The low anterior midline extraperitoneal ap-

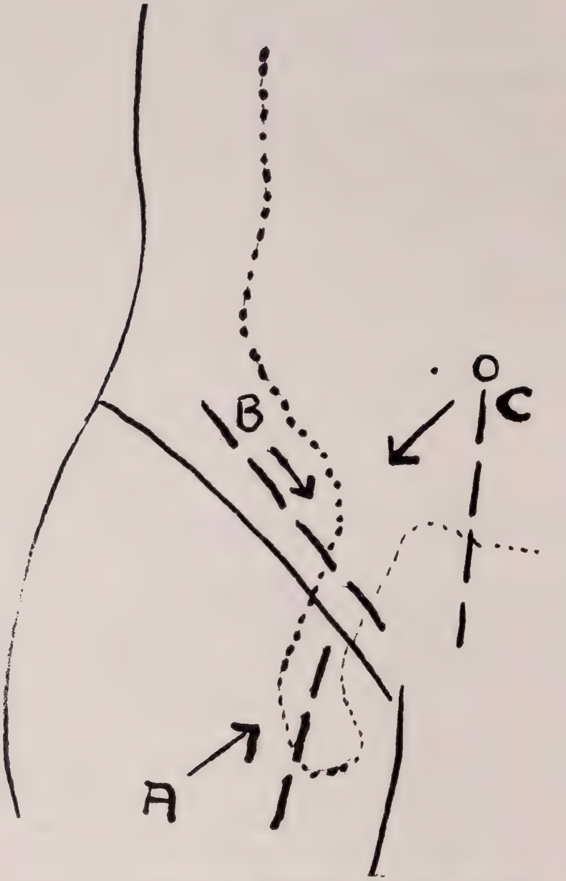

FIG. 1. (*A*) Femoral approach—The neck of the sac is approached from the most distal point. (*B*) Inguinal approach—Intact inguinal walls are opened. (*C*) Henry approach—Approach to neck of sac is from above. Inguinal mechanism remains intact.

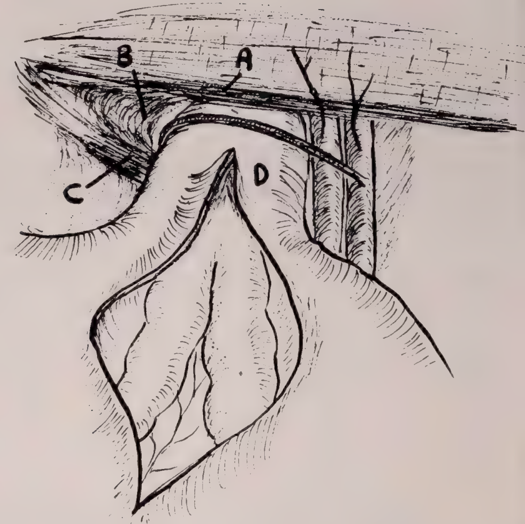

FIG. 2. Diagrammatic view of operative area fror above: (*A*) Inguinal ligament. (*B*) Lacunar ligament; this may be incised medially to facilitate reduction of the hernia sac. (*C*) Cooper's liagment. (*D* Femoral hernia sac containing bowel; this may b opened at its neck, as demonstrated, to facilitat reduction of bowel. An anomalous obturator arter is shown originating from the iliac artery and passin over the femoral sac.

proach of Henry is not widely known, and we have been able to find only two reports of its use in the American surgical literature which comprise a total of 18 cases operated on by this method.[1,5] Henry noted that through this approach there was "admirable exposure of the femoral ring—like that of a specimen prepared for demonstration."[6] Through this incision both femoral canals may be explored, and bilateral femoral hernias may be repaired at the same operation. The viability of incarcerated bowel is easily established, and an anomalous obturator artery is readily identified and ligated. The iliac vein is under direct vision for protection during approximation of the shelving border of the inguinal ligament to Cooper's ligament, and the hernia sac is readily ligated flush with the peritoneal contour (Fig. 2).

Technic

With the anesthetized patient in slight Trendelenburg position, a low midline abdominal incision is made to the peritoneum. The intact peritoneum is then separated from the abdominal wall laterally and inferiorly to the femoral canal. With the abdominal wall retracted laterally the operative area is widely exposed. If an anomalous obturator artery is present, it is readily apparent and is ligated. The sac is removed from the canal by gentle traction and blunt dissection. This may be facilitated by incising the free margin of the lacunar ligament. The femoral canal is then obliterated by coapting the inguinal ligament to Cooper's ligament. During this repair the iliac vein is under direct vision and is afforded maximum protection. The sac is then excised and its neck closed (Fig.3).

If the sac contains incarcerated structures, prior to its removal from the femoral canal the peritoneum at the base of the sac may be incised. This will facilitate reduction and also offers ample exposure for determining tissue viability of the incarcerated organs. If bowel resection is necessary, the peritoneum may be opened as widely as needed from the initial point of peritoneal incision.

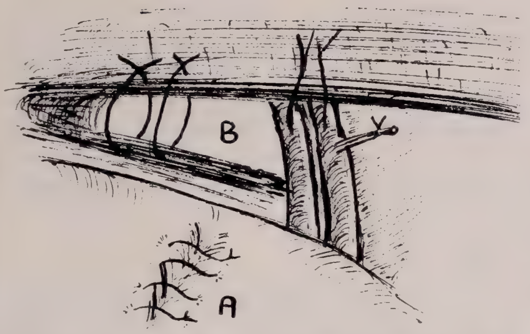

Fig. 3. (*A*) Hernia sac has been excised and peritoneum closed. (*B*) Femoral canal being obliterated by a series of silk sutures coapting the inguinal and Cooper's ligaments from the lacunar ligament to the iliac vein. The anomalous obturator artery is shown ligated.

Following sac excision and femoral canal repair, the midline wound is closed in the usual manner.

This method of repair actually represents a modification of Henry's original description in that he obliterated the femoral canal by elevating a triangular pedicle of pectineus fascia based on the pectineus muscle belly and the lacunar ligament and by coapting the free margin of this flap to the shelving border of the inguinal ligament. He then reinforced this repair by bringing together the inguinal and Cooper's ligaments. He also proposed an alternative pectineus fascial flap based on Cooper's ligament.

Cheatle[7] in 1921, in reporting on the extraperitoneal approach to inguinal hernia, mentioned that he had used this approach for several femoral hernias. He obliterated the femoral canal in some cases by turning periosteal flaps from the pubes and in other cases by plugging the femoral canal with a long, coiled segment of the saphenous vein which had been dissected to the knee.

We have had the opportunity to use Henry's superior approach on three consecutive cases of femoral hernia. These are briefly reported.

Case Reports

Case 1.—I. A., a thirty-eight-year-old, white female, was admitted to Nassau Hospital on September 27, 1953, with a large fibroid uterus and a reducible right femoral hernia.

On the day following admission, under general anesthesia, a total hysterectomy and left salpingo-oophorectomy were done through a low midline incision by Dr. Andrew Sherwin of the gynecologic staff. At this time omentum was found in the hernia sac and was readily reduced. Following completion of the pelvic surgery one of us (D.J.) repaired the femoral hernia through the same approach.

The hernia sac was easily reduced without incising the lacunar ligament. The inguinal ligament was then approximated to Cooper's ligament from the free margin of the lacunar ligament to the iliac vein with interrupted silk sutures. The hernia sac was then excised flush with the peritoneum and the neck of the sac closed with a continuous catgut suture. The abdomen was then closed in layers without drainage.

On the evening of operation it was necessary to resuture the vaginal cuff from below because of bleeding.

The postoperative course was otherwise uneventful, and the patient was discharged from the hospital on the eighth postoperative day.

Case 2.—C. S., a sixty-two-year-old, white male, was admitted to Nassau Hospital on September 30, 1953, with a recurrent left fermoral hernia.

Past history revealed that in August, 1950, an incarcerated left femoral hernia had been repaired through the inguinal approach. The hernia subsequently recurred, and in May, 1951, herniorrhaphy was again done through the inguinal incision. In 1952 the second recurrence became apparent.

On October 1, 1953, under general anesthesia left femoral herniorrhaphy was done through Henry's approach. When the peritoneum had been dissected away from the anterior abdominal and pelvic walls, a large femoral hernia sac was found to be intimately adherent to the walls of the femoral canal by dense scarring from previous surgery. To facilitate excision of the sac the peritoneum was entered just above the base of the sac. With one finger introduced into the sac, excision was readily accomplished by incision of the lacunar ligament and sharp and blunt dissection. With the iliac vein constantly protected the repair was made with interrupted silk sutures, coapting the inguinal and Cooper's ligaments. The sac was excised flush with the peritoneum, creating one opening with the point of previous entry into the peritoneal cavity. This incision was then repaired with a continuous chromic catgut suture. The abdominal wall was closed in layers without drainage.

The postoperative course was uneventful, and the patient was discharged from the hospital on the sixth postoperative day.

Case 3.—C. S., a fifty-two-year-old, white male, was admitted to Nassau Hospital on January 6, 1954, with a right femoral hernia.

In 1941 a hernia had been repaired on the right side through an inguinal incision. Shortly after this operation the hernia reappeared.

On January 7, 1954, repair was carried out through

Henry's approach. An anomalous obturator artery, coursing over the neck of the sac as it passed into the femoral canal, was encountered. This vessel was ligated and divided. The sac was densely adherent to the femoral canal, and a loop of small bowel was densely adherent to the inside of the sac. In addition, the blind end of the sac was adherent to calcified and matted lymph nodes on the anterior surface of the inguinal ligament. In addition to entering the peritoneal cavity at the base of the sac, in order to accomplish excision of the sac and reduction of the adherent small bowel, it was necessary to make a supplementary skin incision about 2 inches long over the presenting portion of the blind end of the sac in the inguinal area. The sac was readily entered at this point, being in a superficial position, and reduction of the intestine and excision of the sac were then easily carried out. The shelving border of the inguinal ligament was approximated to Cooper's ligament with interrupted silk sutures. The peritoneum and abdominal wounds were then closed in layers.

The patient's postoperative course was not remarkable, and he was discharged on the ninth postoperative day.

Comment

The anatomic and clinical features of femoral hernia which have been presented indicate some of the shortcomings of the surgical approaches currently used. The anatomic advantages of the Henry approach, in satisfying the basic herniorrhaphy requirements of high ligation of the sac and accurate, safe, and complete apposition of the supporting ligaments for obliteration of the femoral canal, are so striking that we strongly concur with Hull and Ganey[1] that more surgeons should employ this method and report on its use.

Summary

The anatomic and clinical features peculiar to femoral hernia are briefly presented. The advantages of the Henry approach in relation to these factors are discussed.

Three cases of femoral hernia repaired through Henry's approach are reported and the technic described.

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AMA Survey of County Medical Societies

To find out what county medical societies throughout the country are doing and to help them develop new public service programs, the AMA's Council on Medical Service currently is distributing questionnaires to officers of the 1,911 county and district medical societies in the U.S. The most complete of its type ever undertaken, this survey covers all major areas of society interest—including meetings, committees, programs and activities, insurance programs, dues, office facilities, and personnel. Since this is the only way that the Association can keep abreast of society activities, the Council hopes that all questionnaires will be returned as soon as possible.

The information gleaned from these reports will be invaluable aids to societies seeking assistance in expanding their activities and will help the Council's staff increase its ability to be of service to society officers and members. This year's survey is being conducted in cooperation with the Department of Public Relations.—*AMA News Notes June, 1955*

Sigmoidoscopy in the Diagnosis of Amebiasis and Ulcerative Colitis in Infants and Children

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SIGMOIDOSCOPY has been done frequently on our pediatric ward for some years since the procedure was found by one of us (J.H.L.) to be very helpful in distinguishing colitis on an allergic basis from cystic fibrosis, celiac disease, and other causes of diarrhea.[1,2] Recently we have been impressed by two other particular advantages of this procedure: (1) its efficiency in the diagnosis of amebic infestation as compared with other methods and (2) the discovery of ulcerative colitis in children who present themselves with minimal gastrointestinal symptoms.

The cases we wish to present are those in which diagnosis was not established until sigmoidoscopy had been performed. These patients were studied carefully and completely by other methods and were subjected to numerous stool examinations to no avail.

Methods

All these patients were subjected to repeated stool examinations, including culture for pathogenic organisms and careful search for parasites or ova in formed stools, purged stools, and stools obtained by saline enemas. This involved the conventional saline, warm stage methods, the D'Antoni method,[3] and the M.I.F. method.[4]

Sigmoidoscopies were done in the following manner: After proper preparation of the patient with saline enemas, a lubricated sigmoidoscope, 1.25 cm. in diameter equipped with a 10-power magnifying telescope, was gently passed into the lower rectum. It was then advanced under direct vision to the sigmoid. The size of the lumen and the character of the fecal contents and of the mucosal exudate were noted. The mucosa was then examined as to color and the presence of edema, lymphoid hyperplasia, ulceration, and neoplasia. Some of the exudate was aspirated by means of a heavy-walled capillary pipet, and a few drops were expressed on a slide and immediately examined under the microscope for cytology and parasitic ova.[5] The remainder of the exudate was sprayed from the pipet on the surface of a Felsen quadrant culture plate containing four differential media.[6] Infants and young children were sigmoidoscoped in the prone position with gentle restraint by an assistant. Older children were examined in the knee-chest position.

Case Reports

CASE 1.—E. O. was a five-year-old white boy, born in Puerto Rico and hospitalized because of his failure to develop adequately. There was a history of frequent bouts of fever accompanied by diarrhea, occasional chills, cough, and frequent night sweats. The boy seemed chronically ill, small, and undernourished. The liver edge was palpable about 10 cm. below the costal margin and was exquisitely tender; the spleen was felt 5 cm. below the costal margin. The physical examination was otherwise negative. The laboratory findings were hemoglobin 7.5 to 8.5 Gm., red cells 2,500,000 to 3,000,000 per cu. mm., white blood cells 14,000 to 30,000 per cu. mm., eosinophils 6 per cent, and sedimentation rate 26 mm. per hour. Agglutination tests for febrile agglutinins and blood chemical studies for total protein, albumin, globulin, calcium, phosphorus, urea nitrogen, and cholesterol were normal. The van den Bergh and cephalin flocculation tests were negative, as were the thymol turbidity and alkaline phosphatase tests. Several urinalyses were not revealing. Examinations for malarial parasites were negative.

Stool examination was positive for occult blood and Trichuris, but on 21 occasions no ameba or other parasites or their ova could be found. Guinea pig inoculations were negative for tuberculosis. A roentgenogram of the chest on admission was negative. Four weeks later a brief episode of fever prompted the taking of another chest roentgenogram, which was suggestive of pneumonic consolidation in the lower right lung. Gastrointestinal x-rays and repeated electrocardiograms were negative.

Sigmoidoscopy revealed a boggy mucosa, and exudate obtained by aspiration of mucosal crypts revealed trophozoites of Endamoeba histolytica. A diagnosis of amebic hepatitis was made, for which a ten-day course of emetine was given. There was prompt defervescence, fall in white count, and diminution in size and tenderness of the liver and spleen. A second sigmoidoscopy, however, still revealed E. histolytica in the mucosal exudate. In view of the marked clinical improvement the child was discharged on Diodoquin therapy, to be followed in the outpatient department. Since then follow-up sigmoidoscopic examinations have been negative, and he has improved remarkably.

Comment.—Intestinal parasitism was suspected from admission because of the undernutrition, febrile illnesses with diarrhea, and enlarged tender liver. Although 21 stool examinations were made by various methods including zinc sulfate flotation-concentration, purging, and postenema stools, E. histolytica could not be demonstrated until mucosal crypt aspiration by sigmoidoscopy was done.

Case 2.—S. F., a four-year-old, white, female, native born American, was first hospitalized eighteen months ago because of vomiting of unknown cause. There was also a history of repeated blood and mucus in the stools. The physical examination was negative except for marked rectal spasm and tenderness. Urinalysis, blood counts, prothrombin time, bleeding and coagulation time were all negative Stool cultures for enteric pathogens and wet smear examinations for parasites and ova were repeatedly negative. Her course in the hospital was afebrile. Sigmoidoscopy revealed diffuse hyperemia of the mucosa with linear "snail-track" formation. Mucosal aspiration wet smears revealed trophozoites of E. histolytica. Diodoquin and Terramycin were prescribed, and the patient was sent home. There was rapid improvement, but her symptoms recurred three months later, at which time trophozoites of E. histolytica were again demonstrated.

Comment.—The passage of blood and mucus in the stools led to repeated stool examinations, which were all negative. Only by sigmoidoscopy were we able to establish the diagnosis of amebiasis.

Case 3.—J. T., a ten-month-old, white male, was admitted because of fever of four months duration. The fever followed a sore throat and diarrhea with daily low-grade pyrexia. Because of bulky stools and the occurrence of celiac disease in an older brother, the patient was placed on a low-fat diet. The physical examination was completely negative except for a slight pharyngitis. Blood count, urinalysis, urine cultures, blood urea nitrogen, and test for febrile agglutinins and heterophil antibodies were normal. Roentgenograms of the heart, lungs, and sinuses as well as intraveneous pyelograms were completely negative. Stool cultures and examinations for parasites and ova were repeatedly negative. The patient ran a low febrile course. Sigmoidoscopy revealed diffuse hyperemia of the rectal mucosa, and trophozoites of E. histolytica were present in the mucosal exudate. Treatment with Diodoquin and Terramycin resulted in prompt defervescence. The father was subsequently sigmoidoscoped and found to harbor E. histolytica.

Comment.—The presenting symptoms of the celiac syndrome and fever of unknown etiology led to many stool examinations, which were all negative. Sigmoidoscopy resulted in an accurate diagnosis of amebiasis, and the same disease was demonstrable in the father.

Case 4.—H. C., a three-month-old, white male of Puerto Rican descent, had had intermittent diarrhea since birth, some regurgitation, anorexia, and colic. Physical examination was negative except for irritability and craniotabes. The blood count, urinalysis, serum calcium, and alkaline phosphatase were normal. Culture taken from the throat and roentgenograms of the heart, lungs, skull, and long bones were noncontributory. The stool was found to contain many fat globules and was weakly positive for trypsin by the gelatin film test. No enteric pathogens or parasites were found. The temperature was normal, and the tentative diagnosis was allergic colitis and steatorrhea. Sigmoidoscopy revealed trophozoites of E. histolytica. Treatment with Terramycin resulted in a prompt cessation of "colic" and diarrhea.

Comment.—The symptoms of the celiac syndrome were mimicked by the amebiasis which was disclosed only by sigmoidoscopy. The improvement after specific therapy ruled out the trophozoites in the role of purely commensal agents.

Case 5.—M. M., a sixteen-month-old, white, male infant, was admitted because of recurrent attacks of fever varying from 100 to 104 F. for the past five months. These febrile episodes lasted one to three days and occurred approximately once every two weeks. Six months prior to admission the child had a mild diarrhea with some blood-tinged mucus for one day, but after that he had had only one or two mild episodes of loose stools. The physical examination was negative except for a slight pharyngitis and bilateral cervical lymphadenitis in the anterior and posterior triangles. Urinalysis, urine culture, tests for febrile agglutinins, and heterophil antibodies were negative. The Wassermann test, blood cultures, and nose and throat cultures were not revealing. The blood count revealed leukocytes to be 12,000 to 15,000 per cu. mm., and sedimentation rate varied from 42 to 24 mm. per hour. Roentgenograms of the sinuses, chest, urinary tract, and gastrointestinal tract were normal. The electrocardiogram was negative. Repeated stool examinations were negative for enteric pathogens and parasites.

Sigmoidoscopy disclosed a markedly congested and hemorrhagic mucosa covered with mucus and pus and showing diffuse erosions. Wet smear revealed a typical purulent cytology. Further questioning elicited the story that the child's father had had diarrhea, which started as "dysentery," for twelve years. Sigmoidoscopy of the father revealed the findings characteristic of chronic ulcerative colitis. Trophozoites of E. histolytica were also present. The child was discharged slightly improved. He has done well at home on a bland diet with frequent administrations of antibiotics.

Comment.—A sixteen-month-old child, admitted for pyrexia of unknown origin, had a history of only a few episodes of mild diarrhea in the six months before admission. Repeated stool examinations at the hospital were negative as were all other tests. Sigmoidoscopy revealed the typical findings of ulcerative colitis. It is interesting that the father also had chronic ulcerative colitis and was harboring E. histolytica.

Case 6.—N. M., an eleven-year-old, white boy of Puerto Rican parentage, had a sudden onset of right pubic pain and inability to use the lower extremities of about ten days duration. There was a history of a fall a month prior to onset, but the child seemed well during the interim. The blood count, blood calcium and phosphorus, alkaline phosphatase, urinalysis, and spinal fluid examination were all negative. The sedimentation rate varied from 34 to 42 mm. per hour. Stool examinations for enteric pathogens were negative. An electrocardiogram was normal, and roentgenograms of the long bones and pubic bones were not revealing. His course in the hospital was afebrile after the first day. Sidmoidoscopy during the second week showed a markedly edematous, hyperemic bowel with numerous punctate hemorrhages, some superficial erosions, and pus in the exudate. The clinical condition was definitely improved by the use of Terramycin and milk-free colitis diet.

Comment.—This eleven-year-old-boy with pubic pain and limp but no history of diarrhea presented a diagnostic problem which was not solved until the disclosure of chronic ulcerative colitis by sigmoidoscopy. The association of arthropathy with this disease is relatively frequent.

Case 7.—E. S., a three and one-half-year-old, white female, was admitted because of four days of fever of 101 F. accompanied by severe, intermittent abdominal pain, epistaxis, loss of weight, weakness, and pallor. Physical examination was negative except for mild tachycardia and severe diffuse abdominal tenderness, especially in the right upper quadrant. The blood count was normal. The sedimentation rate accelerated at first (40 mm. per hour) but became normal in a few days. The urine showed 4 plus acetone for one day. Blood chemical studies were normal. Stool culture and examination for ova and parasites were negative. Roentgenograms of the chest, gastrointestinal series, and barium enema were normal. An electrocardiogram showed no abnormality. The abdominal pain and fever disappeared by the third day. At sigmoidoscopy the mucosa was granular and covered with a moderate amount of mucus and pus and bled freely when touched. Mucosal aspiration wet smear revealed a purulent cytology. Terramycin and a bland diet were prescribed with good clinical results.

Comment.—The presence of fever, epistaxis, pallor, tachycardia, and abdominal pain led to an initial suspicion of rheumatic fever, but sigmoidoscopy revealed the source of fever and abdominal pain as ulcerative colitis.

Comment

In none of these cases was diarrhea the most prominent symptom. The first four cases, finally diagnosed as amebiasis, were hospitalized for the following reasons: Case 1—failure to develop and febrile episodes; Case 2—vomiting and bloody mucus in the stools; Case 3—intermittent fever of four months duration and bulky stools; Case 4—colic with steatorrhea. The last three cases, finally diagnosed as ulcerative colitis, were hospitalized for recurrent fever for five months (Case 5), pubic arthralgia (Case 6), and fever with abdominal pain and epistaxis (Case 7). These symptoms, as well as many other obscure manifestations, have been previously noted by other observers, both in ulcerative colitis[5] and amebiasis.[7,8] One must emphasize that in neither disease is the presence of diarrhea necessary for the diagnosis.[5,7–10] As far back as 1927, Craig[8] stated, "It is most unfortunate that the term 'amebic dysentery' should have become in the minds of most medical men, a synonym for amebiasis, for while dysenteric symptoms are quite characteristic of the serious infections—the vast majority of such infections are *not* accompanied by dysenteric symptoms but by much milder symptoms usually attributed to some other factor and not recognized as the result of infections with this parasite." Likewise, in some patients ulcerative colitis does not present a dysenteric picture.[9,11]

Certain points must be made with reference to the diagnosis of amebiasis:

1. Physicians all too frequently are still under the impression that amebiasis is a tropical

disease or is found only in epidemics here in the United States. On the contrary, all recent reports agree on the endemic character of the disease in this country with an average incidence of 5 to 10 per cent of the adult population.[12–16]

2. Pediatricians often feel that the disease is rare in infants and children, except in the South and among recent immigrants from the tropics. On the contrary, the incidence is well distributed throughout the United States[7,10] and affects children in proportion to their age and opportunities for exposure, ranging from 0.5 per cent below one year to 5 to 10 per cent at the tenth year.[15–17]

3. One or two stool examinations done in a routine manner are often felt to exclude the possibility of amebiasis. Actually, every recent study stresses the necessity for many repeated, fresh, warm examinations on both purged stool and saline enemas to have even a reasonable chance to isolate the organism.[10,16,18,19] For this reason D'Antoni[19] has recently suggested a battery of tests for amebiasis: the repeated examination of the purged stool, saline enema stool, and sigmoidoscopy with examination of the aspirate.[20]

Sigmoidoscopy with examination of the aspirated mucosal exudate is particularly useful because it enables the examiner to aspirate E. histolytica from the mucosal crypts where they are often found on histopathologic study. In a recent study in infants, Goldenberg, Shlaes, and Mintzer[21] found sigmoidoscopy a very valuable adjunct since the appearance of the rectal mucosa alerted their suspicions in certain cases which had given negative results in stool examinations. By frequent re-examination of the stool in such cases, they were subsequently able to prove their diagnosis. No mention is made of aspiration and immediate examination of the mucosal exudate for trophozoites in their article. Even in our small series of cases, we have found, as has been previously reported by other observers, that this procedure was very helpful in diagnosis.[10,12,19,22] In one patient (Case 1) the stools were examined on 21 occasions with negative results, yet on the first sigmoidoscopy the aspirate showed many motile trophozoites.

While carefully controlled studies indicated that direct examination of fresh stools is slightly more effective than direct examination of the sigmoidoscopic aspirate in adults,[23] we have the impression that the reverse may be true in infants and children under ordinary clinical and hospital conditions. This is so primarily because it solves the usual problem of obtaining a fresh, uncontaminated specimen for direct examination.

Our most frequent sigmoidoscopic finding in these patients was a hyperemic, boggy, mucous membrane covered with considerable mucus, which, when aspirated and examined directly, showed the trophozoites or cysts of E. histolytica. "Snail-track," preulcerative necrosis was noted in one patient (Case 2). Other observers have noted, in addition, petechial hemorrhages and pinhead ulcerations.[21] The sigmoidoscopic appearance of the mucosa cannot alone be absolutely diagnostic nor explanatory of symptoms.[7,21]

In ulcerative colitis as well, sigmoidoscopy with examination of the aspirated discharge permits a definitive diagnosis. "Edema and hyperemia of the mucosa, superficial erosion, and, above all, a purulent cytology of the mucosal exudate are all early signs of chronic ulcerative colitis."[9] Roentgenology becomes positive usually quite late in the disease and should not be depended upon for early diagnosis.[5] The rising incidence of ulcerative colitis in all age groups requires an awareness of the protean manifestations of this disease.[9]

The infrequency of sigmoidoscopic examinations in infants and children is probably due to lack of familiarity with the procedure, to a feeling that it is rarely a diagnostic help in pediatrics, and to the fear of intestinal perforation. We find that if the instrument is inserted carefully and advanced under direct vision, the danger of perforation is extremely slight. We have never seen this complication.

Summary

Four cases of amebiasis and three cases of ulcerative colitis in infants and children have been presented, in which the diagnosis was not established until sigmoidoscopy with examination of the aspirated mucosal exudate was performed. These seven cases did not present diarrhea as the chief complaint, but instead there were such diverse symptoms as developmental failure, arthralgia, epistaxis, vomiting, abdominal pain, and fever of unknown etiology. It is suggested that sigmoidoscopy is an exceedingly useful aid in the diagnosis of these two conditions and that it presents no danger to the infant or child when performed carefully and skillfully.

Dr. Joseph Felsen directly supervised the sigmoidoscopic studies and direct microscopic examinations. Dr. Howard B. Shookoff of the Tropical Disease Center of New York City made valuable suggestions.

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Nostrums and Quackery in Eye Defects

A warning against dangerous, short-cut "cures" and useless exercises for eye defects was issued by the National Society for the Prevention of Blindness. A new pamphlet published by this agency reports that "modern nostrum-peddlers are especially active among eye patients," and attacks "the quacks who profit from the fears of American men, women, and children suffering from eye disease."

Persons with impaired vision are understandably anxious to correct their eye defects, the booklet points out. Many individuals, however, ignore essential treatment in favor of eye exercises and other methods based largely on wishful thinking. Those who claim miraculous results from eye exercises in treating all eye defects are either misinformed or dishonest.

The booklet explains that eye exercises cannot "cure" such eye defects as farsightedness, nearsightedness and astigmatism, all of which are related to structural condition. The most common impairments of vision, it is stated, are due to the size and shape of the eye itself, and these defects cannot be corrected by so-called eye training.

Citing objective studies by scientists at Johns Hopkins University and Washington University in St. Louis, the pamphlet says that "eye trainers" actually train the patient's mind rather than his vision, "teaching him to interpret blurred images on a chart more accurately."

Although the patient may seem to see better while reading a chart, his vision actually remains blurred, and this may have serious consequences. The man who "didn't see the car coming" will find small comfort in the fact that he was taught to read an eye chart in spite of poor vision.

These false treatments are especially dangerous when they delay essential treatment for diseases resulting in blindness. One treatment cited known as "swaying," and advertised as a cure for glaucoma, is nothing more than a rhythmic turning of the body with the eyes closed.

"This is vicious," the pamphlet explains, "because an estimated 1,000,000 Americans are now suffering from glaucoma, an eye disease which can only be arrested if treated early. Sight lost from glaucoma can never be regained, and any delay because of misplaced hope in eye exercises or other panaceas usually is disastrous."

Another eye disease in which short-cut "cures" may do permanent damage is cataract, where the lens inside the eye becomes cloudy and cuts off essential light. This change is structural. No amount of exercising can clear the lens.

The pamphlet also warns against eye exercises, "profitable to their promoters," which claim to overcome color-blindness. A person may be taught to "pass" a color test, it is pointed out, without actually improving his color vision.

Only one group of eye conditions, according to the Prevention of Blindness Society, may be helped by certain exercises known as orthoptic training: crossed eyes or strabismus, a tendency toward crossed eyes, and failure to use two as a team.

The booklet concludes that "no system of eye exercises can remedy defective vision caused by disease or structural errors. . ."

The National Society for the Prevention of Blindness, publishers of the booklet, has waged a forty-six-year fight against needless blindness. The Society's three-fold program of research, education, and preventive service is supported entirely by voluntary contributions from 50,000 members and friends in every state of the union.

—reprinted by The National Society for the Prevention of Blindness, 1790 Broadway, New York 19, New York, Franklin M. Foote, M.D., Executive Director

second annual

CAPITAL DISTRICT CONFERENCE ON AGING*

Sponsored by Albany County Department of Public Welfare

NOVEMBER 12, 1953

Psychiatric Aspects of Geriatric Rehabilitation

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(*From the Department of Psychiatry, Ellis Hospital*)

The psychiatric aspect of rehabilitation of the aged is intimately related to the medical, social, and economic problems encountered. There is some question as to whether there are specific problems in the older individual which are distinct from problems in younger years. From the medical and neurologic standpoint a great deal depends on the degree of handicap. If an individual is ill or incapacitated because of senility or arteriosclerosis, the problem is the same as in other individuals handicapped by neurologic or medical illness. One of the important things for the psychiatrist to consider, therefore, is whether or not this individual is organically handicapped. Segregation of the aged into homes is thus still a question of some importance. While it is desirable and indicated at times, there are other occasions when the problem of aging should be considered not from the standpoint of the age of the individual but from the standpoint of his physical and emotional handicaps and his personality structure. More important is the question of prevention and community responsibility.

In the 1890's the pendulum swung from county and community care to state care of older individuals who were handicapped. The pendulum is now swinging and should be swinging back toward county and, more important, community and family care of the aged so that more serious emotional trauma can be prevented. The importance of a family and an understanding attitude on the part of the family cannot be underestimated. It is here that the marked relationship between the psychiatrist and the social worker, engaged as she is in the family constellation, exists. The right of self-determination on the part of the aged is an important consideration. They should not be treated as handicapped, and it is necessary to give them the feeling that age is not a deterrent to their adaptation. The older individual begins to resent his losing his grip on situations and having to do what younger members of the family tell him to do. In the past, for instance, the word of a father was law; now the attitude of respect of younger people with regard to the aged has changed, and this has brought about a change in the attitudes of the older individual.

It is the understanding of human desires and emotions and reasons for behavior that shed light on problems of the aged. The social worker and the psychiatrist must be keenly interested in the family and the family life. They must be accessible and tactful. The social worker, in particular, must not be too ardent a propagandist. She must know when to be tactful and when to be frank. The advice has to be given in such a way as to overcome tactfully the client's prejudice and cause him to yield to the "propaganda" concerning his adjustment. On the other hand, we know that the older person yields to advice which panders to prejudice and long-standing emotional craving. He is resistive to readjustment plans which are contrary to his wishful thinking so a certain amount of cajolery, humor, and tolerance are necessary to overcome the aged person's resistance. He must be shown that you are trying to help him and are interested in him. The social worker and psychiatrist must be practical and turn their attention to things as they are and work with whatever community resources are present to help build up the older individual's morale.

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* The other papers from the conference appeared in the July 15, 1955, issue of the NEW YORK STATE JOURNAL OF MEDICINE, p. 2026. Reprints of the entire conference, including this article, will be available.

The Ann Lee Home has been built on land previously occupied by the Shakers. The Shakers partially solved the problem of aging by having all engage in a program of hard community work and substituting creation for procreation and thus transferring the waning sex energies into constructive pursuits.

Keeping the older individual occupied and preventing him from morbid introspection are important. Unhealthy attitudes can be prevented. If honest effort proves to an unemployed aged individual that there is literally nothing more that he can do about finding a job, for the time being at least, then another condition of mental health must be faced, namely, the need for work, hobbies, occupational therapy, recreation—mental work as much as, or even more than, physical work. Work for health's sake helps the aged man who cannot find a paying job. It takes the disgruntled older age member away from the home, lessens brooding, and helps solve family problems by removing the stress placed on family ties.

Work for health's sake is one of the most common-sense of all suggestions for the preservation of mental normality. For one thing it offers a temporary, but quite legitimate and healthy flight from the reality of the present distressing situation. By occupying the older person's attention it lessens emotional reactions, such as mental depression, melancholia, or the bitterness and rebellion that may result from brooding.

When employment for gain is impossible, it helps to maintain a feeling of worth-whileness, self-respect, and accomplishment, and it stimulates the older individual to retain a wholesome integration of his personality and prevents emotional deterioration.

The social worker is a liaison between the individual and the community resources. The psychiatrist must listen to the aged individual, understand his story and his personality. Emotional prejudices must be eliminated, but he must know when to keep hands off. Relief is afforded when the individual tells his problems to the psychiatrist and gets a chance to talk it out. It relieves emotional tension. It aids in accepting information to help formulate further plans.

Stimulation of hobbies and recreation under skilled supervision is necessary. Group therapy can be effectively used in the aged individuals as well as with their families. A program of organized recreation may stimulate the desire to provide an opportunity for wholesome play and temporary change of scene or thought. Community choral singing or folk dancing may bring together shy, inarticulate persons and provide wholesome recreation. This program serves to give the individuals of the group a feeling of solidarity and kinship and thereby increases their feelings of security. All these factors are important in keeping up the aged individual's morale.

It is important to stimulate the family to understand the aged individual and help his adjustment in the home. Prevention of neurotic behavior and lessening of stress and strain and not institutionalization is the answer in many of the problems of the aged.

The female political speaker was pointing her remarks to the female voters in the audience and compliments to the weaker sex were being distributed by the shovelful and she finally accented her remarks by yelling, "What is home without a mother?"—and a man in the rear of the auditorium yelled back, "Your baby."—*Detroit Medical News, May 30, 1955*

CLINICOPATHOLOGIC CONFERENCE

ST. JOSEPH'S HOSPITAL, ELMIRA, NEW YORK

Conducted by F. S. HASSETT, M.D. SEPTEMBER 8, 1954

Discussed by THOMAS B. JONES, M.D., ROCHESTER, NEW YORK

Case History

The patient was a forty-one-year-old prison guard, who was admitted to the hospital complaining of abdominal pain.

The patient had complained of gastrointestinal symptoms for the past four or five years. These complaints were of frequent acid and gaseous eructation and occasional dull midepigastric ache which was not related to food intake. Approximately six weeks prior to admission the character of his symptoms changed, and pain became the major symptom. It was paroxysmal in type and located in the upper abdomen. The site varied between the midepigastrium and the right upper abdominal quadrant. It was occasionally associated with nausea and vomiting. Shortly after the onset of these symptoms, gallbladder and upper gastrointestinal x-rays were done. They failed to reveal any abnormality. However, the patient was started on antacids and antispasmodics, from which he obtained no relief. During the two to three weeks prior to admission the paroxysm of pain became more frequent and severe; the nausea was more marked, and the patient frequently vomited. He began to experience difficulty in moving his bowels and resorted to mild laxatives with good results. The stools were described as normal and never tarry. The patient's appetite remained good, and he maintained his weight.

The past history revealed that during the second world war the patient had suffered a shrapnel wound of the back and rectum for which he had been operated. The rectum had been repaired, and the shrapnel had been removed from the left flank. At the time the patient was told that the shrapnel had penetrated into the peritoneal cavity.

Two years prior to his admission the patient had several grand mal convulsions. He was seen at another hospital, and a diagnosis of epilepsy had been made. Dilantin sodium was started. The patient had been maintained on this medication with good control of his convulsions. His father and two paternal uncles also had convulsions. Otherwise the family history was noncontributory.

Examination showed a well-developed, well-nourished, white male, who at the time of admission was in no distress. He was a moderately apprehensive man. Physical examination was within normal limits with the exception of slight tenderness on deep palpation in the midepigastrium and an operative scar over the left flank. Temperature, pulse, and respirations were normal. Blood pressure was 140/90.

The red count was 4,600,000 with 14.5 Gm. hemoglobin. The white count was 8,800 with a normal differential. The sedimentation rate was 9. Urinalysis was within normal limits. Nonprotein nitrogen, serum amylase, serum sodium, serum potassium, and glucose tolerance tests were normal. A blood Wassermann showed no reaction. An electrocardiogram was within normal limits. Intravenous urograms failed to reveal any abnormality.

On the second hospital day the patient began to have severe paroxysms of pain. The pain was described as being cramplike in character and limited mainly to the lower epigastrium. His appetite remained good. However, with the pain he was nauseated and occasionally vomited. Demerol, 100 mg., gave complete relief of the pain. On the fourth hospital day the patient was gastroscoped; at that time he was having slight pain. The gastroscopic examination was within normal limits with the exception that bright red blood was found regurgitating through the pylorus into the stomach.

Because of this finding a repeat gastrointestinal study was done. A barium enema failed to reveal any pathology of the large bowel, but dilated segments of small bowel were noted in the epigastrium. An examination of the upper gastrointestinal tract showed a fluid level in the left upper quadrant which was thought to be in the jejunum. Multiple spot films revealed marked dilatation of the entire duodenal loop and jejunum for a distance of a foot or more beyond the ligament of Treitz. At four hours the main portion of the barium meal appeared to be localized in this dilated segment of small bowel. Twenty-four hours later there had been very little progression of the barium beyond the four-hour film. At thirty-three hours there was considerable barium in the loop of dilated small intestine; however, some barium was present in the proximal colon and a little in the terminal ileum.

A Cantor tube was inserted, and good drainage resulted. Initially the drainage consisted of barium mixed with a moderate amount of bright red blood. With the Cantor tube in place the patient was symptom-free. He remained symptom-free until surgery was performed on the sixth hospital day.

Discussion

Dr. Thomas B. Jones: This man obviously had a chronic lesion. His history went back four to five years, during which time he had vague abdominal symptoms. This was not only a chronic complaint, but it also was an intermittent complaint. It was not rapidly progressing. His pain was localized above the umbilicus, and if this pain was of intestinal origin, it immediately places the lesion in the small bowel in contradistinction to lower abdominal pain from a lesion in the large bowel. So for four or five years this man has had some disturbance, let us say, in his small bowel. The cramplike or paroxysmal nature of the pain suggests an obstruction which was not constant and not complete. Shortly before his admission to the hospital he had a complete series of x-rays, all of which were said to have been negative. This is not particularly surprising because his symptoms were mild, and the disease had not progressed rapidly. We are told that he had had no trouble with his bowels prior to his admission to the hospital.

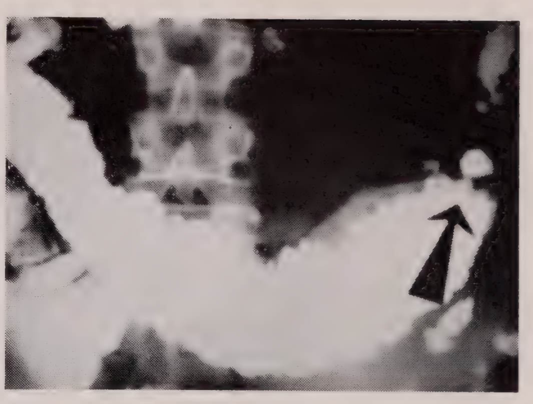

Fig. 1. Dilated duodenum and proximal jejunum and point of obstruction (*arrow*).

Then we come to the history of the shrapnel wound. He had an injury to the rectum, and a piece of shrapnel, as I understand it, was in the left flank and supposedly in the abdominal cavity. Did this have some relation to his difficulty at the time he entered the hospital here? Personally, I would be inclined not to place much importance on that previous injury. I think that his negative physical examination is consistent with his history. He had not been severely ill. It had been an intermittent illness. There had been only a gradual increase in the severity of the symptoms. As one would expect under those circumstances, his laboratory findings were entirely noncontributory.

After his admission to the hospital he developed one of his acute episodes. From the description given, this could be nothing else, I think, than an exacerbation of what probably had been an intermittent partial intestinal obstruction, probably localized in the upper gastrointestinal tract. I would like Dr. Burch to show the x-rays.

Dr. Hobart A. Burch: When we did the barium enema, the significant finding was a dilated, gas-filled loop of bowel in the upper abdomen, which showed the ladder pattern of small bowel obstruction. On the next day barium was given by mouth. One sees this dilated segment of bowel and can easily localize the point of obstruction at the area indicated by the arrow (Fig. 1). It was thirty-three hours later before any significant amount of barium was seen distal to this point of obstruction.

Dr. Jones: This substantiates the clinical impression of intestinal obstruction, which, when he was in the hospital, had become a complete obstruction, at least temporarily. The fly in the ointment is the blood. Fresh bright blood was seen on gastroscopic examination, and it was also seen in the aspiration fluid after the tube had been put down. One has to add to one's thinking those conditions which can cause intestinal obstruction and also produce bleeding. Obstruction in the gastrointestinal tract in the region of the jejunum is not common except postoperatively. When they took the shrapnel out of the abdominal cavity, I assume that they did not do extensive manipulation within his peritoneal cavity, enough to account for adhesions to produce an obstruction. Even if he had adhesions to produce an obstruction, I would not expect such an obstruction to produce blood unless there was also strangulation. From the description in the protocol the man was not that sick. He was not desperately ill, as he would have been if he had a complete obstruction in his upper gastrointestinal tract combined with impairment in the blood supply to the intestines. That is a bad combination. It is even worse when high than when it is lower down. So I would assume that this man did not have strangulated intestines.

What else can exist in this region and give rise to this clinical picture? Several things might have been considered in dealing with this patient. To start in at the beginning, one would have to consider some sort of a congenital anomaly of the intestinal tract. My experience with anomalies has been that rarely do you find the individual symptom-free until adult life. Congenital anomalies usually manifest themselves immediately after birth within a period of three or four days. One thing which does occur with these congenital anomalies of the gastrointestinal tract, particularly in an infant, is that they very often bleed. In a newborn infant persistent vomiting with, eventually, some coffee-ground vomitus is almost pathognomonic of a congenital anomaly in the upper gastrointestinal tract beyond the stomach. Another type of congenital anomaly of the intestinal tract, which I think is more prone to exist without symptoms over a period of time, is malrotation and malfixation of the intestines. Every once in a while one finds a patient with the cecum and appendix up in the left upper quadrant or some such arrangement. Also, there is the so-called internal hernia. That would be a rather intriguing diagnosis to entertain in this patient. Of the internal hernias, those which are called paraduodenal, in which the bowel herniates through a defect in the posterior peritoneum in the region of the ligament of Treitz, could very well give an obstruction at the level at which we understand that this man had his difficulty. In that condition one finds practically all of the intestinal tract, particularly the small bowel, in a retroperitoneal position. Under such circumstances a constriction can occur at the point of entrance or exit of the intestine, and one gets intestinal obstruction. It is a possibility, but I think it is rather remote. As I said before, I believe that we can eliminate strangulated intestine as an explanation for the blood.

What else can produce obstruction at this point and also bleeding? When one sees blood from any orifice in the body, the burden of proof is on the individual who says it is not malignant. Let's assume, for instance, that the man has a maligancy of the small bowel. It occurs, but it is not common. Carcinoma could give a picture such as this, and by growing gradually it could lead from intermittent to almost complete obstruction, such as occurred when he was here. In addition to that, ulceration could occur, in which case one would expect bleeding. Such symptoms could be produced by a lymphoma of the jejunum. Another lesion which is common is a polyp. He could have had a small intestinal polyp which from time to time, as a result of intestinal peristalsis, would get into a position where it could produce a partial obstruction. The assumption would be that this vague epigastric discomfort over a period of four or five years represented partial, intermittent obstruction gradually becoming more complete and more frequent. A polyp could do that very easily, and a polyp could very well account for the blood. It could account for the blood as a result of the trauma from the obstruction, or it could result from ulceration or malignant degeneration of the polyp.

There is another lesion which I think can be considered, and that is a diverticulum. I don't believe that it is a Meckel's diverticulum causing this bleeding. I doubt if the blood would be bright red by the time it got back to the pylorus. On the other hand, diverticula do occur in the small intestine frequently, especially in the duodenum. I do not believe that isolated diverticula are particularly common in the jejunum and ileum. When diverticula exist in the small bowel, they are usually multiple and of congenital origin. They have been described from the region of the ligament of Treitz to the ileocecal valve.

These diverticula, since they exist in the small bowel, do not often give obstruction unless one gets into a complication. The complication is usually infection, and the infection produces adhesions and subsequent partial or complete obstruction. There is nothing in this man's history or in the description of his illness to indicate that he had any febrile illness to suggest an inflammatory lesion. These things that I have just mentioned pretty well cover the possibilities in this particular case.

If I have to place my money on one single diagnosis, I think that this man had some kind of a neoplasm, carcinoma, a polyp, or a lymphoma.

To my mind, this is the best explanation to account for the two predominant symptoms: (1) obstruction and (2) active bleeding. I think in any illness of this kind, one has to exhaust the possibilities of explaining the symptoms on the basis of one disease rather than bring in a secondary disease. To account for the blood, this man could have had a duodenal ulcer that didn't show by x-ray, but then you have to postulate two diseases. I think that in the majority of the cases most symptoms will fit together into a diagnosis of one disease. In this instance I believe carcinoma of the small bowel or lymphoma is most likely.

Diagnoses

Clinical.—*Intestinal obstruction; question of polyp of intestine.*

Dr. Jones.—*Neoplasm of jejunum; question of carcinoma or lymphoma.*

Anatomic.—*Carcinoma of jejunum.*

Pathologic Report

Dr. J. George Gladston: I think Dr· Jones is to be congratulated on his analysis of this case. We thought this man might have a polyp. At operation we found a very easily resectable, ringlike obstruction about a foot distal to the ligament of Treitz. We did a wedge resection with end-to-end anastomosis. There was one enlarged lymph gland in the mesentery which was removed.

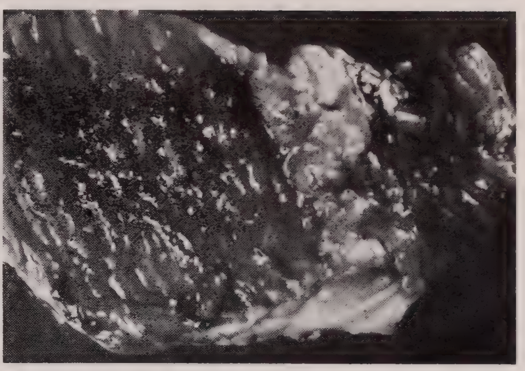

Fig. 2. Portion of jejunum with annular neoplasm almost completely obstructing lumen.

Dr. James A. Mitchell: This is a photograph of the gross specimen (Fig. 2). It shows a portion of the jejunum measuring 15 cm. in length. In the midportion of this loop of bowel there is an annular neoplasm which almost completely obstructs the lumen and measures 3 cm. in width. There was no evidence of ulceration. Microscopically, the tumor was an adenocarcinoma of a papillary architecture. The lymph gland showed no evidence of metastasis.

Summary

Dr. Jones: The thing that impressed me was the bleeding. Here is a man forty-one years old, a little young for intestinal carcinoma, but he did have one. I don't think that there is anything so important as eliminating the possibility of malignant disease whenever there is abnormal bleeding from any orifice of the body. Under those circumstances I think that the old-fashioned exploratory laparotomy is justified in the face of entirely negative diagnostic findings. Unfortunately, some years ago the exploratory laparotomy fell into disrepute because there were so many surgeons who operated and, even when they didn't find anything, felt forced to "excise something." That usually made a bad matter worse. If a surgeon does an exploratory laparotomy and if he finds nothing and has the courage to close up and leave everything alone, it is a good operation. I think that laparotomy should be done in any case, such as this, where a patient has unexplained intestinal bleeding.

CASE REPORTS

Jaundice Following Phenylbutazone Therapy

JAMSHID HAKIM, M.D., AND JOSEPH J. RICCA, M.D., BROOKLYN, NEW YORK

(From the Department of Medicine, Long Island College Hospital)

THE toxic effects reported resulting from the clinical use of phenylbutazone have included edema, gastrointestinal disturbance, reactivation of peptic ulcer, gastrointestinal hemorrhage, rash, anemia, thrombocytopenia, leukopenia, agranulocytosis, hematuria, nervousness, stomatitis, vertigo, and death.[1-6]

There has been an increasing number of reports of the possible deleterious effects of this drug on the liver.[1,7] The following is a case report of hepatitis believed to be due to the use of phenylbutazone.

Case Report

A fifty-three-year old, white, male butcher was admitted to the Long Island College Hospital on January 13, 1954, because of jaundice of five days duration. Six months prior to admission the patient consulted his physician because of pain in both shoulders. A diagnosis of arthritis was made. He was treated with phenylbutazone for several days with amelioration of his symptoms. The patient remained asymptomatic until a week prior to admission when he developed pain in the left shoulder, right elbow, and right wrist. He was again started on an oral dose of 600 mg. of phenylbutazone a day. Two days later, icterus was first noted. However, the patient continued taking his medication for a total of five days. Concomitant with the onset of jaundice, the patient noted that his stools became light and his urine dark. He did not complain of anorexia, nausea, vomiting, diarrhea, abdominal pain, chills, fever, or malaise. He gave no history of parenteral injections or transfusions. He was not exposed to persons with jaundice or any known hepatotoxins. There was no history of alcoholic intake. The patient was proved to have ulcerative colitis in July, 1951, but with adequate therapy had since remained asymptomatic. The remainder of the past history was noncontributory.

Physical examination revealed a well-developed, well-nourished male in no acute distress. The skin, sclerae, and mucous membranes were obviously icteric. The pulse was 80 beats per minute, temperature 99 F. (rectal), and the blood pressure 140/76 mm. of Hg. Examination of the head and neck was negative. The chest was symmetric. The lungs were clear to percussion and auscultation. The heart was not enlarged to percussion. Regular sinus rhythm was found. A soft, grade I systolic murmur was heard at the apex. No thrills were palpable. The point of maximal impulse of the apex of the heart was in the left sixth interspace in the midclavicular line. The abdomen was soft and nontender. The liver was palpable three fingerbreadths below the right costal margin but was soft, smooth, and nontender. No other organs or masses were felt. The external genitalia were normal. Rectal examination revealed good sphincter tone and a normal prostate. There was no clubbing, cyanosis, or edema of the extremities. The patient moved all extremities. The dorsalis pedis pulsations were palpable bilaterally. The neurologic examination was negative.

The patient was placed on a high-protein, high-carbohydrate, low-fat diet. In addition, daily infusions of 10 per cent glucose in water were administered during the first ten days of hospitalization. He was kept in bed and given vitamins parenterally. During the first week the icterus increased steadily. The liver which was palpable three fingerbreadths below the right costal margin on admission enlarged to four fingerbreadths in one week. However, it remained soft and tender. The tip of the spleen also became palpable at this time. From this time on, there was a steady decline in the amount of jaundice. The stools became brown. The liver and spleen gradually receded so that by January 29, the liver was palpable only two fingerbreadths below the right costal margin. The spleen could no longer be felt. At no time was the patient febrile, nor did he complain of any constitutional symptoms other than mild fatigue. By February 12 the liver was no longer palpable, but there still remained slight icterus. On April 26 physical examination and laboratory results indicated a complete recovery.

Laboratory data were as follows: On admission the hemoglobin level was 13.5 Gm.; red blood cell count 4,350,000 per cu. mm., white blood cell count 8,750 per cu. mm. with a normal differential count; hematocrit 45 per cent; erythrocyte sedimentation rate (Wintrobe) 6 mm. in one hour; fasting blood sugar 90 mg. per cent, serum amylase 87.5 Somogyi units. Urine was positive for bile but otherwise normal; serologic tests for syphilis and for infectious mononucleosis were negative. Liver function studies showed icterus index 101 units; thymol turbidity 14.5 units; total protein 6 Gm., albumin 3.1 Gm., globulin 2.9 Gm.; total cholesterol 208 mg.; cholesterol esters 52 mg.; cephalin flocculation 4 plus; alkaline phosphatase 4.4 Bodansky units. Roentgenograms showed no abnormalities of the chest. Roentgenographic studies of the upper gastrointestinal tract were normal. On January 28 the icterus index was 181 units; urine urobilinogen positive 1:20; bile in urine 4 plus. On January 28 the icterus index was 131 units; serum protein 7.4 Gm. with albumin 3.2 Gm. and globulin 4.2 Gm.; serum cholesterol 192 mg.; cholesterol esters 58 mg.; bile in urine 2 plus. Bile in urine disappeared on February 1. The icterus index steadily decreased to 7.5 units by July 14, and cephalin flocculation was ±. The hemogram remained normal throughout the course of the disease.

Comment

The influence of phenylbutazone on the liver was first noted during a study of this drug in combination with aminopyrine.[8] Adverse action on the liver was reflected by changes in the cephalin flocculation, thymol turbidity, and cholesterol. Since no case of toxic hepatitis attributable to aminopyrine could be found, the evidence seemed to indicate that the sole cause of these changes was the phenylbutazone. Several cases of toxic hepatitis following the ingestion of phenylbutazone have recently been reported.[7]

It is difficult to exclude viral hepatitis as the cause of the jaundice. However, certain considerations suggest toxic hepatitis. The usual symptoms of viral hepatitis were absent, as well as any history of exposure to jaundiced persons. No recent transfusions or injections had been received. In addition, the time relationship of the institution of therapy with phenylbutazone and the appearance of jaundice is striking. In the case reported here, the interval before jaundice appeared was two days following the second course of treatment. In other cases the interval ranged from six to forty days. Apparently little correlation can be made between the onset of therapy and the appearance of jaundice.

In conclusion, phenylbutazone should be considered as a possible cause of toxic hepatitis and reasonably might be contraindicated in cases with previous liver disease.

The authors wish to express their appreciation to Dr. John B. D'Albora of the Department of Medicine of the Long Island College Hospital for permission to use the case presented herein.

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Our ward telephone rang the other day—it was a lady asking how Mrs. Colby-Brown was getting on after her appendectomy. Sister replied that the patient was doing famously, and would shortly be sent home. Asked for her name, the lady replied: "Well, Sister, this is Mrs. Colby-Brown. You're all so busy I just don't like to bother you on the ward rounds."

A patient was complaining about her bill being unreasonably high.

"Don't forget," I reminded her, "that I made twelve visits to your home while your son had the measles."

"And don't forget," she countered, "that he infected the whole neighborhood."—*Missouri Medicine, June, 1955*

Balanitis Xerotica Obliterans

KURT LOEWENTHAL, M.D., FREEPORT, NEW YORK

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THE present status of opinion on the rare but grave genital syndrome, best known under the term "balanitis xerotica obliterans," is briefly reviewed herein, and the case of a patient presenting the syndrome is reported.

Sclerotic and atrophic processes of the male genital organ have been described since the middle of the last century under a variety of titles such as balanitis chronica, leukokeratosis or leukoplakia, kraurosis glandis et praeputii, and also scleroderma of the glans and prepuce. The interrelation of the conditions described under these terms and also their pathogenesis were discussed in numerous papers.[1-8] The prevailing opinion was that leukokeratosis or leukoplakia is a hypertrophic and kraurosis an atrophic process, that both may occur concomitantly and possibly presented stages in the evolution of the same nosologic entity which may eventuate into carcinoma. Congenital or acquired phimosis as well as recurrent balanitis were believed to be the principal pathogenetic factors. Under the title "balanitis xerotica obliterans," Stuehmer[9,10] in 1928 and 1932 tried to segregate from the scleroatrophic affections of the male genital a syndrome which was distinguished, according to this author, by its occurrence in the younger age group and by its development after an operation for phimosis. The term coined by Stuehmer has become popular, although its connotation failed to find general acceptance.[11-15]

A new interpretation of the scleroatrophic genital syndrome was given by Freeman and Laymon in 1941 and 1944.[16,17] Confirming the histologic distinction of leukoplakia (leukokeratosis), as an essentially hypertrophic process, from kraurosis or balanitis xerotica obliterans, as an essentially atrophic process, and confirming the identity of the latter two conditions, the authors concluded that balanitis xerotica obliterans is a genital manifestation of, and identical with, lichen sclerosus et atrophicus. Their conclusion was based on the histologic identity of balanitis xerotica obliterans and lichen sclerosus et atrophicus and the frequent coexistence of balanitis xerotica obliterans and characteristic lesions of lichen sclerosus et atrophicus on the body and/or on the shaft of the penis.[16-18] This interpretation of balanitis xerotica obliterans has not found general acceptance, although a close similarity of the microscopic features has been recognized.[19] While Stuehmer's concept of postoperative induction has been generally abandoned, the pathogenetic roles, if any, of the frequently associated phimosis and/ or recurrent balanoposthitis await further elucidation.

The syndrome is sufficiently rare and grave to warrant a brief summary of its clinical and histologic features and also its therapy.

Clinical Features

While as a rule the course is slowly progressing, the onset may be abrupt. The symptoms vary from slight paresthesias to severe discomfort. In the early stages erythematous areas on the glans and prepuce may be the only signs. The fully developed syndrome shows whitish, parchment-like patches on glans and prepuce with partial or complete sclerosis and obliteration of the coronal sulcus and the frenulum. The atrophic and cicatricial changes frequently lead to a narrowing of the external urinary meatus with subsequent complete stenosis. The most serious complication of the scleroatrophic genital syndrome is carcinoma. This tendency to malignant degeneration was evidenced by various instances described in the foreign literature.[9-11,20,21] To my knowledge, no proved case has been recorded in the American literature since the symptom complex received attention in this country (1935).[22]

Histologic Features

In the early stages an inflammatory edema and a diffuse polymorphonuclear infiltrate predominate in the papillary body. In the fully developed atrophic stage the upper cutis shows a characteristic bandlike zone of homogenization with almost complete absence of cellular elements and elastic tissue. Varying degrees of obliterative changes may be seen in the deeper blood vessels. The epithelium is thinned but hyperkeratotic in places.

Therapy

The treatment confines itself to symptomatic measures, i.e., elimination of the secondary cicatricial changes. If there exists a constricting preputial ring with fibrotic adhesive bands between the glans and prepuce, operative removal of the prepuce and the cicatricial tissue is indicated. The maintenance of the urethral opening to prevent urinary retention is accomplished by frequent and repeated passages of bougies. Complications resulting from urinary retention have to be treated in accordance

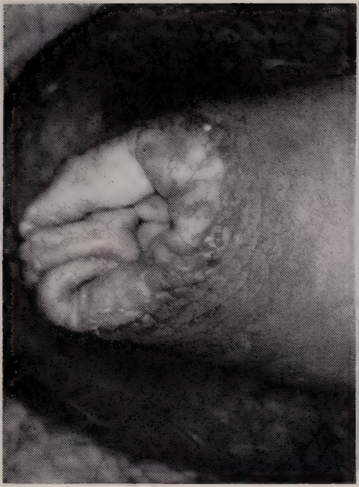

FIG. 1. The margin of the prepuce is thickened and convolute and separated from the normal outer skin by an erythematous zone.

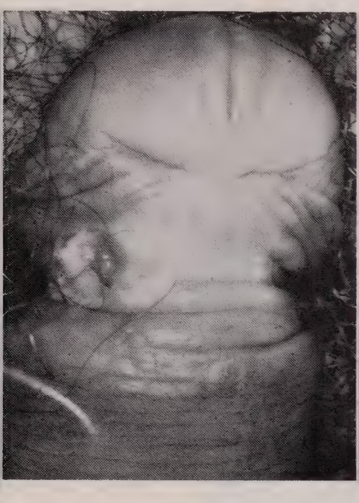

FIG. 2. On full retraction the rigid margin forms a constricting ring. The frenulum is obliterated and replaced by cicatricial tissue.

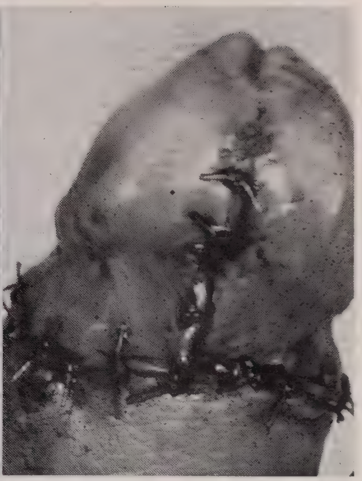

FIG. 3. Status immediately after circumcision and excision of the remnants of the frenulum.

with urologic principles. The malignant potentialities of the disease demand careful and prolonged observation.

Case Report

The patient, a thirty-nine-year-old, white, married man, had no history of venereal or cutaneous diseases. He had a long prepuce since birth which, however, had not caused any discomfort before his present complaints. No operation for phimosis had been performed. An increasing difficulty in retracting the prepuce and soreness of the penis was noticed for about four months before medical advice was sought. The painful feelings prevented sexual relations, but urination was unimpeded.

The margin of the long prepuce was whitish, thickened, and convolute (Fig. 1). On slight retraction the thickened labia of the external urinary meatus became visible, and a deep, longitudinal fissure appeared ventrally at the transition of the external to the internal preputial fold. On full retraction, which could be accomplished only with greatest difficulty, the narrow, rigid margin of the prepuce formed a cicatricial constricting ring proximally from the coronal sulcus. The inside of the prepuce was covered with whitish, smooth patches which extended to and involved the glans. The most conspicuous changes were at the ventral portion and around the frenulum. The latter was obliterated, and in its place a broad cicatricial band stretched between the glans and prepuce (Fig. 2). The regional lymph nodes were not enlarged. The skin of the shaft of the penis and scrotum as well as of the trunk and extremities failed to show any lesions.

Urine, complete blood count, and blood sugar were normal. Kahn reaction was negative.

Circumcision and excision of the remnants of the cicatricial frenulum were performed (Fig. 3).* Histologic examination of the operative specimen confirmed the clinical diagnosis of balanitis xerotica obliterans: "The upper cutis shows very distinct homogenization and rigid vessels, and deep to this zone there is a wide band of scattered banal inflammatory cells separating the homogenized from the more normal preputial skin. The epidermis is irregular, thin in parts, thick in others. There is no evidence of malignant change" (Fig. 4).

Four months after the operation, the patient was re-examined. He had resumed sexual relations without experiencing discomfort; urination was unimpeded. The body, the shaft of the penis, and the scrotum were free from lesions. The glans near the coronal sulcus was of approximately normal texture. Around the orifice, however, the surface was whitish, dry, parchment like and mottled. The labia of the orifice had remained thickened, but there was no noteworthy narrowing of the meatus (Figs. 5 and 6).

Comment

The history of this case does not mention recurrent chronic balanoposthitis, nor did an operation for phimosis precede the disease, confirming the opinion that neither is a prerequisite for the induction of the symptom complex. The patient, however, had a congenitally elongated and narrow prepuce. The sclerotic changes on the prepuce and glans were the only manifestation of the disease.

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* By Dr. Robert J. Ryan, Bellmore, New York, who referred this patient for diagnosis and therapeutic suggestions and through whose courtesy the publication of this case is possible.

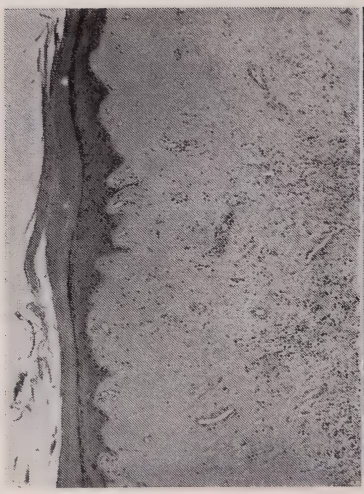

FIG. 4. The upper cutis shows very distinct homogenization and rigid vessels. The epidermis is irregular, thin in parts and thick in others. (*Low power*)

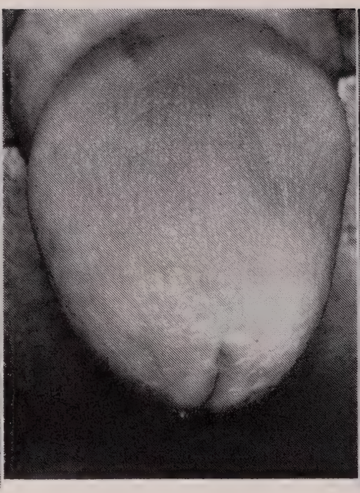

FIG. 5. Dorsal view four months after operation. The glans near the orifice is parchment-like and mottled. The labia are thickened.

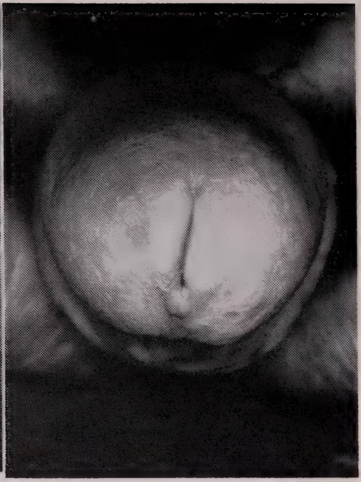

FIG. 6. Frontal view four months after operation. The labia are thickened, but there is no noteworthy narrowing of the meatus. The split pea-sized elevation at the ventral angle of the meatus is a remnant of the frenulum.

No characteristic lesions of lichen sclerosus et atrophicus on the shaft of the penis, scrotum, or body were found during an observation period of six months. The histologic features were characteristic of balanitis xerotica obliterans. No marked obliteration of the blood vessels was seen. However, no serial sections of the entire foreskin were performed.

The operative removal of the foreskin and the cicatricial frenulum supplied a symptomatic cure as far as the immediate problems of the patient were concerned. During a postoperative period of four months the operation improved, but did not eliminate, the parchment-like atrophy on the glans, nor did it reduce the thickening of the labia of the external urinary meatus. The urinary flow remained unobstructed, however.

The further course cannot be predicted. It may be determined by an inherent and progressive trend to atrophy and shrinkage. Accumulated evidence derived from those cases reported in the literature, who sought advice with a fully developed symptom complex after an operation for phimosis had been performed, points to the possibility that further complications may arise.

Summary

The present status of opinion on the genital syndrome, "balanitis xerotica obliterans," is briefly summarized. The clinical and histologic features as well as the therapy are reviewed. The case of a thirty-nine-year-old patient is reported.

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Benign Ulcer of Greater Curvature of Stomach

CHARLES REIGI, M.D., F.A.C.S., AND CHARLES SOKOLOVE, M.D., STATEN ISLAND, NEW YORK

(From St. Vincent's Hospital, Staten Island)

IT HAS been axiomatic to assume that an ulcer on the greater curvature of the stomach is malignant.[1-6] This has been due to the conclusions drawn from a review of the earlier literature. More recently a total of 53 cases of proved benign ulcers of the greater curvature have been reported.[7-9] Interestingly enough, a greater percentage of ulcers found on the greater curvature have been shown to be benign by autopsy reports.[10,11] Boudreau and his coworkers[12] described 234 gastric ulcers during autopsy; of this number 47 were found with ulcers on the greater curvature, and of these, 24 or 51 per cent were benign.

We feel that an ulcer found on the greater curvature must not be assumed to be malignant until proved so. Therefore, we wish to add to the literature a case of proved benign ulcer of the greater curvature of the stomach.

Case Report

A fifty-eight-year-old, white, married male, a boilermaker by trade, was admitted on March 2, 1953, with a history of epigastric pain for the previous two-week period. The pains were sharp and localized to the epigastrium. They occurred mostly before meals and were relieved by food and alkali, only to recur four hours after meals. Occasionally the pains were associated with nausea, rarely with vomiting, but no other constitutional symptoms were present. There was no loss of appetite and no loss of weight. There was no change in color of stools, nor was there disturbance of bowel habits. Micturition was normal also.

Past history revealed appendectomy in 1942 and herniorrhaphy in 1952. Patient did not smoke and drank in moderation. There was no history of malignancy in family.

At physical examination the salient points were some tenderness on deep pressure over the epigastrium; liver and spleen were not palpable. There was some cardiac enlargement with the blood pressure elevated to 210/100. The clinical impression was (1) peptic ulcer and (2) essential hypertension, moderately severe.

Laboratory findings included the following: hemoglobin 13 Gm., white blood cells 5,450 with 61 per cent neutrophils, 32 per cent lymphocytes, 2 per cent nonsegmented, 4 per cent eosinophils, 1 per cent basophils. Urinalysis showed specific gravity 1.012, albumin negative, and no casts, erythrocytes, or leukocytes.

X-ray report read in part as follows: "On the greater curvature of the stomach in the pars media, there was a protrusion downward about 2 cm. in diameter at its base; otherwise the tone, flexibility,

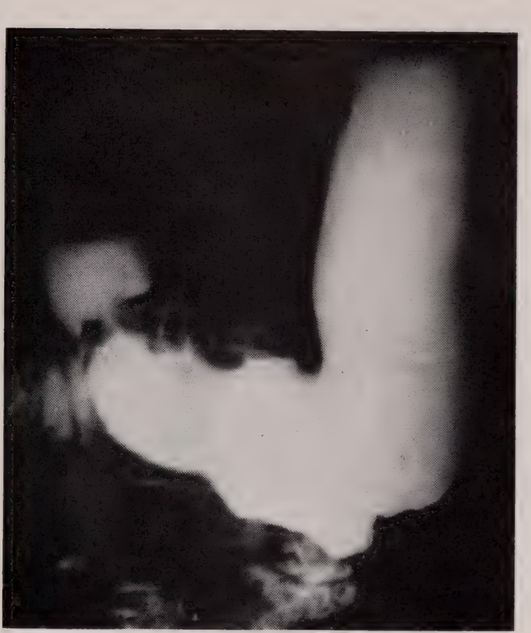

FIG. 1. Note protrusion on the greater curvature of the stomach in the prone position.

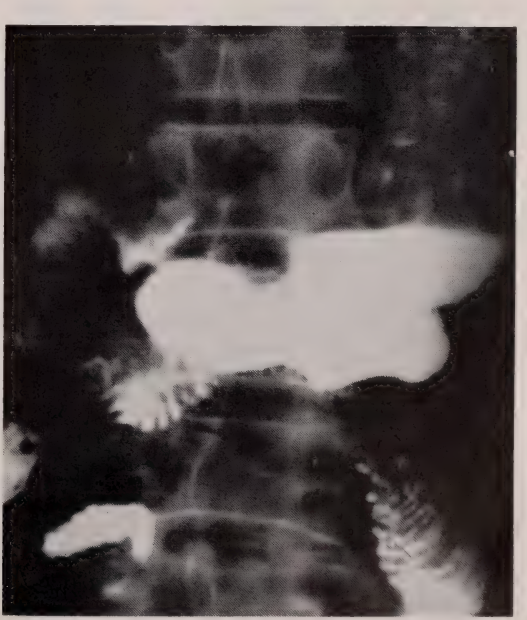

Fig. 2. Ulcer as seen in the upright position.

and mobility were normal. Pylorus opened early. Duodenum filled well. Conclusion: The protrusion that was seen on the greater curvature would suggest an ulcer. However, statistically, ulcers on the greater curvature are in a high percentage neoplastic. Therefore, this is to be regarded with considerable suspicion of being a neoplastic ulceration" (Figs. 1 and 2).

On March 26, 1953, a laparotomy was performed, and on palpation a mass was felt on the greater curvature of the stomach, $2^1/_2$ inches proximal to the pylorus. No evidence of metastasis was seen either in the glands or in the liver. A subtotal gastrectomy was carried out, and the patient left the operating room in good condition.

On March 29 the patient had a generalized convulsive seizure which lasted about twenty to thirty minutes, associated with profuse sweating. The blood pressure at this time was found to be 160/90, and on physical examination all that was found was a deviation of the tongue to the left. On the following day the laboratory data were reported as follows: Urine showed 3 plus albumin with 100 to 150 leukocytes, 6 to 8 erythrocytes, 1 cast. Carbon dioxide combining power was 55.7 volumes per cent, phosphorus 2.8 mg. per cent, and calcium 7.4 mg. per cent. The etiology of this seizure was not understood. The patient recovered rapidly and had no further complaints. He was discharged on April 5.

The patient was home about two weeks when he had another convulsive seizure and expired. Autopsy was not obtained.

PATHOLOGIC REPORT OF STOMACH SPECIMEN.—Gross specimen received in fresh condition consisted of distal portion of stomach, including the pylorus, measuring 15 cm. in length. Along the greater curvature there was a small portion of mesentery attached which showed an enlarged lymph node of firm consistency. On opening there was a large, deep ulcer situated along the greater curvature about $4^1/_2$ cm. proximal to the pylorus. The ulcer measured 3 by 2 cm. and about $1^1/_2$ cm. deep. The long axis of the ulcer was situated along the long axis of the stomach. The edges of the ulcer were hard, and the base showed necrotic material.

Microscopic sections revealed tissue from stomach. The mucosa showed an ulceration which extended into the muscularis. The base of the ulcer was covered by fibrin showing an infiltration by polymorphonuclear leukocytes and round cells. Chronically inflamed granulation tissue was situated underneath the fibrin layer, partly replacing the muscularis. Areas of replacement fibrosis were also present in the deeper layer of the muscular coat.

Diagnosis was active penetrating peptic ulcer.

Conclusion

Ulcers on the greater curvature must not be assumed to be malignant since there is a 50 per cent chance of benignity

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The "pro" was giving a golf lesson to a rather bosomly type of female—since this was her first lesson, the pro was instructing her about the proper stance—so he asked her to assume what she would consider her natural stance in addressing the ball— and then take a few practice swings—which she did.

The pro walked slowly around the bosomly matron and observed closely the undulating contortions—and then stood facing her, and said, "Madam, the first thing you have to do is to decide whether you are going to swing under or over those things!"

—*Detroit Medical News, May 23, 1955*

TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

with the cooperation of

Bureau of Cancer Control
New York State Department of Health

Treatment of Oral Cancer

ROBERT M. BOGDASARIAN, M.D., BINGHAMTON, NEW YORK

Once the diagnosis of oral cancer is established, an uncompromising approach in its treatment must be made. This is influenced, however, by the age and medical status of the patient and by a complete evaluation of the lesion itself, that is, its location in the oral cavity, the extent of its local and/or regional involvement, its histopathology including degree of differentiation, its physiologic and, also of importance, cosmetic impact on the host by the particular method of treatment selected. In all humility I must say that often forgotten factors in papers and discussions on cancer treatment, such as geography, economics, patient, and family attitude can still be responsible for the seemingly incomplete or inadequate care. Education of the laity has gone a long way toward solving the problem of adequate care so it is worth the continued effort.

Preparation of the Patient

Mental and physical preparation of the patient will pay dividends during his convalescence and rehabilitation. The stable individual is able to accept the diagnosis and, understanding it, is more apt to be patient with the course he is to follow. Burdened as the family may be, they are at least free of the efforts and trials of concealment. Some people are just "poor poker players."

Particular attention should be given to the teeth with necessary extractions being performed before direct attack on the cancer. Maintenance of good oral hygiene, judicial use of antibiotics, blood chemistry and hemoglobin, cardiovascular and renal evaluation, nutrition levels, chest x-ray all make their impression in the therapy.

Role of the Dentist

The dentist should be an active participant, even more so if x-ray or radium therapy is to be used. Radio-osteonecrosis is always a possible factor, early or late, and even though the cancer is destroyed, marked morbidity due to bone necrosis may lead to death. Teeth in the pathway of radiation should be removed, even if sound, and if large areas are to be irradiated, all the teeth should be extracted prior to therapy. Once radiation has progressed and remaining teeth become brittle or loose, extreme caution must be exercised in further extractions for radiated tissue may break down due to the trauma, may become easily infected, and bone necrosis may proceed with marked morbidity. Oral hygiene must always be maintained.

Oral Cancer

About 90 per cent of the oral cancer reported in the literature is of the squamous cell type originating in the mucous membrane of the oral cavity, the remaining malignant tumors being adenocarcinomas, mixed tumors, lymphosarcomas, melanomas, etc. We include, as the boundaries, anteriorly the labial mucosa, posteriorly the free edge of the soft palate, the anterior faucial pillars, and the junction of the anterior two thirds and posterior third of the tongue. Included would be the lip, tongue, floor of the mouth, gums, hard and soft palates, buccal surfaces, and perhaps the tonsils. It is a well-known fact that the location of the cancer in the oral cavity forewarns that those lesions located anteriorly are apt to be less malignant than those located posteriorly. Posteriorly placed lesions tend to be less differentiated than those anteriorly placed, i.e., a lesion on the anterior tongue may metastasize more slowly than one over the anterior tonsillar pillar. Therefore, generally, posterior lesions are more difficult to treat.

Choice of Treatment

In recent years controversy has given way to cooperation between the radiologist and surgeon. I believe that, if possible, every case should benefit by their concerted opinions, even when surgery is obviously first choice. Judicial evaluation should always determine the modus operandi. Successful radiation therapy requires the same skill and judgment, the same measure of experience and accuracy as does the use of the scalpel. Much of the preparation of the patient for radiation is the same as that for surgery. In addition, use of flavenoids prior to and during treatment, maintenance of blood hemoglobin, relief of the mucositis, and collecting amounts of mucus are important. Preradiation tracheotomy may be necessary.

The combination of surgery and radiation may be best for the patient, such as in palate lesions or those posteriorly located.

Lip

The most frequent site is on the lateral portions of the lower lip. Carcinoma here usually grows and metastasizes slowly. A small lesion may be successfully treated by "V" excision, including very adequate amounts of normal tissue, with primary closure giving good cure. These small lesions have also been successfully treated by radiation. Prophylactic radiation of uninvolved regional lymph nodes is not desirable. It could interfere with later neck dissection if such becomes necessary. Large local lesions and those with lymph node involvement should be handled by accepted technics of neck dissection and such reconstructive surgery as necessary. The number of stages should be kept at a minimum.

As in the attack on cancer elsewhere, the first attack is the most important for patient survival.

Tongue and Floor of Mouth

I hesitate to say small in dealing with cancer, since a very small lesion may not necessarily connote local, but usually small anterior tongue carcinomas may be removed with wide "V" excision with primary closure. Some may require hemiglossectomy and en bloc neck dissection, others the combination of surgery and radiotherapy, still others radium needle implant. Poor risk patients and the very old may best live out their lifespan with irradiation by intraoral cone, external radiation, and radium implants. Some surgeons truly believe that "palliative" surgery can be less distressing in the remaining days of the patient than the effects of "palliative" irradiation. Certainly neither course has been the answer for this group.

Cancer of the tongue may be coincident with cancer of the floor of the mouth, or the latter may be present alone. In the more anterior lesions of the floor of the mouth surgical excision is offering help, but the posterior lesions are still very formidable. Extensive radiation and radium implantation have been used, but here the complication of radio-osteonecrosis is to be reckoned with.

Palate

It is surprising how large a cancer involving the palate may become before definite diagnosis is made. Repeated biopsies may be necessary to reveal the true nature of the growth. The soft and/or hard palate may be involved. Surgical or electrosurgical removal followed by intraoral cone and external portal radiation are methods of choice. The danger of sequestration is always present. (Always consider the radioresistance of the local tumors of mixed origin.)

Even if healing is progressing satisfactorily and epithelization of the palate or gums seems complete after irradiation, dental prosthesis should be delayed months so that possible tissue necrosis due to trauma may be prevented. Tobacco, always an irritant, should be discouraged.

Buccal Mucosa and Lower Gums

The most common site of cancer here is at the occlusal line. The more posterior the growth, the more difficult the excision. I have observed excellent results in cases done by extensive sharp surgery with removal of portions of the ipsilateral mandible, soft palate, anterior tonsillar pillar, tonsil, portion of the tongue, and en bloc neck dissection.

These patients may experience regurgitation for a long time so food intake should be carefully supervised. Speech therapy may be necessary in many and can be helpful in their rehabilitation.

Tonsil

I include cancer of the tonsil only because it is often associated with lesions at the base of the tongue or with buccal lesions. Irradiation and radium implants with possible neck dissection of regional nodes are done. Except in lymphoepithelioma or "transitional cell" tumors, results have not been encouraging.

Summary

The team against oral cancer should consist of the dentist, internist, radiotherapist, and surgeon. Adequate patient preparation and joint attack are still the only real means of attack against oral cancer.

108 Oak Street

(*Number five of a Series on Treatment of Cancer*)

This is a story that a young doctor insists happened in a suburb of London last year. A young married lady who believed that she was in a family way went to the public health station to confirm the fact. The doctor gave her a cursory examination, assured her that her suspicions were well founded and then, to her astonishment, took a rubber stamp and placed it gently against her abdomen.

"That's all," he said.

She reported this strange happening to her husband that evening, and she said:

"What does it say: I can't read it."

Upon inspection he also found that the print was too small for him, but a magnifying glass made everything clear. The inscription said:

"When you can read this without a magnifying glass take your wife to the hospital."—*Tonics and Sedatives, J.A.M.A., May 7, 1955*

Health Around the World

THOMAS PARRAN, M.D., PITTSBURGH, PENNSYLVANIA

(*Dean, Graduate School of Public Health, University of Pittsburgh*)

It is always a happy experience to be in Syracuse. During the six years I was on loan from the U.S. Public Health Service, serving as State Health Commissioner under Governors Roosevelt and Lehman (1930–1936), my contacts with the city and the university were frequent and stimulating.

It was the University of Syracuse which awarded my first honorary degree, an LL.D., twenty-one years ago when your medical school was celebrating its hundredth anniversary. Other honorary degrees and honors conferred thereafter by colleges and universities in this and other countries, in my private evaluation, are as younger children in relation to the firstborn. One treasures such recognition as one loves and cherishes each child; yet always the first has—no doubt illogically—unique status.

You are aware, I trust, that I am not a member of Alpha Omega Alpha as to the manner born but vicariously, through the privilege bestowed upon me by your chapter at Columbia University, another adopted alma mater. In fact, my own medical school at Georgetown University installed its AOA Chapter only in 1954. On that occasion our long-time fraternity president, Dr. Walter Bierring, was described as "a venerable gentleman and elder statesman with a brilliant and scintillating mind."

I have known and admired Dr. Bierring for many years, even before 1924 when he was installed in our highest office, and glowing with praise though this statement may sound in the ears of our younger brethren, I regard it as an understatement of his life and work. For Walter Bierring has done in his stride what few of us are able to achieve. Having attained real stature in his specialty of internal medicine, he expanded the scope of his interest and action to include broader problems. He became an outstanding health officer of his native state of Iowa. "On the solid base of medical education, research, and practice, he developed understanding of society itself." I have paraphrased, in relation to Dr. Bierring, Dean Foster's words at the Georgetown installation in regard to AOA itself. No words can be more appropriate. Unless the rest of us in AOA have something of Walter Bierring's zest for life and learning, his interest in new ideas, his deep compassion for all human agony, and his willingness to assume the risks as well as the kudos of leadership, we shall not, as individuals or as a brotherhood, be living up to our motto "Worthy is he who aids the suffering"—I give you my own very rough translation.

Every physician of my vintage, and many who were trained later, must realize that the majority of so-called facts he learned in medical school simply are not true now. With the exception of pathology and gross and microscopic anatomy it has been necessary to re-educate myself, and in some departments of medical science not only once but several times. Moreover, all branches of science have advanced and expanded during the past thirty or forty years more than in any preceding three or four centuries. Man's environment has changed greatly since the first dissections were made and since Harvey first described the circulation of the blood, but I have yet to meet the anatomist or the physiologist who can point out specific changes in man's physical structure since then.

Someone has said that the mechanistic sciences rule our modern world, that it is through understanding of these natural sciences that man is fed,

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Presented as the Alpha Omega Alpha Annual Lecture, State University of New York College of Medicine at Syracuse, April 28, 1955.

clothed, warmed, and sheltered, but that only through the greater advancement and wider application of the medical and other biologic sciences will man survive. Flattering though this statement may be to our profession, it seems frightening to a few professionals who examine its implications. The concept is remote from the hopes for their future cherished, even today in our world of grim transition, by many young men being graduated from medical school and being graduated with honors which qualify them for membership in AOA. It is a long way, they think, from their dream: a little island of lucrative practice among contented and admiring patients; perhaps some teaching—hopefully, research; if not distinction, at least decent comfort; if not leadership, nothing less than compensation in one's style of living for the costly and arduous years of premedical, medical, and postgraduate preparation.

I have no criticism of the dream except its geography. Generations ago when health and medical horizons were bounded by the immediate community, the poet Donne pointed out that "Noe man is an iland." He was jeered at as a mystic. That Donne was a complete realist has been proved by the mid-twentieth century and a world shrunken by the phenomena of machines and communications almost to the relative time area of a man walking from here to Manlius.

It was Einstein, I think, who first introduced the element of time into the concept of size. Since I am not a physicist, I am apt to think of time as giving clarity to ideas and adding force. One example which comes to mind is a statement made some twelve years ago by Dr. William Pearson Tolley, as Chancellor of the University of Syracuse. He said: "If anything is clear in this bewildering and chaotic world, it is the unbalance between scientific advancement and social control. We have a world of twentieth century technology and stone age international relations; a world of unlimited production and uncontrolled hatred and greed; a world of magnificent intellectual achievement and of catastrophic moral failure; a world of magic and wonder endangered by ignorance of human relations and the art of government. Thus the instruments designed for freedom have become tools of the new barbarians, and for all promise of the new day, it may again be written, 'Where there is no vision, the people perish.' " In 1943 I accepted Dr. Tolley's comment as a well-phrased characterization of a world at war. The passage of time has given it more force, in my opinion, as a clear delineation of the uneasy peace in our day and of the problems involved if we are to achieve a just and durable peace.

It is entirely reasonable to expect that at this point some of you are saying to yourselves, "Is making peace a responsibility of the medical profession?" To which I must reply, I trust as reasonably, "It will take all of us together to make the peace. Each of us must do his share." As members of one of the most ancient of the so-called learned professions, we cannot argue with the thesis of Sir Lionel Whitby, Regius Professor of Physic at the University of Cambridge, who says we "can no longer take a parochial view of our problems since medicine, mercifully, knows no international boundaries and happily has the same ideas in all countries."

As members of AOA, which sets for itself, to quote Dr. Alan Gregg before one of your national meetings, "the task of promptly recognizing early ability," it is important to acquire comprehension of these problems and to demonstrate a capacity for leadership in dealing with the overall hazards of our time. Except for those of us who are by courtesy only counted among your members and by whom the world should not judge you, it would be unseemly for the impression to get about that the criteria for AOA membership does not include capacity for mature citizenship.

There are two general directions in which as physicians and citizens we can do our share in building for peace. The *first* is incumbent upon any citizen of a free nation. We can seek to understand the issues. In this connection I like a story which President John S. Dickey of Dartmouth College told me not long ago. Dartmouth operates a two-year medical curriculum. Its 20 graduates each year have little difficulty in being accepted by top-flight medical schools to complete their last two years of training. An innovation which President Dickey introduced when he took over at Dartmouth was a "Great Issues" course, required of all seniors, in which experts from a variety of fields—foreign affairs, economics, political science, and other specialties—presented one or another contemporary "great issue," encouraging full and free discussion. After this highly stimulating series of seminars had been carried on for several months, a delegation of premedical students called on the president asking that they be excused from taking the course because their schedule of laboratory and other studies was so heavy they had no time for it. President Dickey considered the matter, and his answer went something like this: "I have decided to grant your request, but only on one condition. I am familiar with the Hippocratic Oath to which every physician subscribes. It is a solemn obligation. I will excuse you from the 'Great Issues' course if you will take an equally solemn oath that throughout your medical career you will refrain from advising any of your patients or friends on any matter not directly related to their state of health or illness." The students decided to take the course.

As a long-time trustee of the Rockefeller Foundation, I was gratified that at our last meeting the board voted unanimously that we give generous financial support to the studies which are to be made by the National Academy of Science "about the effects of atomic radiation on living organisms." You will have seen, I hope, in the *New York Times* of April 8 the rather detailed account of the proposed study. Undoubtedly you have read, as I have, the earlier statements by Drs. Mueller of the University of Indiana and Sturdevant of California Institute of Technology who with other scientists are on record as believing that the fallouts from test explosions of atomic and hydrogen bombs already have polluted the atmosphere to a degree which may prove deleterious to succeeding generations.

The important thing in this and many other great issues is getting at the facts if they are known; if the facts are not known, to get the search for them underway. Panic is the result of ignorance. Wars except in self-defense are the result of panic. In the mid-twentieth century neither the medical student nor the medical practitioner dares be isolated from facts.

A *second* direction toward national security and international equilibrium is exemplified by the work for better health around the world outside the Iron and Bamboo Curtains. It is being carried on actively through the program once known as Point IV and now as the Technical Assistance sector of the Foreign Operations Administration. This function, incidentally, will come under the aegis of the Department of State July 1, 1955, under another name. Through bilateral agreements with 37 so-called underdeveloped countries, much fine work is being done to prevent premature death and avert preventable illness. Moreover, these programs do not conflict with the multilateral services of the World Health Organization or with those of the other United Nations specialized agencies which relate indirectly to health.

Before World War II there was little interest or activity in international health, either in the United States or among other western nations. The International Office of Public Health with headquarters in Paris was concerned chiefly with the distribution of data in regard to pestilential diseases. The Health Section of the League of Nations, by common consent one of the League's most useful operations, was limited to advisory functions by its small budget with most of the little they could spend made available by the Rockefeller Foundation. The Pan-American Sanitary Bureau in Washington was organized in 1903 under the first treaty to be approved by all of the 21 American republics. Its primary function then was to administer the international sanitary conventions relating to maritime traffic, later to air transportation. The chief motivation of the United States in entering into these conventions was our fear lest yellow fever be imported from South and Central America. During the nineteenth century, as you remember, the disease appeared in sporadic epidemics of high mortality throughout the South; earlier it had devastated cities as far north as New York, Philadelphia, and Baltimore.

Before the liberation of all Europe from Hitler's domination in 1945, our government initiated a huge program for the relief of destitution and disease. This was organized and operated under the direction of former Governor Herbert H. Lehman and was known as United Nations Relief and Rehabilitation Administration—UNRRA in the vernacular. The U.S. Public Health Service cooperated on health and medical aspects. As a result of its operations no such fatal pandemics occurred as had followed World War I when typhus and cholera were estimated to have killed more people than had lost their lives in battle.

When UNRRA finished its work in 1947, the balance of its assets were contributed to the United Nations Children's Emergency Fund (UNICEF) and to the World Health Organization (WHO).

UNICEF, which had received the larger contribution, took over and expanded the work begun during the war by the Danish and Swedish Red Cross societies in providing vaccination with BCG against tuberculosis in Germany, Poland,

and Austria. In addition, it brought food and medical supplies to mothers and children in liberated countries. I had the privilege of heading its first mission to the Far East in the monsoon season of 1948. I never learned more or was less comfortable.

As of now, UNICEF has become largely a supply agency as far as health programs are concerned, the technical aspects being directed by the WHO. It was with pride that I read in a recent report, "90 million children tested for tuberculosis; 38 million vaccinated with BCG." The freedom from disease which we can bring to these desperately underprivileged and over-exploited people is the strongest argument we can muster to keep them free from communism. Little publicized generally, except by the *New York Times* and a few other independent papers on our eastern seaboard, I was delighted to find a first-rate, although fractional story of UNICEF's Far Eastern work in *Collier's Magazine* of April 29. You will not find it dull reading.

The WHO, second beneficiary of UNRRA, was planned by a Committee of Experts named by the UN Economic and Social Council. Meeting in Paris early in 1946, the committee drafted an outline of a constitution for the proposed international health agency. A few months later the first International Health Conference was held in New York City. Here the WHO was born. Its constitution was signed by 64 nations.

Dr. Henry Van Zile Hyde, a former secretary of the Onondaga County Medical Society, has played an important role both in the formation and in the recent policy guidance of WHO. His present post is chairman of the executive board of the WHO.

The Soviet bloc of nations participated actively in organizing the WHO. As of 1946 their delegates negotiated with relative reasonableness. True, the proceedings were held up from time to time when they were obliged to obtain new instructions from Moscow on matters which seemed to the rest of the Big Four delegates no more than incidental details.

This happened one Sunday morning in June of 1946 when the executive committee was having a breakfast conference in my hotel sitting room. My wife had come up from Washington the day before to help me do some official entertaining in my capacity as president of the conference and chairman of the American delegation. Both of us liked the Russian chairman, Dr. Krotkov, a courteous, soft-spoken senior, whose medical education had been acquired in western Europe under the old regime.

When she realized the meeting was over, my wife came into the room to say good-bye to the delegates. Dr. Krotkov lingered to chat with her after the others left (and while I took a good brisk walk to cool my temper); she inquired into the reason for the early breakup of the committee for which she knew we had a long agenda—after all, there was nothing secret or controversial about our planning. Dr. Krotkov mentioned the point upon which he "must await instructions" and, having more temerity than I, she chaffed him a bit. As she told me the story later, she said his face grew bleak.

"Mrs. Parran," he asked, "if your husband did not follow his instructions, what would happen?"

"This sort of thing would not be mentioned in his instructions. He would be expected to use his best judgment."

"But if *everything* were included in the instructions, and he did not wait for an item missing because not anticipated?"

"Perhaps a reprimand."

"No, no! I am serious! What if his superiors were angry?"

"If the State Department could produce evidence that he had injured American interests by acting on his own initiative, the President could court-martial Dr. Parran. If he were proved guilty, he would be discharged from his government post for conduct unbecoming an officer and a gentleman."

"But what about you and the children?"

My wife replied: "Nothing would happen to us, except the loss of some fair weather acquaintances. And as I told you to start with, nothing would happen to my husband even if he were mistaken on such a minor issue."

Looking nervously about the room, Dr. Krotkov leaned forward and said almost in a whisper, "Your husband and I are in very different situations. If I do what I am not told to do, even about some little matter, when I go home my wife and children are not there, my brothers and sisters are not there, even my best friends are missing. Soon, very soon, I am missing. Now do you understand why I cannot always be, as I wish, reasonable?"

I have never told this story publicly before, but from what little I have been able to find out, poor Dr. Krotkov long since has been liquidated for the sin of "cooperating with capitalists," as have been several other fine Russian scientists who were here during the war years.

I mention the episode because now few if any remain of the men of our profession in Russia whose basic training, no matter how submerged by their helplessness under tyranny, equips them, in Sir Lionel Whitby's terminology, with "the same ideals."

Although the Soviet bloc signed the constitution of the WHO, they walked out of the agency when they discovered it was not going to be a major source of medical supplies, equipment, hospitals, and other material for their own rehabilitation. Since secession is no more provided for in the WHO constitution than in ours or in the UN charter, they are free to return whenever they pay up the several million dollars they owe in back dues. So far they have contributed nothing at all to the WHO budget.

With its present enrollment of 84 member "states," the structure of the WHO is, nevertheless, simple. The World Health Assembly meets annually and is the policy-making body made up of representatives from each cooperating country ("member state"). The chief of each national delegation is a professional in public health. Between meetings of the Assembly, the executive board is empowered to act. The Secretariat, or administrative organization, is headed by a director-general chosen by the Assembly for a five-year term. The first was Dr. Brock Chisholm, a distinguished Canadian psychiatrist. He was succeeded last year by Dr. M. G. Candau of Brazil, who has demonstrated his capacity for leadership both in his native country and in the Pan-American Sanitary Bureau, now a regional operation of the WHO, which has four other such offices located in Copenhagen, Alexandria, New Delhi, and Manila. On this decentralized basis the WHO works through governmental channels to serve those peoples in great need of health services and seeks to strengthen their national health agencies to cope with the most serious and widespread preventable diseases.

While I am perhaps less interested than any man of your acquaintance in publicity for publicity's sake, I have been rather disturbed during these last years because of the complete unawareness of otherwise highly literate citizens in regard to the specialized agencies of the United Nations. Whether they know it or not, it is the acceptance or nonacceptance by citizens of the underdeveloped and usually overexploited countries of what they see firsthand of the free world (of which the United States claims leadership) that in the end will determine how long our world remains free. It is the men and the services of the specialized agencies which carry directly to underprivileged people much of what they know of our free world. At the sessions of the United Nations itself, matters of political and military expediency are threshed out, and the admittedly less than perfect results are publicized with all the impatience—on occasion arising to heights of scorn and bitterness—with which my hometown newspapers report the record of our Pittsburgh Pirates' baseball team, which won only its first game in nine last Sunday.

If this state of affairs—the hassles in the Security Council of the UN—is unfortunate for all citizens, it is tragic for physicians. Our organized medical profession keeps a firm hand on the conduct of public health programs and medical practice in the United States as well as on the quality of medical education. In the long pull I think all parties and functions involved are the better for the professional controls.

I can say this in all sincerity and with better grace than in 1932. Then I approved the majority report of the Commission on the Costs of Medical Care under the chairmanship of the far-from-radical Dr. Ray Lyman Wilber, then president of Leland Stanford University and earlier a great Secretary of the Interior under President Herbert Hoover. The modest and well-documented recommendation to improve obvious inequities in medical care was voluntary health insurance. A former editor of the *Journal of the American Medical Association*—then and still my good friend—vigorously attacked voluntary health insurance as "communistic, subversive, and conducive to revolution."

The seniors among you have lived with me to see the day when voluntary health insurance has become the last, best hope of the A. M. A. and component member societies against so-called socialized medicine, as the plans of both the Truman and the Eisenhower administrations are described—not too accurately described without more precise agreement as to nomenclature.

So the "world do move," and many of us believe that it should move the A. M. A. and its component medical societies, as well as the powerful societies of specialists, closer to knowing the facts of health around the world. Many individual practitioners of medicine do know the facts. They have participated actively in the work of the WHO, to its great profit. I can think of no better demonstration to the world of the responsibility of American leadership than for organized medicine to do likewise.

Can we, after all, play the game of "follow the leader" under rules recently set by the Daughters of the American Revolution? I quote from an editorial of April 22 in a conservative eastern newspaper: "They passed, by what sounded like acclamation, a resolution stating that the United Nations Educational, Scientific and Cultural Organization (UNESCO) is 'patterned exactly after the Communist teaching of Soviet Russia.' They would not listen to a speaker who urged that the DAR send 'accredited observers' to see what the UN was really up to. It seemed better, as another speaker put it, not to 'undignify' the DAR by examining the facts in this—or perhaps any other—situation. The second speaker was applauded when she proposed instead that the ladies 'go after them with clubs, like our forefathers.'"

Both my wife and I had Tories as well as Revolutionaries among our ancestors during the long war fought by the American colonies for freedom from England. On the circumstantial evidence adduced, and as they cried out against the President's "atoms for peace" philosophy, they might be the Daughters of Tories in full tongue. Certainly this does not represent the spirit of scientific inquiry, upon which all physicians worthy of the name pride themselves. And only in that spirit can we examine new theories and experiments whether in therapy, immunology, or international affairs.

Among excellent demonstrations initiated by the WHO are those for the control of malaria, tuberculosis, syphilis, and other treponematoses. Filthborne infections have been reduced by improvement in sanitation. The lives of many mothers and their young children have been saved.

Operating on a basic annual budget of something less than ten million dollars, of which the United States pays 33 per cent, each member country contributes financial support in proportion to its national income. The three million-dollar ceiling on the United States' support of WHO, imposed by the Congress in ratifying our membership, puts an arbitrary limit on the total operation. President Eisenhower has recommended recently that this ceiling on our support be raised from three million to five.

Consider what we have spent on the control of a single disease, tuberculosis, in this country whose nutrition, sanitation, housing, and standard of living are admittedly the highest in the world. Remember that our educational system, our communications, our hospital facilities and medical skills, as well as our powerful and devoted voluntary tuberculosis societies, probably make the task easier than in any other country in the world. It is easy to understand why the WHO has not progressed beyond the point of demonstrations after about six years of actual field operations with less than ten million dollars a year for health around the world. This periphery would expand very rapidly if organized medicine were to take a coldly scientific look at the total problem and apply its highly and justly rated know-how.

It is in other countries that one finds the evidence, which is less apparent in the legislative halls of Washington, that freedom from premature death and preventable disability wins more friends and influences more people whose friendship we shall need desperately—perhaps soon—than more and more atomic weapons, ships, submarines, planes, and other essentials of modern warfare which we send abroad in great quantity and at a cost of billions annually.

Do not misunderstand me. This is not an "either-or" situation. I would keep our nation militarily strong. In this grim game we play, in which we did not make all of the rules and not all of which we yet know, we have learned at least that we must lead from strength. We must lead also from consistency, generosity, charity. What I am trying to make clear is that there is more than one kind of strength, that the stakes are too high to trust to military strength alone or disproportionately.

Because so many of our fellow countrymen know so little of the WHO or of the Technical Assistance health programs, they share the general misconception that both together form one huge giveaway. The fact is that the host country invariably furnishes part of the cost of such programs and frequently the larger part. An example is the five million dollars currently contributed by the United States to the Latin American countries. This is matched by approximately 12 million dollars from them. Some 125 trained technicians from the United States work with and direct about 2,000 Latin American public health technicians in addition to some 5,000 skilled and unskilled laborers.

Another example is the program to control malaria in India. "Up to 1953 there were an average of 100 million cases of malaria a year. Several million acres of good land were so infested with malaria mosquitoes that they could not be tilled.... A nation-wide organization of 18,750 people was trained, and a DDT spraying program in 1954 covered the homes of 100 million people. These were sprayed two or three times, the material being provided by our Point IV funds. The prevalence of malaria was reduced by 75 per cent."

I talked recently with Mr. Chester A. Bowles, former Ambassador to India, who returned not long ago from an extensive revisitation of the land where he had been admired and trusted as few Americans are. As a member since 1950 of the Point IV Advisory Board with Mr. Nelson A. Rockefeller as chairman, I was reappointed by President Eisenhower to serve under the chairmanship of Mr. Eric Johnstone. I should be familiar with the relatively small proportion of costs borne by the United States in the technical assistance programs. Until my conversation with Mr. Bowles, however, I had not realized that 93 per cent of the economic development program in India is financed by India itself, based on extremely heavy internal taxation. The remaining seven per cent of the costs come from three sources: World Bank loans; help from the Colombo Plan, a British Commonwealth program for southeast Asia, and from Point IV-Technical Assistance funds.

As a *third* and final example among the many which can be cited, I shall quote briefly the report by Dr. John Hume of Johns Hopkins University who visited Haiti as a consultant to the WHO. From a population of three and a half million, 3,200,000 Haitians received injections of penicillin in a mass campaign to eradicate yaws. Dr. Hume says, "Since the onset of the program in February of 1951 through September of this year (1954), the prevalence of persons demonstrating lesions of yaws dropped from 15 per cent to less than 0.03 of 1 per cent, according to the latest estimate and survey. These are dramatic results and apparent to all of the population. This was done at a cost of 20 cents per capita to the Government (of Haiti) and of another 10 cents from UNICEF and WHO."

Among other little-known services of the WHO is its system of diagnostic virus laboratories around the world which send to a central station at Hempstead, England, samples of any unusual strains of influenza virus they may find in local epidemics. As you internists are aware, the top virologists of this and other countries believe that any recurrence of an influenza pandemic probably will be caused by some new or mutant strain of influenza virus against which present vaccines would be ineffective. Rapid identification of any such wild strain might make it possible to get a vaccine against that particular type of influenza virus into production before the disease attains world-wide prevalence as in 1918–1919.

One of the sentinel centers has been set up in the laboratory of Dr. Jonas E. Salk at the University of Pittsburgh. He and his assistants watch carefully for new and unusual strains of influenza virus in addition to their major preoccupation with immunization against poliomyelitis, which you may have heard mentioned recently.

It has just occurred to me that I have never asked my modest young colleague if he had been elected to AOA in medical school. For the good of the order, I hope so.

The general topic I have been discussing with you was not a part of my undergraduate or professional education. I doubt that it has been a part of yours. Changes in premedical and medical curricula come slowly, although we live in a world where transitions appear rapidly.

Back of it all, however, is an ancient doctrine. I like to apply to it what Sir Richard Livingston, lately retired from Oxford, in his address to the first World Conference on Medical Education in London during the summer of 1953, spoke of as "the philosophy of the first-rate." I think it relevant before a chapter of the AOA, which is founded on the first-rate. In conclusion, I quote a few paragraphs from Sir Richard's address:

> We have—most of us—to earn a livelihood. We find ourselves on an immense stage called the universe, occupied by strange creatures called men, and we must have enough knowledge of this scene and of its inhabitants to play our parts intelligently. And we are human beings, with a body, a mind, and also something elusive and indescribable but very real, which we call a soul or spirit—three elements which combine in our personality and which react on each other. We wish to make the best of them all . . . .
>
> These three needs determine the aims of education. It should prepare us to earn our bread;

it should give us some understanding of the universe and of men; and it should help us to become fully developed human beings. Of these three aims the vocational one which concerns us as breadwinners is least likely to be overlooked . . . .

We have to live in a material universe inhabited by men and to live intelligently we must know something of both . . . . Science, then, though in different forms, must have a place in all education, for the material universe is the stage on which the human drama is played . . . .

A philosophy which gives standards of value and judgment that apply to all spheres and activities of human life . . . is very simple and no one would reject it. I would call it the Philosophy of the First-Rate.

But how do you know the first-rate? How do you recognize it in practice? There is only one way of getting to know it—by seeing it; and that is the way in which it can be taught . . . . Never was a philosophy as necessary as in an age of divided purposes and paralyzing doubts about ultimate ends. Our civilization is fluid, its future form still to seek and make.

I submit to you, gentlemen of AOA, that we who have earned the great privilege of becoming physicians consider the responsibilities of medicine. In a shrunken world we cannot discharge them with our attention tied to the parochial. It is you, having shown evidence of the first-rate, who must be spark and tinder to our profession as a whole.

The lives you save and the freedoms you save may be your own if health around the world lies in our future.

Trees

(With apologies to Joyce Kilmer and all tree lovers—and to all golfers, living or dead, or half and half—including Murph Miller, Bruce Foster, Bill Bruns, and J. M. Robb.)

I hope that I shall never see
My golf ball nestled by a tree.

A tree whose mossy trunk is pressed
Against the duffers' heaving chest . . .

A tree that seemed so nice for shade
But now a golf ball by it laid.

A tree whose lofty arms are bent
To catch the golfer's shot well sent.

A tree upon whose bosom bear
The golfer's words in deep despair.

A tree that stands out on the lawn
While circling doggies round her spawn.

A tree is nothing else, alas!
A comfort station in the grass.

A tree where roving poodles dare
And what they do gets in her hair.

The golfers are a crazy lot
The best of manners they have—not.

They do not have respect for trees
Or bushes, creeks, or bumblebees.

They whack and slice and hit with "hooks"
The ball hits trees and falls in brooks.

Be thankful for a lovely tree
And don't write poems like this—by me.

—*J. J. L., Detroit Medical News, July 4, 1955*

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the May, 1955, meeting of the Council of the Medical Society of the State of New York.

The Council met May 11, 1955, from 12 NOON to 1 P.M. in the offices of the Medical Society of the County of Erie, Hotel Statler, Buffalo. Dr. Renato J. Azzari, president, presided.

Secretary's Report

Dues Remissions.—The Council voted to remit annual State dues of one member for 1954 and 18 members for 1955 because of illness, to remit annual State dues of one member for 1954 and 32 members for 1955 because of military service, and to rescind a remission of 1955 annual State dues, granted in April, 1955, because of information received from the county medical society that the member was not called into the service. The Council also voted to request remission of American Medical Association dues of one member for 1954 and of 41 members for 1955 and exemption of two members from further payments of American Medical Association dues because they are more than seventy years of age.

Communications.—Dr. Anderton informed the Council that the New York State Academy of General Practice, which will meet in New York City, October 17 to 20, had requested that the Medical Society of the State of New York sponsor its scientific program.

Approval *was voted.*

Dr. Anderton also read a resolution from the Medical Society of the County of Oneida calling for study "with the view of promulgating new legislation" to amend the New York State Civil Practice Act in regard to malpractice.

It *was voted* that this be referred to the Committee on Legislation in conference with legal counsel.

The Treasurer's report was accepted.

Reports of Committees

Blood Banks Commission.—Dr. James Greenough, chairman, reported: "I was informed today that the Blood Banks Association needs $5,000 at the moment to continue. My understanding is that there was a limitation of $18,000 put on further appropriations. I was also informed by Mr. Alexander that at the June meeting they will need $13,000 more to carry them through the summer."

After discussion it *was voted* to request the Board of Trustees to appropriate $5,000 as a loan at the present time.

Public Health and Education.—Dr. Theodore J. Curphey, chairman, stated he had attended two meetings and arranged eight postgraduate lectures and regional teaching days in seven counties since his last report to the Council. Regarding a meeting of the Maternal and Child Welfare Subcommittee on April 22, he reported as follows:

In addition to six committee members, there were present regional chairmen from eight of the 12 districts of the State.

The chairman, Dr. Charles A. Gordon, reviewed his preparatory conferences and correspondence with Dr. Yankauer as director of the Bureau on Maternal and Child Health of the Department of Health.

The committee agreed that the wealth of statistics which Dr. Yankauer had prepared could be used for study purposes. It was decided that transcripts of all certificates of maternal and perinatal death, which are now available within a week to a month, should be sent to each member of the committee and to each regional consultant for his respective district. The regional chairman will then get a case report on each, the data to be set down on a form which Drs. Gordon and Yankauer will devise. The resultant information can then be used for educational purposes and exchanged with all other districts, preserving perfect anonymity.

The committee agreed also to investigate perinatal deaths as related to cesarean section. A comprehensive study will be inaugurated in three pilot areas, Regions 4, 8, and 10, with any other regions free to conduct such studies as they may wish.

There was considerable discussion of the importance of initiating a program to acquaint the pathologists with the need for autopsies on newborns. However, interest would also have to be stimulated in the keeping of better correlated records concerning the placenta, length of labor, analgesia, and complications.

It was agreed that closer integration of the regional personnel is desirable, and plans are being laid to effect this.

It *was voted* to adopt the report.

New Business

Committees

It *was voted* to change the name of the Medical Defense Committee to Medical Civil Defense Committee.

The committee appointments *were approved,* and the President was delegated authority to fill any vacancies which may arise.

Dr. William H. Ross.—Dr. Anderton stated: "It is with deep regret and personal sorrow that I must announce to the Council the death of Dr. William H. Ross early on Monday this week at Brentwood, Long Island. Dr. Ross was about ninety-three years old. It was just a few years ago that he ceased being a trustee and coming also to meetings of the Council. He is a past president of our Society. He was a wonderful member of his community. He gave a park to Brentwood in memory of his wife. He had been a very successful businessman. He was president of the Brentwood Bank and had been president of the County Society of Suffolk and president of the local Tuberculosis and Health Association. An appropriate telegram was sent to his two daughters, signed by the president and myself."

Introduction of New Members.—Dr. Azzari introduced the new assistant treasurer, Dr. Samuel Z. Freedman, and a new councillor, Dr. Norman S. Moore. He welcomed the new chairman of the Board of Trustees, Dr. Edward R. Cunniffe.

Medical Society of the State of New York

Council Committees 1955–1956

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To be announced

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OPENINGS FOR PHYSICIANS IN NEW YORK STATE

GENERAL PRACTICE

Albany County

Altamont.—Population approximately 2,300 in 15 to 20-mile radius. Hospitals 9 and 15 miles distant. Privileges immediately available. Positions as village health officer and school physician may be available. Contact Dr. D. W. Sweeney (phone Altamont 4741); Mr. Raymond Brunk (phone Altamont 2371); Reverend C. Meyer (phone Altamont 4981); Miss Marion Keenholts (phone Altamont 4301); Mrs. Van Loon (phone Altamont 3321).

Cayuga County

Cayuga.—Population 500; service area with population 2,000 plus. Two hospitals at Auburn 9 miles distant. Contact Dr. Frank A. Graceffo, Secretary, Medical Society of the County of Cayuga, 9 William Street, Auburn.

King Ferry.—Population 250; eight villages and hamlets within 8 miles with population 1,200. Additional 1,500 in surrounding farm area; summer population adds another 1,500 to 2,000. Radius of 2 to 12 miles. Appointment as school physician available. Town health officer and insurance examiner position may be available. House with office space for sale or rent. Three hospitals within thirty minutes at Auburn and Ithaca. Contact Mr. G. J. Cummings, Box 145, King Ferry.

Chautauqua County

Cassadaga.—Population 700. Two villages within 4 miles; population 600. Additional 1,000 population in surrounding country. Radius to be covered about 5 miles. Industrial-farming community. General hospital at Dunkirk 12 miles; two at Jamestown 25 miles; tuberculosis hospital 3 miles. Position of town health officer available. Contact Mr. Raymond Haines, Mayor, Cassadaga (phone Cassadaga 31–F2).

Chenango County

McDonough.—Population 200; population 1,000 within a radius of 10 miles. Hospital at Norwich 18 miles; Greene 13 miles; Binghamton 32 miles. Contact Mr. J. J. Duell, Town Supervisor, McDonough.

Clinton County

Altona.—Population 2,000. Radius about 15 miles including villages of Ellenberg, Mooers Forks, Sciota, and West Chazy. Two hospitals in Plattsburgh, about 20 miles. Excelsior mill and milk plant. Private residence, rent free for one year. Appointments as school health officer and medical officer for industries available. Contact Mr. Halsey J. Stark, County Clerk, Altona.

Mooers.—Population 500; population 3,000 to 5,000 in 12-mile radius served. Hospitals in Plattsburg 25 miles. Position of school physician available, possibly town health officer. Contact Mr. M. B. Stewart, Mooers, and Dr. Aaron Davis, 9 Rugar Street, Plattsburgh.

Rouses Point.—Population 1,990 within 2 miles, 3,000 within 5 miles. Dr. Harris Sklaire, only active physician in community, desires a colleague. School, industrial health, and railroad positions will become available. Contact Dr. Harris Sklaire, Rouses Point.

Delaware County

Andes.—Population 500 within 13-mile radius. School physican and health officer positions available. Hospitals 13 miles distant at Delhi and Margaretville. Contact Miss Eleanor W. Palmer, Box 105, Andes.

Essex County

Lake Placid.—Population about 3,000; summer population considerably larger. Contact Mr. John H. Servis, Administrator, Placid Memorial Hospital, Lake Placid.

Lewis County

Port Leyden.—Population 900; population 5,000 in working area. Temporary replacement desired. Lowville Hospital 18 miles. Positions available as school physician, health officer, examiner for two insurance companies, and compensation doctor for three mills. Well-equipped office and good living quarters available. Contact Dr. John P. Meyers, Port Leyden.

Madison County

Madison.—Population 2,500; area 100 square miles; five villages. Doctor expecting to come by the day. Hospitals at Hamilton 7 miles, Oneida 20 miles, Utica 25 miles, Syracuse 40 miles. Positions as school physician and town health officer available. Contact Dr. B. L. Rockwell, Oriskany Falls.

Monroe County

Scottsville.—Population about 3,000 in area. Fifteen miles from Rochester which has good hospitals and medical college. Contact Mr. Adrian Hanna, 3 Church Street, Scottsville (member of Town Board), and Dr. Clarence Pearson, Scottsville.

Niagara County

Rapids.—Population 150 families in 8-mile radius. Hospitals in Buffalo 25 miles and Lockport 7 miles. Opening as examining physician for school at $1.00 per pupil. Contact Mrs. George W. Dietz, Sr., Route 5, Lockport.

Oneida County

Clayville.—Population 719; 3,800 more population within 6-mile radius in prosperous farming territory. Three industries in Clayville with 525 employes. Hospitals and laboratory facilities in Utica 8 miles distant. Town health officer position probably available. Home and office of former doctor for sale, possibly equipment. Contact Mr. M. Donohue, Real Estate Broker, Sauquoit (phone Utica 7-7383).

Onondaga County

Lafayette.—Population about 2,080, comprising also villages of Pompey, Cardiff, Apulia, and Apulia Station in 10 square mile area rapidly growing. Hospitals at Syracuse 7 miles. When privileges may be obtained is undetermined. Opening September, 1955, for town health officer. Opening available for school physician. Contact Mrs. Marion Leckonby, c/o Dr. Leo E. Gibson, 831 James Street, Syracuse (phone Syracuse 9-2849); Mr. Charles Adsitt, Town Supervisor (phone OR 7-3107); Miss Bernice Amidon (phone OR 7-7562).

South Onondaga.—Population 10,000. Hospitals twenty to thirty minutes distant. Positions of town health officer, $1,500; school physician, $1,100; and physician to Indian reservation may be available at $3,000. Contact Mr. Walter Wheeler, R.D. #1, Nedrow (phone Syracuse 9-2680).

Syracuse.—Population 300,000. Courtesy privileges in hospitals obtainable immediately. Office and living quarters available, furnished or unfurnished. Contact Dr. W. F. Knoff, 728 Irving Avenue, Syracuse, or call Cazenovia 429 collect.

Ontario County

Hall.—Population 300; population 2,000 within surrounding prosperous farming area. Midway between Penn Yan and Geneva, each about 8 miles distant. Fifty-bed hospital at Penn Yan; 80-bed hospital at Geneva. Rochester 45 miles; Syracuse 50 miles. Contact Dr. Ray E. Deuel, Jr., 508 Castle Avenue, Geneva, or Mr. Joseph Robson, Hall.

Honeoye.—Population 1,300; population 4,000 in area. Present doctor leaving to specialize. Hospital at Canandaigua. Positions of local health officer and school physician available. Contact Dr. William J. Meyer, New York State Department of Health, Glens Falls.

Orange County

Unionville.—Population 500; additional 400 population within 8 or 10-mile radius. Hospital at Sussex, New Jersey, 8 miles; two at Middletown, New York, $13^1/_2$ miles. Contact Mr. A. R. Blanchard, Orchard Street, Unionville, or Mrs. Julia Roche, Postmistress, Unionville.

Walden.—Population 10,000 in 5 to 15-mile radius. Hospitals 5, 12, and 15 miles distant. Privileges almost immediately. Industrial openings available. Contact Dr. Lynne T. Greene, 129 West Main Street, Walden (phone Walden 2-3031).

Oswego County

Altmar.—Population 1,800. No doctor at present. Positions of school physician and town health officer may be obtained. Hospital facilities forty-five minutes drive at Syracuse, Oswego, Utica, Watertown, Fulton, and Rome. Local ambulance service. Contact Mr. Norman B. Spear, Supervisor, Town of Albion, Altmar.

Otsego County

Otego.—Population 3,000 in 6-mile radius. Fox Memorial Hospital (95 beds) at Oneonta 8 miles; Mary Imogene Bassett Hospital at Cooperstown 39 miles; a 58-bed hospital in Sidney 16 miles. Positions as local health officer and school physician available. Contact Mr. Albert L. Bonner, Committeeman, Otego Rotary Club, Otego.

St. Lawrence County

North Lawrence.—Township of Lawrence, population about 1,625 in three villages. Radius of approximately 7 miles east to west and 16 miles north to south. Hospitals at Massena 18 miles and at Malone and Potsdam 22 miles. Contact Mr. Robert E. Driscoll, Town Supervisor, Lawrence.

Saratoga County

Hadley.—Population 1,500 to 2,000 in 10 to 15-mile radius. Hospitals 5 miles distant with privileges within three months. Position of town health officer available. Contact Dr. Max Vinicor, Corinth; Dr. Claire K. Amyot, Secretary, Medical Society of the County of Saratoga, 54 Greenfield Avenue, Saratoga Springs (phone Saratoga 2430).

Mechanicville.—Population 8,000 plus. Hospitals 10 and 15 miles distant. Contact Dr. Claire K. Amyot, Secretary, Medical Society of the County of Saratoga, 54 Greenfield Avenue, Saratoga Springs.

Waterford.—Population 3,000 plus. Hospitals 10 and 15 miles distant. Contact Dr. Claire K. Amyot, Secretary, Medical Society of the County of Saratoga, 54 Greenfield Avenue, Saratoga Springs.

Schenectady County

Pattersonville.—Population about 1,300. Two hospitals at Schenectady and two hospitals at Amsterdam, each about 7 miles distant. Contact Mr. W. Eriksen, R.D. #1, Pattersonville (phone Tulip 7-8776).

Sullivan County

Grahamsville.—Population 300; about 2,500 population in radius of 10 or 12 miles, including Neversink, Claryville, Sundown, and Grahamsville. Hospitals at Ellenville 16 miles; two hospitals at Monticello 18 miles; two hospitals at Liberty 14 miles. Contact Mr. Robert Many, Grahamsville (phone Grahamsville 2941).

Narrowsburg.—Population 2,500 in 12 miles. Hospitals at Callicoon 15 miles and Honesdale, Pennsylvania, 15 miles. Contact Mr. Roy V. Sullivan, Narrowsburg (phone Narrowsburg 56 or 28) or Mr. Carl Behling, Narrowsburg (phone Narrowsburg 107R120).

Washington County

Hartford.—Population 1,308. Surrounding territory includes towns of Argyle and Hebron. Posts as school physician and town health officer (New York State Department of Health) will be available. Possibility of bonus from town of Hartford. Contact Mr. Howard Hanna, Town Clerk, Hartford.

Wayne County

Palmyra.—Population 3,800 in 10 to 15-mile radius. Hospitals at Newark 6 miles and Canandaigua 14 miles. Privileges available any time. Contact Mrs. J. R. Hagaman, 145 West Main Street, Palmyra (phone Palmyra 235).

INDUSTRIAL—DERMATOLOGIST

Broome County

Endicott Johnson Corporation, Johnson City.—Dermatologist part time. Salary to be determined after interview with Mr. Eckelberger. Contact Mr. Robert L. Eckelberger, Endicott Johnson Corporation, 33–57 Harrison Street, Johnson City. Probable opportunity for private practice in Johnson City, Endicott, and Binghamton.

SCHOOL PHYSICIAN—FULLTIME

Montgomery County

Amsterdam Public School System, Amsterdam.—No outside practice permitted. Salary will probably be between $7,500 and $9,000. Contact Mr. Edward V. Cushman, Superintendent of Schools, Amsterdam.

Documentary Film

The National Fund for Medical Education has produced its first documentary film, "Danger at the Source," it was announced by the Fund's president, S. Sloan Colt, New York City.

Prepared as a public service by Fox Movietone, the $13^1/_2$-minute film tells the story of medical education in America. Ray Middleton, star of "Annie Get Your Gun" and "South Pacific," contributed the narration.

"Filmed in medical schools and teaching hospitals, supervised by leading medical educators, 'Danger at the Source' highlights the glories and the hard work of the American brand of medical teaching that has made ours the healthiest nation in the world," Colt said.

"Our first film will be a potent aid in bringing home to the American public the critical importance of the nation's 81 medical schools, the seed-bed of all medical care. These schools face the threat of diminishing funds to carry on their teaching programs. Medical education and the need to support it as a free and progressive force for the national welfare is the business of all of us. I hope the film will make this obligation apparent to all who view it."

The National Fund for Medical Education was founded in 1949 to gain private support for the medical schools. The Fund has already distributed nearly $7 million in unrestricted grants to the 81 schools. The need—and the goal—is $10 million each year.

Black and white, 16 mm. sound film; 13½ minutes

Documentary film telling the story of medical education in America. Produced as a public service by Fox Movietone for the National Fund for Medical Education. Narration by Ray Middleton. Suitable for lay and professional audiences, college, women's and service clubs, etc.

Address: FILM
National Fund for Medical Education
2 West 46th Street
New York 36, New York

CORRESPONDENCE

Reversed Rotation of the Intestinal Tract

To the Editor:

Cases of reversed rotation of the intestinal tract with duodenal obstruction are rare according to Drs. McIntosh and Donovan of Babies Hospital, New York City. In their article entitled "Disturbances of Rotation of the Intestinal Tract,"[1] the case history of a twelve-year-old boy admitted to Babies Hospital and operated on for this condition is described.

It happened that William S. was first seen by me in the office of an osteopath. He was in a condition of extreme malnutrition and unable to retain any food or fluids in his stomach. The history was that he had been having attacks of vomiting since infancy, that the diagnoses had been allergy or psychoneurosis, but no x-ray film had been taken. The osteopath was very able and honest, a good friend of mine, and he would call me in for a consultation when he felt that the patient under his care should be in other hands.

I realized at once that this boy had some kind of intestinal obstruction, and so I immediately referred him to Babies Hospital, where I knew Dr. Caffey would probably be able to demonstrate the pathology with x-ray films and where I was confident Drs. Humphreys and Donovan would be able to correct it by surgery.

On admission a psychiatrist was asked to see the boy in view of the past history, but this examination was of no help except to demonstrate that the boy had a perfectly normal mentality and that the symptoms were probably not of psychic or neurotic origin.

At operation the proximal colon lay across the upper part of the abdomen with the ileum entering the cecum from the right and below; the jejunum emerged from a retroperitoneal tunnel, which caused obstruction by kinking; the small intestine, in addition, was rotated through 180 degrees clockwise in a volvulus which twisted its long mesentery about the axis of the superior mesenteric vessels, producing traction on the mesenteric root, and the duodenum coursed anteriorly to the transverse colon, which was snugly attached to the posterior abdominal wall at the point where the duodenum passed in front of it.

The reversed rotation could not be corrected, of course, but the sharp angulation at the duodenojejunal junction was straightened out to some extent by section of peritoneal bands maintaining it. The cecum and the ascending colon were brought over to the right lower quadrant, and the cecum was attached to the parietal peritoneum with interrupted sutures of chromic catgut, which permitted the volvulus to be reduced.

Convalescence was uneventful, and in a few days he was on a liberal diet and able to be discharged in three weeks. A few years later I met him as a senior at Yale when we discussed his plans for entering a medical school. Previous to this in September, 1943, he had attended a radio technicians school for about a year, was assigned to a destroyer, the USS Erben, and was in several engagements in the Pacific. He was discharged from the Navy in April, 1946, and entered Yale the following fall. He is now an M.D. and starting a medical career in Albany.

I have a long letter from him in my files which tells of his life before the operation. He could not remember being very sickly until 1935. His mother was always careful about his diet. He was always interested in nature and the out-of-doors, did not participate to any degree in athletic sports, but loved to play street games such as marbles and cowboys and Indians. He remembered vividly his experiences with doctors, one of whom treated him as a case of celiac disease for nearly a year, and especially the preparations for his operation, including the enema, which put him to sleep and from which he awoke a well boy.

This case is reported again after a period of sixteen years because it is a rarity and has so many different angles.

H. Laurence Dowd, M.D.
1035 Park Avenue
New York 28, New York

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[1] McIntosh, R., and Donovan, E. J.: Am. J. Dis. Child. **57**: 116 (Jan.) 1939.

Chances of success of every kind increase with the number of your connections and, therefore, in this sense also the chances are in favor of the big battalions.—Honore de Balzac

MEDICAL NEWS

Radiological Safety Course—A course in radiological safety is being offered for the fourth year by the Institute of Industrial Medicine of the NYU Post-Graduate Medical School in cooperation with the U.S. Atomic Energy Commission and the NYU College of Engineering.

A two-week, full-time session will run from January 9 through January 20, 1956, with the laboratory course continuing on through February 3. The lecture course will be repeated from February through May, with the laboratory course in the evening.

For further information and application, address Office of the Dean, New York University Post-Graduate Medical School, 550 First Avenue, New York 16, New York.

Roswell Park Graduate School—Governor Harriman has announced that the State Health Department has completed arrangements with the University of Buffalo Graduate School to establish a new division of the Graduate School at the Roswell Park Memorial Institute in Buffalo.

Students of the University of Buffalo Medical School are actively participating in both the out- and inpatient departments and special teaching conferences are provided for members of the junior and senior classes. In addition, some staff members at the Institute are taking an active part in the freshman student consulting program.

Graduate medical education is also being enlarged by inviting residents in medical and surgical specialties from other medical schools of the State for intensive training in the diagnosis and treatment of malignancy. Two University schools of nursing also are affiliated with the Institute for undergraduate training in the care of cancer patients. In addition, special classes are arranged for graduate nurses.

Clinical Practice Course—A general postgraduate course for practitioners in "Recent Advances in Clinical Practice" will be given at the University of Buffalo School of Medicine from September 12 through 17.

For information, write to Dr. Milton Terris, Assistant Dean for Postgraduate Education, University of Buffalo School of Medicine, 3435 Main Street, Buffalo 14, New York.

Bronx County Medical Society—Newly elected members of the Bronx County Medical Society are: president, Dr. Charles W. Frank; president-elect, Dr. George Schwartz; vice-president, Dr. Joseph P. Alvich; secretary, Dr. Frank LaGattuta; treasurer, Dr. Joseph A. Landy; and editor of the monthly *Bulletin*, Dr. Frederick A. Wurzbach, Jr.

Seminars on Heart Disease—The Vermont Heart Association, in cooperation with the University of Vermont College of Medicine, will sponsor two seminars on heart disease from September 14 through 17, in Burlington, Vermont. For information concerning these seminars, write to Dr. W. Raab, professor of experimental medicine at the University of Vermont in Burlington, Vermont, or to Dr. Eugene Lepeschkin, associate professor of experimental medicine at the University.

Psychiatric Institute—The third annual Psychiatric Institute will be held on September 21 at the New Jersey Neuro-Psychiatric Institute, Princeton, New Jersey. Emphasis will be on children and their problems, as well as residential centers for treatment of such problems. For invitations, address a card to Dr. Robert S. Garber, Superintendent, New Jersey Neuro-Psychiatric Institute, Box 1000, Princeton, New Jersey.

Personalities

Elected

Dr. Harry Kruse, executive secretary of the Committee on Public Health, New York Academy of Medicine, as third vice-president of the Welfare and Health Council of New York City. . .Dr. Jacques M. May, as first vice-president of the League for Emotionally Disturbed Children, Inc. . .Dr. H. Houston Merritt, president-elect, and Dr. William F. Caveness, assistant secretary, of the American Neurological Association at their eightieth annual meeting in Chicago. . .Dr. Arthur Neuberg, Spring Valley, as president of the medical staff of the Good Samaritan Hospital, Suffern.

Appointed

Dr. Michael M. Dacso, as consultant on the Health, Medical Care and Rehabilitation Committee of the Governor's Conference on Problems of the

Aging, New York State. . .Dr. Leonard J. Friedman, Mount Vernon, as intern in medicine at Massachusetts General Hospital, Boston. . .Dr. David Montague Jackson, a graduate of London University, and Dr. Dennis Geoffrey Brown, a graduate of Leeds University, as resident physicians at the Memorial Hospital in Ithaca. . .Dr. Ian D. McLaren, as Cattaraugus County health commissioner. . .Dr. Hugo Wolfgang Moser, postgraduate investigator in internal medicine and biochemistry at the Graduate School of Arts and Sciences, Harvard University, as the first research Fellow of the National Multiple Sclerosis Society. . .Dr. Nathaniel E. Reich, as consultant in cardiology to the Long Beach Memorial Hospital and the Kings Highway Hospital.

Speakers

Dr. Morton I. Berson, New York City, at the First International Congress of Plastic Surgery in Stockholm, Sweden, August 1 through 4, on "Construction of Auricle". . .Dr. William Dock, Brooklyn, in a symposium on "Cancer of the Respiratory Tract" at the ninth annual Rocky Mountain Cancer Conference in Denver, Colorado, July 13 and 14. . . Dr. O. Arnold Kilpatrick, of the Hudson River State Hospital at Poughkeepsie, before the anniversary convention of Alcoholics Anonymous at St. Louis, Missouri, on July 2.

New Offices

Dr. Burton S. Cooper, formerly of New York City, practice of pediatrics in Utica. . .Dr. Fred J. Culeman, general practice in Palmyra. . .Dr. W. G. Hafner, general practice in Weedsport. . .Dr. Robert Landesman, practice of obstetrics and gynecology in Scarsdale. . .Dr. Charles K. Osgood, practice of internal medicine, in DeWitt. . .Dr. L. B. Perry, general practice in Warrensburg with Dr. B. H. Lunine. . .Dr. William Shea, general practice in Canandaigua. . .Dr. Jeffrey Wiersum, general practice in New Paltz.

Retired

Dr. Irma Hauser, Dobbs Ferry, on July 1, after 17 years service with the Westchester Department of Health.

A Dr. William Bean, professor of medicine at the State University of Iowa, gave a 45-minute lecture at Guy's Hospital in London. The fact that he gave a lecture was not so important as the way in which it was presented. He gave the entire lecture in verse and his subject, believe it or not, was "The Navel,"—or to paraphrase this erudite expression of mixed iambic pentameter, "Omphalosophy." Excerpts from this lecture by the Chief of Navel Operations:

Few doctors scientifical have uttered more pontifical
Pronouncements than the specialist who dote upon this scar.
This much inspected cicatrix becomes the theme of quicker tricks
Than isotopes or vitamins or cancer made by tar.
No one now shows defiance of the present trend of science
To specialize and concentrate on miniature details.
The navel's bit of flesh will be encompassed by a specialty
With nomenclature separate for women and for males.
First urgings can be satisfied, a dozen beds are set aside
For those whose health is threatened by umbilical disease.
Band-wagoning all climb aboard, the cry is now we need a ward
Investigate the causes quick and bring the sufferers ease.
The people hear the hue and cry, yes everybody you and I
Must dedicate ourselves to stamping out each navel ill.
And a national society, devoted to longevity
Aims for its good emphatically with television frill.
Soon a thousand humdrum cities are invaded by committees
For the edifying program can be overlooked by none.
Every city, town and village, hamlet farm and rural tillage
Has contributed to navelize the thoughts of everyone.

Dr. Bean, being of sound mind and body, and displaying an unusual amount of scientific material to back up his statements, has even drawn a graph, as all lecturers must do eventually. This graph is of great interest because on the abscissa is noted the mean frequency of navels in males and females and the ordinates take care of the incidence of navels per citizen—which when followed to the umpteenth decimal is 1.000000—per citizen.—*Rant and Rave, Detroit Medical News, June 13, 1955*

NEWS FROM THE MEDICAL SCHOOLS

Columbia University College of Physicians and Surgeons

Honored—Dr. John H. Dunnington, director of the Service of Ophthalmology, and professor and executive officer, Department of Ophthalmology, as a lecturer, the third American since 1923, before the Ophthalmological Society of the United Kingdom, April 28, in London, when he delivered the Bowman Lecture, a lecture established in honor of Sir William Bowman, first president of the British Ophthalmological Society.

Dr. Frank L. Meleney, attending surgeon and professor, clinical surgery, on May 11 at a reception and dinner for his services as chairman of the Physicians and Surgeons Club's board of advisors for the last ten years.

Dr. Raymond L. Pfeiffer, attending ophthalmologist and associate professor of clinical ophthalmology, with an honorary doctor of science degree from Wittenberg College, Springfield, Ohio, on June 6 at its 110th commencement exercises.

Promoted—The following faculty members were promoted to full professorships effective July 1: Dr. Franz Altmann, clinical professor of otolaryngology; Dr. Frederick R. Bailey, clinical professor of medicine; Dr. Daniel C. Baker, Jr., clinical professor of otolaryngology; Dr. Franz J. Kallman, professor of psychiatry; Dr. John K. Lattimer, professor of urology; Dr. Irville H. Mackinnon, professor of psychiatry; Dr. Lawrence W. Sloan, professor of clinical surgery, and Dr. Ludwig von Sallman, professor of ophthalmology.

Retirements—Dr. James Burns Amberson, professor emeritus of medicine; Dr. George Francis Cahill, professor emeritus of urology; Dr. Maurice Lenz, professor emeritus of clinical radiology; Dr. Frank Lamont Meleney, professor emeritus of clinical surgery, and Dr. Harry Stoll Mustard, professor emeritus of public health practice, retired June 30 as members of the faculty and received their emeritus designations July 1.

New York Medical College-Flower and Fifth Avenue Hospitals

Commencement—Dr. Carroll Vincent Newsom, associate commissioner of the University of the State of New York, State Education Department, spoke on "Thinking Like A Doctor," at the commencement exercises on June 8. One hundred and sixteen received their doctor degrees.

New York University-Bellevue Medical Center

Elected—Dr. Sidney Rubenfeld, professor of clinical radiology at the College, director of the Radiation Therapy Service of Bellevue Hospital, and consultant, Medical Division of the Oak Ridge Institute of Nuclear Studies, has been elected president of the medical alumni association for the 1955 to 1956 year. Also elected: Dr. Ralph L. Dourmashkin, vice-president; Dr. Bernard J. Pisani, secretary; Dr. Seymour H. Rinzler, treasurer, and Dr. Claude E. Heaton, historian.

Promotions—The following promotions in the professorial ranks in the Post-Graduate Medical School were made during the 1954 to 1955 academic year: Dr. Allen Abrahams, assistant clinical professor of urology; Dr. Benjamin Bender, assistant clinical professor of dermatology and syphilology; Dr. Conrad Berens, professor of ophthalmology; Dr. Max Braitman, assistant clinical professor of dermatology and syphilology; Dr. Earle W. Brauer, assistant clinical professor of dermatology and syphilology; Dr. Goodwin M. Breinin, associate clinical professor of ophthalmology; Dr. Nathan Cabot, assistant clinical professor of pediatrics; Dr. Robert Chobot, associate clinical professor of pediatrics; Dr. Reynold E. Church, assistant clinical professor in surgery; Dr. Donald A. Davis, associate professor of clinical surgery; Dr. Norman Deane, assistant professor of clinical medicine; Dr. Gerald E. Fonda, associate clinical professor of ophthalmology; Dr. Sidney Albert Fox, associate clinical professor of ophthalmology; Dr. Alfred Gabel, assistant professor of clinical medicine; Dr. Raphael Rudolph Goldenberg, associate professor of clinical orthopedic surgery; Dr. David H. Goldstein, professor of industrial medicine.

Also: Dr. Wilbur J. Gould, assistant clinical professor of otorhinolaryngology; Dr. Sidney Gross, assistant clinical professor in neurosurgery; Dr. William B. Harris, assistant professor of industrial medicine (hygiene); Dr. John A. Heinlein, assistant clinical professor of dermatology and syphilology; Dr. Jacob Heyman, assistant professor of clinical medicine; Dr. Louis Hodes, associate clinical professor of pediatrics; Dr. Constantine Jeannopoulos, assistant clinical professor of orthopedic surgery; Dr. Barbara Johnston, assistant professor of medicine; Dr. Norman Kanof, assistant clinical professor of dermatology and syphilology; Dr. Alfred Kestenbaum, lecturer in ophthalmology; Dr. Harvey P. Kopell, assistant clinical professor of orthopedic surgery; Dr. Abraham L. Kornzweig, associate clinical professor of ophthalmology; Dr. George Kostant, assistant clinical professor of dermatology and syphilology; Dr. Bernard Kronenberg, assistant clinical professor of ophthalmology; Dr. Francis Kwok, assistant professor of clinical otorhinolaryngology; Dr. Vincent de Paul Larkin, associate clinical professor of pediatrics; Dr. Abel Alfred Lazzarini, Jr., assistant professor of research surgery; Dr. Arthur Linksz, associate clinical professor of ophthalmology.

Also: Dr. David Lyall, professor of clinical surgery; Dr. Walter J. Maher, assistant clinical professor of ophthalmology; Dr. Martin M. Maliner, associate clinical professor of pediatrics; Dr. Morton Mark, assistant professor of clinical medicine; Dr. William T. Medl, associate clinical professor of surgery; Dr. Irving Milberg, assistant clinical professor of dermatology and syphilology; Dr. Sonia D. Morrill, assistant clinical professor of dermatology and syphilology; Dr. Francis J. O'Neill, assistant professor of neurosurgery; Dr. Oscar Pascal, assistant clinical professor of clinical medicine; Dr. Bernard D. Pinck, associate clinical professor of urology; Dr. Joseph F. Raffetto, assistant clinical professor of pediatrics; Dr. Walter F. Rosenberg, assistant clinical professor of dermatology and syphilology; Dr. Julius Rosenfeld, assistant clinical professor of dermatology and syphilology.

Also: Dr. Alan Austin Scheer, assistant clinical professor of otorhinolaryngology; Dr. Ralph Frederick Schneider, associate clinical professor of industrial medicine; Dr. Paul S. Seager, professor of clinical otorhinolaryngology, Dr. Myron F. Sesit, assistant professor of clinical medicine; Dr. Benjamin Silberg, associate clinical professor of pediatrics; Dr. Marvin A. Stevens, associate clinical professor of orthopedic surgery; Dr. Peter William Stone, assistant professor of clinical surgery; Dr. Frederick H. Theodore, associate clinical professor of ophthalmology; Dr. J. Russell Twiss, associate professor of clinical medicine; Dr. Charles J. Umberger, assistant professor of forensic medicine; Dr. Robert J. Waldron, assistant clinical professor of pediatrics; Dr. Boardman C. Wang, assistant professor of clinical anesthesiology; Dr. Edward T. Wilkes, associate clinical professor of pediatrics, and Dr. Victor H. Witten, assistant clinical professor of dermatology and syphilology.

State University of New York College of Medicine at New York City

Appointed—Dr. Adrian Kantrowitz has been appointed assistant professor of surgery at the College as well as head of the Cardiovascular Surgery Department at Maimonides Hospital. Prior to the appointment, Dr. Kantrowitz was instructor in surgery at the New York Medical College, Flower and Fifth Avenue Hospitals, New York City.

Dr. Howard W. Potter, professor and chairman, Department of Psychiatry, and acting dean of the College since September 1, 1954, was appointed dean of the College of Medicine by the Board of Trustees at a meeting on June 9.

State University of New York College of Medicine at Syracuse

Speaker—Dr. Stanley E. Dorst, dean, University of Cincinnati College of Medicine, delivered the commencement address on June 12, on "Variations on a Theme by Osler."

Blue Shield Infringement Suits Settled

John W. Castellucci, executive director of Blue Shield Medical Care Plans, announced in Chicago recently that the recently-tried infringement suits in Texas and Mississippi, involving the well-known Blue Shield service mark and the shield symbol, have been settled. The validity of the Blue Shield service marks has been recognized. The defendants, who were using Blue Seal and White Seal, have each agreed to stop immediately any further preparation of sales material, or advertising of any kind, using these marks. Details of the settlement are set out in agreements filed with the U.S. District Courts in Austin, Texas, and in Jackson, Mississippi, where the cases were tried.

NECROLOGY

Julius Leonard Abrams, M.D., of the Bronx, died on April 1, at the age of sixty-six. Dr. Abrams received his medical degree from New York University and Bellevue Hospital Medical College in 1917.

Edward M. Bernecker, M.D., of New York City and Forest Hills, died on June 27 of a heart attack at his office at the age of sixty-three. Dr. Bernecker was graduated in 1915 from Hahnemann Medical College and Hospital in Chicago. From 1942 to 1948 he was New York City commissioner of hospitals. At the time of his death he was administrator of hospital services at the New York University-Bellevue Medical Center, a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Rufus Herbert Dixon, M.D., of Rockville Centre, died on June 30 of a heart attack while fishing in Tampa, Florida, at the age of seventy-two. Dr. Dixon was graduated from Jefferson Medical College of Philadelphia in 1918. He was an associate attending physician at Long Island College Hospital and a member of the staff of South Nassau Communities Hospital. He was a member of the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Herman H. Druan, M.D., of New York City, died on March 3, at the age of forty-five. Dr. Druan received his medical degree from the University of Zurich in 1936.

Bernhard Andreas Fedde, M.D., of Brooklyn, died on June 14 at his home at the age of seventy-seven. Dr. Fedde graduated from New York University and Bellevue Hospital Medical College in 1900 and interned at the Norwegian Lutheran Deaconesses' Home and Hospital in Brooklyn. At the time of his death he was a consulting physician at Kings County Hospital, physician emeritus at the Norwegian Lutheran Deaconesses' Home and Hospital and a member of the Brooklyn Society of Internal Medicine, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Albert Fransworth Griffiths, M.D., of Bayside, died on June 22 at the age of seventy-eight. Dr. Griffiths was graduated from Harvard Medical College in 1901.

Oscar E. Heller, M.D., of Hicksville, died on June 5 at the age of sixty-six. Dr. Heller received his medical degree from the University of Heidelberg in 1913.

Herbert Bernard Holleb, M.D., of Merrick, died on June 28 following an illness of several months in the Jewish Hospital in Brooklyn, at the age of forty. Dr. Holleb graduated from New York University-Bellevue Medical Center in 1939. At the time of his death he was chief pathologist at the Huntington Hospital, attending pathologist at Central Islip State Hospital, consulting pathologist at the Veterans Administration Hospital in Northport, as well as a Diplomate of the American Board of Pathology, and a member of the American Society of Clinical Pathologists, the New York State Pathological Society, the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Thomas B. Joyce, M.D., of Carmel, died on June 11 at the age of sixty-three. Dr. Joyce graduated from Cornell University Medical College in 1920 and interned at Bellevue Hospital. He had practiced in Peekskill for twenty-three years until moving to Carmel recently.

Ernst Karl Kaluza, M.D., of Poughkeepsie, died on June 25 at the age of fifty-eight. Dr. Kaluza received his medical degree from the University of Heidelberg in 1922. At the time of his death he was clinical assistant in obstetrics at St. Francis Hospital in Poughkeepsie and a member of the Dutchess County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Ignatius Kornbluh, M.D., of New York City, died on June 22 at the age of seventy-five. Dr. Kornbluh was graduated in 1906 from New York University and Bellevue Hospital Medical College. At the time of his death he was senior assistant in gynecology at Lenox Hill Hospital Outpatient Department and a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Isaac Golde Kramer, M.D., of New York City, died on March 10 at the age of seventy-five. Dr. Kramer graduated in 1908 from Columbia University College of Physicians and Surgeons.

D. Philip MacGuire, M.D., of St. George, Staten Island, formerly of New York City, died on July 1 in St. Vincent's Hospital, New Brighton, at the age of seventy-six. Dr. MacGuire was graduated from Columbia University College of Physicians and Surgeons in 1902. He was a Fellow of the American College of Surgeons and a member of the Richmond County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Thomas Daniel McMenamin, M.D., of Highland Falls, died on June 29 at the age of seventy-seven. Dr. McMenamin was graduated from Cornell University Medical College in 1900. At the time of his death he was a consulting physician at the Cornwall Hospital and a member of the Orange County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Leo Isaac Newman, M.D., of Brooklyn, died on March 25, at the age of fifty-six. Dr. Newman graduated from Columbia University College of Physicians and Surgeons in 1924. He was a member of the East New York Medical Society, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Hedwig Prager, M.D., of New York City, died on March 11, at the age of sixty-six. Dr. Prager received her medical degree from the University of Munich in 1910. At the time of her death she was a member of the New York County Medical Society and the Medical Society of the State of New York.

Nathan Rosenthal, M.D., of New York City, died on June 29 after a brief illness in Mount Sinai Hospital, at the age of sixty-five. Dr. Rosenthal graduated in 1913 from Columbia University College of Physicians and Surgeons. He was attending physician in hematology at the Harlem Hospital and consulting hematologist to Mount Sinai, French, Beth David, and Methodist Hospitals and the New York Infirmary. Credited with having started the first hematology laboratory at the Mount Sinai Hospital in the twenties, he was the first winner of the Harlow Brooks Medal for research in 1953. A former professor of clinical medicine at the College of Physicians and Surgeons, Dr. Rosenthal was a member of the American Society of Clinical Pathologists, the American Association of Pathologists and Bacteriologists, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Anthony Sanzone, M.D., of Brooklyn, died on June 16 while attending the annual dinner dance given by the staff of St. Mary's Hospital, at the age of forty-four. Dr. Sanzone received his medical degree from the University of Rome, Italy, in 1936. At the time of his death he was assistant obstetrician and gynecologist at St. Mary's Hospital and a member of the Kings County Medical Society and the Medical Society of the State of New York.

Charles B. Story, M.D., of Bayside, died on July 2 in Eastern Long Island Hospital, Greenport, at the age of ninety-one. Dr. Story graduated from New York University Medical College in 1890. He had served one time as Queens Borough Health Officer and in 1923 was president of the Queens County Medical Society. He was also consulting surgeon emeritus at the Flushing Hospital and Dispensary of which he had also served as chief of staff and chief surgeon before his retirement. Dr. Story was a member of the Queensboro Surgical Society, the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Abram Henry Sudrann, M.D., of New York City, died on March 10 at the age of seventy-one. Dr. Sudrann graduated from Long Island College Hospital School of Medicine in 1906. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Edward Francis Walsh, M.D., of Castle Point, died on June 26 at the age of seventy. Dr. Walsh was graduated from Fordham University School of Medicine in 1911 and interned at St. Vincent's Hospital. At his death he was chief physician at the Veterans Administration Hospital Outpatient Department at Castle Point.

Spirit Willing

To mark their dissatisfaction with food provided, seventy nurses at a Lancashire hospital last week left their meal untouched and walked out. Patients regretted that they could only go half the way in support.

—*Punch, January 19, 1955*

Woman's Auxiliary

to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

New York State Fair, September 3 to 10

Again this year a booth for the Woman's Auxiliary to the Medical Society of the State of New York will be included in the annual New York State Fair to be held at the fair grounds, Syracuse, from September 3 to 10, and will be organized and staffed by members of the State Auxiliary, headed by a committee from the Onondaga County Auxiliary.

Motion pictures on safety and general health education will be shown at the booth, and pamphlets and other written materials will be distributed. Plans are for a continuous showing of films with a limited seating arrangement, possibly 15 seats which the committee hopes to keep filled. With the cooperation of technicians from the State Department of Health and the local tuberculosis sanitorium films will be shown from 10 A.M. to 8 P.M. each day of the Fair.

Physicians and their families and friends visiting the Fair are invited to visit the booth and to register in a special book there. Any suggestions for improving the booth for 1956 will be welcomed, the committee has pointed out.

In addition to the motion picture showings, the underlying theme of the Auxiliary booth this year will be doctors' wives demonstrating their friendliness, hospitality, helpfulness, and interest. Each Auxiliary member on the staff for the booth will work one shift, with most of the staff coming from the Onondaga County Auxiliary. Other auxiliaries of the Fifth District Branch, including those from Oswego, Cortland, Cayuga, and Madison Counties, will provide personnel for one day each. Assisting as advisers will be Mrs. Isadore Zadek, New Rochelle, president of the State Auxiliary, who plans to spend a number of days at the Fair, and Mr. Thomas E. Walsh, director of the Speakers Service of the State Medical Society's Public and Professional Relations Bureau, who acts as liaison officer with the State Auxiliary.

At the 1955 Fair, the Auxiliary booth will be located on the first floor of the Women's Building on the main corridor.

Summarizing last year's booth activities, the committee reports that the names of 283 prospective nurses were turned in to the office of National Careers in Nursing, and the names were also sent to local hospitals in and around Syracuse for recruitment purposes. Each day two student nurses from Syracuse hospitals were available for interviews with young women and men interested in a nursing career. Auxiliary members from Oswego, Cortland, Cayuga, and Madison Counties, as well as Onondaga, were on hand to staff the booth.

In addition, on display, on loan from the American Medical Association, was a nutrition cabinet which, on the pressure of a button, showed the essential food intake per day.

Because there will be a special booth on nursing recruitment, it was decided this year to concentrate on a more general presentation of medical interest, and the program of films has been planned.

Again, all doctors and their families are urged to stop in at the Auxiliary booth at the New York State Fair in September.

Mrs. Bernard T. Brown, *Chairman*
New York State Fair Committee

An embarrassing situation marked the passing of a well-known fire chief.

None of the members of his family have spoken since the funeral to any members of Engine Company 10.

For these firemen, while well-intentioned, committed the unpardonable sin of sending to the wake a huge floral tribute inscribed in gold letters—GONE TO HIS LAST FIRE.—*Tonics and Sedatives, J.A.M.A., May 14, 1955*

BOOKS REVIEWED

Depression. Edited by Paul H. Hoch, M.D., and Joseph Zubin, Ph.D. The Proceedings of the Forty-Second Annual Meeting of the American Psychopathological Association, held in New York City, June, 1952. Octavo of 277 pages, illustrated. New York, Grune & Stratton, 1954. Cloth, $5.50.

This book contains the proceedings of the forty-second annual meeting of the American Psychopathological Association held in New York City, June, 1952. The symposium was devoted to the subject of depression which was analyzed from the points of view of genetics, clinical psychiatry, psychodynamics, child psychiatry, anthropology, physiology, endocrinology, biochemistry, biometrics, geriatrics, and hospital administration. Despite the contributions from this impressive list of sciences, the conclusion to be drawn after reading this book is that there is still much to be learned about depression.—ALEXANDER LEVINE

Textbook of Medical Treatment. By Various Authors. Edited by D. M. Dunlop, M.D., L. S. P. Davidson, M.D., and Sir John McNee, M.D. Sixth edition. Octavo of 1,023 pages, illustrated. Edinburgh & London, E. & S. Livingstone (Baltimore, Williams & Wilkins Co.), 1953. Cloth, $9.50.

This is a rather up-to-date textbook on treatment of disorders confronted by the general physician. Directions for therapy are very specific. By virtue of the vast scope of illnesses covered in this volume, the discussed treatment of some ailments is of necessity limited. The text is well organized and easily readable. The contributors are many of the leading lights in Scotch medicine.—LEON M. LEVITT

The Biochemistry of Clinical Medicine. By William S. Hoffman, M.D. Octavo of 681 pages, illustrated. Chicago, Year Book Publishers, 1954. Cloth, $12.

It is the stated purpose of this book to acquaint students and practitioners of the various branches of medicine with the newer developments in biochemistry and to show them how to utilize that information in diagnosis, prognosis, and treatment of disease. In order to bring the book to the level of the general practitioner, the author foregoes the use of highly technical explanations, organic chemical formulas, and use of any mathematical symbols. The author pioneered in the field of photoelectric clinical chemistry and is well qualified to undertake such a task and succeeds in carrying it out admirably. He is most successful where he discusses the usefulness of the dynamic biochemical approach to such problems as water and electrolyte metabolism including acid base regulation, the diagnosis and treatment of diabetes mellitus, Bright's disease (nephritis), liver diseases (hepatitis and cirrhosis) including liver function tests, gout, as well as thyroid function, calcium and phosphorus metabolism, etc.

It appears to this reviewer that one of the main faults in this book lies in its paucity of illustrations and diagrams. For example, while there is adequate discussion of the plasma proteins and their electrophoretic composition, there is not a single illustration of what such patterns look like either in normals or in the disease state. The major fault found with this book is inherent in the stated objective of the writer. That is, he attempts to provide an interpretation of the biochemical dynamics of disease without increasing the basic knowledge of the reader in the fields of chemistry and physics. Avoidance of this more fundamental approach puts the reader in the position of having to accept the interpretations of the author without qualifications.

Since the field of biochemistry is such a rapidly changing one accepted concepts are often replaced by newer ones even before a book is off the press. For example, the function of coenzyme A and its relationship to the fatty acid cycle is treated in about two sentences although the work in this field by Dr. Fritz Lipmann was considered worthy of a Nobel Prize. In brief, there is no easy path to applied knowledge except through understanding of basic concepts.—A. SAIFER

Personality Manifestations in Psychosomatic Illness. Visual Aid Charts to Psychotherapy. By O. Spurgeon English, M.D. Octavo of 57 pages, illustrated. Philadelphia, Edward Stern & Co., 1953. Cloth, $1.00.

This booklet is a small bound volume of charts illustrative of psychosomatic interconnections in a variety of disorders for which psychotherapy may appear irrelevant to a patient. Originally printed individually in pamphlet form by Sandoz Pharmaceuticals, the charts and case material are intended to introduce the patient to the discussion of his conflicts, needs, tensions, and their solution. It is assumed that the physician has some training and experience in psychotherapy.—EDWARD F. FALSEY

Myocardial Infarction. Its Clinical Manifestations and Treatment with Anticoagulants. A Study of 1031 Cases. By Irving S. Wright, M.D., Charles D. Marple, M.D., and Dorothy Fahs Beck, Ph.D.

This is a report of the Committee on Anticoagulants, created by The American Heart Association, and reflects that Committee's findings in the matter under study. Quarto of 656 pages, illustrated. Published for the American Heart Association by Grune & Stratton, N. Y., 1954. Cloth, $8.50.

This volume is largely a summing up of the survey of anticoagulant therapy in myocardial infarction made under the auspices of the American Heart Association. As such it is a welcome publication indeed although everyone must recognize that the last word is far from said. Those who like this reviewer feel that anticoagulant drugs are called for in the vast majority of cases of infarction will find evidence which will be little short of carrying complete conviction. The dissenters, who include some of our best minds, will probably remain unconvinced. The problems of definitive choice of a drug, long-term therapy, and the proper selection of acute cases remain to plague us but perhaps not to the degree as before the publication of these statistics.

The book includes some data on the clinical features of infarction but this seems to be aside from the volume's main intent and scope.—MILTON PLOTZ

Needed Research in Health and Medical Care A Biosocial Approach. By Cecil G. Sheps, M.D., and Eugene E. Taylor, M.D. Based on a Seminar held in Chapel Hill in September, 1952. Octavo of 216 pages. Chapel Hill, University of North Carolina Pr., 1954. Cloth, $5.00.

This book is a summary of discussions held by 47 scientists convening in Chapel Hill in 1952 to study the biosocial approach to problems of health and disease. It is not original research nor is it characterized by development of research schemes. It does, however, accomplish two things: (1) It gives occasional glimpses of the potentiality of this approach. (2) It shows the widespread confusion and disagreement among the experts regarding concepts, procedures, methods, and probable contributions of the various disciplines.

The book should be regarded as a very brief introduction to a highly complex and many-sided field, and this constitutes both its virtue and its defect. It surveys the field but so briefly that the reader is left with a feeling that much was left unsaid which should have been said.—W. L. JOHNSON

The Psychiatric Interview. By Harry Stack Sullivan, M.D. Edited by Helen Swick Perry and Mary Ladd Gawel. Octavo of 246 pages. New York, W. W. Norton & Co., 1954. Cloth, $4.50.

This book is based on a series of lectures Dr. Sullivan gave in 1944 and 1945 at the Washington School of Psychiatry. The components of the psychiatric interview are analyzed. The point is stressed that the interview is not just a verbal communication, but much information can be obtained from other elements present in this situation. To quote from the book: "The therapist's skill and art lie in keeping things simple enough so that something can happen; in other words it clears the field for favorable change and then tries to avoid getting in the way of its development." The material is well presented and is easy reading.—ALEXANDER LEVINE

A Short Practice of Surgery. By Hamilton Bailey, F.R.C.S. (Eng.), and R. J. McNeill Love, F.R.C.S. (Eng.) Octavo of 1,254 pages, illustrated. Baltimore, Williams & Wilkins Co., 1953. Cloth, $12.50.

Bailey and Love have completed the ninth edition of their survey of general surgery.

This edition is written in the same succinct and fascinating prose style used so happily in the previous editions. All chapters have been revised or rewritten and 135 additional figures have been added to the profusion of colored and black and white illustrations found previously. Short, biographic sentences are appended to many of the pages identifying the famous scientists and clinicians whose names appear throughout the text. The latter is beautifully arranged. Excellent use has been made of heavy and fine print to categorize and tabulate information.

The book cannot expound details of surgical practice, but it is an excellent one for a graphic bird's-eye survey of general surgery which should be most useful to students and instructors in surgery.—FREDERICK A. PIZZI

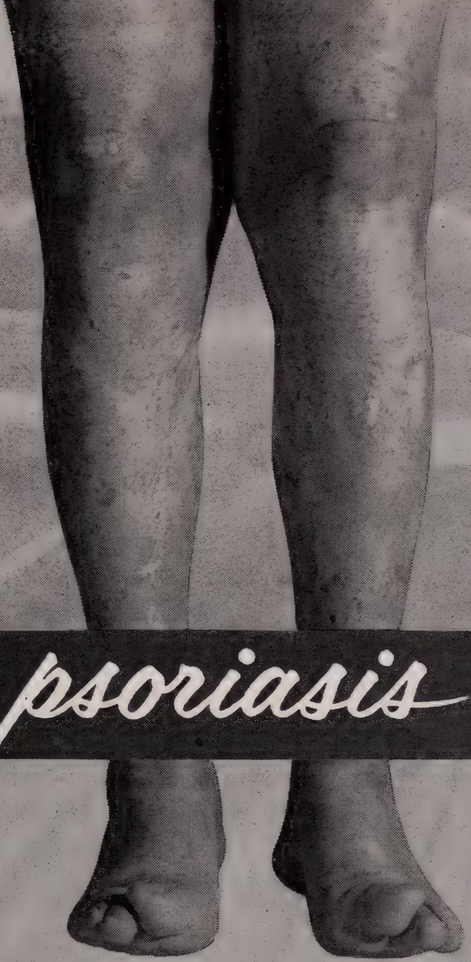
Practical Management of Disorders of the Liver, Pancreas, and Biliary Tract. By John Russell Twiss, M.D., and Elliot Oppenheim, M.D. Octavo of 653 pages, 143 illustrations. Philadelphia, Lea & Febiger, 1955. Cloth, $15.

This book of 653 pages is aptly titled because it is based on the vast experience of the authors and eight contributors in the Medical and Surgical Biliary Tract Clinic of the former New York Post-Graduate Hospital and in their private practices. This clinic was organized in 1929 by the late Dr. R. Franklin Carter to whose memory the book is reverently dedicated. The book represents a logical, workable approach to diseases of the entire hepatobiliary system and because it clarifies many conditions in an understandable manner, the reader will derive great satisfaction from reading it. For example, it gives sound anatomic and physiologic reasons for the filling and emptying mechanisms of the gallbladder. It also clearly describes the functional disorders of the gallbladder and its ductal system, i.e., the various forms of dyskinesia.

Because it attempts to give the "why" and "how" of disease of the hepatobiliary system, this book is highly recommended to those whose interest in this field is genuine as well as to the casual practitioner.—LEWIS E. SCHOTTENFELD

Handbook of Radiology. Editor, Russell H. Morgan, M.D. Associate Editor, Kenneth E. Corrigan,

[Continued on page 2244]



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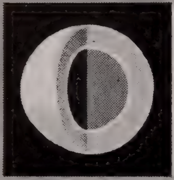

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*Ingels, A. H.: California Medicine 79:437, 1953.

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[Continued from page 2242]

Ph.D. With fifteen collaborators. Duodecimo of 518 pages, illustrated. Chicago, Year Book Publishers, 1955. Cloth, $10.

As the title suggests, this is essentially a handbook of radiology. As such, it resembles the innumerable handbooks used in industry and to some degree those used in medical practice. It is extremely valuable since it is a simple compilation of easily forgotten facts and figures and is probably the simplest reasonably complete reference book available for quick information. It is a one-volume dictionary and encyclopedia for the radiologist.—Asa B. Friedmann

Shoulder Lesions. By H. F. Moseley, D.M. . . . medical illustrations in full color by Helen MacArthur, B.A. Second edition. Quarto of 329 pages, illustrated. New York, Paul B. Hoeber, 1953. Cloth, $12.

This volume is notable for the excellent anatomic plates and illustrations and for this reason alone it would be of great value to the orthopedic surgeon. In the reviewer's opinion most of the subject matter and its presentation would not be of any great assistance to the general practitioner because of its technical detail.—Peter J. Dulligan

Illustrated Review of Fracture Treatment. By Frederick Lee Liebolt, M.D. Quarto of 229 pages, illustrated. Los Altos, California, Lange Medical Publications, 1954. Paper, $4.00.

This excellent volume is exactly what its title implies. Under systematized headings, the treatment of fractures is presented in concise, outline form. The illustrations, 605 in number, make easy reading and understanding.

Medical students and interns, for whom the work is primarily intended, will find it a valuable aid in time of need.—Mayer E. Ross

The Doctor Writes. An Anthology of the Unusual in Current Medical Literature. Edited by S. O. Waife, M.D. Octavo of 175 pages, illustrated. New York, Grune & Stratton, 1954. Cloth, $3.75.

As the editor clearly states, much of this collection is based upon personal selection but nevertheless covers a wide variety of topics varying from Sherlock Holmes as a dermatologist to medical stamps. The criteria for selecting the articles has been based upon interesting subjects, well written and a pleasure to read.

The reviewer, because of personal preferences, obtained the most enjoyment from the first article, "Sherlock Holmes as a Dermatologist" by Joseph V. Klauder, M.D. While most of us are familiar with Conan Doyle's character, few may be aware that Sherlock Holmes had a prototype in Dr. Joseph Bell, a surgeon at the Edinburgh Infirmary. The power of observation seems to receive less and less attention in these times of multiple laboratory procedures and specialized tests in medicine and we are again reminded of the importance of observing such traits as the patient's gait, emotional status, and more remote entities as a callus on the antihelix.

The article entitled "Gentlemen, the Queen," by Kenneth Mark Colby, M.D., should be popular in a nation where the role of the "Mom" has been stressed. The tremendous power of the Queen of Chess is attributed to the probable choice of a man rather than a woman, a man whose ambivalence wavered between a desire to be allied with a powerful woman and, on the other hand, a hatred of her domination as the badge of his weakness.

This is a book which will appeal to others beside the medical profession per se because of its unique choice of articles as well as the caliber of its writing.—Cecelia Jett-Jackson

Peripheral Circulation in Man. G. E. W. Wolstenholme, M.B., and Jessie S. Freeman, M.D., Editors. Assisted by Joan Etherington. Octavo of 219 pages. 72 illustrations. Boston, Little, Brown & Co., 1954. Cloth, $6.00. (A Ciba Foundation Symposium).

This book of 219 pages covers the physiologic, pathologic, and clinical application of methods for studying the flow of blood, circulation changes due to exposure to cold or heat, the action of adrenaline and noradrenaline on blood flow, also the neurohistology and reflex control of the circulation, and the effects of sympathectomy, the significance of cold agglutinins, and the influence of visceral activity on the peripheral circulation.

Numerous world-wide investigators collaborated their experimental results and discussed their reports. Satisfactory work has been carried out on man demonstrating that it is not always possible to apply the findings of animal experiments to man. There is a balance in this symposium between the clinical and physiologic aspects as regards membership and papers.

The book portrays what little we really know about circulation, especially the laws governing blood flow in vessels and all the factors governing dilatation and constriction.—Hugh L. Murphy

Surgery of the Heart. By Charles P. Bailey, M.D. Octavo of 1,062 pages, 1,452 illustrations. Philadelphia, Lea & Febiger, 1955. Cloth, $25.

Charles Bailey, the pioneer in the field of mitral commissurotomy, has written a long (over 1,000 pages), valuable textbook on the subject of heart surgery. The bulk of the text was written by Dr. Bailey, a few individual chapters by associates.

This will undoubtedly be a desirable reference work for thoracic surgeons who will want to have the benefit of the author's vast experience. It will be almost as useful for the internist who has joined his surgical colleague in a team which, pooling its knowledge and skills, has contributed immeasurably to the patient's welfare.

The shortcomings of this book are those inherent

[Continued on page 2246]

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[Continued from page 2244]

in any pioneer undertaking. Some points are made with more assurance than many students of the field would like, but these are matters which will be modulated and modified with time. Dr. Bailey has given us reason to believe that he will make changes when they are necessary; he has been restrained about making extravagant claims and he has presented the point of view of opponents with detail and modesty.

There are numerous drawings and illustrations which enhance the text, and the publishing, which must have been difficult, is worthy of the firm of Lea and Febiger.—MILTON PLOTZ

Arthritis and Rheumatism. The Diseases and Their Treatment. By Charles LeRoy Steinberg, M.D. With five contributors. Octavo of 326 pages, illustrated. New York, Springer Publishing Company, 1954. Cloth, $10.

Dr. Steinberg and five contributors present a careful account of the current knowledge of arthritis and other rheumatic diseases and their variations beginning with a brief survey of the physiology of joints, their pathology, and then concentrating on the clinical aspects of the individual diseases.

The present-day therapy is carefully evaluated, both from the point of view of effectiveness of drugs and hormones as well as the side effects, limitations, and inherent dangers of drugs and other procedures.

There are two very helpful chapters on orthopedic treatment and physical medicine and rehabilitation with many concrete suggestions for exercises, occupational therapy, and household devices calculated to relieve patients with great limitation of movement.

The illustrations are particularly clear and demonstrate well the various physical measures which can do so much to mobilize patients with severe deformity. The sections on physiology and pathology also have excellent reproductions of gross pathology as well as x-rays.

This book is highly recommended to all practitioners, especially internists and those specializing in arthritis and allied disorders.—CECELIA JETT-JACKSON

1954 Medical Progress. A Review of Medical Advances During 1953. Edited by Morris Fishbein, M.D. Octavo of 345 pages. New York, Blakiston Co., 1954. Cloth, $5.00.

Medical Progress for 1954 by Dr. Fishbein and his 27 special field section analyzers awakens even the casual medical reader to the tremendous strides which are being made in our day in all fields of medicine and surgery. An exacting and very difficult task has been performed in the covering of a large number of current subjects.

The infectious disease section by Dr. Long demonstrates the rapidity of the changes being made in comparison with the slow or dormant eras of medicine described in our medical history volumes. The sections on cardiology and surgery of cardiac diseases contain information which will result in saving cases through technics not attempted in the past.

Each section has a commendable amount of condensed material. The allergy and gastroenterology sections show the extent of the worthwhile writings in those fields. In the section on ear, nose, and throat the Ménière's symptom complex, and the broadened indications for tracheotomy in chest injuries, the bulbar type of poliomyelitis, and tetanus have been given the coverage which they deserve.—CARL W. LUPO

Why We Became Doctors. Edited by Noah D. Fabricant, M.D. Octavo of 182 pages. New York, Grune & Stratton, 1954. Cloth, $3.75.

Every year the world over thousands of young men and women take up the study of medicine. Why do they select medicine as a career? To many the reason is apparent. To others it is but a following of a natural trend without any single definite reason. Dr. Fabricant has attempted to analyze such motivation and the result is this fascinating book. It affords easy reading and is most enlightening in its revelation of the various circumstances which led a number of outstanding physicians to the selection of their profession.—JEROME WEISS

Connective Tissues, Transactions of the Fourth Conference, February 18, 19, and 20, 1953, Princeton, N. J. Edited by Charles Ragan, M.D. Octavo of 197 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1953. Cloth, $3.75.

The report of this conference in a highly specialized field is divided into four sections—general areas of agreement, isolation and characterization of mammalian striated myofibrils, the effect of Vitamin A on organ cultures of skeletal and other tissues, and an outline of problems to be solved in the study of connective tissues. Each section is followed by a free discussion by the members of the group. As in all the Macy conferences, some of the discussion is not relevant to the particular topic being discussed. However, one gains insight into the many problems confronted by investigators in this field.—LEON M. LEVITT

Music Therapy. Edited by Edward Podolsky, M.D. Octavo of 335 pages, illustrated. New York, Philosophical Library, 1954. Cloth, $6.00.

The use of music to help the sick dates back several thousand years. Its first use as a regular therapeutic agent is attributed to the ancient Greeks who pacified violently disturbed mental patients with the music of the harp.

Since the turn of the century, music therapy has been widely investigated and applied in psychiatry. However, more and more effort is being directed to explore its uses in other branches of medicine.

In the volume under review, various authors, all

[Continued on page 2248]

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[Continued from page 2246]

expert in their respective fields, have contributed numerous articles dealing with the physiologic effects of music on the listener and the therapeutic applications of music in a wide variety of conditions of both health and disease.—Mayer E. Ross

A Textbook of Neurology. By H. Houston Merritt, M.D. Octavo of 746 pages, 181 illustrations. Philadelphia, Lea & Febiger, 1955. Cloth, $12.50.

The author is professor of neurology at Columbia University, director of the Service of Neurology, Neurological Institute, Presbyterian Hospital, and consulting neurologist to the Montefiore Hospital. The book is based on a rich experience not only in clinical neurology but also in experimental and research phases of neurology. A keen clinician, an inspiring teacher, an efficient administrator, and a productive research and experimental investigator, he regards neurology as a branch of medicine and has written the book from this viewpoint. The traditional subjects of neuroanatomy, neuropathology, and the psychoneuroses, which are given separate chapters in the older textbooks on neurology, are omitted in this book. A list of selected references appears at the end of each chapter. The book is profusely illustrated with photographs, charts, and tables. It is highly recommended to medical students and to the profession at large, for it is the latest and most scientific work on the subject.—Irving J. Sands

Leg Ulcers. Their Causes and Treatment. By S. T. Anning, M.D. Octavo of 178 pages. 42 illustrations. Boston, Little, Brown & Co., 1954. Cloth, $4.00.

This is a comprehensive historical review of the literature on leg ulcers plus the results of the author's experience in over 1,000 patients seen in his ulcer clinic. Only those ulcers associated with circulatory stasis or those resulting from arterial disease are dealt with.

For a better understanding of the treatment, the author spends some two thirds of the text on a description of the physiology and dynamics of the peripheral circulation.

Treatment includes prevention and active therapy. Sclerosing therapy, surgical methods, stripping, sympathectomy, and skin grafting are all only rarely advised, this all from the dermatologist's point of view.

This small text is well illustrated, reads easily, and should be a worthwhile addition to the practitioner's library.—Arthur M. Persky

Administrative Medicine. Transactions of the Second Conference, December 8, 9 and 10, 1953, Princeton, N.J. Edited by George S. Stevenson, M.D. Octavo of 164 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1954. Cloth, $3.00.

This chronicle of a second organized and interdisciplinary exploration of a comparatively uncharted area of interest is a fitting successor to its pioneer predecessor. While lacking much of the stimulating dash and exuberance of the first volume (some of its more illustrious contributors were absent), it is a characteristic second wave, though far from second rate, performance—effectively consolidating the conceptual gains of the initial, penetrating effort. In essence, it transforms some of the original, largely generic, thinking into the substance of actual projects which best amplify and illustrate the problems in this field. Theoretic considerations and discussions which are all but philosophic are not lacking, but they largely center around and relate to specific, functioning health programs.

Detailed consideration is given to: "Major Components of Administrative Medicine," "Home Care Programs," and "The Health Services of the Department of Health for Scotland." Enlightening discussions ensue, and if the lofty and inspiring perspective of the cloud perambulist is sacrificed, the more sober and substantial viewpoint of the less misty-eyed terrestrian is a not unwelcome substitute. This volume is a must for all those in any way concerned with the complexities which characterize contemporary medical administration.—Robert W. Hillman

Peripheral Vascular Disease. Diagnosis and Treatment. By William S. Collens, M.D., and Nathan D. Wilensky, M.D. Second edition. Quarto of 622 pages, illustrated. Springfield, Illinois, Charles C Thomas, 1953. Cloth, $12.

This book of 600 pages covers the entire field of vascular pathologies from the authors' medical viewpoints, together with considerable space allotted to coauthors, unofficially covering the surgical and other aspects.

The content is repetitious and open to differences of opinion in many instances, especially in view of original works contributed by several contemporary authors in recently published books from other well-known clinics. The only original work submitted is the chapters on the use of the authors' commercialized I.V.C. machines and diagnostic apparatus, the values of which have failed to gain approval in the hands of other workers and clinics in this field.

Although credit must be given to considerable time-consuming efforts on the part of these authors, a second edition at this time is superfluous. There are available at present more valuable publications in this field by original workers throughout the country.—Hugh L. Murphy

The Bane of Drug Addiction. By Orin Ross Yost, M.D. Octavo of 155 pages. New York, Macmillan Company, 1954. Cloth, $4.00.

This small book is a practical and realistic appraisal of the problem of drug addiction. It is written by one who had at least twenty-five years of active experience in this field. Considering the seriousness of the problem which has been with us

[Continued on page 2250]

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[Continued from page 2248]

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The Study of the Brain. A Companion Text to the Stereoscopic Atlas of Neuroanatomy. By Hyman S. Rubinstein, M.D. Quarto of 209 pages, illustrated. New York, Grune & Stratton, 1953. Cloth, $9.50.

This companion volume to the author's *Stereoscopic Atlas* is a good, succinct account of the structure and function of the central nervous system and its pathways. There are numerous illustrative diagrams along with a cross-section atlas. The pictures generally suffer from being too small with insufficient clarity of detail and, at times, an appearance of complexity which could easily overwhelm the beginner.

The book fulfills its purpose of being an explanatory text for the original atlas, but as a work on neuroanatomy some of the present-day textbooks are definitely superior.—ARTHUR J. LAPOVSKY

Genetics and the Inheritance of Integrated Neurological and Psychiatric Patterns. Res. Publ. Ass. Nerv. Ment. Dis. Vol. 33. Davenport Hooker, Ph.D., Chairman. Octavo of 425 pages, 77 illustrations. Baltimore, Williams & Wilkins Co., 1954. Cloth, $10.

The neuropsychiatrist has long been among the far-seeing physicians who appreciate the need for and regularly depend on investigators in other biologic and social sciences. The current volume in this succession of masterpieces is among the best illustrations of this interdisciplinary perspective. The book is in two major sections: "Genetics, Human Inheritance and Environmental Effects," and "Neurological and Mental Patterns and Their Inheritance," and the individual chapter headings at best only intimate the wealth of experimental and clinical observations collated therein. The specific subject matter contributed by leading authorities in these related fields represents conceptualizing as well as observation at its best. Clinicians will find this material valuable. Students of medicine and of more fundamental, basic, sciences should identify it among the most important and useful collections of information and ideas ever assembled in this area of interest.—ROBERT W. HILLMAN

Wartime Psychiatry. A Compendium of the International Literature. Edited by Nolan D. C. Lewis, M.D., and Bernice Engle, M.A. Octavo of 952 pages. New York, Oxford University Pr., 1954. Cloth, $15.

This book includes abstracts of most important material on psychiatry which appeared in the literature during World War II. It covers a nine-year period—from 1940 to 1948 inclusive. The majority of articles reviewed and abstracted are from publications in the United States and Great Britain. When one considers that psychiatric disorders in both world wars total more than half of all disabilities, the value of the recognition, prevention, and the treatment of psychiatric disabilities assumes a tremendous importance. Furthermore, the application of newer methods utilized in military service may have a direct bearing on the management and treatment of psychiatric disorders in civilian practice.

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Adrenal Cortex. Transactions of the Fifth Conference, November 4, 5 and 6, 1953, Princeton, N.J. Edited by Elaine P. Ralli, M.D. Octavo of 187 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1954. Cloth, $3.75.

Ralli edits these transactions sponsored by the Josiah Macy, Jr. Foundation which are presented "to set the stage for meaningful intercommunication in the field of medicine." H. L. Mason discusses aldosterone; R. I. Dorfman, the metabolism of the adrenal steroids, and F. G. Young, ACTH.

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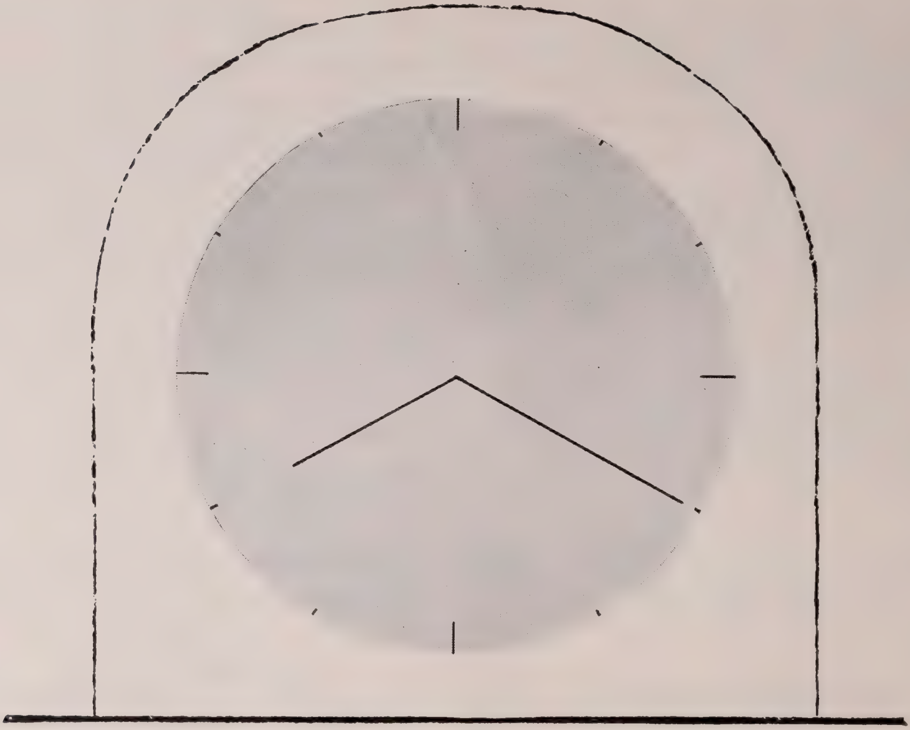

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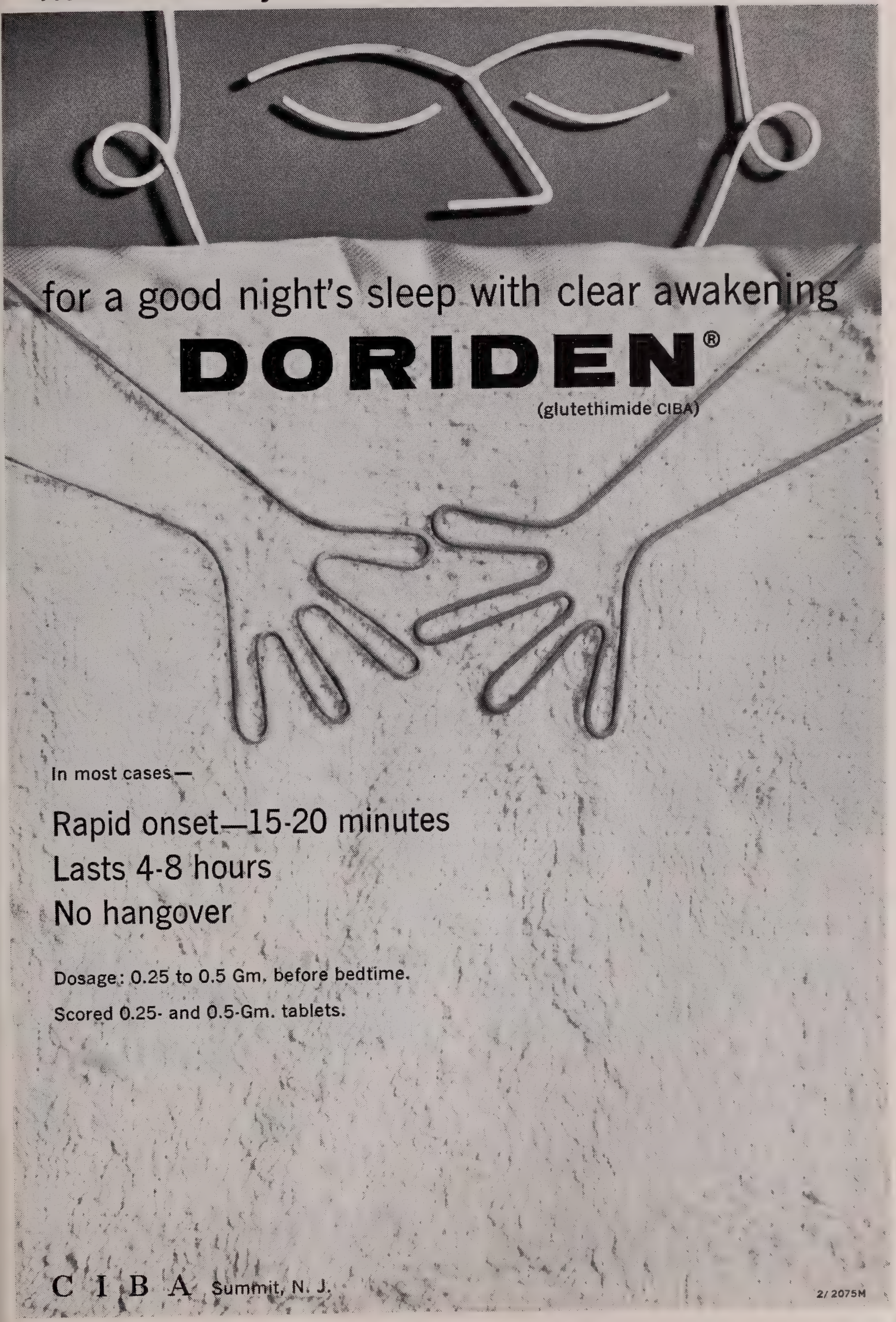

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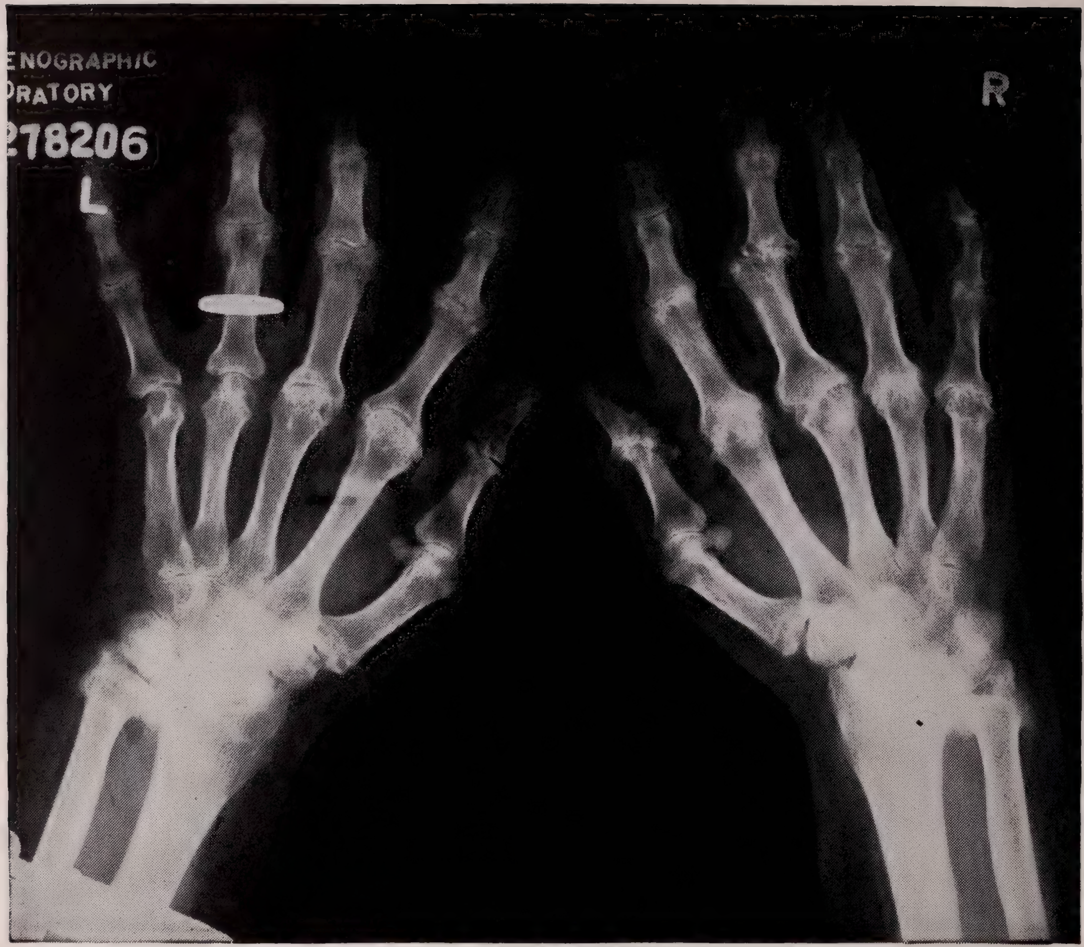

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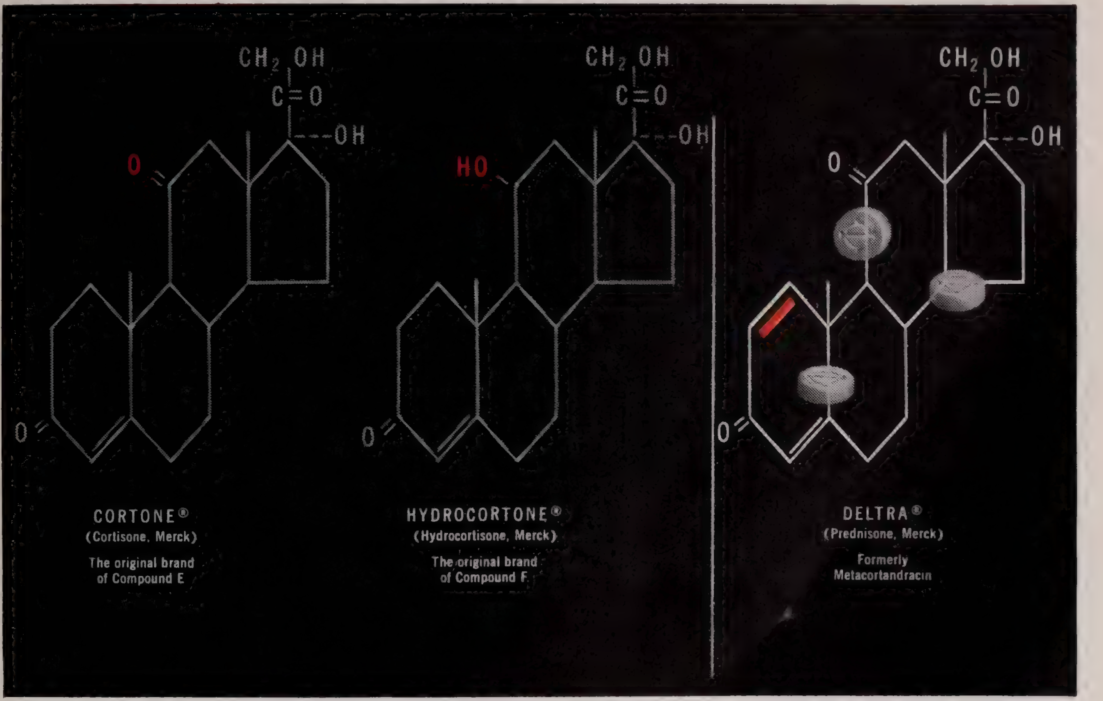
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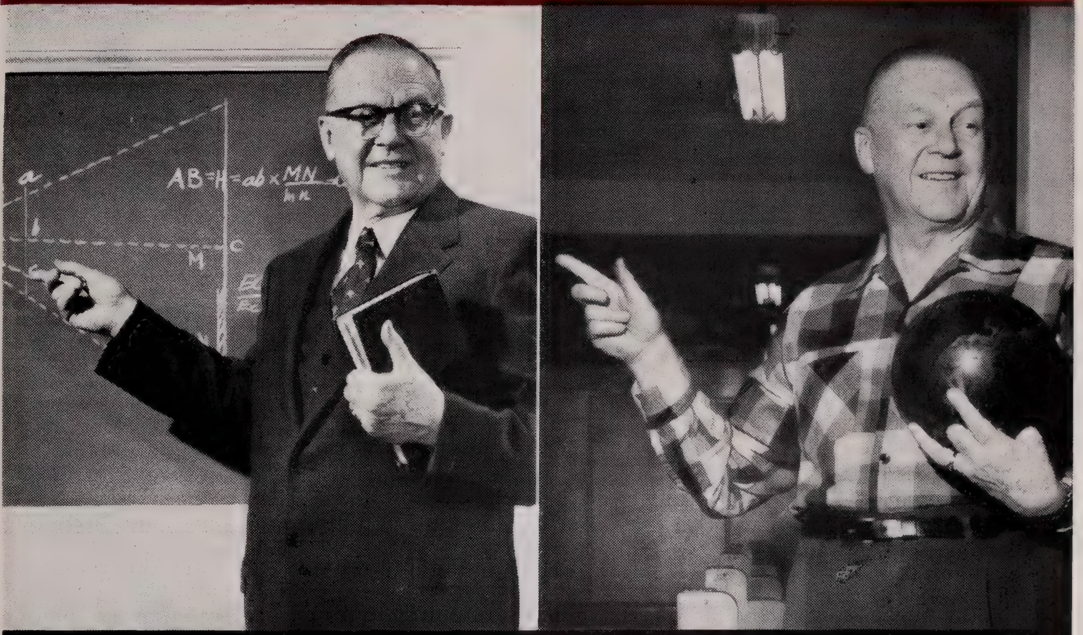

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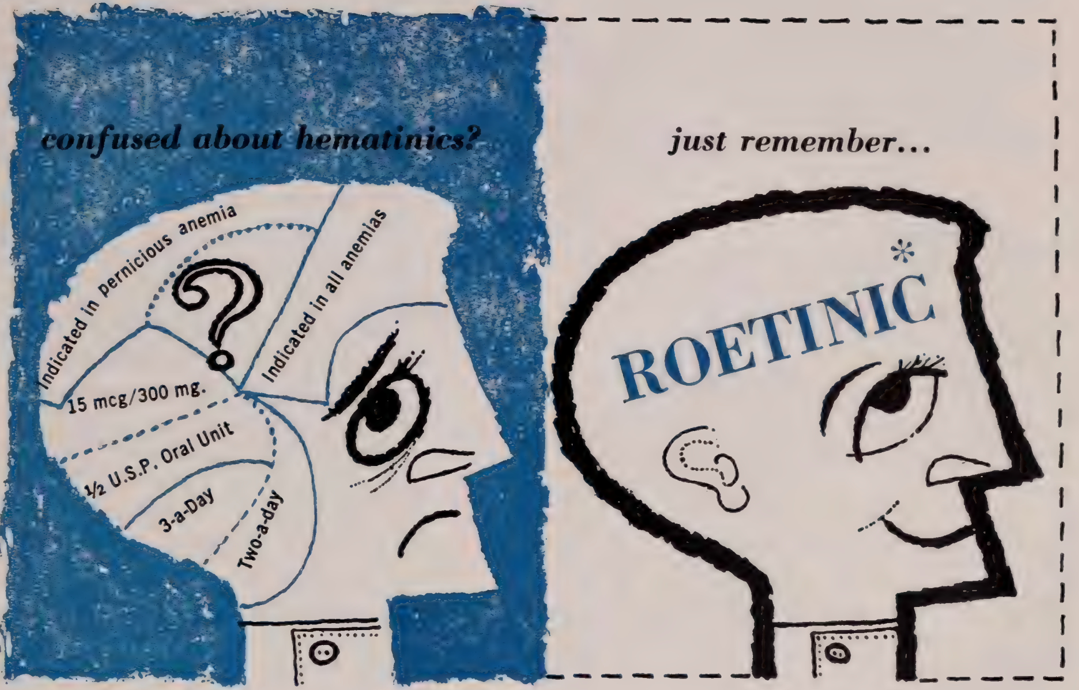
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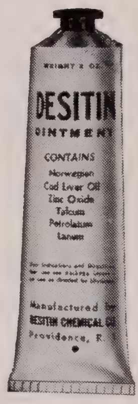
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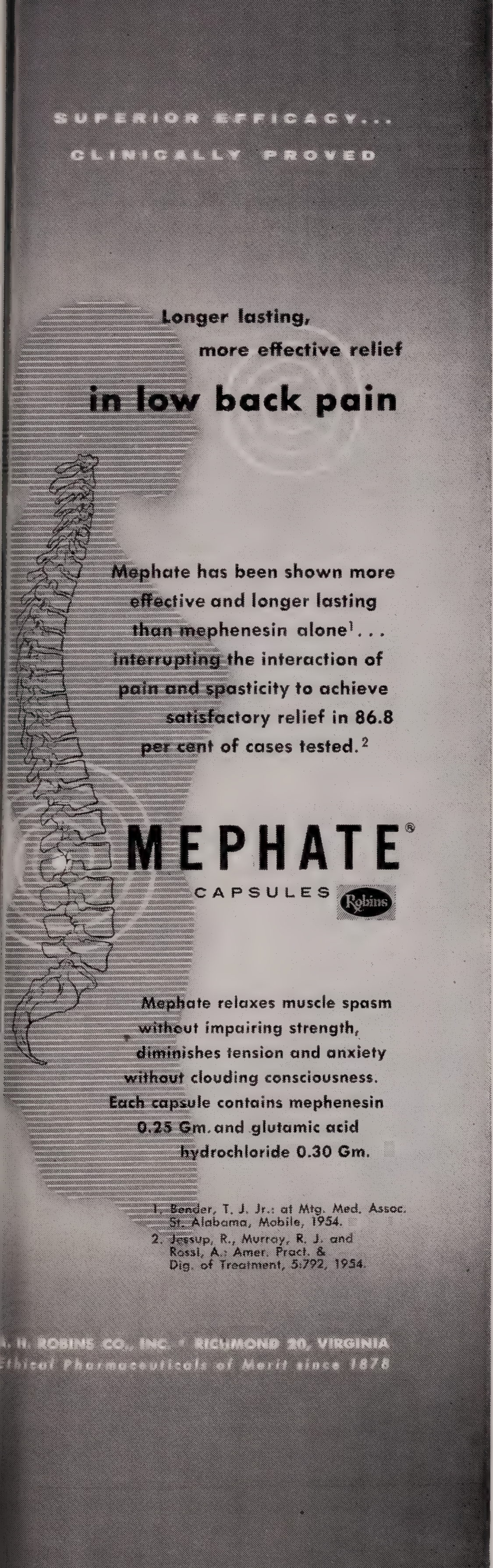

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Whisky (Canada Dry Ginger Ale, Inc.) 2268

Functional Disorders of
the Cardiovascular System

Bellergal®

Stabilizer of the entire Autonomic Nervous System

Ergotamine tartrate	*0.3 mg.*
Bellafoline	*0.1 mg.*
Phenobarbital	*20.0 mg.*

Adult Dosage: 4 to 6 tablets daily.

SANDOZ
Sandoz
PHARMACEUTICALS
HANOVER, N. J.

Enriched Bread...

Low Cost Insurance Against Nutritional Ills

In recent years the improved pattern of foods consumed in the United States has largely eliminated frank forms of nutritional deficiency diseases. This great gain in public health is attributable in large measure to the nationwide distribution of nutritionally improved staple foods, well exemplified by enriched bread.[1] "Such improvement of foods in the United States has been described as low-cost insurance against nutritional ills."[2,3]

Present-day enriched white bread, enhanced in B vitamins, minerals, and milk protein content, serves as an important nutritional protection to consumers. In particular, low-income groups, who eat large amounts of enriched bread because of its low cost, benefit by its high nutritional values.[3]

Wherever sold, enriched bread complies with the federal definition and standard for the product. Per pound, enriched bread provides at least 1.1 mg. of thiamine, 0.7 mg. of riboflavin, 10 mg. of niacin, and 8 mg. of iron. By and large, it also supplies about 400 mg. of calcium and 39 grams of protein. Since the protein consists of flour and milk proteins, it is biologically effective for growth as well as tissue maintenance. Enriched bread is one of the reasons why "We are a nation . . . fed on a plane of nutrition unequalled anywhere in the world."[4]

---

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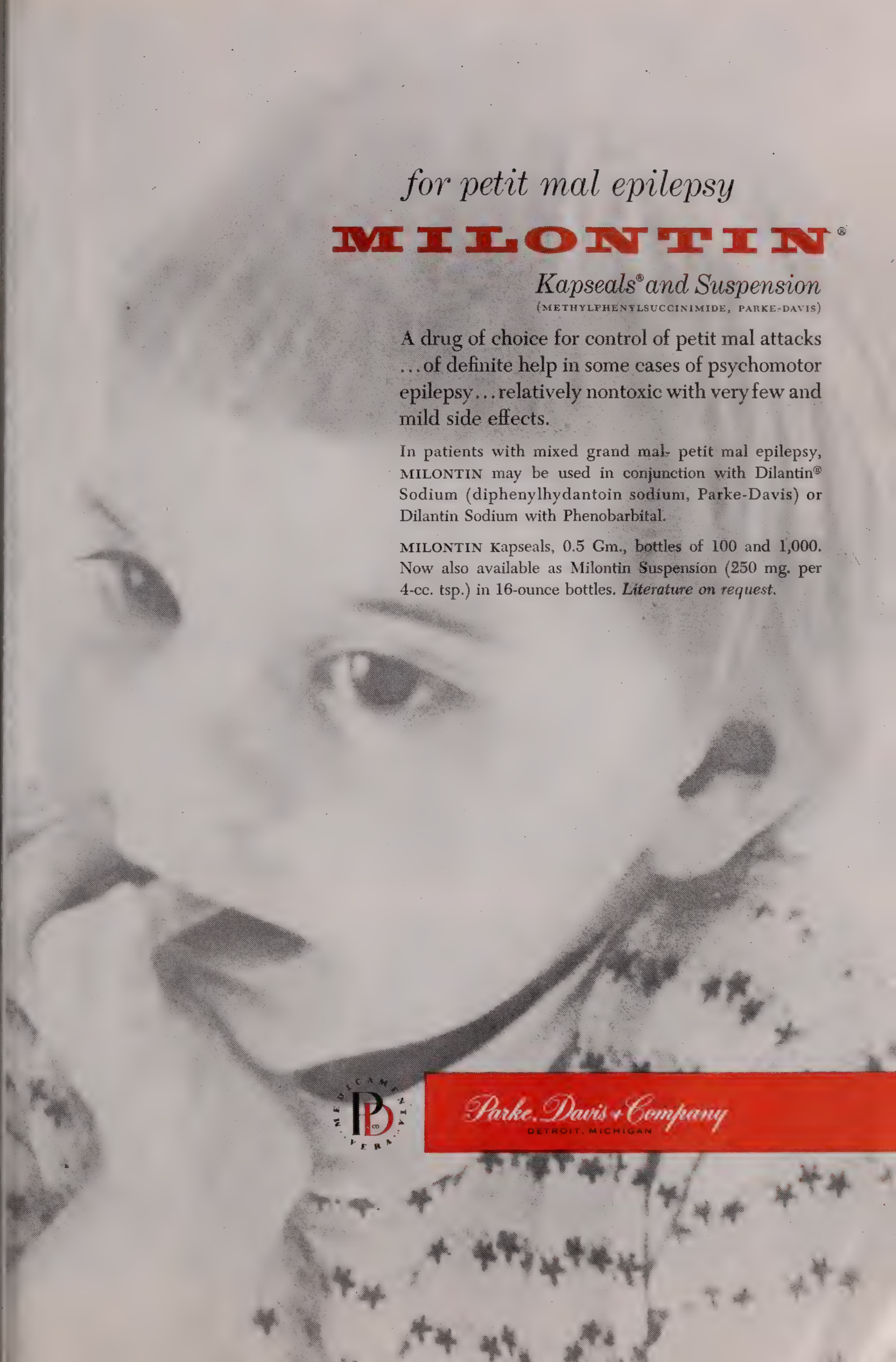
2. U.S. National Office of Vital Statistics: Vital Statistics of the United States, 1948. Part I. Washington, D.C., U.S. Government Printing Office, 1950.
3. Sebrell, W. H.: Developing Modern Nutrition Programs, Public Health Reports, United States Department of Health, Education, and Welfare *69*:277 (Mar.) 1954.
4. Josephson, D. V.: Review of Chemical Mechanisms Affecting Flavor Acceptability of Dairy Products, J. Agr. & Food Chem. *2*:1182 (Nov.) 1954.

The nutritional statements made in this advertisement have been reviewed and found consistent with current medical opinion by the Council on Foods and Nutrition of the American Medical Association.

AMERICAN BAKERS ASSOCIATION

20 NORTH WACKER DRIVE • CHICAGO 6, ILLINOIS



for petit mal epilepsy

MILONTIN®

Kapseals® and Suspension

(METHYLPHENYLSUCCINIMIDE, PARKE-DAVIS)

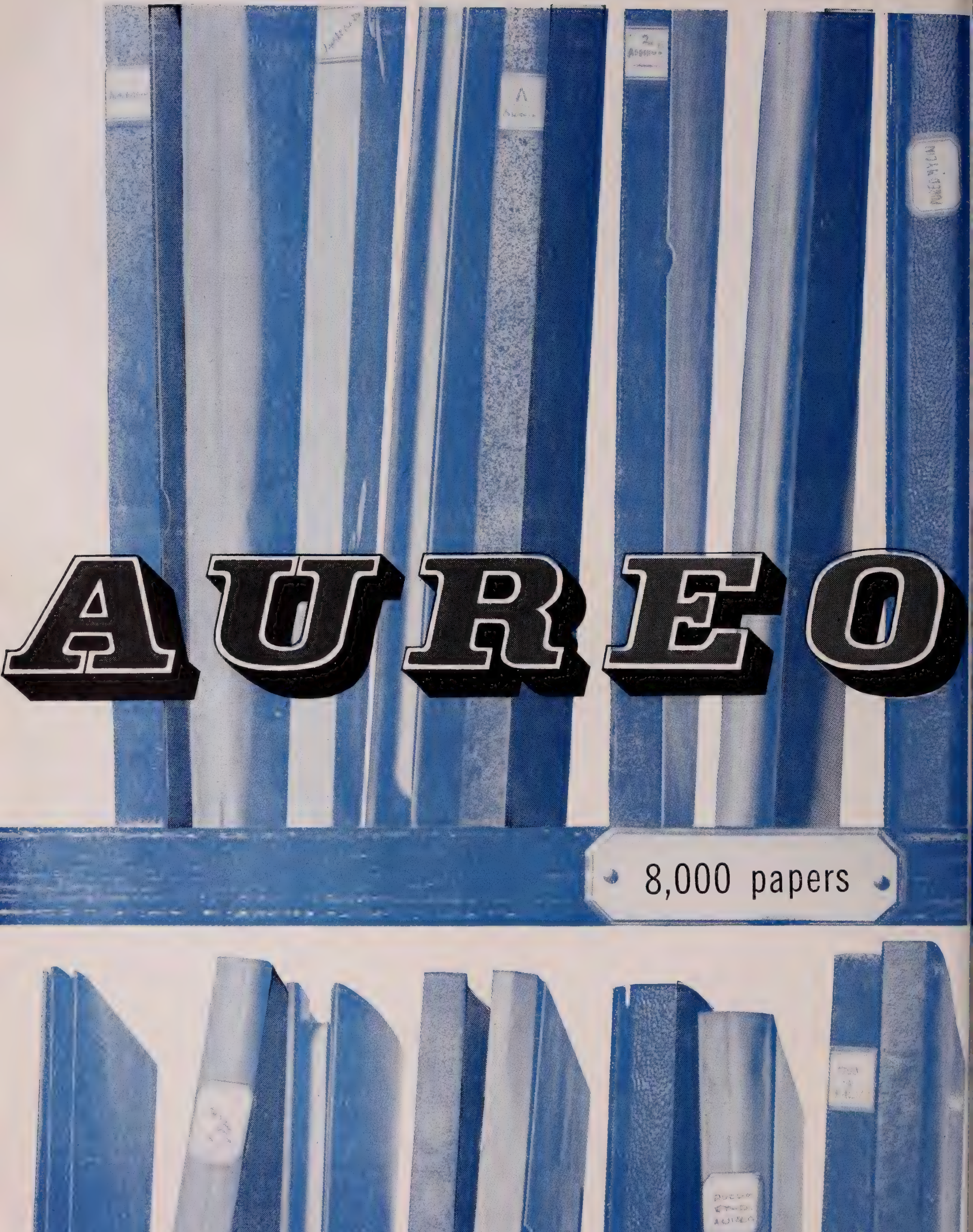
A drug of choice for control of petit mal attacks ...of definite help in some cases of psychomotor epilepsy...relatively nontoxic with very few and mild side effects.

In patients with mixed grand mal- petit mal epilepsy, MILONTIN may be used in conjunction with Dilantin® Sodium (diphenylhydantoin sodium, Parke-Davis) or Dilantin Sodium with Phenobarbital.

MILONTIN Kapseals, 0.5 Gm., bottles of 100 and 1,000. Now also available as Milontin Suspension (250 mg. per 4-cc. tsp.) in 16-ounce bottles. *Literature on request.*

MEDICAMENTA VERA

Parke, Davis + Company
DETROIT, MICHIGAN


AUREO
8,000 papers

During its seven years of use, AUREOMYCIN has been the subject of more than 8,000 medical papers published in various journals. Reports have been written concerning its value in every field of medicine. Few therapeutic agents have been so well documented.

When a drug has demonstrated its worth, it is usually said to be "established," "accepted," or "proved." If any antibiotic is any of these, AUREOMYCIN is it.

AUREOMYCIN stands on its record!

MYCIN

Chlortetracycline *Lederle*

Now Available:

AUREOMYCIN SF Capsules, 250 mg.

For Patients with Prolonged Illness AUREOMYCIN SF combines effective antibiotic action with Stress Formula vitamin supplementation to shorten convalescence and hasten recovery. One capsule, q.i.d., supplies one gram of AUREOMYCIN and B complex, C and K vitamins in the Stress Formula suggested by the National Research Council. AUREOMYCIN SF Capsules are dry-filled and sealed, contain no oils or paste.

Lederle LEDERLE LABORATORIES DIVISION AMERICAN *Cyanamid* COMPANY PEARL RIVER, NEW YORK

*TRADE-MARK

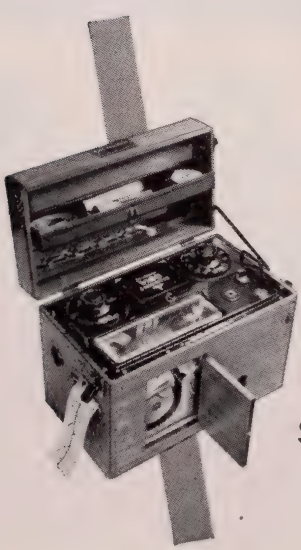
IN SICKNESS AND IN HEALTH

An electrocardiograph, such as a Viso-Cardiette, plays a *double* diagnostic role in the investigation of cardiac conditions.

When heart disease is present, the contribution of a 'cardiogram to the clinical picture is of indisputable value.

But, often overlooked is its importance in the patient *without* heart disease. Becoming more and more a part of the general examination, or check up, the electrocardiogram places in the physician's files information concerning the healthy patient that can well be of future value. Not only does it provide a norm or control with which to watch or study any progressive pathological changes, should they occur, but, when heart disease strikes, it is on hand to compare with the new record for information which would not have been otherwise available.

When you make your investment in better cardiac diagnosis by purchasing an electrocardiograph, be sure to consider the extra dividends that a Sanborn Viso-Cardiette will pay in accuracy, simplicity, and dependably continuous service.



Write for descriptive literature
and information about a unique, no-obligation,
15-day clinical test plan.

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NEW YORK *Branch Office*, 1860 Broadway, Circle 7-5794 and 7-5795
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Upjohn

Sex hormones— only one injection per month:

Depo-Estradiol

Trademark, Reg. U. S. Pat. Off.

CYCLOPENTYLPROPIONATE

Each cc. contains:

Estradiol, 17-Cyclopentylpropionate	1 mg. or 5 mg.
Chlorobutanol	5 mg.
Cottonseed Oil	q.s.

1 mg./cc. strength in 10 cc. vials
5 mg./cc. strength in 5 cc. vials

Depo-Testosterone

Trademark, Reg. U. S. Pat. Off.

CYCLOPENTYLPROPIONATE

Each cc. contains:

Testosterone Cyclopentylpropionate	50 mg. or 100 mg.
Chlorobutanol	5 mg.
Cottonseed Oil	q.s.

50 mg./cc. strength in 10 cc. vials
100 mg./cc. strength in 1 cc. and 10 cc. vials

Depo-Testadiol

Trademark, Reg. U. S. Pat. Off.

Each cc. contains:

Testosterone Cyclopentylpropionate	50 mg.
Estradiol, 17-Cyclopentylpropionate	2 mg.
Chlorobutanol	5 mg.
Cottonseed Oil	q.s.

Available in 1 cc. and 10 cc. vials.

The Upjohn Company, Kalamazoo, Michigan

new!

for daytime tranquility

car-sed-ine

Carbromal with Scopolamine

A new, *non-barbiturate* formula for daytime use
To calm the tense and nervous patient

CAR-SED-INE fills a long-felt need for a non-hypnotic, non-narcotic sedative that can be safely prescribed for daytime sedation without dulling the senses or producing unwanted drowsiness.

CAR-SED-INE combines two drugs of established clinical efficacy and safety:

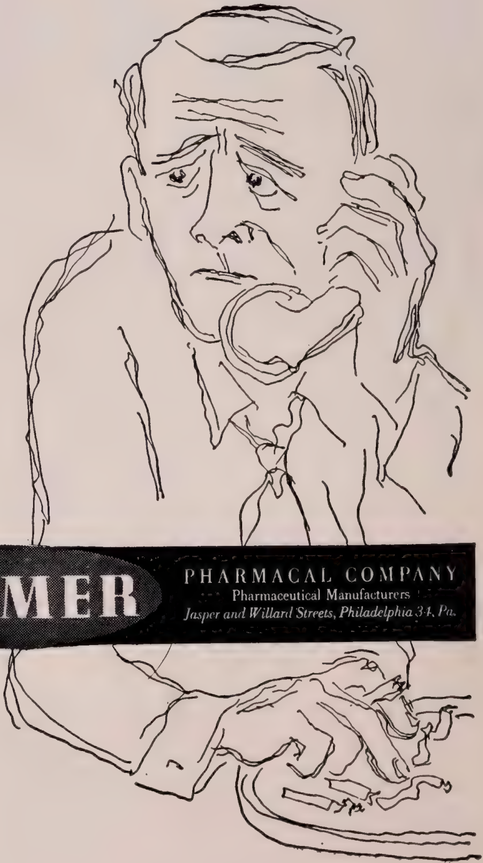
Carbromal ". . . a dependable sedative. It allays excitement and anxiety and tends to restore quietude and tranquility."[1]

Scopolamine ". . . certainly . . . is effective in relieving the patient's emotional disturbances."[2]

FORMULA: each tablet contains Carbromal, 250 mg., and Scopolamine HBr., 0.1 mg.

DOSAGE: one tablet (in rare cases, two) two to four times daily, as required.

Supplied, on prescription only, in bottles of 100 and 1,000 tablets.



RAYMER PHARMACAL COMPANY
Pharmaceutical Manufacturers
Jasper and Willard Streets, Philadelphia 34, Pa.

[1] Krantz, J.C. & Carr, C.J.: Pharmacological Principles of Medical Practice, Williams & Wilkins Co., Baltimore, Md., 1951.

[2] Goodman, L. & Gilman, A.: The Pharmacological Basis of Therapeutics. The Macmillan Co., New York City, 1941.

Serving the medical profession for nearly a third of a century.

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FOLBESYN*

Vitamins *Lederle*

A well-balanced, high-potency vitamin formula containing B-Complex and C

FOLBESYN provides B-Complex factors (including folic acid and B_{12}) and ascorbic acid in a well balanced formula. It does not contain excessive amounts of any one factor.

FOLBESYN Parenteral may be administered intramuscularly, or it may be added to various hospital intravenous solutions. It is useful for preoperative and postoperative treatment and during convalescence.

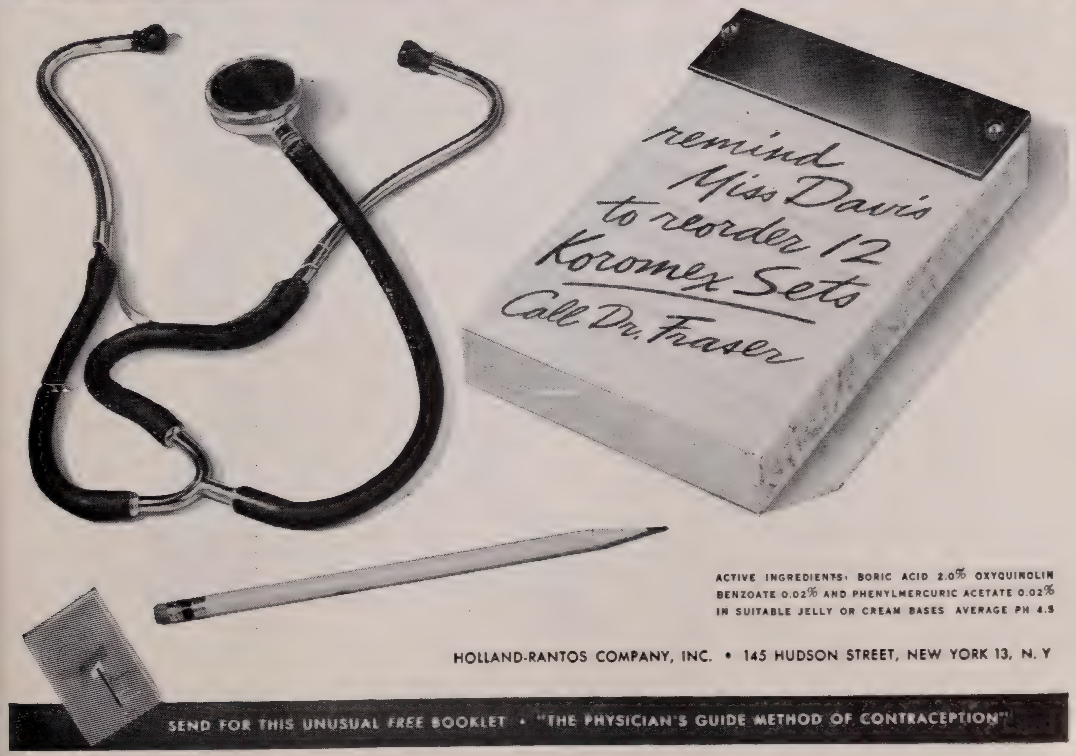
Dosage: 2 cc. daily. Each 2 cc. provides:

Thiamine HCl (B_1)	10 mg.
Sodium Pantothenate	10 mg.
Niacinamide	50 mg.
Riboflavin (B_2)	10 mg.
Pyridoxine HCl (B_6)	5 mg.
Ascorbic Acid (C)	300 mg.
Vitamin B_{12}	15 micrograms
Folic Acid	3 mg.

FOLBESYN is also available in tablet form, ideal for supplementing the parenteral dose.

LEDERLE LABORATORIES DIVISION *AMERICAN Cyanamid COMPANY* Pearl River, New York

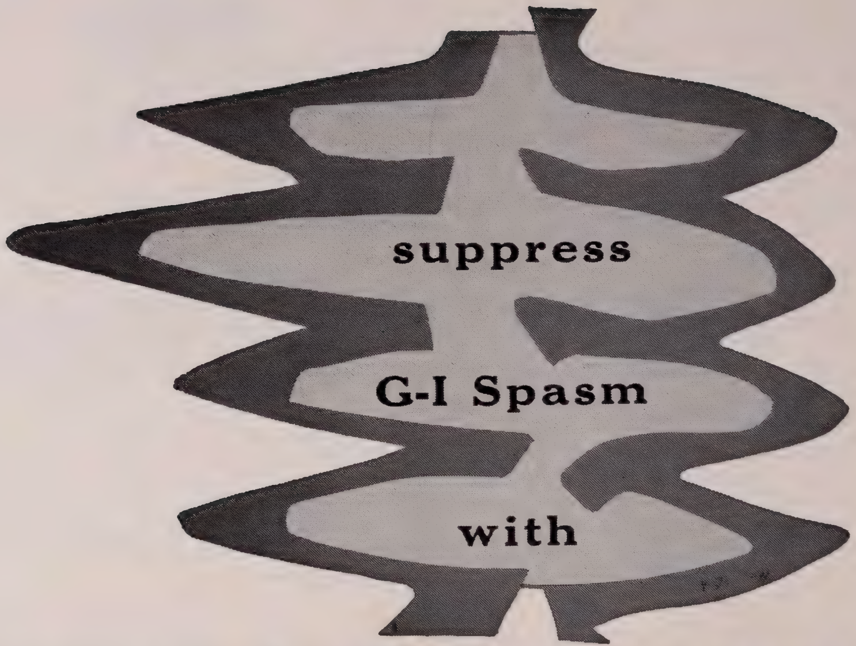
*REG. U.S. PAT. OFF.



ACTIVE INGREDIENTS: BORIC ACID 2.0% OXYQUINOLIN BENZOATE 0.02% AND PHENYLMERCURIC ACETATE 0.02% IN SUITABLE JELLY OR CREAM BASES AVERAGE PH 4.5

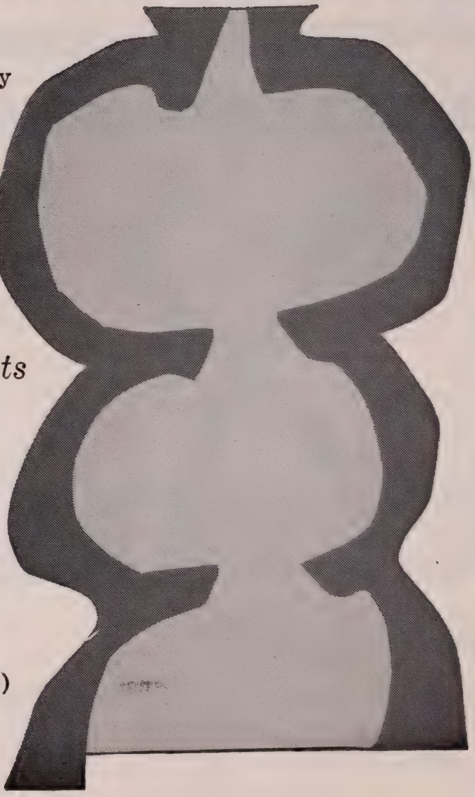
HOLLAND-RANTOS COMPANY, INC. • 145 HUDSON STREET, NEW YORK 13, N. Y

SEND FOR THIS UNUSUAL *FREE* BOOKLET • "THE PHYSICIAN'S GUIDE METHOD OF CONTRACEPTION"



suppress G-I Spasm with

Trasentine® - Phenobarbital



- Inhibits Parasympathetic Activity
- Relaxes Smooth Muscle Directly
- Exerts Local Anesthetic Effect on G-I Mucosa
- Sedates the Patient

Without Atropine Side Effects

Each tablet contains 50 mg.
Trasentine hydrochloride and 20 mg.
phenobarbital.
Also available: Trasentine
hydrochloride Tablets, 75 mg.

Trasentine® hydrochloride
(adiphenine hydrochloride CIBA)

2/2041M

C I B A *Summit, N. J.*

Terra-Cortril
brand of oxytetracycline and hydrocortisone
topical ointment

when the
dermatologic
picture
is due to
double exposure

Terra-Cortril Topical Ointment rapidly clears both underlying inflammation and superimposed infection, through the combined actions of CORTRIL®—most potent anti-inflammatory adrenocortical steroid;[1] and TERRAMYCIN®—"perhaps the most effective antibiotic in pyogenic skin diseases."[2]

supplied: In 1/2-oz. tubes containing 3% TERRAMYCIN (oxytetracycline hydrochloride) and 1% CORTRIL (hydrocortisone, free alcohol) in a specially formulated, easily applied ointment base. **also available:** CORTRIL Topical Ointment and CORTRIL Tablets.

1. Rukes, J. M., et al.: Metabolism 3:481, 1954.
2. Peterkin, G. A. G.: Brit. M. J. 1:522, 1954.

PFIZER LABORATORIES *Pfizer* Division, Chas. Pfizer & Co., Inc. Brooklyn 6, New York

a Brighter Prognosis for your

HERPES ZOSTER PATIENTS

when you use

PROTAMIDE®

(Sherman)

because published studies* show:

"Good to excellent results" in more than 80%, with "almost immediate improvement."

Prompt recovery in more than 90% when Protamide is started in the first week of symptoms.

Why not use Protamide first?

. . . for herpes zoster, post-infection neuritis, chickenpox, and other nerve root pain such as tabes dorsalis.

A sterile colloidal solution prepared from animal gastric mucosa . . . denatured to eliminate protein reaction . . . completely safe and virtually painless by intramuscular injection.

CLINICAL DATA ON REQUEST

*Combes, F. C. & Canizares, O.: New York St. J. Med. 52:706, 1952; Marsh, W. C.: U. S. Armed Forces M. J. 1:1045, 1950.

SHERMAN LABORATORIES

BIOLOGICALS • PHARMACEUTICALS

WINDSOR • DETROIT 15, MICHIGAN • LOS ANGELES

establishing
desired
eating patterns

Obedrin®

and the 60-10-70 Basic Diet

Correct medication is important in initiating control that leads to development of good eating habits, essential in maintaining normal weight.[1,2,3]

Obedrin contains:

- Methamphetamine for its anorexigenic and mood-lifting effects.
- Pentobarbital as a corrective for any excitation that might occur.
- Vitamins B_1 and B_2 plus niacin for diet supplementation.
- Ascorbic acid to aid in the mobilization of tissue fluids.

Obedrin contains no artificial bulk, so the hazards of impaction are avoided. The 60-10-70 Basic Diet provides for a balanced food intake, with sufficient protein and roughage.

Formula:

Semoxydrine HCl (Methamphetamine HCl) 5 mg.; Pentobarbital 20 mg.; Ascorbic acid 100 mg.; Thiamine HCl 0.5 mg.; Riboflavin 1 mg.; Niacin 5 mg.

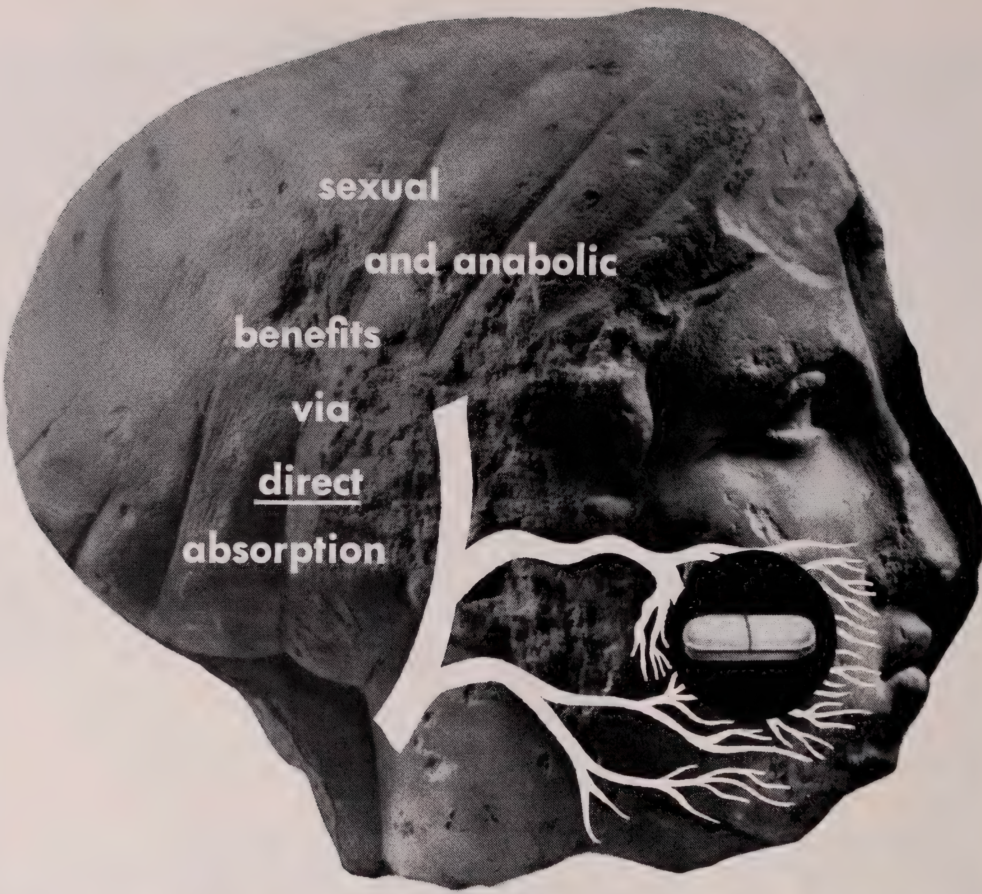
1. Eisfelder, H. W.: Am. Pract. & Dig. Treat., 5:778 (Oct.) 1954.

2. Sebrell, W. H., Jr.: J.A.M.A., 152:42 (May) 1953.

3. Sherman, R. J., M.D.: Medical Times, 82:107 (Feb.) 1954.

Write for
60-10-70 Diet pads, Weight Charts,
and samples of Obedrin.

THE S. E. MASSENGILL COMPANY
Bristol, Tennessee



METANDREN® LINGUETS®

the most potent oral androgen

FEMANDREN® LINGUETS®

the most potent oral estrogen with the most potent oral androgen

Buccally or sublingually absorbed LINGUETS by-pass liver inactivation or gastric destruction—are virtually as potent as parenteral steroids—provide effective, convenient, low-cost hormone therapy.

Supply: Metandren Linguets, 5 mg. (white, scored) and 10 mg. (yellow, scored). Femandren Linguets (green, scored), each containing 0.02 mg. ethinyl estradiol and 5 mg. methyltestosterone.

Metandren® (methyltestosterone U.S.P. CIBA)
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C I B A Summit, N. J.

2/ 2079M

essential to all . . .

Folic

. . . lacking in some

Acid

Everyone, regardless of age, needs some Folic Acid. This important member of the B-complex contributes to the formation of all body cells. It is, therefore, of special significance during infancy and pregnancy. Although many foods contain it, some diets lack it. Where such a deficiency exists, a supplement to the diet is often indicated.

In selecting a multivitamin preparation, be certain you choose one containing adequate amounts of Folic Acid. A variety of such products is offered by practically all leading pharmaceutical manufacturers. This message is presented in their behalf.

Cyanamid Fine Chemicals

AMERICAN *Cyanamid* COMPANY

FINE CHEMICALS DIVISION

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taste is as important to the young patient as effectiveness is to you. In antibacterial therapy Gantrisin (acetyl) Pediatric Suspension is useful on both counts because of its delicious raspberry flavor without "medicine" aftertaste, its wide antibacterial spectrum and notable freedom from gastro-intestinal upsets and other side effects.

Hoffmann - La Roche Inc
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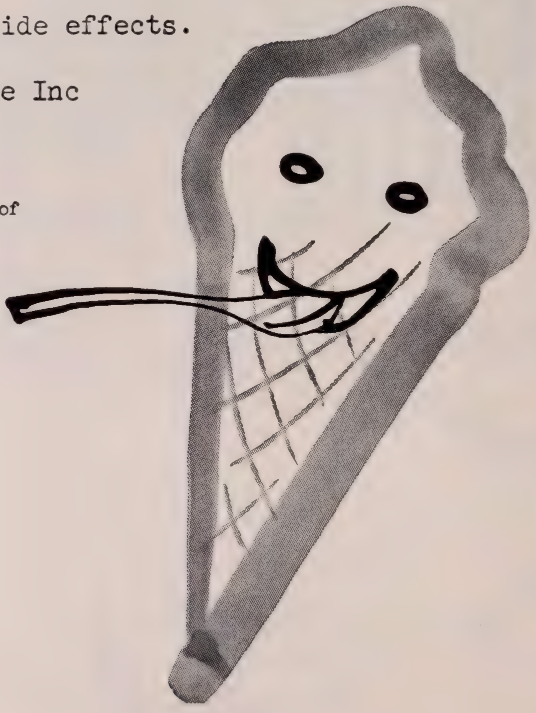
Gantrisin® acetyl -- brand of
acetyl sulfisoxazole



WHICH WOULD *YOUR* PATIENTS PREFER?

16 **ONE-HALF GRAM** ENTERIC-COATED AMMONIUM CHLORIDE TABLETS

or only **8**

AMCHLOR

ONE GRAM ENTERIC-COATED
AMMONIUM CHLORIDE TABLETS *(Brewer)*

"Easy-to-swallow" AMCHLOR is processed in such a manner that each enteric-coated tablet contains 1 Gram of ammonium chloride and yet is not much larger than the 7½ gr. enteric-coated tablet. Thus the same dose can be given with only one-half the number of tablets.

FROM COAST TO COAST both physicians and patients are showing a decided preference for **AMCHLOR.**

The next time you prescribe ammonium chloride
specify—

AMCHLOR - *Brewer*

THE ONE GRAM enteric-coated tablet
of ammonium chloride
for your patients' convenience!

For samples just send your Rx blank marked — 14-AM-8

SUPPLIED
bottles
of
100,
500
and
1000

Brewer
EST. 1852

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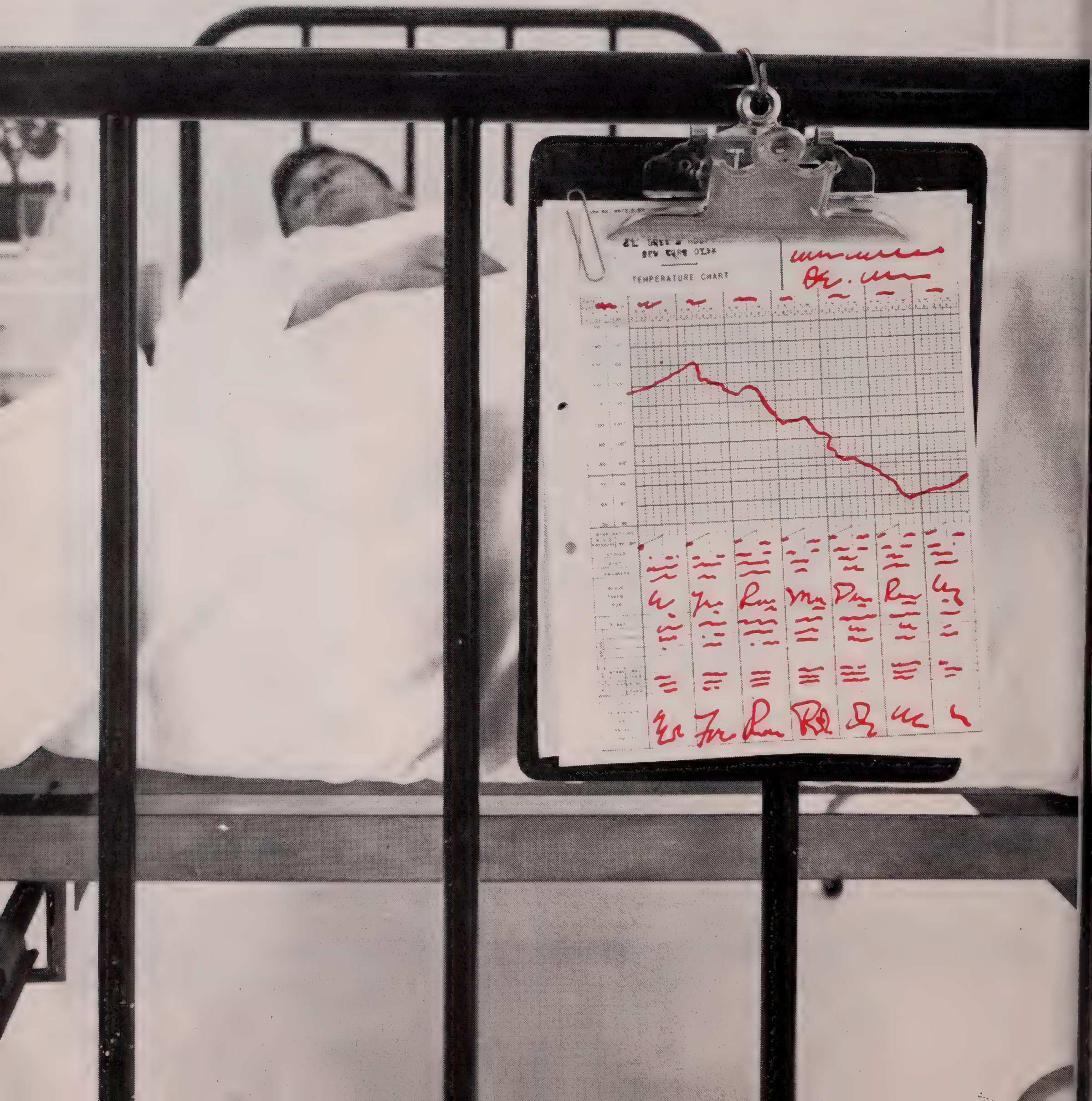
for the patient with fever, **SF** means *Pfizer* antibiotics, *fortified with vitamins*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o support recovery, speed convalescence

Tetracyn® SF*

BRAND OF TETRACYCLINE

the leading broad-spectrum antibiotic, discovered by Pfizer

with water-soluble vitamins in combinations originated by Pfizer

For patients with infections, "one must aim at maintaining the normal daily nutritional requirements, replacing previous depletions and current losses, and supplying whatever increased requirements may be related to the nature of the illness."[1] This is the concept of "treating the 'whole' patient."[2]

Tetracyn SF has antibiotic effectiveness equal to that of Tetracyn® alone[3] and, in the hands of thousands of physicians, has shown

Equivalent Blood Levels[3]
Superior Toleration[4]
Accelerated Recovery[5]

℞
Tetracyn-SF
capsules 250 mg.

℞
Tetracyn-SF
Oral Suspension
125 mg./5 cc.
teaspoonful

Two effective dosage forms for oral use:

Terramycin®† SF* *is also available*

Tetracyn SF and Terramycin SF are formulated to provide with the minimum daily dose of each antibiotic (1 Gm. of Tetracyn or Terramycin) the stress vitamin formula recommended by authorities on nutrition.[1]

1. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, Prepared in Collaboration with the Committee on Therapeutic Nutrition, Food and Nutrition Board, National Research Council, Washington, D. C., 1952. 2. Martí-Ibáñez, F.: Antibiotic Med. *1*:247 (May) 1955. 3. Dumas, K. J.; Carlozzi, M., and Wright, W. A.: Antibiotic Med. *1*:296 (May) 1955. 4. Milberg, M. B., and Michael, M., Jr.: Ann. New York Acad. Sc., In press. 5. Prigot, A.: Ibid.

† Brand of oxytetracycline
* Trademark for Pfizer brand of antibiotics with vitamins.

Pfizer **PFIZER LABORATORIES,** Brooklyn 6, N. Y.
Division, Chas. Pfizer & Co., Inc.

now available
for clinical use.

METICORT

"possesses an augmented therapeutic ratio"[1]
in cortical hormone therap

Schering

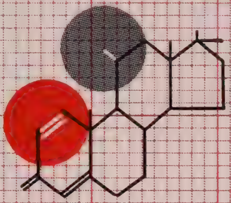
METICORTELONE possesses antirheumatic and anti-inflammatory effectiveness and hormonal properties similar to those of METICORTEN,[1-5] the first of the new Schering corticosteroids. Both are three to five times as potent, milligram for milligram, as oral cortisone or hydrocortisone. METICORTELONE and METICORTEN therapy is seldom associated with significant water or electrolyte disturbances.

METICORTELONE is an analogue of hydrocortisone, as METICORTEN is of cortisone. The availability of these new steroids, both discovered and introduced by Schering, provides the physician with two therapeutic agents of approximately equal effectiveness.

METICORTELONE is now available as 5 mg. buff-colored tablets, scored, bottles of 30 and 100. In the treatment of rheumatoid arthritis, dosage begins with an average of 20 to 30 mg. (4 to 6 tablets) a day. This is gradually reduced by 2.5 to 5 mg. until daily maintenance dosage, which may be between 5 to 20 mg., is reached. The total 24-hour dose should be divided into four parts and administered *after meals and at bedtime.* Patients may be transferred directly from hydrocortisone or cortisone to METICORTELONE without difficulty.

elone

DNISOLONE, SCHERING (metacortandralone)



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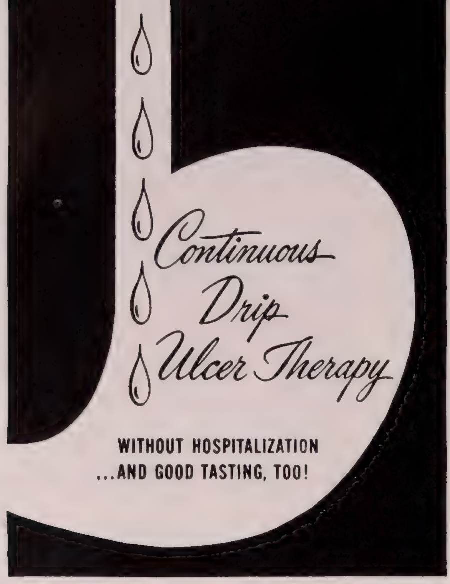
first of the new Schering corticosteroids.

METICORTEN

PREDNISONE, SCHERING (metacortandracin)

- replacing the older corticosteroids in
  - rheumatoid arthritis[1,2,6-8]
  - intractable asthma[9-12]
  - eye disorders[5]
  - certain skin disorders such as disseminated lupus erythematosus,[13,14] acute pemphigus,[13,15] atopic dermatitis[15] and other allergic dermatoses
- more active than hydrocortisone or cortisone, milligram for milligram
- relatively free of significant water or electrolyte disturbances [5]

METICORTEN is available as 5 mg. scored, white tablets in bottles of 30 and 100.
METICORTELONE,* brand of prednisolone (metacortandralone).
METICORTEN,* brand of prednisone (metacortandracin). ML-J-55 *T.M.



Nulacin

A recent clinical study* of 46 ambulatory non-hospital patients treated with Nulacin† and followed up to 15 months describes the value of ambulatory continuous drip therapy by this method. Total relief of symptoms was afforded to 44 of 46 patients with duodenal ulcer, gastric ulcer and hypertrophic gastritis.

The delicately flavored tablets dissolve slowly in the mouth (not to be chewed or swallowed). They are not noticeable and do not interfere with speech.

Nulacin tablets are supplied in tubes of 25 at all pharmacies. Physicians are invited to send for reprints and clinical sample.

HORLICKS CORPORATION
Pharmaceutical Division
RACINE, WISCONSIN

---

*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. *22*:67 (Mar.) 1955.

†Mg trisilicate 3.5 gr.; Ca carbonate 2.0 gr.; Mg oxide 2.0 gr.; Mg carbonate 0.5 gr.

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CRANE PLAN

A New Way to
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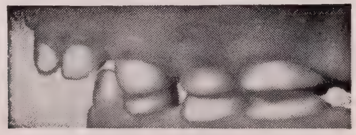
since infancy caused this malocclusion.



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TRADE MARK

THUM broke the habit and teeth returned to normal position.

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Get Thum at your druggist or surgical dealer. Prescribed by physicians for over 20 years.

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A PLEASANT ALKALINE DRINK

SOLD AND FAVORED SINCE 1880
BRIOSCHI

Actively alkaline. Contains no narcotics, no injurious drugs. Consists of alkali salts, fruit acids, and sugar, and makes a pleasant effervescent drink.

Send for a sample

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PROTECTION
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NE MILLION UNITS
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with one piece cartridge-sterile needle assembly:

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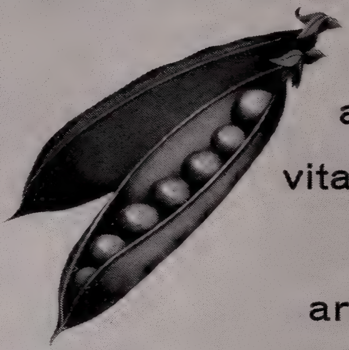

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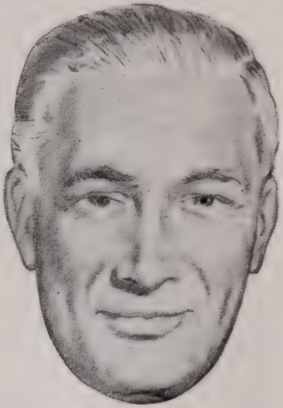

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Finnerty, F.A., Jr.: Am. J. Med. *17*:629 (Nov.) 1954.

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" . . . [Rauwiloid] produces certain desirable effects such as mild sedation without somnolence and a general sense of well-being . . . "
Livesay, W.R., et al.: J.A.M.A. *155*:1027 (July 17) 1954.

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Lipsett, M.B., et al.: California Med. *81*:412 (Dec.) 1954.

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Wilkins, R.W.: Mississippi Doctor *30*:359 (Apr.) 1953.

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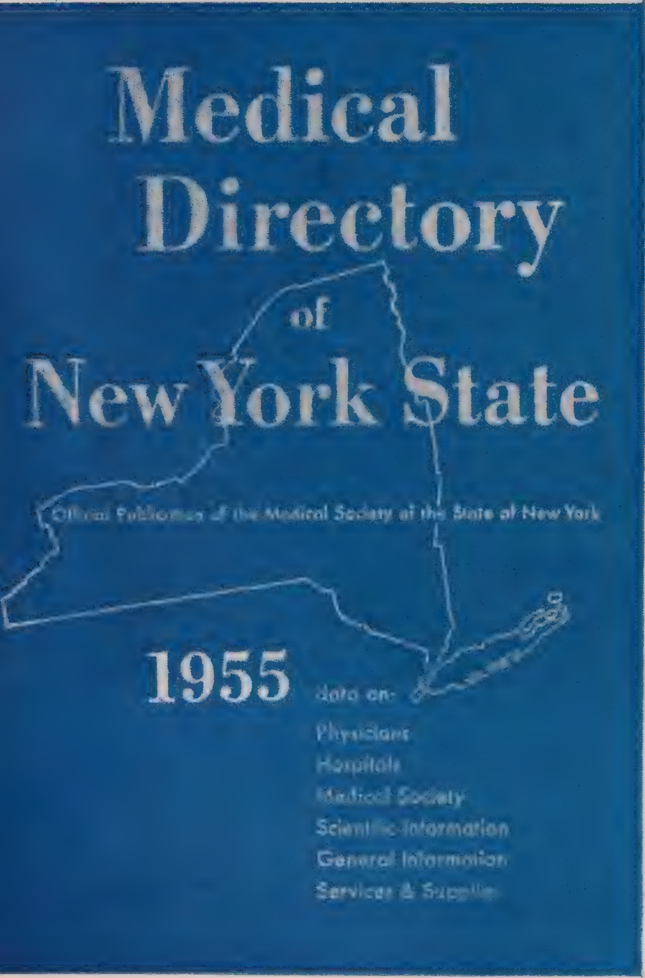

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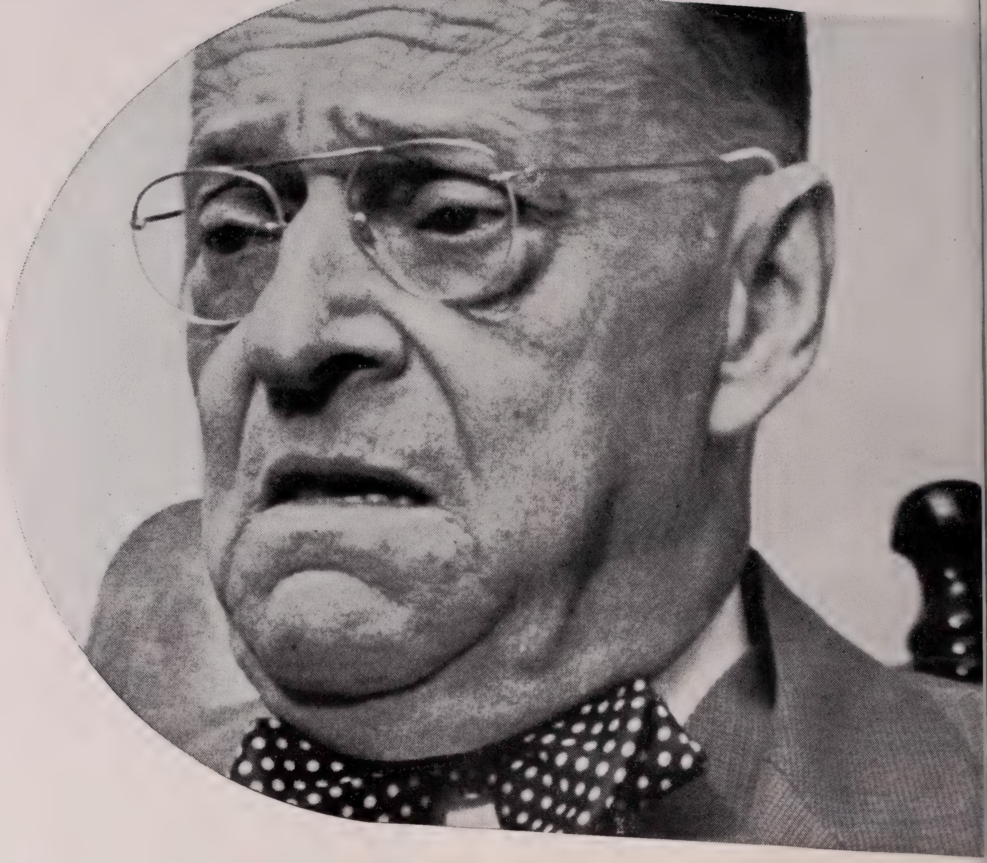

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(This photograph was taken during the patient's interview with his physician, a general practitioner. The case report is in the physician's words.)

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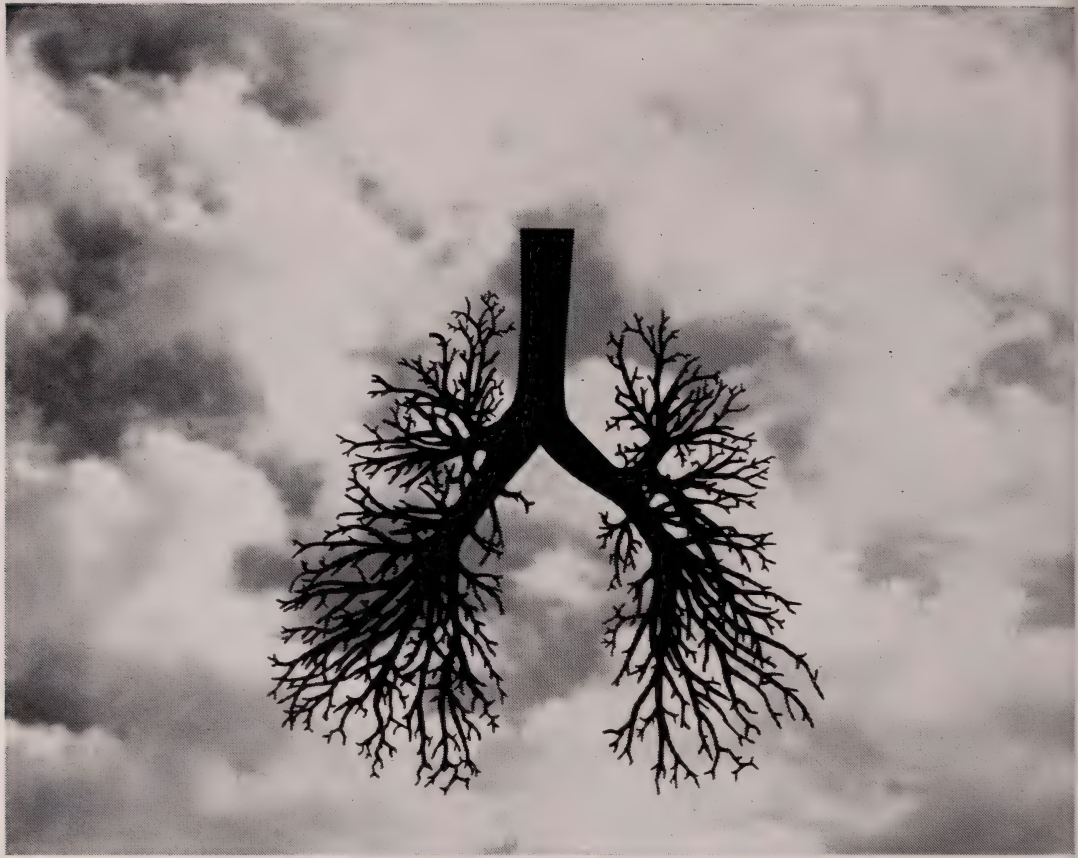

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EDITORIAL

The District Branches

There will appear shortly in the JOURNAL the programs of district branch meetings to be held in the fall. These meetings have been traditionally a part of the postgraduate teaching program of the Medical Society of the State of New York. In former years they have fulfilled the function well, but with the growth and development of more widespread teaching facilities throughout the State, they have become possibly less a teaching function and more of an opportunity for social activity and for meeting the officers of the State Society personally.

If it were not for these meetings, many of the membership would have little occasion to meet the official family of the State Society as well as the directors of some of its bureaus, as, for example, medical care insurance and public relations; also at least two of the officers of the Woman's Auxiliary of the State Society.

It seems highly important that this contact between the Society and its regional members should be preserved. For the membership is increasing, not all have the opportunity to leave their practices to attend the Annual Meeting, and in consequence these regional meetings represent in their social aspect an invaluable chance for new members and, of course, old ones also to meet each other and the official family as well. They also provide an opportunity for the president and the president-elect to become acquainted with their constituency, the physicians of the State.

Even though some of the branches are inclined more and more to reduce or even eliminate the scientific portions of their programs, this does not mean that the meetings are less valuable. It means only that more and more medical educational facilities have become available in the area, and in the public interest that is a good thing. Few such educational facilities were to be found in the 1800's when the New York State Medical Association conceived of the district branch scientific programs, and for the matter of that few were to be found in the 1900's. But since then more approved medical schools and hospitals have grown up throughout the State, roads and means of transport have improved, and communications have been developed beyond anything dreamed of at that time.

So one of the district branch functions has become increasingly less important but not equally so in all areas. However, the social function remains, and it is to be hoped that for many years to come it will not be abandoned.

Schedule of District Branch Meetings, 1955

District	*Date*	*Town*	*Place*	*Time*
First	(during Annual Meeting of Medical Society of the State of New York)			
Second	Wednesday, September 14	Smithtown	Riverside Inn	Dinner Evening
Third	Thursday, September 15	Hudson	Elks Club	Morning Lunch Afternoon
Fourth	Wednesday, October 19	(*To be announced*)		Afternoon
Fifth	Thursday, October 27	Utica	Hotel Utica	Afternoon
Sixth	Wednesday, October 26	Elmira	Arnot-Ogden Hospital	Afternoon Dinner Evening
Seventh	Thursday, September 29	Rochester	Oak Hill Country Club	Morning Lunch Afternoon
Eighth	Wednesday, September 28	Niagara Falls	Hotel Niagara	Afternoon Dinner
Ninth	Wednesday, October 5	West Point	Hotel Thayer	Dinner Evening

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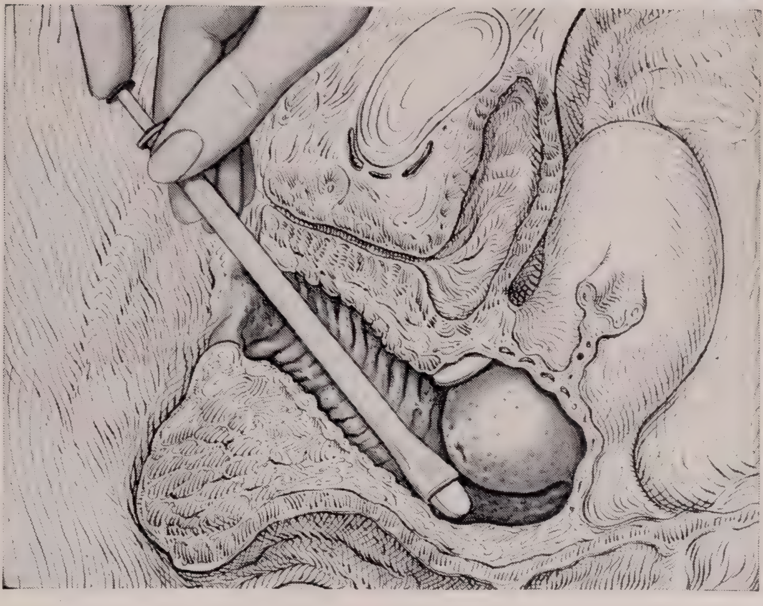

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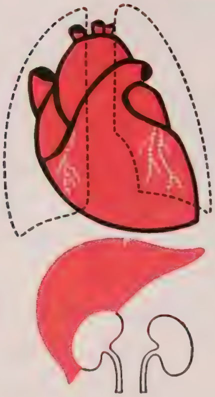

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SCIENTIFIC ARTICLES

Allergic Reactions to Antibiotics

SHEPPARD SIEGAL, M.D., NEW YORK CITY

(From the Medical Services and the Adult Allergy Clinic of Mount Sinai Hospital)

PROBLEMS of drug toxicity demand attention increasingly, and most unpredictable of the forms of drug toxicity is that due to allergy. Of all remedies apparently the most innocuous as well as the most magically potent, penicillin has nonetheless proved to be a frequent sensitizer in man. The range of sensitivity phenomena attributable to penicillin has now extended to include progressive, generalized vascular reactions[1-3] and, even more startling, fatal anaphylaxis.[4-7]

Each day every practicing physician or surgeon must use his best judgment as to the actual indication for and choice of an antibiotic. The tragic experience with chloramphenicol has taught us not to employ antibiotics indiscriminately. The doctor's attitude influences the patient not to resort to thoughtless self-medication. The evidence indicates that the fatal aplastic anemias due to chloramphenicol were hypersensitivity reactions because this drug is not directly toxic to the bone marrow either in the experimental animal or in man.[8-10]

The allergic form of drug toxicity often cannot be demonstrated in the experimental animal, and it may not become evident during the early clinical trials. The capacity to be sensitized varies so widely that dangerous manifestations may affect only a small, unpredictable minority of patients.

While this paper is necessarily preoccupied with the negative aspects of antibiotic therapy, its purpose is not to instill fear but to suggest a proper discrimination in the use of antibiotics. Enormous quantities of these life-sustaining drugs have been employed all over the world. The ill effects due to allergic reactions affect but a minority of the vast numbers of patients who have benefited from them. Nonetheless, the profession must be aware of the possible peril of allergic reactions, especially of the severe forms, in order to avoid them as far as possible and to treat them promptly and effectively when they do occur.

Fortunately some of the most widely used of the antibiotics, such as aureomycin and Terramycin and the newer tetracycline, induce allergic reactions infrequently and usually of a relatively mild character. Reactions of urticaria or angioedema have occasionally been attributed to aureomycin.[11,12] Fever and eruption have also been noted following this drug and can be reinduced by a test dose.[13] A rare instance of bronchial asthma occurring within ten minutes after aureomycin has been reported.[14] In this unusual case there was a strongly positive skin test to the antibiotic. An immediate reaction of angioedema accompanied by a shock-like state was reported as induced by a single capsule of aureomycin.[15] In a case of fixed drug eruption due to aureomycin cross sensitization was demonstrated to Terramycin as well.[16] Pelner reported a full-blown serum sickness-like reaction due to Terramycin.[17] Such allergic reactions to these antibiotics remain the distinct exception, and the common side-effects which limit their use have to do with severe gastrointestinal irritation. Thus far there is nothing to report as to allergy to erythromycin. Systemic administration of the polymixins is usually avoided because of toxic effects on kidney and nervous sytem. Allergic reactions including eruptions and eosinophilia also occur.[18]

Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, General Sessions, May 10, 1955.

TABLE I.—TYPES OF ALLERGIC REACTION TO PENICILLIN

Type	Incidence	Incubation Period	Major Manifestations	Skin Tests	Course and Treatment
I. Delayed	Common	5 to 21 days	Urticaria, fever, arthralgias, "serum sickness-like" syndrome	Usually negative; delayed test positive in 50% following this reaction	Usually 3 days to 3 weeks; occasionally prolonged to 1 year. Antihistamines, ephedrine, ACTH, and cortisones.
IIA. Accelerated	Infrequent	12 to 48 hours	More intense reactions as in type I, angioedema	Delayed test may be positive (tuberculin-like type)	Usually several days as in type I. Epinephrine, aqueous and in oil.
IIB. Immediate	Rare	30 seconds to 2 hours	Pruritus, urticaria, angioedema, asthma, pulmonary edema; anaphylactic shock	Immediate test often 4 plus positive (scratch test safest)	Minutes or hours. Epinephrine repeatedly. Antishock measures. Dangerous, may be fatal.
III. Hyperergic	Uncommon	As in type I or IIA	Purpura, bullae, exfoliative dermatitis, ECG and renal changes; Loeffler's syndrome; progressive angiitis; locally Arthus phenomenon	Usually negative	Usually self-limited, rarely fatal, progressive; may follow I or IIA. Prolonged ACTH or cortisones for complete suppression.
IV. Erythematovesicular or "id-like"	Frequent	1 to 3 days, occasionally 6 days	Hands, feet, groins erythema, papulovesiculation; marked pruritus; silent sensitivity in 5% of adults	Delayed test often positive (eczematous type)	1 to 3 weeks, as in type I. Hydrocortisone and medications topically.
V. Contact dermatitis	Frequent	5 to 21 days	Erythema and papulovesiculation; "dermatitis venenata"	Patch tests positive	Several days or weeks. Hydrocortisone and other medications topically.

Streptomycin allergy may be manifested as fever alone, most often with eosinophilia, or as eosinophilia only. A maculopapular eruption and, less commonly, urticaria are reported.[19,20] Nonetheless, such allergic reactions have been relatively uncommon in everyday practice, although the contact dermatitis of nurses who inject this antibiotic is not a rarity.[21] Patch tests are strongly positive in such cases.[22] Intracutaneous testing should be avoided since it may induce shock. The wearing of rubber gloves may prevent recurrence of such a dermatitis, but in some instances desensitization has been carried out successfully.[21]

Classification of Penicillin Allergy

For the physician and surgeon in everyday practice penicillin is the problem antibiotic as far as allergic reactions are concerned. Therefore, it is upon these that attention must be largely centered. The following classification of penicillin allergy is suggested (Table I):

I. *The delayed type of reaction* is by far the most common, thus called because of an incubation period not shorter than five days after initial exposure to the antibiotic, and usually from seven to fourteen days after. This type of penicillin allergy represents the reaction of first exposure to an antigen, and no previous exposure to penicillin need have taken place. The full serum sickness-like response consists of the triad of eruption, fever, and arthralgias. The eruption, more often an urticaria than an erythema, is the most common single manifestation.

II. *Accelerated and immediate reactions* are far less common and occur only in patients who have had penicillin at some time before the current course. They represent the reactions of re-exposure to antigen and, hence, as a recall phenomenon, are characterized by the shorter incubation period from which they derive their name. This may vary from one to two days, to several hours, down to a matter of only minutes or seconds. The latter, comprising true immediate reactions, may be considered as anaphylactic no matter what the character or intensity of the manifestation. Immediate reactions may be characterized by pruritus, urticaria, angioedema, dyspnea or asthma, chest and abdominal pain, weakness and syncope, or the complete picture of anaphylactic shock.

III. *"Hyperergic" reactions* include more severe manifestations of type I. There is no

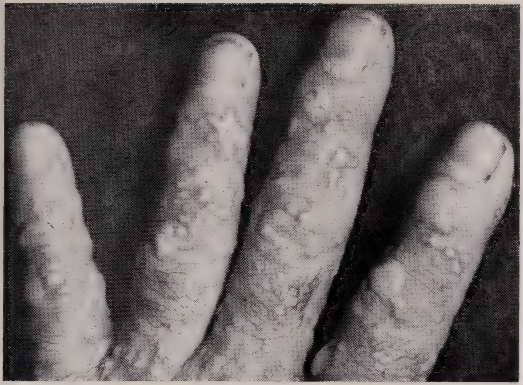

FIG. 1. Erythematovesicular or "id-like," Type IV penicillin eruption affecting the hands.

sharp line to demarcate these two groups. More intense vascular reactions and visceral involvement characterize this group. Marked "anaphylactoid" purpura,[23] bullous eruptions at times with purpura, and exfoliative dermatitis are the major surface indications of this form. Internal reactions of great severity, such as diffuse angiitis, may even lead to a fatal termination.[1-3] Milder types include a reversible Loeffler's syndrome[24] or minor renal or cardiac involvement.[25] Penicillin allergy as a cause of disseminated lupus erythematosus, first suggested by Gold,[26] has received some laboratory confirmation from Walsh and Zimmerman[27] who reported the "L.E." phenomenon in patients with severe reactions to penicillin.

IV. Erythematovesicular or "id-like" reactions comprise yet another form of generalized allergic reaction to penicillin, eczematous in type, affecting particularly the hands, feet, and groins (Figs. 1 and 2). They often appear after a shorter incubation period than do the urticarial reactions. The pruritus and eruption may begin within twenty-four hours or two to three days after penicillin administration, although in some instances they may be delayed as long as a week. Bright erythema often characterizes this eruption, at times with papulation or actual vesiculation closely simulating the "id" eruptions as they occur spontaneously in the course of dermatophytosis.

This form of allergic reaction was first described by Graves, Carpenter, and Unangst.[28] It probably represents an activation of pre-existing silent sensitivity induced initially by previous dermatomycosis.[29] Speaking for this concept are the characteristic appearance of the eruption,

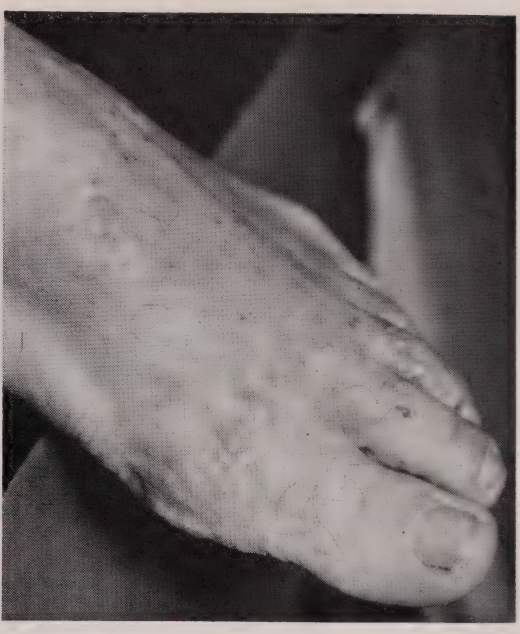

FIG. 2. Erythematovesicular or "id-like," Type IV penicillin eruption of the feet (same as in Fig. 1).

its typical distribution over sites of predilection for fungous disease of the skin, and, last, the demonstration of a positive twenty-four to forty-eight-hour positive skin test to crystalline penicillin in 5 per cent of the adult population not previously exposed to the antibiotic. This was first described by Welch and Rosenberg[30] as the tuberculin type of allergy to penicillin and was confirmed by others including Peck and Siegal[29] who experimentally activated latent allergy into the typical "id-like" eruption. Peck and Hewitt[31] reported the occurrence of a penicillin-like substance as produced by trichophyton, presumably responsible for this so-called "spontaneous" penicillin allergy, distinct and independent from the trichophytin allergy of dermatomycosis.[30]

The first three forms of penicillin allergy are independent of presensitization by dermatophytes. The development of the common, delayed urticarial form of penicillin allergy does not in any way require previous epidermatophytosis. Such presensitization does not seem to predispose to anaphylaxis. As an eczematous form of allergy, the reaction takes place chiefly in the superficial layers of the skin and is characterized by an epidermal response producing vesiculation and branny desquamation. Such a separation between the two forms of sensitization, which might be referred to as ectodermal (erythematovesicular) and mesodermal (urticarial), respectively, is indicated by the occurrence in the same patient of the two clinical reactions independently and consecutively. The author has observed this more than once, but it has only recently been documented by others.[32]

V. *Contact dermatitis* occurs frequently in patients who have been treated topically and in those who administer or handle the antibiotic. For this reason penicillin ointments are now scarcely used for surface skin infections, and ophthalmologists particularly have discarded penicillin ophthalmic ointment. Doctors and nurses may be bothered by penicillin contact dermatitis. It may occur as an occupational allergy in the course of the manufacture of penicillin.[33] Patch tests with penicillin solution are usually positive in such cases.

This rather benign type of epidermal reaction to contact with penicillin must not be confused with a systemic sensitization also occurring on contact and inhalation as an occupational allergy among doctors, nurses, and other handlers of penicillin. Such persons are often exquisitely sensitive,[34] reacting immediately with erythema, itching, and urticaria and, much more significantly, with anaphylactic manifestations as well.[7,8] They must not be tested intracutaneously for this alone may induce shock.

Special Characteristics of Penicillin Allergy

Certain characteristics of allergy to penicillin are of special interest. Thus, children react less frequently and less violently than do adults.[35] The "spontaneous" positive delayed skin test to penicillin does not occur in children,[36] although it is found in 5 per cent of the adult population. Parallel to this, the erythematovesicular form of reaction to penicillin is scarcely seen in children. More severe forms of penicillin allergy, whether anaphylactic or hyperergic, are also very rare in childhood. Pediatricians, employing penicillin as frequently as they must, are fortunately less concerned with the hazards which beset physicians treating adults. The sex distribution of penicillin allergy is probably unremarkable except that erythematovesicular or "id-like" reactions are commoner in men than in women.[37]

Penicillin treatment may be continued in the face of a delayed allergic reaction, type I, if it is mild.[38] Antihistamines, adrenalin in oil, and aspirin may adequately control symptoms while therapy is carried out. Increasing intensity of reaction certainly necessitates stopping the drug. The seriousness of the indication for penicillin treatment must be such as to justify the risk of continuing the antibiotic. The author has seen several patients with subacute bacterial endocarditis carried on to complete cure with penicillin treatment despite mild to moderate urticarial reactions. Allergy of the erythematovesicular type, being more difficult to control symptomatically, may easily necessitate discontinuance of penicillin. In exceptional and critical cases even more intense reactions, whether urticarial or erythematovesicular, might be controlled by ACTH or cortisone to permit continuance of penicillin.[39]

A single allergic reaction to penicillin of the common delayed urticarial or serum sickness-like type does not necessarily preclude the possibility of subsequent treatment with penicillin. Most such patients do not develop persistent penicillin allergy, and many accept penicillin at a later date without the slightest hint of difficulty.[38,40] It is true that with evidence of an increasing anaphylactic hazard and with more patients exposed to more courses of penicillin, the physician quite properly uses other chemotherapeutic agents where possible for patients with such a past history. Nonetheless, it is well for him to know that in situations where the indication for this antibiotic is urgent, with suitable precautions he can attempt to reinstitute therapy and, more often than not, may do so altogether successfully.

The following case illustrates the problem and its management:

CASE 1.—A man of thirty-five was under treatment at Mount Sinai Hospital for bacterial endocarditis due to the Streptococcus hemolyticus. Under treatment with penicillin he promptly improved, but after the usual incubation period he reacted with generalized urticaria. Other antibiotics were substituted but failed to prevent recurrence of bacteremia and deterioration in the patient's clinical state. The need for penicillin was imperative. Several weeks after his initial penicillin reaction, therefore, he was skin tested by scratch and intracutaneous methods, to which he reacted negatively. Provocative or trial subcutaneous doses of penicillin were then given at six to eight-hour intervals in ascending doses ranging from 1,000 to 20,000 units. There was no reaction, either local or systemic. Therapeutic doses of penicillin were then given, and this patient then tolerated as much as 32 million units of penicillin daily without a hint of allergic reaction.

The extremely prolonged course which penicillin urticaria may follow has not been sufficiently emphasized. Cases lasting as long as fifteen months have been reported,[41] and the author has recently collected six cases lasting three to twelve months. In one instance the entire serum sickness syndrome recurred stubbornly for four months despite the use of cortisone repeatedly. In some of these cases the delayed penicillin skin test, read at twenty-four hours, has been helpful in indicating the true cause of the protracted urticaria for which other etiologic factors were being considered. Occasionally, when other measures fail to bring this type of penicillin reaction to a complete halt, penicillin desensitization may be successful as definitive treatment.[42]

Skin Tests

Penicillin skin tests have been the subject of discussion, favorable and unfavorable. In most forms of drug allergy, skin testing is totally without value for the results are negative despite obvious hypersensitiveness. In penicillin allergy likewise, false negative reactions on skin test are common, and a negative skin test by no means excludes allergy. Nonetheless, positive skin tests to penicillin have real value. The positive immediate skin test is of the greatest significance for a marked reaction is clearly associated with the anaphylactic form of penicillin allergy.[4,5] The reaction in such cases is strongly positive with pseudopods and erythema and is most safely elicited by a scratch test. Only if the scratch test is negative should the intracutaneous test be done. These observations have been confirmed by the recent studies of Siegel and coworkers.[43] They demonstrated positive passive transfer tests and a high titer of penicillin reagins in the serum of ten anaphylactic patients.

The immediate skin test is read at fifteen to twenty minutes just as with the usual allergy tests for ragweed and other allergens, the reaction being one of wheal and flare. The intracutaneous test is carried out by the injection of 0.02 cc. of the test solution, as in allergy testing, producing a just visible test wheal. For either scratch or intracutaneous tests positive reactions have been obtained with crystalline penicillin solution or aqueous procaine penicillin suspension, 10,000 units per ml.

For practical over-all screening purposes to avoid anaphylaxis, the regular treatment suspension of aqueous procaine penicillin, 300,000 units per ml. may be used, adding a drop of water to prevent too rapid drying of this heavy suspension. A strongly positive immediate skin test, whether by scratch or intracutaneous method, contraindicates penicillin administration since it is generally associated with an anaphylactic level of penicillin hypersensitivity. A negative immediate test does not exclude penicillin allergy or even penicillin anaphylaxis. The additional precautions necessary in such cases are discussed later in relation to the anaphylaxis problem.

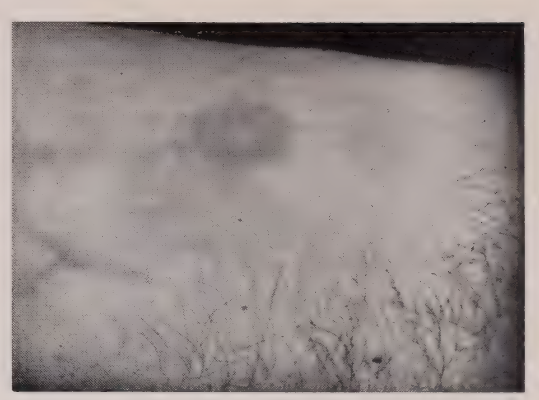

FIG. 3. Strongly positive, delayed, twenty-four to forty-eight-hour penicillin skin test, eczematous type.

The delayed positive reaction to penicillin, a twenty-four to forty-eight-hour skin test read like a tuberculin test for erythema and edema,[30] may, like the trichophytin test, also show papulovesiculation or eczematization (Fig. 3).[37] As already noted, this test is positive in 5 per cent of adults never before exposed to penicillin. The incidence of this form of positive skin test rises sharply among those who have a history of previous allergic reaction to penicillin, reaching 55 per cent of such cases as reported by Risman and Boger.[44] This test is thus eight to ten times more commonly positive in those with previous allergic reaction to penicillin than among adults not exposed to penicillin. Therefore, it is correlated with a state of allergy to the antibiotic but not necessarily of such degree as to give rise to a reaction at the clinical level if penicillin is administered. There is probably a higher correlation of the positive delayed test, particularly if eczematous in character, with the "id-like" form of penicillin allergy. As with the immediate test a negative reaction does not exclude penicillin hypersensitiveness. The delayed positive penicillin skin test also possesses value as a guide to desensitization for it may be converted to negative in the course of this procedure.[45]

The twenty-four-hour skin test is best elicited by intracutaneous injection of 0.1 ml. of crystalline penicillin G solution or aqueous procaine penicillin suspension, 10,000 to 20,000 units per ml. As with the tuberculin test the volar aspect of the forearm is a favored site for this test.

In contact dermatitis, penicillin G solution or suspension of aqueous procaine penicillin, 100,000 units per ml., may be used for patch testing.

Penicillin Desensitization

Penicillin desensitization merits brief discussion, although it has not attained wide usage. Peck and Siegal[45] first reported successful desensitization to permit a penicillin-sensitive patient to tolerate the antibiotic for the treatment of an otherwise intractable infection. O'Donovan and Klorfajn[46] had previously demonstrated that penicillin desensitization was a possibility. The application and technic of desensitization, both parenteral and oral, was discussed by Peck, Siegal, Glick and Kurtin.[37] In 1951 the author again drew attention to its value as a prophylactic measure and also indicated its possible application in the therapy of prolonged reactions to penicillin.[47]

Desensitization may be suggested particularly for penicillin-sensitive patients being prepared for a major operative procedure, especially if it involves an infected area, as lobectomy for bronchiectasis. It may be indicated in the sensitive patient with rheumatic cardiovascular disease for whom this antibiotic may have urgent prophylactic value, and it may be necessary for the penicillin-sensitive patient in need of treatment for syphilis. Recently Alexander[48] suggested that all patients with penicillin sensitivity ought to be desensitized against the day when they might require this antibiotic for a critical illness in which it might possess crucial value. Roberts[33] used desensitization successfully in occupational allergy to penicillin acquired in a penicillin-manufacturing plant. The desensitized employes were able to return to work without recurrence of their penicillin rhinitis, asthma, or dermatitis. In the course of desensitization both immediate and delayed skin tests to penicillin were converted from positive to negative.

Desensitization should not be offered to any patient merely because of a previous history of a single delayed type of urticarial reaction to penicillin. As already emphasized, many such patients desensitize themselves spontaneously. Patients who have had repeated reactions to penicillin or those with a positive twenty-four to forty-eight-hour skin test and shown to react on provocative injections of penicillin are suitable candidates.

The author has not attempted to desensitize those with immediate or anaphylactic reactions to penicillin. This may be possible, although hazardous. Desensitization with penicillin appears to have a therapeutic application as well in the prolonged urticarial reactions which do not subside under other treatment including cortisone.[42]

As with other desensitization procedures the technic must be cautious and may be rather tedious. With two injections weekly six to twelve weeks may be required for completion. Either crystalline penicillin G solution or aqueous procaine penicillin suspension may be used in appropriate dilutions. The starting dose and the increments depend on the tolerance of the patient, just as in hay fever treatment.

The dosage schedule must be modified to suit the individual patient (Table II). The final injections are in effect also trial doses to test the patient's tolerance of full therapeutic doses of the antibiotic. Oral desensitization is also possible.[37]

TABLE II.—PENICILLIN DESENSITIZATION SCHEDULE*

Injection	Dose (Units)
1	10
2	20
3	50
4	100
5	200
6	500
7	1,000
8	1,500
9	2,000
10	3,000
11	4,000
12	5,000
13	7,000
14	10,000
15	15,000
16	20,000
17	30,000
18	50,000
19	100,000
20	300,000

* Injections of crystalline G or aqueous procaine penicillin, subcutaneous or intramuscular, two or three times a week. Adjust initial dose and increments to tolerance and local or constitutional reactions. Final doses act as tests of capacity for full therapeutic dosage.

Substitute Penicillins

Substitute penicillins such as penicillin O[49] and antihistamine-penicillin mixtures have been advertised as the solution to the problem of penicillin allergy. Penicillin O is, however, as prone to produce allergic reactions as is penicillin G.[50] Where there is truly persistent hypersensitiveness to penicillin G, cross sensitivity to penicillin O is the rule rather than the exception.[44, 47] The fallacious conclusion that penicillin O or other penicillins are safe substitutes is based on the observation of tolerance to the new penicillin in a patient who is reacting or has just reacted to penicillin G. However, this ignores the usual transitoriness of the common urticarial or delayed type allergic reaction to penicillin so that, as already noted, penicillin G itself would be tolerated equally well in most instances. Patients sensitive to penicillin G but able to tolerate penicillin O comprise a small minority. The more violent the penicillin sensitivity, the less likely it is that any form of penicillin with or without antihistamines can safely be administered. Such patients require nonpenicillin substitutes.

It appears highly doubtful that the admixture of penicillin with antihistamines can significantly alter the frequency or intensity of the delayed or serum sickness-like reactions to penicillin. There exists no evidence either from animal experiment or human observation to indicate that antihistamines alter immunologic responsiveness to antigens. An apparent reduction in such allergic reactions to penicillin attributed to added antihistamine[51] loses significance in the light of the wide range of the reported incidence of such reactions after penicillin alone. A recent controlled study of the effectiveness of antihistamine in preventing reactions demonstrated no reduction in the incidence of the common delayed form of penicillin allergy.[52] Antihistamine did inhibit mild immediate urticaria in some degree. However, it can scarcely be expected to control severe immediate or anaphylactic reactions. Such patients have been shown to react constitutionally to doses of penicillin as small as 100 to 10,000 units. The usual therapeutic dose is, therefore, 30 to 3,000 times the shocking dose. No antihistamine can be depended upon to be protective in the face of such a degree of hypersensitivity. It may be pointed out that abolition of minor immediate reactions by added antihistamine has the disadvantage of concealing what may be an important warning of impending anaphylaxis. Widespread claims that antihistamine-penicillin mixtures provide the solution to the penicillin allergy problem are, therefore, dangerously misleading.

Penicillin Anaphylaxis

Penicillin anaphylaxis is the most serious form of allergic reaction to this antibiotic and reports of its occurrence continue to appear.[4-7, 53-56] Prior to 1952 only one fatal anaphylactic reaction had been attributed to penicillin, that of Waldbott in 1949.[57] In March, 1952, the author reported three cases of anaphylaxis to penicillin with one fatality and indicated his belief that anaphylaxis to this antibiotic went largely unreported and was on the increase. The U.S. Food and Drug Administration in 1953 surveyed the occurrence of fatalities due to penicillin anaphylaxis for the two-year period to July, 1953. Welch and his coworkers[58] in this study found 57 cases of penicillin anaphylaxis, of which 18 were fatal.

These cases were collected from large medical centers in 11 cities totaling perhaps one twelfth of the hospital bed capacity of the country. They concluded that the incidence of such reactions had indeed increased but that they were still relatively infrequent in view of the enormous amount of penicillin being distributed each year, amounting to 350 tons in the United States alone.

The full-blown picture of anaphylactic shock due to penicillin is the same as that induced by serum or other antigens. In most instances the reaction begins only minutes or sometimes seconds after the injection and may be characterized by the following sequence: The patient often complains of a peculiar taste in the mouth, or sensation in the tongue, may sneeze, or note a strange tingling in the extremities. These premonitory symptoms are quickly followed by severe constriction or pain over the chest or abdomen, often with nausea or a sudden desire to defecate. A choking sensation in the throat and dyspnea increasing with frightening rapidity with frothy sputum and cyanosis occur simultaneously with symptoms of syncope and collapse terminating in unconsciousness and even death. The reaction is so unexpected and terrifying that the physician may be immobilized. Alertness to the danger of penicillin anaphylaxis may provide psychologic preparedness so that critically valuable moments will not be lost in instituting antianaphylactic measures.

Case 2.—A sixty-seven-year-old woman with chronic bronchial asthma, sinus disease, and aspirin allergy received penicillin many times for upper respiratory infection, always without any allergic reaction. She visited her physician's office because of sore throat and low-grade fever, for which 300,000 units of aqueous procaine penicillin were administered intramuscularly. Within thirty seconds she complained of a strange taste in the mouth, tightness in the chest, and dyspnea. Before epinephrine could be administered she was in collapse with deep cyanosis and was dead. Resuscitative measures were in vain.[4]

This case, which ended fatally, was in a patient with asthma, as was Waldbott's case. Experience has since confirmed the greater hazard penicillin presents to the asthmatic patient, especially if administered in repeated courses. Sterling[55] reported penicillin anaphylactic shock in nine asthmatic patients. His experience underscores the hazard attending the too promiscuous and repeated use of this antibiotic in such patients.

All evidence in recent years incriminates the penicillin portion of the molecule of procaine penicillin as the offending antigen. The persistent notion that procaine often is at fault is not borne out by the collected experience. As if to dramatize this point is the tragic experience described by Thompson.[59] His patient had reacted with nonfatal shock after repeated injections of procaine penicillin. Under the impression that the procaine moiety was responsible, the patient was hospitalized to provide more careful observation for his next treatment, and crystalline penicillin G was substituted. An almost immediate fatality followed.

Evidence pointing conclusively to the penicillin itself as the anaphylactogen may be found in the strongly positive skin tests of the immediate type often associated with this degree of sensitivity.[4–6] The following two cases of penicillin anaphylaxis indicate the usefulness of the immediate test by the scratch method, even in the absence of any previous history of penicillin reaction.

Case 3.—A seventy-two-year-old woman, a school teacher, with moderate hypertension had never previously had any allergic manifestation of which she was aware. She was seen in October, 1952, for a cold and sore throat and given intramuscular aqueous procaine penicillin. Almost immediately she felt some strange sensations in her hands and feet, became dyspneic, unconscious, and went into collapse. She responded promptly to epinephrine. Her respirations were wheezing, and her doctor was uncertain whether she had asthma or pulmonary edema. There was no itching or urticaria. Several months before she had noted some local itching after penicillin injections. There was no generalized reaction. Three months later scratch tests were carried out with crystalline penicillin G solution and with aqueous procaine penicillin, each 10,000 units per ml. Each gave a 4 plus reaction with pseudopods, although the response to the crystalline G was somewhat more intense.

Case 4.—A twenty-seven-year-old male resident in pathology was given 300,000 units of aqueous procaine penicillin intramuscularly for a sore throat. Three minutes later he noted huskiness, was lightheaded, and had a sensation of severe chest constriction. Choking, extreme weakness, swelling of the face with itching, nausea, a cold sweat, and collapse supervened. His blood pressure dropped to 50/30. Electrocardiograms showed lowering and notching of T waves which reverted to normal the day following. He responded to epinephrine and Pyribenzamine. He had received penicillin several times before and had never noted any semblance of allergic reaction. He had fall hay fever. Scratch test with crystalline penicillin G, 10,000 units per ml., was 3 plus positive. Passive transfer tests were negative. Direct scratch test with aqueous procaine penicillin was negative, using the treatment suspension 300,000 units per ml.

Prevention of penicillin anaphylaxis, so far as is possible, depends on observing certain precautions in the use of this antibiotic:

1. *Needless exposure to penicillin should be avoided* to minimize the incidence of sensitization. A more discriminating use of this drug in minor illnesses is surely long overdue. In viral respiratory illness there exists no indication for penicillin apart from patient pressure for the "magic shot." In minor bacterial infections soluble sulfonamides or oral penicillin are effective.[60] The latter appears less likely to sensitize than does a parenteral injection and has not been reported to induce fatal shock. Nonfatal anaphylaxis has been reported after a penicillin troche,[5,61] after antral instillation of penicillin solution,[62] and even on use of penicillin ophthalmic ointment.[63] Similarly, surgeons should be discouraged from the routine use of penicillin postoperatively in clean cases. Many thoughtful surgeons now reserve penicillin for use only at the

earliest signs of actual infection. Reliance on good surgical technic is considered superior to a thoughtless dependence on antibiotics.

2. *A most careful history must be taken* before administering a penicillin injection. This should include an estimate of the frequency of previous penicillin treatments, as well as any indications of untoward reaction. The personal history of allergy should be explored with special reference to bronchial asthma.

Anaphylactic shock need not be feared in patients never before exposed to the drug. It occurs most often after a single injection, the first given to the patient after an interval of weeks or months since a previous penicillin course. This is analogous to experimental animal anaphylaxis where a prolonged interval follows the sensitizing dose to permit the development of a high degree of sensitization. Anaphylaxis is distinctly unusual after subsequent injections in a continuous course of daily penicillin treatment, although such instances are reported.[55]

3. *The character and timing of the patient's previous reactions* to penicillin are important in evaluating the probable anaphylactic hazard. In most instances it is safest to avoid penicillin if there is a history of any type of previous penicillin allergy. When the indication for penicillin is more urgent, however, the following points may be considered: A reaction of the erythematovesicular variety is not a forerunner of anaphylaxis. The majority of patients who have had a single delayed type of urticarial reaction with the usual, primary seven to fourteen-day incubation period do not react to readministration of penicillin. For such patients penicillin may be given by employing such additional precautions as will be outlined later.

By contrast the ominous significance of accelerated and especially of immediate reactions should be clearly appreciated. They are indicative of impending anaphylaxis, no matter how mild symptoms may be. This has been ignored too often in the past and with tragic results, as reported by Mayer *et al.*[5] and in a case previously described by the author:[4]

Case 5.—A twenty-seven-year-old resident physician had penicillin repeatedly from 1947 to 1949 without ill effect. In the latter year he reacted with urticaria a few minutes after an injection of crystalline penicillin. Some months later another penicillin injection induced dyspnea almost immediately. Nonetheless both earlier reactions were ignored, and two months later he was given penicillin again. He went into collapse within thirty seconds, fell unconscious, had frothy sputum, and pulse and blood pressure were unobtainable. He recovered with epinephrine and oxygen. He gave a personal history of vasomotor rhinitis and a positive family history of allergy.

However, the alert physician may avert catastrophe through awareness of this danger:

Case 6.—A woman of thirty-five with rheumatic cardiovalvular disease received penicillin repeatedly for respiratory illness. However, on the last occasion she complained of itching of the palms only twenty minutes after the injection. Her physician wisely became concerned and sought advice before again administering penicillin. A month later I found her to have completely negative skin test reactions both by scratch and intracutaneous methods. Subcutaneous trial doses were then carried out, the patient tolerating 1,000, 2,000, and 4,000-unit doses without incident. At the 6,000-unit dose she reacted with an immediate sneeze, and despite the simultaneous application of tourniquet and administration of epinephrine this was followed quickly by the appearance of angioedema of the lip, itching of the palms and soles, and a sensation of syncope. There could be little doubt that a full therapeutic dose would have proved fatal.

Prompt reactions, even though only pruritus, a sensation of tingling or warmth in the extremities, or transitory chokiness or a sense of dyspnea, must not be ignored. An increase in asthma after penicillin inhalation or injection may also be significant. Even more suggestive are a sense of weakness or dizziness immediately after the injection[55] or the complaint of nausea, chest constriction, or abdominal cramp.

Repeated penicillin reactions should interdict further treatment with the antibiotic. Reactions tending towards the hyperergic, while perhaps not significant of anaphylaxis, indicate too great a hazard for re-exposure to penicillin.

Doctors, nurses, and other persons who react systemically on simple contact or inhalation of penicillin or merely by being in the same room with it have an anaphylactic degree of hypersensitivity which absolutely precludes administration of the antibiotic.[7,34,64]

Case 7.—A forty-seven-year-old hospital maid had been treated by desensitization for ragweed hay fever and mild perennial bronchial asthma. In 1952 she first noted that upon washing syringes which had contained penicillin she reacted with itching of the skin, rhinitis, and a choking sensation. On one such occasion she developed generalized urticaria and facial angioedema within twenty minutes. Three days later she was tested intracutaneously with 0.02 ml. of aqueous procaine penicillin in the full treatment strength of 300,000 units per ml. Within two minutes she felt generalized tingling sensation, extreme apprehension, and rapid respirations. Despite epinephrine subcutaneously, her pulse became rapid and of poor quality; dyspnea and cyanosis were of increasing intensity, and syncope with bladder and bowel incontinence supervened. With repeated epinephrine and oxygen inhalation she gradually regained consciousness and recovered from circulatory collapse.*

In the case reported by Blanton and Blanton[64] the patient reacted systemically even in response to patch tests with highly diluted penicillin O!

Having described the variety of previous allergic reactions which should put the physician on guard against possible penicillin anaphylaxis, paradoxically enough, he must also be reminded that absence of previous reaction is by no means a guarantee against anaphylaxis. The majority of patients with penicillin shock have given a negative history as to previous penicillin allergy.

4. *Certain modifications in the technic of penicillin administration* may be suggested to minimize the danger of anaphylactic reaction. These precautions are particularly recommended for the potentially anaphylactic injection, the first after a considerable interval since the patient was previously treated with penicillin. This injection should be given routinely into the outer upper arm, rather than into the deltoid or the buttock so that, if need be, a tourniquet may be applied proximally.

Accidental intravenous injection should be scrupulously avoided. However, Waldbott's[57] suspicion that much of anaphylaxis is thus explained does not appear well founded. The strange taste in the mouth of which patients in anaphylaxis often complain is not, as he suspected, evidence of direct venous absorption since it is observed even after an intracutaneous test. Waldbott's suggestion,[65] offered years ago, that only the first few drops of possibly anaphylactogenic material be given, after which there should be a forty-five-second pause before completing the injection, is of practical value. The overwhelming and potentially fatal reactions to penicillin may make themselves evident even within this short period. If the physician is alert to those warning, premonitory symptoms already described, by not completing his injection he may prevent a serious or fatal reaction. Epinephrine should, of course, be at hand when this penicillin injection is to be given.

5. *Skin testing with penicillin* is an additional precaution of value for patients with unusually frequent previous treatment with penicillin, for those with a personal history of allergy and especially of asthma, or for those with a history of previous allergy to penicillin. The safest test for this purpose is the scratch test. For the busy physician or surgeon the most convenient method would be the use of aqueous procaine penicillin in its available treatment strength of 300,000 units per cc. as already described. It must be stressed again that a negative test is no guarantee against anaphylaxis. Where indicated by the history or special circumstance, additional tests by the intracutaneous method may be carried out, if need be followed by subcutaneous trial injections in ascending dosage. Another practicable preliminary precaution is the administration of a 100,000-unit oral tablet or a few drops of penicillin by injection fifteen minutes prior to injection of the full therapeutic dose.

6. *The treatment of anaphylactic shock* deserves brief discussion. Epinephrine subcutaneously is of course the single most effective remedy. It should be given in adequate dosage, 0.5 to 1 ml., and repeated every few minutes as determined by the patient's condition. A tourniquet should be applied above the site of penicillin injection. The patient is placed in the recumbent position if this has not been assumed spontaneously. Attention must be paid to maintenance of adequate airway in the unconscious patient. An intravenous antihistamine, such as 5 to 10 mg. of Chlor-Trimeton or 50 mg. of Benadryl, might also be administered, or adequate doses of antihistamine may be given by mouth. Oxygen may be imperative when dyspnea or cyanosis are marked. Fortunately most patients recover spontaneously or with relatively simple measures.

Intractable instances of penicillin shock have been described, the patient remaining in a collapse for several hours.[66] No time should be wasted, if the patient fails to respond quickly, in starting intravenous therapy with the most potent antishock remedy, norepinephrine. Whole blood or plasma are valuable. ACTH intravenously, while useful in diminishing acute allergic edema, should not be relied on as a lifesaving measure in anaphylactic shock.

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* This case is reported with the permission of Dr. James H. Barnard.

Little is to be lost by the most prompt application of the most vigorous measures. In the anaphylactic emergency events can easily outrun our efforts to save the patient. The major thesis of this discussion of penicillin anaphylaxis is to emphasize that the best treatment of this deadly complication of penicillin therapy is its prevention.

Summary

1. Allergic reactions to the antibiotics, particularly in their major forms, constitute an important problem in current medical practice.

2. Penicillin is the major antibiotic sensitizer with a wide range of allergic reactions, for which a classification is presented. Streptomycin allergy with eruption, fever, or eosinophilia is not rare but only infrequently interferes with its use in everyday practice. Reactions to the broad-spectrum antibiotics or to systemic polymixin are not usually allergic in character.

3. Penicillin allergy tends to be more frequent and more serious in adults than in children. Males are more prone to the erythematovesicular form. Penicillin therapy, if urgently needed, may often be continued in the course of the common delayed type of urticaria reaction. A past history of a single reaction of this type need not preclude penicillin therapy afterwards. In some instances penicillin may again be given if suitable precautions are taken.

4. Penicillin skin tests may be helpful when positive, but false negative tests are common. The positive immediate reaction, whether to scratch or intracutaneous test, if marked, is usually indicative of the anaphylactic state and is a warning against the use of penicillin. The positive delayed reaction of the twenty-four to forty-eight-hour type tends to be associated with persistent penicillin allergy as in the prolonged urticaria due to penicillin. It is also associated with a silent sensitivity demonstrable in 5 per cent of adults never before exposed to the antibiotic. Presensitization by dermatomycosis is the presumed causative mechanism. Penicillin contact dermatitis may be diagnosed by a positive patch reaction.

5. Penicillin desensitization may be valuable as a prophylactic measure and occasionally also in the treatment of protracted penicillin urticaria. A dosage schedule for parenteral desensitization is offered.

6. Substitute penicillin such as penicillin O and penicillin-antihistamine mixtures are evaluated as of limited usefulness in penicillin allergy and dangerous for the patient with penicillin anaphylaxis.

7. Anaphylactic shock is the most serious hazard attending the use of penicillin. The premonitory and warning symptoms are noted and the complete clinical picture described. Evidence incriminating penicillin rather than procaine is presented. Preventive precautions are outlined, including more discriminating use of the antibiotic and care in taking a preliminary history prior to its administration. Emphasis should be placed on the frequency of previous penicillin treatment, the incidence, character, and timing of previous reactions, and on a personal history of allergy, particularly of bronchial asthma.

8. Penicillin anaphylaxis need scarcely be feared in patients never before exposed to the antibiotic. The most hazardous injection is the first given after an interval since previous administration of the drug. Immediate and accelerated reactions, even if only pruritus or urticaria, are potentially anaphylactic. Especially significant are reactions of faintness, generalized tingling, transitory chokiness or dyspnea, asthma, and pain or constriction across the chest or abdomen.

9. Doctors, nurses, and other handlers of penicillin who react promptly with the skin or respiratory tract to simple contact or inhalation of penicillin are in the anaphylactic state. They must not under any circumstances be treated with penicillin.

10. Special attention to the technic of penicillin administration is emphasized as to site of injection, brief delay after administration of the first few drops, and scrupulous avoidance of vein entrance. Epinephrine should be at hand for emergency. The value of a preliminary penicillin scratch test as a screening method is discussed.

11. Treatment of penicillin anaphylaxis is briefly reviewed. Most important are repeated injections of epinephrine and the prompt application of other antishock measures such as norephinephrine by intravenous drip in refractory cases.

30 East 60th Street

Note: Concern about the presumed penicillin content of polio vaccine (Salk) and its contraindication in those with a history of previous allergic reactions to penicillin is largely allayed by observations recently published[67] indicating that its penicillin content is negligible.

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AMA Studies Absence of Workers for Congress Program

Plans are being made to include a one-day session on the general subject of absence due to nonoccupational disability at the AMA's annual Congress on Industrial Health to be held next January in Detroit. A preliminary planning meeting was held recently with staff members of the Councils on Industrial Health and Medical Service and selected authorities in the field. Dr. W. A. Sawyer, chairman of the Committee on Medical Care for Industrial Workers, conducted the planning session attended by medical directors of large corporations, nurses, practicing physicians, officers of industrial health organizations, union representatives, medical society personnel, and representatives of the Ontario Department of Health and the U.S. Department of Health Education, and Welfare.—*AMA News Notes, July,, 1955*

Delay in the Diagnosis of Carcinoma of the Colon

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DURING the past decade a vigorous and concerted campaign has been waged by various national, state, and local organizations to educate the laity as well as the medical profession in the early recognition of malignancy. Untold hours of volunteer and paid work have been expended to further this cause. The national budget of the American Cancer Society alone for the past year was approximately 22 million dollars. In New York State their budget was almost $3,200,000.[1] This organization has toiled relentlessly to educate the public by means of lectures, discussions, and pamphlets urging them to see their doctor at the first sign of any of the seven common danger signals. The radio, television, and the newspapers all have aided tremendously in the dissemination of this information.

We in the medical profession know that many cancers are curable if recognized and treated in their early stages. It often has been stated that during some minute of some hour of some day a cancer changes from a curable lesion to an incurable disease. Any delay obviously may mean the difference between cure and palliation. Various studies[2] have indicated that there is delay in the diagnosis of cancer of all types in well over 50 per cent of the cases. The physician has been the direct cause of the delay in nearly 40 per cent of cases in some series.[3] It is the purpose of this paper to attempt to determine the incidence and the cause of delay in the early diagnosis of carcinoma of the colon.

In western New York we enjoy an unusual heritage handed down by our forefathers and circumstances. The soil is fertile, and the industries are stable. Many industries have been established for years and take more than usual interest in the welfare of their employes by means of their medical and nursing departments. Educational facilities in this section of the country are far above average, and the majority of families have at least one high school or college graduate in their midst. We do not have the problem of a transient population, nor are we subject to the vicissitudes of nature in the form of various periodic disasters. Professionally we have our full share of educational facilities, and practically all hospital staffs carry on active programs.

This study, therefore, should represent better than the national average in the early diagnosis and treatment of malignancy.

Material

A total of 210 patients with 215 carcinomas of the colon seen in private practice between May, 1947, and March, 1955, were used as the basis of this study. The patient's history, the examination, and the operation were all done by one individual. This differs from other studies which usually consist of reviews of hospital records or the experiences of several surgeons. The patients in this study were asked the time interval between the appearance of their symptoms and the time they first visited a physician. The interval between this first visit and the time the diagnosis was made constituted the time taken for diagnosis on the part of the physician. Studies of delay in the diagnosis of cancer in general[2-4] have used various time intervals as the criteria of delay. This has varied from one to three months for the patient and three to four weeks for the physician. In considering carcinoma of the colon, two months should be a sufficient period of time for any patient to harbor symptoms before consulting a physician. A period of one month certainly should be adequate for the physician to establish the diagnosis of carcinoma of the colon since over 50 per cent of carcinomas of the colon can be palpated by rectal examination (Fig. 1), approximately 75 per cent can be seen on sigmoidoscopy, and practically all of the remainder can be found by barium enema studies. The assignment for responsibility of delay, therefore, was determined as follows:

1. The patient was considered to have delayed the diagnosis if more than two months

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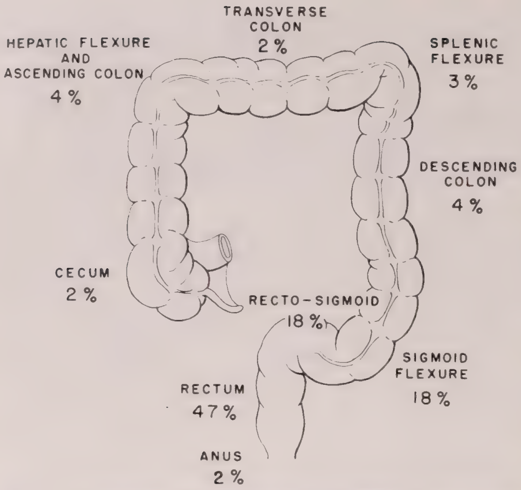
TRANSVERSE COLON
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RECTUM
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FIG. 1. Location of the lesions in 210 cases of carcinoma of the colon.

elapsed from the appearance of the first symptom until his first visit to a physician.

2. A delay in the diagnosis on the part of the physician was considered to have occurred if one month or more elapsed between the time he first saw the patient for the symptoms of cancer and the time the diagnosis was established.

3. When there was a delay on the part of both the patient and the physician, the delay was assigned to both groups.

Sixty patients were from areas outside of Rochester or its suburbs. Distribution of these cases is shown graphically on the map (Fig. 2). Delay in diagnosis on the part of the physicians outside of the metropolitan area was analyzed separately for comparison.

Results

There was a delay in the diagnosis of carcinoma of the colon in 166 of the 210 patients in this series. This is an incidence of 79 per cent. The responsibility for this delay was assigned as follows:

Delay in diagnosis by the patient: There were 101 cases that gave a history of definite symptoms for more than two months before visiting their physicians. This constitutes 48 per cent of the entire series. The delay averaged seven months.

Delay in diagnosis by the physician: There

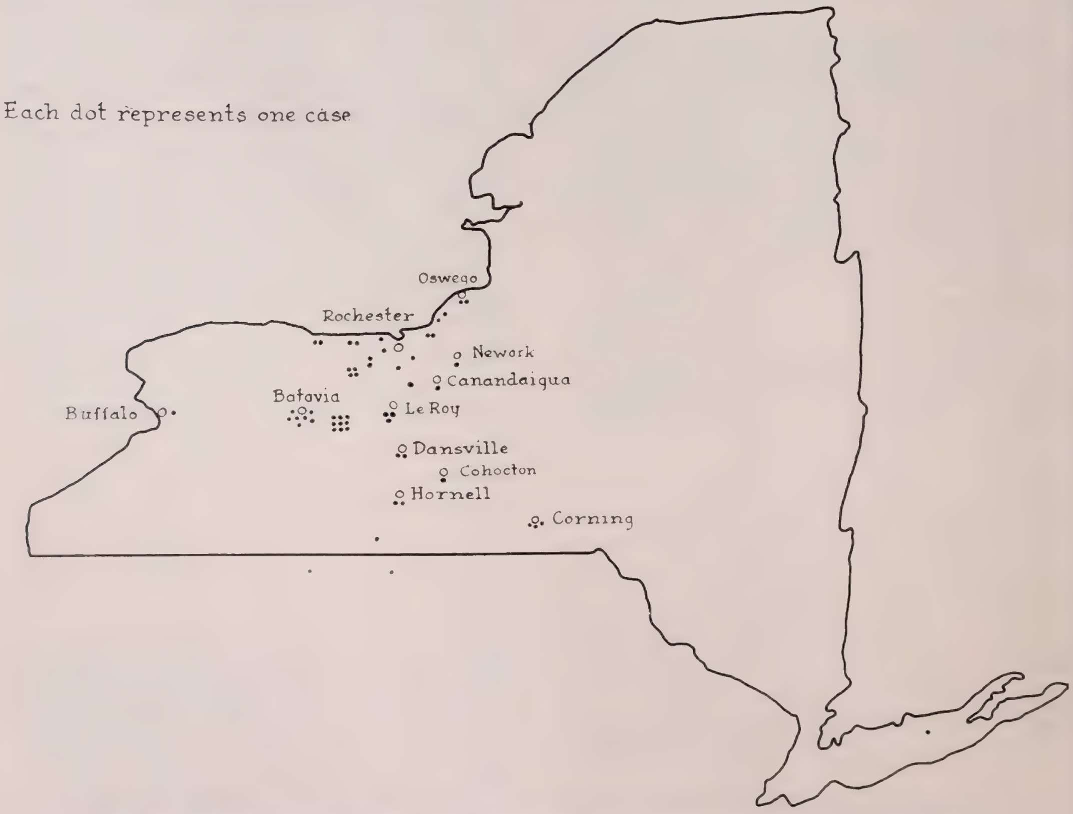
Each dot represents one case
Oswego
Rochester
Newark
Canandaigua
Batavia
Le Roy
Buffalo
Dansville
Cohocton
Hornell
Corning

FIG. 2. Distribution of 60 cases living beyond the metropolitan area included in the study.

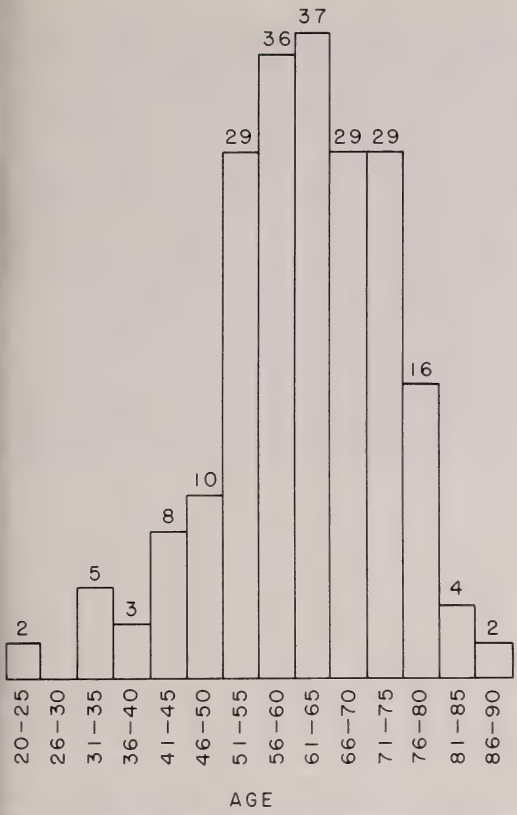

FIG. 3. Age and incidence of 210 cases of carcinoma of the colon.

were 65 cases in which the diagnosis had been delayed by the physician for one month or more. This is 31 per cent of the entire group. The delay averaged seven months.

Combined delay: There were 12 cases which are included in the two groups above in which the delay was the responsibility of both the physician and the patient. The average delay in this group was 8.7 months.

Delay in diagnosis by rural patients compared to patients living within metropolitan Rochester: Of the 60 patients living beyond the metropolitan area, there were 17 that gave a history of symptoms longer than two months before visiting their physician. This constitutes 29 per cent in contrast to the 56 per cent delay by patients living in Rochester.

Delay by physicians practicing in rural areas and small communities: Of the 60 patients seen by physicians in rural areas or small communities, there were 12 cases with a delay on the part of the physician. This is an incidence of 20 per cent.

Delay by Rochester physicians: There were 53 cases in Rochester and its suburbs in which there was a delay on the part of the physician. This is a little over 35 per cent of the group.

Physician delay and age of patient: An analysis of the age of the patients in which the physician had delayed the diagnosis revealed five cases forty years of age or under. There are ten cases in this age group, giving an incidence of 50 per cent.

Figure 1 shows the location of the 215 lesions in 210 patients. There were five anal carcinomas, 99 in the rectum, 40 in the rectosigmoid, 39 in the sigmoid, eight in the descending colon, six at the splenic flexure, five in the transverse colon, four at the hepatic flexure, five in the ascending colon, and four in the cecum.

Classification of the patients by age is shown graphically in Fig. 3. This was divided into five-year groups to demonstrate more effectively any marked increase in incidence that might exist between any small increment in age.

Pack and Gallo[3] in 1938, reporting delay in the diagnosis of 52 cases of carcinoma of the bowel, found the physician to be the cause in 50 per cent of the cases. In 1943[2] Harms of Yale University reported 36 cases with a 53 per cent incidence of delay on the part of the physician. However, these figures are not comparable to this series because of the time that has intervened, the fact that they were probably not all private cases, and also because they were seen in university medical centers rather than private practice. However, a delay by physicians in the diagnosis of carcinoma of the colon in nearly one third of private cases in New York State seems too high.

It is surprising that the delay in the diagnosis on the part of the physicians within a metropolitan area is higher than in small communities and rural areas. The incidence is 35 per cent and 20 per cent, respectively. The significance of these figures cannot be interpreted. They indicate, however, that physicians in rural areas and small communities certainly are doing as well diagnostically as those of us practicing within metropolitan areas.

The general practitioner often has been blamed for more than his share of mistaken diagnosis and delay in treatment. In the cases herein reviewed, half of the delay was the responsibility of general practitioners, and half was the responsibility of various specialists including internists, surgeons, roentgenologists, and five of professorial status. Two physicians delayed the diagnosis in

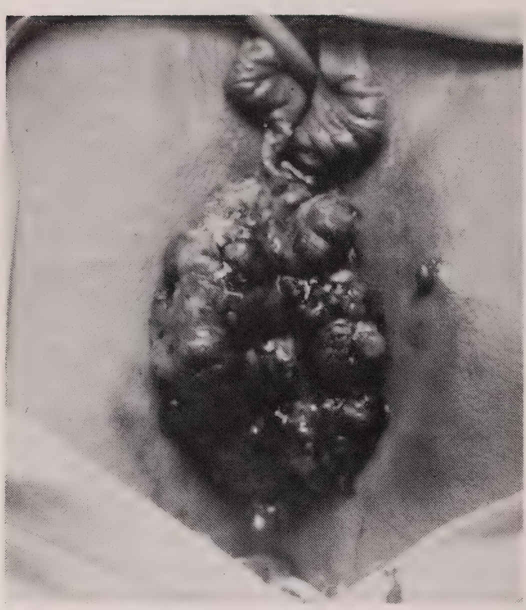

FIG. 4. *Case 1*—Adenocarcinoma of the rectum with perineal extension in a fifty-six-year-old female. Diagnosis delayed by the patient for eighteen months.

members of their own families, and one physician, after delaying the diagnosis in two patients, delayed the diagnosis in himself for nine months. To quote a truism, "the physician who treats himself has a fool for a patient."

A review of the age of the physicians responsible for the delay in the diagnosis did not reveal any concentration in any one group. There were about as many physicians under forty-five years of age as over forty-five.

Delay on the part of the patient is somewhat understandable in view of the fact that the commonest symptoms are bleeding or some disturbance in bowel habit. Unfortunately, bleeding from the rectum is very commonly attributed to hemorrhoids on the part of the patient. A slight change in bowel habit is usually not considered of much consequence by the patient. Time slips by quickly, and the patient often does not realize until asked that this disturbance has been present for several months.

The doubled incidence of delay on the part of the patient in a metropolitan area (56 per cent) compared to those living in rural areas and small communities (29 per cent) is difficult to explain. Perhaps word of mouth is more prevalent and more effective in smaller communities.

The age of the patient did not seem to influence delay on his part. Studies of delay in the diagnosis on the part of the patient by others[2,3] have shown that the older age groups tended to delay more than the younger groups. However, other studies were on malignancy in general. Table I shows the delay on the part of the patient according to age groups. No conclusions can be drawn from these findings.

TABLE I.—COMPARISON OF DELAY IN DIAGNOSIS BY PATIENTS AND AGE OF PATIENTS

Age	Number of Cases	Cases with Delay	Per Cent
86 to 90	2	1	50
81 to 85	4	0	0
76 to 80	16	9	56
71 to 75	29	13	45
66 to 70	29	11	38
61 to 65	37	16	42
56 to 60	36	27	75
51 to 55	29	12	41
46 to 50	10	5	50
41 to 45	8	5	62
36 to 40	3	0	0
31 to 35	5	1	20
26 to 30	0	0	0
21 to 25	2	1	50
TOTAL	210	101	48

Case Reports

CASE 1.—A fifty-six-year-old, unmarried female consulted her physician for the first time one and one-half years after the onset of rectal bleeding. For one year she had had a progressive anal protrusion, necessitating constant use of a perineal pad because of soilage and fecal incontinence (Fig. 4). She worked as an accountant in an office until ten days before operation. A small hepatic metastasis was found at that time.

CASE 2.—A fifty-nine-year-old, unmarried female consulted her physician after bleeding rectally for nine months and losing approximately 25 pounds in weight. The precipitating factor that brought her to the physician was vaginal defecation for the preceding ten days. Examination revealed a carcinomatous fistula, 2 cm. in diameter, between the rectum and the vagina. The latter was removed with the lesion. She lived one year postoperatively.

CASE 3.—A fifty-six-year-old, Italian male presented himself to his physician five months after the onset of rectal bleeding, rectal discomfort, weight loss, and cramps. A diagnosis of carcinoma of the rectum was made immediately, but he refused hospitalization. After several months he went to Italy to seek nonoperative treatment. He was completely obstructed when he arrived, and the lesion was "cored out" to relieve the obstruction. He returned to the United States and presented himself to the same physician nineteen months

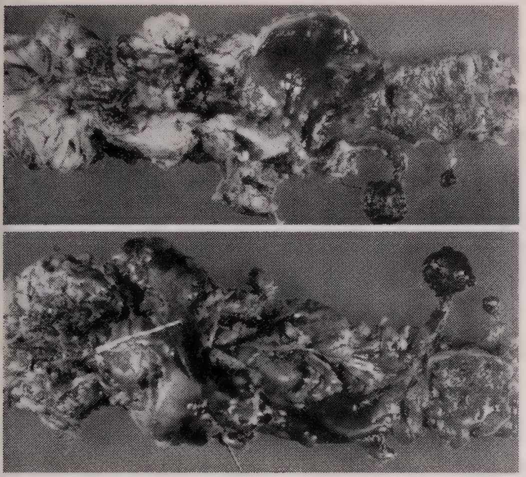

Fig. 5. *Case 3*—Patient delay nineteen months. Carcinoma of the midrectum perforating the trigone of the bladder; polyps of the lower sigmoid (*top*). Anterior surface showing probes in both ureters and perforation into the trigone of the bladder (*bottom*).

after operation was advised. Although the lesion involved the bladder, the prostate, and most of the pelvis, the liver was not involved. A combined abdominoperineal resection with total cystectomy, prostatectomy, and bilateral ureteral transplant was done. He died thirteen months later (Fig. 5).

We commonly think of malignancy of the colon as a disease of old age. However, many cases occur under fifty, and the incidence of delay by the physician is much higher in the younger age group, being 50 per cent in patients under forty years of age (Table II). This emphasizes the fact that rectal symptoms in any age group demand sigmoidoscopy.

Figure 3 shows the marked increase in the incidence of carcinoma between the age of fifty-one and fifty-five compared to the preceding five-year period. This represents an increase of 200 per cent between these two five-year periods. There is only a slight increase between this five-year period and the next five-year period, fifty-six through sixty.

Until the cause for malignancy is found, thus allowing us to attack it directly, we must be content to treat carcinoma of the colon surgically. It is highly improbable that any new surgical technics will be developed that will radically change our present five-year survival rates. In a study of over 2,000 malignancies of the colon by Dixon, Mayo, and Remington,[5] the five-year survival rate was found to be approximately 75 per cent if no lymph nodes were involved and 30 per cent if the regional glands were involved. This great differential in the five-year survival between these two groups is the most fertile field in which to concentrate our clinical efforts to cure carcinoma of the colon. Herein lies the golden opportunity. It is a challenge and a responsibility for all clinicians.

TABLE II.—Comparison of Delay in Diagnosis by Physicians and Age of Patients

Age	Number of Cases	Cases with Delay	Per Cent	
86 to 90	2	0	0	
81 to 85	4	0	0	
76 to 80	16	4	25	
71 to 75	29	7	24	
66 to 70	29	12	41	
61 to 65	37	14	38	
56 to 60	36	11	31	
51 to 55	29	9	31	
46 to 50	10	3	30	
41 to 45	8	0	0	
36 to 40	3	1	33	average 50
31 to 35	5	2	40	
26 to 30	0	0	0	
21 to 25	2	2	100	
Total	210	65	31	

Case 4.—A fifty-six-year-old female was treated locally for hemorrhoids for two months by a surgeon. When she failed to respond, a complete rectal examination revealed a rectal carcinoma. The liver was not involved at the time of the abdominoperineal resection, but the nodes were involved. She died one year later of massive hepatic metastases.

Case 5.—A fifty-seven-year-old male gave his physician a history of change in bowel habit, weight loss, and anorexia. He was treated with potassium iodide and booked for thyroidectomy. The night before the scheduled operation, a medical student extern found the lesion on routine rectal examination. The patient is alive six years later.

Case 6.—A fifty-eight-year-old male consulted his physician at the onset of symptoms of rectal bleeding, diarrhea, and dysuria. The bowel symptoms were considered colitis, and he was hospitalized for cystoscopy, which was negative. His symptoms continued while he was under the physician's care, and he was referred to a medical center. Again he was cystoscoped because of the urinary frequency and dysuria, and a diagnosis of prostatitis was made. After eleven months he was sigmoidoscoped, and a carcinoma was found in the upper rectum. A two-stage operation was necessary at this time since the bowel was completely obstructed. When the rectum was resected at the second stage, it was necessary to do a partial cystectomy because the posterior wall of the bladder was involved. He was well when he committed suicide two years later.

CASE 7.—A sixty-year-old male consulted his physician at the onset of rectal bleeding, weight loss, and fever to 104 F. He was admitted to a hospital for diagnostic studies to determine the cause of the fever. Blood studies and cystoscopy were negative. A diagnosis of diverticulitis was made after barium enema studies. His symptoms of fever persisted, and he was referred to a diagnostic medical center. Blood studies and cystoscopy again were negative. Barium enema studies were not done. He was treated symptomatically for another six months. Sigmoidoscopy then was done for the first time. At operation a low sigmoidal carcinoma was resected. It was necessary to remove all the bladder except the trigone and a small portion of the dome. He is alive and well with normal bladder function three years later.

CASE 8.—A fifty-five-year-old, unmarried female consulted her physician complaining of epigastric distress, loose stools, and weight loss. Upper gastrointestinal x-ray studies suggested a duodenal deformity. No rectal examination was made. She was placed on an ulcer diet and given some type of injection for her appetite when her weight continued to decline. After one and one-half years of this treatment she was admitted to the hospital for studies and treatment. Two weeks after her admission upper gastrointestinal x-rays failed to reveal any duodenal ulceration. At the time of barium enema studies ten days later, barium was still present in the colon from the previous studies. A rectal examination revealed a palpable lesion 4 cm. above the anus. A palliative colostomy relieved the obstruction for three months when she expired from widespread metastases.

The vast majority of patients in whom carcinoma of the colon is found and practically all when they first seek medical advice appear as healthy as the average patient visiting his local physician. Cachexia, emaciation, and dehydration are seen only after long neglect by the patient, his physician, or both.

Examination of the stool for occult blood should be done by all practitioners of general medicine and surgery. A kit costing approximately one dollar will test 60 specimens. This simple test can be done by using the stool obtained on digital or proctoscopic examination. It is not necessary and often is undesirable to have the patient bring in a stool specimen.

Approximately 70 per cent of all lesions of the colon are found in the rectum, rectosigmoid, and the anus (Fig. 1). Most of these lesions can be palpated by careful rectal examination. Many lesions in the rectosigmoid well beyond the reach of the finger can be palpated if the patient bears down during the examination. Quite often lesions in the sigmoid can be palpated as an extrarectal mass. A common error is to consider a rectal examination as palpation to or just above the prostatic level in the male or a similar level in the female. The valves of Houston can be palpated easily on adequate digital examination. This is accomplished by rotating the palm of the hand posteriorly toward the coccyx and pushing up vigorously as the patient bears down.

Sigmoidoscopic examination will reveal many of the 18 per cent of the carcinomas of the colon that occur in the sigmoid. Not all lesions in this area can be visualized due to angulation or fixation of the bowel. However, blood often can be seen coming from above.

Lesions above the level of visualization can cause vague abdominal symptoms. Two of the cases in this group had been treated for prolonged periods for gallbladder disease in the presence of a carcinoma of the hepatic flexure. The rather high incidence of asymptomatic cholelithiasis in persons over forty years of age may cause a grave error in diagnosis and delay treatment of carcinoma in the region of the hepatic flexure of the colon. Vague epigastric symptoms often associated with such carcinomas and the absence of *visible* blood in the stool can focus attention on the gallbladder, especially if stones happen to be seen on cholecystogram. A careful history and a complete examination, including a search for occult blood in the stool, should establish the diagnosis early in the course of the disease.

The danger of treating anemias of unknown etiology has been mentioned frequently in the literature. Several of the cases in this study with carcinoma in the right half of the colon had been treated for anemia for prolonged periods.

A diagnosis of diverticulitis can be dangerous. A carcinoma may be present below the diverticulitis, or the roentgenologist may be mistaken. Both of these errors occurred more than once in this study. Any patient that needs a barium enema should have first a rectal examination followed by sigmoidoscopy. The presence or absence of occult blood in the stool will help in the differentiation since diverticulitis rarely bleeds.

Finney and Stone[6] have called attention to the false sense of security and irreparable harm engendered by falsely reported barium enema studies. We should not hesitate to have x-ray

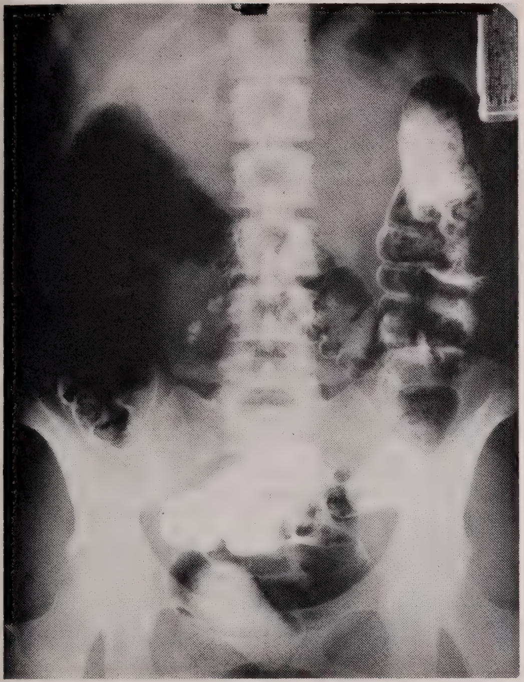

FIG. 6. *Case 9*—Splenic flexure lesion unnoticed by roentgenologist. The lesion appeared the same as the original film (shown here) when found on x-ray examination one year later.

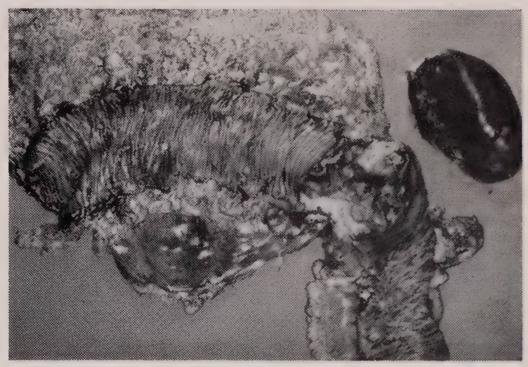

FIG. 7. *Case 9*—Carcinoma of the splenic flexure and adherent spleen. Physician delay one year. Patient alive seven years later.

studies repeated, and preparation for such studies should be with 2 ounces of castor oil. If the referring physician would review the films with the roentgenologist, the adequacy or inadequacy of the examination could be mutually determined. The following case illustrates this point.

CASE 9.—A thirty-two-year-old female consulted her physician at the onset of rectal bleeding. Barium enema studies by a qualified roentgenologist were reported as negative. The bleeding then was thought to be from hemorrhoids, and the latter were excised. She continued to bleed, and sigmoidoscopy revealed blood in the sigmoid. Barium studies at this time by the same roentgenologist demonstrated a lesion at the splenic flexure. Review of the original films taken one year before revealed the lesion to be present at that time (Fig. 6). At operation the lesion was resected widely, removing the transverse and descending colon (Fig. 7). The patient is alive and well seven years later.

Comment

This study is not meant to be a criticism of any group of the medical profession nor of physicians as a whole. There always will be insidious cases that will defy early diagnosis. However, the ease of diagnosis of most cases by rectal examination, examination of the stool for occult blood, and sigmoidoscopy gives us a golden opportunity to salvage many people who otherwise will die needlessly of carcinoma of the colon. The importance of a careful history and functional inquiry of every patient cannot be stressed too strongly. While not consistent with social amenities, it might be more profitable to greet Mrs. Smith with an inquiry concerning her daily bowel habit than our usual comments concerning the weather.

Recent comparative studies of all types of malignancy in New York State by Wiggins *et al.*[4] indicate that there has been an actual increase in delay in diagnosis by physicians. A tremendous stride can be made in a very short period of time if a few simple things are done. This does not involve anything that any physician has not heard repeatedly, and it does not involve any new procedures or examinations. If rectal bleeding is considered to be due to carcinoma until proved otherwise, many more patients will be cured of carcinoma of the colon. Policies of containment or "wait and see" have no part in our attack on carcinoma. The fateful *moment of some hour of some day* when a cancer changes from a curable lesion to a hopeless disease merits our thoughtful consideration.

Summary and Conclusions

1. A study has been made of 210 cases of carcinoma of the colon seen in private practice.
2. Delay in the diagnosis was present in 79 per cent of the cases.

3. Delay in the diagnosis was the responsibility of the physician in 31 per cent of the cases.

4. Delay in the diagnosis was the responsibility of the patient in 48 per cent of the cases.

5. Delay in both groups was approximately seven months.

6. In the metropolitan area studied the delay was greater on the part of both the patient and the physician than in the small communities and rural areas included in the study. Delay among patients residing in the metropolitan area compared with rural areas and small communities was 56 per cent and 29 per cent, respectively. Among the physicians it was 35 per cent and 20 per cent, respectively.

7. Delay in the diagnosis by physicians of many hospital staffs was the responsibility of general practitioners in 50 per cent of the cases and of specialists and medical centers in the other 50 per cent.

8. The first physician seen by the patient following the onset of symptoms very often determines whether a carcinoma of the colon is cured or whether it kills the patient.

9. The diagnosis could be made earlier in many cases if every clinician would routinely test the stool for occult blood. A kit for this purpose is available for approximately one dollar.

10. Any patient who has indications for barium enema studies has indications for sigmoidoscopy.

11. Establishing the diagnosis rather than the operation is the greatest problem in the management of carcinoma of the colon.

MEDICAL ARTS BUILDING

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Camping

One of our small boys was considering going camping again this summer and he decided to check his camping equipment—so he tenderly unrolled his sleeping bag—which was stored away after last summer's safari to the woods—and there in the folds of this canvas sleeping compartment was his favorite Boy Scout knife—which had been considered lost to this time—and in addition, neatly flattened out—was a somewhat macerated—slightly deceased—toad.

It seems that it will be quite necessary this year to have a coonskin hat for any camping jaunts as no one would dare take to the woodlands without the traditional sign of the frontiersman—a Davy Crockett coonskin hat.

These modern Boy Scouts are well equipped with flashlights, axes, knives, canteens, and compasses—and just in case they can't develop enough friction between two pieces of wood—they take a few boxes of matches along—just in case. For essential food on a trip—they lug along about ten Hershey bars, which usually disappear down the hatch promptly after they are about one block from home. And one more thing—they mustn't forget to take their favorite pistol—a water pistol no less—which for an extra trick, you can fill with catsup.

You parents have to be very careful nowadays when your children go to camp because according to the psychopathologists and couch-coaches, they may develop serious frustrations—all because they did not have access to television in the woods. Don't let your child develop television neurosis—buy him a portable television set to take with him on camping trip—one that can be buckled on to his already overloaded belt. He's got so many things attached to that belt now that his pants are down about knee level—and just one more little item such as a television set—would bring the pants down for the last final act of this juvenile drama.—*Rant and Rave, Detroit Medical News, June 27, 1955*

Anesthesia and the General Practitioner

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WITHIN the past few years major changes have taken place in anesthesiology. It is both fitting and timely to review some of these developments from the point of view of the general practitioner. He has a vital interest in the subject, not only in relation to the welfare of his patients, but also because it is he who administers a considerable proportion of the total annual number of anesthetics.

One of the more important recent contributions in anesthesia has been the forceful demonstration that the safety of the patient during anesthesia is a real and major problem. Recent data obtained from a study to determine the anesthetic death rate on a statistically valid basis have shown that there is one death primarily due to anesthesia for every 1,600 anesthetics of all types administered.[1] This figure of 1:1,600 brings the question of safety abruptly out of the realm of the academic when it is realized that approximately seven million anesthetics are given annually throughout this country. This figure also indicates that in the course of any single anesthetist's experience there may be long periods without any fatalities. He may believe that because he has been using a given technic without having any trouble, the technic is safe. Safety based on recognized physiologic and pharmacologic principles is not synonymous with the ability to "get away with" a calculated risk a certain number of times. The mere fact that one successfully assumes a calculated risk 500 times in a row is no criterion of safety, nor is it any consolation if the 501st case is fatal.

The safety of the patient being the prime consideration in anesthesia, several corollaries follow. First of these is that although there may be minor operations, no anesthetic can be considered minor. Second, the safety of a given agent or technic is to a certain degree dependent upon the skill, training, and abilities of the person administering the anesthetic. All anesthetists do not have equal training or skills, and, therefore, in the interest of safety one should limit the agents and technics used to those with which one has had the greatest experience. It is safer to do this than to emulate someone else more highly trained, often with disastrous results. Highly recommended postgraduate courses are available at various institutions through the New York State Society of Anesthesiologists for any physician desiring to increase his training in anesthesia. The third corollary is that it is much better to keep out of trouble in anesthesia than it is to make even the most spectacular recovery from a dangerous situation. To use a somewhat timeworn but nevertheless apt analogy, golf and anesthesia have much in common. It is much better to learn how to keep out of sandtraps than it is to learn how to get out of the trap once there.

In order to assure maximum safety there are certain situations that must be recognized in advance as potentially dangerous. High on such a list is the presence of a full stomach. The contents of the stomach may be either undigested food or blood, the latter having been swallowed after maxillofacial injuries or the result of gastrointestinal bleeding. Vomiting with aspiration is today perhaps the foremost preventable cause of death during general anesthesia.[2,3] Vomiting can occur with any general anesthetic agent. Although relatively infrequent during thiopental anesthesia, when it does occur, it is considerably more dangerous than vomiting during an inhalation anesthetic. Because of the danger of vomiting no general anesthetic should ever be given without suction readily available. The best way to prevent vomiting is to avoid giving a general anesthetic in the presence of a full stomach. It is impossible to give categorical time limits that will indicate when a full stomach may be assumed to be empty. The normal stomach empties itself in about four hours, but pain and fear, as with an accident, stop normal emptying almost completely, especially in children.[4]

Necessary emergency surgery in the presence of a full stomach should be done under conduction

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anesthesia if possible, nerve block for the upper extremity and spinal anesthesia for the abdomen or lower extremities. If, however, surgery is imperative and it *must* be performed under general anesthesia, then one of two things must be done. Either the stomach must be completely emptied with a large gastric tube, or an endotracheal tube must be gently put in place under carefully applied local anesthesia before the patient is put to sleep. Neither of these maneuvers is pleasant for the patient, but since safety and not comfort is the first consideration, one or the other must be done.

The second most frequent, potentially dangerous situation in anesthesia is hemorrhagic shock, most often seen after acute traumatic injuries, severe upper gastrointestinal bleeding, and with certain obstetric complications. In these cases every effort should be made to restore the blood volume preoperatively by whole blood transfusions. Restoration of the blood volume to normal, as clinically evidenced by return of normal pulse and blood pressure, is not required. Instead, it has been proved to be necessary to give only enough blood so that the pulse rate is slowing and the blood pressure has risen to 80 mm. Hg systolic before starting anesthesia and surgery.[5] Spinal anesthesia and intravenous barbiturates are poorly tolerated and best avoided in the presence of actual or impending peripheral vascular collapse. Either cyclopropane or ether, slowly and carefully administered, are the anesthetic agents of choice in oligemic shock.

Although there are many other potentially dangerous situations in anesthesia, there is one relatively new hazard which deserves special emphasis. It concerns the patient who has been on cortisone in the past. After cortisone has been administered continuously for a period of time, adrenal atrophy may develop. If the cortisone is then omitted, subclinical Addison's disease may ensue. Giving anesthesia to these patients with hypoadrenalism may precipitate a severe and fatal Addisonian crisis. The literature already contains references to sudden death from irreversible shock due to this sequence of events,[6,7] and with the increasing use of cortisone the frequency of such fatalities will undoubtedly rise. The maintenance dose of cortisone used in the reported cases is often small and the duration of its administration surprisingly brief. This type of reaction bears no relation to the type of anesthesia or to the magnitude of the surgery; one of the reported deaths occurred after a bunion operation. This increasingly frequent situation is so incipiently disastrous that all patients should be specifically asked, before they are given any anesthesia, whether they have received cortisone in the past. If they have received a daily dose of 25 mg. of cortisone or more for a period of two weeks or more within the last six months, they should not be given an anesthetic for elective surgery until they have been properly prepared. This preparation consists of three intramuscular injections of 200 mg. of cortisone each: one injection two days before surgery, another on the day before surgery, and the third immediately prior to surgery. Postoperatively the cortisone should be tapered off gradually, decreasing the dose by 25 mg. daily. Failure to take these preventive measures is not compatible with the patient's maximum safety.

In addition to recognizing these possibly dangerous situations, the anesthetist must be aware of the limitations and the contraindications of the various technics and agents. For example, a local anesthetic agent should never be used unless its recognized maximum safe dosage limits[8] are known. Failure to stay within these accepted dose ranges is now recognized as being responsible for the large proportion of reactions to local anesthetics. Very rarely indeed are these potentially fatal reactions due to true hypersensitivity on the part of the patient. Similarly, if epinephrine is used to prolong the duration of a local anesthetic, it should be recognized that its optimum concentration for this purpose is 1:200,000.[9] Exceeding this merely increases the incidence of epinephrine reactions.

Spinal anesthesia is a highly useful technic but one which occasionally meets with patient and even physician opposition, opposition which is more often based on emotional reaction than scientific observation. Accidents do happen with spinal anesthesia as with any other technic, but the vast majority of these are now regarded as avoidable if two factors are borne in mind. The first is that from the point of view of possible neurologic sequelae, chemical contamination of drugs being used is today probably the most frequent single factor.

Ampuls of local anesthetic agents used for spinal anesthesia must be autoclaved to ensure sterility, not soaked in bactericidal solutions. The risk of invisible cracks in the ampuls, allowing the sterilizing solution to enter, is too great.[10]

In addition, the spinal sets used should be prepared so as to be *chemically* clean. They should receive as much, if not more, care than intravenous sets to be sure that they are free of detergents, pyrogens, and other foreign chemicals. Spinal anesthesia is only as safe as the set is chemically clean.

The second factor in the safety of spinal anesthesia concerns the management of an inadvertently high block with consequent cardiovascular collapse and/or respiratory arrest. The anesthetist giving a spinal should temporarily become a pessimist, assume that an inadvertently and dangerously high level will result, and be prepared in advance to treat it. A spinal should never be given unless an anesthesia machine is ready at hand to give immediate artificial respiration with 100 per cent oxygen. If artificial respiration is necessary, any delay may be fatal. If it becomes obvious that the spinal is going too high, the head of the patient should *not* be elevated to prevent its further ascent. To do so will produce severe hypotension and even cardiac arrest due to peripheral pooling of the blood. It is now recognized that the venous return to the heart must be kept adequate in this situation in order to maintain cardiac output. This can be done by elevating the legs or putting the patient in slight head-down position. There is no need to fear that the local anesthetic agent will ascend high enough to block either the phrenic nerves[11] or the medullary centers.[12] Respiratory arrest during spinal anesthesia is primarily the result of medullary ischemia secondary to decreased cardiac output and inadequate cerebral blood flow.

Muscle relaxants, such as curare and succinylcholine, have proved to be invaluable adjuncts to modern anesthesiology, but the initial enthusiasm for their use is now tempered by recognition of their dangers. They should be used only when definite indications exist and certainly never to smooth over an otherwise unsatisfactory general anesthesia. The anesthetist employing them must respect their individual and well-recognized pharmacologic contraindications. The safety of these agents depends a great deal on the skill of the person administering them, and they should be used only if the anesthetist is trained to do endotracheal intubation under even the most adverse conditions and only if he is also trained in the technics of fully adequate artificial respiration.

In modern anesthesia ventilation adequate to maintain normal oxygenation is relatively easily accomplished, but providing gas exchange adequate to prevent carbon dioxide accumulation is more difficult. Respiratory acidosis is a dangerous entity in an anesthetized patient and one which can be prevented following the use of muscle relaxants only by devoting one's undivided attention to meticulously careful artificial respiration. Unless one's skills and training are such that endotracheal intubation and physiologically normal ventilation can invariably be accomplished, curare-like drugs should not be used.

In this brief review only one inhalation anesthetic agent can be considered, and so it may be profitable to emphasize some of the less widely appreciated limitations of trichlorethylene (Trilene, Trimar). This drug is a highly useful inhalation analgetic, but it is unique among inhalation agents in that it is the only one which is not completely excreted by the lungs. Approximately 20 per cent of the inhaled trichlorethylene is metabolized, about half to trichloracetic acid and half to trichlorethanol.[13] This metabolism takes place extremely slowly; after less than one hour of analgesia with trichlorethylene, these metabolic products are detectable in the urine for six days.[14] The trichloracetic acid is biologically inert, but the trichlorethanol is in itself a depressant (the hypnotic effect of chloral hydrate is due to its conversion to trichlorethanol[15]). This means that unlike any other inhalation agent there may be a cumulative effect with trichlorethylene. In order to avoid possible accumulation, trichlorethylene probably should not be used for more than two hours continuously and should not be given more often than once a week to the same patient. One further action of trichlorethylene should be mentioned; like chloroform and cyclopropane it sensitizes the heart to the effect of epinephrine[16] so that the combination of the two should not be used for fear of precipitating ventricular fibrillation.

Summary

The general practitioner plays an important role in anesthesia. Since safety of the patient is his prime responsibility, situations in anesthesia which are potentially hazardous have been reviewed, together with the limitations and contraindications of some of the more frequently used anesthetic technics and agents.

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New Words for Old

Will Osler wrote his classic works, in language clear and simple:
An "Epidermal pustule" he was apt to call a "pimple."
We docs today don't write that way: we like to show our lore
By massing polysyllables till they trickle out the door.
"Prior (or previous) to," we say, but never once "before."
Disease "eventuates," not "ends," when stops the halting breath;
And "a fatal termination" takes the place of dusty "death."
But before this the "decedent" has ceased to be a man,
For not a "person" but a "case" fits in our modern plan.
Simplicity, to an M.D., has fallen 'neath a ban.
"Essential," "necessary" acts today are "mandatory";
"Sanguineous" is the word to use for "bloody," "bloodstained," "gory."
If, "ambulating" down the street, we tangle with a cab,
To "quantitate" our blood loss is the function of the lab.
(Such gibberish is never heard, when we just stand and gab.)
These sad "traumatic episodes" have nowadays "cause,"
Only an "etiology". . .a word which laymen awes.
We've shed "partial" for "subtotal," and "use" for "utilize":
The jargon of psychiatry merits a special prize. . . .
And Osler groans from Heaven, "Write ENGLISH, d--n your eyes!"

—*Canad. M.A.J., Mar. 15, 1955*

The Food and Drug Administration—Our Mutual Responsibility

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IT IS a distinct pleasure to appear on this program today and to have the opportunity of discussing a phase of medicine and a section of the Federal law which intimately and basically concern each of you each day that you practice the profession of medicine. This law really is a free insurance policy to you the physician, to your patient, to the patient's family, and to your own family.

I should like to go back and examine briefly some of the concepts which led to its origin. Prior to 1906 there was no Federal legislation which required proper and truthful labeling of foods and drugs. Unfortunately some manufacturers had less concern for the continuing welfare of their customers, and the continuation and growth of the potential market they constituted, than they did for their own immediate financial welfare. This engendered an era of irresponsibility and lack of social conscience which we as physicians can but condemn under any circumstances and at any time; to do otherwise we would clearly disqualify ourselves as physicians of integrity on every precept of decency and at every point of the compass.

We all are aware of the difficulties encountered in dealing with social and moral concepts. Most would readily agree that social and moral progress is even more difficult of achievement than is scientific and technologic progress; rarely does the social surpass the scientific, whether viewed realistically, esthetically, or, with your permission, scientifically. Yet this is not the entire story, and I believe it is noteworthy, for despite the relative lag of the social, the scientific cannot be irresponsible, irresponsive, or irrecusable. This is borne out by the enactment of the present Federal Food, Drug, and Cosmetic Act in 1938 which was in large part a reaction to an action. The action: a company marketing a product which killed 105 people because the firm failed to find out whether it was safe for human use before they sold it. The reaction: Congressional insertion just before enactment of the Federal Food, Drug, and Cosmetic Act of 1938 of a requirement that the manufacturer demonstrate the safety of all new drugs prior to marketing. It further places the responsibility for the administration and enforcement of this law in the hands of the Food and Drug Administration. But who is the Food and Drug Administration? We are a small group of approximately 800 public servants, less than one tenth the size of the police force of New York City. We are charged with the responsibility for insuring the purity, safety, and integrity of the entire nation's food and drug supply. This, incidentally, represents about 60 billion dollars a year of our total economy. The Food and Drug Administration appropriation represents a cost of only $3^1/_4$ cents per person per year.

Now, one might appropriately query, "What about the title of this paper—what are these so-called mutual responsibilities? Why are we as practicing physicians concerned with Federal law enforcement?" These are valid questions, and I should like to answer them in some detail.

In the first place, you, a physician, bear heavy responsibility to many but, in the final analysis, to only a few: to your patients and to yourself. You exercise your skill first by establishing a correct diagnosis and then by prescribing adequate drug therapy. You rely on that therapy, and, because you do, so does the patient and his family who have placed their confidence and, in fact, their lives in your trust. When you make an emergency call, with the patient acutely ill, once the diagnosis is established you may reach in your bag, or you may call the all-night drug store. Do you stop and ponder whether the penicillin labeled 600,000 units really is 600,000 units or perhaps only 8,000 units? I don't believe so. Although we are doctors, we are human just like our patients. We take a lot of things for granted; in other words, we have confidence—confidence in the integrity and reputa-

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tion of the drug manufacturer whose products we use or prescribe. You properly and justifiably can have confidence in the greatest pharmaceutic industry in the world. As you have contributed to medical research and the understanding of disease, so they have contributed increasingly successful therapeutic advances which are now indispensable to our professional ministering.

Wherein, then, lie the problems? There are several, and in most instances they are joint problems of the medical profession, the drug manufacturer, and the Food and Drug Administration. The law serves as a basis for establishing high standards of safety and, to some extent, efficacy of drug products. Thus it requires the exercise of a high degree of manufacturing skill and scientific integrity, which have resulted in producing better products. It has created performance standards which act as a judicious deterrent to the untutored, the untried, and the unsound. In these ways this strict regulatory law has literally helped the reputable drug manufacturers better to serve you and your patients. This, too, is a part of your free insurance and should not be relegated to the unread, fine-print section of the policy. Your awareness of the provisions of this law—and we'll be glad to send you a copy upon request—will better enable you to help insure its successful application and thereby continue to reap the benefits of its impartial administration. This, I believe, is an important part of your professional responsibility. It has many implications and is demanding in its ramifications.

For example, the subject of drug reactions is of primary concern to you, to the manufacturer, and to the Food and Drug Administration. Some of these are serious indeed. To know of them is to provide a basis for study and perhaps a means of prevention or proper therapy. Much of the labeling and package insert information is designed and required solely for your benefit. When we are unaware of serious reactions, neither the manufacturer nor the Food and Drug Administration can take necessary steps to remedy the situation or forewarn you or your colleagues. Yet such information more freely available within the medical profession and in your own hands might give you the welcome opportunity to avoid an embarrassing therapeutic misadventure. All too often, however, we encounter a notable attitude of noncooperation which ill befits the stature of the medical profession. The reporting of drug injuries and drug deaths in the scientific literature, to the manufacturer, and to the Food and Drug Administration is analogous to a premium payment on your insurance policy. When not paid in terms of prompt reporting, then full coverage in terms of useful information cannot be insured. We need your help and cooperation in adequate reporting of drug injuries if we are to assist in preventing them. The Federal Food, Drug, and Cosmetic Act is not designed to regulate or control the practice of medicine. Your communication and identity can be held in confidence, although it hardly seems necessary. Our sole concern is the development of information which will further increase the knowledge of safe and efficacious use of drugs—a goal, which beyond doubt, we jointly share.

Many physicians are called upon by manufacturers to undertake clinical investigative studies employing various new drug products. The work you do with the product is frequently the basis for major decisions by the sponsoring firm. One sometimes wonders how many good drugs, perhaps lifesaving drugs, have been rejected or passed over on the basis of inadequate clinical work or perhaps incorrect interpretation of clinical results, thereby causing the data to appear unpromising. Contrariwise, you are all familiar with the ill-conceived or overenthusiastic semantic exercise which sanctimoniously makes its literary debut. These papers are a drug on the market, and, like their prolific authors, they often beget a drug on the market.

As you study a drug and write about its actions, its untoward effects, and its contraindications, you bear a sobering responsibility. You are as the mapmaker; others will follow your route; be sure it is well-marked and accurate. Do not mistake or miscall a third-rate country road for a modern throughway. Others will be misled and perhaps not arrive on time or, more important, in time. The manufacturers must place great confidence in your data and in you as an investigator. They most sincerely try to avoid being misled; for them it can only mean untold troubles, and they know it. A therapeutic mistake with one patient is always unfortunate and regrettable; one mistake with a widely distributed drug can involve scores or hundreds and may be a real tragedy. There is ample room for honest differences of opinion in this medicine business, but there is little room for differences when concepts of safety are paramount. It hardly need be said there is no room at all for carelessness. It seems inescapable that these same tenets apply to the medical literature and to its authors.

One provision of the law prohibits the sale or dispensing of certain drugs without a proper prescription from a practitioner licensed by law to administer such drugs. This, in effect, requires that the pharmacist follow your instructions, or in their absence he must refuse to fill the customer's request. If the latter is for a refill of a prior prescription, he must check with you for approval unless you have given specific refill instructions on the original prescription.

On occasion it is our duty under the law to prosecute some pharmacists for failing to observe these provisions. This problem involves the physician in many ways. In the first place, you do not want, and as physicians certainly could not endorse, having your patients gain unrestrained access to potentially harmful drugs such as the amphetamines, barbiturates, sex hormones, and others.

Our program in this phase of enforcement is that of responding to complaints against pharmacists engaging in illegal selling practices. A large number of such complaints come from physicians themselves who see the often serious results of this pernicious money-grabbing. We also get informative complaints from local police departments, dismayed families and relatives, disgruntled customers whose supply has been shut off, state pharmacy boards, and also from honest pharmacists in the same locale. Only upon receipt of a complaint do we assign a Food and Drug Inspector to the case. His job is to determine the validity of the complaint. He will attempt to make over-the-counter buys of prescription label drugs. If this is successful, he will repeat the buys on several occasions to substantiate fully and document the case and thereby establish the willful disregard of the law. The inspector is also called upon to investigate illegal refills of dangerous drugs. Obviously to do this he must first obtain a prescription from a physician in the community, have it filled, and subsequently try to get it refilled without the physician's authorization. In such instances, the inspector always identifies himself to the physician, explains the situation and the purpose of his visit, and seeks the doctor's cooperation to write a prescription for him. It is made clear that if the complaint is substantiated, the doctor may be called to testify in court. By and large the cooperation is received, but it is still surprising, and somewhat distressing, to find quite a few who refuse to help uphold the law. The excuses are varied: "I don't have time," "I don't want to appear in court," "This will hurt my reputation with the druggists," and some even express the view that since the inspector is not really a bona fide patient, it is a violation of the Federal Food, Drug, and Cosmetic Act to write the prescription.

Parenthetically it should be made clear that the licensure privilege is granted solely by the state boards of medical examiners and not by the Federal Food, Drug, and Cosmetic Act. In no community or hamlet in all of this land is it illegal for a policeman to exceed the speed laws to catch a speeder. This so-called legalistic logic is patently illogical. We have here at hand a problem which strikes right at the roots of integrity, good citizenship, and professional ethics. Are we or are we not to believe in professional ethics? Are we or are we not to believe in the principles of our common protection and the law of our land? The medical profession itself is demanding, but so must we be the first to meet our own demands. There is no alternative; the privilege of the prescription is yours; you as individuals worked for it and worked hard. You wouldn't knowingly let someone steal your car or your property. I submit to you that the integrity of your prescription is also your property—a very valuable property. It warrants your defending it and preserving it. The Food and Drug Administration was established to protect the American consumer, you, and your patients.

Now, there is another side of the problem. It is one we hear too frequently. Many doctors are reported to be somewhat disinterested or even indifferent to the pharmacists' obligations to abide by the law. Let me read you a quote from a pharmacist. He states: "There are, thank God, a great many physicians who are themselves inclined to be of utmost service to the patient, and the FDA will not approve when I relate here their words spoken soon after the Durham-Humphrey law was passed. I was then a pharmacist, and all of us pharmacists set out to abide by the new law, which we had posted on the wall. After a week or two a doctor talked to me on the phone. His words, in essence, were these, 'Any damn prescription I ever write can be refilled at any time. If I did not want it refilled, I would not have written it in the first place, and I don't want to hear of any SOB refusing to refill one for my patients. Get that?' The doctor's wishes were typed and posted for all the pharmacists to see."

I continue the quotation: "Another physician, a specialist in obstetrics, rushed into the pharmacy one day and said, in essence, 'Who the hell is running my practice? Whenever any of my patients call for a prescription refill, give it to them. Miscarriage hangs by a thread in a lot of my cases. If any of my pregnant patients want a refill on Seconal or anything else, give it to them, or you'll hear from me!' In this city one physician does not wait to learn the name of the drug and at times not even the name of the patient before he cuts in with 'That's all right.' "

I wish to make it very clear that this law does not seek to regulate or control the practice of medicine or the practice of pharmacy. It does seek to insure that certain types of drugs that have been shipped in interstate commerce are used only under medical supervision. To accomplish this the law requires that these drugs be sold only on prescription and that the prescription be refilled only as authorized by the physician.

It is clear, then, that the pharmacist sometimes is forced to choose between losing the regular prescription business of some doctors or breaking the law. Of course there really is no alternative when a physician acts thusly and in effect sets himself up above the requirements of the law. Many pharmacists complain that they cannot reach the doctor to ask about a refill. He is too busy, or he has instructed his office nurse, many of whom are secretaries in a white uniform, to authorize refills.

While this is not a violation of the Federal Food, Drug, and Cosmetic Act, it is without doubt unprofessional and an unfair imposition on a professional colleague which you yourself would surely resent.

Another problem of mutual concern is that of medical quackery. We wage a constant war against the cancer quack, the diet faddist, and fraudulent and dangerous medical devices. Probably the cancer quack with his phony remedies is the most despicable. He preys on those without hope, on family sentiment, and on any pocketbook within his siphonous reach. In all of this work we need your help. By the same token you need our help. The Food and Drug Administration is the only single Federal agency charged with the responsibility of preventing inroads on legitimate medical practice by the fraudulent and the quack. We are limited in this area, of course, to interstate traffic in their medicines or gadgets, but few operators of shady "clinics" can resist the added profit to be gained by continuing the medication after the patient returns home. We welcome any and all information that you can give us, both now and in the future, concerning the dispensing of fraudulent drugs and devices which may come to your attention, whatever the promotion method used. Let me here pay tribute to the many fine men in medicine and to several right here in Buffalo who never fail to rise to the occasion whenever the facts warrant. Sometimes they do so at great inconvenience to themselves, undertaking clinical studies with remedies that they know are worthless just to gain the factual evidence necessary for presentation of the Government's case in court. Opinion testimony is very often helpful, but it can rarely be successfully substituted for factual evidence—hence the necessity for seemingly fruitless work. Quackery is one of our chief concerns in the Food and Drug Administration; it cannot fail to be one of yours.

We have discussed here today some of the work of the Food and Drug Administration and some of the problems which concern the medical profession. They are our joint problems. Together we must find the answers. We ask your help. We offer ours.

It is with narrow-souled people as with narrow-necked bottles; the less they have in them the more noise they make in pouring out.—Alexander Pope

The Role of Comprehensive Rehabilitation in the Care of the Geriatric Patient

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In recent years there has been a concentrated public interest in the problems of the aged and aging. It is said that the degree of civilization is characterized by the approach society displays toward the elderly. With the evolution of industrial civilization since 1900, modern medicine has come to place more and more emphasis on the prevention of diseases as well as the curative aspect of treatments. All these efforts during the years resulted in a lowered infant mortality, improved general medical care, and increased length of life.

Today there are about 14 million men and women sixty-five years and older living in the United States. The rate at which this group is increasing is approximately 400,000 a year. It is interesting to note that although life expectancy at birth has increased considerably in the past five decades (in 1850 forty years; in 1900 forty-seven years; in 1950 sixty-eight and one-half years), life expectancy at the age of sixty-five has improved very little. Another important factor is that while the increase of the population in the United States reached a little over 100 per cent since 1900, the number of persons aged sixty-five and older increased by 300 per cent during the same period of time. These figures represent serious problems which concern everybody, and they must be given consideration. That means (1) the care of the aged and (2) the study of aging.

Facing these problems stands geriatric medicine which with other branches of geriatrics and gerontology to cover economic, social, environmental, and recreational needs of the elderly, besides the medical needs, has gained momentum in the past ten years.

Since World War II the excellent results obtained by "teams of skilled physicians and ancillary personnel in training disabled military personnel to bridge the gap between disability and ability"[1] has encouraged the development of a new branch of medicine: physical medicine and rehabilitation. The principles which helped the disabled veterans then are being utilized today for the millions of disabled persons throughout the country. It is estimated that there are about 28 million individuals who are disabled with some sort of known physical or mental impairment.[2] A great many of these people are aged men and women. For many of these elderly patients the slightest improvement may mean the fulfillment of a secret hope to become self-sufficient again and able to take care of their daily needs in a satisfactory fashion.

Geriatric rehabilitation as well as modern rehabilitation in general is based on a new idea, which is the comprehensive rehabilitation or team approach. It "defines a program of rehabilitation in which services to meet all aspects of the problems of disablement are provided as needed by each individual. These include medical and surgical care, psychiatry, nursing service, physical therapy, prosthetic service and other self-help devices, clinical psychology, psychological testing, vocational counseling and training, therapeutic recreation and social services."[1]

This definition as it is outlined by Rusk is in perfect harmony with Zeman's concepts regarding the function of a geriatric group in a general hospital: "The geriatric group should include physicians, nurses, social workers and allied professionals who are engaged in the care of the aged patient. Such a staff unit would serve to focus interest on the aged throughout the organization, would by its own concern stimulate better and more understanding care, would integrate the hospital activities on behalf of the

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aged with those of other community agencies, would train physicians, nurses, social workers in this special field."[3]

The Geriatric Clinic founded in 1954 at the E. J. Meyer Memorial Hospital, Buffalo, follows closely the above principles. Patients who are referred to the clinic remain under the supervision of the geriatric unit while undergoing evaluation in the various departments and during their stay in the hospital as inpatients. In other words, the function of such a unit is to correlate the activities of all the other agencies in order to provide better medical care for the elderly and disabled patients. Patients are accepted also for consultation by referral from other departments of the hospital or by request of the patient's family physician. If there is no physician available, any of the community agencies may refer such patients to the Geriatric Clinic where, following a preliminary interview with the physician and the social worker, a complete program is outlined for the elderly patient. The clinic which works also in close cooperation with the Council of Social Agencies emphasizes, through the council and its constituent bodies, the need for periodic health examinations of the elderly patient. Sometimes the remark is heard: "Why is there any need for a geriatric unit? All the hospitals are full to their capacity with elderly and aged patients, and they are being treated with equally good results." There is no question about the truthfulness of such a statement regarding the good care given to elderly patients in any hospital. However, one has to realize that geriatric medicine does not try to introduce geriatrics gradually as a specialty; it is emphasized only as a special approach. This special approach is based on the same principle on which modern rehabilitation stands—team approach. Without this principle geriatric medicine could not justify its existence and could not fulfill its purpose, which is the study of aging through a special care to the aged patient. Bluestone[4] outlines in "The Principles and Practice of Home Care" the importance of collaboration with the family physician. One has to keep in mind that the general practitioner is a very important link between the patient and the hospital team, whether it is the geriatric unit or the rehabilitation service. It is a known fact that a large percentage of the elderly patients stay away from the doctor until it becomes unavoidable because of disabling infirmities. Ultimately it rests upon the family physician's judgment to direct his patient, if the need arises, to the proper unit for the proper care.

Stieglitz[5] classifies into four major groups the disorders which are especially significant to geriatric medicine: (1) circulatory impairments, (2) metabolic dysfunctions, (3) the arthritides, and (4) neoplasms. From the viewpoint of frequency, disablement, and mortality the most important are the circulatory and metabolic disorders. Butler[6] classifies diseases of the aged into the following groups: (1) circulatory disturbances, (2) rheumatic disorders, (3) disturbances of the central nervous system, (4) psychologic states, and (5) dietetic deficiencies.

In considering these infirmities the question arises as to what extent rehabilitation can help the disabled aged patient. According to Dacso and Rusk, "Within realistic limits existing disabilities can be corrected and new ones prevented."[7] In the rehabilitation of the geriatric patient one has to consider the physiologic changes characteristic of this age group as well as the multiplicity of pre-existing pathologic factors which may influence the course of treatments. In other words, depending on general conditions in each individual case, rehabilitation may vary from improved activities of daily living to complete physical and mental restoration to normal community life.

The physiatrist as a specialist in physical medicine and rehabilitation looks on geriatrics from the viewpoint of motion or movement as it applies to the individual. In daily living with the family and neighbors, motion and movement become very vital. With the loss of muscle power or joint movement the patient becomes progressively disabled. It is essential, therefore, to study the etiology which causes this loss and outline a course of therapy which will restore it or find a suitable substitute.

To be specific, let us consider hemiplegia. A hemiplegia in an individual causes a loss of movements, both of muscles and joints of one part of the body, and it may be possible to restore function through the use of heat, properly prescribed exercise, and occupational therapy procedures. On the other hand, a hemiplegic who does not respond to restoration of movements on the affected side must be taught to substitute other parts of the body which nature has given him as a reserve in case of emergency. As an example, the individual who has a residual hemiplegia on the right side must learn to write with the left hand and also to eat with this hand. Likewise he must be taught activities of daily living such as toilet training, dressing, undressing, and possibly becoming proficient in activities around the home, in the kitchen, or perhaps community participation and, in some instances, returning to remunerative employment.

The physiatrist, therefore, must have an understanding of the necessary tests in checking the individual for self-care in bed, then for sitting, standing, walking, and climbing activities. There is a tendency in the older patient to give up once he feels he has some disability, be it muscular, neuromuscular, skeletal, or musculoskeletal in nature. If patients are allowed to become dependent on others and this is not corrected within a reasonable time, which should be shortly after the onset of the disability, the disease or factors causing the disability may cause the patient to become permanently disabled and dependent on others. Thus, he becomes a burden to the family, and the tendency is to send this type of patient to either a hospital or a nursing home. If, on the other hand, the physician is able to restore the patient to independence, the family will in most instances keep the patient at home.

In many cases one does not find too much pathology in the body mechanism which deals with motion and movement, but we do find lack of motivation. This has a close relationship to the importance and interpretation of movement to the patient and must be carefully explored. One must learn to retire; one must learn to become old gracefully, but one must not be so engrossed in one's own work that at the time of retirement there is nothing left outside of work. It is, therefore, feasible and practical for physicians to instruct their patients who are in the middle span of life to take up a form of hobby or recreational interest which will be of benefit when they become old. It is too late to start a hobby at the time one retires.

Thus, a patient coming to a clinic or hospital situation with severe disability or disabilities must be analyzed very carefully from the psychologic and physical as well as from a motivation viewpoint. This work usually cannot be done by one physician. It may require several physicians plus other professional personnel to evaluate the patient's needs and his abilities. For example, a properly trained nurse can test this patient for the activities of daily living, which would include getting in and out of bed, taking care of such things as combing hair, washing, shaving, dressing, undressing, eating, sitting, and both walking and climbing activities. The physical therapist acts as a helper on a team in diagnosis. He tests for range of motion and muscle power. His findings are presented to the physician in order that a proper prescription can be written to help the patient become as independent as is possible with his disability. The occupational therapist determines just what a patient will do either in a kitchen if it is a housewife or if it is a man who no longer can return to gainful employment, as the homemaker or hobbyist. In other situations it may be necessary for the occupational therapist to analyze any possibilities of diversional activities which will keep the patient busy and happy and not feeling sorry for himself. In still other situations the occupational therapist may help the patient to develop skills which he had no time or desire for in his younger days. This prepares patients to associate with other people of their own age and become interested in community projects. These projects and interests may include such diversions as dancing, sewing, crocheting, working with wood, metal, or fabric, painting, learning music appreciation, public speaking, or dramatics, and thus the patient becomes an important spoke in the community wheel.

Thus, to the man who is interested in rehabilitation, the individual who has lost the facilities for movement and motion is a challenge. The challenge in most cases cannot be met alone by the physician. Others interested in health problems must be invited to help advise, adjust, and treat the problems which seem to cause disabilities.

How and where can these objectives be achieved? Butler[5] suggests (1) diagnostic centers, (2) reception centers for the convalescent, (3) homes for the aged to give a protected environment, (4) homes for married couples and single individuals who need help, (5) pension homes where patients can take care of themselves, (6) home care where patients would live in their own homes and medical and nursing care would be provided in case of need, and (7) homes for the insane.

The homes for the aged are undergoing a transition period which means that they are trying to develop a standard which is placed somewhere between a modern nursing home and a hospital. These homes are usually connected with a modern infirmary which is equipped to take care of the medical needs of the geriatric patients and carry out modern rehabilitation principles. It is rather unfortunate that as yet there are not too many of these homes available. A large number of chronically ill patients are maintained in nursing homes, many of which do not meet the required standards. Homes for the aged and nursing homes are not equipped to keep mentally ill patients, although patients who elicit signs of mental confusion and deterioration and are harmless to themselves and to the environment may be taken care of in a well-staffed home for the aged. If the mental condition deteriorates further to the degree that it requires psychiatric supervision and special nursing care, the patient cannot be cared for any longer in the usual setting of a home for the aged unless the home is equipped with a psychiatric wing where psychiatric rehabilitation may be attempted.

The problem of mental illness in the elderly is one which causes profound concern to the family and to the community at large. While mental hygiene properly emphasizes prophylaxis, the Buffalo State Hospital is concerned with those therapies, individual and group, which facilitate the rehabilitation of the geriatric psychotic population. Most of this group may be classified within the following categories: (1) depressions and fatigue states, (2) involutional psychosis, (3) psychosis with cerebral arteriosclerosis, (4) senile psychosis, and (5) patients who have improved or who have recovered from previous episodes of psychoneurosis or psychosis. Obviously the goals of rehabilitation must be realistic and should be determined by the nature and severity of the presenting symptomatology.

Formal initiation of therapy is instituted following a comprehensive evaluation of the patient's life history and prepsychotic personality. It is recognized that mental disturbances in the aged exert an important influence on family adjustment and that they reflect as well as aggravate interpersonal tensions and discord. Of the many particularly distressing symptoms more commonly noted are restlessness associated with reversal of the sleep cycle, confusion, noisiness, hallucinatory phenomena, infantile sexual behavior, and emotional instability. When these are accompanied by other features such as personal untidiness, incontinence, hemiplegias, and inability of patients to manage even the most fundamental of their human needs, relatives soon find the pressures of daily living almost intolerable. Progressively more distraught and unable to resolve the tangle of their own conflicting emotions, families continue to care for the chronically ill who remain idle, nonproductive, and apparently purposeless in their existence. It is obvious that unhealthy feelings of anxiety, guilt, resentment, and frustration can have only deleterious effects on patient management. Therefore, paradoxically, although modern psychiatry emphasizes the individualization of therapy, the initial step in rehabilitation often involves the separation of the patient from the active influence of the family.

The hospital thus serves as an insulation between the patient and the outside world and allows for gradual subsidence of tensions. Immediate goals are the restoration of a normal sleep cycle, diminution of restlessness and apprehension, improvement of nutritional balance. These general principles are applied broadly on a symptomatic level simultaneously with the conventional workup along clinical and laboratory lines. Diagnosis is accomplished and medical treatment rendered for all present pathology which frequently includes anemias, cardiovascular disease, renal involvements, gastrointestinal disorders, and sequelae of cerebrovascular insults. Selected diets are prescribed in conjunction with multivitamin preparations and protein supplements. Emphasis is given to proper hydration and fluid-ion balance.

Sedation, preferably nonbarbiturate in nature, will help to control the agitated patient. Paraldehyde, chloral hydrate, and other preparations are being replaced in many cases by the reserpine derivative of Rauwolfia serpentina and by chlorpromazine, which are proving to be rather effective when administered intramuscularly and orally in proper dosage. The latter drugs may even supplant the use of electroshock therapy in selected cases of anxiety, agitation, and excitements which threaten exhaustion. Electrotherapy can be administered irrespective of age itself provided that there exist no absolute contraindications such as aortic aneurysm, cerebrovascular accident, and coronary infarction. However, the adoption of a calculated risk must be made in specific instances, such therapy being administered under the influence of curare and anectine or related drugs, skillfully controlled, and only after complete physical evaluation including electrocardiography and x-ray studies of the spinal column.

Nursing care must be constant and permissive. All patients are encouraged to be ambulatory if possible or are otherwise maintained in a chair in the recreation room during the day. They are not allowed to remain continuously in bed unless so ordered by the physician for medical reasons. The day room is the center of ward activity, and social re-education is begun early, even if at times on a nonverbal level of simple physical proximity to others of similar disposition. As patients display greater reactivity, social alertness, and reveal ability to adjust, the scope of activities spreads and is integrated into a program of occupational therapy, supervised by a separate department, and maintained directly on the wards by attendants who have been trained in the effective use of the various technics. Activities may range from unskilled raveling initiated by grossly confused, elderly people to crocheting, sewing, rug weaving, woodwork, and other highly skilled operations. These tasks are prescribed empirically and show gradations in accordance with the patient's individual progress. Experience indicates that such activity stimulates the patient socially, allows for acceptable channelization of energies, and results in an easing of tension and improvement of behavior. Psychotherapy may be applied along general lines of listening, accepting, reassuring, and discussing problems with those patients who show sufficient preservation and need.

However, successful rehabilitation implies not only insulation and treatment of the patient but requires that in our contacts with the family we help immunize the members by discussion, interpretation, alleviation of guilt, and offer them opportunities to communicate their own anxieties. During the course of hospitalization patients sufficiently improved are encouraged to leave the hospital on home visits in order that a gradual reintroduction to community life be accomplished and that re-educative influences be exerted to promote satisfaction and more enjoyable interpersonal relationships with loved ones. Social service facilities help to arrange this ultimate transition and to maintain contact with patients after their placement on convalescent care. Planning for patient care, advising relatives as to proper supervision, and helping to interpret the patient's behavior and needs are valuable functions of the social worker. The latter is also sensitive to changes in the condition of patients on convalescent care and may alert relatives and facilitate prompt psychiatric consultation and further treatment.

The aforementioned facts clearly indicate that all participating members of a rehabilitation team readily agree with each other in their belief that the problems of the aged represent a task which requires the team approach. It is the individual who is being considered in the first place and not the disease. In order to carry out these principles on a larger scale it is necessary to provide the personnel in sufficient number to take care of the chronically ill aged and disabled patients. This is a task which requires education of a scientific staff, nurses, social workers, and other allied professionals who are engaged in the care of the aged. It is equally important to educate lay people who might come in contact through the boards of the various homes and similar institutions with the problems which the aged present today and to recognize the challenge which comprehensive rehabilitation offers. It requires the education of the public at large, from teen-agers up, to understand well and respect the elderly. It involves also the education of people in their later maturity to accept aging gracefully.

With such a program of education and understanding, we may bring closer to materialization the essence and principle of comprehensive rehabilitation: (1) maintaining the patients' personal independence, (2) family acceptance and independence, and (3) happy community life. With such an approach one can envision the fulfillment of the slogan which is heard so often today, "Not years to life, but life to years."

Sincere thanks are extended to Duncan Whitehead, M.D., director of the Buffalo State Hospital, whose kind cooperation made possible the review of the psychiatric phases of modern rehabilitation in the aged mental patient.

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Alpha-(2-Piperidyl) Benzhydrol Hydrochloride (Pipradrol) as an Adjunct in the Dietary Management of Obesity

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Early pharmacologic evaluation of a-(2-piperidyl) benzhydrol hydrochloride (hereafter referred to as pipradrol), a new chemical type of central stimulant, in dogs revealed a markedly decreased consumption of food by the experimental animals. Because of this finding a study to determine the anorexigenic effect of this drug in the management of human obesity was undertaken. In addition to the anorexigenic powers of this drug, its effect on the blood pressure, pulse rate, urinalysis, blood count, and basal metabolic rate was noted. Side-effects were observed as to incidence and character, and an attempt was made to find an effective but nontoxic dosage.

Materials and Methods

All subjects were patients attending the obesity clinic of the Welfare Island Dispensary, the outpatient department of Metropolitan Hospital, New York City. Only individuals who attended the clinic regularly and who, as far as could be determined, took their medication as prescribed were included in this study. Patients with edema were excluded. There was no other selection of subjects.

All except two of the subjects were women. Their average age was forty-four years, average height 61$^1/_2$ inches, and average weight 208 pounds. The deviation from normal according to standard actuarial height-weight tables was plus 55 per cent.

A history was taken and a physical examination done on each patient at the time of the first visit. The causes of obesity were discussed briefly, and the importance of strict dietary adherence was stressed. Each patient was then referred to the dietitian for dietary instructions. The diet was similar for all subjects and allowed approximately 1,000 calories a day. It contained 75 Gm. of protein, 100 Gm. of carbohydrate, and 40 Gm. of fat. The diet was adequate in mineral and vitamin content. No supplements were prescribed.

Each patient was given some medication, either pipradrol or an identically appearing placebo, with instructions to take one tablet twenty minutes before each meal. She was not told which she had received, nor was she informed when a change was made. Patients were alternated as to the medication prescribed initially.

Pipradrol was supplied in 1 and 2.5-mg. tablets.* The initial dosage was 1 mg. three times a day. This dosage was increased to 2.5 mg. three times a day at the next visit. Patients were seen every second week.

It was planned that each patient would be observed for a period of about six weeks while taking each of the medications, thus serving as his or her own control. Unfortunately, some of the patients were lost from the study before this program could be completed. Forty-one subjects were observed while taking each of the medications.

Of these, 23 received pipradrol as the initial medication. Several of this group were observed for longer periods of time so that more than one course of one or both medications could be completed. Five patients were followed through two courses of pipradrol and one through three courses. Eight patients were followed through two courses of the placebo. Thus this group of 41 patients afforded observation during 48 courses of pipradrol and 49 courses of placebo. Nineteen patients were observed only while

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* The pipradrol used in these studies was courteously furnished to us through the Department of Medical Research of the Wm. S. Merrell Co. under the trademark, Meratran.

TABLE I.—Comparison of Average Weight Loss Observed with Pipradrol and a Placebo

Medication	Number of Subjects	Number of Courses	Average Time Observed (Weeks)	Average Weight Loss (Pounds per Week)
Group taking each medication				
Pipradrol	41	48	7.2	1.0
Placebo	41	49	6.7	0.3
Group taking only 1 medication				
Pipradrol	19	19	6.1	1.2
Placebo	17	17	6.0	0.6
Total				
Pipradrol	60	67	6.8	1.1
Placebo	58	66	6.5	0.4

TABLE II.—Averaged Laboratory and Clinical Data Obtained in the Same Subjects While Using Pipradrol and a Placebo

	Number of Subjects	Pipradrol		Placebo	
		Range	Average	Range	Average
Blood pressure	41	104/78 to 205/120	135/85	100/68 to 220/122	135/86
Pulse rate	41	64 to 102	81	62 to 96	82
Basal metabolic rate	41	−19 to +28	−0.9	−18 to +34	+0.3
Hemoglobin (Gm.)	33	9.2 to 18.5	12.3	8.8 to 15.8	11.8
White blood cells	33	5,000 to 13,300	7,870	4,000 to 13,350	7,690
Polymorphonuclears (per cent)	10	30 to 76	53	36 to 62	54

taking pipradrol and 17 patients only while taking a placebo.

At each biweekly return visit the patient's weight, pulse rate, and blood pressure were recorded, and side-effects were noted and evaluated.

A urinalysis, blood count, and determination of the basal metabolic rate were done on a representative group while taking each of the medications.

Results

The average weekly rate of loss of weight for the group observed while taking each of the medications was 1 pound while taking pipradrol and 0.3 pound while a placebo was taken. Those observed only while taking pipradrol had an average weekly weight loss of 1.2 pounds, while those observed only while taking a placebo had a loss of 0.6 pound. The average weekly weight loss for all patients while taking pipradrol was 1.1 pounds and for the entire group taking a placebo was 0.4 pounds (Table I).

Pulse rate and blood pressure recorded at each visit for the entire group observed while taking both medications revealed no significant effect upon these measurements by pipradrol (Table II).

Determination of the basal metabolic rate was done on 41 patients, hemoglobin and leukocyte counts on 33 patients, and differential counts on ten patients who were under observation while taking each of the medications. Again no effect upon any of these measurements attributable to pipradrol could be elicited (Table II). No changes in the urinalysis were noted.

At the time of return visits each patient was questioned regarding the appearance of any untoward symptoms. Seventeen of the total group of 60 complained of side-effects while taking pipradrol. Of these nine noticed one symptom, and eight had multiple complaints. These side-effects were for the most part a result of the central stimulation. They were all mild and in no case necessitated the discontinuance of the drug (Table III).

Larger doses of pipradrol were given to ten patients in order to determine whether such an increase would enhance its anorexigenic effect. The dose prescribed was 5 mg. three times daily. No increase in the rate of weight loss was observed, but there was a marked increase in the incidence and severity of side-effects (Table IV). In three patients these side-effects were so severe that the drug had to be discontinued.

Comment

The foundation of any successful weight-reducing regime is an adequate low-calorie diet.

TABLE III.—INCIDENCE OF SIDE-EFFECTS OBSERVED WITH PIPRADROL

Side-effect	Number
Dizziness	14
Nervousness	4
Nausea	4
Headaches	1
Oppression in chest	1
Epigastric distress	1
Sore mouth and gums	1
Total	26
Patients receiving pipradrol	60
Patients with multiple side-effects	8
Patients with side-effects	17 (28%)

Without this, no drug will by itself accomplish a loss of weight except in an occasional case where the degree of obesity is very slight. The principal value of a drug in the management of the vast majority of cases of obesity is to enable the patient to adjust to the low-calorie diet as "painlessly" as possible. Pipradrol appears to have satisfactory anorexigenic properties since the greater rate of weight loss observed in patients taking this drug as compared to the same patients while taking a placebo would indicate that pipradrol makes it much easier and more comfortable for the patient to adhere to the diet.

TABLE IV.—RESULTS WITH LARGER DOSES OF PIPRADROL*

	Number
Total patients	10
Time observed (weeks)	7.1
Weight loss (pounds per week)	0.9
Patients with side-effects	4 (40%)†

* 5 mg. three times a day.
† Drug had to be discontinued in 3 patients.

Summary and Conclusions

A group of patients observed while taking pipradrol and an identically appearing placebo, the dietary prescription having been kept constant, had a significantly greater rate of weight loss while taking pipradrol. This medication had no significant effect upon the pulse rate, blood pressure, basal metabolic rate, urinalysis, or blood count. When the dosage did not exceed 2.5 mg. three times a day, side-effects were mild and never necessitated discontinuance of the drug.

Increasing the dosage of pipradrol did not increase the rate of weight loss but did significantly increase the frequency and severity of side-effects.

Milontin in the Treatment of Epilepsy

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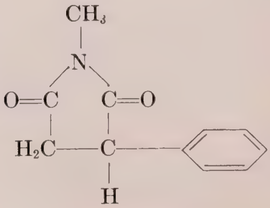
This paper presents data on a significant series of patients (200) treated with Milontin for petit mal epilepsy over a period of approximately five years. In a preliminary report[1,2] introducing Milontin, it was stated that of all the chemical groups tested experimentally at the animal and clinical level, the group of compounds known as the succinimides seemed to offer the most therapeutic promise in terms of efficient anticonvulsant action and relatively low "therapeutic price." It was also reported that Milontin, which has the simplest molecular structure within the succinimide group, had shown the highest degree of anticonvulsant action commensurate with the goal of the lowest possible degree of toxicity. Some other succinimide compounds had a higher anticonvulsant index but proportionately more toxic side-reactions, and it was felt that Milontin might prove to be the drug of choice in initiating treatment because of its relative safety.

Milontin which is chemically designated as N-methyl-a-phenylsuccinimide, has the following chemical structure:



In laboratory tests Milontin was designated as PM 334 and in earlier reports was referred to by its laboratory number.*

Animal Studies

Preliminary toxicity studies[3] indicated that Milontin was effective in protecting rats against the convulsant action of pentylenetetrazole U.S.P. (Metrazol) and was well tolerated by dogs in divided doses of 10, 20, and 40 mg. per Kg. of body weight daily. Biochemical, hematologic, and urinary findings remained within normal limits. A daily dose of 1 to 1.5 Gm. per Kg. of body weight produced no toxic reaction in mice when administered orally, and there was a normal gain in body weight. In clinical tests with our group of patients, no serious blood dyscrasias, such as are sometimes reported with Tridione, have appeared to date, and our findings indicate that Milontin is a safe drug so far as the blood picture is concerned.

Classification of Attacks

As was pointed out previously,[1,2] the classification of petit mal epilepsy is often difficult because petit mal attacks are not always distinguishable clinically from other forms of minor seizures and because clinical signs, when present, cannot always be verified by electroencephalographic study. For these reasons it was decided to classify petit mal epilepsy empirically, i.e., to use a classification system based on direct clinical observation.

The system of classification which was used throughout our studies on petit mal epilepsy is as follows:

1. Pure petit mal (pyknolepsy): manifested by transient loss of consciousness only, without loss of postural tone or the presence of concomitant motor phenomena.
2. Mixed petit mal: that form of epilepsy which manifests itself predominantly in transient loss of consciousness and minor motor phenomena such as clonic movements of the upper extremities.
3. Petit mal combined with other types of seizures.

Distribution of Cases

TABLE I.—Distribution of Petit Mal Cases

Type of Attack	Number	Per Cent
Petit mal and grand mal combined	104	52
Pure petit mal	84	42
Mixed petit mal	8	4
Petit mal and psychomotor	4	2

Table I shows the distribution of our epileptic patients according to the type of pretreatment attack.

It may be seen from the table that more than one half of the patients were subject to both petit mal and grand mal seizures. When seizures other than the pure petit mal type of attack were present, Milontin was supplemented by another drug such as Dilantin or Mesantoin, in order to control the grand mal or psychomotor component. Results reported in this paper are concerned with the petit mal element only.

Materials and Methods

Most of the patients with petit mal epilepsy are children who cannot report accurately upon the number of petit mal attacks occurring each day. It is necessary, therefore, to rely on the report of a parent which, at best, is an approximation. It was found, nevertheless, that accuracy may be greatly improved if the parent is required to write down the number of observed attacks each day rather than to rely on memory on visits to the clinic. For this purpose a daily calendar sheet was devised on which the parent recorded attacks as they were observed each day. These sheets were brought to the clinic periodically, and data were transferred to duplicate sheets for statistical analysis and study.

Results

The results with Milontin after five years of study on 200 petit mal cases confirm the preliminary findings which suggested that the drug is effective in the treatment of petit mal seizures and is relatively safe so far as toxic side-reactions are concerned.

The data on the effectiveness of Milontin in the treatment of 200 petit mal cases are given in Table II.

Table II shows that in the 200 cases the average daily dose was 2.7 Gm. Freedom from attacks for at least four consecutive weeks (complete control) was reached by 22 per cent of the patients treated, and practical control (80 to 99 per cent seizure reduction) in 29 per cent of the cases.

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* Milontin was synthesized in the laboratories of Parke, Davis and Company, Detroit, Michigan.

TABLE II.—EFFECTIVENESS OF MILONTIN IN THE TREATMENT OF PETIT MAL SEIZURES

Number of cases	200
Average weekly seizures	
On previous medication	79
On Milontin	14
Reduction in seizures	82%
Average daily dose (Gm.)	2.7
Average duration of treatment (weeks)	21
Control	
Complete	22%
Practical (80 to 99%)	29%
Partial (5 to 79%)	32%
No effect (0 to 4%)	15%
Worse	2%
Patients toxic	5%

Partial control (5 to 79 per cent seizure reduction) was obtained in 32 per cent of the patients. In 15 per cent no effect (0 to 4 per cent) was evident, and in 2 per cent an increase in average weekly attacks was reported. The baseline used in estimating the effectiveness of Milontin was the average weekly seizure rate of the patient for an interval of eight weeks immediately preceding treatment with Milontin regardless of the type of medication given.

Because very few patients remain in the category of complete control over long periods of time and usually fall eventually into the classification of practical control (80 to 99 per cent seizure reduction), it was felt that the latter category was a more critical one and that it was better to combine complete control and practical control in estimating the effectiveness of medication. If this is done in this series of patients treated with Milontin, it may be seen from Table II that 51 per cent, or about one half of the cases, fall within the two categories, i.e., show a seizure reduction of at least 80 per cent.

Table II shows also that only 5 per cent of cases suffered from untoward side-effects, as against 55 per cent reported by Lennox[4] with the use of Tridione. It was also found that even the low percentage of toxic signs obtained with Milontin could further be reduced by beginning with a small dose of 0.3 to 0.6 Gm. daily and increasing it by 0.3 Gm. every four or five days until an optimal dosage level was reached.

The data were also analyzed from the standpoint of the efficacy in controlling petit mal seizures in patients subject only to this type of attack and in patients subject to two or more types of seizures. Table III shows the distribution of effectiveness of Milontin in treating the petit mal component in these 200 cases.

Table III indicates that Milontin was effective in the control of petit mal seizures in all of the classifications. Twenty-five per cent of the 84 pure petit mal cases in this series and 21 per cent of the 104 patients with a combination of petit mal and grand mal fall into the category of complete control. None of the petit mal and psychomotor cases reached this level of seizure control, but 12 per cent of the patients with mixed petit mal did show complete control for at least four weeks.

To date several investigators have confirmed our report that Milontin is an effective drug in the treatment of petit mal seizures. Millichap[5] in London reported results on 20 unselected patients, 17 of whom were children. Twenty-six per cent of these cases were entirely controlled, and 37 per cent showed marked reduction in attacks following medication. Twenty-one per cent were partially controlled, while 16 per cent were unaffected or worse.

While Millichap's data show a considerable degree of similarity to our own findings and also confirm the absence of toxic effects on the blood system, Millichap does report microscopic hematuria in a number of his cases. Lereboullet *et al.*[6] in Paris, on the other hand, report good therapeutic results on a small series of cases and no red blood cells in the urine on smaller doses.

In a large number of cases treated effectively with Milontin, Lennox[7] finds no blood dyscrasias or untoward toxic effects. Significant improvement during treatment with Milontin in 27 of 50 patients is reported by Smith and Forster[8] and slight improvement in 12 patients on an average daily dose of 2 Gm. These investigators also state that, "Toxic reactions were virtually absent among patients receiving Milontin therapy." Doyle, Livingston, and Pearson[9] found no un-

TABLE III.—EFFECTIVENESS OF MILONTIN IN CONTROLLING PETIT MAL ATTACKS AND IN ATTACKS WITH PETIT MAL COMPONENT

Type of Case	Number	Control				
		Complete	Practical	Partial	No Effect	Worse
Petit mal only	84	25%	35%	29%	10%	1%
Petit mal and grand mal combined	104	21%	26%	34%	19%	0%
Petit mal and psychomotor	4	0%	25%	25%	0%	50%
Mixed petit mal	8	12%	12%	38%	25%	12%

TABLE IV.—NATURE OF TOXIC SIGNS WITH MILONTIN

Sign	Number of Cases
Nausea	4
Loss of appetite	3
Dizziness	4
Drowsiness	3
Pains in stomach	1
Itching	1
Reddening of skin	1
Vomiting	1
Photophobia	1
Hematuria	1

toward reactions due to Milontin in any of their 21 patients, but seizure control was somewhat less than that reported by other investigators.

Milontin has likewise been reported as effective by Forrer[10] in the control of institutionalized mental patients with the petit mal type of seizure, and it aided somewhat in the management of patients insofar as behavior was concerned. No toxic reactions were noted during the course of his study.

In a series of 22 cases Lemere[11] reports that Milontin was effective in reducing seizures and that there was no evidence of any blood dyscrasias, renal damage, or hepatic involvement. With large doses slight nausea, dizziness, and drowsiness were encountered, but these disappeared immediately when the dosage was reduced.

Dosage

In our series of 200 petit mal cases the average daily dose of 2.7 Gm. of Milontin was administered in units of 0.3-Gm. capsules, or an average of nine capsules per day. As was reported previously, however, the range of effective dosage is wide, and a maximal dosage of 14 or 15 capsules per day may be given with safety when necessary. In our experience there is little relation between age and dosage, with as much as 1.5 Gm. daily given to an infant and as little as 0.9 Gm. to an adult to secure optimal effect. Generally, however, it was found preferable to begin with a low dosage of 0.3 Gm. and to increase the dose slowly by one or two capsules per week until the optimal dosage level was reached.

Toxic Signs

The nature of toxic effects noted in our patients under treatment with Milontin is given in Table IV.

No serious side-effects from Milontin are apparent in Table IV on an average daily dose of 2.7 Gm. over an average period of twenty-one weeks of treatment. Individual cases have been treated for from two to three years, and no blood dyscrasias or urinary symptoms have appeared. In comparison with the severe symptoms sometimes reported with trimethiadione (Tridione), Milontin seems to be a much safer drug so far as the blood picture is concerned. As mentioned previously, the frequency of toxicity to date is also much lower: 5 per cent for Milontin in our series as against 55 per cent reported by Lennox[4] for Tridione.

We have found that a small percentage of epileptics show an occasional red blood cell in the urine, regardless of the type of medication given or even on a placebo. When these microscopic cells are present, however, they do not seem directly related to the particular drug administered. Our findings in this connection suggest the possibility that proneness toward irritability of the urinary system may exist in some of these patients after they have been treated with a variety of drugs over a long time interval. If our reasoning is correct, this tendency toward irritability may make itself apparent intermittently, even while on a placebo.

On an exceptionally high dosage level of 6 Gm. per day instead of the average daily dose of 2.7 Gm., we encountered one petit mal case showing transient frank hematuria, which disappeared quickly when the dose was reduced. There was no evidence of permanent damage to the urinary system in follow-up study.

In our preliminary study on Milontin[1] we reported a much higher incidence of toxicity among our small series of patients. Greater experience with Milontin, however, makes it clear that this abnormally high percentage of toxic signs resulted from an excess of drug over therapeutic need. By administering the drug in small doses initially and increasing medication more slowly, we have found since that time that it is possible in most cases to approximate the optimal therapeutic level more accurately without the appearance of untoward side-effects. Our expanded series of cases to date indicates that from the standpoint of mildness and relative freedom from side-effects, Milontin has a decided advantage over any drug we have tested.

Summary

The present paper is a report on a series of 200

patients with petit mal epilepsy treated with Milontin over an average period of twenty-one weeks. Results confirm our previously published data on a smaller number of cases and show that Milontin is an effective agent for the treatment of petit mal epilepsy but is relatively free from untoward side-effects. No blood dyscrasias have been found to date by us or any other investigators. After five years of study with Milontin, we have come to the conclusion that it is the least toxic of all the effective drugs used in the treatment of petit mal epilepsy and, because of these qualities, should be the drug of choice in initiating treatment before more toxic drugs are used.

11 EAST 68TH STREET

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St. Christopher's Complaint

"I'm very tired. Poor fools, they look to me
For help. They cruise along at eighty-three
Trusting my medal, like a potent charm,
To keep their foolish selves secure from harm.
Do they not know I lived at slower pace
And Hubert was the patron of the chase?
Yet they would outrun his swiftest arrow,
They drive at turnpike speed on crooked, narrow
Country lanes where little children play,
These gentle ones who hesitate to slay
A small black fly. They place their children's lives
In danger, risk the safety of their wives;
And speed, as to outrun the secret, still,
Small voice that whispers, 'Man thou shalt not kill.'
I'm weary, Lord, watching Thy careless sons.
Please send me back where the deep torrent runs
And I can ford it in my own slow way.
Tell them, in voice of thunder not to say,
'Saint Christopher, protect me,' and go mad
With speed. It's hard to face a grieving Dad.
I'll help them all—hot rod or Cadillac—
For love of Him I bore upon my back.
I'll try to get them home unhurt, alive—
If they but hold it under fifty-five."

—*"By the Way. . ." Detroit Medical News, June 27, 1955*

Clinical Observations with a New Sedative-Hypnotic Agent in Elderly and Chronically Ill Patients

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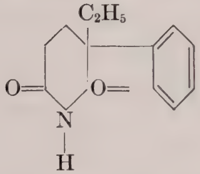
(*From the Medical Service of the Jewish Chronic Disease Hospital*)

The aged and chronically ill patient complains commonly about inability to fall asleep. As soon as his restlessness and bodily discomfort are overcome and sleep is induced, he frequently enjoys a good night's rest. In the search for such a mild, sleep-inducing agent we have evaluated a new nonbarbiturate compound. Doriden* is an α-ethyl-α-phenyl-glutarimide and has the following structural formula:



It is a white crystalline powder which is relatively insoluble in water but soluble in alcohol and acetone. The molecular weight of this material is 217.3; the melting point is between 83 and 85 C.

An efficient hypnotic agent must not only fulfill its specific purpose satisfactorily but must also be free of undesirable side-effects and should not be habit-forming. Our evaluation on a rather large group of mostly elderly patients with chronic diseases has shown that Doriden complies with these criteria.

Material

Fifty-eight patients with chronic disease were selected at random, of which 54 were inpatients and four were outpatients of the hospital. There were 32 males and 26 females in this series. The age of the patients varied between thirty-two and eighty-two years. The clinical diagnoses of the patients are shown in Table I.

TABLE I.—Clinical Diagnoses in 58 Patients

Diagnosis	Number
Rheumatoid arthritis	10
Osteoarthritis	6
Malignancies (breast, prostate, gastrointestinal tract, lung, sarcoma)	15
Degenerative diseases of cardiovascular system (generalized arteriosclerosis, peripheral vascular disease, cerebrovascular accidents, coronary thrombosis)	26
Neurologic disorder (Little's disease)	1
Total	58

Method of Study

All other hypnotics were discontinued. Analgesics and sedatives, where necessary, were limited to the forenoon and early afternoon.

The study was divided into two parts. To 48 patients (group A), Doriden was given in doses of 250 mg. at bedtime and increased to 500 mg. where necessary after a trial of at least three nights with the lower dose. All but five patients were followed for six to ten weeks. In the second group of ten patients (group B), Doriden was given in doses of 1 Gm. at bedtime, and the patients were watched for two to three weeks.

In addition to careful clinical observations, a complete blood count (hemoglobin, white blood cell count, and differential) and a qualitative urinalysis were done in all patients. Liver function tests (thymol turbidity and cephalin flocculation) were performed in 22 of the patients in group A and in all (ten) of the patients in group B.

Results

Hypnotic Effect.—In group A 43 patients had a good result. Sixteen received this result with 250 mg. and 27 patients with 500 mg. of the drug. Five patients discontinued the drug after a one-week trial and after 500 mg. were unsuccessful in inducing sleep.

All of the patients with positive results stated that the drug helped them to fall asleep very rapidly and that they enjoyed a healthy sleep for periods from four to eight hours. Twenty patients experienced a rather short sleep period for four hours. The rest (23) slept throughout the entire night. Of the 20 patients with short sleep periods, eight were given a second tablet (250 mg.) and could then return to sleep. Of the 23 patients who slept throughout the whole night, four required 250 mg., and 19 required 500 mg.

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* Doriden was generously supplied by the Ciba Pharmaceutical Products, Inc., Summit, New Jersey.

In group B all of the patients who received 1 Gm. of Doriden had excellent hypnotic effects with a restful sleep lasting from six to eight hours.

Habituation.—The hypnotic effect did not seem to decrease with prolonged medication in either group A or B.

After-effects.—None of the patients in group A complained of any after-effects. Most of them commented that the drug permitted them to awake without any dullness, headaches, or feeling of sluggishness.

Six of the ten patients in group B had no complaints at any time. The remaining four patients experienced a morning hangover for the initial two or three days. Then this symptom disappeared, and for the remainder of the study they also made no further complaints.

Results of Laboratory Tests.—No toxic effects on the blood picture were found during the period of observation; particularly no toxic granulations or agranulocytosis were encountered. Because of their underlying conditions, some of the patients at the beginning showed leukocytoses with shift to the left or reduced hemoglobin. These changes were not affected and, particularly, were not aggravated by the medication.

The weekly qualitative urinalysis did not show any changes which could be attributed to the medication. There was no albuminuria, glycosuria, or increased urobilinogen except in those few patients who, because of the underlying disease, had a trace of albuminuria prior to the study.

There were no changes in the thymol turbidity or cephalin flocculation of the 27 patients of group A who were studied for these changes nor in the ten patients of group B. Those patients who had physiologically normal values before receiving the drug continued to show the same normal values during the period of drug administration. In those few patients who had some abnormalities in both of these tests before administration of Doriden, the follow-up studies did not show any progression but revealed the same levels as previously reported.

Comment

The introduction of a new hypnotic which fulfills the requirements for an effective agent would be a very useful tool to the clinician. He is often beset with the problem of producing sleep in a patient who does not respond well to the usual agents or who does not tolerate the available preparations because of idiosyncrasy to the hypnotic, age of the patient, hepatorenal disease, etc. The ability to produce a restful night's sleep is of prime importance as an adjunct to more specific therapy in many organic and psychiatric disturbances. It assumes even a higher place of importance in those conditions in which more specific therapy is wanting, as in many chronic ailments and in old age.

Of the patients who received 250 to 500 mg. of Doriden, 43 out of 48 responded well. Three of the five who failed to respond to 500 mg. suffered from severe pain due to their illness.

The 1-Gm. doses were given for a period of two to three weeks in order to evaluate the toxicity of the drug since 250 to 500 mg. are considered the most suitable therapeutic hypnotic dose. It was gratifying that no after-effects or toxic signs were noted, even on this rather large dose. While none of the patients who received 250 to 500 mg. of Doriden developed such effects, four out of ten patients who received 1-Gm. doses developed only transitory morning hangover, which disappeared after two to three days in spite of continued medication. No patient in the entire study (58 patients) showed any deleterious effects on the blood count, urinalysis, or liver function (thymol turbidity, cephalin flocculation.) No gastrointestinal complaints were observed in any patient. It was observed that in addition to providing the intended hypnotic effect, a feeling of well-being was noted in many of the patients, particularly in those who were suffering from arthritis. Most of the patients had used other hypnotics prior to this study. The new drug proved to be at least an adequate replacement.

Conclusions

1. Doriden, a new, nonbarbiturate hypnotic,

was administered to a group of 58 chronically ill patients.

2. Rapid and effective hypnosis was induced in 43 of 48 patients in doses between 250 and 500 mg.

3. In the above dosages no patient experienced any unpleasant side-effects.

4. Doses up to 1 Gm. failed to cause any undue changes in the blood counts, urinalysis, and liver function tests.

5. Doriden deserves an extensive trial as an effective hypnotic agent in elderly and chronically patients.

Cancer Detection and Community Clinics

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The early detection of carcinoma remains the primary problem in dealing with all malignant growths. As all of us know, we have a treatment for carcinoma, but we must detect it early for optimal results. Actually the ideal time to detect such a growth and remove it would be in its very infancy prior to more than the very earliest breakthrough of the confines of the original lesions. It is noted by Boyd[1] in the textbook on surgical pathology that biopsy material may vary from hysterectomy specimens. Very often the decision to perform surgery will require more than one criterion. If we are going to do better work and salvage more patients, these lesions must be caught at an earlier stage than one which will give us the characteristic postmenopausal hemorrhage.

Evidence is now fairly conclusive that the so-called "carcinoma in situ" exists in vulva, cervix, fundal, and ovarian carcinoma. Characterized by slow or latent intraepithelial development, it gives an alert patient and her careful physician a greater chance to obviate serious cancer. Later stages, for example, fundal carcinoma which is generally an endometrial adenocarcinoma, are about one tenth as common as cervical carcinoma. Peak incidence is approximately ten years later but can appear in all ages. Invasion is comparatively late, in all probability because of the resistance of the uterine muscularis to invasion by any cells—chorionic, bacterial, or cancer. Once this barrier has been passed, metastases occur widely and rapidly.

It is a silent cancer with few signs or symptoms. Watery discharge or ulceration with vaginal bleeding are late. Only 70 per cent of these cases can now be cured with our treatments. Haste is of the essence.

Diagnosis depends on demonstration of cancer cells in curettings or Papanicolaou smears. Curettage is an expensive procedure involving hospitalization, etc. Vaginal smears are office procedures but require trained pathologists.

The modern advances in medicine and surgery are no longer restricted to the great medical centers. In fact, the majority of medical and up-to-date surgical practice in this country is being performed in small rural modern hospitals staffed by capable general practitioners who are aided by a thin scattering of specialists. It goes without saying that these busy practitioners keep themselves abreast of recent advances and make full use of specialty services when these become available to them.

In the fall of 1953, a cancer detection program was initiated in Sullivan County, New York. This program was organized with a minimum of confusion, a moderate amount of publicity, and good attendance by both physicians and patients. The examinations were all performed by local physicians at local hospitals. Specialty services were utilized only insofar as the pelvic

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and rectal examinations, which were performed by general surgeons, and studies of the Papanicolaou smears, to which Dr. Margaret Baker, our pathologist, graciously devoted time and study.

The following case is presented to illustrate the teamwork that provided one patient with an extremely gratifying result.

Case Report

The patient presented herself at the Cancer Detection Clinic, Liberty-Maimonides Hospital, in April, 1954. She was an obese, well-developed, fifty-year-old, white female, gravida 3, para 3, who had no complaints at all. The physical examination of the head, neck, chest, and limbs was negative. Examination of the pelvis revealed a grade 2 cystorectocele with an edematous cervix that presented a patulous external os as well as a number of small excrescences and Nabothian cysts. The general appearance of the cervix was unhealthy and suspicious. On pelvic examination a mass approximately the size of an orange was palpable high in the left fornix. The uterus was small and, as far as was palpable in view of the patient's obesity, negative. A Papanicolaou smear was taken and immediately fixed in alcohol-ether.

Appropriate notes were made on the patient's card, and the report was forwarded to the committee conducting the Cancer Detection Clinics. According to policy the patient was next referred to her own physician for further recommended study and treatment.

The following week the Papanicolaou stain on this patient was reported as positive for suspicious clusters of cells. The smear was reviewed by a consultant. A surgeon was called to perform cervical biopsies and dilatation and curettage. The biopsies were negative except for chronic cervicitis. The curetted specimens were reported as endometrial adenoma and polyps. The patient was discharged from the hospital, pending further study of the tissues.

After discussion with patient's physician, the problem of what to do about this uterus and the adnexal mass was answered in the following fashion: It was recommended that the patient have an exploratory laparotomy to determine the pathology, which would indicate the proper procedure once the abdomen was opened. Accordingly, the patient was readmitted to the hospital within a short period of time and prepared for operation. Laparotomy was performed under general anesthesia following preoperative ureteral catheterization. Incision was a generous transverse, lower abdominal wound, transecting both rectus muscles. Exploration revealed that the mass we felt on pelvic examination was nothing but fat-laden sigmoid. The ovaries were small and atrophic. The uterus was of normal size but well studded with small, pale to dark red-brown, spheroid masses, ranging in size from 1 to 2 cm. in greatest diameter. There was no breakthrough of the serosal covering. Lymph nodes were absent in the mesentery and along the course of the pelvic vessels. The liver was negative and normal. Other abdominal organs examined carefully in the course of systematic laparotomy were likewise negative. It was then decided in the best interests of this patient's health, considering the suspicious Papanicolaou smear, the patient having already formed benign endometrial tumors, and with an unhealthy cervix and uterus, that the uterus and adnexae should be totally extirpated except for one atrophic ovary to prevent a surgical menopause. This procedure was then performed without any difficulty. The abdomen was closed in layers and the patient returned to her room in good condition. She recovered very nicely from surgery and left the hospital after a little more than a one-week stay to pass through an uneventful convalescence.

The pathologist reported, in addition to small fibromyomas of the body of the uterus, an adenocarcinoma of the corpus uteri.

Comment

This case is presented to illustrate modern medicine in rural communities where specialty care must of necessity be at a minimum and where the major portion of the diagnostic and therapeutic procedures are being performed by capable, up-to-date general practitioners. That such an end result is gratifying goes without saying, but this could never have been accomplished without the unselfish teamwork that has been so well demonstrated by the Sullivan County Cancer Detection Clinics.

10 South Main Street

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Husbands disappoint mothers—sons never.—William Feather

The Problem of Psychogenic Tension Headache

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THE term psychogenic can be employed only as an abstraction of some limited pragmatic value and not as a statement of either exclusive origin or definition. The concept of a "psychic" phenomenon existing in isolation from "physical" or "organic" phenomena is as artificial and ultimately as inhibiting as was the concept of the ether in theoretic physics. Certainly, the processes of what are called thought and emotion cannot exist in splendid isolation in some mysterious extrasomatic realm. They must present neurophysiologic and other somatic equivalents, representations, and effects with which they must exist in reciprocal cause, effect, and feedback relationship. However, if these reservations are understood, it is possible to speak usefully, although inexactly, of emotional patterns as affecting physiologic processes, so as to produce somatic symptoms.

One may divide headaches arbitrarily into three mutually merging groups, the grouping depending on the degree to which demonstrable physical pathology is present. One group includes those headaches primarily determined by structural disease, such as the headache of cerebral neoplasm, the meningitis headache, etc. The second group includes those headaches associated with demonstrable pathologic physiology, such as the headaches of migraine, fever, sinus, infection, etc. The third group includes those headaches in which neither structural pathology nor persistent, significant pathophysiology can usually be demonstrated.

Emotional problems may significantly affect the incidence and severity of any of these headaches. However, in the third group, where present medical knowledge has failed as yet to demonstrate any constant substrate of organic factors, emotional determinants are primary. The headaches of this third group may be called psychogenic tension headaches.

No valid statistics on the general incidence of psychogenic tension headache are available. However, the consensus is that the incidence is very great. Perhaps of some interest, but only as an indication, is the datum that in the Mount Sinai Hospital Consultation Service, 96 of 100 consecutive patients whose primary complaint was headache fitted into this category. These patients were referred by their physicians or by specialists within the Consultation Service as diagnostic problems. When it is considered that suspicion of physical disease underlies the referrals, it strongly suggests that the diagnosis presents some difficulty. When it is further considered that the majority of these patients had had their symptoms for over two years and had been unsuccessfully treated with an apparently desperate variety of medication ranging from morphine to fanciful proprietary analgesics, it is further suggested that the syndrome is also a therapeutic problem.

Diagnosis

The diagnosis of any psychogenically determined symptom must be a positive one. The absence of physical findings by itself does not constitute sufficient grounds for such a diagnosis. To it must be added, ideally if not always practically, the positive demonstration of emotional factors in the personality constellation which could act as a competent etiologic agent for the symptom and the correlation in time of the activation of these factors with the incidence of the headaches.

As with most medical problems, the history in psychogenic tension headache is of paramount importance. In addition to the general history, the specific quality of the pain, its duration, location, course, and incidence offer valuable information. However, in evaluating this history it is of prime importance that the physician clarify and completely understand the patient's terms.

Words do not mean the same things to each person. Too often the patient plays "Humpty Dumpty," with the confusing assumption that words may mean what he chooses them to mean. And too often the patient uses words not so much to convey their literal meaning but rather to communicate to the physician some emotional quality which may be extraneous.

Quality of the Pain

Often characteristic of tension headache is the fact that the patient does not have a headache in the literal sense of pain or ache in the head. Rather, it may become clear that he complains of a sense of pressure, or tightness, or weight. Typically, some patients begin their history with a complaint that they have "severe" or "terrible" headaches. However, under questioning this resolves into a sense of discomfort associated with emotional tension and not a real hurting pain or ache. Ultimately, after inquiry this may resolve into a statement that is, if not pathognomonic, at least most suggestive, that the headache feels as though a band were being tightened around the head or as though something were pressing down.

The quality of the pain is usually not throbbing. This may not be evident from the patient's words, for to some individuals the term "throbbing headache" does not mean a pulsating pain in the head but rather an emotionally disturbing sense of discomfort. The term "throbbing" is not used as a literal description of the actual sensation but rather as an emotional communication of the severity of the disturbance, the goal of which, consciously or unconsciously, is to influence the examiner. Rather often, too, the patient picks up medical terms which he does not understand and uses them as cliches. Thus some patients begin by categorically stating they have migraine. In the experience of this series, patients have labeled as migraine, phenomena as diverse as psychogenic nausea without headache and temper tantrums.

Duration

It is sometimes a matter of significant difficulty for the physician to obtain accurate information about how long the headache lasts or when it first began. A favorite statement is that the headache "lasts a long time." In the clinical experience of this series "a long time" has eventually ranged from thirty seconds to several weeks. The term "a long time" is used as an expression of the emotionally disturbing quality of the symptom and is a reflection of the patient's anxiety. In the review of this series the impression was that there is no characteristic duration of the psychogenic tension headache.

Localization

A frequently observed phenomenon in the history of the tension headache is that the patient is unable to localize the site of the discomfort with any precision. When asked where the headache occurs, he passes his hand generally over the entire head and neck. Similarly, he is often unable to specify where the headache begins or, if pressed, discloses that the headache begins in different places at different times. If a definite localization is offered by the patient, any region of the head may be designated. Not infrequently, close questioning demonstrates that the "headache" has nothing to do with the head but that the patient is actually complaining of discomfort in the neck or the region of the trapezius.

Incidence

The most meaningful fact elicited in the history is that the incidence of many of the headaches bears a significant time relationship to an emotionally disturbing episode or situation. The emotionally disturbing situation is usually one which provokes in the patient, overtly or without his being aware of it, a feeling of frustration or anger which he is unable to express completely. By a significant time relationship is meant that the headache usually appears within several hours after such an episode. Curiously, it is not common for the headache to appear during or immediately after the disturbing incident. Usually, there is a short latent period.

Personality Background

These episodes occur against a background indicating a neurotic personality organization. In this series of 100 patients, two main personality groups were found to be associated with psychogenic tension headache. One was the group of anxiety-hysteria in which there was a symptom background, in various combinations, of chronic endogenous tension, endogenous recurrent depression, somatic anxiety equivalents such as palpitations and disturbance in respiratory rhythm, conversion phenomena such as gastrointestinal symptoms, low back complaints, etc. Also present were sleep disturbances, sexual disturbances, and, not infrequently, obsessive somatic preoccupation. The second was the group of compulsive character neuroses —tense, ambitious, driving, perfectionistic individuals with compulsively high standards, who, through age, physical illness, or other circumstances, were unable to maintain these standards and were inwardly threatened by anxiety and rage.

It has been stated above that the history is of paramount importance in the diagnosis of psychogenic tension headache, and a number of characteristics of such a history have been mentioned. However, it must be emphasized that no single characteristic or even the overt demonstration of a completely classic history can be considered as diagnostic. This caution is particularly advisable when it is considered that Nature does not always follow the comforting concept of a parsimony of causes. There is no natural law that an individual who is highly neurotic and whose neurosis is characterized by a tendency to express conflict somatically may not have developed a subarachnoid hemorrhage or a brain tumor with an associated headache. However, the combination of a history that does not suggest pertinent organic disease but does have many of the qualities enumerated, together with the presence of a normal physical status and the demonstration against the background of neurotic personality of the specific interrelationship between inner emotional state and somatic symptoms, can be considered as significant.

Comment

Some psychogenic somatic symptoms are portions of a reflex physiologic pattern associated with the experiencing of an emotion. Thus, for example, heart palpitations may be a portion of a reflex pattern of physiologic response to anxiety. This pattern may also include such responses as blood pressure elevation, rise in blood sugar, increase in circulating adrenalin, etc. Such reflex patterns associated with an emotion may be constitutional, influenced by systemic or local disease, or may be conditioned responses. The emotion precipitating the pattern of physiologic response may not be consciously perceived by the individual. In fact, this seems to be true more often than its opposite.

In addition to representing a portion of a reflex response to an emotion, a psychogenic somatic symptom response may be an organic expression of a complex emotional attitude or fantasy centering around an emotion. Thus, an individual who is angered may tense much of his somatic musculature. The pattern of muscular tension is, in effect, the physical expression of a flight or fight fantasy, often unconscious, precipitated by the emotional stimulus.

When a somatic pattern response persists past a certain physiologic limit, symptoms appear. Thus, if an individual keeps his fist tightly clenched for too long a period of time, symptoms of pain, cramp, and paresthesia soon appear. A similar mechanism may underlie some of the psychogenic tension headaches.

Thus, palpation of the posterior cervical muscles in some individuals with severe tension headache will disclose spasm. Wolff[1] has studied a number of these cases with an electromyograph. In one particularly illuminating case the electromyograph showed marked spasm of the frontal, temporal, and posterior cervical muscles during the headache. Following psychotherapy which apparently not only resolved some of this patient's overwhelming problems but also alleviated his headache, repeat electromyography studies were done. At this time while the patient was free of headache, the electrical record had no indication of muscle spasm.

It has been experimentally determined that sustained muscular contraction will produce increasing discomfort and, eventually, pain. The mechanism may be related to the accumulation of a metabolite, such as Lewis' P factor,[2] and also to the partial ischemia produced during contraction, as shown by Barcroft and Millen.[3] Cyriax[4] demonstrated that localized muscle spasm produced by the injection of 1 cc. of 4 per cent saline into the occipital insertion of the posterior cervical muscles produced constricting pain circling the head like a band and reaching its maximal intensity in the temporal area. Similarly, the production of spasm in the cephalad insertion of the sternocleidomastoids has caused a marked discomfort in the temporal area. The sensations reported in these experiments seem very similar to those complaints offered by patients with tension headache.

This pattern of sustained muscular contraction in the individual with psychogenic tension headache very often appears to be a response to a chronic stimulus of anger, representing either a primary reflex response to the emotion or, more plausibly, the body attitude toward fantasies stimulated by the emotion.

Of the 96 patients with psychogenic tension headache studied at the Mount Sinai Hospital Consultation Service it was possible to demonstrate in 89 that problems of anger and aggression precipitated the headache. It is noteworthy that the average patient had no initial awareness that anger played any role in the genesis of his symptoms. This was particularly interesting to the physician who often saw a tirelessly repetitive pattern of headache following a situation which would stimulate anger or rage. A possible explanation may be that the headache among other functions serves as a means of enabling the individual to remain unaware of the extent and violence of his rage.

In the developmental history of individuals in our culture the full expression of anger and rage is checked at a very early age. It becomes intimately associated with prohibition and anxiety-laden fantasies of retribution. Thus, a situation stimulating anger which may become overwhelming presents a threat to the individual and necessitates some defense against this anger. The first line of psychologic defense may be repression, that is to say, actively remaining unaware of the emotion. However, remaining consciously unaware of an emotion does not eliminate the dynamics of that emotion or its somatic concomitants. Repressed or suppressed anger may precipitate the same physiologic reflex patterns as consciously felt emotion. Moreover, the very fact that the individual is unaware of an emotion prevents its adequate discharge. In fact, this unawareness often insures the chronic persistence of the emotion and its physiologic pattern to the point where somatic symptoms result.

That a symptom is psychogenic does not imply that it is not truly distressing to the individual. A psychogenic tension headache may be just as painful as the headache produced by a brain tumor. Regardless of its origin, the pain and disability are usually very real. There is, however, a small group of psychogenic tension headaches in which the patient's physical discomfort is minor despite his elaborate protests of suffering. This group is composed of individuals who utilize the exhibition of illness for the purpose of secondary gain. This secondary gain is most often related to the maintenance of love and security from people emotionally important to the patient. Thus, a wife repeatedly complained of headache with the unconscious hope that this would keep her husband close to her and force a demonstration of tenderness and consideration. These patients are not malingerers in the sense that they consciously feign illness for an ulterior purpose. Rather, it is apparent that the mechanism is unconscious, the patient being quite unaware of the disparity between his complaints and his actual physical sensations and also consciously ignorant of the goal he is striving for with his symptoms. These mechanisms may be classified as hysterical. In the series of 100 consecutive headache cases at the Mount Sinai Hospital Consultation Service, seven patients were found to be in this category.

Therapy

The physician is bombarded with advertising of preparations for the treatment of headache. With the increasing recognition of the widespread incidence of tension headaches much of this advertising directly recommends proprietary preparations, allegedly specific in the treatment of such cases. Also the literature contains a rather bewildering array of papers solemnly comparing the therapeutic effects of one combination of analgesics, antispasmodics, and sedatives with others in a setting of beautifully tabulated if nevertheless doubtfully meaningful statistics.

It is true that medication often does help the patient with tension headaches temporarily. It is often questionable, though, how much of this help is really pharmacologic. All medical procedures have a magic suggestive force, whether it is the mother's anxious administration of a cold compress or the specialist's prescription representing a carefully weighed, grave decision that the amount of phenobarbital shall be $^1/_2$ rather than $^1/_4$ grain. Even the taking of the history and the examination by the physician has this magic quality. Striking examples of this were frequently observed in this series.

In the Mount Sinai Hospital Consultation Service the patient is first examined by an internist and then referred to a number of specialists who perform additional examinations. Usually the neuropsychiatrist is the last physician to examine the patient, this examination occurring two or three weeks after the beginning of the investigation.

It was not at all uncommon to obtain from the patient the statement that his headaches had occurred daily and had been very severe but that since coming to the clinic he had gotten much better. This improvement of course occurred without any medication having been prescribed or any other deliberate therapeutic action on the part of the examining physicians. It may, however, be presumed that the continuous demonstration by a number of physicians of their interest and desire to help the patient in itself was therapeutic and that some of the intensity of the internal conflict was thus alleviated.

Medication does of course have a valid role in the therapy of the psychogenic tension headache in that transient physiologic pathology is present as a reflection of the basic emotional conflicts. However, the role of medication can be considered only as palliative. Drugs may alleviate immediate symptoms during an attack. However, it is apparent that even this benefit may be temporary. For many long-term sufferers from psychogenic tension headaches, medication no longer is effective. More important, medication does not affect the basic precipitating elements of the attack nor alter the predisposition to recurrence. All the various combinations of barbiturates, salicylates, caffeine, codeine, ergotamine, etc., in their usual dosage schedule cannot prevent the recurrence of headache the next time the barometer of internal emotion is set for storm.

Since the psychogenic tension headache is by very definition an emotionally determined phenomenon, it is obvious that psychotherapy must play the major role in any therapeutic regime. This psychotherapy must be such as to enable the individual first to recognize that emotional problems cause his headache and then to resolve these emotional conflicts in a less self-damaging and more economic manner.

Summary

The problem of the psychogenic tension headache is widespread. Various aspects of the diagnosis are discussed. Since dynamic emotional problems such as anger are major determinants in the syndrome, psychotherapy must be the primary approach in the treatment.

960 Park Avenue

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Arsenic in the Treatment of Asthma

Observations of 17 adults who had been treated for asthma with inorganic arsenic underline certain facts relating to asthma in general and this treatment in particular. The inorganic arsenic is a component of the liquid used in the so-called Gay treatment. Four of the patients are reported in detail, three of whom had skin eruptions of varying extent due to the long-continued administration of this chemical. Two patients of the series of 17 had abnormal biochemical tests compatible with liver damage. One had clinical evidence of liver insufficiency, and it appears reasonable to assume that this has happened to many others who have taken inorganic arsenic for extended periods. Nearly all of the patients showed some form of gastrointestinal complaint, appearing two to six weeks after this treatment was started.

There was evidence of renal damage in only one, and arsenic could not be definitely established as the cause. None showed physical evidence of central or peripheral nervous system damage, and no clinical or laboratory evidence of bone marrow damage was found. Insofar as the asthma was concerned, none of the patients was benefited by the treatment.—*O. C. Hansen-Pruss, Ann. Allergy, Jan.–Feb., 1955*

Freon, A New and Safe Refrigerant Anesthetic for Surgical Skin Planing

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During the last several years the Kromayer rotary abrasion technic for the removal of pitted acne scars, pigmentations, tattoo marks, and other skin blemishes has been widely adopted by dermatologists. Various sized dental burrs mounted on a motor-driven flexible shaft are used. In recent years other types of stone and steel abrasive wheels have been developed, with ethyl chloride sprays for anesthesia and for producing rigidity of the skin tissues. With this procedure, hospitalization is not necessary since the operation can be carried out in the physician's office. The main hazard with this method is the ethyl chloride, which is inflammable, explosive, irritating to the skin, and a potentially dangerous anesthetic by inhalation. The use of the ethyl chloride in dermal abrasion also requires an expensive, noisy blower.

The Freon derivatives, Freon Mixture (Freon 114 with another derivative added)[1] and Freon 114 (dichlorotetrafluoroethane),[2] are noncombustible, nonexplosive, nontoxic, nonirritating, have very little odor, and no general anesthetic properties. Freon* is sprayed on the skin in the same way as ethyl chloride; however, no blower is necessary. We have used Freon 114 and/or Freon Mixture in hundreds of cases[3] in which dermal abrasion was done and found both to be safe and efficient and to have no untoward effects (Fig. 1). In a short time even more efficient Freon Mixtures will undoubtedly be developed.

Because of the safety and convenience of this refrigerant anesthetic, we believe that it will become a part of the standard equipment in the general practitioner's office as well as that of the dermatologist. The refrigerant anesthetic Freon can be used also for many other purposes, such as for the incision of furuncles, removal of warts, keratoses, skin tags, or wherever ethyl chloride has heretofore been used as a local anesthetic.

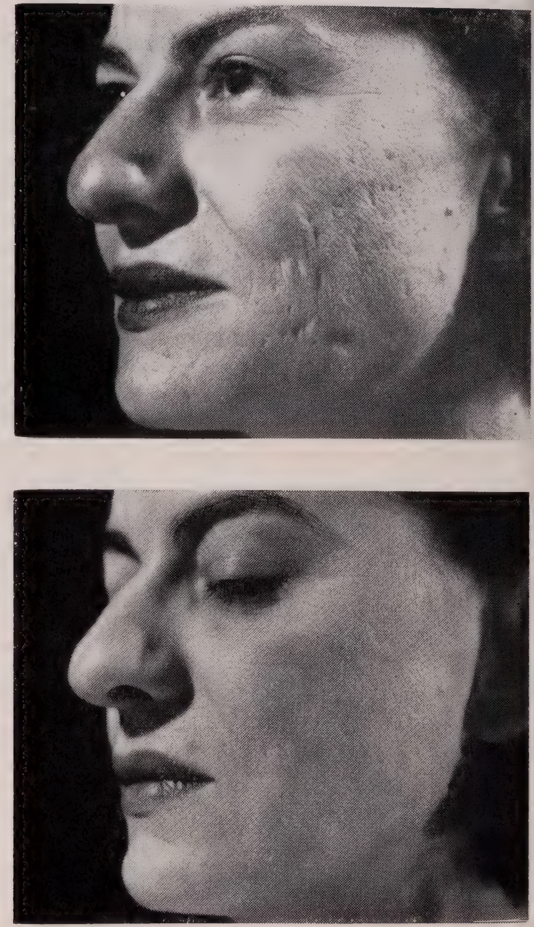

Fig. 1. (*Top*) Patient, age thirty-four, with pitted acne scars of left side of face, six years duration. Before dermal abrasion. (*Bottom*) Cosmetic result after single dermal abrasion done by the high-speed rotary heatless stone grinder (30,000 r.p.m.) using Freon Mixture, the new noncombustible refrigeration anesthetic.

745 Fifth Avenue

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* Product of E. I. Dupont de Nemours & Co., Wilmington, Delaware. The cans of Freon with the sprayer tops may be obtained from Scully-Walton Company, 254 West 69th Street, New York City, or Brachvogel Hovey Company, 1731 West Seventh Street, Los Angeles, California.

Carcinoma of the Vulva

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THERE have been 52 instances of carcinoma of the vulva at the Kings County Hospital in the ten-year interval from 1943 through 1952. A review and tabulation of these cases constitute the following study. This hospital is one of the largest charity institutions in the United States. As such it not only receives cases in all stages of disease but, in addition, has great difficulty in establishing adequate follow-up of its treated patients. The poor survival rates noted in this study are a result of this situation and are in contrast to the results which could have been attained under more ideal circumstances.

Table I shows the age and color distribution of these patients. While the general population of the gynecologic service is 75 per cent Negro, it will be noted that just the opposite obtained in patients with vulvar carcinoma. Also of interest is the fact that while the disease occurs predominantly in white women, when it does appear in the Negro, it occurs at a much earlier age.

Table II indicates the country of origin of these patients as compared with an adequate sample of our ward population adjusted for color so as to be comparable to the cases under consideration. This brings out rather clearly the high incidence of the disease in women of south European origin, an aspect which may be worthy of further investigation; perhaps smear preparations in these women may help in earlier diagnosis.[1]

The lesion involved the entire vulva in 24 patients, one or other of the labia in 16, the anterior vulvar area in five, the posterior vulvar area in two, and the clitoris in five. The disease process was extensive in 37 of 52 patients. McKelvey[2-4] has staged the degree of involvement as follows:

Stage I — a tumor of 10 square cm. or less.
Stage II — a tumor of 10 square cm. or more.

TABLE I.—DISTRIBUTION ACCORDING TO AGE AND COLOR

Age Group	Number of Patients	Color	
		Negro	White
20 to 29	3	3	0
30 to 39	0	0	0
40 to 49	8	5	3
50 to 59	7	1	6
60 to 69	12	1	11
70 to 79	17	0	17
80 to 89	5	0	5
Total	52	10	42
Median Age		42	70.6

TABLE II.—DISTRIBUTION ACCORDING TO COUNTRY OF ORIGIN

Country	Patients with Vulvar Carcinoma		Adjusted Clinic Population* (Per Cent)
	Number	Per Cent	
United States	17	32.7	72.2
South European	17	32.7	7.7
North European	5	9.6	9.7
Puerto Rican	2	3.8	5.0
South American	0	0	0.3
Other and unknown	11	21.2	5.1
Total	52	100.0	100.0

* Adjusted for color.

TABLE III.—CONCOMITANT OR ANTECEDENT DISEASES

Disease		Number of Patients
Lymphopathia venereum		5
Leukoplakia		5
Other malignancies		5
Breast	2	
Cervix	3	
Chronic dermatitis		1
Condylomata		1
Total		17

TABLE IV.—DISTRIBUTION ACCORDING TO SYMPTOMS

Symptom	Number	Per Cent
Pruritis	13	25.0
Mass	13	25.0
Pain	8	15.4
Ulcer	9	17.3
Bleeding	7	13.5
None recorded	25	48.0
Total patients	52	

TABLE V.—DURATION OF SYMPTOMS

Period of Time	Number of Patients
Under 1 month	2
1 to 2 months	9
3 to 6 months	3
6 months to 1 year	4
1 to 2 years	5
2 or more years	6

Presented at the International Congress on Gynecology and Obstetrics, Geneva, Switzerland, July, 1954.

TABLE VI.—RELATION OF PATHOLOGIC LESION TO SURVIVAL

Pathologic Lesion	Total	Known Alive	Known and Presumed Dead	Unknown
Squamous cell cancer	38	4	30	4
Basal cell cancer	3	1	2	..
Squamous and basal cell cancer	1	..	1	..
Adenocarcinoma	1	..	..	1
Melanosarcoma	2	..	2	..
Bowen's disease	2	2	..	..
No biopsy	5	..	5	..
Total	52	7	40	5

TABLE VII.—SURVIVAL OF GROUP

Status	Number of Patients
Known dead	35
Presumed dead	5
Lost to follow-up	5
Known alive	7
Total	52

Stage III — a tumor of any size which involves not only the vulva but urethra, vagina, rectum, or anus.

Stage IV — a tumor of any size with clinically evident abdominal or distant metastases.

Employing this classification, these patients were distributed as follows: stage I, ten patients; stage II, five patients; stage III, 20 patients; stage IV, 17 patients. In addition lymph nodes were palpable and presumed to be positive in 38 instances.

Table III lists some relevant concomitant and antecedent diseases. It will be noted that lymphopathia venereum occurred five times. Since the condition occurred only in Negro patients, of whom there were ten, its significance assumes great importance. Leukoplakia was present twice at the time of discovery of the carcinoma. Furthermore, two patients had a history of leukoplakia, and one patient developed the disease after simple vulvectomy at another hospital for carcinoma of the vulva. This incidence of leukoplakia is considerably less than the 50 per cent incidence reported by Langley, Hertig, and Smith[5] and Watson and Counsellor.[6] Two of our patients had had radical mastectomy for carcinoma of the breast; two had had carcinoma of the cervix, and one subsequently had an intraepithelial lesion of the cervix.

Of the 27 patients in whom symptoms were noted, pruritis and a mass were the most prominent complaints, each of these being noted 13 times (Table IV). Pain was the complaint in eight patients. Nine patients complained of ulcer of the vagina. Bleeding was the complaint in seven patients. The duration of the symptoms before medical aid was sought ranged from one month to over two years (Table V).

It is to be noted from Table VI that squamous cell carcinoma was by far the most frequent pathologic lesion. Five patients had no biopsy, but there was little doubt as to the existence of carcinoma for they were all in a terminal phase on admission. In this same table is recorded the final outcome of the patients. It is seen that of the seven patients known to be alive, three had either basal cell carcinoma or Bowen's disease.

TABLE VIII.—RESULTS OF TREATMENT

	Total	Dead	Alive	Unknown
Treated at Kings County Hospital				
Radical vulvectomy	9	4	3	2
Radical vulvectomy and radiation	2	2	..	..
Simple vulvectomy	7	2	4	1
Radiation alone	4	3	..	1
Total	22	11	7	4
Treated primarily elsewhere				
Radical vulvectomy	1	1	..	..
Radical vulvectomy and radiation	2	2	..	..
Simple vulvectomy	3	3	..	..
Simple vulvectomy and radiation	3	3	..	..
Radiation alone	1	1	..	..
Total	10	10	..	..
No therapy or local excision or inadequate radiation	20	19	..	1
Total	52	40	7	5

TABLE IX.—Details of Those Known or Presumed Dead, Primary Cases

Therapy and Survival	Number of Patients	
No therapy, local excision, or inadequate radiation		
Less than 30 days		5
1 to 4 months		8
4 to 8 months		4
8 to 12 months		2
Definitive therapy		
Simple vulvectomy		2
2½ years	1	
20 days*	1	
Radical vulvectomy		4
2 months	1	
7 months	1	
7½ years†	1	
5 years**	1	
Radical vulvectomy and radiation		2
9 months	2	
Radiation alone		3
2⅓ years	1	
2½ years	1	
3¾ years	1	

* Died of pulmonary embolus.

† Returned with recurrence, had cordotomy for pain, died of pulmonary embolus.

** Died of osseous metastases.

Tables VII to XI summarize results of treatment and survivals.

The rather difficult situation engendered by a large city hospital population is indicated by the fact that of this group only 22 received some form of definitive therapy at the Kings County Hospital (Table VIII). Furthermore, it was sometimes mistakenly thought that many of the patients were in such poor condition that they could not withstand definitive surgery. It is now quite generally recognized that radical vulvectomy with adequate lymph node dissection is the best form of treatment for these patients. In the past two years, since the State University has been in charge of the service, an efficient tumor clinic has been organized. Many of these patients formerly considered hopeless have now been brought to a state of operability. There were 11 patients treated with radical operations, with or without radiation, of whom three are now alive. Table XI shows that all of these latter were stage I lesions (McKelvey), and none had lymph node involvement; of the others, two were stage II, one was stage III, and five were stage IV. In addition, there were seven who were treated with simple vulvectomy. Surprisingly there are four of these known to be alive, of whom three, however, had either basal cell carcinoma or Bowen's disease. Many of the patients who have died have not expired from their tumor but from diseases incident to their advanced age.

TABLE X.—Details of Those Known or Presumed Dead, Secondary Cases (Treated Elsewhere)

Therapy and Survival	Number of Patients	
Simple vulvectomy		3
1 year	3	
Simple vulvectomy and radiation		3
6 months	1	
1 year	1	
2 years	1	
Radical vulvectomy		1
1 year	1	
Radical vulvectomy and radiation		2
2 years	1	
5 years	1	
Radiation alone		1
Died while receiving therapy	1	

Comment

This study of vulvar carcinoma has been undertaken in order to assess the problem of this disease in a large city hospital. The large number of patients admitted in a terminal phase (fully 40 per cent) is striking. This phase of the problem can be met only by earlier and more accurate diagnosis. Of interest is the fact that 11 of the advanced cases were in the Kings County Hospital for some medical disease one to three years prior to the diagnosis of extensive vulvar carcinoma. In not one instance was a pelvic examination recorded on the history of the first admission.

Another interesting aspect is the relationship of vulvar carcinoma to previously occurring vulvar granulomas. Thus while vulvar carcinoma is found less frequently in Negro women, when it does occur, it appears at an earlier age. In this series seven of the ten Negro women gave a history of vulvar granulomas. This would seem to bear out the findings of Rainey[7] and others.[8–10]

Finally it may be said that our approach to this problem is surgical and radical. It is our present opinion that with proper care and supportive treatment most, if not all, of these patients can be so treated. This is well illustrated by a recent successful operation on an eighty-two-year-old woman.[11] There seems to be no place for radiation therapy in this disease. The technics of Way,[12] Twombly,[13] Meigs,[14] and Mendelsohn[15] are followed. A wide dissection of the deep and superficial inguinal nodes along with extraperitoneal stripping of the iliac vessels and removal of the obturator nodes is carried out. The vulva is widely removed with cautery and knife. With care, healing can in most instances be brought about by first intention.

TABLE XI.—Details of Patients Known to Be Alive

Patient	Size of Lesion (Cm.)	Pathology	Treatment (Vulvectomy)	Period Since Treatment
E. S.	1	Squamous cell	Simple	7 years
E. C.	Small mass	Bowen's	Simple	7 years
R. R.	3	Basal cell	Simple	4 years
M. B.	1	Squamous cell	Simple	2 years 4 months
A. B.	1	Squamous cell	Radical	1 year 10 months
S. F.	2	Squamous cell	Radical	1 year 9 months
W. H.	5	Bowen's	Radical	1 year 6 months

Conclusion

In conclusion the following items are of note:

1. Vulvar carcinoma occurs more frequently in white women than in Negroes.
2. In white women it would seem to be of more frequent occurrence in those of south European origin.
3. Vulvar carcinoma occurs in Negro women at an earlier age than in white women, and in the former it is frequently preceded by vulvar granulomas.
4. One of the problems found in a large city hospital is the high proportion of patients admitted late in the course of their disease.
5. Vulvar carcinoma is treated in this clinic by radical and definitive surgery.

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Gelatin in the Treatment of Brittle Nails

Thirty-six subjects with brittle, splitting nails were put on gelatin therapy for three months, along with eight hospitalized elderly patients with normal nails except for the longitudinal ridging common in old age. At the end of the trial period, 26 of the 36 brittle nail cases showed much improvement in that the splitting was arrested and the nails could be manicured up to a point. One case was slightly improved; nine were classed as failures. Three of the failures were diabetic patients. There were five with psoriatic nails, and all of these were considered improved. Nails of the eight control cases were unchanged. Congenital nail deformities were not affected. The authors discuss possible etiologic factors, which up to now have not been definitely determined. They feel that the condition may be in some way related to occupational and metabolic factors, even though many possible ones have been eliminated. Most brittle nails occur in women, and these writers feel justified in assuming that they are one of the occupational diseases of housewives based on a metabolic predisposition of unknown origin. The gelatin treatment remains on an empiric basis.

—*S. W. Rosenberg, M.D., and Kurt Oster, M.D., Connecticut M. J., March, 1955*

A Comparison of Therapeutic Efficacy Between a Triple Sulfonamide Mixture and Gantrisin in Urinary Tract Infections

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THIS report describes therapeutic and bacteriologic results of a study comparing the relative efficacies of Gantrisin and a triple sulfonamide mixture in human urinary tract infections. It is designed to clarify confusion concerning claims that one or the other is better, more powerful, and simpler therapy. The attempt is, in our minds, somewhat successful. The work done follows, in a logical fashion, the many observations recorded about relative merits of various sulfonamides, a bibliography too extensive to list. In particular it challenges a recent statement of Dr. David Lehr, an investigator whose work with the sulfonamides is both basic and important. He concludes that, "triple mixtures of sulfonamides are better preparations for the treatment of systemic infections, whereas Gantrisin possesses the more desirable properties for urinary antisepsis."[1] It also attempts in a less precise way to establish in fact that combinations of sulfonamides may lead to depressed antibacterial activity, as suggested by Weinstein and Murphy,[2] or to prove that the depression is not important clinically.

Material and Methods

PATIENTS.—Fifty-four patients with common urinary tract infections were treated with at least one course of either Gantrisin or a triple sulfonamide mixture. Each was a patient on one of the medical services of the Syracuse Medical Center Hospitals; his admission generally was initiated by some other medical ailment, and the urinary infection was coincidental only. Ages ranged from sixteen to eighty-seven years, and there was an approximately even division in numbers between male and female. Average age of the entire group was 59.6 years (median age 66.5 years), and there was no appreciable difference in the two treatment groups.

INFECTIONS.—Each patient exhibited signs and symptoms of an acute or recent urinary tract infection prior to admission into the study. All had pyuria (more than 10 to 15 leukocytes per high power microscopic field in a centrifuged specimen); microscopic bacilluria and a positive urine culture taken under close to aseptic conditions; fever, dysuria, hematuria, and/or flank pain; and a history and examination suggesting, at least, a specific urinary tract complaint—cystitis (ten cases), obstructive prostatitis (18 cases), pyelonephritis and pyelitis (nine cases), and chronic urologic defect with infection, e.g., a relaxed pelvic floor, renal calculi with obstruction, and infection (17 cases). No serious attempt was made to define precisely the anatomic defect underlying the patient's problem unless it was particularly important, for the purpose of the study was not the cure of a total disease; rather immediate control of the acute infection was primary.

INFECTING BACTERIA.—Bacteria were recovered by culture from every patient upon admission to the study. Some had two or more organisms in the first culture. Others were cured of first infection, only to relapse subsequently, the relapse being caused by the same or another species of bacteria. The 54 patients had 73 courses of treatment for specific urinary infections. Of the 73, 23 were treated with triple sulfonamide for a single organism infection, and 28 were treated with Gantrisin. There were 13 treatment courses with triple sulfonamide and nine treatment courses with Gantrisin for infections associated with multiple organisms (Table I). In order of frequency of occurrence, organisms treated were Escherichia coli, Aerobacter aerogenes, alpha hemolytic streptococcus (fecal),

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TABLE I.—Treatment Results in 73 Patients

	Gantrisin	Triple Sulfa
Infection by a single organism		
Cleared completely (clinical and bacteriologic)	12	5
Cleared original organism, appearance of a second organism at time of relapse	6	2
No change in cultures (failure)	9	9
Failure to clear initial culture and appearance of a new organism (failure)	1	7
Total	28	23
Infection by multiple organisms		
Cleared completely	2	3
Cleared original organism, appearance of a third organism at time of relapse	2	3
Partial failure; no new growth but persistence of at least one of the original organisms	0	1
Partial failure, clearing of most of the original organisms but appearance of a new organism	4	3
Failure to clear completely initial culture and appearance of a new organism	1	3
Total	9	13
TOTALS	37	36

TABLE II.—Treatment Results According to Infecting Organism

Organism and Drug	Total	Success	Failure
E. coli			
Gantrisin	10	8	2
Triple sulfa	14	7	7
	24		
A. aerogenes			
Gantrisin	11	4	7
Triple sulfa	13	7	6
	24		
Streptococcus (alpha)			
Gantrisin	4	4	0
Triple sulfa	6	1	5
	10		
Staph. aureus			
Gantrisin	8	6	2
Triple sulfa	2	0	2
	10		
A. cloacae			
Gantrisin	2	0	2
Triple sulfa	7	3	4
	9		
Streptococcus (beta)			
Gantrisin	4	4	0
Triple sulfa	3	3	0
	7		
Proteus (species)			
Gantrisin	5	2	3
Triple sulfa	2	1	1
	7		
Paracolobactrum (species)			
Gantrisin	4	3	1
Triple sulfa	1	1	0
	5		
Pseudomonas (species)			
Gantrisin	0	0	0
Triple sulfa	3	2	1
	3		
Total organisms treated			
Gantrisin	48	31 (64%)	17
Triple sulfa	51	25 (49%)	26
	99	56 (57%)	43

Staphylococcus aureus, A. cloacae, species of Proteus, beta hemolytic streptococcus, species of Paracolobactrum, and species of Pseudomonas (Table II). Details of methods utilized in isolation and identification of bacteria have been purposely omitted.

Treatment.—No other antimicrobial agent than the sulfonamide was administered during the period of study. The invariable drug regimen was 4 Gm. daily orally without alkalinization. The course of treatment was extended for a minimum of four days (16 Gm. total) and longer if the microscopic urine on the fourth day revealed abnormal sediment and/or bacilluria. A post-treatment culture was obtained immediately upon cessation of therapy. Median days of treatment for Gantrisin was seven and for triple sulfonamide eight. The range was from four to twenty-two days.

Infectious relapse occurred after from five to more than fourteen days. Retreatment was instituted upon first identification of organisms in the follow-up urine cultures, which were taken at approximately weekly intervals following completion of a course of treatment.

Gantrisin, prepared by Hoffmann-La Roche, Inc., was 3, 4-dimethyl-5-sulfanilamido-isoxazole. The triple sulfonamide, prepared by Lederle Laboratories, contained equal quantities of three sulfapyrimidines (sulfadiazine, sulfamerazine, and sulfamethazine).

Results

In general, clinical results with the two drugs failed to reveal significant differences; each was satisfactory in most ways. Relief of annoying symptoms was usually prompt, i.e., within seven days, and urines, when cleared of organisms, became sterile after the fourth day. Although there were many clinical and bacteriologic relapses post-treatment, such were anticipated, for no effort had been expended to rectify specifically underlying urologic defect.

Tables I and II depict results of therapy in the two series. Infections caused by single

TABLE III.—FOLLOW-UP OF CASES WITH FIRST INFECTION COMPLETELY CURED*

	Original Treatment	
	Gantrisin	Triple Sulfonamide
Number of patients	14	8
Number followed	6	5
Number remaining cured	4	2
Number of relapses		
New organism	2	2
Same organism	0	1

* As evidenced by sterile urine cultures and symptoms.

organisms were controlled well in 17 of 51 cases (five of 23 with triple sulfonamide and 12 of 28 with Gantrisin as shown in Table I). In eight others drug therapy altered favorably the subsequent urine cultures. There were 26 bacteriologic failures (16 in the triple sulfonamide group, ten in the Gantrisin). The successes in treatment of infections associated with two or three organisms were of the same order. Six of 13 cases treated with triple sulfonamide and four of nine cases given Gantrisin benefited partially or completely (approximately one half of each series showed maximal effect).

The relative effects of the two drugs upon specific bacteria revealed clear differences (Table II). Many patients had two or three organisms in the initial urine culture. In the table each of the 99 organisms is labeled regardless of whether it was singly causing the infection or associated with another species. Gantrisin had a more powerful effect than triple sulfonamide in reversing cultures containing E. coli (80 per cent success versus 50 per cent). Contrariwise the triple sulfonamide mixture was more active against A. aerogenes (61 per cent success versus 36 per cent). Triple sulfonamide failed to control alpha streptococci, and Gantrisin had no significant effect on the Proteus. Relative effectiveness on the remaining organisms was equivocal.

Sterile urines with clinical cures were accomplished on 22 occasions, 14 with Gantrisin, eight with the mixture (Table III). Eleven of these had careful follow-up. Six individuals remained free of infection; five relapsed after from four to twelve weeks. Four of these had a new infecting bacteria, and in one the original organism recurred. Results of retreatment are incorporated in total results; they were not different from first treatment courses (Table II).

An average of somewhat more than 32 Gm. of sulfonamide was administered on 73 occasions to 54 individuals. Four patients received four separate courses (more than 120 Gm.). No hypersensitivity phenomena developed, and no other evidence of untoward side-reactions to either preparation was observed.

Comment

Sulfonamides continue to be probably the best among the many antimicrobial agents available for routine use in urinary tract infections. Their advantages are many: cost, ease of administration, safety, absence of gastrointestinal symptoms, equal potency, and infrequency of resistant organisms emerging on exposure to them. Furthermore, the bacterial spectrum against which they demonstrate potency is broad; indeed, as evidenced in this unselected series of infections, some degree of benefit was experienced by the majority of patients. These several profits are apparently not the unique property of a single preparation of a sulfonamide. Recently two have emerged which seem to combine these good qualities with a low degree of toxicity. Because the triple sulfonamide mixture which was used contains three sulfapyrimidines, it is presumed that allergic reactions will not be increased three or more fold over those expected with a single chemical. Experience of others indicates that this is indeed fact.[1] Solubility of either the mixture or of Gantrisin in acid urine is not significantly different. With either drug the chance for crystallization in kidney and the development of a serious kidney defect is slight.[1] The choice between the two consequently cannot be made from their respective toxicities.

Similarly there seems to be no essential difference between them in their ability to excite unfortunate changes of bacterial flora in urine during their administration nor to encourage certain strains or species of bacteria to emerge resistant to them, both of which phenomena are unusually common following the administration of broad-spectrum agents such as the tetracycline analogs.[3,4]

In this study clinical responses were essentially the same in both series, similar enough to warrant no statement about respective merit or worthiness. Despite the recorded observations of others that Gantrisin permits high, sustained urine concentrations and that it should, therefore, be a more effective agent in therapy of urinary tract infections,[1] the advantage was not here measurable, either objectively or subjectively.

Our bacteriologic observations fail to confirm entirely the fears of Weinstein and Murphy[2] that combinations of sulfonamides depress antibacterial activity of a single drug. Although they did not use the three sulfapyrimidines described here, their in vitro results were consistent and clear. Perhaps we might agree with them in one respect: the single chemical, Gantrisin, was more efficacious than the mixture in treatment of gram-positive bacterial infections (alpha streptococcal and staphylococcal). On the other hand, the beta streptococcal infections were equally well affected, and there was no clear difference among the gram-negative group. On the basis of these bacteriologic and clinical observations, therefore, it cannot be suggested that a combination of three sulfapyrimidines is less potent as a whole than a single sulfonamide such as Gantrisin.

It must be emphasized that in the type of urologic disease studied, antimicrobial therapy only controls the infectious part of an otherwise abnormal body system. No effort is made to define the more important medical and surgical approaches which might have rectified underlying pathology; drugs were and are adjunctive only. Thus, although an appreciable proportion of patients failed to be cured (43 per cent), the fact is not pertinent to the purpose of the paper. Indeed the cure rate actually seems remarkably good, considering the fact that over 80 per cent of the subjects had permanent anatomic damage to the urinary tract.

The measurement of over-all therapeutic efficacy must, therefore, be relative. On the surface Gantrisin is the superior drug—over-all success in 64 per cent of the patients versus 49 per cent for the mixture. However, this difference of questionable statistical significance ($p = 0.1$). Gantrisin is not the superior agent in certain clear specific infections. For example, the two commonest pathogens are E. coli and A. aerogenes. In management of infections caused by these, the two agents give about the same degree of protection (14 successes in 27 cases versus 12 successes in 21 cases). Although in other infections one or the other preparation offers more consistent effect, the information is of questionable practical value. In the treatment of common urinary tract infections of an acute order or infections superimposed on a chronic urologic defect, as was true for the most part in this series, if routine urine cultures were performed and the regimen of therapy outlined from their results, choice of agent could be made specific. Such is not practiced commonly. Choice of drug then becomes empiric, and from these observations there is no best one.

The argument that Gantrisin is a better agent for urinary tract infections because higher urinary levels are attained and maintained than is true with a sulfapyrimidine mixture is not necessarily pertinent. In patients who have infection plus chronic kidney ailment of any order, it probably is more sensible to control the infectious part by maintenance of drug at the site through adequate blood levels than by having high concentrations of sulfonamide in urine flowing across or through such areas. If the infection is known to be on some surface of the urinary tract and not embedded in parenchyma, then high urinary levels would be efficacious, but such must be the case only on the infrequent occasion.

We must then recommend that from the observations recorded, a mixture containing three sulfapyrimidines is no better or worse than Gantrisin in the control of acute urinary tract infections caused by the common pathogens. It can be suggested that as a routine sulfonamides are better than broad-spectrum antimicrobial agents in treatment of urinary tract infections because of their safety, convenience, cost, broad antibacterial activity, and the observation that serious floral changes do not occur with their administration.

Summary

Fifty-four patients received 73 courses either of sulfonamide mixture containing three pyrimidines or of Gantrisin for the sole management of their urinary tract infections caused by 99 different pathogenic organisms. Neither drug proved superior to the other. Over-all successful management of these infections suggests that either preparation is better and safer than broad-spectrum antibiotics for treatment of common urinary tract infections.

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The Results of Thymol Turbidity and Flocculation Studies in Blood Donors and the Development of Viral Hepatitis in Recipients

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(*From the Blood Bank of the United Hospital*)

THE purpose of this presentation is to report (1) the results of the thymol turbidity and thymol flocculation studies on 1,018 donors taken in the blood bank of the United Hospital, and (2) to report on the incidence of viral hepatitis which developed in the recipients of the blood, in order to make available additional data in the search for suitable screening tests for the detection of the carrier state.

The study, which began on February 15, 1954, was terminated on February 15, 1955. During that period 1,107 units of whole blood were drawn. Of these, thymol turbidity and flocculation tests were performed on 1,018. All potential donors were carefully screened, and the donor requirements which are generally accepted and recently reviewed and summarized by Trumbull[1] were followed.

The United Hospital Blood Bank serves a fairly stable population, and donors and recipients can be carefully followed as a rule. One third of the donors had donated within the year previous to the study in our blood bank, and 90 per cent had donated either in our blood bank or in other collecting centers within reasonable periods prior to the donations given during the study.

We purposely limited the study to the thymol screening procedure with the intention of giving the whole blood regardless of the results of the tests since the data available to measure the correlation between thymol turbidity titers and the existence of the carrier state seemed to be insufficient to warrant widespread use of this test as a single screening procedure.

All thymol turbidity tests were carried out on serum using the modification outlined by Reinhold[2,3] for the preparation of the reagent buffered at pH 7.55 and with strict adherence to the required 25 C. reaction temperature. Hemolysis was avoided. The turbidity readings were made in a Klett-Summerson photoelectric colorimeter, and the flocculation readings were made after standing at a temperature of 25 C. for a period of eighteen hours.

Three of the 1,018 units of whole blood tested were not used, and of the 1,015 units which were given, three of the recipients to date (one hundred days following completion of the study) have developed hepatitis, an incidence of 0.3 of 1 per cent which is a low minimal incidence according to available information.[4] The diagnosis of serum hepatitis in the recipients was made from the clinical and laboratory findings of the disease appearing within the intervals of seventy-six, fifty-seven, and ninety-two days after the transfusion of whole blood.

The accompanying table shows the correlation

TABLE I.—CORRELATION BETWEEN THYMOL TURBIDITY, THYMOL FLOCCULATION, AND LACTESCENCE

Thymol Turbidity Units (pH 7.55)	Clear Serum	Lactescence				Thymol Flocculation				Total
		Plus 1	Plus 2	Plus 3	Plus 4	Negative	Plus 1	Plus 2	Plus 3	
0 to 1	308 (85%)	37	12	4	0	358	1	...	2	361
1 to 2	353 (76%)	67	26	10	4	452	6	1	..	459
2 to 3	73 (57%)	26	19	6	3	123	4	1	1	127
3 to 4	15 (36%)	7	7	7	5	34	5	1	1	41
4 to 5	3 (16%)	4	4	5	3	14	4	1	...	19
5 to 5.5	0	1	...	1	4	5	1	...	...	6
5.5 and over*	...	...	...	1	4	5	...	...	...	5
										1,018

* 6.6, 8.7, 9.4, 10.4, 15.6.

between the results of the thymol turbidity and flocculation titers and the degree of lactescence observed in the sera (Table I). Of the 21 sera having a thymol turbidity within the normal range and an equivocal flocculation of plus 1, 11 were clear, and ten had an observed lactescence of from plus 1 to plus 3. Of the eight sera having a plus 2 to 3 thymol flocculation and reported positive, two were clear, and six had an observed lactescence of plus 1 to 3.

All five sera with thymol turbidity units above the 5.5 accepted as the maximum normal using a pH of 7.55 had an observed lactescence of from plus 3 to 4. We considered all of these high values for turbidity to be associated with the degree of lactescence and it in turn to be the result of the consumption of fatty food prior to the donation. This was confirmed in the donor having the highest turbidity obtained of 15.6 units. When he was called back within forty-eight hours and the blood was obtained in a fasting state, the thymol turbidity was 3.7 units. A second donor, with a turbidity of 9.4 units and an observed lactescence of plus 4, donated on two subsequent occasions during the study; both times the serum was clear, and the turbidity values were 1 and 2.8 units. A third had donated on two occasions prior to the study, and the sera had been clear. Two of these five units were discarded because of hemolysis. The remaining three were given without resulting in any reaction on the part of the recipients.

Three cases of serum hepatitis developed, and the following is a summary of each case:

Case 1.—M. P. received three transfusions following an operation for acute appendicitis with perforation and generalized peritonitis. She developed hepatitis seventy-six days after the receipt of the third. The thymol turbidity findings on all three donors were within the normal range, and the flocculation tests were negative. Repeat thymol turbidity and flocculation, bilirubin values, and cephalin cholesterol flocculation tests on two of the donors were all within normal range. The third donor could not be obtained for further study.

Case 2.—J. G. received two transfusions during treatment for bleeding peptic ulcer. He developed hepatitis fifty-seven days after the first transfusion. One unit of whole blood was from our bank, and the thymol turbidity and flocculation tests were normal. The second unit was received through credit from the New York City Red Cross blood bank. Upon request they were unable to get in touch with the donor, and thymol turbidity and thymol flocculation tests were not carried out on the pilot tube of blood received.

Case 3.—A. C. received 1 unit of whole blood while undergoing a total gastrectomy and developed hepatitis ninety-two days later. The donor had a thymol turbidity of 0.9 units and a negative flocculation at the time of the donation. He was recalled and had a thymol turbidity of 1.6 units, negative flocculation, normal icteric index and bilirubin values, and a negative cephalin cholesterol flocculation at the time the recipient developed hepatitis.

Summary

A report is made of the results obtained on the thymol turbidity and flocculation tests on 1,018 donors and the incidence of viral hepatitis which developed in the recipients of the whole blood, in order to make available additional data in the search for suitable screening tests for the detection of the carrier state. Five units of the whole blood were given to the three recipients who developed the disease. One was given an additional unit from an outside source. The thymol turbidity and flocculation values obtained on these five donors were all within normal limits. No case of viral hepatitis developed in the recipients of blood of donors having a thymol turbidity of over 5.5 units (pH 7.55) or in the recipients of blood of donors having equivocal (flocculation plus 1) or positive thymol flocculation tests. The donors were all carefully screened, and the incidence of viral hepatitis of 0.3 of 1 per cent is considered to be low.

The author wishes to acknowledge the technical assistance of Miss M. L. Heckman and Mrs. Edith Oblatt.

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Give to every human being every right that you claim yourself.—Robert Ingersoll

Cancer in Association with Postoperative Anal Stenosis

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(From the Surgical Service of the Beth Israel Hospital)

STENOSIS of the anal canal following the performance of anorectal operations, notably hemorrhoidectomy, occurs oftener than the literature would seem to indicate.[1] The caliber of the stenosis may be either very small in size, so that a well-lubricated, gloved little finger cannot be passed, or medium in size, permitting the passage of a little finger but not of the average-sized index finger. Most of the patients with small-calibered anal stenosis take cathartics and/or mineral oil to maintain their stools in a liquid state in order to secure bowel movements. The common symptoms are (1) increasing straining at defecation associated with a sense of incomplete evacuation, (2) tenesmus, and (3) pain. These symptoms may occur singly or in combination. Pain is usually the result of associated fissures. Anal stenosis requires surgical plastic correction since it invariably fails to respond to digital or instrumental dilations.

Bleeding is seldom observed and is frequently ascribed to the associated congestion of the anorectal tissues. Since patients with induced anal stenosis are notoriously unreceptive to diagnostic procedures, a comprehensive proctoscopic examination is usually not performed. Our recent experience, however, shows that bleeding may be due to cancer and that the latter can be demonstrated with relative ease by endoscopy.

Case Reports

CASE 1.—A white woman, fifty-eight years old, was admitted to the Beth Israel Hospital on February 2, 1948. She complained of bleeding from the rectum of two months duration and of the passage of ribbon-sized or watery stools for the past several years. The pertinent facts in the past history were a hemorrhoidectomy performed in 1930 and a reoperation in 1941 for recurrent hemorrhoids. Sigmoidoscopy was unsuccessfully attempted before admission, but a roentgen ray examination by means of barium and air double contrast had revealed a defect and partial obstruction at the rectosigmoid.

Physical examination was essentially normal except for a medium-calibered anal stenosis; it was impossible to introduce the index finger beyond the first joint because of pain.

Because the urinalysis after admission to the hospital showed many erythrocytes, a complete urologic investigation was made. Retrograde pyelography revealed irregularity of the calyces and the pelvis of the left kidney.

Sigmoidoscopy was carried out on February 20 under Demerol-scopolamine analgesia using a scope $^5/_8$ inch (1.6 cm.) in diameter after preliminary, gentle, digital dilatation of the anal canal with the tip of the little finger. At 5 inches (12.5 cm.) from the anal verge there was a polypoid, bleeding, soft mass.

A biopsy was performed by removing several specimens from different areas of the neoplasm for microscopic indentification. The histopathologic examination of the removed tissue revealed a markedly anaplastic adenocarcinoma. Consequently on March 19 an abdominoperineal resection of the rectum was performed. Incidentally, at operation extensive metastases to the liver and encroachment of the pelvic portion of the left ureter by the neoplasm were discernible.

CASE 2.—A white man, fifty years of age, was admitted to the Beth Israel Hospital on May 4, 1948. He was hospitalized primarily for the investigation and treatment of a mass in the mediastinum and possible renal lithiasis. On routine physical examination by a member of the house staff a medium-calibered anal constriction with tenderness was elicited. Further interrogation revealed episodes of bleeding from the rectum occurring at or independent of the act of defecation for several years. The past history included a hemorrhoidectomy performed six years prior to admission to this hospital. Another anorectal operation was carried out one year later for the relief of anal stenosis; this operative procedure is said to have caused a further decrease in the diameter of the anal canal.

Proctoscopic examination revealed an anal stenosis which barely admitted the tip of the index finger. Immediately above the stenosed area there was present a large, fungating neoplastic mass which almost entirely encircled the bowel. The histopathologic examination of fragments of the tumor removed with the aid of a biopsy forceps revealed an adenocarcinoma. An abdominoperineal resection of the rectum was subsequently performed.

Case 3.—A white woman, eighty years old, was seen in the office on October 25, 1950, because of bleeding from the rectum of several years duration and severe straining at defecation unless cathartics were taken to liquefy the stool. The past history included a hemorrhoidectomy that was performed some twenty-five years ago. Physical examination revealed evidence of malnutrition, moderate distention of the abdomen, a large liver with an irregular, nodular border two to three fingerbreadths below the costal border, and a constricted anal outlet that would not permit the passage of the little finger. A small-calibered (so-called infant size) sigmoidoscope was passed for a distance of 15 cm. (6 inches) and yielded only fresh blood which obscured the already limited visualization that may be obtained with small-sized scopes.

The patient was hospitalized, therefore, at Beth Israel Hospital on October 27, 1950, and two days later an anoplasty was performed. At the conclusion of the operation, when the anal orifice readily permitted digital and instrumental examination, the existence of a huge, soft, villous-appearing neoplasm filling the entire ampulla at a level of about 10 cm. (4 inches) from the anal verge was discovered. The exact origin and the degree of cephalad extension of the tumor could not be ascertained at this time.

However, 15 fragments of tissue from various areas of the tumor were removed for microscopic identification. The histopathologic studies revealed a villous (papillary) adenoma without evidence of malignant degeneration. Subsequent double contrast roentgen studies of the colon by means of barium sulfate and air enema failed to reveal other lesions.

On November 7 large, superficial, and deep portions of the neoplasm were removed by means of the high-frequency snare and the double loop resector for further histopathologic studies. These again revealed a villous (papillary) adenoma without evidence of malignant degeneration. This procedure was repeated on December 7, removing a huge amount of neoplastic tissue. This time an area of adenocarcinoma was discernible. The patient refused operation.

Case 4.—A white woman, sixty-eight years of age, was admitted to the semiprivate pavilion of the Mount Sinai Hospital on July 6, 1951, because of straining at defecation followed by pain and recurring episodes of profuse bleeding from the rectum of over one year duration. Laxatives had been taken almost daily since hemorrhoidectomy which had been performed some five years before the present admission.

The pertinent points in the physical examination were anemia, weakness, and a deformed and narrow anal orifice; the index finger could not be inserted past the second joint without producing considerable tenderness. Endoscopy performed on July 9, 1951, revealed a polypoid, bleeding mass about 10 cm. (4 inches) from the anal verge. The exact origin and extent of the neoplasm could not be made out owing to pain and bleeding. A biopsy was performed removing tissue from several areas of the new growth, the histopathologic diagnosis of which was "adenocarcinoma." On July 13 a Hartman type of resection of the bowel was performed, following which the patient made an uneventful recovery.

Summary and Conclusion

The coexistence of carcinoma with postoperative anal stenosis in four cases is described. These experiences again emphasize the seriousness of bleeding from the rectum, a symptom that always should call for a comprehensive proctoscopic examination. In the presence of obstruction in the anal canal, it is necessary to overcome this barrier for diagnostic purposes, in order to make a comprehensive examination possible, as well as for therapeutic purposes. Surgical correction of anal stenosis is necessary in its own right because this acquired lesion may be a serious deterrent to the general welfare of the patient.

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The writers who have nothing to say are the ones you can buy; the others have too high a price.—Walter Lippmann

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HAROLD ABRAMSON, M.D., *Editor*

The Role of the Anesthesiologist in Reducing Neonatal Mortality

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Although definite figures are lacking to substantiate this claim, it is my impression that the field of obstetric anesthesia has been neglected by anesthesiologists. According to the survey of hospitals in New York City offering maternity care,[1] 54 per cent use anesthesia regularly for delivery of the infant. No further investigation was made of the personnel administering the anesthesia. Even at present in not more than a very few hospitals is anesthesia by physicians available and utilized on a twenty-four-hour basis for obstetric patients. Granted that there are major economic problems to be solved before such coverage will be widely available, it is indeed a challenge to our specialty to take a more active role in reducing both maternal and neonatal mortality. At present anesthesia stands third or fourth on the list of causes of maternal mortality, and it is widely known that the death rate of infants under one day has decreased very little in the past thirty years. In the majority of these deaths, respiratory inadequacy appears to be the main cause. With the anesthesiologists' wide experience with respiratory obstruction, apnea, and shallow ventilation, it is logical to think that we may be able to contribute to a decreasing incidence of death, as well as to learn much of practical use in pediatric anesthesia, by closer observation of the newborn infant.

There are at least five ways in which an anesthesiologist who is a permanent part of the obstetric team, can aid in reducing infant mortality.

Maternal Pain Relief

Although the management of labor is rightly the responsibility of the obstetrician, better attention to methods of relieving pain will avoid many complications later. Each patient in labor should be visited by the anesthesiologist, and her medical, psychologic, and obstetric problems reviewed as carefully as if she were to undergo a gastrectomy. It has been demonstrated by Hellman and Hingson[2] that the actual method chosen for pain relief makes little difference, provided all methods are administered with equal skill. A patient from whom a history of dyspnea with exertion can be elicited should under no circumstances be required to expend voluntary and involuntary effort during second stage. A multipara with a rapid labor frequently has a full stomach, and her pharyngeal and laryngeal reflexes should not be obtunded by general anesthesia. On the other hand, some patients who are emotionally unstable are much better asleep during the actual delivery. Con-

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duction anesthesia can defeat the whole plan of a progressing labor if given too early in the latent period of first stage instead of at the onset of the acceleration phase.[3] No one plan for pain relief can possibly fit all medical and obstetric variations. Only by individual selection of anesthetic agents and technics can the best results be obtained.

Assistance with Obstetric Emergencies

Hemorrhage in the antepartum, intrapartum, or postpartum period is high on the list of causes of fetal anoxia as well as maternal mortality. The anesthesiologist should be able to maintain the patient's blood volume, leaving the obstetrician free to deal directly with the cause of bleeding. This involves foresight in obtaining blood for cross matching and for observance of the clot, the use of plasma expanders if the supply of blood is too little or too late, the introduction of more than one needle if bleeding is not quickly controlled, and the use of the sternal route for transfusion if there is difficulty in entering a vein. On the other hand, hypervolemia is not uncommon following massive blood replacement, especially in the obstetric patient, and early signs of pulmonary edema must be looked for and treated promptly.

Episodes of hypotension in the antepartum period are not uncommon and are not always readily explained by blood loss, Pitocin infusions, or other drug effects. While undertaking the diagnosis, it is wise to turn the patient to the lateral position. Placental oxygen tension has been estimated to be about 40 mm. Hg tension when the maternal arterial oxygen tension is in the vicinity of 100 mm. Hg. No data are available on the fall in placental oxygen accompanying hypotension from whatever cause. True postural hypotension, as described by McRoberts,[4] is rare but can be dramatically treated by the simple measure of turning the patient on one side. Obviously, oxygen therapy should be used in addition.

Oxygen therapy should be used much more in the antepartum period than it is at present. The heavy sedation occasionally necessary for control of a toxemic patient is always accompanied by respiratory depression, and oxygen added to the patient's inspired air will keep the fetus better oxygenated even though hypoventilation exists. Patients with fever all have a higher oxygen consumption than normal, and the oxygen content of air is sometimes not enough for both mother and infant. Many causes of fetal distress are best treated with oxygen inhalation in addition to other therapy. Among these causes are acute respiratory episodes of multiple sclerosis, myasthenia gravis, poliomyelitis, pneumonia, cardiac decompensation, hemorrhage, epileptic seizures, and uterine spasm from Pitocin infusions. If fetal distress persists, circulatory obstruction is likely from umbilical cord complications, and oxygen therapy will be of no avail. It should be the anesthesiologist's responsibility to have equipment for oxygen therapy always at hand and in working order.

There are occasions, fortunately rare, when marked uterine spasm occurs during the first stage of labor. The only effective treatment is prompt, deep general anesthesia. Block technics and relaxants have no place in relaxing a tight uterus. Because its potency allows ample oxygenation and because it is the least irritating of the potent agents to inhale, cyclopropane is ideal for this emergency, but apnea and arrhythmias not infrequently accompany such use. Their management is the duty of the anesthesiologist, not the casual anesthetist.

Care of the Infant in the Delivery Room

This is properly the province of the pediatrician, but rarely in this country is there a pediatrician in the delivery room for *every* delivery. Until such a time occurs, the anesthesiologist is the logical person to observe and treat the infant if the occasion arises. In this way the obstetrician need not break sterile technic and may proceed with suture of the episiotomy or investigate the source of undue maternal hemorrhage. Teamwork is especially important at this time. If the anesthesiologist is involved with maintaining a difficult airway or managing an episode of vomiting of solid food, his duty is obviously with the mother so that the immediate care of the infant is done by the obstetrician. If both are busy, the obstetric nurse clears the infant's airway and administers oxygen if cyanosis persists.

All three, obstetrician, anesthesiologist, and obstetric nurse, need to be thoroughly familiar with the immediate problems of the newly born infant. The importance of maintaining the head-down position from the moment the head appears has recently been stressed by Gibberd.

TABLE I.—EVALUATION OF THE NEWBORN INFANT

METHOD OF SCORING.—Sixty seconds after the complete birth of the infant (disregarding the cord and placenta), the following five objective signs are evaluated and each given a score 0, 1, or 2. A score of 10 indicates an infant in the best possible condition.

	Score		
Sign	0	1	2
Heart rate	Absent	Slow (below 100)	Over 100
Respiratory effort	Absent	Slow, irregular	Good, crying
Muscle tone	Limp	Some flexion of extremities	Active motion
Response to catheter in nostril (tested after oropharynx is clear)	No response	Grimace	Cough or sneeze
Color	Blue, pale	Body pink, extremities blue	Completely pink

After gentle, efficient pharyngeal suction, observance of ventilation will indicate the need for a pharyngeal airway, oxygen therapy, direct laryngoscopy, and occasionally endotracheal intubation. The cardiac rate can be observed throughout at the point of attachment of the umbilical cord to the skin. The accompanying table shows a method of "scoring" of infants at sixty seconds after birth, which has helped guide therapy, and the need for close pediatric supervision (Table I).[5] Routine gastric aspiration accomplishes two purposes, ruling out esophageal atresia and leaving the stomach empty, but should not be done until ventilation is satisfactory.

Certain diagnoses should be excluded in all infants before they leave the delivery room. Much time is lost in establishing the presence of operable anomalies if one awaits the onset of symptoms. Esophageal atresia, diaphragmatic hernia, imperforate anus can easily be diagnosed, while the presence of omphalocoele and meningocoele are obvious. A large amount of gastric contents should suggest the diagnosis of intestinal obstruction whether it be due to atresias of the small intestines, meconium peritonitis, or acute volvulus. A flat plate of the abdomen is the quickest way to diagnose obstruction below the stomach. The presence of maternal polyhydramnios should always make one search diligently for the anomalies which interfere with the normal circulation of amniotic fluid. To date, congenital cardiac anomalies remain unapproachable in the immediate newborn period. The initial evaluation of the erythroblastotic infant is made as soon as ventilation is established and blood collected for serum bilirubin and hemoglobin content.

One of the most important contributions of the anesthesiologist in the delivery room is the keeping of records regarding exactly what happened before, during, and after the child was born. Not until a large supply of such records is available can any association of cerebral palsy, mental deficiency, and other motor disabilities and oxygen lack be determined. At present the anesthesiologist's record, in addition to the customary graph of maternal pulse, blood pressure, and respiration, contains notes as to maternal factors which may affect oxygenation; the presence of signs of fetal distress, such as changes in fetal pulse, complete absence of heart sounds, presence of meconium in the amniotic fluid antenatally, complications of delivery, amount of fundal pressure used, the score, the time of sustained respiration, the use of oxygen, the amount of gastric contents aspirated; anesthesia and obstetric complications, and fluid therapy.

Research Work

The immediate newborn period is almost without investigation. The normal behavior of body temperature in different weight groups and the infant's response to cooling or warming need clarification. The possibility, probability, and desirability of assisting ventilation are almost unknown. The compliance and resistance factors as well as those of pressures, time, and volume need study. The effect of pain-relieving drugs given the mother during labor on the infant's respiration and circulation needs controlled study. Is humidity of real use in helping to expand lungs, and if so, how much and what kind? The infant's respiratory center is once more being shown to be sensitive to carbon dioxide, even if anoxia exists.[6] Should the use of this drug be reintroduced for assisting ventilation? Is there a specific antagonist to barbiturates, similar to normorphine effect on opiates? These and many other questions challenge the anesthesiologist and likewise the pediatrician if he is present.

Responsibility for Educational Program

It has been emphasized before that everyone likely to take care of a newborn infant should be familiar with the principles as well as actual practice in so doing. Such personnel includes the obstetrician, anesthesiologist, pediatrician, obstetric nurse, medical students, and student nurses. It is with gratitude that we note that the entire Subcommittee on Infant Mortality of the New York County Medical Society agreed in 1954 that *responsibility* for a teaching program belonged entirely to the anesthesiologist in every hospital. Whether he does the teaching personally or delegates it to someone more experienced is optional, but the responsibility for teaching is his. The best teaching is done in the delivery room during actual deliveries. The next best location is in the autopsy room with gross and microscopic material. The only good way to teach the ease of intubation of the newborn infant is with a recent stillbirth or neonatal death. Frozen autopsy material gives one a very wrong sense of difficulties. Frequent lectures, discussions, and perinatal mortality conferences all should be a part of the teaching program.

The shortage of anesthesiologists in this country is admitted but is becoming less each year. More serious, however, has been the apparent lack of interest of our specialty in the problems of the perinatal period. Also in some localities the assistance of the anesthesiologist has not been welcomed by the obstetrician, a short-sighted viewpoint which is rapidly vanishing. In no field of patient care is there more hope for improvement in mortality figures than in the newborn period if there exists an alert, interested team of obstetrician, anesthesiologist, and pediatrician in every hospital offering maternal care.

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Decrease in Accidents from Electric Current

Fatal accidents involving electric current have decreased in the past quarter century from nine per million population to seven per million in the United States, although the number of consumers of electricity has about doubled and the use of appliances and power tools has greatly increased, the statisticians of the Metropolitan Life Insurance Company report.

Safety campaigns fostered by the electric light and power companies and by other agencies are credited with having contributed to this improved record.

Fatal accidents from electric shock—which now take about 1,000 lives yearly in the United States—reach their peak during the summer, with more than two fifths of the year's fatalities occurring during June, July, and August, according to the statisticians.

The higher mortality in the summer is largely from increased activity in the repair and extension of electric lines, the generally greater amount of outdoor work, and the fact that the body is more likely to be wet from perspiration, with its resistance to electric shock consequently lowered.

About 95 per cent of the fatalities annually occur among males, reflecting largely the effect of occupational hazards.

Accidents in the home account for one sixth of the deaths due to electric current among males, and for about four fifths of those among females. These home accidents are brought about by such varied circumstances as defective extension cords, the falling of a radio, fan, heater, or other appliance into a bathtub where a person is bathing, and children playing with exposed wires, light sockets, and defective appliances.

The rise of the "do it yourself" movement may possibly have contributed to the number of electrical accident fatalities in the home. For instance, there have been some deaths reported as the result of contact with high tension lines by persons attempting to install television aerials, the statisticians point out.

CLINICOPATHOLOGIC CONFERENCE

NEW YORK MEDICAL COLLEGE, FLOWER AND FIFTH AVENUE HOSPITALS

DEPARTMENTS OF MEDICINE AND PATHOLOGY

Conducted by LINN J. BOYD, M.D. JANUARY 26, 1955

Case History

MEDICAL RESIDENT: D. P., a thirty-one-year-old, Italian, male shipping clerk, was admitted to Flower and Fifth Avenue Hospitals for the second time on September 11, 1954, for cyanosis, transient vertigo, and exertional dyspnea.

Since early childhood he had had a flushed face and experienced cyanosis as well as exertional dyspnea on exertion or chilling. Fleeting attacks of dizziness would occur at any time. He tired easily and was subject to bouts of weakness and cold sweats. Since the symptoms caused him little discomfort, they were disregarded until 1942 when rejection by the Army led him to enter a hospital for diagnostic survey. Two weeks later he was discharged with medication and informed that he had been a "blue baby" at birth and had polycythemia. Although the symptoms persisted, he enjoyed relatively good health until 1948 when he was again hospitalized for acute appendicitis. No operation was performed since the abdominal findings subsided and were attributed to his polycythemia. Later in 1948 he was sent to Flower and Fifth Avenue Hospitals by his employer for an evaluation of the high red blood cell count. At that time he was employed as a laborer.

He stated that there had been no progression of symptoms. He had always noted that he became short of breath on climbing one or two flights of stairs, and then the heart beat rapidly and forcefully. There had been no chest pain, orthopnea, or ankle edema. His local physician advised him to seek hospitalization since the patient had not responded to therapy designed to destroy the excess of red blood cells.

Past History.—Apart from a tonsillectomy and repair of a congenital hypospadias and the attack of "appendicitis" at the age of ten, there were no other illnesses or operations.

The eyes frequently burned and showed occasional lacrimation which caused momentary blurring of vision. Constant buzzing in the left ear was associated with impaired hearing for six years. At times he noted paresthesias of the fingers.

His parents were living and well; there were no other children. The patient was married and had one child, age five years, living and well.

Physical Examination.—This well-developed and well-nourished male was in no acute distress. The face was diffusely flushed, and the lips had a bluish tinge. Funduscopy disclosed tortuous and distended vessels. Examination of the ears, nose, and throat was uninformative. The chest was negative on inspection, and no abnormalities were noted on palpation or percussion of the lungs. Persistent crackling rales were audible at the left base posteriorly. No point of maximum intensity of the heart could be located. The heart was enlarged to the left and extended beyond the right parasternal line on the right side. No thrills were palpable, but a soft, grade II murmur was heard late in systole in the fourth left intercostal space in the parasternal line and at the apex. The heart sounds were of good quality. The second pulmonic sound was louder than the aortic second. The cardiac and radial pulse rate were equal (72 per minute). Blood pressure in the right arm was 96/70 and in the left arm 100/80. Peripheral pulses were intact.

Examination of the abdomen disclosed nothing abnormal, but evidence of previous repair of a hypospadias was seen. There was a moderate hypertrophic osteoarthropathy of the fingers and toes. The nailbeds had a bluish tinge which was intensified by exercise.

Laboratory Data.—The hemoglobin was 28 Gm. and the red blood cell count 8,900,000 per cu. mm.; hematocrit 76; reticulocytes 1.6 per cent; sedimentation rate 0; leukocytes 10,800 with a normal differential; platelets 215,000. The urine contained a small amount of albumin and 1 to 3 white cells per high-power field.

Cephalin flocculation was 1 plus and thymol turbidity 3 units. Icterus index was 20; van den Bergh direct negative; prothrombin time 15.6. Fasting blood sugar was 63.5 mg. per cent; blood urea nitrogen 18; nonprotein nitrogen 42.4 mg. per cent; serum cholesterol 172; esters 134 mg. per cent; alkaline phosphatase 14 King-Armstrong units; plasma proteins 6.96 Gm. per cent with 4.87 serum albumin. His serology was negative. Subsequently the blood urea and nonprotein nitrogen were 16.8 and 38.7 mg. per cent, respectively.

Venous pressures varied from 95 to 128 mm. water. Arm-to-tongue circulation time varied from fourteen to forty seconds and arm-to-lung from twenty-three to forty-five seconds.

The electrocardiogram disclosed extreme right axis deviation.

Discussion

Dr. Linn J. Boyd: I find a note of the previous admission by Dr. Nightingale.

Dr. Edward Nightingale: The problem presented five years ago was essentially a differential diagnosis between polycythemia vera and a congenital heart lesion with secondary polycythemia. At that time we concluded that the patient was suffering from an interventricular septal defect with secondary polycythemia. We advised against the use of any agent to destroy the red blood cells and outlined a conservative course for him to follow. Apparently he disregarded our suggestion, although the present physical examination is essentially the same as it was five years ago.

Dr. Boyd: Dr. Speer, will you discuss the laboratory data with particular reference to findings which should be present in a patient with polycythemia vera?

Dr. Francis D. Speer: Polycythemia vera or primary erythremia is a disease of middle life. It is very rare before the age of twenty years. It is a very complex and chronic disease. In the fully established disease red blood cell counts over 10,000,000 per cu. mm. and hemoglobin over 24 Gm. per cent are common. There is usually a granulocytic leukocytosis or a leukemoid picture with 30,000 to 40,000 white cells per cu. mm. which because of the presence of some immature granulocytes resembles myelogenous leukemia. There is also a significant thrombocytosis. The hematocrit is usually markedly increased, values of 70 per cent being not unusual. Oxygen saturation of the blood is normal unless there is associated pulmonary disease. Blood volume is markedly increased with values much above the 5,500 ml. of the average adult and the erythron or circulating red cell mass not infrequently rising above 4,000 ml. The bone marrow is hyperplastic, the long bones frequently showing active red marrow (panmyelosis). With the exception of the hypercellularity the bone marrow changes are not specific unless in the terminal stages of the disease myelogenous leukemia or myelofibrosis has occurred. The serum uric acid is frequently over 5 mg. per cent and is related to the marked increase in cellular catabolism with degradation of nucleoproteins.

Although this patient has a marked erythrocytosis with a hemoglobin of 28 Gm. and a hematocrit of 76, we note a normal white count and differential and a normal platelet count. In consideration of these findings and a history of cyanosis and possible polycythemia since early childhood, I think we can exclude further considerations of polycythemia vera.

Dr. Boyd: As a matter of fact, that diagnosis scarcely merited serious thought since the patient has been cyanotic since birth and the polycythemia was discovered when he was nineteen years old. True polycythemia is rather rare before the age of thirty-five. Moreover, he had no splenomegaly. To be sure, in the Gaisbock syndrome there is no splenomegaly but only polycythemia and hypertension; the latter was also lacking in this patient. It should be noted that many believe hypertension in polycythemia is merely an accidental association and is recorded most frequently in older patients with arteriosclerosis. Cardiac enlargement occurs in polycythemia vera but not particularly of the right heart. On the other hand, paresthesias of the extremities as mentioned in the history and even erythromelalgia, intermittent claudication, and visual and auditory disturbances are encountered in polycythemia vera. Likewise temperature may affect the color for the patient has a flushed appearance in warm weather and is bluer in cold weather. Thrombosis of the mesenteric and other arteries may also occur, and I suppose this was considered when he suffered from his "acute appendicitis." However, since he does not have polycythemia vera, we had better return to the actual problem. Dr. Friedman observed the patient during the present admission.

Dr. Harry Friedman: The history of polycythemia, clubbing of the fingers and toes, and cyanosis since birth and increasing on exertion pointed to a congenital cardiac lesion with an arteriovenous shunt. Examination of the heart contributed very little, as you will recall from the resident's remarks. By way of anticipation, x-ray studies of the heart disclosed a globular organ with increased hilar congestion and markings in the lungs. Cardiac fluoroscopy revealed right ventricular enlargement without auricular enlargement. The electrocardiogram showed marked right axis deviation. Taking all these together, the implication of a congenital lesion is almost inescapable.

An interatrial defect seemed improbable in view of the location of the murmur, the absence of auricular enlargement, and a normal rather than hypoplastic aortic knob. The location of the murmur and absence of a thrill in the pulmonic area, the presence of an accentuated second pulmonic sound, and hilar congestion tended to minimize the possibility of pulmonary stenosis. An interventricular septal defect was given strong consideration for it might be present in the absence of a thrill or a high-pitched systolic murmur. The possibility of a tetralogy of Fallot was also discussed, although pulmonary stenosis, an integral part of this syndrome, was improbable on the basis of the accentuated second pulmonic sound, the absence of a systolic pulmonic murmur, and the hilar congestion. Since a large interventricular septal defect seemed likely, the probability of an overriding aorta was great. On these grounds, namely, a ventricular septal defect, marked right heart enlargement, and a probable overriding aorta, the clinical assumption of an Eisenmenger syndrome appeared warranted.

Dr. Boyd: At this point we would like to ask Dr. Scherf to discuss the findings in this case.

Dr. David Scherf: Since the patient is an adult who has had cyanosis from earliest youth and exhibits clubbing of the fingers and toes, one may assume that the chances are three out of four he suffers from the so-called tetralogy of Fallot. It is wise, however, to evaluate all the findings to see whether they fit this diagnosis.

The presence of cardiac dilatation to the right and to the left fits. There is a grade II systolic murmur at the lower left sternal border which is transmitted toward the apex. This is also compatible with the diagnosis, although murmurs are often absent in a tetralogy of Fallot since the pulmonary atresia and the huge septal defect are not conducive to the appearance of murmurs. Sometimes systolic murmurs are heard over the base or in the same area as in this patient. Such late systolic murmurs are common at the apex in patients with aortic atheromatosis. These murmurs are always significant and are never "physiologic." At this point I would like to see the x-rays of the chest.

Dr. Boyd: May we see the x-ray films?

Dr. Frank Borrelli: This patient was examined by us in 1949 and again in 1954 by cardiac fluoroscopy. There is no essential change in the appearance of the chest in the two examinations. There is thickening of the hilar shadows and an increase in the bronchovascular markings bilaterally. The heart is within the normal limits in size and somewhat globular in shape. There is minimal enlargement of both right and left ventricles and slight prominence of the pulmonary conus. There is no radiographic evidence of a right-sided aortic arch. The posterior aspects of the right fifth, sixth, and seventh ribs show notching. The radiographic findings are not characteristic of any of the cardiac anomalies which have been considered. The prominence of the pulmonary vascular bed argues against the presence of a tetralogy. In a patient with an Eisenmenger complex in whom cyanosis is as marked as in this man, even greater enlargement of the pulmonary arteries and pulmonary conus is to be expected. A large, high interventricular septal defect may at times give cyanosis; however, in these patients there is often an almost aneurysmal dilatation of the pulmonary artery. Of these anomalies the x-ray findings are most compatible with an Eisenmenger complex.

Dr. Scherf: The x-ray findings would, in my opinion, support the diagnosis of Fallot's tetralogy. Incidentally, if we employ the name of Fallot, we would not speak of syndrome but add tetralogy. The reason is that congenital pulmonary stenosis with only an atrial septal defect is the tetralogy of Fallot.

In this patient the pulmonary artery is not prominent, and the right ventricle seems to be gigantic. The typical wooden-shoe heart (coeur en sabot) is absent, but this is not rare. The development of this form depends upon the following fact: the hypertrophied right ventricle contributes largely to the formation of the left cardiac border since in developing to the left it pushes the left ventricle dorsad. The left cardiac arc, particularly its apical part which falls sharply to the diaphragm, now belongs to the right ventricle. The left ventricle now contributes to the left cardiac contour for an indefinite degree in a short section.

Notching of the ribs occurs in Fallot's tetralogy as McCord and Bavendam[1] reported in the *American Journal of Roentgenology* two years ago.

The lung fields in this case are not oligemic, but this depends upon the degree of pulmonary stenosis; many of the vessels we see on the films may be dilated bronchial arteries.

It seems to me that the patient has a persistent right aortic arch. This finding is not rare in Fallot's tetralogy and has an important bearing on the plan of operation. In favor of this diagnosis is the shadow corresponding to the descending aorta on the right side and the view of the barium-filled esophagus in the posterior-anterior position. It shows the esophageal bed of the aorta with a concavity directed to the right.

Dr. Boyd: The erosions of the ribs represent an important sign of coarctation of the aorta. These sharply outnotched indentations of the lower borders of the dorsal sections of the ribs usually are prominent in the middle and lower parts of the chest. The three uppermost pairs of ribs are almost never affected. In aortic coarctation they are often absent in children, but they become more common, deeper, and more numerous with advancing years. Sometimes, when the coarctation is above the departure of the left subclavian artery, notching occurs only on the right side.

In regard to the fact that this patient was a "blue baby," I think the term was employed by a doctor not present at the birth but used merely in discussion of the patient's problem. If patients with the tetralogy are deeply cyanotic soon after birth, the prognosis is poor. If the cyanosis occurs in the second or third month when the ductus arteriosus closes, the outlook is better, although it depends to a large degree on the extent of pulmonary stenosis. Ordinarily cyanosis is noted only when the child begins to walk. Many of these children are "squatters" and limit physical activity. This patient was a laborer until he was advised to change his occupation to something lighter five years ago. Dr. Scherf, will you make some further comments on Fallot's tetralogy?

Dr. Scherf: I would be glad to do so if I may comment on another feature first. The fact that the cyanosis deepens with exertion does not mitigate against the diagnosis of the tetralogy. In these patients and in the presense of atresia of the pulmonary artery, aeration of the blood takes place in the lung with the aid of the bronchial arteries. This aeration may be adequate in some patients at rest, but hypoxemia develops on exertion.

In making the diagnosis of a tetralogy of Fallot, two important points deserve consideration. The first is the fact that we are not actually dealing with four congenital anomalies. Fundamentally, only two are present. Usually these patients have a very large ventricular defect. If this is present, a "riding aorta" is customary, that is, the aorta arises from the right and left ventricles. There is no reason to emphasize this abnormality of aortic origin as a separate sign for it is part of the genetic unit. The second abnormality is pulmonary stenosis or atresia. The latter are often infravalvular, but at all events the right ventricular hypertrophy is the inevitable consequence of the increased resistance resulting from pulmonary stenosis and laboring against aortic pressure. If we pursue this simplification, making the dextroposed aorta a feature of the high ventricular septal defect, Eisenmenger's triad or complex becomes simply a large ventricular septal defect, for in it the pulmonary artery is normal in position although it may be dilated or normal in width. Actually, in some of these patients the right ventricle is the motor driving the entire circulation, and the left ventricle is merely a small appendage of the heart.

Another error is associated with the assumption that patients with Fallot's tetralogy always have the same combination of lesions. Actually, the width of the septal defect and the degree of pulmonary stenosis vary so much that innumerable variants are inevitable and influence the

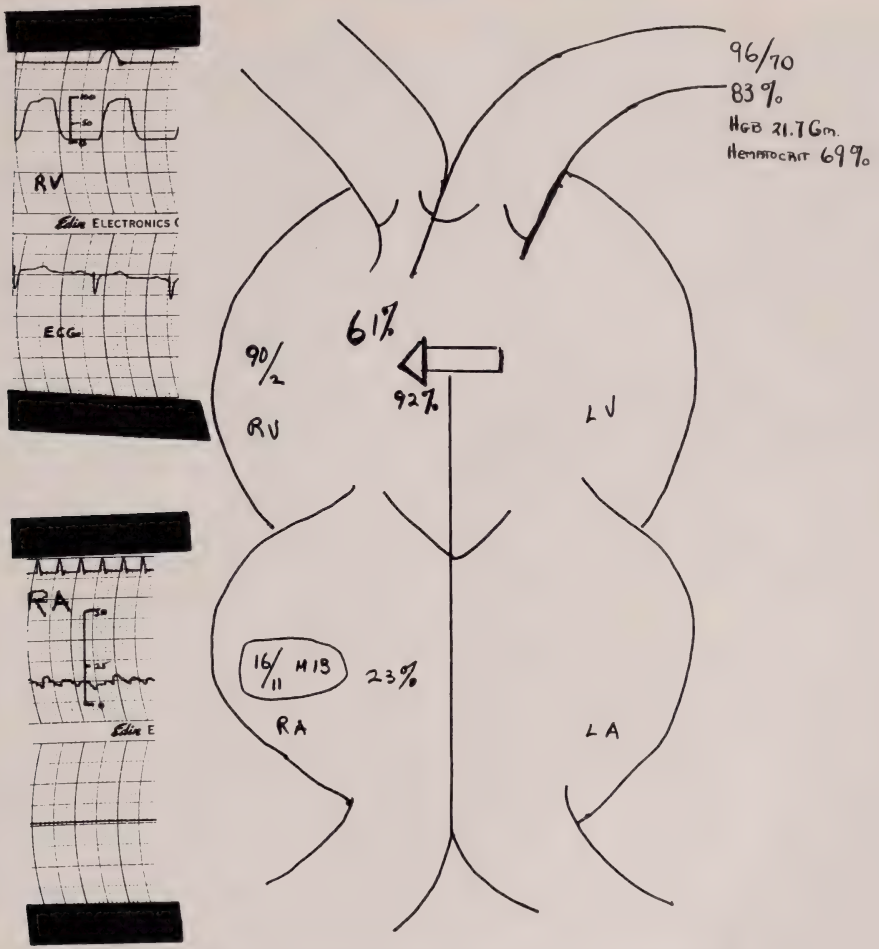

Fig. 1. Diagram indicating data obtained by cardiac catheterization.

clinical picture tremendously. One patient may succumb to the lesion in early childhood, while others attain the age of fifty or more and accomplish a great deal during their life.

Dr. Boyd: I understand that Dr. Kantrowitz and his associates did a cardiac catheterization on this patient.

Dr. F. Adrian Kantrowitz: With the assistance of Dr. Gittinger and of Dr. Strang, we performed a cardiac catheterization on this patient. We passed a number 9 cardiac catheter without difficulty through the right antecubital vein into the right auricle and right ventricle. Although the right auricle and ventricle were entered easily, it was impossible to advance the catheter into the pulmonary artery. We tried unsuccessfully a number of times.

Pressures and blood samples were taken from the right auricle and right ventricle. The following figures summarize the pertinent data (Fig. 1):

Site	Pressure	Oxygen Saturation
Auricle	16/11	23%
Ventricle (low)	90/2	61%
Ventricle (high)	. . .	92%
Femoral artery	120/80	83%

It is impossible to draw certain conclusions from these data. A patient who is polycythemic and has an oxygen saturation of 83 per cent in his peripheral arterial blood must have one of two defects: (1) a right-to-left shunt or (2) intrinsic lung pathology. Since there is no evidence to favor the latter, one must assume that his peripheral arterial desaturation is due to some admixture of venous blood.

The marked increase of oxygenation of the blood in the right ventricle over that in the right auricle would indicate that the venous blood is diluted with highly oxygenated blood some place beyond the right auricle. This could only be explained by an interventricular septal defect. Both the saturation of 61 per cent and of 92 per cent were taken as two separate samples in the right ventricle and were considerably increased over the 23 per cent saturation of the blood sample removed from the right auricle. In order to obtain a 92 per cent saturation of the sample from the right ventricle, it must be assumed that the tip of the catheter must have been either in or very close to the opening of the interventricular septal defect. The blood samples from the right ventricle were from different areas in this chamber.

To explain the peripheral systemic desaturation, one must assume that this patient has an overriding aorta along with his interventricular septal defect and that some venous blood from the right ventricle is being ejected into the aorta, accounting for the 83 per cent saturation of his peripheral arterial blood.

The pressures recorded in the right auricle are only slightly higher than one would normally expect. However, the right ventricular pressures of 90/2 are considerably increased since one does not normally encounter a systolic pressure much higher than 25 to 30 mm. Hg in the normal right ventricle.

The right ventricular hypertension can be explained in two ways. First, the patient might develop a right ventricular hypertension behind a stenotic pulmonic valve. Second, right ventricular pressures might be influenced by the normally higher ventricular pressure through an interventricular septal defect. It would be expected that this defect would have to be rather large because small interventricular septal defects do not usually cause right ventricular hypertension of this order of magnitude. It would appear that in this patient the right ventricular hypertension is largely on the basis of a stenotic pulmonary valve. It must be remembered that it was not possible for us to pass the catheter into the pulmonary artery. This is not clear-cut evidence, however, that a pulmonary stenosis exists.

In summary, then, cardiac catheterization produced evidence of the following defects: (1) interventricular septal defect, (2) right ventricular hypertension, (3) overriding aorta, and (4) possibly pulmonary stenosis.

These findings would fit with the diagnosis of a tetralogy of Fallot. If there is no pulmonary stenosis, the diagnosis of Eisenmenger's complex would have to be considered. The weight of evidence seems to favor the conclusion that this patient has a tetralogy of Fallot.

From the surgical point of view, this patient is in his late thirties and is doing extremely well. He is only mildly cyanotic and is able to carry on a full day's work. His activities are not seriously impaired. The present status in the surgical treatment of Fallot's tetralogy permits only two courses. If the stenosis is at the pulmonary valve and is of such anatomic configuration as to permit a direct approach, that is, to do a pulmonary valvulotomy, this would be most desirable. However, one cannot be sure that this is not a stenosis of the infundibular type which is not amenable to surgical correction. In such an instance all that one could do would be to construct an artificial ductus by using the subclavian artery after the technic originally described by Blalock and Taussig.[2] In adults it is usually not possible to construct a Potts anastomosis.

It is my feeling, however, that it is not worth the risk involved to subject this patient to any of these major procedures because he is doing well. If the patient has an Eisenmenger type of defect with no pulmonic stenosis, there is no standardized surgical procedure which can afford him any kind of relief.

Dr. Boyd: We shall not be able to reach a final decision on this patient. Angiocardiography was not performed since operation was not contemplated.

Since some cardiac malformations are associated with arrest of development elsewhere in the body, some reference should be made to the hypospadias in this patient. It is well known, for example, that Mongolian idiots are prone to have simultaneous interauricular and interventricular septal defects. Probably the occurrence of the two defects in development in our patient is merely accidental for I do not recall any statement on an increased incidence of cardiac malformations with hypospadias. Even with epispadias with fissure of the abdominal wall and extrophy of the urinary bladder, that is, with more extensive malformations, cardiac malformations are very uncommon.

Isolated interventricular septal defects are rare; when observed, they are usually located in the muscular part of the septum. Interventricular septal defects may be so small that they are demonstrable only by angiocardiography. On the other hand, the septum may be entirely absent as in cor triloculare biatriatum. Again, an interventricular septal defect may be noted in patients with an interatrial septal defect; this happens in canalis atrioventricularis communis persistens. In Wieland's triad these septal defects are associated with tricuspid atresia. There are other types of interventricular septal defects which are combined with or are a partial manifestation of torsion anomalies of the bulbus-truncus division, with and without stenosis of the pulmonary artery. Sometimes life is possible only because the septal defect exists. The situation is equally complex with respect to congenital pulmonary stenosis.

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Hospitalization of Men

About one man in every seven at ages sixty and over is admitted to a hospital in the course of a year, according to the experience among Metropolitan Life Insurance Company personnel.

This proportion is somewhat higher than the rate among those at ages forty-five to fifty-nine, and approximately twice the rate among those under forty-five years of age. The study relates to a large segment of the company's male office and field personnel, including those permanently disabled and the retired.

The average duration of hospital stay in the experience increased progressively from each age group to the next.

For the entire age range of sixty and over the average length of each hospital stay was 18.1 days. This is one and one-half times the average for ages forty-five to fifty-nine, and nearly twice that for ages under forty-five.

Surgery was performed on two fifths of the men at ages sixty and over who were hospitalized. The surgical cases spent appreciably less time in the hospital than did the nonsurgical; the average periods being 14.7 days and 20.7 days, respectively.

The leading cause of hospitalization among those sixty and older was diseases of the heart, which accounted for more than one quarter of all nonsurgical cases. The second leading cause was the diseases of the digestive system. Of the cases hospitalized for surgery, about 14 per cent were for prostatectomy and a like proportion for herniotomy.

TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

with the cooperation of

Bureau of Cancer Control
New York State Department of Health

The Treatment of Thyroid Cancer

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(*From the Department of Surgery, Albany Medical College and Albany Hospital*)

Before thyroid cancer can be treated, it must be recognized. Personal experience with 167 proved cases over the past twenty years leads me to believe that malignant disease of the thyroid gland occurs far more often than the 117 deaths attributed to this cause by the Bureau of Vital Statistics in all of New York State for 1952. It is of further interest that in my own series thyroid cancer occurs three times more often today than it did twenty years ago. The features that lead to recognition thus assume increased importance.

Diagnosis

It is appropriate at this point, therefore, to call attention to clinical changes which may direct the physician to a correct diagnosis. The symptoms usually described to indicate thyroid cancer occur late in the course of the disease. Dyspnea, cough, choking, and dysphagia indicate growth of the tumor to a large size or invasion of the trachea, esophagus, or nerves by cancer. Malaise, weight loss, and anorexia usually mean metastatic spread of significant amount. Enlarged cervical lymph nodes, fixation of the tumor, and hardness and irregularity of the neoplasm reveal that it has gone beyond the limits of the thyroid and its capsule. Those who wait for these symptoms and signs have denied their patient all hope.

Nodular Goiter and Cancer

Nodular goiter has been felt to be a contributing factor to the development of thyroid cancer. Statistical studies show a significantly higher frequency of cancer in single thyroid tumors as opposed to multinodular goiter.[1–4] I recently reported from the Albany Hospital a five-year period, indicating unsuspected cancer was found by the pathologist in 7.7 per cent of 347 patients with single thyroid nodules but in only 2.4 per cent of 486 patients with multinodular goiters.[5] When patients with clinically discernible cancer were added to this group of 833 patients with nontoxic nodular goiter, malignant thyroid disease was found in 5.8 per cent. The first step in the establishment of a method of treatment thus recognizes that all tumors of the thyroid gland may be malignant and should be excised for histologic study.

This is particularly true of thyroid nodules found in children under fifteen years of age. There is much evidence to suggest that nearly half of the thyroid tumors in children will be found to be malignant.

A cancer-conscious public is often more alert than the doctor they consult concerning the dangers which a lump in the thyroid connotes. As physicians, our approach to the treatment of thyroid cancer begins with the recognition that all tumors of the thyroid are potential trouble-makers, and this in turn should suggest prompt surgical intervention.

Treatment

Methods of treatment which bear the stamp of authoritative recommendation are at wide variance. Because there is little unanimity concerning the best course to follow, all therapy of thyroid cancer today is arbitrary. Whatever method is followed should be closely observed and its long-term results recorded with candor. Therapists must be prepared to alter their method as experience and results indicate. It would appear useful, therefore, to state my own present program and the reasons underlying it.

It is now my custom at the Albany Hospital to advise removal of all lumps in the thyroid gland. If the lesion is confined to one lobe, total lobectomy is carried out. If the problem is a multinodular, bilateral goiter, then wide subtotal excision is done unless no normal thyroid tissue is evident when total thyroidectomy is carried out.

If the pathologist reports a cancer in the surgical specimen, no further treatment is carried out. This attitude is based on the biologic behavior of thyroid cancer which suggests that all papillary tumors will reappear, if ever, in the adjacent lymph nodes. It also assumes that the follicular tumors may already have reached surgically inaccessible areas because of their tendency to invade blood vessels.

Cancer surgery seeks to eliminate a tumor with its primary organ and all surgically accessible avenues of spread. It is unfortunate that in the past the anatomy of thyroid lymphatics has been largely overlooked with the result that few operative procedures have included the mediastinal portion of this lymph drainage. The necessity for doing as many radical neck dissections as are done for thyroid cancer is in doubt, but surely if an indication for this procedure exists, it is equally as important to remove the lymphatics in the anterior mediastinum.

A patient who is first seen with obvious cervical lymph node metastases or a patient whose primary tumor extends deeply into the anterior mediastinum is subjected to transsternal removal of the anterior mediastinal lymphatics, homolateral neck dissection, and total thyroidectomy in continuity.[6,7] The same operation would be done for any local recurrence or cervical node metastases from a previously excised nodule in which the pathologist was the first to reveal cancer.

From January 1, 1951, to March 1, 1955, 47 patients have had histologically proved cancer of the thyroid. Seventeen of this group were subjected to a dissection of the anterior mediastinum, and 76.6 per cent so treated were found to have metastatic cancer of the thyroid in lymph nodes that were not accessible from the cervical approach alone.

Some patients are still seen for the first time with distant metastases already present. Total thyroidectomy has two advantages under these conditions: (1) It provides tissue for a histologic diagnosis and establishment of tumor type, and (2) it removes all normal thyroid and its primary cancer. This latter accomplishment is necessary if treatment of metastatic implants with radioactive iodine is to be successful.

Uptake studies with I^{131} are undertaken if the tumor type seems likely to pick up this isotope. If this study gives hope of benefit, the metastatic lesions are treated with therapeutic doses for cancer. It does not seem reasonable to us in the Albany Hospital to undertake I^{131} investigations until the tumor histology is known and all normal thyroid and as much of its cancer as is compatible with safety have been surgically excised.

In the experience at the Albany Hospital x-radiation has been a disappointing adjunct to the treatment of thyroid cancer. For palliative relief of bone pain caused by metastases, it may be of assistance. To comfort the family and the doctor in hopeless problems it *might* be justified. Present methods do not yet appear to be able to introduce a cancerocidal dose to the tumor without also doing irreparable harm to the surrounding normal tissues.

The physical and economic impairment caused by deep x-ray therapy plus the fact that few, if any, five-year survivals result from this method of therapy alone dampen enthusiasm for its use.

The use of hormonal therapy in the management of thyroid cancer has not been successful. In two patients who received this form of treatment, no change in the progress of the disease was observed. The part to be played by chemotherapeutic agents is yet to be determined.

At present I do not feel that tracheostomy is justified as a palliative measure. This opinion is based upon many years of observing the added suffering I caused by doing this operation. There comes a time in cancer therapy when it is a kindness to forget all therapeutic possibilities and resort to comforting drugs. If, however, intensive radiation therapy using isotopes or external radiation is contemplated, then a temporary tracheostomy will be of benefit.

The addition of laryngectomy, removal of a part of the tracheal or esophageal wall are features that must be decided on the merits of each individual patient. If there is reasonable hope that the *only* remaining cancer is in the trachea or larynx, the decision to remove these organs is probably justifiable.

An appraisal of results is the best method to determine the value of any therapeutic method. The procedures outlined have allowed 57.5 per cent of all patients operated on prior to 1950 to live for five or more years. Of the 113 patients operated on for thyroid cancer prior to 1950, 73.8 per cent of those with a predominantly papillary type lived five or more years. A total of 70.2 per cent of the alveolar and follicular types enjoyed a five-year survival, but 96.2 per cent of the highly malignant group are dead. Most died within two years, although two patients in this latter group lived more than five years and a third is still alive after nine years.

Summary

1. Treatment of malignant disease of the thyroid gland begins with the recognition that all thyroid tumors should be excised for histologic examination.
2. The biologic behavior of some thyroid cancers makes them more susceptible to surgical excision if anatomic facts and sound surgical principles are followed.
3. Each patient is a separate problem that requires skillful selection of the best therapeutic method.

149$^1/_2$ WASHINGTON AVENUE

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AMA Approves Five New Simplified Insurance Claim Forms

Approval has been granted by the AMA's Council on Medical Service to five new simplified insurance claim forms drawn up by a special committee of the Health Insurance Council. This committee which worked in collaboration with the AMA Council's Committee on Prepayment Medical and Hospital Service included representation from all types of private insurance carriers. At the present time, a total of six simplified insurance claim forms have been approved by the American Medical Association.

The additional claim forms may be identified by the following symbols and titles: ID-1—Attending Physician's Statement, Accident or Sickness (Individual Insurance); IDS-1—Attending Physician's Supplementary Statement (Individual Insurance); GD-1—Attending Physician's Statement (Group Insurance); GDS-1—Attending Physician's Supplementary Statement (Group Insurance), and IPHS-1—Attending Physician's Statement, Accident or Sickness (Individual Hospital or Surgical). These five forms together with GS-1 (Group Surgical Expense, approved in 1954) are, in essence, adaptations of two basic forms—one designed for groups and the other for insurance underwritten on an individual or nongroup basis.

It is hoped that the majority of the insurance companies identified with the Health Insurance Council soon will use these forms in their day-to-day claims administration and that physicians throughout the country will cooperate by completing the simplified forms promptly to facilitate the administration of claims.—*AMA News Notes, July, 1955*

CASE REPORTS

Giant Gastric Rugal Hyperplasia

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(*From the Roswell Park Memorial Institute*)

Giant gastric rugal hyperplasia is an extremely interesting and rare pathologic entity. A review of the literature is difficult because of the various captions for this disease. The following are some encountered: giant gastric rugal hyperplasia,[1] polyadenomes-in-nappe,[2] tumors simulating gastritis,[3] giant hypertrophic gastritis,[4] and giant polyposis.[5] Giant gastric rugal hyperplasia, we believe, best describes the gross and histopathologic appearance.

The description of the disease by Menetrier[2] in 1888 is classic and, according to Heeks and Gibb,[5] has not been improved to date. Polyadenomes-in-nappe, to summarize Menetrier's description, is essentially a mucosal hypertrophy in which the glands assume considerable proportions, forming a large, hypertrophied plaque arising plumlike above the rest of the mucosa or even involving nearly the entire stomach. The internal aspects of the involved area appear tufted and wavy, giving a marked resemblance to cerebral convolutions.

Incidence

The incidence of this disease has been adequately reviewed by Maimon, Bartlett, Humphreys, and Palmer.[4] Suffice it to say, it is a rare pathologic entity, and according to Bartlett and Adams,[6] only 45 cases have been proved in which the diagnosis has been supported by pathologic study. Of these 45 cases the diagnosis was based on biopsy in seven cases, on autopsy in nine, and on surgical specimens in 29.

Etiology

The cause is unknown, although many hypotheses have been postulated. Some observers favor a congenital origin and believe the hypertrophic rugal folds arise from fetal anlagen. The effect of chemical, thermal, and mechanical irritants and the role of infectious agents have been mentioned. Heredity has not been demonstrated to be a factor.

Symptoms

All writers on the subject agree on the extreme difficulty in diagnosis of the lesion on clinical history or physical examination. It is difficult to conceive that a localized area of the disease situated, as in our case, on the greater curvature of the body of the stomach would, indeed, produce any symptoms whatever. However, when the entire stomach or nearly the entire stomach is involved and secondary inflammatory changes take place, as occurred in the six cases reported by Maimon, the outstanding symptoms he relates were upper abdominal distress, somewhat ulcer-like in character, but not always relieved by food and alkalis.

Pathology

Menetrier describes the pathology as a glandular hypertrophy. The glands increase in height, keeping almost in a straight line, and reach unusual proportions, five or six times their normal length. The epithelium is modified into various forms, but it is always laid down in a regular manner. The glandular tubes maintain their upright position but essentially—and it is a cardinal principle—the membrana propria is preserved, and none of the cells pass beyond it. The muscularis mucosa always forms a limiting membrane for them, easily identified and never broken at a single point.

Case Report

E. N., an adult male, age fifty-six, was admitted to the Roswell Park Memorial Institute on February 6, 1948. His chief and only complaints were directed to his tongue and lips. They included frequent episodes of cold sores about the lips for the past four years and for six months a burning sensation of the tip and the right side of his tongue.

Physical examination was uninformative except for a recent outbreak of herpes labialis and a glossitis on the right side and front of the dorsum of the tongue (Fig. 1). The lesion of the tongue was diagnosed as an aphthous stomatitis of the Mikulicz type.

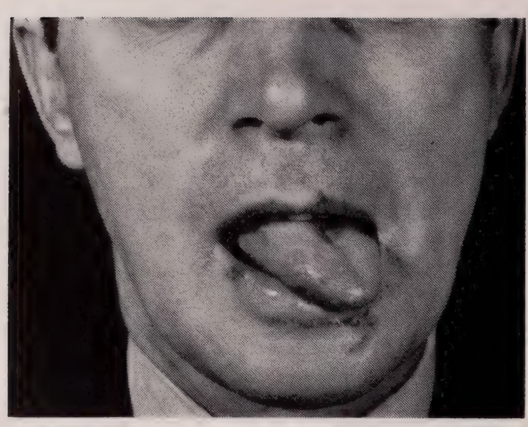

Fig. 1. Herpes labialis and glossitis, right side of tongue.

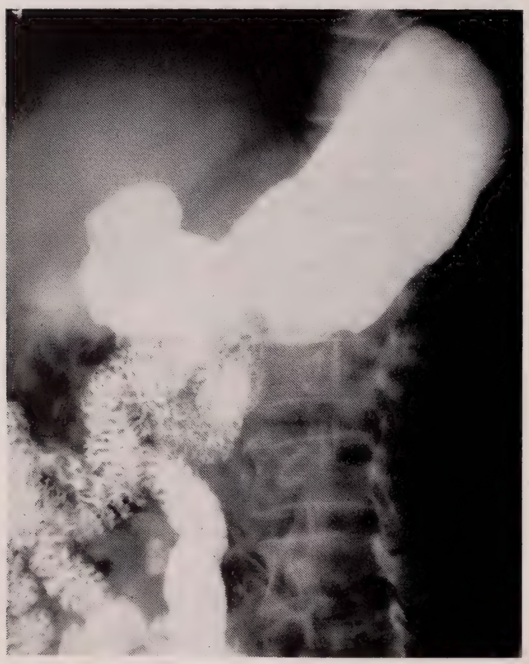

Fig. 2. X-ray showing convolutional hypertrophy along the greater curvature of the stomach.

The blood count was within normal limits. Fractional gastric analysis, alcoholic stimulation, disclosed an absence of free acid and a very low total acidity. Total serum proteins were 6.57 Gm. per 100 cc. with an albumin-globulin ratio of 5.04 to 1.53. The Wassermann was negative. The gastrointestinal x-ray series localized a convolutional hypertrophy of the mucosal folds along the greater curvature of the stomach opposite the incisura angularis (Fig. 2). Two diagnoses were entertained: (1) a localized area of lymphosarcoma and (2) a localized hypertrophic gastritis.

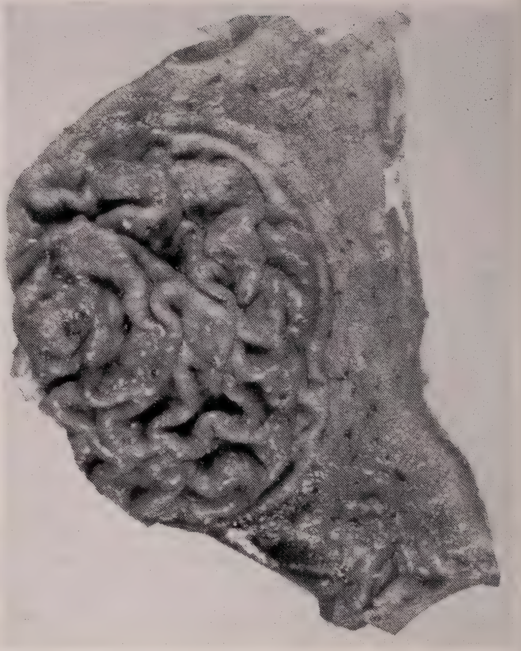

Fig. 3. Giant gastric rugal hyperplasia and atrophic gastritis

Gastroscopic examination revealed a diffuse and profound atrophic gastritis except for a localized area, as described on the roentgen examination, of convolutional rugal hypertrophy which was thought to be a localized area of lymphosarcoma. Surgery was advised and accepted.

Celiotomy disclosed the abdominal visceral system to be negative except for the stomach. A tumor mass measuring about 7 cm. in diameter was palpable involving the greater curvature (Fig. 3). The seromuscular layer adjacent to the tumor showed no evidence of induration due either to inflammation, reaction, or malignant invasion. A partial gastric resection was completed and a short loop antecolic gastrojejunostomy fashioned. The patient made an uneventful recovery and was last observed on December 30, 1953. A mild burning sensation of the tongue persisted. The lesion of the tongue had improved considerably. It is not inferred from the last statement there exists any relationship between the herpes labialis or the lesion of the tongue and the giant gastric rugal hyperplasia. Their synchronous occurrence is interesting but without explanation.

Pathology.—The gross and pathologic report of the gastric lesion was consistent with that described by Menetrier (Fig. 4).

Comment

The synchronous occurrence of diffuse atrophic gastritis and giant gastric rugal hyperplasia, to my knowledge, has never been described in the literature. Atrophic gastritis is almost always found

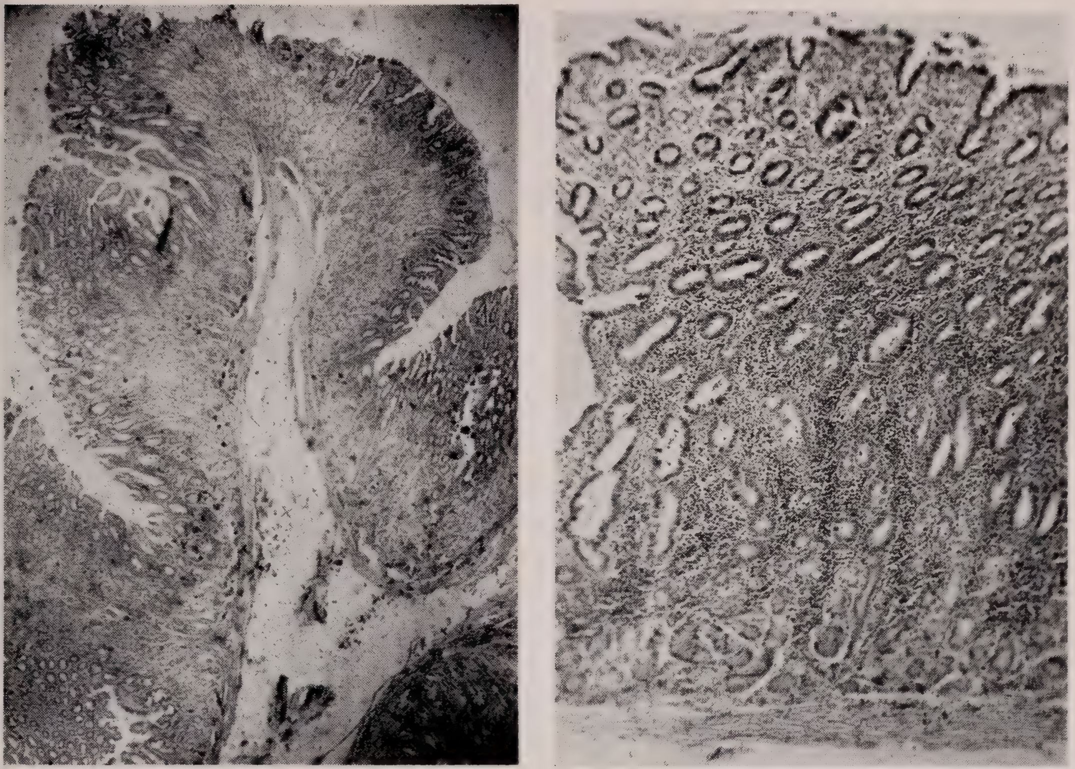

Fig. 4. Glandular hypertrophy. (*Hematoxylin-eosin stain*)

in the stomach containing carcinoma. It is constant and most severe in stomachs of patients with pernicious anemia. The latter disease is significantly associated with gastric cancer. Association of atrophic gastritis and benign adenomas of the stomach has been observed by us and others. Whenever giant rugal hyperplasia of the stomach is suspected or diagnosed from roentgen study of the upper gastrointestinal tract, gastroscopic examination should follow and evidence of atrophic gastritis coexisting with giant rugal hyperplasia of the stomach noted. It may uncover further evidence that atrophic gastritis is or is not a factor in gastric neoplasia.

Hypoproteinemia occurs not uncommonly in giant gastric rugal hypertrophy according to Maimon and coworkers and was observed in two of the six cases they reported. They suggested this hypoproteinemia was on the basis of a loss of plasma protein from the edematous gastric mucosa, in much the same manner that serum is exuded from a burn.

Balfour and coworkers[1] reported a case of severe hypoproteinemia in giant gastric rugal hypertrophy and hypothesized that certain gastric lesions might inhibit the ability of the stomach to elaborate a factor or factors which facilitates synthesis or storage of protein.

The six cases reported by Maimon and coworkers[4] and the case reported by Balfour and coworkers[1] involved the entire stomach or nearly so. In comparison our reported case was confined to a much smaller area. There was very minimal inflammatory reaction complicating the picture. The patient exhibited no clinical evidence of hypoproteinemia, nor was his serum protein depressed. This case history would not support the hypothesis that the lesion alone inhibited in any way the synthesis or storage of protein.

It has been repeatedly stated that localized giant rugal hyperplasia of the stomach is capable of producing a filling defect which is difficult to distinguish roentgenologically from carcinoma. In the case reported herein this difficulty was not encountered, but the differential diagnosis from a localized area of lymphosarcoma was the real problem.

As a result of screening for the detection of early carcinoma of the stomach in asymptomatic individuals, giant rugal hyperplasia will no doubt be more frequently encountered. The surgeon will be confronted at celiotomy with the problem of differential diagnosis. I know of no other neoplasm of the stomach, including lymphosarcoma, where the lesion on palpation during celiotomy was so soft and felt so much like a bag of worms. If the diagnosis of giant rugal gastric hyperplasia can be definitely established, a less radical surgical procedure will suffice.

Conclusion

A case is presented of localized giant gastric rugal hyperplasia occurring synchronously with diffuse and profound atrophic gastritis. The differential diagnosis of carcinoma of the stomach in this particular case did not offer a problem. Differential diagnosis from a localized area of lymphosarcoma was difficult, however, both roentgenologically and from the gastroscopic examination. The synchronous association of giant gastric rugal hyperplasia and diffuse and profound atrophic gastritis may support the hypothesis that atrophic gastritis is a factor in gastric neoplasia.

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Osler, The Prolific Author

Almost everything that Osler did seemed eventually to develop into an article for a medical journal, a chapter in a textbook, a lecture which was reported, or notes and comments in his daybooks. He would dash off from a visit to his relatives in Canada to see or make a postmortem and find a rare disease that would subsequently be written up. He made full notes of such cases at Blockley as especially interested him, and then spent hours over the microscope with specimens obtained. Though it is evident that he worked with intense concentration, it is amazing that he was able to take such an active part in so many organizations and still find time for long holidays; and even on these, he got grist for his literary mill. As he said later, "Both pen and brain got a deal of practice in Philadelphia." And not only did he himself turn out work, but by his example and his contagious enthusiasm Osler stimulated those who came in contact with him to observe, record, and publish.—*William White, Ph.D., in International Record of Medicine and General Practice Clinics, September, 1954*

Good Doctoring

More often than not we know, in answering the sudden summons, that we will be able to make little material contribution to the patient's well-being, but we know that our presence will help. When death is inevitable, the doctor doesn't waste his time when he stays by the patient, as even if the patient be too ill to appreciate his presence, his friends and relatives will derive great support. All these and many other less tangible elements in good doctoring cannot be taught as formal items in the syllabus, but they can be inculcated by example. I think it is most important that clinical instruction should involve as long a period as possible during which the student is attached to a physician and at another time to a surgeon. The formal content of his instruction and work will be essentially scientific, but in the day-to-day conduct of clinical practice and in the "chief's" attitude to patients there is much that the student can learn. He will naturally discover that the practice of medicine knows no hours, and the doctor can expect rest and refreshment only when there is absolutely nothing further the patient needs for the time being.

—*W. Melville Arnott, in Proceedings of the First World Conference on Medical Education, Oxford University Press, 1954*

Acute Pseudomembranous Enterocolitis Simulating Intra-Abdominal Hemorrhage

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Acute pseudomembranous enterocolitis has been reported with increasing frequency in recent years. Occurring often but not always in the postoperative patient, the syndrome is characterized by severe sudden shock, abdominal pain and distention, vomiting, and diarrhea. The collapse is profound and resistant to therapy, and most often the disease terminates fatally. At autopsy the characteristic lesion is a fibrinous, gray-yellow exudate which coats the mucosa of the involved portions of the bowel and which strips away easily, revealing an ulcerated mucosa beneath.

A similar syndrome, apparently occurring spontaneously, has been described in patients with bowel lesions, cardiac lesions, and other diseases who have not undergone surgery[1,2] and in patients who have received Terramycin or aureomycin for the treatment of various infections.[3-5] In the cases treated with antibiotics, bacteriologic studies of the intestinal flora have revealed predominant growths of staphylococci in almost all cases. Although similar cultures have been obtained in cases of postoperative acute pseudomembranous enterocolitis, this is not always the case. Many observers feel that so-called "staphylococcic enteritis" and pseudomembranous enterocolitis are two separate and distinct syndromes in spite of the clinical and pathologic similarities.[6,7] Studies at the Mayo Clinic[1,2] have failed to reveal an absolute increase in the number of cases of pseudomembranous enterocolitis since the introduction of the antibiotics for preparation of the bowel for surgery. In spite of this, other observers definitely implicate the broad-spectrum antibiotics in cases of pseudomembranous enterocolitis, either as the actual causative agents[8,9] or as agents which contribute to its occurrence.

Pseudomembranous enterocolitis is fortunately a rare complication of surgery, and for this reason the diagnosis is often not made during life. As has been pointed out, the sudden onset of symptoms with the acute shocklike state that results can mimic an acute surgical catastrophe.[10,11] If the syndrome is recognized at the time of its onset, an unnecessary laparotomy may be avoided, and proper supportive therapy can be instituted at once. With intensive treatment the disease is not always fatal. Adequate treatment of the shock and resulting electrolyte disturbances as well as the prompt administration of erythromycin have reversed the course in some cases.[6,12]

The following is a report of a case of acute pseudomembranous enterocolitis in which the typical syndrome occurred following a colostomy performed as part of the surgical treatment of the patient's war wounds. The symptoms were felt to represent acute intra-abdominal hemorrhage, however, and a laparotomy was performed.

Case Report

The patient was a twenty-one-year-old, white, American soldier who was wounded by mortar fragments in Korea on June 8, 1953, and sustained penetrating wounds of the perineum. He was evacuated to an Army surgical hospital where the wounds were débrided. The operative note stated that the bulbocavernosus muscle had been exposed and that this was covered by suturing fascia over this area. The remainder of the wound was left open. Aureomycin was ordered postoperatively, but he received only a single dose of 250 mg. He was then evacuated to an evacuation hospital where he was admitted on June 10.

Physical examination on admission revealed a cleanly débrided perineal wound closely adjacent to the anus. The rectum and anal sphincter were intact. The laboratory findings included hemoglobin 15.2 Gm.; urine specific gravity was 1.022, and the sediment contained 7 to 8 white blood cells per high power field. It was decided that the patient required a colostomy in order to prevent fecal contamination of the débrided perineal wound. Aureomycin was restarted and given in divided doses. He received a total of 1,500 mg. preoperatively. On June 11, 1953, a diverting sigmoid colostomy was performed, the divided ends of bowel being exteriorized through separate stab wounds. At surgery no intra-abdominal wounds or abnormalities were noted. The patient tolerated the procedure well.

During the first two postoperative days intravenous alimentation was maintained. Penicillin and streptomycin were given, but no aureomycin was administered. During the second postoperative day he began to complain of "gas pains," but no abdominal distention was noted. The maximum postoperative temperature was 101.6 F. on the second day. The colostomy was opened late that day. During the next two days the patient was up and about the ward. The colostomy functioned, but all stools were liquid. The temperature dropped to normal; the pulse averaged 100. He was able to tolerate a soft diet fairly well. However, on the morning of the fourth postoperative day, June 15, he vomited 150 cc. of coffee-ground material. He complained of a feeling of abdominal distention at that time, and the insertion of a Levine tube for about three hours relieved these symptoms. During the rest of the day the patient appeared to be doing well, and he was scheduled to be evacuated to Japan the next morning.

Late that evening the nurse discovered that he had suddenly gone into profound shock. The blood pressure was unobtainable, the pulse weak and thready. It was felt that the patient had suffered a massive intra-abdominal hemorrhage, possibly from the divided sigmoid mesentery. On examination the abdomen was distended and "doughy," and generalized tenderness was elicited. After the administration of 1,000 cc. of whole blood, the blood pressure rose to 110/90. An exploratory laparotomy was then performed. On opening the peritoneum, a large amount of serous exudate was noted. There was no free blood. The entire small bowel was markedly distended and reddened, and there were scattered patches of serosal exudate. The terminal 18 inches of ileum were bluish purple in color. The large bowel appeared normal. Mesenteric arterial pulsations were easily palpable. There was no obstruction of the small bowel. Because of the distention it was necessary to decompress the small bowel by means of suction through an enterotomy before the abdomen could be closed. Closure was performed with through-and-through wires.

During the procedure the patient's condition was poor. Blood pressure was maintained by the use of Levophed and 3,000 cc. of whole blood. In spite of a blood pressure of 110/60 immediately postoperatively, the pulse remained at about 140 and, the patient clinically appeared to be in shock. During the following day 500 cc. of whole blood, 1,500 cc. of saline with 300 cc. of added albumin, and 1,200 cc. of Dextran were administered, a total of 3,500 cc. of colloid-containing fluids. Despite this he remained in shock. The total urine output in the first twenty-four hours was 555 cc. Laboratory studies revealed sodium 126 mEq., potassium 4.8 mEq., carbon dioxide 24 mEq., chlorides 91.2 mEq., and calcium 7.2 mg. per cent. An electrocardiogram was interpreted as showing "myocardial ischemia."

On the second postoperative day the patient continued in shock despite vigorous treatment with Dextran and Levophed. The pulse averaged 120 to 150 per minute. Respirations were 40 to 70, and the temperature rose to 105 F. axillary. The urinary output averaged 10 cc. per hour. Icterus was noted. Laboratory studies revealed hematocrit 57 per cent, sodium 139 mEq., potassium 6 mEq., carbon dioxide 23.4 mEq., chlorides 96.5 mEq., calcium 8.9 mg. per cent, nonprotein nitrogen 52 mg. per cent, and serum bilirubin—direct 11.2 mg. per cent and total 12.8 mg. per cent. The urine was reddish and acid with a specific gravity of 1.050. There was 4 plus albumin, and the sediment was described as bloody. The abdomen was noted to be somewhat distended, and in the afternoon the proximal loop of the colostomy was reopened. A Levine tube was introduced into it, and 1,400 cc. of liquid stool were aspirated. The patient continued a downhill course, and death occurred late in the afternoon of June 17, 1953.

The autopsy was performed approximately one hour after death. The significant findings were confined to the abdomen. On opening the peritoneal cavity many dilated loops of small bowel with a dark red serosal surface were noted, and 150 cc. of reddish-brown fluid were present. The entire small bowel was covered by a scant, patchy, fibrinous exudate which in places loosely bound the loops together. The colon was tremendously dilated in the portion proximal to the colostomy. There was no obstruction of the bowel. When the gastrointestinal tract was opened, the esophagus and stomach appeared to be normal. The duodenum was moderately dilated with a congested, intact mucosa. The entire small bowel showed marked dilatation. The mucosa of the upper jejunum was extremely congested but showed the usual villous pattern. More distally and in the ileum and colon there was diffuse, extensive ulceration of the mucosa and almost complete covering with a bright yellow, adherent, membranous exudate. This stripped away with some difficulty and revealed a raw, red submucosa beneath (Fig. 1). The process was marked in the colon where the entire mucosa was covered by a cast of the exudate. By contrast, the sigmoid extending from the distal colostomy to the anus was normal in appearance and contained brown stool. The liver and kidneys appeared grossly normal.

Cultures of the exudate revealed Proteus morgani in pure culture. This strain was reported to be slightly sensitive to aureomycin. No other sensitivity studies were reported.

The significant microscopic findings were also confined to the gastrointestinal tract. Sections through the involved portions of small bowel and colon revealed acute ulceration with necrosis of the epithelium and marked edema and congestion of the submucosa. The exudate was patchy and consisted chiefly of polymorphonuclears, fibrin, and mucus (Fig. 2). In some areas the underlying mucosa was relatively undisturbed. Sections through the liver and kidneys were normal, and no reason for the jaundice could be found.

Comment

In the above case the diagnosis of acute pseudomembranous enterocolitis was not made at the onset of the syndrome. The profound and sudden shock were felt to represent acute intra-abdominal hemorrhage. The resulting laparotomy only served to traumatize further a severely ill patient. In retrospect, certain clinical features of the patient's postoperative course should have given some indication of the true diagnosis. These were the persistence of liquid stools from the colostomy, and the vomiting and abdominal distention on the morning of the fourth postoperative day in spite of the functioning stoma. Postoperative abdominal pain and distention, vomiting, and diarrhea are characteristic symptoms accompanying the onset of

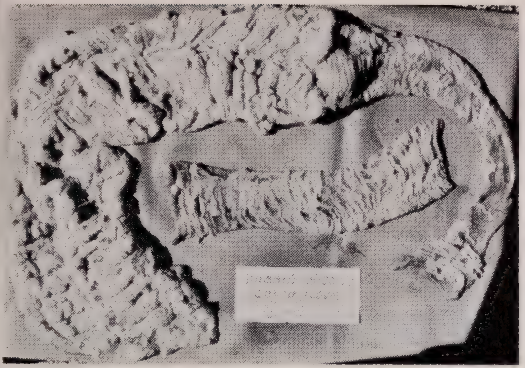

FIG. 1. The appearance of the colon and ileum at autopsy. The bowel is covered by a patchy yellow exudate which is more marked over the colon. The underlying mucosa is ulcerated in the areas where the membrane has sloughed away.

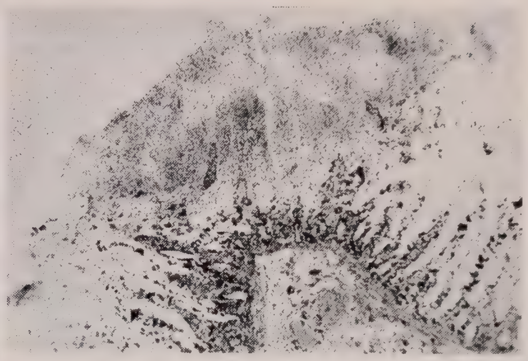

FIG. 2. The microscopic appearance of the bowel. There is a patchy exudate composed chiefly of polymorphonuclears, fibrin, and mucus. The superficial portion of the mucosa is destroyed in the area covered by the membrane. The mucosa in adjacent areas is relatively free.

acute pseudomembranous enterocolitis.[3,8,13] Welch[1] has suggested that routine cultures be taken from the bowel at the time of surgery. If a predominant growth or pure culture of staphylococci is found, appropriate treatment with erythromycin can be instituted at once. This principle might well be extended to the taking of stool cultures when a colostomy is opened or when a patient has his first bowel movement following intestinal surgery. In the case under discussion, while staphylococci were not present, a pure culture of Proteus could well have been the first indication that something was wrong. It has also been suggested by Welch[10] that all tubes passed into the gastrointestinal tract either prior to or after surgery be sterilized before insertion. He feels that these may be the source of the offending organisms in some cases.

In evaluating the causes of pseudomembranous enterocolitis and the staphylococcic dysenteries, an "enterotoxin" has been postulated by some observers.[7] No true enterotoxin has as yet been identified from the stools or exudates of these patients. It is of interest to note, however, that in the present case the entire bowel distal to the upper jejunum was involved by ulcerative changes with the exception of the lower sigmoid and rectum. This portion of the bowel was excluded at the time the diverting colostomy was produced, and at autopsy it was perfectly normal in appearance. It might be postulated that this segement remained normal because it was not exposed to an "enterotoxin" which was produced in the remainder of the bowel.

Whether antibiotics cause or predispose to the development of acute pseudomembranous enterocolitis has not yet been settled. It is, nevertheless, a well established fact that the disease can occur in cases that have had no antibiotics and that its incidence is not definitely related to their use.[1,2] In this case the patient received a relatively small dose of aureomycin, 250 mg. three days prior to surgery and 1,500 mg. in the twenty-four hours preceding operation. Whether this amount of the drug could be responsible for the marked change in intestinal flora seems unlikely. In the reported cases of pseudomembranous enterocolitis and staphylococcic enteritis in which aureomycin has been implicated as the causative agent, the drug has been administered over a longer period of time with a larger total dose.[3,6,8,9] Reiner *et al.*[9] feel, however, that the combination of penicillin and streptomycin with either aureomycin or Terramycin might result in a more profound depressant effect on the intestinal flora than if these drugs were used alone. In their cases, as in the present case, cultures revealed Proteus but no staphylococci. Since this case received penicillin and streptomycin postoperatively, this mechanism conceivably could have caused the syndrome.

Summary

1. A case of acute pseudomembranous enterocolitis is presented in which the sudden onset of the syndrome was misinterpreted as representing acute intra-abdominal hemorrhage, and a laparotomy was performed.

2. Autopsy in this case revealed the typical changes of pseudomembranous enterocolitis throughout the small and large intestine except for the distal segment of sigmoid and rectum which had been excluded by the colostomy. This portion of the bowel appeared normal. Cultures from the involved portions of the bowel produced a pure strain of P. morgani.

3. A symptom complex of abdominal pain, distention, diarrhea, and vomiting followed by the

sudden onset of shock should suggest the diagnosis. Supportive therapy should be instituted at once and unnecessary surgery avoided.

4. It is suggested that in addition to routine cultures of the bowel at surgery, cultures also be made when a colostomy is opened or when a patient has his first postoperative bowel movement. If staphylococci are grown, the administration of all antibiotics other than erythromycin should be stopped.

5. The absence of characteristic pathologic changes in the isolated segment of colon distal to the colostomy in this case suggests the presence of an "enterotoxin" in the remainder of the bowel.

Roswell Park Memorial Institute

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Not "In England" and not all of it "Now"

When I was a R.A.M.C. surgeon in Egypt in 1945 I had so persistent a pain in my left renal area that I had an x-ray done. This showed nothing abnormal. A few days later my wife wrote from Devonshire that there was a new x-ray machine in the practice where she worked as a radiographer and her colleagues had used her abdomen as the subject of its first trial. The excellent films obtained showed a large stone in her left kidney. After the removal of the stone our health remained good until some months ago when I began to suffer from lassitude, loss of concentration, insomnia, and an ache in the suboccipital region. This led to a keener interest in the merits of vitamin B, barbiturates, and dextroamphetamine sulphate, but with scant improvement. My wife consulted a gynecologist two days ago and her ovarian cyst is to be removed in a fortnight.

Should I be blamed for failing to recognize my symptoms earlier?—*In England Now, The Lancet, June 4, 1955*

In our family the teaching of citizenship or civics is pursued opportunistically rather than by plan, our main theoretical principle being to satisfy the child's thirst for knowledge as it is manifested. A golden opportunity presented itself on Election Day while we swallowed a hasty breakfast in order to get to the polling station.

Our eight-year-old daughter courteously divided her attention about equally between her food and the unprepared talk we gave on the Constitution and the principles of democratic government by election. Our degree of success can be judged by her sole question:

"And what do you get if you guess right?"—*In England Now, The Lancet, June 4, 1955*

Making a budget is a method of worrying before you spend, instead of afterwards.—Hastings Doerr

No civilized person ever goes to bed the same day he gets up.—Richard Harding Davis

A Case of Plasmacytosis

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(*From the Medical Staff of the House of the Good Samaritan*)

The presence of an increased percentage of plasma cells in the peripheral blood or bone marrow does not in itself predicate the existence of a primary malignant plasmacytic disease (multiple myeloma, diffuse plasma cell myelosis, and plasma cell leukemia). A number of reports have recently appeared in the literature which emphasize the importance and necessity of differentiating plasmacytosis from malignant plasmacytic disease.

Case Report

R. J., a white male of fifty-seven years, was known to have had a duodenal ulcer for at least two years. He felt fairly well on a convalescent ulcer diet and Amphojel medication. On March 29, 1954, he began to complain of severe epigastric pain, which radiated directly to the back and was not relieved by milk or antacids. The pain was continuous but was most intense about one hour after his meals. On a few occasions he vomited nonbloody material and secured temporary relief. A diagnosis of penetrating duodenal ulcer was made, and the patient was admitted to the House of the Good Samaritan Hospital on March 31.

The physical examination was negative except for the presence of marked tenderness in the epigastrium. The benzidine test on the stool was strongly positive, but the blood count, blood chemistry, urinalysis, and Wassermann were normal. In spite of a Sippy diet, sedatives, antispasmodics, and antacids, the patient continued to complain of epigastric distress. On April 5 he suddenly vomited about a quart of coffee-ground material and went into shock. He was transfused with a pint of compatible whole blood and improved generally. However, his epigastric distress became worse, his stools became tarry, and he appeared to be in impending shock. On April 7 a subtotal gastrectomy was performed for a bleeding, penetrating duodenal ulcer. During the operation, which he withstood well, he received 3 pints of compatible blood.

The day after surgery the patient developed generalized urticaria. He was given calamine lotion locally and Benadryl by injection. The urticaria persisted for five days. Other than this allergic manifestation, the postoperative course was uneventful. However, a routine blood count on the fifth day after surgery revealed a mild secondary anemia and 5 per cent plasma cells. A repeat blood count two days later showed 6.2 per cent plasma cells of the mature type, and a bone marrow aspiration showed 3.8 per cent plasma cells. No autoagglutination of the red blood cells was noted. The serum calcium was 10 mg. per cent, and the total blood protein was 5.5 Gm. per 100 cc. of blood with serum albumin 3.3 Gm., serum globulin 2.2 Gm., and albumin-globulin ratio of 1.5:1. The urine was negative for Bence Jones protein. X-rays of the skull, ribs, pelvis, and spine did not reveal any abnormal bone lesions.

The patient did very well and was discharged from the hospital on April 18, eleven days after surgery. A blood count on May 18 was normal, and no plasma cells were seen. The patient has continued to feel well and has returned to work. Repeated blood counts have remained normal.

Comment

A perusal of the literature indicates that the presence of plasma cells in the peripheral blood or bone marrow may result from a variety of conditions. Plasmacytosis has been described in such cases as serum sickness and other hypersensitivity states, collagen diseases, rheumatic fever, rheumatoid arthritis, tuberculosis, acute infections, chronic osteomyelitis, cirrhosis of the liver, lymphoma and leukemia, and carcinoma.

The majority of cases of plasmacytosis occur as a result of a hyperimmune or hypersensitive state. Experimentally and clinically the production of plasma cells and serum globulin has been associated with a definite sensitivity to a chemical or with the so-called hypersensitive state. Likewise, it has been shown that plasma cells are concerned with the formation of antibodies and the production of globulins.[1-3]

Plasmacytosis is not an unusual condition. In a recent review of 727 bone marrow examinations performed between 1948 and 1953, Clark and Muirhead[4] found 76 preparations which showed a plasma cell count of 5 per cent or greater. Sixty-three of these (8.7 per cent of the total) were considered to represent plasmacytosis, and this opinion was based on the percentage of plasma cells in routine bone marrow preparations, their morphologic features, clinical findings of the case, and, in some cases, the autopsy material. One of the cases cited had a plasma cell percentage of 21 per cent.

The differentiation between plasmacytosis and malignant plasmacytic disease may be difficult. As indicated, the presence of an abnormal number of plasma cells in the peripheral blood or bone marrow does not necessarily pin the diagnosis on multiple myeloma. Neither does the immaturity of the cell determine the existence of a malignant state for, although plasmablasts and proplasmacytes are seen more often in multiple myeloma, they are likewise present in benign plasmacytic conditions. Hyperglobulinemia, a characteristic finding in multiple myeloma, is present in a number of infectious, granulomatous, parasitic, and neoplastic diseases. In 42 cases of plasmacytosis studied by Muirhead, hyperglobulinemia was noted in 62 per cent. Osteolytic lesions and plasmacytosis may be due to disseminated malignant neoplasms or granulomas. Although the finding of Bence Jones protein in the urine is of great diagnostic significance in cases of multiple myeloma, it must be remembered that it is absent in one third of the cases and that it may occasionally appear in the urine of patients with leukemia and polycythemia. It is apparent, therefore, that the triad of plasmacytosis, hyperglobulinemia, and cryoglobulinemia is also found in benign plasmacytic conditions. The final diagnosis is determined by the entire clinical picture and the future course of the patient.

Summary

Plasmacytosis must be differentiated from malignant plasmacytic conditions. It is not an unusual finding and is secondary to a number of disease processes, most of which are associated with some kind of hyperimmune or hypersensitive state. A case of plasmacytosis is presented.

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Lipoid Granuloma

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The lipidoses comprise a wide variety of diffuse and local hyperplasias of reticuloendothelial cells associated with the presence of intracellular lipids. They are divided into cholesteroses, cerebrosideroses, and sphingomyelinoses. Geschicter and Copeland[1] classify them as the lipoid granulomas, including Neimann-Pick's disease, Gaucher's disease, and the xanthomatoses.

Xanthomatous lesions are included in the cholesteroses and are characterized by the presence of cholesterol and cholesterol esters, either hypercholesterolemic or normocholesterolemic, within the cells.

A xanthoma is a tumor that has the general structure of a fibroma and is of bright yellow color. It consists of connective tissue cells that are greatly distended with lipoid droplets, fibroblasts, and foreign body giant cells. These distended cells are pale and foamy in appearance and may be deposited in tendon sheaths, joints, in the bones, or in the viscera. Involvement of bone is relatively rare but does occur.

This growth of the connective tissue is often granulomatous in character. As the disease progresses, fibrosis may occur, and in the later stages few or no foam cells may be seen. The foreign body giant cells are especially numerous in the single large tumors which also often contain much blood pigment. In the lipoid granulomas the giant cells (or so-called Touton giant cells) contain many small nuclei distributed around the periphery of the cell. Touton cells are not seen in any other condition and are thus diagnostic. In giant cell tumors of bone there are many small, centrally located nuclei within the cells.

The basis of the xanthomatous lesions appears to be a general disturbance of lipoid metabolism associated with hypercholesterolemia. However, some observers feel that the presence of the lipids within the cells is due to infiltration, while others feel that there is an intracellular disturbance of metabolism inherent in the cells and not dependent on changes in the blood.

The xanthomas of the tendons and blood vessels are said to be hypercholesterolemic, while the disseminated xanthomatoses of the skin, serous membranes, and of bones are normocholesterolemic.

Lipoid granulomas are benign. Treatment con-

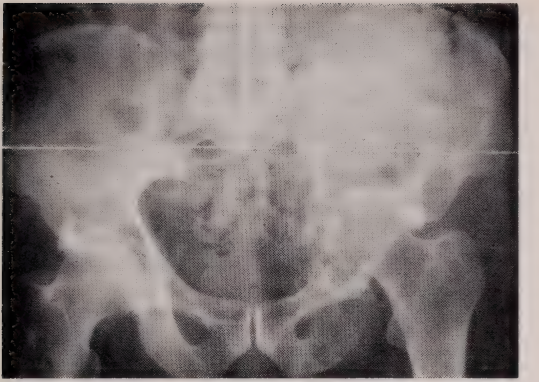

FIG. 1. The x-ray of the pelvis shows a large, expanding, multicystic lesion involving almost the entire left hemipelvis. The left ischium is approximately twice its normal size. The medial portion of the acetabular fossa has been destroyed. This single large xanthomatous lesion of bone is rare and greatly resembles a giant cell tumor of bone. The microscopic diagnosis was lipoid granuloma.

sists of excision or irradiation. Radiation acts as an irritant and produces an inflammatory reaction in the stroma of the tumor and in the surrounding tissue. The fibroblasts are stimulated to proliferate and lay down collagen fibrils. A dense fibrosis is the result.

Case Report

This patient, a sixty-year-old, white male, was admitted to the hospital after falling on the stairs at home and striking his head. There was a short interlude of unconsciousness. There were no other complaints.

Investigation into the patient's past history revealed a dislocation of the lower spine about a year ago. An operation on the back was performed followed by x-ray treatment. Since that time the patient had been walking with crutches. The patient further admitted to malaria fever in 1942, dengue fever in Cuba in 1920, and to an allergy to penicillin.

Physical examination revealed a blood pressure of 140/90, pulse 80, and temperature 98.0 F. The patient was well-developed, well-nourished, alert, and in no distress. A small linear laceration of the left parietal area of the scalp was present. The pupils were round, of equal size, and reactive to light and accommodation. A bilateral temporal pallor of the disks was noted on funduscopic examination. A grade II systolic murmur heard at the apex was transmitted to the left axilla; a similar murmur noted at the aortic area was transmitted along the right border of the sternum. A short, healed, linear surgical scar was present on the left lower lumbar region of the back. Hyperpigmentation of the left lower quadrant of the abdomen was seen as well as a similar discoloration of the left buttock. Tenderness was noted in the left hip and lower back areas. The left thigh showed some atrophy, and the left leg was $^1/_2$ inch shorter than the right leg. The left leg was flexed at the knee, and the patient was unable to extend it completely. There was also a moderate decrease in external rotation of the left hip. Pain and temperature sensations were intact, however. A hard extrinsic mass was noted in the left pelvis on rectal examination.

Laboratory data revealed the following: hemoglobin was 13.5 Gm.; white blood cells 7,800; serology negative; erythrocyte sedimentation rate 24 mm. per fifteen minutes (uncorrected). The urea nitrogen was 16 mg. per cent; fasting blood sugar 110 mg. per cent; serum calcium 10.0 mg. per cent; phosphorus 3.1 mg. per cent; acid phosphatase 0.4 and alkaline phosphatase 9.1 mg. per cent; total blood cholesterol 110 mg. per cent. The urine showed specific gravity of 1.004, 2 plus albumin, and a trace of sugar.

The x-rays of the chest were negative. Films of the skull, long bones, and lumbar spine failed to reveal any evidence of fracture or of metastatic destruction. A gastrointestinal series was also unrevealing.

The x-rays of the pelvis, however, showed the presence of a large, well-circumscribed, rarified and multicystic lesion which almost completely replaced the structure of the left ilium and ischium (Fig. 1). The cortex of both of these bones was destroyed. There was also a generalized osteoporosis of the left hip associated with a central dislocation of the left femoral head.

A biopsy of the left iliac bone during the previous hospitalization revealed a soft, sanguineous material containing many bone cysts with recent and old hemorrhage. The microscopic diagnosis was lipoid granuloma.

Roentgen therapy was administered until a total of 4,200 r had been given. The patient is able to walk with the use of crutches.

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Words that can't be printed here or in a newspaper or in a magazine can be found in any best-seller.—*The Bulletin, The Utica Academy of Medicine and The Medical Societies of the Counties of Oneida, Herkimer, and Madison, May, 1955*

I told an alcoholic patient of mine, "If you would stop drinking it would prolong your days."

"You're sure right, Doc," he replied, "I stopped once for 12 hours and it was the longest day of my life."—*C.G.S., Missouri Medicine*

Congenital Preauricular Fistula

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CONGENITAL preauricular fistula is a rare dermatosis. In twenty years at the Mayo Clinic only 16 cases came to the clinic for treatment.

According to Selkirk[1] the commonest location is in the anterior portion of the ascending helix, but it may appear anywhere about the external ear. Becker[2] reported a case appearing in the lobule of the ear.

Opinions differ as to its exact cause. Arey[3] claims that it may be due to a developmental disturbance of the first mandibular arch. Many writers stress the fact of its hereditary nature and transmission. Montgomery[4] reported on three cases in one family.

The external appearance of an asymptomatic fistula amounts to nothing more than a dimple, the presence of which is usually overlooked. Fistulas vary greatly in their gross anatomic structures. Some are simple tubular sinuses, of only 1 to 2 mm. in length, lined with squamous epithelium; others are complex sinuses possessing one or more offshoots that diverge in many directions.

The tract may become obstructed, and a typical cystic tumor develops; infection supervenes with resultant ulceration and scarring. The significant feature of these cases is that the disturbance may go on for months without the proper diagnosis. Cases have been treated as cystic tumors, pyogenic granuloma, or scrofuloderma. The cause for the delay in diagnosis may be due to the fact that the inflammatory changes occur at some distance anterior to the opening of the fistula. Becker[5] reported four cases, in one of which the diagnosis was missed for one year.

The fistulas may be visualized by the injection of methylene blue as described by Baumgartner.[6] They may be outlined also by x-ray studies with opaque medium as brought out by Wangensteen.[7]

Successful treatment, according to Pastore and Erich,[8] consists of (1) the complete removal of the cystic sac (this may be difficult due to branching of the tracts), and (2) destruction of the epithelial or fibrous lining by surgical diathermy.

Case Report

S. B., a white child, aged seven, was referred for treatment of a granulomatous tumor of eight months duration. Examination showed a normal, well-developed child. On the right cheek, about 2 cm. anterior to the ascending helix, there was a raised, crusted tumor, about 1.5 to 2 cm. in diameter. On removal of the crust there were numerous small abscesses in the bleeding, friable growth. Closer examination of the area revealed a minute dimple in the ascending helix immediately above the tragus. Pressure on the tumor produced a droplet of pus at the dimpled opening. A probe could then be inserted to a depth of about 7 mm.

The mother of this child had a similar lesion in the helix of her left ear, but the other sibling had none.

An attempt to visualize the fistula by contrast x-ray and by injection of methylene blue was not successful.

The lesion was completely destroyed by surgical diathermy and resulted in a smooth, pale scar.

Summary

A case of preauricular fistula is reported. The diagnosis was not considered for eight months. Surgical diathermy resulted in complete healing.

1901 GRAND CONCOURSE

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"This time, like all other times, is a very good one, if we but know what to do with it."—EMERSON

MEDICAL NEWS

American College of Chest Physicians—The Council on Postgraduate Medical Education of the American College of Chest Physicians, in cooperation with the respective state chapters of the College, as well as the staffs and faculties of the local hospitals and medical schools of Chicago and New York City, will sponsor the following postgraduate courses on diseases of the chest this fall. The tenth annual postgraduate course at the Hotel Knickerbocker in Chicago, October 3 through 7, and the eighth annual postgraduate course at the Park-Sheraton Hotel in New York City, November 14 through 18. Further information may be secured by writing to the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

Occupational Medicine Lectures—The faculty of medicine, Columbia University, will give a series of lectures on occupational medicine from nine to ten o'clock on Saturday mornings beginning on September 17. The lectures will be given in Amphitheater A, College of Physicians and Surgeons, 630 West 168th Street, New York 32, New York. The lecturers will be members of the staff of the Division of Occupational Medicine of the School of Public Health.

American Medical Education Foundation—New York State contributors to the American Medical Education Foundation for the month of June, were: *Astoria*—Dr. Harry A. Schwartz; *Avoca*—Dr. Harold Koretz; *Ballston Lake*—Dr. Wilbur S. Rose; *Batavia*—Drs. Paul Maloney and Joseph Tannenberg; *Bayside*—Drs. Samuel C. Clayton and Charles H. Ellard, Jr.; *Beacon*—Dr. J. A. Astone; *Bergen*—Dr. Bernard Puglisi; *Binghamton*—Drs. Samuel E. Cohen, Herman Hurdum, Alfred E. Peterson, Charles L. Shute, Jr., and F. Warner; *Bronx*—Drs. A. Ettinger, H. S. Goldsmith, H. C. Kelley, Samuel C. Levine, J. A. Lynch, Y. I. Makarushka, James E. Ridgway, H. Robbins, M. H. Robbins, Ira L. Rubin, S. S. Schifrin, J. A. Von Tischler, and Samuel Wagreich; *Bronxville*—Drs. Henry W. Doyle, Jr., James M. Jones, F. L. Koch, and Henry E. McGarvey; *Campbell Hall*—Dr. S. M. Schoenholz; *Canastota*—Dr. Richard B. Cuthbert, Jr.; *Cape Vincent*—Dr. Gordon S. Coutts; *Cattaraugus*—Drs. Ellwyn E. Heier and Harry C. Law; *Cazenovia*—Dr. Edward R. Cannon; *Central Valley*—Drs. F. M. Bullard and T. W. Neumann; *Chenango Bridge*—Drs. Jean C. Smith and Robert W. Smith; *Chester*—Dr. M. I. Gerner; *Cincinnatus*—Dr. George R. Landwehr; *Collins Center*—Dr. Ernst A. Von During; *Cornwall*—Dr. B. J. Troidle; *Cornwall-on-Hudson*—Dr. G. R. Dempsey; *Corona*—Dr. George W. Herlitz; *Coxsackie*—Dr. Elwood G. Weisenburn.

Also: *Ellicottville*—Dr. Walter Leyens; *Elmhurst*—Dr. S. J. Hodkin; *Elmira*—Drs. George T. Bartlett, William Burke, D. Caravetta, Edward L. Curvish, Edward Droleski, Donald N. Groff, William M. Kelly, Robert V. Larkin, L. Linderbery, James A. Mark, Charles Ott, Philip J. Reilly, Rudolph Schwarz, R. G. Turner, and M. M. Wyttenbach; *Far Rockaway*—Dr. John B. Kaiser; *Fayetteville*—Dr. Clara H. Gregory; *Florida*—Dr. M. Temchin; *Flushing*—Drs. Clyde N. Baker, L. V. Casamas, Sidney Cohen, R. V. Grieco, Henry M. Kleinman, John E. Lowry, Harold Shifrin, M. E. Sullivan, and R. R. Yanover; *Franklinville*—Dr. Robert D. Kelsey; *Geneva*—Dr. Martin J. Coyne; *Gloversville*—Dr. Armond J. D'Errico; *Goshen*—Drs. N. T. Keys, F. T. Seward, and N. H. Witt; *Towanda*—Drs. Roy Thurn and Ward J. White; *Great Neck*—Dr. Leonard J. Bloome; *Highland Falls*—Dr. F. H. Darragh; *Hoosick Falls*—Drs. C. E. Shaw and H. Stacy; *Horseheads*—Dr. Charles L. Palmer; *Hudson*—Dr. Henry O. Little; *Hyde Park*—Dr. H. S. Hirst; *Jackson Heights*—Drs. Charles Koenig, Leo V. Rooney, and S. S. Safir; *Jamaica*—Drs. F. A. Gagliardi, Harry Goldberg, Gerson Rapoport, Emanuel Rappaport, Henry A. Reisman, Albert Shapley, Conrad Stritzler, and Moritz Tanur; *Kew Gardens*—Drs. A. X. Rossien and Sarah E. Worob; *Kingston*—Drs. Peter D. Corsones, M. B. Downer, Emil S. Goodyear, F. W. Holcomb, John B. Krom, Walter Levy, and Douw S. Meyers; *Larchmont*—Dr. William P. Reed; *Long Island City*—Drs. Carl Krenz, Michael Pollack, Harry J. Secky, Frank N. Valente and Fred M. Weiss; *Lowville*—Dr. Edgar Boggs.

Also: *Massena*—Dr. P. T. McGreevy; *Middleburgh*—Drs. Duncan L. Best and Donald Lyon; *Middletown*—Drs. P. H. Faivre, L. Gillman, H. Gurian, W. J. Hicks, F. Hollenberg, S. S. Katz, L. Mermell, J. Schloss, L. S. Tieman, and S. L. Truex; *Millbrook*—Dr. William W. Bennett; *Monroe*—Dr. H. Hoffman; *Monsey*—Dr. Matthew Dal Lago; *Mt. Vernon*—Dr. Milton B. Philips; *Newburgh*—Drs. A. S. Banks, D. C. Bouton, R. F. Crabtree, J. C. Donovan, C. E. Fallon, A. H. Fenton, C. W. Layne, C. I. McFadden, J. W. McKeever, C. S. McWilliam, W. S. Montgomery, J. W. Overton, C. B. Reed, W. A. Shearer, F. Small, G. J. Sprague, P. M. Traub, and E. C. Waterbury; *New Hyde Park*—Dr. Edward Meilman; *New York City*—Drs. Ernest P. De Santo, J. A. Girard, Leo B. Halleran, Suzanne Howe, Milton Kardon, Elihu Katz, J. S. Kenney, Arthur A. Knapp, Shepard

Krech, Horace Leigh, J. H. Mower, Murray Polsky, and David Soletsky; *Oak Hill*—Dr. Laura Miller; *Olean*—Drs. Joseph E. Anderson, George C. Cash, James A. Doucett, J. F. Durkin, John Godfrey, W. J. Manley, Leo J. Murphy, and A. L. Runals; *Oneida*—Dr. William L. Lanyon; *Ossining*—Dr. Richard Perlini; *Oswego*—Drs. G. C. Elder and O. J. Mowry; *Pavilion*—Dr. Walter Heuman; *Penn Yan*—Drs. W. G. Roberts, Barbara Strait, and Max Trubek; *Port Jervis*—Drs. A. H. Keniston, J. C. Keniston, and D. P. Schultz; *Portville*—Dr. Duncan L. Wormer; *Poughkeepsie*—Drs. James R. Breed, Lloyd H. Kest, Donald Malven, Leo Murphy, and Paul Schwartz; *Rego Park*—Drs. Philip Chasin, Nathan Eisen, and Oscar Schneller; *Richmond Hill*—Drs. Irwin Hirsch and Saul Lustig; *Rockaway Beach*—Drs. Justin H. May and A. W. Victor; *St. Albans*—Dr. Philip Aronson; *St. Johnsville*—Dr. Paul Adler; *Salamanca*—Dr. Thomas G. Gardner; *Scarsdale*—Dr. Jane Lester; *Schenectady*—Drs. Joseph L. Cirincione, Frank P. Marra, Ralph D. Reid, Charles F. Rourke, and C. A. Welsh.

Also: *Slate Hill*—Dr. F. D. Myers; *Standish*—Dr. S. Keysor; *Staten Island*—Dr. N. M. Fedde; *Suffern*—Dr. Paul B. Van Dyke; *Syracuse*—Drs. Searle B. Marlow, R. A. McLean, and Francis W. Rosenberger; *Troy*—Drs. S. Baer, C. S. De Lucia, T. P. Engster, and W. Z. Schwebel; *Utica*—Dr. Karl W. Gruppe; *Walden*—Drs. F. Falkson, L. T. Greene, and G. Kersten; *Warwick*—Drs. M. R. Bradner, J. R. Bradner, Jr., and H. R. Freisinger; *Watertown*—Drs. Murray H. Gardner and C. C. Wray; *Watervliet*—Dr. E. J. Hanratta, Jr.; *West Winfield*—Dr. Leslie MacNaughton; *White Plains*—Drs. James M. Greer, Arthur J. Hearn, and Walter W. Mott; *Whitestone*—Drs. William F. Sharkey and John J. Vasile; *Wingdale*—Dr. Louis Loeffler; *Woodhaven*—Drs. Olga K. Kiss and Stephen Kiss; *Woodside*—Dr. Paul Weiss, and *Yonkers*—Dr. Felix P. Loiacono.

National Vitamin Foundation—Grants totaling $12,770 have been awarded to physicians of New York State by the National Vitamin Foundation, Inc., for research in the fields of vitamins and nutrition. Dr. Irving Graef, New York University-Bellevue Hospital, New York City, has been awarded $4,000 for studies of the effect of pantothenic acid deficiency in various disease states; Dr. A. Leonard Luhby, New York Medical College, New York City, received $3,600 for studies of the evaluation of urinary formamido-L-glutamic acid excretion as a clinical test for folic acid undernutrition, and $5,170 went to Dr. Theodore F. Zucker, Columbia University, New York City, for studies of pantothenic acid deficiency and the status of acetylcholine in intestinal tissue.

Hill-Burton Grants—The Department of Health, Education, and Welfare reports that as of June, 1955, the status of all Hill-Burton grants for the State of New York is: approved, but not yet under construction—four projects at a total cost of $5,322,208, including $1,774,069 Federal contribution and designed to supply 390 additional beds. Under construction are 15 projects at a total cost of $48,349,113, including Federal contribution of $6,252,874 and designed to supply 1,358 additional beds. Completed and in operation are 72 projects at a total cost of $73,330,211, including Federal contribution of $21,054,004 and supplying 4,003 additional beds.

Serology of Syphilis Courses—Nine laboratory refresher courses covering the serology of syphilis, management and control of syphilis serology by the regional laboratory, and tests for syphilis using the Treponema pallidum will be offered at the Venereal Disease Research Laboratory in Chamblee, Georgia, from September, 1955, through May, 1956, the Public Health Service's Venereal Disease Program has announced.

Applications for any of the courses must be signed by the State Health Officer or State Laboratory director unless the applicant is an employe of the Public Health Service. In such instances application must be approved by the Medical-Officer-in-Charge. Application blanks and correspondence about these courses should be addressed to: Director, Venereal Disease Research Laboratory, Division of Special Health Services, PHS, Department of Health, Education, and Welfare, P.O. Box 185, Chamblee, Georgia.

Research Grants—Columbia University, New York City, is among the colleges to receive a research grant from Sharp & Dohme, Division of Merck & Co., Inc. The grants have totaled $92,550 since August 1, 1954, according to an announcement by the Medical and Research Divisions of the company.

Personalities

Elected

Dr. John Fernandez, Gloversville, into the International College of Surgeons and as a fellow in the American Academy of Obstetrics and Gynecology.

Appointed

Dr. Paul H. Hoch, New York City, as State Mental Hygiene Commissioner . . . Dr. A. J. Lanza, as medical adviser to the President's Commission on Veterans' Pensions . . . Dr. Edwyn O'Dowd, Nyack, as director of surgery at the Nyack Hospital, and Dr. Herbert V. Krutz as director of medicine . . . Dr. T. Campbell Thompson, Larchmont, as surgeon-in-chief of the Hospital for Special Surgery in New York City...Dr. Robert L. Vought, as associate medical director of Bristol Laboratories, Inc.

Honored

Dr. Alexander J. McRae, superintendent of Meadowbrook Hospital in East Meadow, at a tea given to mark the twentieth anniversary of the opening of the Nassau County-owned hospital... Dr. Max Spencer Rohde, former president of Gotham Hospital, New York City, at his home in honor of his seventy-first birthday.

New Offices

Dr. Harold Game, Jr., general practice in Horseheads...Dr. Robert L. Secrist, practice of internal medicine in Williamsville...Dr. John L. Shields, practice of internal medicine in Schenectady... Dr. P. J. Stavem, general practice in Victor.

MEDICAL MEETINGS

Jefferson County Medical Society

Speakers at the Jefferson County Medical Society meetings, to be held at the Black River Valley Club in Watertown, will be Dr. Frank Glenn, professor of surgery at Cornell University Medical College, on "Surgical Treatment of Biliary Tract Disease" on September 20; Dr. James M. Winfield, Valentine Professor of Surgery at New York Medical College, on "The Problem of the Nodular Goiter" on October 18; Dr. C. Stuart Welch, associate professor of surgery at Albany Medical College, on "Diagnosis and Management of Massive Upper Abdominal Hemorrhage" on November 15, and Dr. Robert O. Gregg, associate professor of surgery at the State University of New York College of Medicine at Syracuse, on "Management of Intestinal Obstruction" on December 20.

Endocrine Society

The seventh annual postgraduate assembly of the Endocrine Society will be held September 26 through October 1 at Indianapolis, Indiana, with the cooperation of the Indiana University School of Medicine. The subject will be "Endocrinology and Metabolism." For further information, write to: Postgraduate Office, Indiana University School of Medicine, 1100 West Michigan Street, Indianapolis 7, Indiana.

Occupational Therapy Convention

The 38th annual occupational therapy convention will be held in San Francisco, California, October 25 through 28 at the Sheraton-Palace Hotel. Preceding the convention there will be a Workshop Institute (October 24 to 25) highlighting "The Patient's Point of View." For further information, write to Northern California Occupational Therapy Association, 1680 Mission Street, San Francisco, California.

Pan American Congress of Ophthalmology

The fifth Pan American Congress of Ophthalmology will meet in Santiago, Chile, January 9 through 14, 1956. Among the eye specialists of the United States who will appear on the program are: Drs. Frank H. Constantine, John McLean, R. Townley Paton, and Algernon B. Reese, of New York City, and Dr. Wendell L. Hughes, of Hempstead.

Ophthalmologists who may desire further information about the program may consult Dr. James H. Allen, 1430 Tulane Avenue, New Orleans, Louisiana. Inquiries about other phases of the Congress may be addressed to Dr. Daniel Snydacker, 109 North Wabash Avenue, Chicago 2, Illinois, acting secretary for countries north of Panama.

American Psychosomatic Society

The American Psychosomatic Society will hold its thirteenth annual meeting at the Sheraton-Plaza Hotel in Boston on March 24 and 25, 1956.

The program committee would like to receive titles and abstracts of papers for consideration for the program no later than December 1, 1955. The time allotted for the presentation of each paper will be twenty minutes.

Abstracts should be submitted in sextuplicate, for the program committee's consideration, to Dr. Stanley Cobb, Chairman, Program Committee, 551 Madison Avenue, New York 22, New York.

NECROLOGY

Patrick M. Carroll, M.D., of New York City, died on December 24, 1954, at the age of sixty-three. Dr. Carroll was graduated from the Medical College of Virginia in 1916. He was associate neuropsychiatrist at the Lincoln Hospital, Bronx, and attending psychiatrist at St. Vincent's Hospital. At the time of his death he was a member of the Association for Research in Nervous and Mental Diseases, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Maurice Cohen, M.D., of Brooklyn, died on December 19, 1954, at the age of forty-seven. Dr. Cohen graduated from Long Island College of Medicine in 1931. He was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Robert Emmett Conway, M.D., of Port Richmond, died of a heart attack at his office on July 5 at the age of sixty-five. Dr. Conway received his medical degree in 1915 from Fordham University School of Medicine.

Harry Lewis Fiedelman, M.D., of Brooklyn, died on March 17 at the age of fifty. Dr. Fiedelman was graduated in 1930 from New York Homeopathic Medical College and Flower Hospital. He was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association

M. J. Fein, M.D., of New York City, died on July 17 after a short illness at the New York Hospital at the age of fifty-seven. Dr. Fein graduated from Long Island College of Medicine in 1917. He was attending pathologist at Unity Hospital, director of laboratories at Adelphi Hospital, and consulting pathologist at Memorial Hospital, Morristown, New Jersey, Princeton Hospital, Princeton, New Jersey, and Veterans Administration New York Regional Office. He was a founder and governor of the College of American Pathologists, a founder of the Blue Shield Medical Plan and a vice-president of United Medical Service. Dr. Fein had served as secretary of the State Society of Pathologists and was clinical professor of pathology at New York University Post-Graduate Medical School, as well as visiting professor at Rutgers and Seton Hall Universities. He was also on the advisory committees of State Nurse and Professional Placement, New York City Community College of Applied Arts and Sciences, and the committee on cancer end-results of the American Cancer Society. At the time of his death he was a Diplomate of the American Board of Pathology, a Fellow of the American College of Physicians, and a member of the American Society of Clinical Pathologists, the American Public Health Association, the New York Pathological Association, the New York State Society of Pathologists, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Austin Flint, M.D., of Millbrook, died on July 20 in the Doctors Hospital after a short illness at the age of eighty-six. Dr. Flint graduated from Bellevue Hospital Medical College in 1889 and interned at Woman's Hospital and Bellevue Hospital. In 1892 he was appointed assistant professor in obstetrics and clinical professor in gynecology at Bellevue Hospital Medical College. From 1895 to 1932 Dr. Flint taught obstetrics and gynecology at Bellevue Hospital Medical College as a full professor and retired as emeritus professor. From 1902 to 1912 he was associated with Mothers and Babies Hospital and from 1907 to 1917 he was attending surgeon at the Woman's Hospital where he continued as consulting surgeon until his retirement. At the time of his death he was consulting gynecologist at the Hospital for Special Surgery, honorary consultant in obstetrics and gynecology at the Vassar Brothers Hospital, Poughkeepsie, and consultant in obstetrics and gynecology at Bellevue Hospital. He was a Fellow of the American College of Surgeons, a Diplomate of the American Board of Obstetrics and Gynecology, and a member of the New York Obstetrical Society, the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Louis Nathaniel Gallego, M.D., of Flushing, died on January 29 at the age of sixty-eight. Dr. Gallego graduated from Long Island College Hospital School of Medicine in 1912.

John Edward Kelly, M.D., of Syracuse, died on July 3 at the age of fifty-five. Dr. Kelly graduated from Syracuse University College of Medicine in 1927 and interned at Brooklyn Eye and Ear Hospital. He was attending ophthalmologist at St. Mary's and General Hospitals of Syracuse. At the time of his death he was a member of the Syracuse Academy of Medicine, the Central New York Eye, Ear, Nose and Throat Society, the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Matthew F. Krystaniak, M.D., of Buffalo, died on March 6 at the age of sixty-three. Dr. Krystaniak graduated in 1915 from the University of Buffalo School of Medicine. He was a member of the Buffalo Academy of Medicine.

Eduard Mislowitzer, M.D., of New York City, died on July 2, 1954 at the age of seventy-seven. Dr. Mislowitzer received his medical degree from the University of Wurzburg in 1903.

Philip Frederick Nesser, M.D., of Maspeth, died on January 19 at the age of fifty-eight. Dr. Nesser received his medical degree from the University of Vienna in 1925. At the time of his death he was a member of the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Adolph W. Offenthal, M.D., of New York City, died on April 26 at the age of sixty-seven. Dr. Offenthal received his medical degree in 1913 from the University of Brussels. He was a member of the American Congress of Physical Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Julius M. Rosenthal, M.D., of Monticello, died on July 11 in Miami, Florida at the age of seventy-two. Dr. Rosenthal graduated from New York University and Bellevue Hospital Medical College in 1906. He was an honorary physician at the Monticello Hospital, a Fellow of the American College of Chest Physicians, and a member of the Sullivan County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Gerhart Harry Sachs, M.D., of New York City, died on January 30 at the age of fifty-eight. Dr. Sachs received his medical degree from the University of Berlin in 1922. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Charles Douglas Sawyer, M.D., of Brooklyn, died on July 10 of a heart attack in Sharon, Connecticut at the age of forty-nine. Dr. Sawyer graduated from Cornell University Medical College in 1931 and interned at Methodist Hospital of Brooklyn and New York Hospital-Cornell Medical Center. On January 1, 1955, Dr. Sawyer was appointed director of surgery at the Methodist Hospital. He was a Diplomate of the American Board of Surgery, a Fellow of the American College of Surgeons, and a member of the New York Surgical Society, the Brooklyn Surgical Society, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Ida Russell Shields, M.D., of New York City, died on January 25, at the age of seventy-nine. Dr. Shields received her degrees from the University of London Faculty of Medicine in 1905 and the Long Island College of Medicine in 1920.

Solomon Sokoloff, M.D., of Brooklyn, died on December 7, 1954 at the age of forty-seven. Dr. Sokoloff received his medical degree from the University of Basel in 1937.

Lucien Treadway, M.D., of Canandaigua, died on January 1 at the age of seventy-nine. Dr. Treadway graduated from University of Louisville School of Medicine in 1903.

Announcement

Complete minutes of the 149th Annual Meeting of the Medical Society of the State of New York, held at the Hotel Statler, Buffalo, May 9 to 13, 1955, will appear as Part II of the September 1, 1955 issue of the JOURNAL.

BOOKS RECEIVED

(The following books were received during the month of June, 1955)

Etiology of Chronic Alcoholism. By Oskar Diethelm, M.D. With contributions by Mary J. Sherfey, M.D., M. Freile Fleetwood, M.D., Manfred Bleuler, M.D., and Milton L. Barnett, Ph.D. Octavo of 229 pages, illustrated. Springfield, Ill., Charles C Thomas, 1955. Cloth, $6.75.

Handbook of Cosmetic Materials. Their Properties, Uses, and Toxic and Dermatologic Actions. With a Bibliography of over 2,500 Titles. By Leon A. Greenberg, Ph.D., and David Lester, Ph.D., with a chapter on The Skin by Howard W. Haggard, M.D. Octavo of 455 pages. New York, Interscience Publishers, 1954. Cloth, $12.50.

How to Play With Your Child. By Arnold Arnold. Illustrations by the author. Sextodecimo of 183 pages, illustrated. New York, Ballantine Books, 1955. Hard cover, $2.00; paper, 35 cents.

Transactions of the American College of Cardiology. Vol. IV, 1954. Editors, Simon Dack, M.D., and Bruno Kisch, M.D. Octavo of 319 pages, illustrated. New York, The American College of Cardiology, 1955.

Some New Bacteriological Aspects of Leprosy. Reprinted from the "Arquivos Mineiros de Leprologia," v.XIV, October, 1954, #4, pp. 289/352. Octavo of 63 pages, illustrated. Belo Horizonte, Brazil, Faculdade de Medicina, Universidade de Minas Gerais, [1954].

Survey of Clinical Pediatrics. By Lawrence B. Slobody, M.D. Second edition. Octavo of 502 pages, illustrated. New York, The Blakiston Division, McGraw-Hill Book Company, 1955. Cloth, $9.50.

The Biologic Effects of Tobacco. With Emphasis on the Clinical and Experimental Aspects. Edited by Ernest L. Wynder, M.D. Octavo of 215 pages, illustrated. Boston, Little, Brown & Company, 1955. Cloth, $4.50.

Minor Surgery. By John E. Sutton, M.D. Octavo of 334 pages, over 100 illustrations. New York, Landsberger Medical Books, distributed solely by the Blakiston Division of the McGraw-Hill Book Co., 1955. Cloth, $7.00. (Handbooks for the General Practitioner)

The Medical Significance of Anxiety. By Richard L. Jenkins, M.D. Octavo of 46 pages, illustrated. Washington 7, D.C., The Biological Sciences Foundation, Ltd., 1955. Paper, $1.00.

The Spine. A Radiological Text and Atlas. By Bernard S. Epstein, M.D. Quarto of 539 pages. 721 illustrations on 331 figures. Philadelphia, Lea & Febiger, 1955. Cloth, $16.50.

Bedside Diagnosis. By Charles Seward, M.D. Third edition. Duodecimo of 408 pages, illustrated. Edinburgh, E. & S. Livingstone, (Baltimore, Williams & Wilkins Company), 1955. Cloth, $4.00.

Proctologic Anatomy. By R. V. Gorsch, M.D. Second edition. Octavo of 310 pages, illustrated. Baltimore, Williams & Wilkins Company, 1955. Cloth, $8.00.

Aphasia Rehabilitation. Manual and Work Book. By Martha L. Taylor, M.A., and Morton Marks, M.D. Quarto of 69 pages, illustrated. New York, The Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, 1955. A manual based on research made possible by a grant from the Rockefeller Foundation. Paper, $3.00.

Psychiatry and the Law. Edited by Paul H. Hoch, M.D., and Joseph Zubin, Ph.D. The Proceedings of the Forty-Third Annual Meeting of the American Psychopathological Association, held in New York City, June, 1953. Octavo of 232 pages, illustrated. New York, Grune & Stratton, 1955. Cloth, $5.50.

Handbook of Pediatrics. By Henry K. Silver, M.D., C. Henry Kempe, M.D., and Henry B. Bruyn, M.D. Sextodecimo of 548 pages, illustrated. Los Altos, California, Lange Medical Publishers, 1955. Cloth, flexible cover, $3.00.

Practitioners' Conferences. Held at the New York Hospital-Cornell Medical Center. Volume I. Edited by Claude E. Forkner, M.D. Octavo of 411 pages, illustrated. New York, Appleton-Century-Crofts, 1955. Cloth, $6.75.

Psychopathology and Education of the Brain-Injured Child. Volume II. Progress in Theory and Clinic. By Alfred A. Strauss and Newell C. Kephart. In collaboration with Laura E. Lehtinen and Samuel Goldenberg. Drawings by Caspar Henselmann. Octavo of 266 pages, illustrated. New York, Grune & Stratton, 1955. Cloth, $6.00.

Denial of Illness. Symbolic and Physiological Aspects. By Edwin A. Weinstein, M.D., and Robert L. Kahn, Ph.D. Octavo of 166 pages. Springfield, Charles C Thomas, 1955. Cloth, $4.75. (American Lecture Series #249)

Management of Disorders of the Autonomic Nervous System. By Louis T. Palumbo, M.D. Octavo of 186 pages, illustrated. Chicago, Year Book Publishers, 1955. Cloth, $5.00.

Hearing Therapy for Children. By Alice Streng, M.A., Waring J. Fitch, M.A., LeRoy D. Hedgecock, Ph.D., James W. Phillips, M.D., and James A. Carrell, Ph.D. Octavo of 371 pages, illustrated. New York, Grune & Stratton, 1955. Cloth, $6.75.

Cardiology Notebook. For Preliminary Instruction in Medical Curricula. By Columbia University College of Physicians and Surgeons. Quarto of 97 pages, illustrated. New York, Grune & Stratton, 1955. Cloth, $2.50.

Public Health Service Technical Report on Salk Poliomyelitis Vaccine, June 1955. Quarto. V. p. Illustrated. [Washington, D.C.], U. S. Department of Health, Education, and Welfare, Public Health Service, [1955].

Diseases of the Ear, Nose and Throat. By William Wallace Morrison, M.D. Second edition. Octavo of 756 pages, illustrated. New York, Appleton-Century-Crofts, 1955. Cloth, $10.

Ciba Foundation Colloquia on Endocrinology. Volume VIII. The Human Adrenal Cortex. Editors for the Ciba Foundation, G.E.W. Wolstenholme, M.B., and Margaret P. Cameron, M.A. Assisted by Joan Etherington. Octavo of 665 pages, 227 illustrations. Boston, Little, Brown and Company, 1955. Cloth, $10.

Oral Pathology. A Histological, Roentgenological, and Clinical Study of the Diseases of the Teeth, Jaws, and Mouth. By Kurt H. Thoma, D.M.D. Fourth Edition. Quarto of 1,536 pages, 1594 illustrations. St. Louis, C. V. Mosby Company, 1954. Cloth, $22.50.

Pathology for the Surgeon. By William Boyd, M.D. Seventh edition. Quarto of 737 pages, 547 illustrations. Philadelphia, W.B. Saunders Company, 1955. Cloth, $12.50.

Surgical Forum. Proceedings of the Forum Sessions, Fortieth Clinical Congress of the American College of Surgeons, Atlantic City, N.J., November, 1954. Committee on Forum on Fundamental Surgical Problems, Harris B. Shumacker, Jr., M.D., J. Garrott Allen, M.D., Bradford Cannon, M.D., Warren H. Cole, M.D., *et al.* Octavo of 851 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $10.

The Practice of Dynamic Psychiatry. By Jules H. Masserman, M.D. Octavo of 790 pages. Philadelphia, W. B. Saunders Company, 1955. Cloth, $12.

A Textbook of Medicine. Edited by Russell L. Cecil, M.D., and Robert F. Loeb, M.D. Associate Editors, Alexander B. Gutman, M.D., Walsh McDermott, M.D., and Harold G. Wolff, M.D. Ninth edition. Quarto of 1,786 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $15.

Differential Diagnosis. The Interpretation of Clinical Evidence. By A. McGehee Harvey, M.D., and James Bordley, III, M.D. Octavo of 665 pages. Philadelphia, W. B. Saunders Company, 1955. Cloth, $11.

Collected Papers of The Mayo Clinic and The Mayo Foundation. Edited by Richard M. Hewitt, M.D., A.B. Nevling, M.D., John R. Miner, Sc.D., James R. Eckman, Ph.D., *et al.* Volume XLVI. 1954. Octavo of 843 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $12.50.

Recueil Périodique de l'Encyclopédie Médico-Chirurgicale. Paraissant cinquante-quatre fois par an, à raison de deux cahiers pour chacune des matières. 16 sections, illustrated. Paris, Editions Techniques S.A., 1955.

The Use of Neomycin and Hydrocortisone in the Treatment of External Otitis

In a series of 57 cases Drs. Harold E. Harris and Enrique P. Loza in the *Cleveland Clinic Quarterly*, January, 1955, issue, found topical application of a combination of neomycin and hydrocortisone highly effective in external otitis, whether acute, subacute, or chronic, with complete subsidence of symptoms within a week in most cases. Recurrences were greatly reduced but responded at once to a second course usually administered by the patient himself.

The preparations—either a suspension or ointment—appeared to be a valuable addition to the therapy of external otitis combining anti-inflammatory and antibacterial action with minimal or absent tendency to produce allergic skin sensitivity.

BOOKS REVIEWED

Fourth Annual Report on Stress. By Hans Selye, Ph.D., and Gunnar Heuser, M.D. With 15 contributors. Editorial Assistant, Maria Schwappach. Octavo of 749 pages, illustrated. Montreal, Acta, Inc., 1954. Cloth, $10.

This book attempts to cover two aspects of the present knowledge of the reaction of animals and man to stress. It is primarily a systematized presentation of all the articles on stress which have appeared in the past year and uses a unique and rather involved method of presenting the literature on this subject. It should be of value to anyone seeking the recent publications on any particular aspect of the alarm reaction.

In addition, it contains a series of authoritative reviews of various aspects of pituitary-adrenocortical activity. Of special interest are the articles on "Aldosterone and its possible role in the general adaptation syndrome" by Simpson and Tait, "Bodily changes in surgical convalescence" by Moore, and "Regulation of anterior pituitary function" by Harris and Fortier.—Martin Perlmutter

Congenital Syphilis. By David Nabarro, M.D. Octavo of 470 pages, illustrated. London, England. Edward Arnold (Baltimore, Williams & Wilkins), 1954. Cloth, $10.

This book is a review of the author's experience in a venereal clinic for children some thirty-five years ago, in which he uses exclusively his own case records—all from the prepenicillin era. In the light of the declining incidence of syphilis the need for such a text may be questioned. In England, the problem is too many unrecognized cases of congenital syphilis, not treated until later in life.

An enlightened public, availing itself more generally of the Wassermann test in pregnancy as well as the adequate use of penicillin by the physician, would doubtless rid the earth of the scourge of syphilis.—Arthur M. Persky

The Status of Multiple Sclerosis. By Pearce Bailey, M.D. (Conference Chairman), Harold R. Wainerdi, M.D. (Organizing Chairman), *et al.* Octavo of 180 pages, illustrated. New York, New York Academy of Sciences, 1954. Paper, $4.50. (*Annals of the New York Academy of Sciences*, v. 58, Art. 5.)

This book is a publication of the papers presented at a conference on multiple sclerosis in 1953. The interested reader will find here a wealth of material summarizing the present knowledge of as well as the recent activities against this disease. Pathology, circulatory disturbances, chemical alterations, etiology, treatment, rehabilitation, and psychologic aspects are all covered in this symposium. Unfortunately, despite this great effort, the enigma of demyelinizing disease still remains.—Arthur J. Lapovsky

Doctors' Legacy. A Selection of Physicians' Letters, 1721–1954. Edited by Laurence Farmer, M.D. Octavo of 267 pages. New York, Harper & Bros., 1955. Cloth, $3.50.

The *Doctors' Legacy* is a collection of personal letters written by physicians detailing in vivid and exciting revelation their intimate thoughts on a wide variety of subjects, largely medical. The period covered is 1721–1954, and great names in medicine are included, although there are others in lesser ranks and some relatively unknown.

Of particular contemporary interest, in connection with our present-day advances in poliomyelitis vaccination, are letters by Koch on bacterial cultures and by Jenner on smallpox inoculation. There are also fascinating letters by Laennec on auscultation (which is insidiously and frighteningly becoming a lost art in competition with the colossus of scientific and pseudoscientific technology) and a letter by Freud with comments on his early work.

Farmer has prefaced these letters with commentary which makes for a better orientation in space and time, and this adds immeasurably to the understanding of the decades and situations under discussion. It would be difficult, by ordinary means, to assemble such a noteworthy collection, and this book thus becomes a unique compilation valuable to the doctor, medical historian, and even the general reader.

The only fault, if it could be considered one, is that there is no common denominator in subject matter, but this defect increases the appeal to those with a more catholic taste. This book would be a worth-while addition to the library of any doctor or medical historian.—Norman Shaftel

Psychomotor Aspects of Mental Disease. An Experimental Study. By H. E. King, Ph.D. Octavo of 185 pages, illustrated. Cambridge, Mass., published for The Commonwealth Fund by Harvard University Press, 1954. Cloth, $3.50.

The author is an associate professor of psychiatry (research psychology) at Tulane University School of Medicine.

This book deals with research aspects of certain psychomotor conditions of mental disease. The premise is "that the power of animate organisms to move is their most striking characteristic and serves an important function in all of the adaptive activities of human and animal life." The author describes the experiments and the various test batteries which he has employed and the clinician will look at these with considerable admiration and will wonder what their practical application in psychiatric practice can be. However, all scientific data may be utilized in any medical discipline and, therefore, this book will serve some doctors in their work with psychiatric patients.

—Irving J. Sands

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selections for review will be based on merit and interest to our readers.

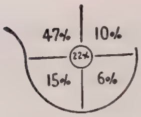
Long Term Management of Hypertension with Pentolinium Tartrate (Ansolysen)

After a study of the effects of the oral administration of pentolinium tartrate in a series of hypertensive patients, Dr. Alberto Agrest and Sibley W. Hoobler conclude that this drug, given with or without reserpine and hydralazine, is simple and safe to use in management of ambulatory patients. In all the 31 patients in this series hypertensive disease was severe or complicated. Normalization of the mean standing blood pressure was estimated to have been achieved in 31 per cent of the patients and reduction of more than 20 mm./Hg in 87 per cent. The mean daytime standing blood pressure reduction was 38 mm. Recumbent blood pressure reductions were, however, not so marked. In recumbency, pressure was normalized in only one patient. However, even for this position it fell more than 20 mm./Hg in 68 per cent of the subjects. The median reduction in recumbent pressure is 23 mm./Hg. The authors observe, therefore, that this treatment cannot be said to provide adequate protection at night. They observed marked improvement in manifestations of congestive heart failure and hypertensive retinopathy. In cerebrovascular complications these effects were not so distinct but seemed beneficial. The authors noted no marked relief of moderate uremia or angina pectoris.—*J.A.M.A., March 19, 1955*

A prejudice is a vagrant opinion without visible means of support.—Ambrose Bierce

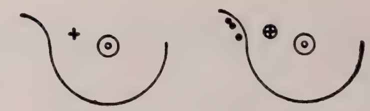
DETECTION OF EARLY BREAST CANCER

Results of treatment



No axillary glands
70 to 80 per cent—
five-year survival

Comparative frequency



Axillary glands or fixation of
tumor 20 to 30 per cent—
five-year survival

TO IMPROVE THE RESULTS OF TREATMENT OF BREAST CANCER

Investigate

*Bloody, serous, grumous discharge from nipple with or without palpable mass.

Tiny lump.

Minimal localized thickening.

Persistent fissure, ulceration and scaling of nipple.

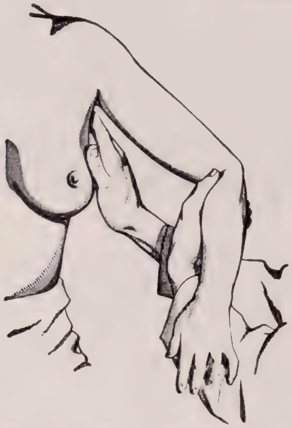
Slightest dimpling of overlying skin.

Nontender axillary gland.

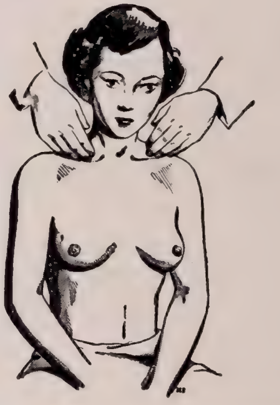
Don't WATCH and WAIT for

OBVIOUS lump.
OBVIOUS fixation or retraction of skin, areola, nipple, or chest wall.
OBVIOUS fixed axillary and supraclavicular nodes.
OBVIOUS ulceration of skin.
OBVIOUS bleeding from palpable duct tumor.
OBVIOUS tense orange peel skin.
OBVIOUS edema of arm.
OBVIOUS pain from metastasis to bone.

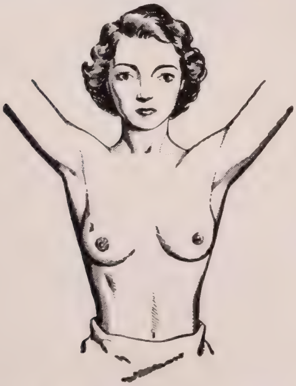
POSITION FOR EXAMINATION OF AXILLA



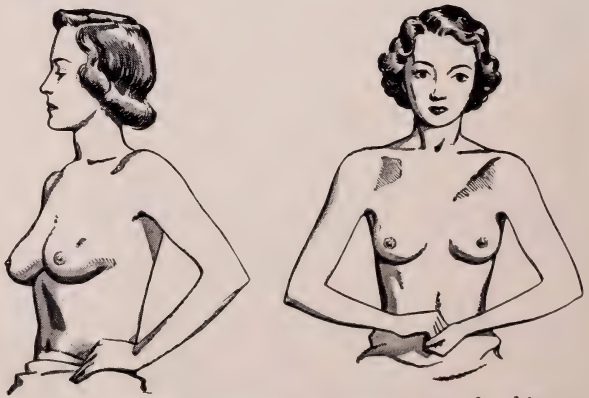
The arm is relaxed so that the examiner can palpate the axilla, apex, lateral chest wall, upper, outer, and lower quadrants of the breast.



The physician should stand behind the patient to examine for supraclavicular nodes and for a breast tumor.



Raising the arms demonstrates the dimpling and fixation of the tumor to the skin.



Tensing the pectoral muscles by pressure on the hips or tightly clasping the fingers shows fixation of the tumor to the skin, pectoral fascia or muscle.

*Express a few drops of discharge from nipple on a glass slide and fix wet slide in mixture of 95 per cent alcohol and ether for cytologic examination.

(Prepared by the Subcommittee on Cancer, Medical Society of the State of New York)

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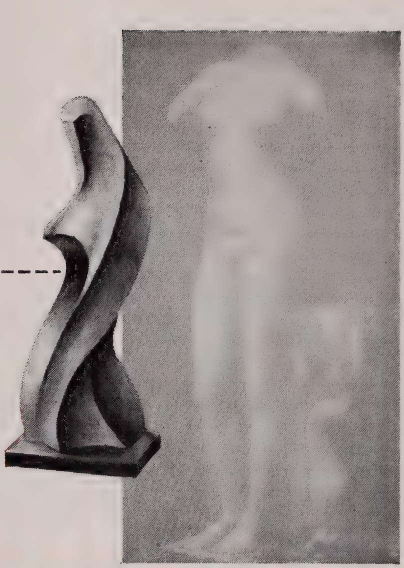

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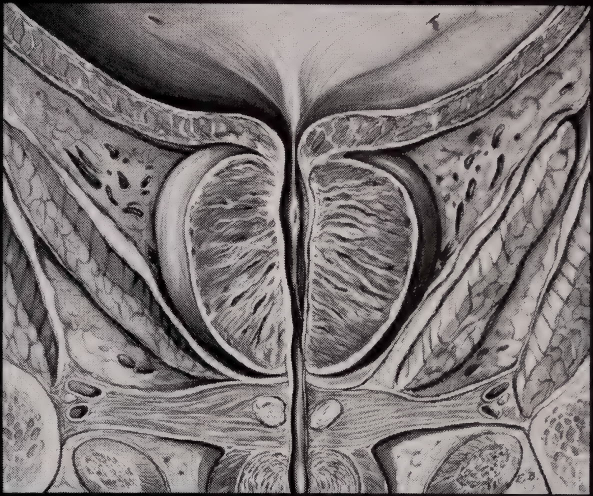

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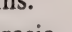
THE NITROFURANS—A UNIQUE CLASS OF ANTIMICROBIALS 
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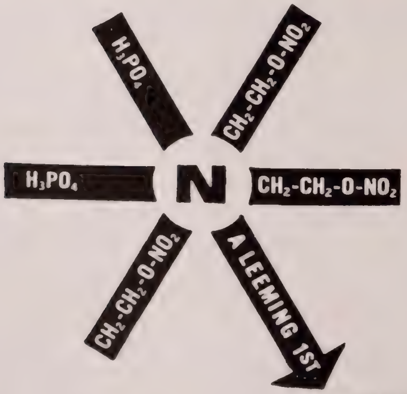

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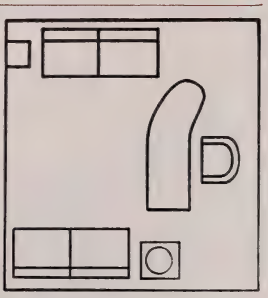

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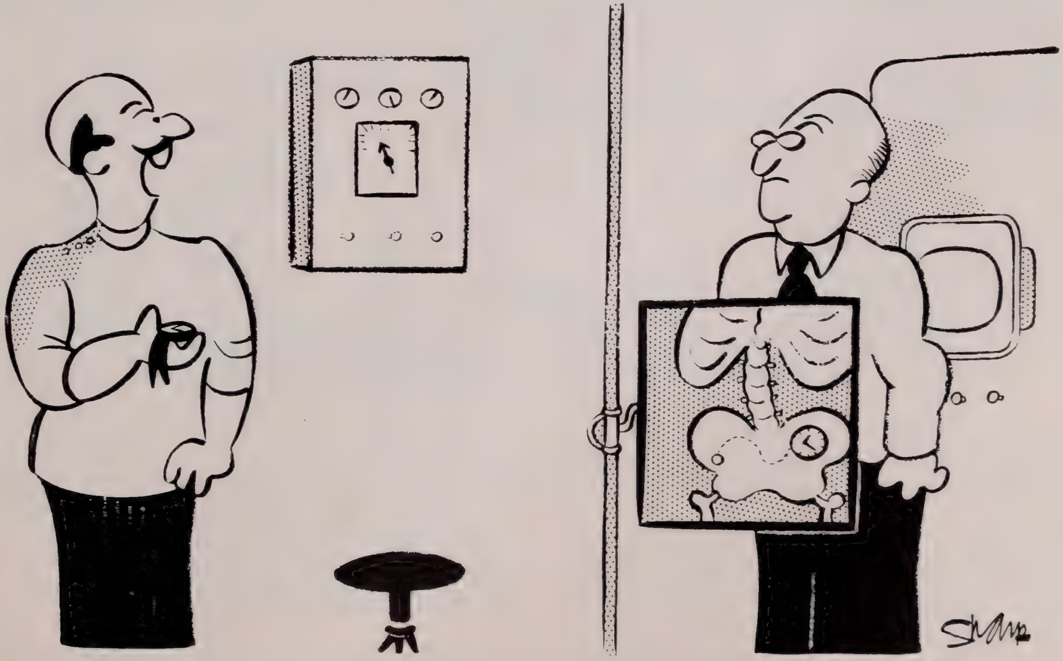

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The Lazy Liver

An underproduction of bile may contribute to a number of pathological conditions including cholecystitis, cholelithiasis, jaundice, passive congestion of the liver, cirrhosis, intestinal indigestion and habitual constipation.

There is no more effective choleretic and cholagogue than CHOLOGESTIN, also available in tablet form (TABLOGESTIN). This medication contains salicylated bile salts 9 gr., pancreatin 10 gr. and sodium bicarbonate 10 gr. per fluid ounce, in a palatable carminative vehicle with 15% alcohol.

TIME-TESTED

CHOLOGESTIN

LIQUID

CHOLERETIC AND CHOLAGOGUE

TABLOGESTIN

TABLETS

CHOLOGESTIN is prescribed in a dosage of 1 tablespoonful in cold water after meals. Three tablets of TABLOGESTIN are equivalent to 1 tablespoonful of CHOLOGESTIN.

F. H. STRONG COMPANY
112 W. 42nd St., New York 36, N. Y.
Please send me free sample of TABLOGESTIN together with literature on CHOLOGESTIN.

Dr. ....

Street..............................

City.............. Zone......... State..............

Upjohn

Ulcer protection that lasts all night:

Pamine*-Phenobarbital Tablets
BROMIDE

Each FULL-STRENGTH tablet contains:

Phenobarbital	15.0 mg. (¼ gr.)
Methscopolamine bromide	2.5 mg.

Dosage:

One tablet one-half hour before meals, and 1 to 2 tablets at bedtime.

Each HALF-STRENGTH tablet contains:

Phenobarbital	8.0 mg. (⅛ gr.)
Methscopolamine bromide	1.25 mg.

Dosage:

While the dosage and indications are the same as for the full-strength tablets, this tablet allows greater flexibility in regulating the individual dose, and may be employed in less severe gastrointestinal conditions.

Supplied:

Both strengths in bottles of 100 tablets.

*REGISTERED TRADEMARK FOR THE UPJOHN BRAND OF METHSCOPOLAMINE

The Upjohn Company, Kalamazoo, Michigan

1950
Cortone®

1952
Hydrocortone®

1954
'Alflorone'

1955
Deltra®

the delta$_1$ analogue of hydrocortisone

Hydeltra' tablets

(Prednisolone, Merck)

2.5 mg.-5 mg.
(scored)

Hydeltra'

Indications:

RHEUMATOID ARTHRITIS

BRONCHIAL ASTHMA

INFLAMMATORY SKIN CONDITIONS

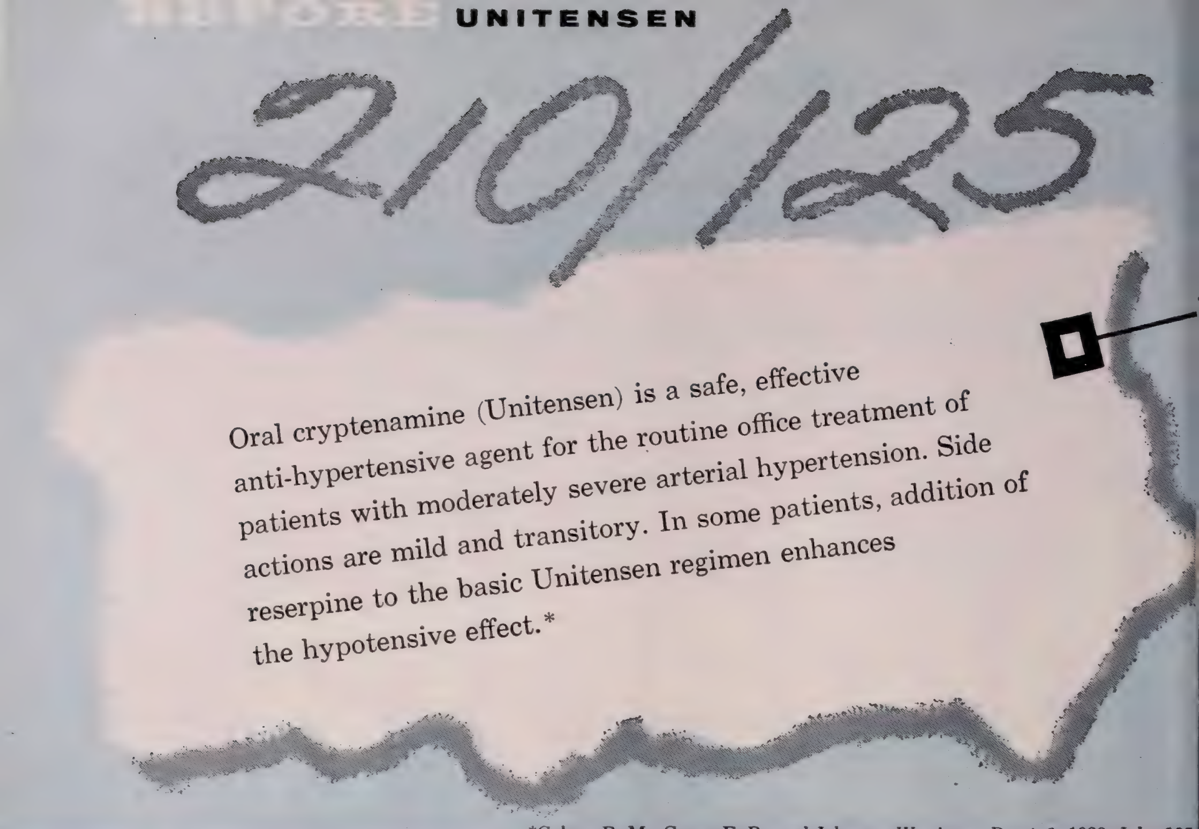
'Hydeltra' *offers increased clinical effectiveness . . . lowers the incidence of untoward hormonal effects.*

'Hydeltra' *is supplied as 2.5 mg. and 5 mg. scored tablets in bottles of 30 and 100.*

SHARP & DOHME

Philadelphia 1, Pa.
DIVISION OF MERCK & CO., INC.

HYDELTRA *is the trade-mark of Merck & Co., Inc. for its brand of prednisolone, supplied through Sharp & Dohme, Division of Merck & Co., Inc.*



Oral cryptenamine (Unitensen) is a safe, effective anti-hypertensive agent for the routine office treatment of patients with moderately severe arterial hypertension. Side actions are mild and transitory. In some patients, addition of reserpine to the basic Unitensen regimen enhances the hypotensive effect.*

*Cohen, B. M.; Cross, E. B., and Johnson, W.: Amer. Pract. 6: 1030, July, 195

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AFTER UNITENSEN

160/100

RESULTS with Unitensen therapy in patients with arterial hypertension

Patient	Age	Daily dose Unitensen	B.P. BEFORE	B.P. AFTER	Months of treatment
A.N.	63	8 mg.	190/115	140/90	9
J.R.	55	10 mg.	205/130	170/120	4
V.E.	53	14 mg.	200/135	155/100	7½
W.B.	65	12 mg.	200/120	160/90	9
C.L.	50	8 mg.	200/130	160/100	4
R.A.	48	12 mg.	210/125	160/100	3
J.J.	57	10 mg.	210/120	170/100	7½
A.W.	66	14 mg.	200/110	170/100	3
A.H.	58	12 mg.	210/100	175/110	4½
S.P.	55	12 mg.	230/140	140/90	3

Each tablet contains cryptenamine (as the tannate salt) 2 mg. Bottles of 50, 100, 500, 1000

safe... effective... economical... **UNITENSEN**®

brand of cryptenamine

TANNATE TABLETS

IRWIN, NEISLER & COMPANY • DECATUR, ILLINOIS

Lederle

GRAVIDOX*

Pyridoxine-Thiamine *Lederle*

For preventing and treating nausea and vomiting of pregnancy

Pyridoxine (B_6) and Thiamine (B_1) have proved more effective in combination than either alone in the prevention and treatment of hyperemesis gravidarum. GRAVIDOX, in tablet and parenteral form, combines these vitamins, providing a nutritional approach to the problem. GRAVIDOX may also be useful for the prevention and relief of nausea and vomiting associated with radiation sickness.

Each GRAVIDOX tablet contains: Thiamine HCl—20 mg., Pyridoxine HCl—20 mg. Each cc. of GRAVIDOX parenteral solution contains: Thiamine HCl—50 mg., Pyridoxine HCl—50 mg.

Average dose: 5 to 12 tablets daily, in divided doses, at times when vomiting is less likely to occur; or 1 cc. parenteral solution 2 or 3 times weekly.

LEDERLE LABORATORIES DIVISION AMERICAN Cyanamid COMPANY Pearl River, New York

*REG. U. S. PAT. OFF.

Today's foremost antibiotic

ACHROMY

—true broad-spectrum activity

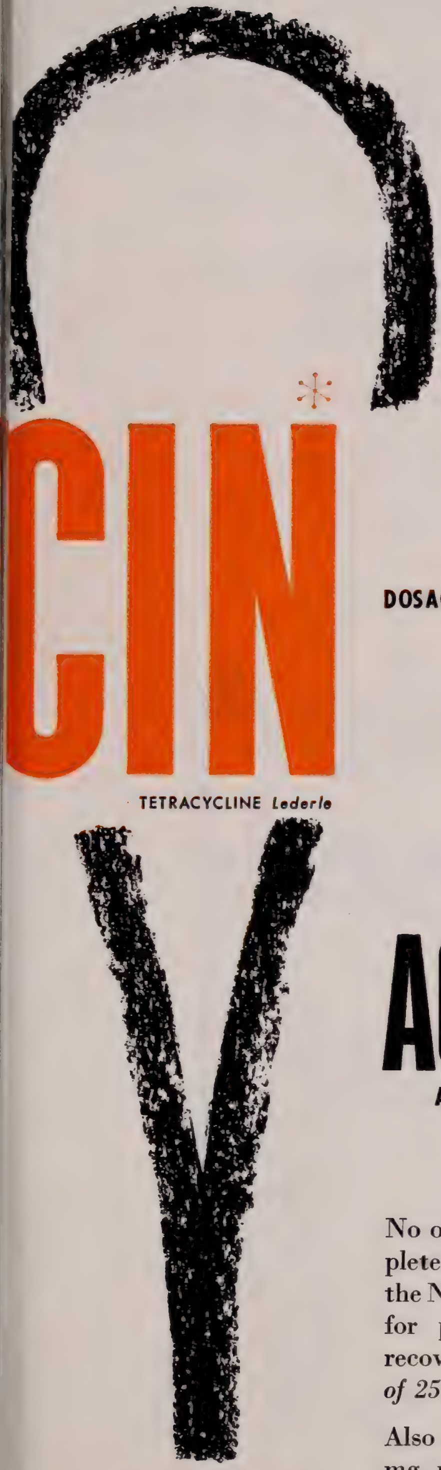
—rapid diffusion and penetration

—prompt control of infection

—negligible side effects

—effective against Gram-positive and
Gram-negative bacteria, rickettsia, spirochetes,
certain viruses and protozoa

—produced under rigid quality control in Lederle's
own laboratories



TETRACYCLINE Lederle

DOSAGE FORMS FOR EVERY NEED . . . A CHOICE OF POTENCIES!

New!

ACHROMYCIN SF

ACHROMYCIN WITH STRESS FORMULA VITAMINS

dry-filled sealed capsules—a Lederle exclusive! No oil, no paste, tamper-proof. More rapidly and completely absorbed. Stress vitamin formula as suggested by the National Research Council. Prescribe ACHROMYCIN SF for prompt control of infection and rapid patient recovery, particularly in prolonged illness. *Capsules of 250 mg.*

Also available: ACHROMYCIN SF Oral Suspension: 125 mg. per teaspoonful (5 cc.), 2 oz. bottle.

Lederle

LEDERLE LABORATORIES DIVISION AMERICAN Cyanamid COMPANY Pearl River, New York

®REG. U. S. PAT. OFF.

Rest comes best to the relaxed patient.

Noludar relaxes the patient and usually induces sleep within one-half to one hour, lasting for 6 to 7 hours. Clinical studies in over 3,000 patients have confirmed the usefulness of Noludar in the relief of nervous insomnia and daytime tension. Noludar 'Roche' is not a barbiturate. Available in 50-mg and 200-mg tablets, and in liquid form, 50 mg per teaspoonful.

Noludar® - brand of
methyprylon

Hoffmann - La Roche Inc
Nutley . N.J.

Mysteclin

STECLIN-MYCOSTATIN
(SQUIBB TETRACYCLINE-NYSTATIN)

WELL TOLERATED BROAD SPECTRUM ANTIBACTERIAL THERAPY PLUS ANTIFUNGAL PROPHYLAXIS

BROAD SPECTRUM ANTIBIOTIC THERAPY, EFFECTIVE IN MANY COMMON INFECTIONS

Because it contains Steclin (Squibb Tetracycline), MYSTECLIN is an effective therapeutic agent for most bacterial infections. When caused by tetracycline-susceptible organisms, the following infections are a few of those which can be expected to respond to MYSTECLIN therapy:

bronchitis
colitis
furunculosis
gonorrhea
lymphadenitis
meningitis
osteomyelitis
otitis media
pneumonia
pyelonephritis
sinusitis
tonsillitis

MYSTECLIN is also indicated in certain viral infections and in amebic dysentery.

BROAD SPECTRUM ANTIBIOTIC THERAPY, WITH A MINIMUM OF SIDE EFFECTS

In clinical use, Steclin has produced an extremely low incidence of the gastrointestinal distress sometimes observed with other broad spectrum antibiotics. Mycostatin (Squibb Nystatin), as contained in MYSTECLIN, is also a particularly well tolerated antibiotic and has produced no allergic reactions, even after prolonged administration.

BROAD SPECTRUM ANTIBIOTIC THERAPY, WITHOUT THE DANGER OF MONILIAL OVERGROWTH

Because it contains Mycostatin, the first safe antifungal antibiotic, MYSTECLIN effectively prevents the overgrowth of Candida albicans (monilia) frequently associated with the administration of ordinary broad spectrum antibiotics. This overgrowth may sometimes cause gastrointestinal distress, anal pruritus, vaginitis, and thrush; on occasion, it may have serious and even fatal consequences.

SQUIBB

Each MYSTECLIN capsule contains 250 mg. Steclin Hydrochloride and 250,000 units Mycostatin.

Minimum adult dose: 1 capsule q.i.d.

Supply: Bottles of 12 and 100.

'MYSTECLIN', 'STECLIN' AND 'MYCOSTATIN'® ARE SQUIBB TRADEMARKS

1950 Cortone® | 1952 Hydrocortone®
1954 'Alflorone' | 1955 Deltra®

'Hydeltra' tablets

(PREDNISOLONE, MERCK) 2.5 mg.—5 mg. (scored)

the delta$_1$ analogue of hydrocortisone

SHARP & DOHME
Philadelphia 1, Pa.
DIVISION OF MERCK & CO., INC.

Indications: *Rheumatoid arthritis*
Bronchial asthma
Inflammatory skin conditions

Prescribed by physicians throughout the world

Have YOU ever used **FELSOL** provides *safe* and *effective* relief in *Asthma, Hay Fever* and related bronchial affections.

FELSOL

FELSOL also relieves *pain* and *fever* in *Arthritis, Headache,* and other painful conditions.

The fast action and long duration of FELSOL gives smooth and comforting relief. After a single therapeutic dose of antipyrine, Brodie and Axelrod report, "Plasma levels declined slowly, measurable amounts of the drug persisting 24 hrs." (J. Pharm. & Exper. Ther. 98:97-104, 1950)

Each oral powder contains:	
Antipyrine	0.869 gm.
Iodopyrine	0.031 gm.
Citrated Caffeine	0.100 gm.

Try this unique and superior product by writing for free Professional Samples and Literature

American Felsol Co. • P. O. Box 395 • Lorain, Ohio

Available at all Drug Stores

when proper or corrective shoes are indicated

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IN STOCK—

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- shoes with Thomas Heel and long counters

You are assured alterations and fittings as you prescribe because of our interest, and experience gained in serving the medical profession for more than 40 years.

Pediforme FOOTWEAR

34 WEST 36th STREET
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WIsconsin 7-2534

Other Shops in: Brooklyn • Flatbush • Hempstead • Hackensack • New Rochelle

A prescription for happy travel . . .

Practically all of your patients, young and old are motion sensitive and suffer to some degree when traveling by rail, bus, automobile, ship or plane. Bonamine easily and effectively prevents motion sickness. A single dose a day often is enough to insure the pleasure and therapeutic benefits of travel. The chewing-gum form has the advantages of patient acceptability, agreeable minty taste and ready availability without need for water for administration.

Bonamine is indicated also for the control of nausea, vomiting and vertigo associated with labyrinthine irritation due to Menière's disease, postoperative status, cerebral arteriosclerosis or radiation therapy.

*Trademark

Bonamine*

Brand of meclizine hydrochloride

***Supplied** as Chewing Tablets, 25 mg. and also as scored, tasteless Tablets, 25 mg.*

Pfizer

PFIZER LABORATORIES, Brooklyn 6, N. Y.
Division, Chas. Pfizer & Co., Inc.

TOPICAL LOTION

'ALFLORONE'

ACETATE

(FLUDROCORTISONE ACETATE, MERCK)

Prompt improvement boosts the patient's morale

MAJOR ADVANTAGES: Economical, highly acceptable cosmetically, and effective in lower concentrations than hydrocortisone.

ALFLORONE Lotion appears to be even more effective than the ointment with the added advantage of greater patient acceptability. A recent study[1] confirmed that both product forms produce rapid relief of symptoms and involution of lesions in a significant percentage of cases of atopic dermatitis. Favorable response was also noted in contact dermatitis, anogenital pruritis, severe sunburn and intertrigo. For secondarily infected eczematous lesions, Topical Ointment of HYDRODERM affords combined anti-inflammatory and antibacterial action.

SUPPLIED: Topical Lotion ALFLORONE Acetate: 0.1% and 0.25%, in 15-cc. plastic squeeze bottles. Topical Ointment ALFLORONE Acetate: 0.1% and 0.25%, 5-Gm., 15-Gm. and 30-Gm. tubes. Topical Ointment HYDRODERM: 1% and 2.5% hydrocortisone with 3.5 mg. neomycin base and 1,000 units zinc bacitracin per gram, 5-Gm. tubes.

SHARP & DOHME

Philadelphia 1, Pa.
DIVISION OF MERCK & CO., INC.

REFERENCE: 1. Robinson, R. C. V., *J.A.M.A.* 157:1300, April 9, 1955.

Upjohn

Ulcer protection that lasts all night:

Pamine*-Phenobarbital Elixir

BROMIDE

Each 5 cc. (approx. 1 tsp.) contains:

Phenobarbital	8.0 mg. (1/8 gr.)
Methscopolamine bromide	1.25 mg.
Alcohol	20%

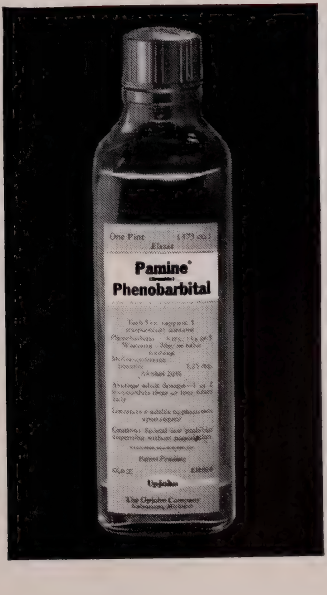
Dosage:

1 to 2 teaspoonfuls three or four times daily, depending upon requirements in the individual patient.

Supplied: Pint bottles.

*REGISTERED TRADEMARK FOR THE UPJOHN BRAND OF METHSCOPOLAMINE

The Upjohn Company, Kalamazoo, Michigan



Upjohn

Ulcer protection that lasts all night:

Pamine tablets

Bromide

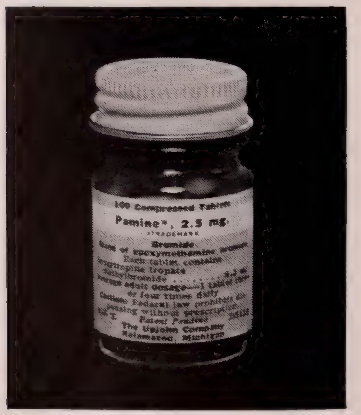
REGISTERED TRADEMARK FOR THE UPJOHN BRAND OF METHSCOPOLAMINE

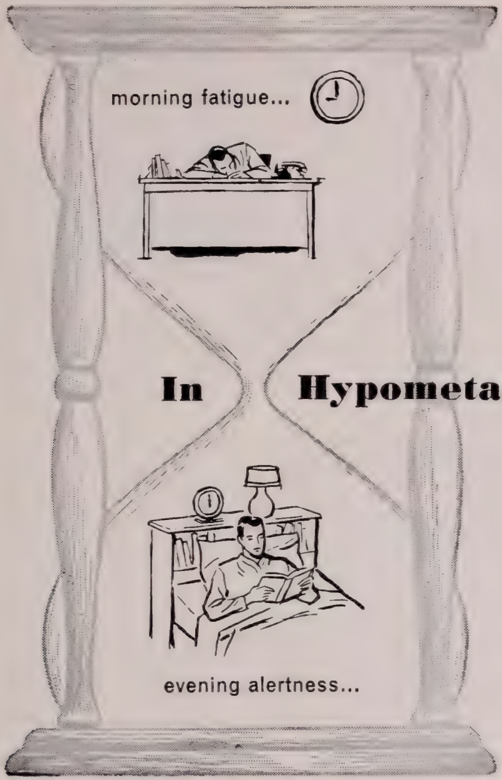
Each tablet contains:
Methscopolamine bromide 2.5 mg.

Average dosage (ulcer):
One tablet one-half hour before meals, and 1 to 2 tablets at bedtime.

Supplied:
Bottles of 100 and 500 tablets.

The Upjohn Company, Kalamazoo, Michigan


100 Compressed Tablets
Pamine*, 2.5 mg.
*TRADEMARK
Bromide
Each tablet contains
or four times daily
Patent Pending
The Upjohn Company
Kalamazoo, Michigan


morning fatigue...
evening alertness...

When a patient complains of morning fatigue and evening alertness, a diagnosis of hypometabolism should be considered. If, in addition, the patient has two or more of the following symptoms: cold intolerance, brittle nails, dry skin, lack of perspiration or menstrual difficulties, the diagnosis is probable. A slow pulse and a low awakening body temperature make the diagnosis even more secure.

(Watson, B. A.: N. Y. State J. Med. 54: 2049, 1954.)

In Hypometabolic States... ℞ ...thyrar®

prepared exclusively from beef sources ... provides whole gland medication at its best. Superior uniformity assured by chemical assay and biological test.

Standardized equivalent to Thyroid, U.S.P.; tablets of ½, 1 and 2 grains. Bottles of 100 and 1000.

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A DIVISION OF ARMOUR AND COMPANY
KANKAKEE, ILLINOIS

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1954 'Alflorone'	1955 Deltra®

'Hydeltra' tablets

(PREDNISOLONE, MERCK) 2.5 mg.—5 mg. (scored)

the delta$_1$ analogue of hydrocortisone

SHARP & DOHME
Philadelphia 1, Pa.
DIVISION OF MERCK & CO., INC.

Indications: *Rheumatoid arthritis*
Bronchial asthma
Inflammatory skin conditions

Another Lederle "First"!

MUMPS VACCINE

A practical immunizing antigen for prevention of mumps in children or adults where indicated. Immunizes for about one year.
Packages: 2 cc. vial (1 immunization),
10 cc. vial (5 immunizations).

LEDERLE LABORATORIES DIVISION
AMERICAN *Cyanamid* COMPANY
PEARL RIVER, NEW YORK

Lederle

Foot-so-Port Shoe Construction and its Relation to Weight Distribution

- Insole extension and wedge at inner corner of heel where support is most needed.
- Special Supreme rubber heels are longer than most anatomic heels and maintain the appearance of normal shoes.
- The patented arch support construction is guaranteed not to break down.
- Innersoles are guaranteed not to crack, curl, or collapse. Insulated by a special layer of Texon which also cushions firmly and uniformly.
- Foot-so-Port lasts were designed and the shoe construction engineered with orthopedic advice.
- Over nine million pairs of men's, women's and children's Foot-so-Port Shoes have been sold.
- By a special process, using plastic positive casts of feet, we make more custom shoes for polio, club feet and all types of abnormal feet than any other manufacturer.

Write for details or contact your local **FOOT-SO-PORT** *Shoe Agency. Refer to your Classified Directory*

Foot-so-Port Shoe Company, Oconomowoc, Wis.

"CHAIN REACTION" THERAPY...

Vast

Vasodilator —

— **rapidly oxygenates tissues and relieves ischemia,** a major source of pain.

INDICATIONS:
Peripheral vascular disorders
Meniere's syndrome
Bursitis
Tension headache
Neuralgia

THE "*Infra Red*" EFFECT is the pronounced flush of the blush areas — evidence to your patients of VASTRAN'S therapeutic action. If desired, flushing can be avoided by prescribing VASTRAN after meals.

Wampole LABORATORIES

1950 Cortone® | 1952 Hydrocortone®
1954 'Alflorone' | 1955 Deltra®

'Hydeltra' tablets

(PREDNISOLONE, MERCK) 2.5 mg.—5 mg. (scored)

the $delta_1$ analogue of hydrocortisone

SHARP & DOHME
Philadelphia 1, Pa.
DIVISION OF MERCK & CO., INC.

Indications: *Rheumatoid arthritis*
Bronchial asthma
Inflammatory skin conditions

FOR MANAGEMENT OF
PERIPHERAL VASCULAR DISORDERS

ran® TABLETS

— delivers coenzymes to metabolize accumulations of toxic substances resulting from inadequate oxidation.

— thus provides the safe, metabolic approach to control of pain caused by inadequate peripheral circulation and impaired tissue metabolism.

EACH VASTRAN TABLET CONTAINS:

Nicotinic acid	50 mg.
Ascorbic acid	100 mg.
Riboflavin	5 mg.
Thiamine mononitrate	10 mg.
Pyridoxine HCl	1 mg.
Vitamin B_{12} (from fermentation extractives)	2 mcg.

dosage:
One tablet three times daily, preferably on an empty stomach.

supplied:
Bottles of 100 and 500 scored tablets.

now also
Vastran AMP
intramuscular
For rapid, positive vasodilation and metabolic stimulus, many doctors prefer Vastran AMP.
Each cc. of solution contains: Nicotinic acid, 20 mg.; Vitamin B_{12}, 75 mcg.; Adenosine-5-Monophosphoric acid, 25 mg.
Literature on request.

samples and literature on request

HENRY K. WAMPOLE & COMPANY, INC. • 440 Fairmount Ave., Philadelphia 23, Pa.

Meat...

and Biologic Facts of Protein Metabolism

The classical work of Cannon and his associates* in the field of protein metabolism has contributed significantly to our knowledge of the biologic utilization of protein. It has established that the dietary absence of a single amino acid quickly changes the direction of metabolic activity from anabolism to catabolism. Apparently all the nonessential amino acids play some part in sparing the essential amino acids, and all may be regarded as indispensable for optimal nutrition. It has been suggested "that for maximal tissue-utilization of amino acids at least twenty per cent of the total dietary nitrogen should come from other sources than essential amino acids."

In undernourished subjects the maintenance requirement for each essential amino acid is much greater—two to almost five times greater—than in healthy subjects.

Although an optimal caloric intake facilitates optimal utilization of amino acids, a reducing regimen need not curtail full utilization of these nutrients. It has been shown that a useful degree of amino acid utilization can be attained with caloric intake considerably below the optimal.

Minerals appear to be important in the process of amino acid metabolism. Evidence indicates that either phosphate or potassium deficiency might adversely influence amino acid utilization. Absence of either ion from experimental depletion rations leads to depression of appetite and slowing of the processes of protein repletion.

B complex vitamins also affect the metabolism of proteins and amino acids. For example, rats fed a high protein diet require a high intake of B complex vitamins in order to maintain normal growth rates. Omission from the ration of any one of these vitamins (riboflavin, thiamine, pyridoxine, or pantothenate) is accompanied, in varying degrees, by lower food consumption and slower weight gain.

Meat of all cuts and kinds is high in its content of protein, and provides well proportioned amounts of essential and nonessential amino acids. Meat also supplies valuable amounts of essential minerals, especially iron, phosphorus, potassium and magnesium, as well as important quantities of all components of the vitamin B complex, thus assuring maximal utilization of the amino acid components.

---

*Cannon, P. R.; Frazier, L. E., and Hughes, R. H.: Factors Influencing Amino Acid Utilization in Tissue Protein Synthesis, in Symposium on Protein Metabolism, New York, The National Vitamin Foundation, Inc., 1954, pp. 55-90.

The nutritional statements made in this advertisement have been reviewed and found consistent with current medical opinion by the Council on Foods and Nutrition of the American Medical Association.

American Meat Institute
Main Office, Chicago . . . Members Throughout the United States

In Spastic and Occlusive Vascular Diseases **TENSODIN**

Tensodin is indicated in angina pectoris and other coronary and peripheral vascular conditions for its antispasmodic, vasodilating and sedative effects. The usual dose is one or two tablets every four hours. No narcotic prescription is required.

Each Tensodin tablet contains ethaverine HCl (non-narcotic ethyl homolog of papaverine) ½ gr., phenobarbital ¼ gr., theophylline calcium salicyate 3 grs.

Tensodin,® a product of E. Bilhuber, Inc.

Bilhuber-Knoll Corp. Orange, N. J.

THE NEW YORK POLYCLINIC

MEDICAL SCHOOL AND HOSPITAL

SURGERY AND ALLIED SUBJECTS

A combined surgical course comprising general surgery, traumatic surgery, abdominal surgery, gastroenterology, proctology, gynecological surgery, urological surgery, Attendance at lectures, witnessing operations, examination of patients pre-operatively and post-operatively and follow-up in the wards post-operatively. Pathology, radiology, physical medicine, anesthesia. Cadaver demonstrations in surgical anatomy, thoracic surgery, proctology, orthopedics. Operative surgery and operative gynecology on the cadaver; attendance at departmental and general conferences.

OBSTETRICS AND GYNECOLOGY

A two months full time course. In Obstetrics: lectures; prenatal clinics; attending normal and operative deliveries; detailed instruction in operative obstetrics (manikin). X-ray diagnosis in obstetrics and gynecology. Care of the newborn. In Gynecology; lectures; touch clinics; witnessing operations; examination of patients pre-operatively; follow-up in wards post-operatively. Obstetrical and gynecological pathology. Culdoscopy. Studies in Sterility. Anesthesiology. Attendance at conferences in obstetrics and gynecology. Operative gynecology on the cadaver.

For Information about these and other courses Address: THE DEAN, 345 West 50th Street, New York City 19

1950 Cortone® | 1952 Hydrocortone®
1954 'Alflorone' | 1955 Deltra®

'Hydeltra' tablets

(PREDNISOLONE, MERCK) 2.5 mg.—5 mg. (scored)

the delta$_1$ analogue of hydrocortisone

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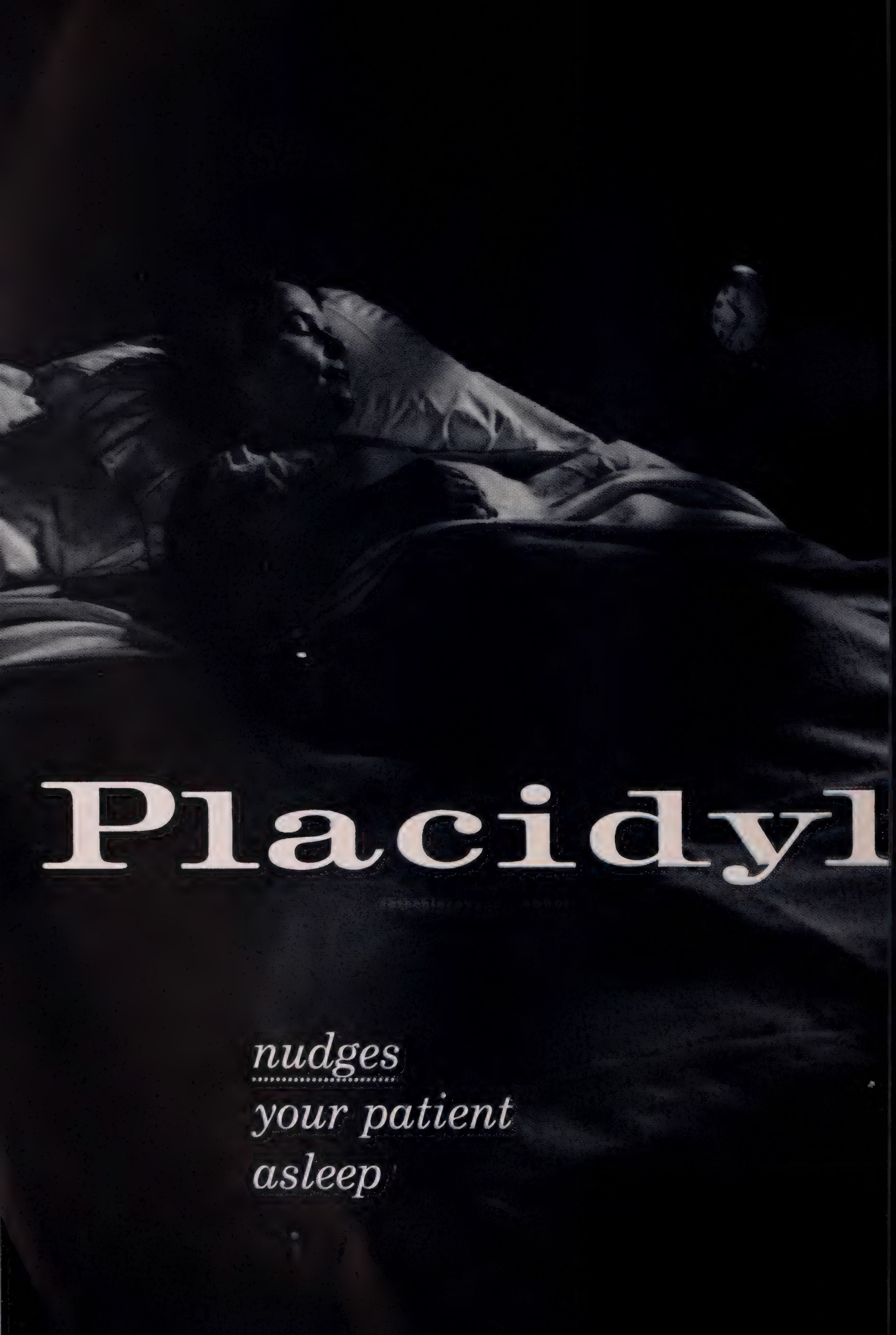
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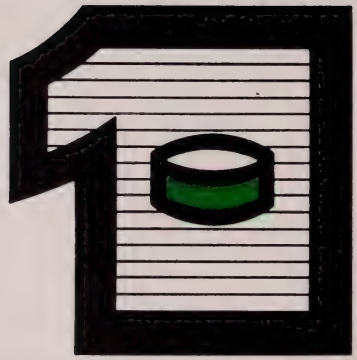

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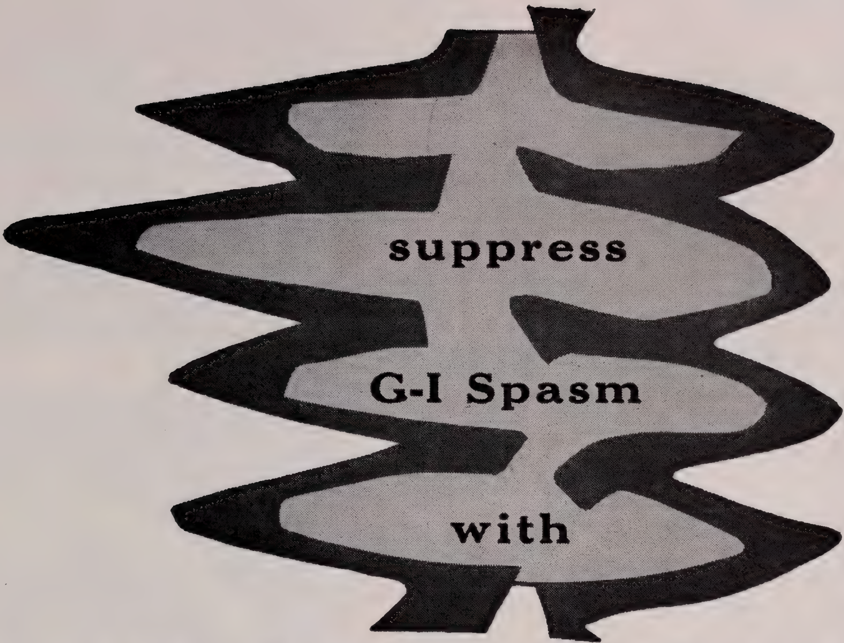

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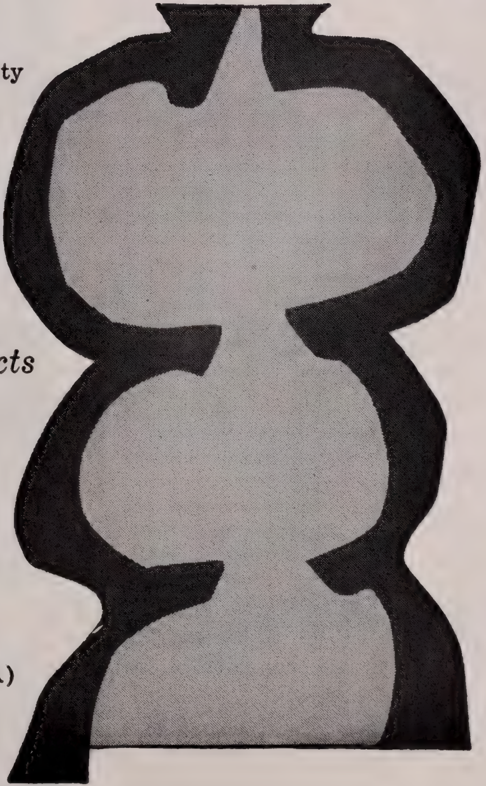

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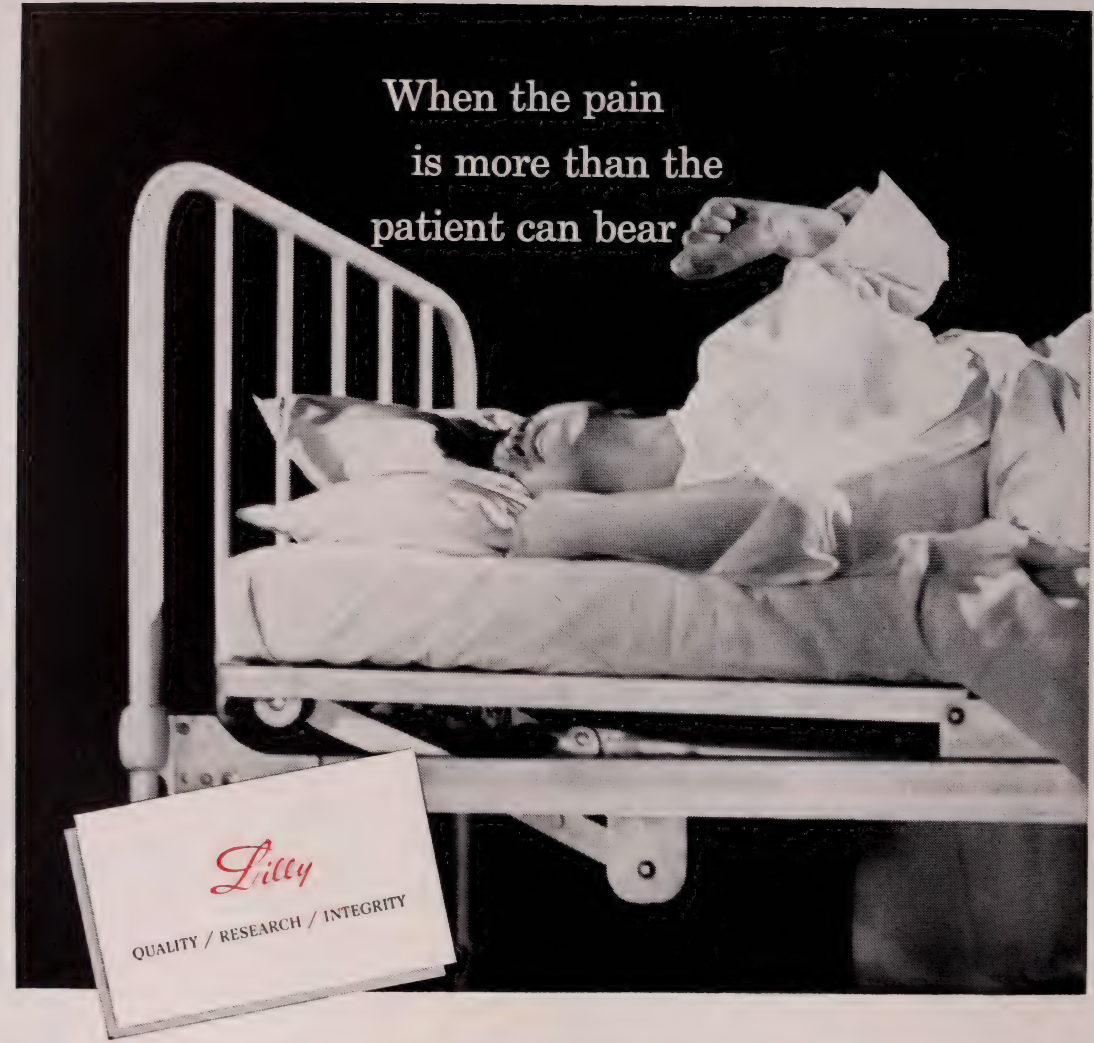

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EDITORIALS

National Compulsory Disability Benefits

In the issue of July 23, 1955, the *Journal of the American Medical Association* publishes a special message from the A.M.A. Board of Trustees concerning national compulsory disability benefits. Says the *J.A.M.A.*[1] in part:

> The House Ways and Means Committee, without any public hearings, has reported H.R. 7225 to amend the Social Security Act. One proposed amendment is of vital concern to the medical profession because of its potential implications: an amendment to provide cash benefits to certain Social Security beneficiaries who are permanently and totally disabled. In effect, this proposal would establish, for the first time in this country, a system of national compulsory disability "insurance" under Title II of the Social Security Act. This title is the one under which the Old-Age and Survivors Insurance programs is conducted....
>
> The Social Security Act as adopted in 1935 and as later amended was dedicated primarily to the promotion of government-provided minimum economic security for older retired workers and their survivors. The extension of the act to involve disability was contemplated by many of its proponents from its inception, but not until the Social Security amendments of 1954 was a disability benefit included under OASI. The "waiver of pre-

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[1] J.A.M.A. **158**: 1032 (July 23) 1955.

> mium" or "disability freeze" provision was enacted at that time whereby certain periods of permanent and total disability were excluded in the computation of benefits under Title II of the act for potential Social Security beneficiaries. With the enactment of this provision, physicians for the first time were brought into the operation of the act, in that their services were required to identify the disabled beneficiaries. The move to extend the "freeze" to include a cash benefit was predicted then and has now become a reality . . . .

So fast do things move in what is called the back door approach of creeping socialism. However, the A.M.A. Board of Trustees is alert to this threat to our present medical freedom.

> On the date of the preparation of this statement, we were exerting every effort to persuade the House of Representatives not to adopt this far-reaching change in the Social Security Act, although we were aware of the fact that our efforts would probably be fruitless. This awareness stemmed from our knowledge that previous proposals to expand the Social Security Act had met with almost unanimous bipartisan political support. Furthermore, the parliamentary situation in the House of Representatives was such that consideration of the bill was limited to forty minutes of debate and no opportunity to amend . . . .

It seems imperative that all physicians inform themselves of the true nature of this bill, H.R. 7225. It will probably come up at the next session of Congress where it will be considered by the Senate. If this bill is adopted, it can be confidently predicted that the cash disability benefits will gradually be extended to the temporarily disabled and that eventually the Federal government will initiate a system of compulsory health insurance as a necessary counterpart to the cash benefits program. This combination of national compulsory health insurance and national disability benefits has been true in almost every other nation where government disability benefits exist. The combination becomes inevitable because the government must control the treatment of the disabled if it is to maintain any control over the extent of the cash benefits. In fact, the present bill requires concurrent rehabilitation for the permanently and totally disabled, on which the cash benefits will be contingent.

What will be the effect of this legislation, if enacted, on existing health insurance and medical practice? About the same, probably, as it has been in countries where such legislation has been in force for some time. The profession, therefore, has time to become thoroughly aware of the true nature of this bill and its effect on health insurance and medical practice and to take active steps to develop a public climate that will permit the members of the Senate to vote against it. The distance between our present medical freedom and complete government regimentation has narrowed considerably. The remaining gap will be closed completely unless physicians throughout the nation take constructive action to educate themselves, the public, and their congressmen and senators during the next few months.

The JOURNAL will publish in succeeding issues as much information as possible for the convenience of the membership.

Advertising of Blue Shield Plans

The minutes of the Council for its meeting of April 14, 1955,[1] contain a report of the Economics Committee covering a proposed advertising campaign in national magazines to be conducted by Blue Shield. The proposals originated earlier in the year at a commission meeting of Blue Shield Medical Care Plans and the Annual Conference of Blue Shield Plans in Chicago.

It seems to us imperative that the two resolutions adopted by the Conference of

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[1] NEW YORK STATE J. MED. 55: 1924 (July 1) 1955.

Plans should be publicized not only through channels available to the Plans themselves, but, as requested, by "sponsoring medical societies." Careful reading of the two resolutions is necessary to comprehend the complexity of the problems involved. Their purpose, as the Council Committee on Economics states in its report, is "to acquaint the medical profession better with the fundamental purposes of Blue Shield Plans."

The JOURNAL therefore prints again the texts:

> WHEREAS, Blue Shield was organized as an effort of the medical profession to render medical care to the public in the low and middle income groups at a price it could afford to pay; and
>
> WHEREAS, the public desires more complete financial coverage for the services against which they are insured; and
>
> WHEREAS, much controversy has arisen as to the relative value of indemnity versus service benefit plans; and
>
> WHEREAS, the medical profession is not fully aware of the functioning of Blue Shield and of the merits and demerits of indemnity and service plans; and
>
> WHEREAS, service benefits to be satisfactory to the public must be at a realistic level, and the fee schedules of such plans must be satisfactory to the physicians rendering the service; and
>
> WHEREAS, Blue Shield has no desire or intention to enforce any plan or schedule of fees on the practicing profession since the practicing physicians must and should control Blue Shield and the arrangement of the fee schedules and control the professional policies under which physicians will render their services; and
>
> WHEREAS, the medical profession must decide what it wants to do to meet the needs and demands of the public if it wants the free practice of medicine to continue; and
>
> WHEREAS, the profession can best meet these needs and demands through their own organization of Blue Shield, which must be the Doctors' Plan in fact as well as in name; and
>
> WHEREAS, to keep the practice of medicine based on the principle of free choice of doctor and on a high level of personal doctor-patient relationship requires some sacrifices by the medical profession in order to meet competition from closed panel plans, commercial insurance plans, and to fulfill the demands of the public; and
>
> WHEREAS, wherever the medical profession has kept faith with the public and observed the principles on which Blue Shield was founded, other types of plans are less likely to succeed; and
>
> WHEREAS, Medical Indemnity of America and Health Service were established to make possible the writing of national contracts; and
>
> WHEREAS, these organizations have not been successful in writing such contracts, because it is impossible to write national enrollments until a uniform benefit of some nature is agreed upon, and because some plans are unable to take part in such national plans until this is accomplished; and
>
> WHEREAS, unless Blue Shield is enabled to write national contracts in the very near future, both Blue Shield and the medical profession will suffer tremendous loss of prestige; and
>
> WHEREAS, if Blue Shield fails to write these contracts, commercial insurance companies and panel plans, over which the medical profession has no control, will write such coverage; and
>
> WHEREAS, since commercial companies and panel plans cannot deliver the services of the vast majority of physicians, such a solution of the problem will inevitably lead to eventual government control of medicine; therefore, be it
>
> *Resolved*, that these opinions be reported to all Blue Shield plans and that they be urged to enter into an intensive campaign of professional relations among the local members of the medical profession, in cooperation with the sponsoring medical societies, to acquaint physicians with the problems of the medical profession in continuing the free practice of medicine.

The second resolution follows:

> WHEREAS, in the underwriting of interstate accounts, difficulty is constantly encountered due to the variations in the benefits offered by local plans; therefore, be it
>
> *Resolved*, that all plans be urged to unite in developing a uniform type of contract so far as the nature of the benefits is concerned.

We hope our membership will study these texts carefully. Blue Shield is the doctors' own plan to provide prepaid medical care for the people of this country. The prestige of the entire medical profession is bound up with the success of the plans. Granted that the problems involved in development of a uniform type of contract insofar as the nature of the benefits are concerned is not without difficulty, there are surely areas of agreement which could be emphasized in the proposed project of advertising to the profession and the public. Such emphasis could serve the useful purpose of stressing what has been done to render medical care to the public in the low and middle income groups at a price it could afford to pay and acknowledge the recognition by the Plans of the areas of controversy still to be resolved, among them the development of a uniform type of contract so far as the nature of the benefits is concerned.

Advertising of this sort—now being presented in *Life*, *Look*, *Saturday Evening Post*, *Editor & Publisher*, *American Press*, *Newsweek*, *Time*, *Business Week*, and *Nation's Business*—seems to be a good approach to the problem of convincing the medical profession of the need for rapid action and the public of the fact that something is being done in their interest. Assuredly the public will not wait unduly long for something constructive to emerge. Information first, then action seems indicated.

Danger From Candy Medication

The Committee on Toxicology of the A.M.A. Council on Pharmacy and Chemistry[1] has been formed recently to study the health problem of household chemical products. At a general conference on this problem held by the committee in September, 1954, various representatives of government, industry, and medicine "repeatedly drew attention to the incidence of poisoning from drugs, especially those compounded in flavored form for children and familiarly known as 'candy medication.' "

The entire report is intended as an evaluation of available information on the nature of candy medication and its influence on the incidence of poisoning in children. We reproduce here the conclusions of the study:

> CONCLUSIONS
>
> The predisposing factors underlying most cases of accidental poisoning are ignorance, carelessness, and ready access to a harmful drug. To reduce or eliminate these influences, various measures, such as precautionary labeling, safety containers, and even restrictive legislation, have been proposed. Each of these has merits, as demonstrated by experience in other fields. As a group, however, they are supportive rather than basic remedies; for example, general admonitions to "keep out of the reach of children" are needed on containers of drugs that are frequently misused, such as aspirin. For such admonitions to be fully effective, however, consumer apathy to all label instructions must be combated. Safety devices such as packaging individual tablets in tough plastic film, strong spring caps for tablet containers, and other types of protective closures may be deterrents to inquisitive children, but they must be sufficiently inexpensive to invite public acceptance of products so packaged. Although restrictive legislation is of value in establishing a minimum standard of conformance for products, it usually has little direct influence on consumer practices.
>
> A basic cause of carelessness and negligence among users of drug products is the advertisement that states or implies a degree of safety not associated with the drug. Such advertising encourages an easy familiarity that too often engenders carelessness. More often than not this carelessness is the result of a cultivated ignorance of the dangerous capacities of a drug rather than an inherent negligence on the part of the user. Recognition of this fact will be a major step toward improving the safe use of common household medicaments.

Commenting editorially on the report, the

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[1] J.A.M.A. **158**: 44 (May 7) 1955.

Journal of the American Medical Association said, in part: "The need for special children's medicaments that have taste and eye appeal is recognized; however, the use of packages, labeling, and dosage forms that are commonly associated with candy and that inconspicuously identify the product as a drug invite carelessness in storage and use. The public should be informed and constantly reminded that many of these products that are packaged and flavored to look like candy are in reality potent drugs, some of which can be dangerous with overdoses."

We urge our readers to take note of the need to inform the public of the possible dangers of this form of medication. Among preschool children, the age group in which accidental poisoning is most frequent, drugs are reportedly responsible for 33 per cent of the fatal poisonings. Here is certainly need for a campaign of education in which the family physician as well as the medical societies and all agencies concerned can cooperate in the public interest.

Schedule of District Branch Meetings, 1955

District	*Date*	*Town*	*Place*	*Time*
First	(during Annual Meeting of Medical Society of the State of New York)			
Second	Wednesday, September 14	Smithtown	Riverside Inn	Dinner Evening
Third	Thursday, September 15	Hudson	Elks Club	Morning Lunch Afternoon
Fourth*	Wednesday, October 19	Glens Falls	Queensbury Hotel	Luncheon
Fifth	Thursday, October 27	Utica	Hotel Utica	Afternoon
Sixth	Wednesday, October 26	Elmira	Arnot-Ogden Hospital	Afternoon Dinner Evening
Seventh	Thursday, September 29	Rochester	Oak Hill Country Club	Morning Lunch Afternoon
Eighth	Wednesday, September 28	Niagara Falls	Hotel Niagara	Afternoon Dinner
Ninth	Wednesday, October 5	West Point	Hotel Thayer	Dinner Evening

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* Executive Committee only.

The Doctor in CIVIL DEFENSE

Medical Defense Committee of the Medical Society of the State of New York and the Office of Medical Defense, New York State Department of Health

J. G. FRED HISS, M.D., SYRACUSE, NEW YORK, *Chairman*

Because Dr. Churchill's article represents such an excellent presentation of two aspects of disaster management, the committee recommended its reproduction in the JOURNAL.

Publication of the article in the JOURNAL *is made possible through the cooperation of Dr. Churchill and the* Annals of Surgery, *in which it appeared as an editorial, "Panic in Disaster," December, 1953, volume 138, page 935.*

Physician Panic Reactions in Disaster

EDWARD D. CHURCHILL, M.D., BOSTON, MASSACHUSETTS

(*From the Department of Surgery, Harvard Medical School, and the Massachusetts General Hospital*)

A TORNADO smashed through Worcester, Massachusetts, on June 9, 1953, bringing disaster to that densely populated area. Present estimates record 93 dead and about 1,500 injured. Official reports by local and state authorities will be available in the due course of time. In addition, a survey has been initiated by the Committee on Disaster Studies of the National Research Council that should provide an objective and factual appraisal of those aspects of disaster management that are of immediate and practical importance. Without intent to anticipate official findings, it may be noted that newspaper stories and eyewitness accounts have offered a preview of certain happenings that are, unfortunately, all too familiar. Two of these have been chosen for comment.

The first was total lack of an equable distribution of the injured among the hospitals of the region. Rounded up by volunteer workers, the injured were rushed to the nearest hospital. As a result, hospitals close to the tornado's path were swamped by large numbers of injured, while other hospitals, nearly as accessible by motor transport, received none. The inevitable result of such faulty distribution is overcrowding, confusion, and delay in the care of the injured.

Now it is well recognized that the distribution of battle casualties among the mobile hospitals of an army in combat is one of the most exacting tasks of the military medical service. An ideal distribution gives due weight to the urgency of the wound and reduces to a minimum the time lag between injury and surgical treatment by keeping tab on the surgical backlog (wounded not yet operated upon) accumulating in each hospital. Anyone who has observed a trained and experienced military medical organization in action will know how frequently shortcomings in achieving an ideal distribution can be encountered, particularly in time of a heavy flow of casualties—this despite centralized control of hospital and transport facilities, an efficient communication system, and (usually) the opportunity for advance planning.

When unexpected catastrophe occurs in a civilian community, an ideal distribution of the injured cannot be expected. One must work toward this goal, however, by pointing out that under disaster conditions, hospitals close to the

(Courtesy of Worcester Telegram)

FIG. 1. A family flees tornado which hit Worcester, Massachusetts, June 9, 1953.

scene must not allow themselves to be swamped by the less severely injured who are able to withstand transport to more distant points. Here is a focal point in disaster management that calls for imaginative and realistic thinking.

The other item chosen for comment strikes close to home because it has to do with a surgical error. The predominant pattern of injury was that produced by the powerful and random forces loosed by the demolition of buildings, flying debris, and falling timbers and masonry. The injured showed the results of violent displacement, falls, blows, crush, and laceration by shattered glass and splintering wood. (Burns were not a problem, and prompt action by the public utilities in pulling switches averted what might have been a serious hazard from down and tangled power lines.) Charged with the care of these injuries, doctors furiously sewed up wounds and lacerations. With many unversed in the principles of débridement and handicapped in some instances by rapid depletion of sterile supplies, poor lighting, and a lack of trained assistants, it is not surprising that wound complications were numerous. Dirt, devitalized tissue, foreign bodies, and debris caused early wound breakdown, sepsis, delayed healing, and un-

(Courtesy of Worcester Evening Gazette)

FIG. 2. A total of 490 persons was hopitalized as a result of the Worcester 1953 tornado.

sightly scars. Despite a decade of preaching the gospel of the no-primary-suture management of contaminated wounds under combat or disaster conditions, the lesson has not been taken to heart by the profession at large. Here is an educational challenge to the wound surgeons of recent wars and to those responsible for teaching surgery.

No blame or criticism is to be directed toward the hundreds of volunteer workers, doctors and laymen alike, who plunged into their grim task, motivated only by an overwhelming desire to help the less fortunate members of their communities. A realistic appraisal of their efforts must be made, however, if those lessons that may reduce the loss of life or suffering in some future incident are to be learned. The fact must be faced that decisions made and actions taken under the circumstances of disaster are likely to bear the hallmark of panic, and those responsible for the safety of the community or the care of the injured are the very ones most likely to come under its influence.

As we speak of a pattern of injury, so we also may recognize a distinctive pattern which panic imprints on human behavior. Panic need not take the form of overt terror that leads to aimless running in the streets. In the economic sense panic refers to a psychologic state in which certain beliefs are irrationally entertained, such as that the banks are not in a position to repay their depositors.

In one of the last fragments of his writing, Wilfred Trotter described the consequences of the panic which pervaded London in September and October of 1938.* During those months it was generally believed that an enemy air raid of unprecedented magnitude might occur at any moment. The panic referred to by Mr. Trotter showed itself by "an immediate effect in weakening rational judgment."

"In examining decisions reached under the influence of panic," he wrote, "we are not to look for blunders and errors of judgment, for the fruits of ignorance or the fatuity of office, but for something at once more subtle and more characteristic. We are to look for decisions that could have been reached only by people in whom the faculty of practical reason was actually impaired. . .decisions which no normal mind in any circumstances could have assented to."

Both of the happenings mentioned above—someone's decision to keep on packing the injured into the corridors of some overcrowded hospital while other nearby hospitals stood empty, and the misconception held by so many doctors displayed by the suturing of contaminated wounds—bear the diagnostic marks of panic. Trotter recommends that such decisions "be reviewed without mercy or any regard for the saving of face. . . .We should not be concerned in the distribution of blame. There is none to distribute. We have discussed a natural phenomenon and its results."

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* *British Medical Journal*, Feb. 17, 1940, p. 270 (published posthumously), and *The Collected Papers of Wilfred Trotter, F.R.S.*, Oxford Medical Publications, Geoffrey Cumberlege, London, Oxford University Press, 1946.

ANNOUNCEMENT

Complete programs for meetings of the Second, Third, and Eighth District Branches appear in this issue on page 2536.

VALLESTRIL® IN ESTROGEN THERAPY

Vallestril, brand of methallenestril, insures maximal estrogenic potency with minimal activity on the endometrium and thus singular freedom from withdrawal bleeding.

"Target Action" Avoids Withdrawal Bleeding

Vallestril has been found to exert its selective "target action" on the vaginal mucosa. Conversely the effect on the uterus or endometrium is negligible.

In pharmacologic studies, using the Allen-Doisy technic, Vallestril was found to be more active than estradiol and twice as potent as estrone on the vaginal mucosa. On the other hand, using the Rubin technic, Vallestril was found to have only one-tenth the activity of estrone on the uterus, a suggested explanation of its low incidence of withdrawal bleeding.

In clinical evaluation, covering a period of two and one-half years, Vallestril was found* to be "an effective synthetic estrogen . . . singularly free from toxic effects and complications, especially uterine bleeding. . . . The beneficial effect of the medication appeared within three or four days in most menopausal patients . . . . failure to encounter withdrawal bleeding in any patient was most gratifying. . . ."

Such unwanted reactions as nausea, mastalgia and edema also occur less frequently with Vallestril.

Vallestril is preferentially indicated whenever estrogens are of value: The menopausal syndrome; pain of postmenopausal osteoporosis; pain of osseous metastases of prostatic cancer.

Dosage: Menopause—3 mg. (1 tablet) two or three times daily for two or three weeks, followed by 3 or 6 mg. daily for one month. Supplied only in scored tablets of 3 mg. G. D. Searle & Co., Research in the Service of Medicine.

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*Sturnick, M. I., and Gargill, S. L.: New England J. Med. *247:*829 (Nov. 27) 1952.

SEARLE

from disability to dexterity

Acetycol brings welcome relief quickly to the patient suffering from arthritis and related rheumatoid diseases. As Acetycol increases the range of pain-free movement, the patient, freed from the twin taskmasters of pain and rigidity, is able to resume many of his normal activities.

The sustained effect of Acetycol is based on the relationship between aspirin and para-aminobenzoic acid. A relatively low dosage of aspirin produces high salicylate blood levels in the presence of PABA. The effectiveness of Acetycol in gout or cases of a gouty nature is due to the inclusion of salicylated colchicine.

Acetycol also contains three important vitamins, often lacking in older and rheumatic patients: ascorbic acid, to prevent degenerative changes in connective tissues; thiamine and niacin, for improved carbohydrate utilization and relief of joint pain and edema.

Usual dosage — 1 or 2 tablets three or four times a day.

Each Acetycol Tablet contains:

Aspirin	325.0 mg.
Para-aminobenzoic acid	162.0 mg.
Colchicine, salicylated	0.25 mg.
Ascorbic acid	20.0 mg.
Thiamine hydrochloride	5.0 mg.
Niacin	15.0 mg.

Supplied: Bottles of 100 and 500

Acetycol

TRADEMARK

to relieve rheumatic pain

WARNER-CHILCOTT

SCIENTIFIC ARTICLES

Drug-Induced Blood Dyscrasias

STUART L. VAUGHAN, M.D., BUFFALO, NEW YORK

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The complete physician must, among other attributes, be a student, scientist, and healer. It is to the healer within us that the patient appeals for help. Without full appreciation of the studies involved or the scientific methods that must be used, he expects us to intercede in the pathologic physiology that has shown itself through unpleasant symptoms and to cause the body's function to be restored to normal balance. Our desire to help is as great as the patient's need, yet we realize that whenever we interfere with the complex internal environment of living cells, our capacity to do good is balanced by a proportional capacity to do harm.

Nowhere is this concept better exemplified than in chemotherapy which was invented by Paul Ehrlich and which has burgeoned into a huge industry. Ehrlich's famous "606" illustrates the long search for a drug that will produce a desirable effect without too much danger. As early as 1910, this drug was known to produce purpura and anemia. Twenty years later the concern over agranulocytosis related to the widespread use of aminopyrine led to Federal legislation designed to protect the public. No doubt this Federal Food, Drug and Cosmetic Act has prevented much harm, but the continued development of blood disorders in the wake of drug administration has proved that laws cannot do the whole job of prevention. This is where the student and scientist roles of the physician must assert themselves in seeing that unnecessary harm is not done to his patients.

Study of the sequence of events which accompanies the discovery and trial of a promising new drug has shown that it has a rather definite pattern:[1]

> Laboratory Promise → Limited Clinical Trial → Initial Encouraging Results → Banner Headlines in the Lay Press → Pharmaceutical Fanfare → Rumors of Trouble → Definite Reports of Dangerous Complications → Condemnation → Revaluation.

Most of us are not directly concerned in the laboratory studies and early clinical trials, although we must appraise the results of such investigations critically before using the medicine. We have the right and the duty to ask searching questions about the drug's discovery, its relationship to other drugs, its standardization, its use in human subjects, follow-up observations, undesirable side-effects, the investigators themselves, and the sources of their financial grants before seriously considering the use of a new drug on our patients. When encouraging reports are published in the newspapers and magazines, we begin to feel pressure from our colleagues, our patients, their relatives, and from the detail men. We wish to be modern and up to date and to give our patient the benefit of the very latest "wonder drug," and yet at this stage we lack information about potentially harmful effects.

If we assume the privileges of using the newest therapy, we must accept the responsibility for observing its results. It is from us, to a great extent, that the medical world learns the unusual complications of drugs. This requires accurate records, a baseline of control observation, use of the drug alone where possible, and accurate systematic records during the period of observation which must be extended for a long follow-up. The longer the follow-up observations, the more

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valuable they are. The late effects of thorium and radium required over fifteen years to evaluate, and these studies are still not complete. It is obvious that there will be no mutual benefit from the observations unless they are reported.

From the hematologic point of view we must look for changes in the blood cells. The changes may be quantitative, as shown by comparing the pretreatment blood counts with those taken during the course of treatment and during the follow-up phase. They may also be qualitative with a variety of evidence of cell damage, toxic phenomena, and altered morphology. Careful appraisal of such evidence can be of immense help both immediately and later on.

Final appraisal of a drug's value and its potentiality for harm is often difficult. It is easy to confuse coincidental improvement during drug administration with favorable pharmacologic effect, and it is equally easy to attribute to the drug unfavorable manifestations that may occur in the wake of the drug's use. The recent investigations on Chloromycetin[2] illustrate the difficulties even when we have tremendous resources for collecting information.

In spite of the difficulties there is abundant evidence that many types of blood disorders are related to drugs. Among the more significant of them are the following:

1. Those in which the drug affects only one blood cell type
    - A. Anemia
    - B. Leukopenia
    - C. Thrombocytopenia
2. Those in which the drug affects various combinations of blood cell types
    - A. Polycytopenia, e.g., anemia and leukopenia
    - B. Pancytopenia (anemia, leukopenia, and thrombocytopenia)
3. Other conditions in which the drug produces blood abnormalities
    - A. Infectious mononucleosis-like disease
    - B. Systemic lupus erythematosus-like disease
    - C. Leukemia?

Practically all of the blood cell types may be affected, sometimes selectively and sometimes more universally. Thus we may see anemia, leukopenia, thrombocytopenia, or various combinations including depletion of all of the marrow-produced cells at once in the form of pancytopenia or aplastic anemia. In addition, leukemia,[3] infectious mononucleosis-like disease,[4] and systemic lupus erythematosus[5] have been ascribed to drugs.

NORMAL EQUILIBRIUM

Supply = Dissipation

DEPLETION

Normal Supply + Excessive Dissipation

$$\text{Reduced Supply} + \text{Dissipation} \left\{ \begin{array}{l} \text{Normal} \\ \text{Excessive} \\ \quad \text{or even} \\ \text{Somewhat Reduced} \end{array} \right.$$

FIG. 1. Depletion of circulating blood cells (anemia, leukopenia, or thrombocytopenia).

An understanding of the physiologic forces involved in maintaining supplies of red cells, white cells, and platelets at adequate and relatively constant levels is desirable in approaching the study of drug effects. Many details of knowledge are missing, but we may be in a position to fill in the gaps by recalling a few fairly well-established concepts. For instance, we may remember that the process of blood cell turnover is extremely dynamic. Blood cells are being destroyed or dissipated continuously, and new cells are being formed and released to replace those lost. Maintenance of a normal level involves a delicate equilibrium between supply and demand (Fig. 1). Depletion of any element means either a reduced supply or increased dissipation.

Dissipation of cells results from their destruction, from actual loss as in hemorrhage, or from removal from the circulation, at least temporarily, by sequestration. Reduced supply of cells may result from depletion of precursor cells, from failure of formative cells to divide or to differentiate and mature, or from failure of the mechanism by which the cells are released into the circulation.

Red cell destruction is the time-honored mechanism of depletion in the old standard forms of hemolytic disease. So-called maturation arrest (failure of cells to mature) was thought to be the mechanism in many other conditions such as agranulocytosis and pernicious anemia. The relative importance of these two processes has been the subject of debate for a long time,[6,7] but recently there has been a noticeable shift in the weight of evidence to the side of destruction.[8,9] Osgood[10], in discussing the subject, has intimated that maturation arrest is more illusion than fact. There are different explanations for the

TABLE I.—EXAMPLES OF DRUGS WHICH MAY INDUCE BLOOD DISORDERS

- Antimicrobial
  - Arsenobenzols
  - Chloramphenicol
  - Para-aminosalicylic acid
  - Quinine
  - Quinacrine
  - Streptomycin
  - Sulfonamides
  - Thiosemicarbazones
- Analgesics and antipyretics
  - Acetanalid
  - Acetophenetidin
  - Aminopyrine
  - Phenylbutazone
- Antihistamines
  - Antergan
  - Dramamine
  - Pyribenzamine
- Antiarrhythmics
  - Quinidine
  - Procaine
- Antineoplastic and anticellular
  - Aminopterin
  - Benzene
  - 6-Mercaptopurine
  - Myleran
  - Nitrogen mustards
  - Phenylhydrazine
  - T.E.M.
  - Urethane
- Anticonvulsants
  - Dilantin
  - Mesantoin
  - Phenurone
  - Tridione
- Antithyroid drugs
  - Thiouracil
  - Tapazole
- Diuretics
  - Mercurials
  - Diamox
- Miscellaneous
  - Apresoline
  - Diethazine
  - Dinitrophenol
  - Gold salts
  - Naphthaline
  - Sedormid

TABLE II.—TYPES OF BLOOD DYSCRASIA PRODUCED BY VARIOUS DRUGS

- Anemia
  - Phenylhydrazine
  - Naphthaline
- Thrombocytopenia
  - Sedormid
  - Quinidine
- Pancytopenia
  - Mustards
  - Benzene
  - Dinitrophenol
  - Arsenobenzene
  - Anticonvulsants
  - Quinacrine
  - Chloramphenicol
- Leukemia?
  - Radioactive drugs
  - Thorium
  - Benzol
- Granulocytopenia
  - Aminopyrine
  - Thiouracil
  - Procaine amide
  - Antihistamines
  - Diamox
  - Thorazine
  - Mercurial diuretics
- Mixed dyscrasias
  - Quinine
  - Urethane
  - Aminopterin
  - 6-Mercaptopurine
  - Myleran
  - Sulfonamides
  - Phenylbutazone
  - Gold salts
- Infectious mononucleosis-like disease
  - Para-amino salicylic acid
- Collagen disease
  - Apresoline

picture that simulates maturation arrest; Osgood favors the view that it is the result of a regenerative phase in which primitive cells previously depleted are returning to normal in a stepwise fashion, while Rohr[8] emphasizes the view that it represents an equally stepwise destructive phase in which cells of greatest maturity are destroyed first with less mature cells destroyed in order. Moeschlin[9] supported the latter concept. He felt that peripheral destruction involving increasingly immature elements might progress to a point where the picture would be that of "aplastic" anemia. He thought that this might explain the hemolytic anemias with aplastic marrows as described by Owren.[11]

In any event the fundamental mechanisms of cell depletion and the methods by which drugs produce their damaging effects will become interesting to us. Again, we shall find that many questions must be left unanswered, but we can gain some insight into the processes of cell death and failure of normal cell proliferation as revealed by recent investigations.

There are different mechanisms in the events that lead to the death of cells or to disturbances of their proliferation, growth, or development. There may be profound alterations in vital chemical components, in enzyme functions, in chromosomes, etc.[12] Some of these mechanisms are being studied intensively, as was true recently when the toxic actions of nitrogen mustard were examined.[13] In this instance the mode of action seemed to be a direct chemical union between the drug and desoxyribose nucleic acid, thus interrupting mitosis and preventing cell proliferation.

Aminopterin and 6-mercaptopurine also interrupt orderly cell development by disturbing synthesis of nucleoprotein and purines. Presumably other drugs have characteristic methods of altering normal processes and interfere with blood formation.

The list of drugs capable of producing toxic changes in blood cells is now an extremely long one. Table I shows selected examples which are placed in a relatively few pharmacologic groups[10] for convenience.

Earlier in this paper, mention was made of a selective tendency on the part of some drugs. Aminopyrine, for example, produced granulocytopenia almost exclusively. Other drugs such as benzene may have a selective effect on leukocytes in most cases,[10] but if the dose is great enough and if other circumstances prevail, there may be pancytopenia and possibly even leukemia.[3] In Table II are shown the significant blood disorders, under each of which is placed some of the drugs most likely to produce the disorder.

At this point it is only fair to state that the toxic actions of drugs are not all undesirable. In fact, such agents as nitrogen mustard, aminopterin, urethane, and myleran are used primarily because of their toxicity, which under proper circumstances is selective. The therapeutic results are most encouraging while the selective action is maintained, but all of these

TABLE III.—EXAMPLES OF SO-CALLED "POISONOUS" AND "IDIOSYNCRATIC" DRUGS

Poisonous	Idiosyncratic
Mustards	Mesantoin
Urethane	Pyribenzamine
Aminopterin	Thiouracil
6-Mercaptopurine	Sulfonamide
Benzene	Gold salts
Myleran	Aminopyrine
Phenylhydrazine	Quinidine

drugs may cause serious complications if the controlled selective action is superseded by an uncontrolled, nonselective toxic process.

Mention of this group of toxic drugs used therapeutically for their hemotoxic effects leads to an interesting observation. These drugs and a few others seem to act rather directly on vital cell processes in such a way that toxic manifestations are produced in all persons receiving a dosage in excess of their tolerance. In contrast we note another group of drugs, typified by aminopyrine and quinidine, which are capable of producing harmful effects in some persons but not in others, the harmful effects usually having little or no relationship to the dosage. For convenience we use the terms "poisonous" to characterize the first group and "idiosyncratic" to characterize the second (Table III). Evidence suggests that the "idiosyncratic" group of drugs do not produce their toxic effects directly but that they do so quite indirectly through the mediation of some complex immunologic mechanism in which the affected person must be sensitized.

Some twenty years ago such workers as Kracke and Parker,[14] Madison and Squier,[15] and Dameshek and Colmes[16] contributed important indirect evidence to indicate that many persons suffering from agranulocytosis had been sensitized to aminopyrine. It was not until 1949 that Ackroyd[17] demonstrated the proof of this concept by producing clinical and laboratory manifestations of hemorrhagic disease in a person "sensitized" to Sedormid and by showing that such manifestations cannot be produced in a "nonsensitized" person.

From these experiments and others[9] it has been concluded that administration of an "idiosyncratic" drug in certain subjects under circumstances that are not entirely clear will result in sensitization of body cells (absorption of protein upon the cells). Subsequent administration of the drug will result in a union of the drug with blood proteins in such a way that the sensitized cells become agglutinated or lysed. If this effect is relatively mild and of short duration, the damage may be reversible. If severe and prolonged, the process may go to an extreme as in "aplastic" anemia. It is only fair to mention that some workers in immunohematology feel that full acceptance of the validity of acquired sensitization as outlined should await further evidence.[18]

Three mechanisms of drug hematoxic effects are as follows:

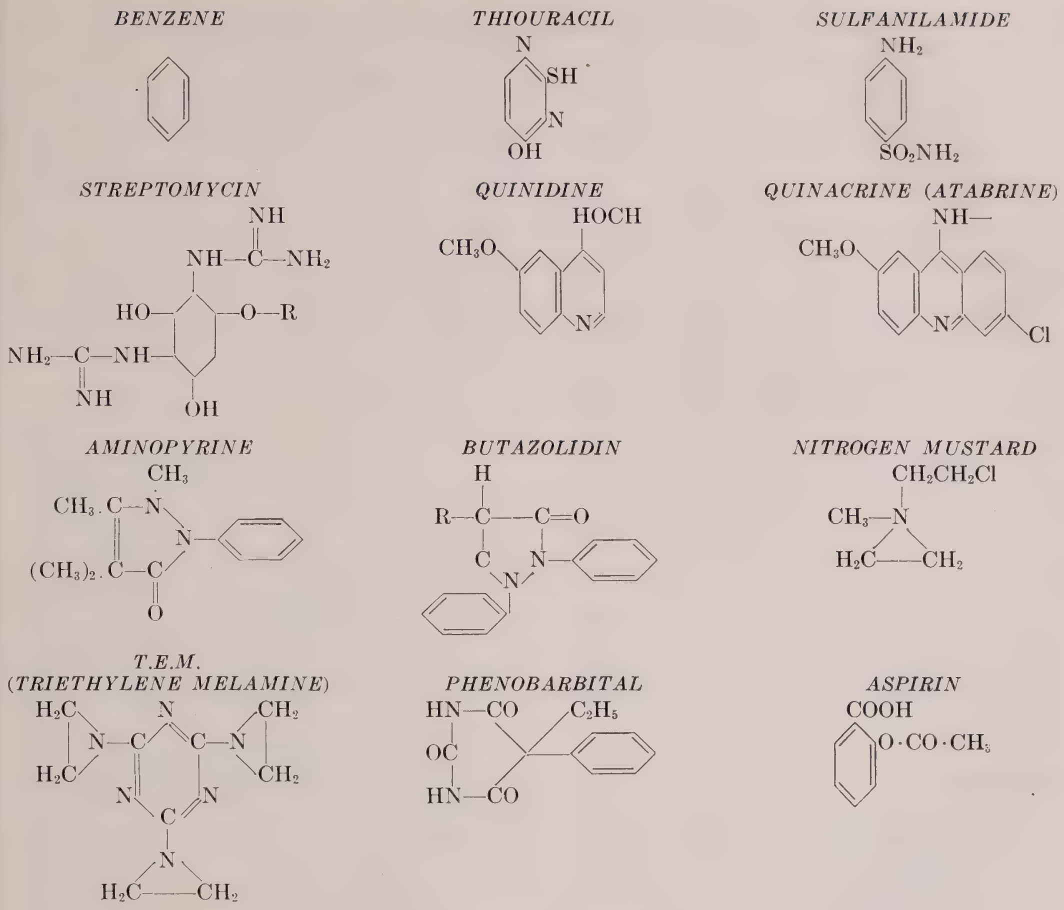
1. The "poisonous" effect is a rather direct one upon one or more cell types.
2. The "idiosyncratic" effect is an indirect one mediated through the development of immune bodies.
3. Constitutional or hereditary allergic susceptibility to drugs may explain some of the dyscrasias not accounted for otherwise.

Having learned that our chemotherapeutic agents can and do cause disturbances of the blood of various types through a variety of mechanisms, we find that the problems are not quite exhausted. Why are some drugs toxic while others are not? Among the toxic drugs what determines the degree of toxicity? When a new drug is made available to us, is there a way to anticipate its dangerous effects? Finally, what are we to do if a drug-induced blood dyscrasia develops in one of our patients?

The benzene ring has been emphasized as an important hemotoxic factor ever since Selling[19] produced marrow changes and corresponding anemia, leukopenia, and thrombocytopenia with benzene. Kracke[20] concluded that N, NH, and NH_2 groups attached to the benzene ring were especially dangerous. He called this chemical arrangement the "benzamine linkage." Other workers[1,21–23] have attempted to show the relationships between hemotoxicity and chemical structure (Fig. 2).

The degree of toxicity is probably determined by the interplay of several factors. One of these seems to be the number of nitrogen groups in the molecule. Among the "poisonous" drugs, triethylene melamine with five nitrogen groups is definitely more toxic than nitrogen mustard with three groups. Among the "idiosyncratic" drugs there seems to be a similar relationship. In Table IV an attempt is made to divide the drugs roughly into high risk and low risk types.[14]

In Table V a comparison of the nitrogen groups



BENZENE
THIOURACIL
SULFANILAMIDE
STREPTOMYCIN
QUINIDINE
QUINACRINE (ATABRINE)
AMINOPYRINE
BUTAZOLIDIN
NITROGEN MUSTARD
T.E.M. (TRIETHYLENE MELAMINE)
PHENOBARBITAL
ASPIRIN

Fig. 2. Structural formulas.

TABLE IV.—Partial Classification of "Idiosyncratic" Drugs on the Basis of Risk

High Risk	Low Risk
Arsenobenzenes	Sulfonamides
Mesantoin	Trimethadrine
Gold salts	Quinacrine
Aminopyrine	Procaine
Nitrophenol	Quinidine
Phenylbutazone	Streptomycin

TABLE V.—Comparison of Toxicity on the Basis of Number of Nitrogen Groups

Toxicity	Number of Nitrogen Groups
Greater	
T.E.M.	5
Mesantoin	3
Aminopterin	3
Lesser	
Nitrogen mustard	2
Tridione	2
Phenobarbital	1

with toxicity is made. It is clear that this is not the final answer since some drugs, such as streptomycin, show large nitrogen group counts but low degrees of toxicity. It has been suggested[1] that the large molecule is less toxic than smaller ones.

From these considerations it seems reasonable to conclude that the formula of a given drug may suggest its potential toxicity, but this is not a completely reliable index.

We who have now assumed our responsibility of student, scientist, and healer in the field of chemotherapy as related to the hazards of blood complications are in a position to carry out our obligations regarding the administration or withholding of drugs in a rational manner. However, there is one final consideration which deals with the patient who develops a complication of one of the types we have discussed.

To stop the drug at once is logical and proper. If this is done early enough, the blood changes are apt to be quickly reversed, and no other measures may be necessary.

Antibiotics are to be used on the slightest provocation, especially in leukocyte disorders. Some people advocate their use prophylactically, and there is much to be said for this plan. On the other hand, there are advantages in delaying antibiotic administration until a reasonable attempt to establish bacteriologic diagnosis is made.

Steroid hormones are indicated early. Although we are not fully informed as to the precise mechanism of improvement, there is abundant evidence that these drugs help in a variety of ways.

Blood transfusions are given to maintain life and a good level of resistance. They are most useful in progressive anemias to elevate the hemoglobin to a level of compensation, especially during critical periods. There is no satisfactory evidence that recovery is ever hastened by transfusion.

Other agents, such as cobalt chloride, iron, vitamin B_{12}, folic acid, etc., have not proved to be beneficial.

Summary

One of the problems of the practicing physician in this era of rapid scientific progress is to recognize the potential harm in many of the wonderful chemotherapeutic agents available for our use. It is obvious that we owe it to our patients to use new drugs whenever the dangers of the disease outweigh the dangers of the drugs. In so doing we must know both the merits and the dangers of the drugs. With such knowledge we are in a position to assume a progressive attitude and avoid some of the pitfalls of being too radical.

The type of knowledge alluded to concerns such items as recognition of the pattern of drug promotion, the relationship of the practicing physician to the pattern, the experimental method as employed in use of a new drug, basic principles of blood production and blood cell depletion, the mechanisms by which drugs may affect normal blood equilibrium, factors determining a drug's toxicity, and the risks involved in use of a drug. This same knowledge helps in devising a reasonable plan of treating the patient who may have been unfortunate enough to develop one of the hemotoxic manifestations.

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There's lots of people in this world who spend so much time watching their health they haven't time to enjoy it.—JOSH BILLINGS

Chlorpromazine as an Adjunct to Spinal Anesthesia

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SOME of the many properties ascribed to chlorpromazine potentially have application to clinical anesthesia. Various reports indicate that this drug can produce sedation without respiratory depression,[1] alleviate nausea and vomiting,[2] potentiate the effects of anesthetics, hypnotics, and narcotics,[3] reduce or facilitate a reduction of body temperature,[1] create adrenergic blockade with concomitant vasodilation and epinephrine reversal,[4] and be used to treat emergence delirium.[5] It is apparent that some of these attributes of chlorpromazine could be useful in the management of patients during spinal anesthesia, provided such other of its effects as hypotension and vasopressor blockade would not be seriously contraindicated.

The place of chlorpromazine in psychiatric practice and in the treatment of nausea and vomiting seems fairly well established. But its value in clinical anesthesia is still not well defined and was the incentive for this study of the application of chlorpromazine to spinal anesthesia. While the observations reported here provide no reason for advocating the routine use of this agent, they do indicate some of the effects that may be expected with the use of this drug during spinal anesthesia. They also indicate that this type of anesthesia can be well managed in patients who receive chlorpromazine either preoperatively or during the course of surgery.

Method of Study

Eighty patients were included in this study; 40 received chlorpromazine,* and 40 served as controls. Patients were selected on the basis of being suitable for single-dose spinal anesthesia. Those who were of poor physical status or scheduled for extensive surgery were not included. They were all adults ranging in age from twenty-two to seventy-six years, 48 being males and 32 females. Cases requiring any form of supplementary general anesthesia were eliminated. Surgical procedures completed consisted of prostatectomy, hysterectomy, herniorrhaphy, saphenous vein strippings, and minor rectal operations. Subjects were divided into three groups and assigned to a group in chronologic rotation prior to operation:

Group 1 (12 cases)—These patients received 25 mg. of chlorpromazine intramuscularly sixty to ninety minutes prior to the induction of spinal anesthesia. No other medication was given. Rectal temperatures were recorded before and after the administration of chlorpromazine and the spinal drug.

Group 2 (28 cases)—These patients received 25 mg. of chlorpromazine intravenously approximately fifteen minutes after the induction of spinal anesthesia. Temperatures were recorded as in group 1.

Group 3 (40 cases)—These cases served as controls. They were given 50 mg. of secobarbital and 0.3 mg. of atropine intramuscularly sixty minutes prior to the spinal anesthetic. No chlorpromazine was used. Temperatures were also noted.

Rectal temperatures were recorded by an electronic continuous temperature recorder (Rapid-Temp*). All patients had temperatures in the normal range for twenty-four hours prior to operation as recorded on their charts. The spinal anesthetic drugs consisted of varying doses of Pontocaine-glucose and Monocaine with 2.0 mg. of Neo-Synephrine added in some of the cases. When chlorpromazine was given intravenously, it was injected slowly through the Murphy drip of an infusion tubing containing normal saline or dextrose and water (taking approximately five minutes). The persistence

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* Chlorpromazine (Thorazine) for this study was generously supplied by Dr. C. W. French of Smith, Kline & French Laboratories, Philadelphia, Pennsylvania.

* Manufactured by Micron Engineering Co., New York City.

TABLE I.—CHANGE IN RECTAL TEMPERATURE AFTER CHLORPROMAZINE* AND SPINAL ANESTHESIA†

	Change in Rectal Temperature (Degrees Fahrenheit) Average	Range
Group 1 (12 cases)		
After chlorpromazine	−0.6	0 to −1.6
After chlorpromazine plus spinal	−1.5	−0.6 to −2.8
Group 2 (28 cases)		
After spinal	−0.3	−0.8 to −1.0
After spinal plus chlorpromazine	−1.4	−1.0 to −4.2
Group 3 (20 cases)		
After spinal (controls)	−0.6	−0.4 to −1.6

* Thorazine, 25 mg.

† All patients' initial temperatures normal; operating room temperature 78 to 82 F.

of spinal anesthesia was estimated postoperatively at fifteen-minute intervals with duration being determined from the onset of anesthesia to the return of sensitivity to pinprick on the skin of the external genitalia. Duration was charted by personnel unaware of the group to which the patient belonged. When vasopressors seemed indicated during operation, intravenous ephedrine or Neo-Synephrine was used and the pressor response noted. Blood pressure levels were followed for twelve hours postoperatively.

In addition, patients in all three groups received two skin wheals on the flexor surface of the forearm during operation. One wheal contained 0.2 cc of 1.0 per cent procaine, the other normal saline. The duration of analgesia over the wheals was recorded by pinprick. Identical skin wheals were repeated in the patients of groups 1 and 2 during convalescence at a time when they were not receiving any narcotic or sedative drugs. The data were tabulated on a special form without reference to the regular anesthesia study record with various parts of the form being completed by different individuals.

Observations

Observations are indicated in Tables I to IV. Table I shows the effect of chlorpromazine and spinal anesthesia on rectal temperature. It can be noted that chlorpromazine and spinal anesthesia each tend to produce a small drop in temperature and that the effects of each are additive but still of small magnitude.

TABLE II.—EFFECT OF CHLORPROMAZINE ON DURATION OF SPINAL ANALGESIA*

	Controls		Chlorpromazine	
Agent and Dose	Number of Cases	Average Duration (Minutes)	Number of Cases	Average Duration (Minutes)
Pontocaine 10 mg.	10	176.4	12	248.8
Pontocaine 10 mg. and Neo-Synephrine 2 mg.	10	361.8	10	430.9
Monocaine 50 mg.	15	120.6	9	207.5

* Endpoint taken at return of sensation to pinprick on skin of external genitalia.

TABLE III.—DURATION OF ANALGESIA IN PROCAINE SKIN WHEALS* AFTER CHLORPROMAZINE

Medication	Number of Patients	Duration in Minutes Range	Average
None	40	11 to 52	26
Chlorpromazine	40	20 to 135	58
Routine	20	18 to 85	35

* Wheal made with 0.2 cc. of 1 per cent procaine on flexor surface of forearm.

Table II compares the duration of spinal analgesia in the chlorpromazine groups 1 and 2 with control group 3. Only those patients receiving identical spinal anesthetic doses with and without chlorpromazine are listed for comparative purposes as being typical of the entire study group. The figures indicate that the return of sensation to pinprick was prolonged in the chlorpromazine groups. It is recognized that prolonged skin analgesia present in the postoperative period may not be an index of the intensity of spinal nerve block required for surgical manipulation.

Table III summarizes the observations on the duration of skin wheal analgesia in the patients who received chlorpromazine and subsequently were tested again in the unmedicated state and also in the control group who received the usual

TABLE IV.—FALL IN BLOOD PRESSURE AFTER CHLORPROMAZINE AND SPINAL ANESTHESIA

		Blood Pressure (Mm. Hg)			
		Systolic		Diastolic	
Anesthesia	Number of Patients	Range	Average	Range	Average
Chlorpromazine	12	0 to 20	5	0 to 20	4
Spinal	28	0 to 80	21	0 to 40	12
Chlorpromazine, then spinal	12	0 to 80	27	0 to 30	13
Spinal, then chlorpromazine	28	0 to 110	40	0 to 50	20

type of premedication. Analgesia was not observed in any patient over the saline skin wheal. The findings indicate prolongation of analgesia in those patients given chlorpromazine when compared with themselves in the unmedicated state. It was noted also that the control group which received ordinary sedative drugs demonstrated prolongation of analgesia as compared with the unmedicated patients. There is a wide range of individual variability in the period of analgesia which seems related to the average duration in each group. This is typical of skin wheal testing of local anesthetics.[6]

Table IV lists the maximum changes in blood pressure recorded in these patients. As anticipated, chlorpromazine or spinal anesthesia alone each result in some degree of hypotension, the former less than the latter. The combination of chlorpromazine and spinal results in a somewhat greater drop in blood pressure than does the combination of other drug sedation with spinal anesthesia. In no case was the degree of hypotension a cause of concern, nor was any postoperative embolic or thrombotic complication encountered. All these patients responded satisfactorily to vasopressors. It was particularly interesting that with this dose of chlorpromazine the pressor response to intravenous ephedrine sulfate was clinically adequate. However, a somewhat larger dose of ephedrine was required, and the response was not so prompt. Although Neo-Synephrine produced a prompt response, it seemed that somewhat larger doses were required. With both vasopressors, in the presence of hypotension, the response was as sustained in the chlorpromazine groups as in the control group. The blood pressure after correction, however, was sustained at a somewhat lower level than its preoperative value.

The sedative effect of chlorpromazine could not be satisfactorily judged in this small group of patients. In essence they resembled superficially any other group of patients receiving conservative doses of the more usual types of sedative drugs. Some seemed totally unmedicated; others appeared oversedated, indicating that chlorpromazine in this dosage had the unpredictable, variable effects characteristic of other hypnotics.

Comment

These observations and those reported by others indicate that the pharmacodynamic properties of chlorpromazine to some extent affect the over-all pattern of response to spinal anesthesia. The small drop in rectal temperature resulting from spinal anesthesia is similar to that noted by Lèger,[7] as is the slight fall in temperature after chlorpromazine also observed by Dobkin.[8] The combination seems additive in its hypothermic effect. There is no clear-cut evidence to indicate that the temperature effect from this dose of chlorpromazine is due to a central mechanism or a direct metabolic depression. More likely, as with spinal anesthesia, it is a reflection of its peripheral vasodilating property as this affects the skin areas.[4] It would be interesting to speculate, however, on the magnitude of temperature fall which chlorpromazine might induce in patients with increased body temperature, an obvious hazard in anesthetic management.

The prolongation of sensory spinal analgesia is rather difficult to interpret. Courvoisier[9] indicates that the systemic administration of chlorpromazine produces both an increase in intensity and duration of effect of local anesthetics. Duration of spinal anesthesia per se is more likely a function of initial spinal fluid anesthetic drug level rather than persistent residual concentration.[10] Certainly the central nervous system above the spinal cord does not seem to be involved in spinal nerve block. The fact that the duration of procaine skin wheal is also prolonged in the patients given chlorpromazine points to a peripheral tissue influence of this drug on the mechanisms of local anesthetics at their site of injection Chlorpromazine is an agent of broad pharmacologic activity and may produce some of its multiple effects by modifying cellular metabolic processes.[11] This may evidence itself in regional effects as with local anesthetics and in central effects as with general anesthetics. It may be that a portion of the prolonged activity noted with local anesthetics is also indirectly due to the nonselective depressant cerebral influence of chlorpromazine, for the more commonly used depressants, such as the barbiturates, also prolong the duration of skin wheal analgesia. The explanation of prolongation is further complicated in that the more specific cerebral effects of chlorpromazine in mimicking lobotomy[1] and blunting conditioned reflexes[5] may show up clinically as decreased skin sensitivity to pinprick.

The classic form of spinal anesthesia carries a heritage of fear of its accompanying hypotension. And this is frequently expressed in terms of the danger of a fall in blood pressure when chlorpromazine is used in conjunction with spinal anesthesia.[12] In considering such use of chlorpromazine it should be kept in mind that hypotension, unless drastic, has fewer unfavorable cardiovascular-visceral implications when due to autonomic blockade than with total spinal and drug-induced hypotensive technics. A fall in blood pressure to systolic levels of 60 to 70 mm. Hg following autonomic blockade with other hypotensive technics[13] or with chlorpromazine[2] has been reported as being relatively benign. The undesirability of spinal anesthesia and its frequent hypotension when combined with the presence of chlorpromazine may be linked also to the reports that correction of the fall in blood pressure is difficult with usual vasopressor administration.[12] Our observations do not bear this out and coincide with the experience of others[2] who used small amounts of chlorpromazine during spinal anesthesia. It is probable that the adrenolytic effect of chlorpromazine is sufficiently incomplete with these small doses of the drug to allow for satisfactory correction of hypotension with reasonable amounts of vasopressor agents.

It would seem that there are as yet no clearly defined advantages to the planned clinical use of chlorpromazine in conjunction with spinal anesthesia. The nature of clinical practice is such, however, that the occasion to administer either chlorpromazine or spinal anesthesia in the presence of the other may arise. There is some value, therefore, in knowing that this combination in reasonable dosage may be employed with adequate safety and that either of the procedures is not a very serious contraindication to the other. While the effects of a modest dose of chlorpromazine and spinal anesthesia do modify the individual's response to each, the extent of these changes is not marked.

Summary and Conclusions

1. Chlorpromazine (25 mg.) was administered to adult patients before and after induction of spinal anesthesia, and the effects of each on rectal temperature, duration of spinal and skin wheal analgesia, blood pressure, and the pressor effects of vasopressor drugs were tabulated and compared with a control group.

2. Spinal anesthesia and chlorpromazine each produce a small drop in rectal temperature, and the combination has an additive but clinically insignificant effect.

3. Chlorpromazine-treated patients showed an increased duration of skin analgesia after spinal anesthesia and procaine skin wheals.

4 Spinal anesthesia and chlorpromazine in combination tended to produce a greater, but not drastic fall in blood pressure than each alone. This hypotension could easily be corrected with reasonable doses of vasopressor drugs.

5. Chlorpromazine is of little advantage as a planned adjunct to spinal anesthesia, but if need occurs, it is apparently a safe and manageable combination.

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Discussion

Erwin Lear, M.D., *Brooklyn* (*By invitation*).—I should like to supplement Dr. Lipton's remarks with our experiences in over 500 cases of spinal anesthesia which received chlorpromazine as part of the premedicating schedule. The youngest patient was sixteen years of age, while at the other end of life's span was an eighty-five-year-old male. The types of cases ranged from hemorrhoidectomies to gastrectomies, abdominal-perineal resections, and radical gynecologic dissections.

At our hospital, as in many others throughout the country, the usual premedication for spinal anesthesia is a barbiturate, given about two hours before surgery; Demerol 100 mg. (or morphine 10 mg.) and scopolamine 0.4 mg. (or an equivalent dose of atropine) are given one hour before surgery. With this scheme about 80 per cent of the patients are adequately sedated.

Since using chlorpromazine as part of the premedicating schedule in doses of 25 to 50 mg. intramuscularly, we have eliminated the need for barbiturates entirely. The dose of Demerol (or morphine) has been reduced to one-half or even one-third that formerly used. Scopolamine has been reduced from 0.4 mg. to 0.25 to 0.3 mg., and atropine has also been reduced accordingly. With these reduced amounts of drugs our patients are adequately sedated in 85 to 90 per cent of the cases. We do not see the degree of respiratory depression as in the past, although some patients appear heavily sedated or even oversedated.

Chlorpromazine has been used in all adult age groups and in patients of varying risk, including cardiac disease. It has been used in extensive surgical procedures where we have attempted to reduce blood loss and to afford the patient a measure of protection from surgical and traumatic shock (even in the days before Kelan and Zweifach's recent animal work). It has been our experience that poor risk geriatric patients have done well postoperatively with less than the anticipated amount of difficulty.

The use of chlorpromazine in premedication does not preclude the use of other agents including general anesthesia to supplement or even take over when spinal has begun to wear off. Ether and the barbiturates seem more markedly potentiated and should be used in lesser amounts. On occasion when the patient seems to require it, we have found no contraindication to divided doses of Demerol intravenously during surgery; this seems a better method for controlling the retching under spinal anesthesia (in gallbladder and other high abdominal work) than intravenous barbiturates.

Preoperative hypotension occurs in just under 10 per cent of our cases. It can be corrected to a large extent with liberal amounts of intravenous fluids such as glucose in water (5 to 10 per cent) given early in surgery before blood loss complicates the picture. The liberal use of nitrous oxide–oxygen (60:40) instead of barbiturates is of value when marked pressure falls exist, i.e., 60/40 mm. Hg blood pressure; barbiturates can safely be used with large blood pressure falls provided the patient maintains a good airway through which oxygen (100 per cent) is given. The patient for spinal can be given his vasopressor before the anesthesiologist scrubs; in the presence of a pulse of 70 or better, Vasoxyl, 20 mg. intramuscularly, appears to be an excellent drug. We prefer to use no vasopressors after the prespinal dose has been given. Occasionally the blood pressure remains low in the immediate postoperative period. In the presence of adequate "like fluid" replacement, however, the blood pressure will regain its former stature in a few hours or less.

Postoperative reaction doses of narcotics are halved, and the patients seem to be comfortable for longer periods after surgery. In a series of cholecystectomies, reaction doses were required by most of the patients after four hours as compared to one hour for controls. Similar patterns have been observed in hysterectomies and inguinal hernia repair as well as in prostatectomies and hemorrhoidectomies.

In closing I should like to list some pertinent observations. The incidence of spinal headache in the present series of 540 cases has been 0.55 per cent or three headaches; our control estimate is in the neighborhood of 3 plus per cent. Nausea, vomiting, and retching are reduced somewhat in these cases generally but are best treated as the complications become manifest with intravenous chlorpromazine. Hiccups are best treated by the intravenous route. In those cases so studied, venous pressures differed little from controls, although some blood pressures read as low as 70/50 mm. Hg. Urinary output does not appear adversely affected in the first twenty-four hours by chlorpromazine hypotension. Finally, there are a number of other premedicating combinations we have tried and have given up: chlorpromazine alone, with Benadryl, with a barbiturate, and finally with a belladonna drug in addition to the barbiturate. None were as satisfactory as our present schedule.

A Method of Treating Chronic Leg Ulcers

A series of 23 patients with chronic stasis leg ulcers were subjected to a regimen consisting of local application of antibiotic powder and Gelfoam, with supportive parenteral administration of vitamin B_{12}.

Results, the author reports, were gratifying and warrant a report of the method. Also treated was an ulcer of the nose complicating radiodermatitis, which had resisted other therapy for two years. It healed in four months under the reported management. Ulcers of all the patients treated in the reported period (one year) have healed satisfactorily. —*Sherwood W. Barefoot, North Carolina Medical Journal, March, 1955*

Current Surgical Therapy of Tuberculosis

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In few areas of medicine has there occurred as striking a change in recent years as in the field of tuberculosis. Unlike many other diseases it requires years of evaluation to determine the ultimate worth of a given procedure. This combination of rapidly changing modes of treatment plus an uncertainty as to long-term results has resulted in a considerable degree of confusion. It is our purpose to evaluate the current status of the various surgical procedures which have been used in tuberculosis therapy.

For the past two and one-half years the use of specific antimicrobials, blood transfusions, improved anesthesia, and better surgical technics has made it possible for us to be more aggressive in striving for the ideal, which is removal of all significant disease.

It has been our practice at the Edward J. Meyer Memorial Hospital to give streptomycin, para-aminosalicylic acid, and isoniazid concurrently. The results of this treatment have been striking. A large number of patients have been arrested or "cured" who in the past would have needed surgical therapy. However, an equal or perhaps larger group of patients are becoming candidates for surgery either after partial healing of extensive disease or for removal of residual disease. Many patients achieve rapid conversion of sputum without equivalent healing of the architectural damage to the lungs or closure of cavities.

The usual case of tuberculosis coming under therapy for the first time follows a more or less characteristic course. In the early weeks or months there is rather rapid resolution of the more acute exudative areas of disease. This pneumonitic tuberculosis may resolve completely or may be replaced by small nodules of fibrous tissue with or without areas of caseation.

During this period the major or primary area of involvement, which has incurred a more definite destruction of pulmonary tissue with caseation and frequently cavitation, is undergoing a somewhat similar process. There is partial resolution with shrinkage or actual closure of cavities. At the end of this first phase of treatment we are then left with the principal area of pulmonary destruction with most of the areas of acute spread of the disease resolved or being controlled by the body's healing processes. Cavities and larger caseous foci in the area of primary involvement will now continue to heal at a slower rate by the process of fibrosis and contraction. The completeness of this healing will vary from case to case.

This process of healing proceeds at a steady, but diminishing rate, usually with the most rapid progress occurring early. As the curve of resolution flattens, a point will be reached at which there is little or no further diminution in the diseased areas. At the same time the effectiveness of the antituberculous drugs may be decreasing. It is at this point, when the disease is stable but showing little or no tendency to heal further, that surgical treatment may be carried out most effectively.

We feel that certain surgical procedures are virtually obsolete and will be mentioned only briefly.

Cavernostomy and extrapleural pneumolysis have not been used in our group for several years, and there seems little or no indication for their further use.

Phrenic crush is seldom employed. Its chief use is as a complement to pneumoperitoneum where a more selective collapse is thought to be advisable. A certain percentage of patients fail to regain diaphragmatic motion after phrenic nerve interruption, and the benefits are small. However, pneumoperitoneum continues to be widely employed in conjunction with drug therapy in cases with bilateral disseminated disease with or without cavitation.

Pneumothorax is currently being re-evaluated in a small group of selected cases, chiefly patients with unilateral cavitary disease or patients with persistent hemoptysis. When necessary to obtain good collapse prevented by adhesions, pneumolysis is carried out. The exact status of

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TABLE I.—Mortality Rate (75 Cases)

Procedure	Mortality Rate
Segmental	0%
Lobectomy	2%
Pneumonectomy	27%

TABLE II.—Morbidity Rate (172 Cases)

	Through 1952	1953 to Present
Spread	7%	2.9%
Bronchopleural fistula	15%	0%
Empyema	2%	2.9%
Miscellaneous	11%	2.9%
Total	35%	8.7%

pneumothorax is unsettled, but it is still considered in certain patients who refuse more definitive surgical therapy.

Thoracoplasty, at one time the standby of surgical therapy for tuberculosis, now occupies a much more limited but nevertheless definite place. Even before the advent of specific antimicrobials, thoracoplasty produced lasting arrest of disease in 65 to 70 per cent of carefully selected cases. In conjunction with drugs, appreciably better results can be expected. It has the advantage of almost no mortality or morbidity. In addition, when suitably staged to avoid excessive paradoxic motion of the chest wall, it produces minimal strain on the patient's vital functions in the early postoperative period. It may, therefore, be a safer procedure in the poor risk patient than resection therapy.

On the other hand, it has the disadvantages of greater permanent loss of function than resection, retention of large diseased areas which have a constant threat of breakdown and extension, and production of some deformity. The following general requirements should be fulfilled:

1. The disease must be stable.
2. The major portion of the disease thought to be active and all cavities must be in the upper portion of the lung fields where the collapse will act directly.
3. There should not be evidence of tension cavity.
4. There should not be evidence of bronchial stenosis.
5. The patient should have demonstrated some ability to contract the area of disease, as evidenced by elevation of hilum and diaphragm, shift of trachea and mediastinum, and retraction of overlying rib cage.

Although we have done few classic thoracoplasties involving seven or eight ribs in the past few years, the results have been uniformly excellent with no failure of conversion to negative sputum and no relapses to date.

We have been interested recently in doing limited thoracoplasty, usually four or five ribs, in conjunction with extrafascial apicolysis in cases in which the risk is too great for resection and where limited pulmonary function contraindicates a more extensive thoracoplasty. This group is similar to those in whom a plombage thoracoplasty might be considered. Although this may be less than an optimum procedure from the standpoint of permanent results, it is accepted as a compromise. We have had prompt conversion of sputum to negative in each of a small series of cases. Since the life expectancy of many of these patients is short, this limited objective seems reasonable.

It is now possible to remove surgically all or any portion of a lung with reasonable safety. It must be remembered that although rarely will it be possible to remove all of a patient's disease, we should remove all active and significant tuberculosis, leaving only areas which appear to be healed or susceptible of control by the patient's own resistance. If this goal does not seem attainable, we will be wise to seek other methods of therapy or carry out prolonged drug treatment in the hope of further resolution. The patient should have had an adequate period of drug therapy. At present we feel empirically that a three-month period is minimal, and our average surgical patient has had between six and twelve months of antibiotics.

The following are our chief indications for resection: (1) persistent positive sputum, (2) persistent cavitation or blocked cavities, (3) appreciable residual nodular caseous disease, (4) lower lobe cavities, (5) thoracoplasty failure, (6) bronchial stenosis, and (7) complications of tuberculosis such as bronchopleural fistula, empyema, bronchiectasis, and hemoptysis. The choice of type of resection—pneumonectomy, lobectomy, segmental resection, or local excision—is dictated by the extent of disease. Our mortality rate for three procedures since the advent of multiple drug treatment two and a half years ago is shown in Table I. The influence of triple drug therapy in conjunction with other advances is reflected in the lowered morbidity shown in Table II. Pneumonectomy accounted for the largest percentage of complications. In 95.7 per cent of these patients who survived operation, results have been excellent with persistently negative sputum. Six patients have had occasional positive sputum.

Our experience with pneumonectomy has not been entirely satisfactory largely because as a group these have been salvage cases with not only a destroyed lung to be removed, but with appreciable disease and frequently cavitation in the remaining lung. Nevertheless, even in these desperate cases good results have been attained in 85 per cent of survivors.

We have combined thoracoplasty with resection only if the space left by removal of lung tissue is large or if the remaining lobe has considerable involvement so that overdistention is thought undesirable. Concomitant tailoring thoracoplasty seems a more rational procedure than either preliminary or subsequent thoracoplasty and has not added to morbidity in our experience. This type of thoracoplasty does not add materially to loss of pulmonary function.

Over-all evaluation of the patient is of the greatest importance in carrying out surgical therapy with safety. The development of respiratory function laboratories has been of great value in this direction. In the young healthy patient with limited disease, one can make a free choice of procedures. In the older patient with compromised pulmonary function, it is necessary to know as accurately as possible the patient's respiratory reserve, the immediate impairment of function to be expected in the early postoperative period, and the permanent loss of function produced by the various possible procedures.

In general, we have found classic thoracoplasty to produce relatively large permanent loss of function but, with careful staging, small, acute loss of function postoperatively.

Segmental resection and lobectomy produce very small permanent loss of function, assuming an uncomplicated course, but a larger impairment during the immediate postoperative course. We believe from our studies that this is largely the result of splinting of the operative side due to the pain of the intrapleural incision and intercostal tubes. Any complications such as failure of re-expansion, atelectasis, or fluid accumulation compound this impairment of function. This loss is tolerated if the contralateral lung is sufficiently healthy to carry the patient.

Pneumonectomy produces an immediate and permanent loss of function equivalent to the loss of whatever portion of the lung to be removed remains functional. A completely destroyed lung can be safely removed in patients with very low pulmonary reserve since there is almost no immediate or late loss of functional capacity.

Conclusion

The surgical treatment of tuberculosis must be constantly re-evaluated. Under the impact of present-day chemotherapy the course of this disease is constantly changing, and now, when life can usually be prolonged greatly even in advanced cases, it does not seem wise to show undue heroism in attempting procedures with appreciable risk in patients with small pulmonary reserve.

However, the antimicrobials will not completely heal damaged lung tissue, and a negative sputum is by no means a guarantee of future health. Open cavities and unresolved architectural damage present a real danger either from the reactivation of disease or from pulmonary hemorrhage. The selection of the proper surgical procedure can do much to insure a patient not only of a more normal life expectancy, but also an expectancy of a more normal life.

The allergists are looking forward to the hay fever season when business will pick up a little. One of the advances in science was reported recently when it was announced that hay fever can be either positive or negative; sometimes the eyes have it and sometimes the nose.

—*Rant and Rave, Detroit Medical News, June 20, 1955*

Indications for and Results of Cardiac Surgery in Infants

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The present major challenge in the field of congenital cardiovascular malformations is that of helping the desperately ill infant. Because these malformations comprise a major cause of death during infancy at the present time, the need is great. In the past six years at the Buffalo Children's Hospital, 114 patients under the age of two years have been found at autopsy to have severe congenital heart conditions. For technical and diagnostic reasons it is ideal to delay surgery until childhood. However, the high mortality during early life makes it obvious that in order to be of much help, surgery must be done early. A decision as to when to operate is always difficult and must be made after weighing all the facts in each individual case. I believe that an acceptable basic rule should be that surgery is indicated whenever the risk of further delay appears to be greater than the hazard of operating at the early age. In an attempt to establish incontrovertible indications for performing the surgery, it is quite possible to wait too long and thereby lose the patient.

During the past six years at the Children's Hospital, 67 infants under the age of two years have been operated out of desperation. This group comprises 27 per cent of our total cardiac surgery to date. Surgery was never denied when it was thought that there was any chance of helping a severely ill baby. Table I shows a breakdown of the different types of conditions and the over-all surgical mortality.

TABLE I.—OPERATIONS ON PATIENTS UNDER TWO YEARS (CLASSIFIED ACCORDING TO PREOPERATIVE DIAGNOSIS)

	Operations	Surgical Deaths*
Patent ductus arteriosus	21	2
Coarctation of aorta	6	1
Vascular ring	2	1
Tetralogy of Fallot	14	5
Tricuspid atresia	4	4
Atrial septal defect	2	2
Ventricular septal defect	9	8
Complete transposition of great vessels	7	6
Aortic stenosis	2	1
TOTAL	67	30

* Over-all mortality 45%.

TABLE II.—PATENT DUCTUS ARTERIOSUS

	Operations	Deaths
Major abnormality successfully ligated	17	0
Misdiagnosed (not found or present as an insignificant abnormality)	4	2
TOTAL	21	2

Without question a patent ductus arteriosus is the least difficult abnormality to correct at any age. Within the past few years it has been amply demonstrated that this condition may cause death during early life.[1,2] Also it is important to note that a continuous murmur is frequently absent during this period. At the present time we believe that any infant with this condition who is not developing normally or who shows evidence of progressive cardiac enlargement or congestive failure should be operated. Delay may increase the hazard of surgery in such patients.

Table II shows the results of 21 operations undertaken with this preoperative diagnosis. These figures indicate that if an infant has a suspected patent ductus arteriosus as the sole or major abnormality causing distress, effective surgery can be done with a relatively low risk and with excellent reason to expect a cure.

Coarctation of the aorta, particularly when it is complicated by a ventricular septal defect, is a relatively common cause of death from congestive heart failure in the first months of life.[3]

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TABLE III.—Tetralogy of Fallot

Result	Number
Good result	5
Slightly improved	4
Surgical death	5
Total	14

Most infants who have distress from this anomaly can be tided over the trying period until they develop adequate collateral circulation by the use of supportive therapy, in particular digitalis. We believe that failure to respond to digitalis is an indication for early surgery. Surgery was done on six critically ill babies ranging in age from three weeks to seven months. One of these is alive and well with no hypertension three and one-half years after operation. The three-week-old baby died immediately after the anastomosis. The other four infants were not improved by surgery. Two of these died on subsequent hospital admissions; two still survive.

Anomalies of the aortic arch causing constriction of the trachea and esophagus are rare. Their importance lies in that unless treated successfully by surgery, they may cause death, particularly in the early months of life. Successful and lifesaving surgery can be done in the vast majority of cases.[4] Our experience with this condition is negligible in that both infants suspected of having a vascular ring compressing the trachea and the esophagus failed to show evidence of such at surgery. One of these infants died during the operation; the other, three months later at home. Autopsy permission was not granted in either case.

We have had no experience with the surgery of valvular pulmonic stenosis in this age group. However, we are convinced of the need for emergency surgery in this condition, inasmuch as we have seen three infants die: two suddenly and unexpectedly while in the hospital awaiting valvulotomy and one other in whom this diagnosis was not suspected. If an infant with this condition is having respiratory distress or progressive cardiac enlargement, we believe surgery is indicated without delay.

In the case of babies with tetralogy of Fallot, on the other hand, there is commonly a period of adjustment sometime between six and eighteen months during which the infant either dies or spontaneously improves, depending on whether or not an adequate collateral circulation of the lungs develops. Failure to gain, increasing dyspnea, and attacks of syncope increasing in both frequency and severity are the factors which favor the decision to do early surgery rather than the degree of cyanosis. Table III summarizes our results in 14 operations. Good results were obtained in approximately one third of the cases, although most of these infants may require a second operation when they are older.

As regards the rare and much more severe complex, cyanotic malformation of tricuspid atresia with a rudimentary right ventricle and pulmonic stenosis, for which a shunt operation is also of value, our results are much more discouraging. All four of the infants operated on for this condition died either at or shortly after surgery.

Our results with malformations for which there is no established surgery have naturally been poor.

Within the past two years four different operations have been described for the correction of atrial septal defects, and the total reported cases of adults and children successfully operated is over 100. Both of the small infants operated on for this anomaly were found at autopsy to have the much more severe condition of atrioventricularis communis in which there is a common defect involving the upper portion of the ventricular septum as well as the lower portion of the atrial septum. To my knowledge, I have not seen an infant in distress from a simple atrial septal defect.

Ventricular septal defects, on the other hand, do frequently give rise to cardiac failure and death in the first year of life. Our experience with this abnormality has been unrewarding to date. Out of nine patients operated for this condition, there have been eight surgical deaths. In three cases the diagnosis was wrong. In four cases a pulmonic stenosis was created. This is a relatively simple operation advocated by Muller and Dammann[5] in an attempt to benefit these patients by decreasing the head of pressure and the excessive blood flow to the lungs. One of these infants is alive and improved two years after surgery. Two attempts were made to do a direct repair of the defect with the right ventricle laid open under hypothermia. In both of these cases it was impossible to restore normal heart action following this procedure. Within the past twelve months Lillehei and his coworkers[6] in Minnesota have dramatically demonstrated the feasibility of

TABLE IV.—ELECTIVE AND EARLIEST AGES FOR OPERATION IN CONDITIONS FOR WHICH SURGICAL TECHNICS ARE WELL ESTABLISHED

Malformation	Ideal Elective Age for Surgery	Age at Which Surgery Has Been Successful
Patent ductus arteriosus	3 to 10 years	6 weeks—Lam[2]
Coarctation of aorta	10 to 15 years	11 days—Mustard[3]
Vascular ring	Only when symptoms warrant	2 weeks—Riker[8]
Valvular pulmonic stenosis	5 to 10 years	3 weeks—Potts[9]
Tetralogy of Fallot	8 to 12 years	2 weeks—Potts[10]
Tricuspid atresia	8 to 12 years	7 days—Cooley[11]

TABLE V.—ELECTIVE AND EARLIEST AGES OF OPERATION IN CONDITIONS FOR WHICH SURGERY IS IN DEVELOPMENTAL STATE

Malformation	Ideal Elective Age	Age at Which Surgery Has Been Successful
Atrial septal defect	8 to 16 years	?
Ventricular septal defect	Childhood	3 months—Lillehei[12]
Total aberrant pulmonary venous return	Childhood	4 months—Mustard[13]
Complete transposition of great vessels	Childhood	6 months(?)—Blalock
Valvular aortic stenosis	Childhood	3 months(?)—Fell[14]

repairing these defects by open-heart surgery with the use of cross circulation. Efforts to correct this anomaly by using a simple right-sided heart shunt, delivering the blood from both vena cavae into the right pulmonary artery and controlling escape of blood from the ventricular defect during the open ventricular approach, are in progress in our clinic. The cross-circulation technic of Lillehei poses many complex problems involving long-term results of massive cross circulation which remain to be solved before we can use this method freely in our clinic.

The unusual and fascinating anomaly in which all of the pulmonary veins drain into the systemic venous circuit rather than into the left atrium is a direct challenge to the surgeon. If the pulmonary veins can be successfully anastomosed to the left atrium, there is the possibility of restoring normal cardiodynamics. Our experience at the Buffalo Children's Hospital is limited to two children. Both of them have been helped by anastomosis of pulmonary veins to the left atrium. However, five infants with this condition have died without surgery on our wards in the past three years. Hence, we suspect that we will be confronted by this problem in the future.

Complete transposition of the great vessels with the aorta arising from the right ventricle and the pulmonary artery from the left ventricle has been the commonest cause of death from congenital malformations of the heart in our experience. Ninety per cent of the deaths occur within the first year of life. Because of this extremely poor prognosis, I persuaded our surgeons to try to help seven infants. They employed several technics in the effort to get venous blood to the lungs and arterial blood to the aorta. These methods have included the creation of an atrial septal defect, both Potts and Blalock anastomoses, transposition of the superior vena cava to the left atrium, and anastomoses of the pulmonary veins to the right atrium. Of the seven, all but one expired at or shortly after surgery. The surviving one was unimproved and died a few months later.

During the past few years stenosis of the aortic valve has become amenable to surgery, although the operation remains hazardous. In the pediatric age group, aortic stenosis is a congenital anomaly. In some cases the obstruction is below the valve or infundibular. To date, this latter type has not been treated successfully, although a small number of successes in the treatment of the congenital valvular type has been reported.[7] Our experience is limited to two cases. One of these patients was a twenty-two-month-old girl with infundibular or subaortic stenosis who expired on the operating table before the valve could be reached. The other, a six-month-old baby boy, survived surgery and was temporarily improved but died in congestive failure seven weeks later.

Tables IV and V show, for each of the conditions discussed, both the accepted ideal elective age groups for surgery and the earliest age, as far as I am aware, that an effective surgical procedure has been accomplished. It is clear that in each of the anomalies for which an established operation has been developed, it is possible, at least in certain cases, to perform lifesaving surgery. In addition, the same holds true for at least two conditions, the surgery for which is still in the developmental stage, i.e., for both ventricular septal defects and total aberrant pulmonary venous return.

Conclusion

Successful and lifesaving surgery can be done on a small but significant percentage of infants dying of a variety of types of congenital cardiovascular malformations.

Our present feeling is that any infant in distress and suffering from the effects of such a malformation deserves careful consideration and evaluation. If an operable lesion cannot be excluded by the usual history, physical examination, electrocardiogram, x-ray,and fluoroscopy, then the more complicated technics of cardiac catheterization and angiocardiography should be performed without delay before hope is abandoned.

With few exceptions, all of the surgery discussed above was performed by Dr. Joseph Macmanus and Dr. John R. Paine.

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ANNOUNCEMENT

PRIZE ESSAYS

The Lucien Howe Prize and the Merrit H. Cash Prize will be open for competition at the next Annual Convention of the Medical Society of the State of New York, May 7 to 11, 1956, in New York City.

The *Lucien Howe Prize* of $100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The *Merrit H. Cash Prize* of $100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win a prize automatically becomes the property of the Medical Society of the State of New York, "to be published as it may direct."

All essays must be presented not later than *February 1, 1956*, and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

R. Townley Paton, M.D., *Chairman*
Committee on Prize Essays

Staphylococcal Enteritis as a Complication of Antibiotic Therapy

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(From the Department of Medicine, State University of New York College of Medicine at New York City)

THE development of chemotherapeutic and antibiotic agents has wrought profound changes in the management of infections and has improved markedly the prognosis in many infectious diseases. Their use has been attended at times, however, by undesirable reactions of several varieties and of varying degrees of severity. This discussion will be concerned chiefly with one group of such reactions, those caused by drug-resistant staphylococci during prophylaxis or during treatment of infections caused initially by other organisms.

The untoward reactions which follow the administration of antibiotics and of chemotherapeutic agents may be classified in several categories. Like medicines employed for other therapeutic purposes, drugs used in the control of infections may injure by virtue of their inherent toxicity or may engender hypersensitive reactions. In addition, the administration of these agents may be followed by the emergence of an altered bacterial flora giving rise to infection or intoxication differing from that which prompted the initial resort to chemotherapy. This latter complication, peculiar to antibacterial drugs, has come to be known as superinfection and has been recognized as a sequel to the use of many of the antibiotic agents.

Mechanisms of Superinfection

There are several mechanisms whereby superinfection may arise. Among the mixed bacterial population which inhabits the human body are species of organisms which are inherently insusceptible to the action of many of the drugs given commonly to combat infection. The suppression of susceptible bacterial flora by one of these chemotherapeutic agents permits the remaining bacterial species to multiply and, in some instances, to give rise to secondary infection. In analogous fashion selection of drug-resistant mutants from the predominantly sensitive population of a bacterial species which normally inhabits the body may occur during the course of chemotherapy, and the unchecked multiplication of the resistant variants despite continuing treatment may result in superinfection. Finally, it has been recognized with increasing frequency that individuals working in hospitals and handling chemotherapeutic agents may harbor drug-resistant organisms.[1] Contact between hospital personnel and patient provides opportunity for the transfer of resistant organisms from the former to the latter and may initiate secondary infections while the patient is still receiving antibacterial drugs.

Of the several species of bacteria and fungi which have been identified with the phenomenon of superinfection, the staphylococcus has been among the more prominent. This organism is a common inhabitant of the body of man and can be recovered frequently from the skin and from the nose or pharynx. Studies during the past decade have emphasized also that staphylococcus is a not infrequent resident of the bowel[2] and that it can be cultured from the intestinal excreta of a high proportion of individuals if proper bacteriologic technics are employed. The presence of staphylococci in the several sites mentioned provides bacterial populations capable of giving rise to drug-resistant mutants.

Like higher forms of life, bacteria are endowed with genetic structures which control the relative stability of bacterial species through succeeding generations. These genetic units like the genes of other organisms may alter as a result of spontaneous mutation. It is by the process of mutation that an occasional bacterial cell which manifests increased resistance to an antibiotic arises.[3] Although such mutations are infrequent events and may occur less often than once in a million cell divisions, the large numbers attainable by bacterial populations and the short gen-

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eration time of most bacterial cells at body temperature provide conditions permitting the appearance of drug-resistant cells. Mutation of this type does not require prior exposure to an antibiotic, and resistant cells may be present in the bacterial population inhabiting the host when the drug is first administered. Thus, at the outset of treatment the predominantly drug-susceptible bacterial population may be rapidly eliminated, and the few surviving resistant cells may be left to multiply without competition for nutrilites from the susceptible cells which formerly predominated. In this fashion, unless they are checked by the defensive mechanisms of the host, the resistant cells become established and may give rise to symptoms of intoxication or infection.

There is considerable variation in the frequency with which mutation to drug resistance occurs among the species of bacteria that inhabit the body. In certain species genetic change of this type takes place so seldom that drug-resistant variants rarely, if ever, cause difficulty in the control of infection. Unfortunately, such is not the case with staphylococcus. Strains of this organism give rise to mutant cells which may be resistant to each of the known antibiotics, and as a result thereof, therapeutic failures in the treatment of staphylococcal infections with sulfonamides, penicillin, tetracyclines, and erythromycin have occurred. In addition, infection or intoxication caused by staphylococci has followed the administration of these and of other drugs for the control of nonstaphylococcal infections or for preoperative reduction of intestinal flora prior to intestinal surgery.[4–7]

The complications caused by staphylococci may be manifested in several ways. In the treatment of respiratory infections of other than staphylococcal origin, the patient may improve initially only to suffer a recrudescence of signs and symptoms after several days of treatment. If the sputum is re-examined bacteriologically at this time, it may reveal a predominance of staphylococci resistant to the drug currently being employed. In less frequent instances the patient may become more gravely ill, and culture of the blood may demonstrate the presence of staphylococcal bacteremia as well.[6]

Because disturbances of gastrointestinal function during the administration of antibiotics may arise from diverse causes, it is important to consider the various possibilities. Several of these drugs, especially the tetracyclines, have an irritant effect upon the bowel, and the occurrence of nausea, vomiting, and diarrhea has been observed to be related more or less directly to the amount of drug ingested. Effects of this type can be lessened by administering the drug after meals or with milk. A similar result can be achieved with aluminum hydroxide preparations, but their use is undesirable since they interfere significantly with the absorption of drugs of the tetracycline group.[8] The problem of direct irritation of the gastrointestinal tract by tetracyclines has diminished appreciably since reduction of the average daily dose from 4 Gm. to 2 Gm.[9,10]

Indirect effects following the administration of antibiotics result from alteration of the intestinal flora. The elimination of the more susceptible coliform bacteria may be followed by an increase in the numbers of less susceptible organisms such as Pseudomonas pyocyaneus, Proteus, yeasts, and staphylococci. It is the last named organism which is capable of giving rise to the most severe symptoms.

Signs and Symptoms of Staphylococcal Enteritis

Staphylococcal enteritis is fortunately a relatively infrequent complication of antibiotic therapy. It may occur during the course of the medical management of an infection, during preoperative chemoprophylaxis for intestinal surgery, and as a sequel to abdominal operations. The disorder has been reported following the administration of sulfonamides, penicillin, streptomycin, and tetracyclines and may arise during the course of oral or parenteral chemotherapy. The symptoms appear most frequently from the third to sixth day after the initiation of treatment and in some patients may follow the administration of a cathartic.[10] They vary widely in intensity from those of a mild diarrhea to symptoms of such severity that they have been likened to cholera.[11,12] In some patients the syndrome resembles the clinical picture of food poisoning following the ingestion of food contaminated with staphylococcal enterotoxin, but the role of this toxin in the diarrheas associated with chemotherapy, if any, awaits clarification (see Addendum).

The illness is ushered in usually by diarrhea of varying intensity. If the anaerobic flora of the bowel has been suppressed, the stools may be lacking in odor. Diarrhea may be accompanied by nausea, vomiting, abdominal distention, and elevation of temperature. In the more severe cases of enteritis, copious amounts of fluid may be lost into the bowel with resultant dehydration, depletion of electrolytes, and shock. Infrequently these latter symptoms may precede the onset of diarrhea when large amounts of fluid are retained in the lumen of the bowel and not passed by rectum. In the most severely ill the temperature rises to very high levels, and oliguria or anuria accompanies peripheral circulatory collapse. The fulminant form of the disorder is seen more commonly after operations on the bowel, although it occurs occasionally during the course of medical therapy. The mortality is high. In rare instances, as a result of the intense irritation of the intestinal wall, a pseudomembrane composed of fibrin, leukocytes, and bacteria may be formed within its lumen. The expulsion of such a pseudomembranous cast may give the impression that sloughing of the intestinal lining has occurred until the material has been examined microscopically.[13]

Diagnosis

The diagnosis of staphylococcal enteritis is not difficult if its possible occurrence is borne in mind and the proper bacteriologic procedures are carried out. A rapid presumptive diagnosis can frequently be made by microscopic examination of a smear of fecal material which shows a predominance of bacteria morphologically resembling staphylococci when stained by the Gram technic. The organisms can be isolated by cultivation on plain blood agar plates or on blood agar plates containing 0.25 per cent phenylethyl alcohol. The latter medium is especially useful for it inhibits the growth of gram-negative bacteria and the spreading of Proteus. It should be remembered that the usual media employed for the bacteriologic diagnosis of dysenteric disorders are unsuitable, for they contain substances which inhibit the growth of staphylococcus. If the patient appears seriously ill, the blood should be cultured as well. Because pseudomembranous enterocolitis unassociated with staphylococcus may occur also following surgery, especially after operations on the large bowel, bacteriologic study may shed little light on the origin of the disorder in some patients.[12]

Treatment

Treatment of staphylococcal enteritis is concerned with several therapeutic problems which include elimination of the offending organism, restoration of normal intestinal flora, and correction of disturbances of fluid and electrolyte balance. The initial step in therapy is discontinuation of the drug during the administration of which staphylococcal enteritis developed. In the mildly ill this action alone may suffice to permit recovery. If the patient is acutely ill, one or more agents to which the staphylococcus is sensitive should be substituted for the drug provoking the reaction. There is a number of chemotherapeutic substances of potential value: penicillin, bacitracin, erythromycin, and chloramphenicol. Because staphylococcus may develop resistance to each of these drugs, with the possible exception of bacitracin, the selection of the drug to be used is often beset with difficulty. Studies of large numbers of strains of staphylococcus isolated from normal and infected humans have shown that the proportion of strains resistant to a given drug varies directly with the extent to which the latter has been used in the practice of medicine.[14] Thus a significant percentage of staphylococci are resistant to penicillin and to tetracyclines, whereas fewer strains are resistant to chloramphenicol which has been used less widely in recent years.

Susceptibility of staphylococcus to erythromycin following introduction of this drug led to the hope that it would prove useful in the management of infections caused by strains resistant to other antibiotics, but wherever it has been dispensed widely, erythromycin-resistant staphylococci have emerged. The recoveries of erythromycin-resistant organisms from the respiratory tract of hospital personnel, from the bowel of individuals who have not taken the drug, and from a fatal case of enteritis treated with erythromycin all point to the potential hazard of relying upon this drug alone in the treatment of staphylococcal infection.[7]

Because of the variability in susceptibility of staphylococci to the several antibiotic agents, it is of paramount importance in all serious staphylococcal infections that the organism be isolated and its sensitivity to drugs be determined in the laboratory with all possible speed. Until the results of such tests are available, orally administered bacitracin offers the most promise in controlling staphylococcal disorders of the bowel. Evidence for the occurrence of staphylococci with significant resistance to bacitracin either in vitro or in vivo is still lacking, although with wider use in man, the emergence of resistance must be considered possible. The drug is bactericidal, and in adults in doses of 120,000 units (3 Gm.) per day it is not absorbed in significant amounts from the intestinal tract. Parenteral administration is not without hazard in the dehydrated or oliguric patient because the drug is capable of causing renal injury in a high percentage of patients. If vomiting renders oral administration difficult, the drug may be given alone or with 3 Gm. of neomycin a day through a stomach tube. If intestinal suction is being employed, the tube should be clamped for several hours following introduction of the medication.

The inclusion of neomycin, another bactericidal drug poorly absorbed from the gastrointestinal tract, will minimize the likelihood of emergence of staphylococci resistant either to neomycin or to bacitracin. Against this advantage must be weighed the inhibition by neomycin of coliform organisms and its potential effect in delaying the return of normal intestinal flora. Neomycin should not be given parenterally to patients with staphylococcal enteritis since this drug causes deafness and renal injury in a high proportion of individuals to whom it is administered. When toxemia is pronounced and vomiting severe, parenteral therapy may be necessary.

The combination of erythromycin and chloramphenicol may be beneficial, especially when these drugs have been used sparingly in the population in which the infection has occurred. If the organism proves sensitive to penicillin, this agent may be given intravenously in amounts as large as 20,000,000 units a day. In parenteral therapy it is desirable to administer simultaneously two drugs to which the staphylococcus has been shown to be sensitive by tests in the laboratory. If resistance to one of two drugs employed develops, persistence of sensitivity to the second chemotherapeutic agent still will permit the elimination of the altered cell. The probability that a bacterial cell will undergo simultaneous mutation to resistance to both drugs being administered is the product of the probabilities of mutation to resistance to each drug alone and, therefore, very small.

In order for this device for preventing the emergence of resistance to operate, it is essential that the organism be sensitive to both drugs at the outset of therapy and that the two chemotherapeutic agents employed have separate modes of action. The simultaneous administration of two sulfonamides, of two tetracyclines, or of erythromycin and carbomycin will not prevent the emergence of resistance.

Of importance equal to chemotherapy is restoration of fluid and electrolyte balance in the seriously ill patient. Large amounts of water and salts may be lost through the intestinal wall and require parenteral replacement. Special attention should be paid to potassium, of which the body may be significantly depleted. If the patient is in shock, the use of plasma and l-arterenol (Levophed) may be necessary.

Prevention

To prevent the development of staphylococcal enteritis, several measures merit consideration. In the preoperative preparation of the bowel for surgery, the use of nonabsorbable staphylococcidal drugs should lead to the elimination of this complication. The combination of neomycin and bacitracin has been shown highly efficacious, and at present it appears to be the one of choice.[15] If other drugs are used for prophylaxis, culture of the stool should be performed immediately prior to operation, and if staphylococci are present, chemotherapy should be altered.[16] It should be noted also that pseudomembranous enterocolitis may occur in the absence of staphylococci following abdominal surgery, and treatment is essentially symptomatic. In addition to these measures the wider use of precautionary technics of isolation in hospitals where personnel are known to harbor drug-resistant staphylococci merits consideration. Of greater importance is avoidance of the indiscriminate use of antibiotics for the treatment of trivial infections or of infections of viral origin for which they are completely inefficacious.

Summary

The incidence of serious staphylococcal infections caused by drug-resistant organisms is increasing, and such infections pose most difficult problems in therapy. The antibiotic drugs have proved invaluable aids in the practice of medicine and should not be withheld from those who are in need of them. It is only by their discriminating use, however, that maximum benefit will result and that complications of the type described may be largely avoided.

Addendum

Since this article was submitted for publication, the production of enterotoxin by 30 of 33 strains of staphylococci isolated from patients with enteritis following treatment with antibiotics has been reported.[17]

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ANNOUNCEMENT

SCIENTIFIC EXHIBITS

1956 ANNUAL CONVENTION
MEDICAL SOCIETY OF THE STATE OF NEW YORK

Applications for space for the scientific exhibits should be made directly to the Chairman of the Subcommittee on Scientific Exhibits of the Convention Committee:

William L. Watson, M.D.
340 East 72nd Street
New York 21, New York

The Annual Convention will be held May 7 to 11, 1956, at the Hotel Statler, New York City.

No applications can be considered after January 1, 1956.

There will be two groups of awards:

Group I: Awards in Group I are made for exhibits of individual investigation, which are judged on the basis of originality and excellence of presentation.

Group II: Awards in Group II are made for exhibits which do not exemplify purely experimental studies and which are judged on the basis of presentation and correlation of facts.

W. P. Anderton, M.D., *Secretary*
Medical Society of the State of New York

Brain Surgery in Mental Illness

JUAN NEGRIN, JR., M.D., NEW YORK CITY

(*From the Department of Neurosurgery, Kings Park State Hospital, and the Neurosurgical Services of Lenox Hill Hospital and Bellevue (Second Cornell Division) Hospital*)

THAT part of neurologic surgery which treats mental illness by way of operations upon the brain hemispheres is known as *psychosurgery*. This term was introduced by Egas Moniz when he reported in 1935 on a bilateral operation on the frontal lobes for the treatment of mental disorders. Surgery on the other lobes of the cerebral hemispheres has been done, but the methods for the frontal areas have been more widely used and evaluated in greater detail.

Since the original work by Moniz, many authors have contributed valuable clinical observations and technical improvements. In 1937 Fiamberti used a transorbital approach, modified years later in the United States by Freeman and Watts. Lyerle published an "open method" in 1947, made popular later by Poppen. Pool and associates reported on the topectomy in 1948. About the same time Scoville presented his results with partial, more selective lobotomies. Spiegel and Wycis of Philadelphia and David and Puech of Paris demonstrated their stereoencephalotomy in 1949. Cingulate gyrectomy has been introduced more recently in the field of psychosurgery by K. Livingston.

Anatomophysiologic Principles

The above psychosurgical technics do not treat the etiologic factors of mental illness, which are still unknown to us, but they offer symptomatic relief.

Numerous recent attempts have been made to correlate functional localizations and frontal lobotomy procedures, notably by Fulton. The precentral motor cortex, the orbital surfaces in subhuman primates and in man, have rendered valuable information. Behavioral studies of lobotomy in animals and man have gone a long way toward improving our understanding of some of the functional anatomy of the cerebral cortex and have aided our attempts to place emotional mechanisms on a structural basis. This study should give the psychiatrist and the neurosurgeon greater comfort and confidence in pursuing and perfecting psychosurgical technics. In the opinion of Fulton and others, surgical intervention in psychosis has proved an efficacious tool and need not be used empirically. Their work on frontal lobotomy and affective behavior directed toward establishing a neurophysiologic basis is certainly gratifying and stimulating.

All the psychosurgical methods have the same physiopathologic bases. In mental illness we believe that the perception and impact of ideational stimuli and sensations are changed into an abnormal pattern because of a pathologic interaction between the different cell groups and their connections. The anatomic substratum of this mechanism is formed by a large receptive nucleus, the thalamus, which can be considered the organ of affective experience. From this organ there are afferent and efferent projection pathways to and around cells of the frontal lobes. There are also multiple efferent and afferent connecting circuits between various cell groups, individual cells, and their expansions. By interruption of these association circuits between the cell groups and/or those connecting the cell groups with the thalamus we hope to arrest all disrupting thoughts and abnormal behavior.

There is enough evidence to indicate that this outlined mechanism is further complicated by the effect on behavior, emotions, and mental syndromes of other systems, such as those directly related to the "homeostasis" of Cannon (autonomic hypothalamic representations, etc.), and perhaps also of integrating intrinsic systems of the central nervous tissues such as the reticular system.

Against our very appealing theories is the fact that, frequently, after surgery many psychotics still remain with hallucinations, paranoid ideas, and obsessive thinking, but somehow their charge and force is lost or the resistance of the patient to their effect has increased.

Surgical Technics

FRONTAL LEUCOTOMY.—By way of frontal

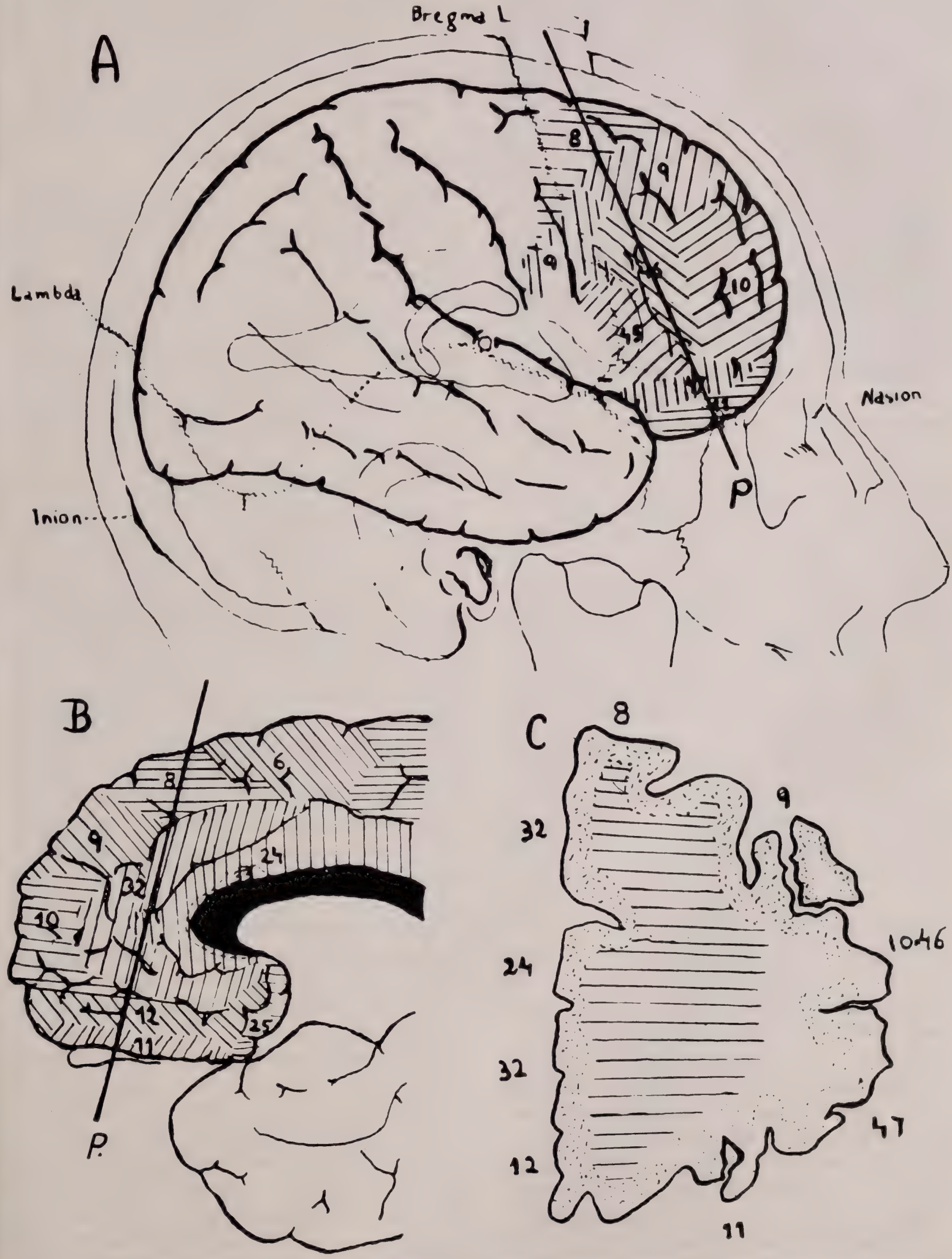
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FIG. 1. Schematic outline of frontal leucotomy. (*A*) Lateral view of the skull. Topographic relationship of plane of incision (*P*) in frontal leucotomy with the skull coronal suture and lateral ventricles on superimposed Broadman's cytoarchitectonic map. (*B*) Median surface of frontal lobe. Broadman's cytoarchitectonic map with plane of incision (*P*) in frontal leucotomies. (*C*) Coronal section through the right frontal lobe at the level of plane of incision (*P*) of diagrams (*A*) and (*B*). Shaded area is the one affected by the standard frontal leucotomy. Broadman areas are noted.

leucotomy the pathways of the white matter of the frontal lobe are severed. In this manner not only the efferent and afferent projections of the dorsomedial and anterior nucleus of the thalamus are interrupted, but also other pathways connecting the frontal lobe with the basal ganglia, hypothalamus, etc., are modified. Perhaps this is the reason for the appearance of memory defects, disorientation, diminution of initiative, slowness in response, mental sluggishness, lack of discipline, distractability, outbursts of temper, and childish behavior which sometimes follow extensive leucotomies.

In order to avoid these undesirable aftereffects *selective undercuttings* have been instituted to section only thalamic connections with certain portions of the frontal lobe cortex. It is recommended that both the superior convexity and the orbital surface be sectioned in schizophrenia, and orbital undercuttings are advised for certain types of drug addiction and intractable pain.

Leucotomies, selective or the more radical variations, are the most widely used psychosurgical methods and, therefore, better evaluated. The surgical technic is schematically outlined in Fig. 1. This procedure is done under local or general anesthesia. Local anesthesia, when possible, permits the collection of interesting verbal material in productive patients as each frontal lobe is gradually sectioned. The anatomoclinical correlation of the data collected may give additional information on mental function and integration when properly assembled and studied. When local anesthesia is used, it is possible to interrupt the leucotomy at a certain stage when the patient begins to show a stuporous state, thereby avoiding a too radical or extensive section, since very often there is no exact correlation between the degree of stupor and postoperative sequelae and the extent of leucotomy.

Topectomy.—Topectomy consists of the removal of a block of frontal lobe cortex which is smaller than the frontal cortex disconnected from the thalamus in the standard radical leucotomy. Originally it was recommended to remove areas 9 and 10. It was later found that the amount of brain removed was, to a certain degree, proportional to the therapeutic effect desired. In severe psychotics 30 to 35 Gm. are removed from each side. In compulsive obsessive states 20 to 25 Gm. and for intractable pain 15 to 20 Gm. are extirpated. The electroencephalograms are abnormal in topectomies from four to six weeks and may remain abnormal for a longer period of time in those who are going to develop seizures. Seizures develop in 10 to 12 per cent of lobotomies and in 14 per cent of the patients operated for topectomies.

Indications and Results

The mental patients in whom psychosurgery is indicated belong to three big groups: (1) schizophrenia, (2) affective disorders, and (3) psychoneurosis. It is, therefore, of primary importance to make an exact psychiatric diagnosis. Thereafter, the indicated medical treatment or therapies of choice should be intensively administered including the use of psychoanalysis, psychotherapy, electrotherapy (shock and stimulation or sleep therapy), and the combination of insulin therapy and electrotherapy.

There are no general rules as to the proper time for surgical treatment, and each case must be judged individually. In most cases when twelve months have elapsed without improvement with systematic medical treatment, the patient is given the benefit of psychosurgery.

The specific indications for a particular psychosurgical technic are not yet clearly defined, and there is no correlation between any mental syndrome or symptom and a specific type of operation. Patients suffering from tension, obsessive compulsions, or phobias are most benefited by brain surgery. Hallucinations and delusions are also influenced when accompanied by tension syndromes. Aggressive, destructive patients do better, in general, with the classic lobotomy than with the topectomy or selective undercutting. Apathetic, withdrawn states seldom benefit by the operation. From the point of view of personality deficit the more extensive operations produce the more severe changes in schizophrenics.

In the final analysis, however, a restricted lobotomy by section or by thermocoagulation of the medial ventral quadrant, which interrupts projections from the orbital surface, as recommended by Grantham, is in general a good surgical approach and designed to give the least intellectual deficit or side-effects for the severe schizophrenics as well as for the obsessive-compulsive states.

The results from psychosurgery can be most dramatic because of the favorable change in the patient's clinical condition, but unfortunately the results to be attained are unpredictable.

Approximately a third of the chronically ill patients show marked improvement and are returned to their homes, and many go back to their previous or other occupations. One third show marked improvement in their adjustment to hospital environment, and another third are unimproved.

Cerebral Intracranial Electroshock Therapy

As we just mentioned above, to treat mental illness we have a number of medical procedures such as analysis, psychotherapy, convulsive and nonconvulsive electrotherapy, and pharmacologic shock. Individuals suffering from mental illness who are not suitable candidates for psychoanalysis or psychotherapy, or have not benefited from them, or even those whose condition may have been aggravated by the above may have recourse to shock therapy, pharmacologic or electric, or both combined. Where these therapies fail, psychosurgery may be recommended as the last resort.

Electroshock is one of the most frequently used methods of therapy. Although it has been a most effectual therapeutic weapon, failures are numerous, and modifications have been tried in order to make it more effectual. Attempts have been made to direct the electric current toward specific brain regions by varying the size and shape of the electrodes, by changing the material from which the electrodes are made, by using different types of electric current, and by shifting the site of the application. A method to treat mental illness, proposed by us some time ago, is neither as simple in its application as the actual electric shock therapy nor as radical in its irreversibility as psychosurgery. This technic is designed to administer electrotherapy to the patient by sending an electric current directly to the brain cortex through intracranially placed electrodes.

METHOD.—Before 1947 several types of electrodes were used for experimental studies. In 1947 an electrode made to our specifications with the cooperation of Medcraft Electronic Corporation permitted the application of electric current to the brain cortex and other cerebral structures in patients. The electrodes are placed intradurally to the selected cortical or parenchymal brain areas through trephines or small burr hole openings (Fig. 2). They are kept in place for the duration of the treatment by a dry dressing and reinforced by a head plaster cast should the patient's condition and cooperation advise it. The wires of the electrodes are properly protected outside of the bandage, cast, or other device to be connected to the source of the electric current. When our studies were started, it was planned to evaluate the intracranial effect of all types of electric current given in "external" electroshock. Up to now we have experience with the Cerletti-Bini 60-cycle sine wave. We have also used the stimulation and convulsive, nonconvulsive and stimulation technics with the Reiter CW 46 machine, following closely the recommendations of Alexander for the "external" application. The electrodes have been left in place over fourteen weeks in one instance without complications. Originally, when an adequate number of treatments had been given, the wound was reopened and the electrodes removed. For some time we have been able to place our electrodes by way of a steriotaxic instrument and withdraw them without the need for reoperation. Platinum or silver, properly insulated, is the most suitable material for the electrodes.

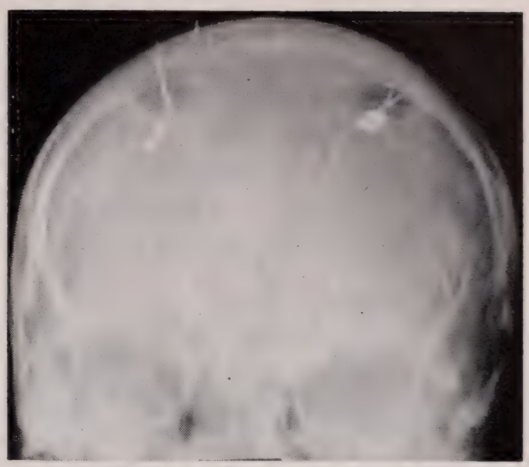

FIG. 2. Electrode placement in a case for treatment with selected direct cerebral intracranial electroshock therapy.

INDICATIONS AND RESULTS.—So far, the intracranial electroshock has been used only in patients whose mental syndrome failed to respond to electroshock alone or combined with insulin shock. We have also observed improvements in cases where psychosurgery was unsuccessful and in problems of intractable pain. The results have been encouraging enough to introduce this method to the profession as another technic worthy of use in psychiatric and related problems.

Comment

The use of a method which requires preliminary surgery, no matter how innocuous, is bound to mobilize the judicious caution of the profession against its general use.

Recent preliminary reports in the medical literature indicate that other investigators with individual variations in technic are using electric current directly to the brain for therapeutic purposes. Active in this field are the groups of Delgado and colleagues, Heath, Bickford, and Pool and associates.

The above confirmatory observations and their acceptance as a subject of study by others, as well as more recent unpublished results and improvements of technic, seem to indicate that this approach is here to remain as a routine procedure in the treatment of mental illness and intractable pain.

Until much more data are available, the patients suitable for this type of treatment will have to come from the chronic schizophrenias, the obsessive-compulsive group, the nonresponsive "chronic alcoholics," and cases of intractable pain.

If one knew specifically how psychosurgery or electric shock produces beneficial results, one could present a convincing argument for or against the use of our method which combines the effect of shock, in that brain areas are electrically "stimulated," and the result, without irreversible anatomic changes in our method, of the leucotomies, topectomies, etc. However, since no conclusive neurophysiologic explanation of the intimate mechanism of the effects of shock or surgery in psychiatry has yet been formulated, one cannot weigh our technic against the other methods except by a statistical study of results. For this purpose the data in a large series of cases are required, and it is to be hoped they will be forthcoming with time.

Besides its therapeutic importance this method opens new fields of investigation which may improve our knowledge of the central nervous system physiology and the etiology of mental illness.

Summary

The operations on the brain hemispheres to treat mental illness and the indications and results of psychosurgery are briefly discussed.

A procedure which allows direct action of different kinds of "electric current" on specific cortical and/or parenchymal brain areas for therapeutic purposes are outlined.

1010 Fifth Avenue

Note: For more detailed information and references, the following books are recommended to the reader:

1. Kalinowsky, L. J., and Hoch, P. M.: Shock Treatments, Psychosurgery and Other Somatic Treatments in Psychiatry, Philadelphia, W. B. Saunders Co., 1953.

2. Alexander, L.: Treatment of Mental Disorder, New York, Grune & Stratton, 1952.

New Pamphlet Series in Sex Education

A series of five new pamphlets covering all aspects of sex education has been prepared and is now being distributed by the National Education Association and the A.M.A. Bureau of Health Education.

The pamphlets, selling for 50 cents each or $2.25 a set with discounts applying to quantities, were prepared by Marion O. Lerrigo, Ph.D., and Helen Southard, M.A., both of New York City, with Milton J. E. Senn, M.D., New Haven, Connecticut, serving as medical consultant.

Titles of the new series and the period each covers follow: "Parents' Privilege," for parents of young children of preschool and early school age; "A Story About You," for children in grades 4, 5, and 6; "Finding Yourself," for boys and girls of approximately junior high school age, "Learning About Love," for young people of both sexes, about sixteen to twenty years of age; "Facts Aren't Enough," for adults who have any responsibility for children or youth that may create a need for an understanding of sex education.

Orders for one or more of the pamphlets may be sent to Mrs. Louise Goldman, Bureau of Health Education, American Medical Association, 535 North Dearborn St., Chicago 10, Illinois.—*A.M.A. Secretary's Letter, July 11, 1955*

Scapulocostal Syndrome

Its Mechanism and Diagnosis

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About five years ago we introduced the term "scapulocostal syndrome" (postural fatigue paradox) in an effort to explain the phenomenon of shoulder involvement with various pain patterns in 50 per cent of all middle-aged individuals presenting shoulder complaints, either traumatic or nontraumatic.[1] It was not our intention to add another diagnosis to an already overcrowded nomenclature but rather to pool many of those now existing under a common name, identifying a condition in which there are present an underlying phenomenon and a pathologic state, and to offer a rational approach to therapy. We may say then that "scapulocostal syndrome" is a term embracing a number of typical bizarre pain patterns about the neck, shoulder girdle, arm, and chest, including unilateral neck and head pain, pain diffusely referred to the deltoid muscle, pain down the arm into the fingers, and anterior chest radiation (Fig. 1).

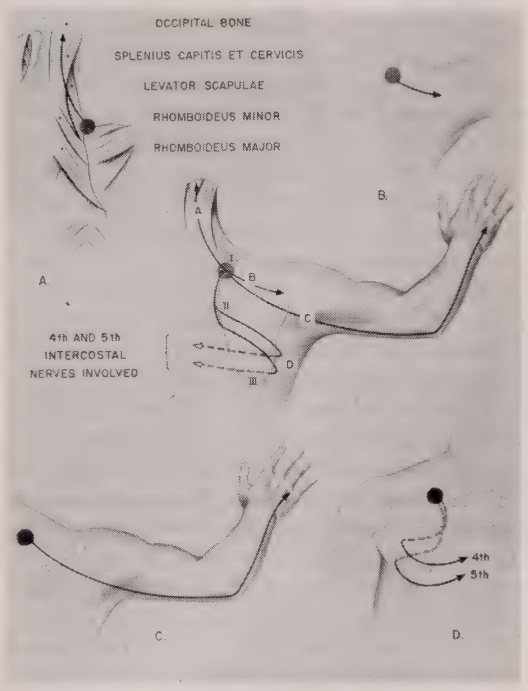

FIG. 1. Main pain patterns found in scapulocostal syndrome.

The etiologic factor in the presence of pressure at the cervicobrachial junction, producing neurovascular disturbances of the shoulder, arm, and hand, has been explained by various authors as due to cervical ribs, rudimentary fibrous bands of the first dorsal rib which joins the second rib; asymmetric first dorsal ribs with associated cervicodorsal scoliosis; claviculocostal pressure; post-fixed plexus; scalene musculature, and a host of other theories.

The pathomechanogenesis of neurovascular disturbances has remained a challenge to investigators because of the failure to appreciate the normal anatomic relationship versus the posturally contracted pre- and postvertebral fascia and the brachial plexus and associated vessels.

Fascial Structures

An understanding of the normal and disturbed anatomic states of the neck, shoulder, and arm discloses the presence of a common denominator, the deep fascia (fascia profunda).

The fascia superficialis underlies the skin of the entire body.[2] It forms a continuous sheath of areolar tissue, often referred to as the panniculus adiposus and bringing to mind the effect of thick, warm underwear. The fascia profunda is a bluish-white, fibrous membrane, containing only occasional fat and surrounding the muscle groups or individual muscles like a rubber stocking or bandage, although it is not so elastic. This fascial layer tends to fuse with the periosteum of bony protuberances such as the linea nuchae superior, linea temporalis superior, arcus zygomaticus, margo inferior mandibulae, claviculae, spinae scapulae, sternum, processi spinae of the vertebrae of the trunk, and the protuberances

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Presented at the Section on Orthopedic Surgery with the Philadelphia Orthopaedic Club, New York Academy of Medicine, November 22, 1954.

about the joints of the extremities. The fascia profunda also forms a sheath for the great nerves and vessels.

Fascia plays a very important role in the mechanical functions of the body. It changes considerably in thickness and density depending on the area or region it occupies, and it is because of these changes that one encounters difficulties in dissecting.

Grant[3] states that the pre- and postvertebral fascia covers the prevertebral muscles and is continuous with the deep fascia forming the carpet for the posterior triangle of the neck. The roots of the cervical and brachial plexuses emerge from the vertebral column deep to the fascia. The branches of the second, third, and fourth anterior rami to the accessory nerve, from the first rami to the hypoglossi nerves, must pierce the fascia; so must all cutaneous branches, namely, the lesser occipital, greater auricular, the anterior cutaneous colli, and supraclavicular nerves. Gray rami communicates twigs passing from the sympathetic ganglia to the roots of the plexuses pierce the prevertebral fascia.

The floor of the triangle of the neck is formed by several muscles whose fibers run downward and backward, and of these, the levator scapulae muscle occupies a somewhat central position. The splenius capitis is parallel with the levator scapulae above; below are the parallel three scaleni muscles. This muscular floor is carpeted with a strong layer of fascia. The cervical nerves leaving the intervertebral foramina and the subclavian vessels leaving the thorax are at first deep to this carpet, which covers the subclavian vessels and the cervical part of the brachial plexus, providing them with a tubular sheath distally as they enter the axilla (Fig. 2).

At one site the deep fascia of the neck is fixed to the anterior aspects of the bodies of the cervical vertebrae and, with the middle and superficial (preinvesting) fascial layers is attached to the clavicle. It dips underneath the clavicle into the pectoral fascia and the coracoclavicular ligament into the muscle septa of the deltoid on to its attachment into the arm. Posteriorly it is fixed to the loosely placed ligamentum nuchae and firmly attached to the spinous process of the seventh cervical vertebra.

I am sure that an understanding of the pathomechanogenesis of the "carpet drag" action of the scapula will explain our choice of the name "scapulocostal syndrome" to identify the referred pain mechanism along the side of the neck with unilateral headache, pain into the shoulder joint and down the arm into the fingers, or radiation into the anterior aspect of the chest.

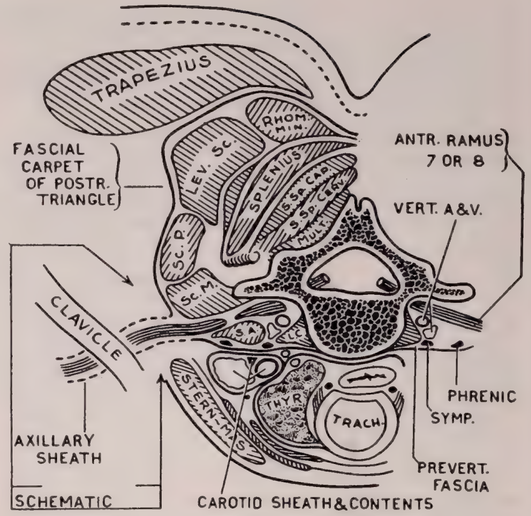

FIG. 2. Transverse section of the neck showing the pre- and postvertebral fasciae prolonged into the axilla as a tubular covering (axillary sheath) for the brachial plexus and subclavian vessels. (*Fig. 665 from Grant, "Method of Anatomy,"*[3] *courtesy of Williams & Wilkins Co.*)

Precipitating Factors

The precipitating causal mechanism in the scapulocostal syndrome is usually one of pressure, friction, stretch, or irritation of the anterior primary nerves of the cervical and brachial plexuses and the peripheral posterior primary twig endings located in and around the cervical spine. The role of the first digitation of the serratus anterior, which extends from the upper pole of the scapula on to the first two ribs with the neurovascular bundle traversing above, and the omohyoideus should be considered in relation to the deep fascia. It must be borne in mind that symptoms occur as the result of implication of nerve structures in and around the bony regions of the neck and in the ligaments, muscles, or fascial sheaths surrounding the cervical spine. It is obvious that nerves which have no occasion to pierce the fascial carpet cannot be influenced by the carpet (Fig. 3).

In cases where myofascitis has occurred, an increased number of fibrotic bands or septa may extend between the fascial sheath and the muscle and may be associated with pain, stiffness, and varying degrees of shoulder disability.

Pain Sensibility of Tissues and Structures

The tissues and structures concerned are those about the neck and shoulder which contain pain-receptive mechanisms immediately responsive to noxious stimuli.

The skin throughout its entirety is pain sensitive so that disturbance of its structure by an injurious stimulus evokes pain. In the subcutaneous tissue nerve endings are scarce, and its sensitivity to pain is much less than that of the skin. The deep fascia is highly pain sensitive, and passage of a needle causes moderately severe pain.

Skeletal muscles are sensitive to certain noxious stimuli. Passage of a needle or cutting with a scalpel causes little or no pain, while injection of hypertonic saline, stretching, ischemia, or unduly forceful or sustained contractile activity results in severe pain. The intense pain in intermittent claudication, peripheral vascular disease, and angina pectoris doubtless is caused by ischemia of the muscles involved. Neck aches, myalgias, and certain types of headaches probably are due to prolonged contraction of the muscles concerned. The tendons of muscles are sensitive to noxious stimuli so that passage of a needle, cutting with a knife, injection of hypertonic saline, or squeezing results in a painful syndrome.

The periosteum is very sensitive; contact with the point of a needle, scraping with a periosteal elevator, or stimulation of any kind results in a moderately sharp pain. The cancellous portion of bone also is pain sensitive, while the cortex and marrow are not. All the structures of joints, including ligaments, articular capsules, and synoviae, except the articular cartilage, are pain sensitive so that scraping, needling, or injection of hypertonic saline results in discomfort and even pain.

Blood vessels in general are pain sensitive. Puncture of arteries usually results in diffuse, dull pain. Distortion of cranial vessels by pulling, displacement, or distention has been found to be one of the main causes of headache.

Pain Factors in Scapulocostal Syndrome

Fascial pain always displays the same characteristics[4] regardless of whether pressure, tension, heat, or the injection of a hypertonic saline solution is employed. The area of localization of fascial pain is usually at the site of tension or "drag" of the deep fascial layers, especially at myofascial attachment of bone. Wherever fascial fixations, which are at the sites of tacking of the carpet, are present, they may represent secondary points of contratension to the primary source, that is, the movable superior medial angle of the scapula. In the shoulder the deep fascial tension invariably is associated with the ensheathed muscular element attached to bone and to the tendinous origin of muscle and periosteum, particularly through reflex nerve action. Ligamentous structures connected with this fascial tension are instigators of localized pain and often extensive, diffuse referred pain mechanisms.

When myofascial junctions are stimulated by hypertonic saline or a tension is created by their osseous attachment, pain may be referred to the joint which the muscle crosses. There may be simple local pain manifestation with muscle spasm, hyperalgesia, hyperesthesia, and other neuromuscular disturbances, often not too clear and transient in type. Pain is centered in and about the primary connective tissue lesion. Referred pain phenomena and associated sympathetic dysfunction may be met with in the more active excitant areas, such as the muscles and joints involved.

Palpation of the scalenus anticus muscle for tenderness discloses the approximate site of tacking of the fascial carpet anteriorly. We can hardly believe that any true spasm of this muscle occurs since it is mainly a suspensory tendon. When cut by surgery, the first rib drops; the gap often is great, not due to retraction of a spastic muscle but to a fall of the thoracic cage.

The spinous process of the seventh cervical vertebra is one of the vulnerable tacking points and a site of well-localized tenderness. It is a troublesome spot in osteoarthritis when grating may be present.

Tension Points and Tension Tests

In determining the so-called "trigger-point" or tension point in the scapulocostal syndrome, we must keep in mind the carpet drag of the deep cervical fascia. Placing of the hand of the affected extremity on the opposite shoulder should bring about tension at the movable portions of the deep fascial carpet of the neck. Firm digital pressure at this point is capable of producing a sharp, wincing pain; furthermore, the same mechanism of increased fascial tension and/or fasciitis of the myofascial attachment at the superior medial angle is influenced by pronation or sagging position of the shoulder in conjunction with internal rotation of the arm and backward flexion. In this maneuver the carpet is placed in a position of maximum tension, particularly when the head is tilted laterally to the opposite side (Adson test). At this time mere pressure against the superior medial scapular angle suffices to provoke pain at the site of contact of the superior medial angle of the scapula with the posterior chest wall. It is further noted that at this point of increased tension, internal rotation and backward flexion of the arm produces obliteration of the radial pulse when the position of backward flexion is less than 45 degrees. We have not considered the nature of partial obstruction of the subclavian artery to be on the basis of neuroreflex closure but rather to be due to a mechanical tension of the post- and prevertebral fascia ensheathing the brachial plexus and the vessels which are placed under anchorage and tension of the movable or scapular portion of the fascial carpet.

Another test for fascial tension is as follows: When standing erect with an upper member in extreme internal rotation, lifting a heavy object placed at arm's length provokes pain by creating tension on the fascia profunda. Lifting the same object with the arm in complete external rotation relieves the tension.

We have noted that following surgical procedures in which resection of the superior medial angle has been performed for refractory cases of scapulocostal syndrome, release of the fascia at the point of anchorage obviates compression through fascial tension at the subclavian artery and pull on the components of the brachial plexus. We have not been convinced that the scalenus anterior muscle or the abutment approximation of the clavicle against the first rib can produce obliteration of the subclavian artery. Although diminution or obliteration of the pulse may be present reflexly and asymptomaticin normal subjects, it is invariably a finding in individuals with posturally contracted, vulnerable deep fascia.

The early scapulocostal syndrome is a warning signal of things to come which, unless corrective measures are taken, will lead to permanent degenerative changes. As virility wanes, and particularly during the fourth and fifth decades of life, mental obtundancy sets in, muscle tone diminishes, evidence of connective tissue changes arises, and secondary postural pathologies have their onset. In time many neurophysiologic readjustments take place, such as are seen in arthritis, tuberculosis, the neurasthenias, heart disease, and other chronic debilitating diseases. All result in reflex fatigue, reflex imbalance, and degenerative changes in the somesthetic systems (dorsolateral columns), the spinal effector mechanism, and many other systems involved in locomotion of the head, neck, and shoulder girdle, particularly in the righting reflexes and coordination.

Tension on the fascial carpet is influenced by the most mobile portion, the myofascial attachment of the superior medial angle of the scapula. Abnormal postural pull or strain, commonly referred to as "drag," produces, figuratively speaking, a wrinkling effect of the thickened, tense carpet. Faulty postural changes with round-shoulderedness, pronation of the upper extremities, and drooping of the shoulder girdles are basic causative agents inducing eventual attritional degenerative changes in the shoulder. As the attritional factors increase, greater stiffness and fixation of the shoulder occur, producing an adhesive capsulitis of the shoulder and, last, when associated with a sympathetic upset, the shoulder-hand syndrome.

Particularly vulnerable are individuals whose occupations entail or encourage faulty posture.[5] Dentists, for instance, who must work in a bent-over position with the arm abducted for long periods of time, thus producing a constant drag on the deep fascial carpet; draftsmen and machine operators, who also work in abnormal attitudes; typists, seamstresses, bookeepers, etc., who work in a seated position with the lumbar spine place in reversed lordosis and the head pitched forward; all these are good candidates for the painful scapulocostal syndrome and usually present anterior sagging of the shoulders with drooped position and exaggerated rotundum.

"*Angle M*"

A profile view of the vertebral border of the scapula presents an "Angle M" formed by the superior medial angle of the scapula and the vertebral border of the body of the scapula with the apex at the level of the spine of the scapula. In the gorilla "Angle M" is practically straight.

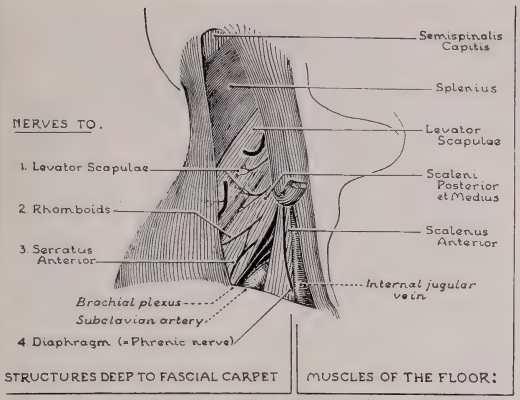
Semispinalis Capitis
Splenius
NERVES TO.
Levator Scapulae
1. Levator Scapulae
Scaleni Posterior et Medius
2. Rhomboids
Scalenus Anterior
3. Serratus Anterior
Internal jugular vein
Brachial plexus
Subclavian artery
4. Diaphragm (= Phrenic nerve)
STRUCTURES DEEP TO FASCIAL CARPET
MUSCLES OF THE FLOOR:

FIG. 3. The floor of the posterior triangle and the nerves that have no occasion to pierce its fascial carpet. (*Fig. 666 from Grant, "Method of Anatomy,"*[3] *courtesy of Williams & Wilkins Co.*)

In man, however, when this angle is found to be less than 135 degrees, it indicates a greater vulnerability because of the "bale-hook" formation of the superior medial angle attachments in relation to the deep fascia of the neck and the thoracic cage (Figs. 4 and 5).

Clinical Findings in Scapulocostal Syndrome

1. Exaggerated postural disturbances, anterior sagging of the shoulders with pronation of the arms (Fig. 6).
2. Tension points:
   (*a*) At the superior medial angle of the scapula in its conjunction with the posterior chest wall. This site may be reached directly posteriorly or by palpation underneath the descending fibers of the trapezius.
   (*b*) Tip of the seventh cervical spinous process, posterior base of the skull, anterior cervical vertebral area just anterior to the scalene mass.
3. "Angle M" less than 135 degrees.
4. Rapid pulse obliteration. In vulnerable types internal rotation and backward flexion beyond 135 degrees produces pulse obliteration. If sustained for any period of time, the paresthesias appear somewhat exaggerated.
5. Adson test is positive in moderate or advanced scapulocostal stages and can be considered an index of deep fascial contracture.
6. Traction test is positive when full length elevation is carried out in internal rotation and negative when the arm is held at full external rotation.

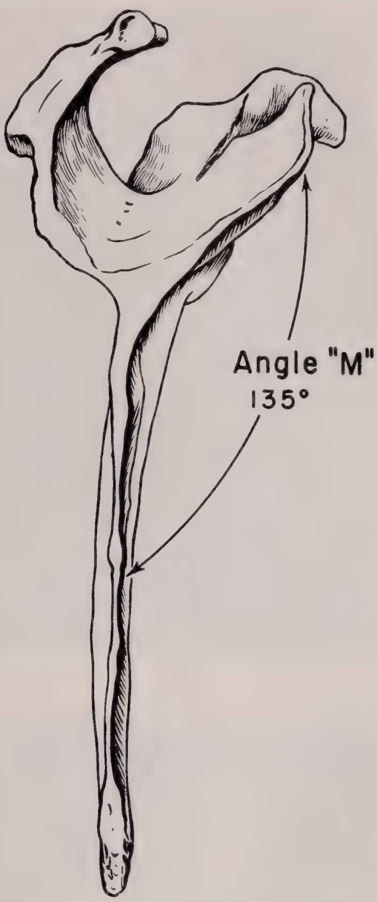

FIG. 4. Profile view of the scapula showing Angle "M."

7. Procaine hydrochloride by infiltration, either by the anterior or posterior approach, for diagnostic and therapeutic value.

Differential Diagnosis of Scapulocostal Syndrome

CHRONIC CYSTIC MASTITIS.—This is one of the most common problems in differentiation of anterior chest pain in the female. In females with heavy, pendulous breasts and particularly where palpable masses are found, specific biopsy is indicated with a resultant diagnosis of local breast pathology. This does not explain the presence of deep boring pain that deep manual pressure or compression of the chest cannot provoke or duplicate. Usually it is only after the procedure without relief that one interrogates

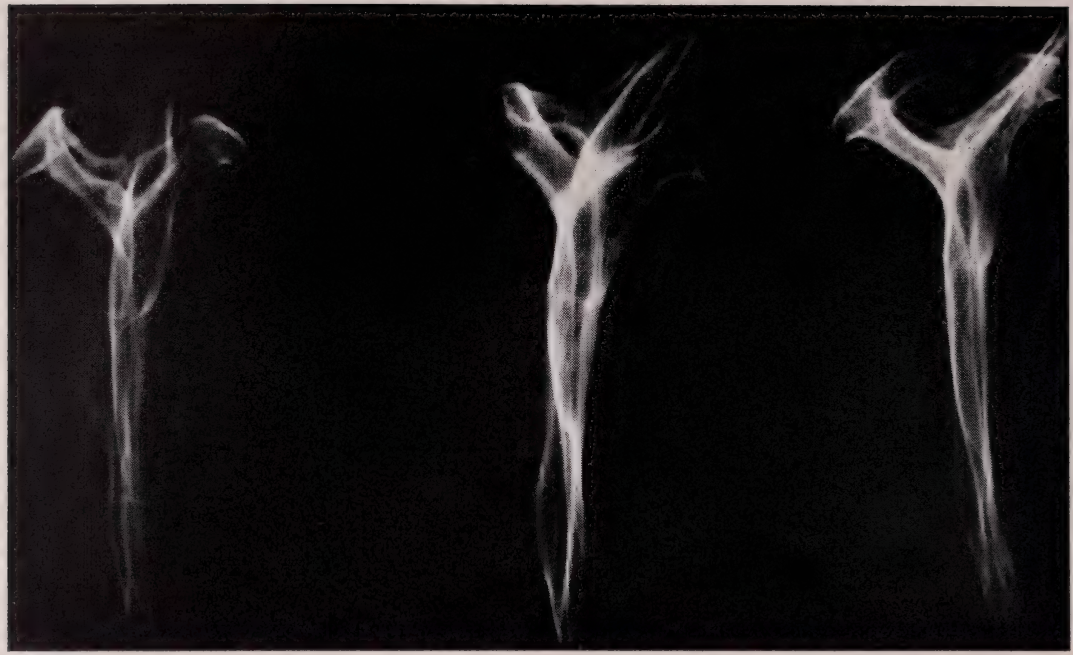

FIG. 5. Profile views of scapula showing Angle "M" at 180, 155, and 135 degrees.

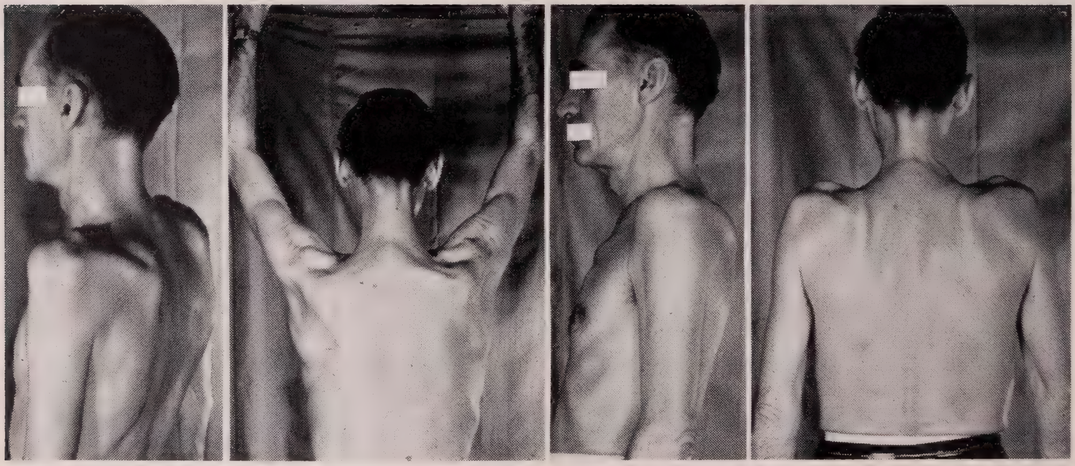

FIG. 6. Brain surgery had been performed for radiating pain in upper extremities without success. Congenital absence of both trapezii facilitated examination of the deep (paravertebral) cervical fascia and the tension points including the neurovascular bundle.

the patient further as to the nature of her painful syndrome. Invariably she will say that she feels well in a strapless brassiere but for some reason or other cannot wear one or that a heavy coat aggravates her chest and shoulder complaints. When the examiner is alerted to the scapulocostal syndrome, he will find an area of tension-point tenderness in the region of the superior medial angle of the scapula, which in most cases accounts for the referred chest complaints.

CORONARY OR ANGINAL PAIN.—The syndrome of a radiating pain pattern over the anterior chest with substernal discomfort consciousness, particularly on the left side, with radiating pain down the left upper extremity, and the usual cardiac findings generally classifies the individual in the category of coronary occlusion or angina. The main comment by the patient is that rest in bed makes his pain worse and that he feels much better after activity. Specifically, coronary or anginal pain usually is an external syndrome of effort precipitated by action and relieved by rest.

CERVICAL INTERVERTEBRAL DISK SYNDROME.—A confusing element is the fact that a herniated cervical intervertebral disk often produces a picture which on casual analysis is not too unlike that of scapulocostal syndrome, i.e., radiation into the upper extremities. It will be noted, however, that the pathognomonic findings of cervical disk,[6] such as disturbed sensory dermatomes, comparable muscle weakness, tendon reflex changes, and atrophy are entirely absent in the scapulocostal syndrome. Our experience has taught us that in examining a multitude of orthopedic conditions throughout a year program, we shall find but five or six true cervical disks and four to five hundred lower back herniated intervertebral disk lesions. The scapulocostal syndrome may be said to have the subjective symptomatology of a herniated disk without any objective neurologic findings.

OSTEOARTHRITIS OF THE CERVICAL SPINE.—Although some authorities state that this condition plays little or no part in the production of root pain resulting in a cervicobrachial neuralgia, there are those who have presented evidence proving that this is a frequent cause of pain in the distribution of the brachial plexus. Classification of osteoarthritis of the cervical spine into two categories indicates that (1) osteoarthritis with osteophytic projections posteriorly and intraforaminal compression and changes produce findings of a space-displacing lesion similar to the herniated intervertebral disk and is treated as such, while (2) osteoarthritis without osteophytic projections posteriorly simply indicates the contracted deep fascial status and is treated in the same manner as the scapulocostal syndrome.

PHANTOM LIMB PAIN.—It is noted that individuals with upper extremities amputated, after a brief period of instruction in the use of a prosthesis, complain of pain radiating into the nonexistent member. A diagnosis of "phantom limb pain" is readily made. It is not until the tension point is located at the superior medial angle of the scapula and the complaint relieved by a therapeutic diagnostic procaine block that one is alerted to the postural, disturbing, myofascial stress pain. Improper functional use of the artificial limb by means of the opposite shoulder or the abnormal carrying with the muscle-stretch weight of the prosthesis suffices to produce deep fascial tension and its associated clinical complaints and findings. Scapulocostal fascial disturbance is also noted in cases of amputation with associated adhesive capsulitis of the shoulder.

SCALENUS ANTICUS SYNDROME.—This syndrome is described by most authors as a clinical entity characterized by cervicobrachial neuralgia, numbness, tingling, paresthesia, muscle weakness, and other neurovascular disturbances in the neck, shoulder, and upper extremity. It is the consensus that the syndrome is produced by pressure and irritation of the brachial plexus and the subclavian vessels consequent to bony abnormalities and spasm and hypertrophy of the scalenus anticus muscle. We believe that the entire scalenus anticus syndrome is part and parcel of the scapulocostal syndrome, since prevertebral fascia, as it projects somewhat laterally and posteriorly from its point of fixation at the anterior bodies of the cervical vertebrae, ensheathes the scalene muscle group and then forms a tubular sheath for the brachial plexus and vessels. The usual surgical procedure, tenotomy of the scaleni muscles, has been associated with a great number of failures, although there have been brief periods without symptoms. Subsequent surgery with removal of the first and second ribs has resulted in a greater number of successful cases because this procedure decompresses the deep fascial tension.

COSTOCLAVICULAR SYNDROME.—The work of Falconer and Weddell[7] in 1943, following the observation of three cases, notes that in the first case an initial diagnosis of scalenus anticus syndrome was made. At operation it was found that after the scalenus anticus was resected, the signs and symptoms were not relieved and that the radial pulse still could be obliterated by bracing the patient's shoulder backward and downward. Resection of a portion of the rib at the point of compression brought relief of symptoms and disappearance of the physical signs. It is interesting to note that a step further in the release of fascial tension produced results while the simple release of the scalene muscle did not. The conservative treatment and management of costoclavicular syndrome as described by the authors are identical with those indicated in scapulocostal syndrome.

BRACHIALGIA STATIC PARESTHETICA.—First described by Wartenberg[8] in 1944, it is characterized by transient paresthesia, anesthesia, and/or

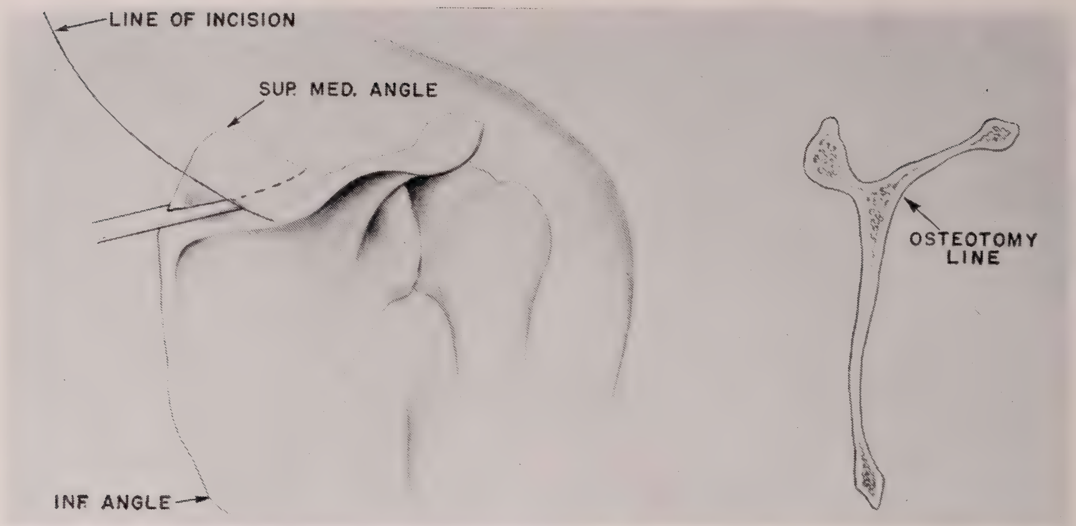

FIG. 7. Slit trapezius longitudinally by spreading muscle bundles. Reflect levator, rhomboid, and supraspinatus periosteally to expose for osteotomy. Excision of superior medial angle permits wide, deep cervical fascial release.

pain in an upper extremity, particularly in the ulnar nerve distribution, felt only at night after the patient has been recumbent for several hours. It is also known as nocturnal arm dysesthesia. There are, however, no objective sensory changes, even after a long duration of the condition. The etiology is given by the author as probably an abnormal relation of the brachial plexus, particularly its lower trunk. We believe the condition to be but one manifestation of the scapulocostal syndrome.

SHOULDER-HAND SYNDROME.—This syndrome, as described by Steinbrocker,[9] consists of a form of reflex dystrophy of the upper extremity characterized by painful shoulder disability with homolateral pain and swelling of the hand.

We have had three cases under observation recently in which two responded to conservative measures. The third case of about one year duration failed to respond to an intensive conservative regime. It was my belief that one of the causes of adhesive capsulitis of the shoulder joint coupled with a sympathetic upset is due to the abnormal postural deep fascial tension (scapulocostal syndrome), and a deep fascial release by surgery would remove the etiologic agent. Accordingly, in the refractory case a deep fascial release in conjunction with resection of the superior medial angle of the scapula was carried out and was followed by a rapid resolution of the shoulder disability, the swelling and periarthritis of the hand and fingers, and also the trophic changes and the osteoporosis. We were fortunate to obtain a complete movie of the patient before, during, and after surgery.

POSTINFARCTION (MYOCARDIAL) SHOULDER-HAND SYNDROME.—First mentioned by Weir-Mitchell[10] almost a century ago, this type of periarthritis of the shoulder is no different from that found in tuberculars due to prolonged rest in bed. The shoulder involved may often be the right or both shoulders simultaneously.

Treatment

Treatment should be directed toward preventive and definitive therapeutic measures.

Preventive therapy includes postural exercises to correct the round shoulders and dorsum rotundum and are a "must" in the treatment of every patient.

The individual should be instructed to stand or sit with the shoulders drawn backward and the spine erect. He must avoid slouched positions, a sagging mattress, and the use of large or multiple pillows at night. Persons confined to bed for any length of time should be instructed in proper exercises for the upper extremities and in correct rest attitudes.

Definitive treatment includes the following:

1. Ethyl chloride spray for breakup of pain cycles.

2. Procaine, 3 to 5 cc. of 1 per cent solution, at the anterior border of the superior medial

angle of the scapula in its conjunction with the posterior chest wall tissues.

3. Rehabilitation through Codman and rhomboid exercises. We have found that it is preferable to carry out the exercises with both extremities simultaneously. Normal postural attitudes in sitting, standing, working, and in bed rest are imperative. When one's work requires minute precision or repeated automatic movement, the shoulder musculature instead of playing a part in the active movement of the upper member confines its use to that of a stabilizer of the scapula component with subsequent secondary changes in vulnerable individuals. Joint fixations while working should be avoided.

4. Iontophoresis with histamine or procaine; x-ray therapy; manipulation and deep massage preceded by local heat. Frequently good results are obtained by the use of intermittent cervical traction; bed rest on fracture boards and postural cervical pillows are adjuncts of therapy; the wearing of a postural back support may be necessary to obviate slouching attitudes.

5. Hydrocortone infiltration is of value in cases where there are nodular formations, especially in myofascitis. Deep kneading should follow the injection.

6. Surgery with deep fascia release is limited to refractory cases (Fig. 7). The indications are (1) temporary relief with procaine and (2) unsustained relief through postural exercises and positions.

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Summer Accidents

A warning that fatal accidents reach their peak in the summer comes from the statisticians of the Metropolitan Life Insurance Company.

Urging greater vigilance in averting accidents, the statisticians report that the circumstances involved in the 25,000 accident fatalities in the United States each summer indicate that a large proportion of the deaths are the result of negligence or recklessness.

The higher accident toll during June, July, and August than in any other season of the year, it is pointed out, reflects largely an increased mortality from outdoor recreation and sports, from outdoor occupational activities, and from most types of transportation.

Drownings, which claim more than 5,000 lives yearly, have a high summer concentration and account for a considerable part of the excess mortality. Fatal water transportation accidents, most of them involving the use of small boats, also have their peak incidence in the summer, with two fifths of the year's deaths occurring in this season.

"An intensified program of safety education could materially reduce the toll from drowning," the statisticians note. "Ability to swim should be made a part of a child's general training. Also, it is especially important that swimmers be cautioned against feats beyond their strength, and that even good swimmers be dissuaded from going out any considerable distance without an accompanying boat."

Although fatal motor vehicle accidents do not reach their maximum until fall, they actually cause more deaths than every other single type of accident in the summer, as they do all other times of the year, the statisticians point out. The great volume of travel adds considerably to the loss of life from motor vehicle accidents during the vacation season.

The Topical Use of Hydrocortisone Ointment for Certain Oral Conditions

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Hydrocortisone ointment has been applied topically with success for various conditions of the skin, the body orifices, the eye, and ear. Sulzberger and Witten[1] and Rein[2] were among the first to show the efficacy of topically applied hydrocortisone ointment for certain dermatoses. Recently, Baer and Litt[3] reported the usefulness of the local application of a hydrocortisone suspension for otitis externa. In addition, there have been a very few reports on the topical use of hydrocortisone ointment on the oral mucosa. Strean and Horton[4] reported such successful use in various gingival inflammations including so-called "desquamative gingivitis" and gingival hypertrophy due to Dilantin. Strean also stated that hydrocortisone acetate ointment has shown promise in leukoplakia, glossitis, aphthous ulcers, drug allergies, and burns of the mouth limited to the mucous membrane. Bergman[5] has reported on the successful topical application of hydrocortisone acetate ointment for aphthous ulcers.

For the past year we have been studying a series of patients with various oral conditions for which hydrocortisone acetate ointment has been applied topically. Early in the study we tested aqueous and saline suspensions of hydrocortisone acetate and hydrocortisone acetate in various ointment vehicles. We employed concentrations of the drug varying from 0.25 of 1 per cent to 2.5 per cent. It soon became apparent that hydrocortisone acetate in petrolatum seemed more acceptable to most patients than solutions or suspensions of the medication. In addition, we found that where good results were obtained, a 1 per cent hydrocortisone ointment was practically as effective as the higher concentrations. Just as reported in the treatment of skin lesions,[1] where the 1 per cent medication was ineffective, higher concentrations up to 2.5 per cent were also, as a rule, ineffective in treating the mucous membrane. This report then deals with the results of the treatment of certain oral conditions with a 1 per cent hydrocortisone acetate in petrolatum ointment.

TABLE I.—RESULTS OF TREATMENT OF CERTAIN ORAL CONDITIONS WITH TOPICAL 1 PER CENT HYDROCORTISONE ACETATE OINTMENT

Diagnoses	Number of Cases	Results of Treatment: Excellent	Good	Unimproved
Leukoplakia				
"Active"	5	..	4	1
"Inactive"	5	..	..	5
Lichen planus				
With erosions	1	..	1	..
Without erosions	2	..	..	2
Recurrent aphthae	8	..	3	5
"Denture sore mouth"	8	..	3	5
Glossitis	4	..	3	1
Glossodynia	7	..	..	7
Cheilitis				
Glandularis	2	..	..	2
Due to lipstick	2	2	..	..
Due to toothpaste	3	3	..	..

This ointment was applied either on a tongue depressor for diffuse lesions or with a cotton tipped applicator for more circumscribed lesions. The patients were instructed to massage the ointment into the lesions vigorously three times a day. Table I shows the diagnoses and the results of treatment in the conditions treated with topical 1 per cent hydrocortisone acetate ointment.

Comment on Results of Treatment

LEUKOPLAKIA.—Leukoplakia is listed first in Table I because of its importance as a "precancerous lesion." It should be noted that leukoplakia is here divided into an "active" and "inactive" group. A patch of leukoplakia was considered "active" when it exhibited one or more of the following signs: fissuring, erosion, exfoliation, a zone of erythema thickening, or verrucous changes. Some of these "active" lesions were accompanied by a sensation of burning or soreness in the lesions.

In the "active" leukoplakia group there were five patients whose symptoms and signs had continued despite the fact that they had stopped smoking and had used various "vitamin B complex" preparations. The lesions in these cases were confined to the buccal mucosa, not being present on the tongue or the palate. In this group there were two patients in whom the lesion showed fissuring. These patients complained of a mild, persistent burning sensation within the patches of leukoplakia. In both of these cases after three weeks of treatment the fissures became much less marked, and the burning sensation ceased. The size of the patches of leukoplakia remained unaltered. In a third case of fissuring there was no apparent effect on the fissures after one month of treatment. The fourth case of leukoplakia, which was moderately thickened and had become slightly verrucous, might be classified as an early "leukokeratosis." The lesion became much smoother and somewhat less infiltrated after three weeks treatment with the ointment. Continued treatment for one month resulted in no further change in the patch. A fifth case of leukoplakia with a zone of mild erythema around the plaque and slight exfoliation received the ointment treatment for three weeks. At the end of three weeks the zone of erythema had disappeared, and the exfoliation had become less marked.

Treatment with the hydrocortisone acetate ointment applied to "inactive" patches of leukoplakia did not result in any change in the lesions. They remained exactly the same size and color after one month of treatment.

Briefly stated then there were no objective changes in "inactive" patches of leukoplakia. However, in "active" leukoplakia accompanied by fissuring, thickening, inflammation, or exfoliation, application of the hydrocortisone ointment seemed to have an anti-inflammatory, healing, and "leveling" effect on the lesions.

LICHEN PLANUS.—Three cases of oral lichen planus were treated. Two were asymptomatic and smooth. Hydrocortisone ointment had no effect on these cases. One patient had lichen planus with erosions on both sides of the buccal mucosa and complained of "soreness" in the lesions. One side was treated with plain petrolatum and the other side with hydrocortisone ointment. The side treated with the hydrocortisone ointment after three weeks showed almost complete healing of the erosions in the patches of lichen planus. The control side did not show any tendency toward healing of the erosions. When the hydrocortisone ointment was no longer used, the erosions recurred promptly.

APHTHOUS ULCERS.—In this series there were eight cases of aphthous ulcers which had been recurring for from one to eighteen years. Three of the patients felt that they got a moderate amount of relief from the tenderness and pain in the ulcers and felt that the lesions disappeared somewhat more promptly than usual when they applied the hydrocortisone ointment. Five patients remained unimproved with this type of therapy. In contrast, Bergman[5] has reported good results in 15 of 17 cases treated with hydrocortisone ointment topically. Bergman did not find much difference between the 1 per cent or 2.5 per cent hydrocortisone acetate ointment.

"DENTURE SORE MOUTH."—In the group of patients treated there were eight cases of "denture sore mouth" due to trauma of acrylic dental plates. Three of these patients obtained good results with the hydrocortisone acetate ointment when other measures had failed. In one patient who had had small erosions of the hard palate for several months, the lesions healed and remained healed after two weeks treatment with hydrocortisone ointment. Another patient, who had soreness and a burning sensation of the hard palate whenever he wore his plate, was made comfortable by the use of hydrocortisone ointment. Five other patients with complaints of burning sensation, erosions, soreness, and dryness of the mouth when they wore their plates did not obtain any relief from the use of hydrocortisone ointment.

In my experience[6] symptomatic treatment of "denture sore mouth" had been very unsatisfactory. The fact that three patients received some measure of relief from the hydrocortisone ointment was distinctly encouraging.

GLOSSITIS.—Four patients who had glossitis of unknown etiology were treated with the hydrocortisone ointment. These patients complained of burning of the tongue and on examination showed redness, erosions, or hypertrophied papillae at the sides or tip of the tongue. There was no evidence of vitamin deficiency, anemia, or blood dyscrasia. Three of these patients obtained prompt relief when using hydrocortisone ointment after treatment with vitamins had failed. One patient remained well after three weeks of treatment. The other two obtained prompt relief whenever there was a recurrence of their symptoms. One patient obtained no results with this therapy.

Glossodynia.—In contrast, there were seven cases of glossodynia who had burning or paresthesia of the tongue without any physical signs. None of these patients received any relief from the use of hydrocortisone ointment.

Cheilitis and Stomatitis.—In this series there were two patients who had been suffering from cheilitis glandularis for three and five years duration, respectively, who did not improve with the use of hydrocortisone ointment. In the cases of cheilitis due to lipstick and stomatitis due to toothpaste, after the offending agent was removed, all symptoms and signs disappeared after one to two days of treatment with hydrocortisone ointment. In contrast, in my experience[7] with similar cases treated with other medications, relief would be obtained only after five to six days instead of one to two days.

Summary and Conclusions

1. One per cent hydrocortisone acetate in petrolatum applied topically to the oral mucosa was found to be acceptable and nonirritating to most patients.
2. The ointment did not modify "inactive" lesions of leukoplakia but had a tendency to heal fissures, allay inflammation, and have a "leveling" effect on irritated or elevated patches of leukoplakia.
3. The ointment did not modify the course of oral lichen planus. In one case of oral lichen planus with erosions, the ointment had a healing effect on the erosions without modifying the lichen planus.
4. The ointment was not very helpful in the treatment of recurrent aphthae; five out of eight cases obtained no relief whatsoever.
5. In three patients with "denture sore mouth" the ointment was efficacious but failed to benefit five other cases.
6. Three patients with glossitis obtained relief with the ointment, and one did not.
7. None of the patients with glossodynia obtained any relief from the use of the ointment.
8. Two patients with cheilitis glandularis failed to obtain relief with the ointment.
9. Five patients with either allergic contact stomatitis, cheilitis, or circumoral dermatitis due to toothpaste or lipstick obtained very prompt relief from the ointment as soon as the offending agent was no longer used.

45-14 48th Street

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The Little Strokes

Momentary spells of dizziness, blacking out, nausea, etc., which leave various residua and occur over periods of perhaps fifteen years, often are "little strokes" or epidoses symptomatic of a long and fatal disease—intracrania arteriosclerosis. Unless the physician is aware of the nature of the whole syndrome and presses for a history of these isolated episodes, the diagnosis quite likely will be missed. Because the syndrome of repeated thrombosis of the little arteries of the brain has not been described frequently, the author, Dr. Walter C. Alvarez goes into considerable detail in describing the various symptoms. He underlines the fact that pains may simulate those arising from other conditions: for example, shooting thoracic pains may be taken as symptomatic of coronary attacks, or similar pains shooting down the abdomen may inspire a futile exploration for cancer. Some suggestions for management of these patients are presented, including advice both to the patient and his family regarding problems occasioned by character changes in the patient.

—Walter C. Alvarez, M.D., J.A.M.A., April 2, 1955

Emotions and Obesity

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NOWADAYS most physicians consider it scientific and up to date to hold a psychosomatic point of view. While this in itself is a step forward, it becomes optimally salutary only when the knowledge is put to constructive everyday use in the understanding and care of our patients. In this vein, while it is widely recognized that obesity frequently represents a psychosomatic symptom as well as a threat to good health, it continues to be common practice to give the obese patient a routine physical examination and laboratory tests and then without further ado put her on a standard treatment regimen. Sometimes she doesn't stay put, and the scale tells the story.

There are many different reasons for overeating, and these continue to operate in spite of the doctor's dietary prescription. No one treatment method can be effective with all patients. It is of the greatest importance to understand the meaning the obesity has for each patient since this will substantially affect the method of treatment in the individual case.

The psychiatric aspect of the problem of obesity involves consideration of psychodynamic factors and how their understanding may be utilized in therapy. To conclude that a given case of obesity is psychogenic is only the beginning of a diagnosis in much the same sense as to conclude that a given disorder is of infectious origin is only a first step in medical diagnosis. A real psychiatric or psychosomatic diagnosis requires a psychodynamic formulation which expresses as clearly as possible the specific psychologic constellation of the particular patient. There are, of course, more and less commonly encountered psychodynamic pictures in cases of obesity. Although the panorama is broad and the variety in detailed individual life histories is infinite, recurring general patterns do emerge. Among those more frequently disclosed are the following.

There is the individual whose major orientation to life seems to center about oral activities. He loves to eat, drink, talk, smoke, suck, bite, chew, swallow, incorporate. He tends to be cyclothymic, and at times his mood swings themselves are of clinical dimensions. For him food represents intake in a symbolic as well as an actual sense. It means adding to himself. It means getting bigger, being stronger. It means what the popular expression signifies—to throw one's weight around. When things go well with him, he may exercise more conscious control over his appetite, but it is when he runs into frustration that he loses control and overindulges in oral gratifications. Etiologically, fixation through an interplay of constitutional and experiential factors and regression play significant roles.

Then there is the individual for whom food intake is specifically equated with the warm feeling of love, of being held, of being protected, of being safe. He may eat excessively as a rule, or he may stuff himself when he feels anxious, lonely, deserted, rejected, unappreciated, unrecognized, unloved. In earliest years there was established in his unconscious the equation "food equals love."

Another pattern is that of the basically timid soul who early in life was deeply and lastingly impressed with the defensive virtue of size itself and whose unconscious body-image ideal demands that he be big. For him to be big is to be strong is to be safe.

The obese person who will suffer no deprivation is known to all of you. No amount of logical dissertation on the dangers of his obesity will persuade him to relinquish one gumdrop. He must have what he wants. His need is compulsive, unreasoned, indiscriminate. It is as if some dread catastrophe would befall him if he were to accede to the reality demand that he forego what he wants. This conclusion, which controls him, did at one time in his life make a kind of sense for him. He needed such an omnipotent defense to ward off what for him may well have been an utterly intolerable realization of his vulnerability, his precarious dependence on the

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will and fancy of someone he feared and hated. In his compulsive eating he is lord and master. No one can make him do anything.

Obesity in an adult may be an outgrowth of a childhood problem specifically centered about feeding. A mother's excessive attitudes toward food, either pushing or withholding, within the context of the total mother-child relationship will engender mistaken attitudes toward eating. If the fight between mother and child becomes a serious one, obesity may eventuate, either then or later in some recapitulative adult experience. Incidentally, it is in such a case that one may encounter the apparent paradox of an obese girl finally going on a diet, only to carry this to the extreme of the clinical picture of anorexia nervosa. Similar psychodynamic factors often underlie precisely opposite symptomatic expressions. Hostility, rage, and guilt with attendant attempts at restitution and expiation may hold successive sway.

Psychologic reaction to the state of obesity itself is a common occurrence and is in fact the common conscious reason which brings the obese patient to the attention of the psychiatrist. Existing cultural standards often play an important role. Depressive reactions with guilt, shame, hopelessness, and feelings of isolation are common. Suicidal preoccupation and suicidal attempts occur, although frequently the attempts are abortive and are calculated to assuage the guilt or to impress and temporarily buy off the close critic. "How can you torment me? See how I torment myself. Would I want to die if I could really diet?"

Or the obese patient may take another turn. Instead of giving up and going into isolation, she may seek to deny her handicap and may react to it by apparently accepting it, even making a kind of asset out of it. Her exaggerated display of "all's well" may be patently overdone and bespeaks the underlying depressive note.

Of course, I should add that not all obese people react so strongly to their obesity. Some seem to accept it as their way of life, and they go on and lead happy, active, and productive lives.

Another type of relationship of psychodynamics to obesity is that in which reactions to the obesity have themselves acquired special values and have become perpetuators of the obesity. This is perhaps familiar to you as the concept of secondary gain. There are diverse ways in which this mechanism may be expressed. The obese patient may now be able so much more easily than before to rationalize his isolation or his business failure or his romantic ineptitude. In effect he proclaims, "If only I were not obese, you would see what I could do."

Obesity once established is sometimes unconsciously clung to as a defense against feared social contact. The phobic attitude may be particularly pronounced in relation to sex. Here the obesity is a kind of insulation against closeness, against intrusion or invasion. Closeness is feared for a great variety of reasons. A common one is that unconsciously the individual feels empty, as if she were a shell: "If they get to know me, they'll see I'm nothing." Or, it may represent a self-hating trend, a sense of being inwardly despicable: "If they get close, they'll see me as I am, and they will despise me." Still another variety of the phobic attitude is the instance of the girl who is fearful of femininity, who feels inadequate to its challenge: "If they get close to me, they will see I am not really feminine." With fat "they" are kept at a safe distance.

And then there is the girl who resents her femininity and would deny it. She refuses to pay attention to her appearance because to do so is to behave as a woman and also because by keeping herself unattractive she can avoid the challenge of heterosexual relationships. Some of these women give overt indication of masculine strivings. In such cases the obesity may unconsciously be viewed as an asset, in the sense that to be big is to be strong is to be masculine. This is also true of unmarried girls without hope of marriage for whom obesity sometimes serves as an unconscious pregnancy equivalent and gives basis for wild fantasies of lovers and babies. And, as a last example of the use to which the obesity once present may be put, I point to the instance of a patient who almost literally threw her full weight at her hated mother, derisively and wilfully. In effect she was saying, "Sure you want me to lose weight. Well, try and make me. Go on try." This kind of thumb-to-nose response is a common one among the obese. Obesity is frequently an aggressive type of symptom. Contrary to popular opinion it often implies activity, going after, getting, grabbing, swallowing—at times almost brazenly disregarding obstacles or consequences. I do not recall seeing many truly passive people among the obese.

Before leaving our discussion of the psychodynamic factors involved in obesity, we should make it clear that the causation of obesity is most likely to be multiple and that the interaction of various factors constitutes the etiologic background and spur.

As for treatment, we should start with a word of caution. It is not always a safe and harmless procedure to attempt to remove forcibly or dramatically a longstanding, tenaciously preserved symptom. Any psychogenic symptom of this nature must be serving some purpose for the patient, and until he can be readied to relinquish it, we must proceed slowly and cautiously. The obesity defense may be shed in response to our efforts, but another defense is simultaneously adopted, and the substitute may be worse for the patient than the obesity was. The doctor may not relate the severe headaches or the depression or the gastrointestinal distress that comes along with the weight loss to the latter except in some vague somatogenic sense. He may fail to see the increasing anxiety and tension as due to the need to face problems which the obesity warded off. Fortunately, this type of outcome is relatively infrequent, but alertness to such possibility can be a great help to physician and patient.

In general, the theoretically ideal treatment of obesity should include treatment of both its immediate and underlying causes. In practice this is often quite unnecessary and, in fact, infeasible. If all goes smoothly and the patient indicates that she has really come to lose weight and is able and willing to deprive herself to achieve this objective and if there is no particular reason to suspect any important psychologic problem connected with the obesity or its loss, then there is no difficulty. However, if the patient reports, or the scale shows, continued dietary indiscretion and some anorexiant medication is decided upon, it is best to proceed with some caution. It should be kept in mind that the usual anorexiants are also mild euphoriants, and what we may be doing with our medication is to lighten the depression which made the excess food intake necessary. If this is so, it is best for us to know it so we can help our patient with whatever problems are involved in her depression. The euphoriant may be helpful, but it may also do psychologic harm. Not too many depressed patients really get to feel better with benzedrine or dexedrine. What they do experience is a jumpy feeling, a push to move. This is good if they are able to use the motor stimulation constructively, but if their mood prevents this, they are rendered even more unhappy. They feel impulses to movement but no desire to move; they are not attracted—they are just pushed.

This brings us to the problem cases, those who do not respond to the usual routine. Among these will be some who follow the prescription given and yet do not respond well. These are few in number, and they are apparently the true constitutionally obese. Psychiatry can do no more for their obesity as such than can endocrinology or internal medicine at this time. It is important to identify these types because it would be a gross error to press every therapeutic effort toward weight reduction, perhaps at great expense to the patient as well as painful deprivation, when good results might be precluded by the nature of the disorder.

We are left with many cases of obese patients who come for help but are unable to cooperate in their treatment. The first thing we can do for them is to try to understand rather than blame them. They are not stupid. They want to reduce, and they want our help, but they also have conflicting needs which are stronger. These must be discovered, disclosed, and dealt with if therapeutic progress is to be possible. Some of these needs may turn out to be relatively easy to satisfy so that therapeutic progress can move along.

Now for some suggestions on what to look for in the way of resistance and conflicting needs in those patients who are not doing well on a particular obesity program and also some hints on how to deal with what we find. First we will note the manner in which the patient reacts to the lack of progress: Does she speak of it at all; does she openly blame us for it; does she contritely proclaim her own failure to carry out instructions? Her particular qualitative and quantitative variation on this theme will give us a quick indication of how our patient is likely to deal with her life's problems—she may try to ignore their existence, she may project responsibility for them on to others, she may be quick to acknowledge her own shortcomings—any of these may be her characteristic mode of behavior. We will have to ask some discreet questions. We will be forearmed with a knowledge of the more common conflicting needs which hamper or prevent our patients from cooperating in their treatment.

With this understanding there will be no ground for us to feel frustrated, angry, or punitive. We will be able to be patient and empathic.

There are some patients in whom an apparently paradoxic attitude seems to exist. These people come regularly for treatment visits; they are quite agreeable; they accept seriously any new therapeutic prescription—be it diet, medication, exercise, or whatever; they regularly give indication of their great desire to reduce, and just as regularly they fail to carry out instructions. When confronted with this evidence, they act as if they were quite ashamed of themselves, and so they say. But a fleeting or even persistent undertone of satisfaction is noticeable. Some part of them is enjoying the situation; this must be gently uncovered. Is it masochistic delight in failure, as if failure were punishment, with the power to assuage guilt from this or other sources; is it satisfaction in thwarting the efforts of the physician who may be surrogate for an earlier authority figure, or is it a thinly veiled rebellion against a current vis-à-vis? If the patient can be helped to discover his unhealthy motive in failing to cooperate in treatment, he will have learned that it is not that he is not doing something good for himself and is therefore stupid or bad, but rather that he has another, now identified, problem to deal with, a concurrent and conflicting aim. Once made aware of this, he is in a better position to deal with it. Beyond this the physician's contribution should be empathic understanding, a kindly manner, encouragement, and patience as well as reiteration and clarification of the patient's conflict. Such a procedure will often be effective.

Another group of obese patients who require special management are the markedly overweight children. Their active cooperation is hard to get. Appeals to reason and logic most often fall on deaf ears. Here again, when routine measures fail, more refined diagnosis is essential to proper therapy. In most instances of failure on routine treatment, further diagnostic endeavor will disclose severely disturbed parent-child relations. The mother may have substantially created the problem she is now pressing the child to solve. Mothers with overconcern about their children's food intake are known to all of us. Some of them feel inadequate in their role as mothers; they unconsciously sense their inability to give fully of love and warm affection, and they seek to compensate for this by pushing food at the child. Thus the stage is set for establishment of the "food equals love" formula.

Another mother is actually hostile to her child. She has the unconscious wish to starve the child, but she has a conscience which forces her into a reaction-formation. She denies in herself the urge to starve by acting out its opposite. Thus are created many feeding problems as well as later instances of obesity. And we find an occasional mother who seeks to please her husband by fattening his children. The varieties are infinite. We must always ask ourselves, "What may the mother be deriving from the child's obesity?" This question is indicated not only in the case of the child patient but equally so in the case of the young adult patient who still may be engaged in the kind of struggle with parents in which obesity may be a potent weapon. It is evident that in some instances of obesity, treatment, to be successful, will have to include the significant person or persons in the patient's life as well as the patient herself. The task can be made immeasurably easier for the patient if her antagonist agrees not to fight.

In general, it will help greatly to think in terms exemplified by the following questions, especially in cases not responding to routine care:

1. What does his obesity really mean to this patient?
2. What purpose might her obesity be serving?
3. Does this one exhibit a need to feel she is doing it herself?
4. Is this one coming for treatment because she really wants to, or is she coming to satisfy someone else that she is making an effort?
5. Does that one need to be big in size?
6. Must this one feel that she is receiving a continuing train of narcissistic supplies from me as her only acceptable alternative to food?
7. Must she feel she is besting me, as if this were a battle between us, as indeed she strives to make it?
8. Is she one who has great need to please others? Could I use this in treating her?
9. Is she here to show me and them how hard she tries while sabotaging like mad?
10. Does she seem to derive some satisfaction when scolded, and does she in fact behave provocatively?
11. What are her sexual attitudes, experiences, aims? Are these related to her obesity?

12. Is there indication of a sense of inner emptiness, inner ugliness? Is the fat an insulation for this patient? Against what?

13. What are her family's attitudes toward her, toward her obesity?

Your management will evolve from consideration of the answers to questions such as these. Handles for manipulation are provided in the answers.

In the usual and regular routine procedure, i.e., definite and detailed diet, colored pills, regular reporting and weighing-in, serial photographs, etc., there are factors which will make for a considerable degree of success because these technics answer needs which are common to many people. In essence the attention received from another and that showered on the self provides a narcissistically acceptable substitute for the concurrent deprivation. Also, the authoritative external figure relieves the patient of the burden of both giving and carrying out the orders. Now she is required only to do as she is told, and when she does so, she is praised and admired. The colored pills have of course some physiologic action, but, over and above that, they are frequently helpful as a kind of abacadabra which reminds the patient of the need to limit food intake. In effect, the pills say, "Believe in me—diet well—and all will be well." It will, too, if she diets well!

Before concluding I want to comment briefly on the place of group therapy in the treatment of obesity. There are different varieties, and the choice for a particular patient will depend on his individual needs as well as on what is available to him. The recommendation for group therapy should not be made without a good psychiatric appraisal for there are contraindications as well as indications. Those patients with problems in the area of accepting help from another person may be genuinely benefited by participation in a group. In the group they don't have to feel indebted to any other one person; they identify themselves with the group and thus feel no loss of self-esteem in "giving in" to improvement. On the other hand, it must be kept in mind that a group forms an atmosphere with expressed or implied standards. For some patients this can be a potentially dangerous milieu; self-disparagement may be abetted, and self-hate and depression may eventuate.

In spite of all our devoted efforts there will remain a residue of obese patients whom we will not be able to treat successfully. Apart from the unusual constitutional types these will be patients with marked, although not necessarily evident, emotional conflicts and resistances. It may turn out that some of them had best be left alone, but in all instances where in spite of the patient's conscious wish and attempt to cooperate there has been failure in treatment, the patient is entitled to a thoroughgoing psychiatric evaluation before such decision be made. Some of the cases of failure will respond to psychiatric treatment. Among these there will be some who require psychoanalysis. In any event the recommendation of a particular form of psychiatric therapy should properly be made only by the psychiatric specialist.

In practice when the prescribed remedies are ineffective, either the diagnosis is incorrect or incomplete, and/or the therapy is inadequate. There will always be patients for whom any therapy will be inadequate. Apart from these there are many others, some of whose conflicting aims we may be able to identify but not modify. Identification of a conflict is only a first step in its resolution. Special psychotherapeutic technics may be required to identify the resistance and to enable the patient to utilize his understanding constructively. I have tried to indicate ways in which the psychiatric aspects of the problem of obesity may be viewed and utilized by the nonpsychiatrist physician.

20 St. Paul's Court

For those who are interested in learning more about psychotherapy on a nonspecialist level so that they may use this knowledge in their treatment of obese patients, the following bibliography is recommended:

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Health: what people drink to until they collapse.—Author Unidentified

The Curet

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(From the Department of Gynecology, New York Polyclinic Medical School and Hospital)

This popular little instrument which is familiar to every young physician looks so harmless that one can hardly imagine that any risks attend its use. One of the most valuable of our so-called minor gynecologic procedures is dilatation and curettage. It can also be one of our most dangerous. It is a two-edged sword that requires careful handling. The idea that one man can curet the uterine cavity as well as another is not shared by the gynecologist who recalls fatal results from perforation of the organ that followed the simple operation in the earlier days.

One should know how and when to use it. Never introduce any instrument into the uterus except under the same aseptic precautions that you would adopt if performing an operation upon the organ.

A dilatation and curettage should be done in all abnormal bleedings except in young, unmarried girls. It should be done to exclude malignancy in every woman past the menopause who bleeds even a little. The operation is also done before insertion of radium for carcinoma of the cervix and for removal of placental tissue after incomplete abortion. In inexperienced hands perforation is apt to take place in an anteflexed uterus at the uterocervical junction or at the fundus, often near a tubal orifice.

The old saying, "When in doubt, curet," is now recognized as a method of trying to cover up one's ignorance. "When in doubt, don't curet" is a safe rule. One should always exclude intrauterine conditions before looking for general or so-called "functional" causes of menorrhagia and metrorrhagia, but to attack the endometrium roughly with the sharp curet merely as an experiment is unscientific and is sure to bring the operation into deserved disrepute.

Therefore, attention is called to the dangers of curettage, which is not the simple and harmless procedure many suppose. The uterine wall in some instances is easily perforated by the curet or sound or forceps, and the perforation may cause fatal peritonitis. In cases where old, quiescent foci of infection are stirred up in intrauterine, tubal, or cervical tissues by the instrumentation, resulting inflammation may cause permanent sterility. In other words, uterine curettage carries the dangers incident to a surgical procedure within a vulnerable organ situated in the peritoneal cavity, and it must be used with skill and for proper indications only. Indiscriminate curetting of the uterus has done much harm through lack of skill in technic and lack of judgment in the choice of cases.

A few words about technic:

1. Always make a bimanual examination, and record findings since this deep palpation under anesthesia or analgesia may help to clear up some doubtful points about conditions in the pelvis.

2. When holding the cervix, avoid pulling the cervix down to the vaginal outlet. The ligaments are overstretched, and they may remain lax, causing the cervix to come low and predisposing to retrodisplacement and subsequent prolapse, which may require operation later.

3. The canal should be gently and gradually dilated with graduated dilators followed by the Wylie or Goodell dilator. The direction of the dilatation should be changed several times to secure gradual dilatation in all directions to prevent rupture of the cervix. The cervix should be dilated sufficiently to admit the medium-sized curet easily. In most cases it requires considerable force to dilate the cervix.

A curet with a flexible stem, one which can be molded to any desired curve for accurately curetting the various surfaces, is the only kind that will be found satisfactory. The curet should be adjusted to the uterus and not the uterus to the curet. When the uterus is in normal position, the curet needs to be bent forward for curetting the anterior surface and backward for curetting the posterior surface. It is well to have a curet bent forward and one curved backward for it saves repeated bendings and breakage.

For effective curetting the instrument should be held lightly with the sensitive portion of the fingers so that any irregularity in the uterus may

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Presented at the Student Conference, New York Polyclinic Medical School and Hospital, October 25, 1954.

be easily appreciated. Hold it like a pen. Very little force should be used since the curet may easily be pushed through the uterine wall. For effectiveness in curetting, reliance should be placed on accuracy of adaptation of the cutting surface to the wall rather than on force. When firm underlying tissue is reached, the fact is indicated by a firmer sensation imparted to the curet. Never curet so hard in women in the childbearing age that you obtain the loud uterine cry which is mentioned in some of the textbooks; if the grating sensation is too harsh and loud, you will have all the endometrium off and considerable muscularis. The incidence of sterility following this drastic procedure is high, higher than we will ever know.

If the uterus is perforated, repair by immediate and hasty surgery is unnecessary unless the peritoneal contents are damaged or carcinoma is strongly suspected and transplantation to the peritoneum is feared. Careful watching and antibiotics are indicated. The perforation usually heals in two or three weeks. I am of the opinion that there have been more perforations than have ever been reported.

116 East 68th Street

The Psychologic Approach to Bronchial Asthma

PHILIP LEAVITT, M.D., BROOKLYN, NEW YORK

(From the Beth-El Hospital)

The success or failure of the treatment of bronchial asthma depends on more than just the detection and control of offending allergens. Frequently, a most important factor is the relationship of doctor and patient, whether he be allergy specialist or general practitioner.

The study of allergy is still an inexact science, as is the practice of medicine itself. The causes of bronchial asthma are not always evident, even after intensive investigation. There is more to the etiology than inhalants, foods, and infections. An idea may become the affective stimulus which elicits a response of asthma just as much as pollen or horsehair.[1] At times psychogenic factors do play a role, and, therefore, such patients must be cared for from a psychologic viewpoint. About 25 per cent of the cases of asthma do not appear to be due to allergic causes. To get the best results, the patient must be treated as a whole. One should try to get the psychiatric history from infancy to the present.

Wittkower[2] suggested that a large majority of asthmatic conditions had a twofold cause. In one type with an allergic predisposition, emotional conflict acted as a trigger to activate the latent asthma. In the second type a person may be a constitutional neurotic who is subject to asthma of true allergic origin.

Abramson[3] has classified several psychologic types occurring among asthmatics, such as, anxious, depressed, grieving, hostile, dependent, and phobic.

Asthmatics have in common a deep-seated emotional insecurity and an intense need for parental love and protection, which may be masked by a variety of defense reactions. They cling to their mothers, don't mix well, and are egocentric or repressed. Although they are of high intelligence, their performance is markedly impaired by anxiety. Fathers of these children are often kind, passive, and inefficient. Mothers may be domineering and resentful of the effort involved in child care, thus creating frustration in the child. It has been determined that 98 per cent of asthmatic children suffer from maternal rejection.[4] Depressed moods were almost universally present when asthmatic attacks were frequent. Anxiety is a prominent feature in many. Asthma has been found to replace anxiety as a psychoneurotic manifestation.

As in the majority of psychosomatic disturbances, asthma appears to have two phases. The first is functional with reversible changes, and the second stage is the establishment of fixed tissue changes. Therapy must be successful before the second stage is reached. Very sick cases appear to do best when psychotherapy is included in the management.[5]

This paper is directed particularly to the treatment of those cases of asthma of mixed and complicated etiology. Particularly in nonallergic asthma, where no amount of therapy directed to dietary and environmental control is of lasting help, must there be a close rapport between physician and patient. Since this is the most difficult type of asthma to treat, intractability being common, reliance of the patient upon his doctor becomes a necessity.

At the outset of the disease patients or parents are alarmed, oftentimes unduly. This is the time for reassurance. The physician's attitude of confidence and honest appraisal of the case helps them to bear the burden of repeated attacks of wheezing. Attitudes and actions on the part of the doctor are most effective. They may do much good; if thoughtless, much harm.

The parents should be made aware that emotions may precipitate allergic attacks or make an existing asthma worse. It should be pointed out that an atmosphere of calm and confidence in the home, free from excitement, is conducive to feeling well. Adults are not to react to the child's distress with irritation and tension because of the danger of generating similar feelings in the child. Illness or death involving a loved one is a factor that may enter into the production of asthma. Shaking or slapping the child because it cries continuously may also provoke asthma. Fathers may influence the mother-child relationship by showing jealousy of the baby. This is reflected in the mother's anxiety and in conflict between mother and father.

Psychotherapy is often unconsciously inherent in the patient-doctor relationship without attempting any specific psychiatric treatment. This is frequently sufficient for those disturbed to a mild degree. Those with complex emotional problems will have to be referred to a competent psychiatrist. Together, the allergist and psychiatrist may each contribute his share to the patient's welfare.

A friendly relationship or even father-substitute relationship knits the patient to his doctor. Without this, anxiety and fear toward the doctor as well as the disease will restrict treatment results. If then the patient does not see immediate results, he will try his luck elsewhere. No matter how well qualified the allergist may be, if the patient leaves his office, then he has failed to accomplish anything for the asthmatic except to put him in the hands of another doctor. This may not be too detrimental from the patient's point of view for the next doctor who attends him may have just the sympathetic approach which the patient seeks. Austerity and aloofness on the part of the physician have no part in the therapy of bronchial asthma. They tend to create dislike and fear of the doctor, thus negating any chance of prolonged relief.

Many asthmatic children are sensitive, spoiled, or have domineering mothers. During the early visits the doctor must continue to cater to these sensitive patients, gradually gaining their confidence. It may be wise at times to defer skin testing for a short period to avoid psychic trauma. Once good rapport has been established, it is easier to coax these children into a cooperative mood for the necessary skin testing.

Defects in the parents' personalities must not be overlooked. As a friendly relationship is cemented between patient and doctor, the relationship between patient and parents becomes clarified. The attending physician may then be in a better position to point out personality conflicts, thus relieving existing tensions.

Another very important advantage that will accrue is the matter of proper attention to medical advice. If the doctor is successful in his sympathetic approach, the patient will be less apt to object to giving up his favorite food or pet. He will be more apt to be punctual for his regular office appointments, thus avoiding a break in the orderly sequence of hyposensitization therapy.

The allergist has the opportunity to develop the advantageous attributes of the family physician by getting to know the patient and the family through repeated visits over the months and years. Patient and doctor become well acquainted with liking and respect aiding and facilitating therapy. In this way any psychogenic element in the case is more readily controlled.

Occasionally, the patient must be re-evaluated with a complete physical examination. Not only does this show the patient that the doctor is still interested in him as an individual, but it is satisfying when another disease is uncovered and aborted before reaching a serious stage of development.

Care must be given to the avoidance of severe local and, above all, constitutional reactions. This not only causes a break in the patient's tolerance, but also doubts and fears are raised in the minds of patients and parents. They become more difficult to control, even to the point of giving up therapy altogether.

The patient must never see a look of futility and hopelessness in the doctor's face because of fresh attacks of asthma, despite the use of drugs which usually give results but now no longer do so. The patient must be offered new hope by changing to different medication.

I do not mean to imply that a sympathetic approach is all that is necessary to cure the patient. But while it is being used, all the tried and necessary procedures are being utilized in the usual manner so that finally the patient may reach a state of well-being.

Examples of bronchial asthma that were treated with psychotherapy and greatly improved follow.

Case Reports

Case 1.—B. B., age seven, was treated in the Allergy Clinic of the Beth-El Hospital from October, 1951. The first attack of asthma occurred in November, 1947, following an upper respiratory infection and was not relieved by adrenalin. There was a family history of allergy. X-rays showed pansinusitis and peribronchial fibrosis of the lungs. She received hyposensitization therapy with ragweed, dust, and stock vaccine. Asthma was frequent.

She was referred to the Child Guidance Clinic in December, 1948. Investigation disclosed that she was an unwanted child; retarded speech began at four years of age; sibling rivalry was present. The mother was conscious of the child's inadequacies and never defended the child in front of neighbors and relatives. As a result of psychotherapy the parent began to defend the child's limitations with the result that the child became more quiet at home and began to play with children. She ceased using bad language. Her IQ test was 61 with a mental age of four years and four months. The impression was mental retardation with resultant behavior due to parental rejection at home and sibling rivalry; asthmatic attacks probably emotional in origin.

She was sent to the Loeb Home from July to November, 1949, where she was well adjusted in the group. During her three-month stay no asthma occurred. She was very nervous, talkative, and overaffectionate, constantly hugging and kissing other children. Her next attack of asthma occurred at home four months later after an upper respiratory infection. She continued her treatment at the Allergy Clinic until October, 1951, while still going to the Child Guidance Clinic. Asthma became less frequent and less severe. A recent inquiry by the Social Service Department revealed that the child has been without asthma for two years.

Case 2.—R. Z., age six, had the first attack of asthma at the age of eight months. Tonsillectomy was performed at twenty-seven months, and eczema developed at five years. Two years before entering the Child Guidance Clinic at the Beth-El Hospital, allergy testing by a private physician revealed the following positive reactions: pork, barley, oats, wheat, carrots, peas, nuts, and milk. At the Clinic the revised Stanford-Binet test showed a chronologic age of six years and three months with an IQ of 131. He was advanced in intellectual capacity about two years. His adjustment outside school was very poor. He got on badly with a younger sibling, didn't play well with other children, was fearful of all situations, had temper tantrums, and chased neighbors out of the house. He didn't like strange people or those not cleanly clothed. He even chased away his father. There was an early history of feeding difficulty. He was allergic to milk and milk products. While on a milk-free diet his asthma was less frequent. He was overaggressive, resistive, and restless with many phobic fears.

At the age of nine years, after a period of psychotherapy, he has improved in athletics. He also has developed hobbies with fish and plants. Diet is not restricted. Occasionally slight wheezing occurs when taking cold drinks. He receives penicillin for a rare upper respiratory infection. He is now friendly to people. A recent inquiry by the Social Service Department reveals that he no longer gets asthma.

Summary

A sympathetic attitude by the attending physician toward the asthmatic patient is helpful in the control and direction of proper allergic investigation and treatment.

2269 Ocean Avenue

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An Analysis of Trichobezoars with the Report of a Case

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(From the Department of Surgery, Coney Island Hospital)

An accurate survey of all the literature to date reveals a total of 179 reported cases of trichobezoar.[1] At Coney Island Hospital we have recently studied our first patient with this unusual phenomenon and have decided to report this case so that it may be entered into future tabulations.

The word trichobezoar is defined as a hair ball or concretion found in the stomach or intestine.[2] Historically this phenomenon can be traced back to as early as the twelfth century B.C.[3] The name probably originated from the Arabian "badzehr" or the Persian "padzahr," both of which signify an antidote or counterpoison, inasmuch as this substance was highly revered as a cure-all.[4] The bezoar stone from the goat's stomach was known to the Hindus, a fact which is mentioned in the writings of Susruta. The first authentic account of bezoar has been attributed to the Cordovan, Avenzoar, twelfth-century sage of Seville. Moses Maimonides advocated the use of bezoar stones for pain in the gallbladder. The first recorded case of trichobezoar[1] was reported by Baudamant in the *Journal de mêdicine de Paris* in 1779. Stelzner[5] in 1896 is believed to be the first to record a correct preoperative diagnosis of trichobezoar. The talisman stone in Sir Walter Scott's novel, *The Talisman,* was probably a gastric concretion of animal origin.[4] Among the crown jewels of Queen Elizabeth were two large bezoar stones. The bezoar was listed in the London pharmacopoeias until the mid-eighteenth century.[6]

Trichobezoar or hair ball is the most common type of bezoar with phytobezoar, which is of vegetable composition, the next in incidence. The third type of bezoar is the concretion which may result from the ingestion of furniture polish for its alcoholic content. The shellac is precipitated and forms a gummy bezoar. Other concretions have been caused by bismuth, magnesium, calcium, and sodium carbonates. Most cases occur in nervous young girls who have the habit of biting or chewing their hair (trichophagy). Together with the fact that they have long hair, this accounts for the fact that almost 90 per cent of the cases are girls. DeBakey and Ochsner[5] report that in their survey of trichobezoars they noted 17.6 per cent occurred in the first decade, 36.6 per cent in the second decade, 27.4 per cent in the third decade, 11.2 per cent in the fourth decade, and 4.9 per cent in the fifth decade. They also reported that 139 cases occurred in females, while only 13 cases occurred in male patients. The largest bezoar reported to date was found by Davies[7] in an eighteen-year-old girl. The bezoar weighed $6^1/_2$ pounds (2,950 Gm.) with its dimensions being reported as 15 inches (38 cm.) along the lesser curvature and 17 inches (43 cm.) along the greater curvature, with the largest diameter being $8^1/_2$ inches (22 cm.) Davies recorded the weight of this hair ball immediately after its removal. Since these hair balls lose one half of their weight on drying, the specimen reported by Russel[8] as 4 pounds 7 ounces (2,012 Gm.) when dry should be considered as the largest on record.

Diagnosis of this condition varies usually with the size of the trichobezoar. In our case there were no symptoms; the mass was felt on a routine examination. The presenting symptoms are usually some vague gastrointestinal complaint, such as the loss of appetite or abdominal discomfort associated with generalized weakness. Laboratory workup usually reveals only the presence of anemia. The two most consistent findings are usually the presence of an abdominal mass and the history of trichophagy. If the condition is not discovered early, any one of many complications may occur, including ulcer formation or obstruction and perforation with peritonitis. Ulcers[9] are found at operation in 15 per cent of patients having trichobezoars, and approximately 80 per cent of these are found on the lesser curvature. There are eight reported cases of perforation of a gastric ulcer due to a trichobezoar in the literature with Osmond and Price[10] reporting the only living patient.

There are two diagnostic aids which can be called upon to assist with the diagnosis, radiographic studies and gastroscopy. If a fine barium meal is given to the patient, the trichobezoar will be clearly outlined, and it will remain so for many hours after the expulsion of the barium by the remaining gastrointestinal tract.[6] The first case in which gastroscopy was used as a diagnostic aid was reported by Moersch and Walters.[11]

Another interesting fact concerning trichobezoars is that regardless of the color of the patient's hair, the trichobezoars are known always to have a greenish-brown or black color at time of removal.

Recurrences are not uncommon. Harris[12] cites a case in which reformed hair balls were removed from the stomach of a patient six times during a thirteen-year period.

The treatment of trichobezoars has necessarily been surgical since no successful method of dissolving the sticky gums and the hair has been reported. The mortality in the nonoperative collected cases of trichobezoar is reported as 72.7 per cent.[13]

The only research reported concerning the problem of hair ingestion is that of Howell *et al.*[3] who reported that there was a consistent appearance of trichobezoars in the cotton rat on a synthetic diet without 10 per cent cellulose, while this compared to a total absence of trichobezoars in the rats that were on the same synthetic diet but had 10 per cent cellulose added to it.

At Coney Island Hospital we recently studied our first patient with trichobezoar.

It occurred in a three-year-old female child. The diagnosis was made from the presence of a palpable, movable mass in the epigastrium, observation of the child eating her hair, and the patient's typical radiographic barium studies. The mass was simply removed from the stomach under general anesthesia, and the patient had an uneventful postoperative course.

Summary

We have analyzed briefly all the literature to date concerning the various aspects of trichobezoars, and we have added one more case to the previous 179 reported cases.

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Three Medicolegal Symposiums Planned

The A.M.A. Law Department has scheduled three medicolegal symposiums to be held next fall.

The purpose of the meetings is to encourage a closer working relationship between the legal and medical professions and to educate both groups as to their responsibility in the administration of justice in medicolegal cases.

The meetings will be held in Chicago on October 9, Omaha on October 16, and New York City on October 30.

A variety of medicolegal subjects will be covered, such as professional liability, the application of the new provisions of the Internal Revenue Code to the medical and legal professions, the role of the physician in detection of violent deaths, and the role of the physician and lawyer in establishing medical facts in a personal injury case.

It is anticipated that practically 300 physicians and lawyers will be in attendance at each of the meetings.—*A.M.A. Secretary's Letter, July 5, 1955.*

CLINICOPATHOLOGIC CONFERENCE

ALBANY MEDICAL COLLEGE AND MEDICAL CENTER

ALBANY, NEW YORK

Conducted by CURTLAND C. BROWN, JR., M.D. JANUARY 7, 1954

Case History

A sixty-four-year-old, white carpenter was admitted to the Medical Service of Albany Hospital on January 19, 1953, complaining of back and joint pains of five years duration. He first experienced severe low back pain after stepping down from a ladder. For the next three months he was treated with bed rest and aspirin with considerable improvement. After getting out of bed, he had severe pain in the knees, but this subsequently disappeared, leaving stiffness in the knees and ankles. He returned to work, but three weeks later again had severe low back pain, this time accompanied by abdominal distress. The pain disappeared after a few days but continued to recur and gradually became worse. One year before admission he had to stop work. Seven months later he came to the Medical Clinic still complaining of low back pain. At that time there was considerable limitation of motion in the elbows and knees and atrophy of the intrinsic hand muscles. X-rays of the lumbosacral spine and pelvis showed demineralization of the bones and minimal hypertrophic changes. The patient was treated with aspirin and physiotherapy for several weeks without result. He was then given phenylbutazone with little benefit. Two weeks later he complained of severe pain in the right lumbar area beginning daily a few hours after rising. He denied real joint pain at that time. During two months of phenylbutazone treatment, the hematocrit fell from 43 to 35 ml. per 100 ml. Because of his poor response to treatment and falling hematocrit, the patient was hospitalized.

The patient had scarlet fever in childhood. He had raised some blood-streaked sputum thirty-five to forty years ago and occasionally had chest pain radiating around from his back. He had lost some 50 pounds in the last five years, and his appetite had been very poor in recent months. He drank about 2 quarts of milk daily, noting that this often relieved his back pain. Twenty-one months prior to admission he first experienced peculiarities of smell, finding the odor of onions and coffee intensely unpleasant. These symptoms gradually disappeared. Approximately seven months prior to admission the patient suddenly noted that he was unable to see to the left. Left homonymous hemianopsia was subsequently demonstrated in the Eye Clinic. The retinal vessels showed moderate arteriosclerosis.

On examination at the time of admission the temperature, pulse, and respiration were normal. Blood pressure was 132/80. The patient was well-developed and comfortable. A large scotoma was described in the left temporal visual field. The right visual field was considered normal. Retinal vessels were moderately arteriosclerotic. There was no lymphadenopathy. The chest was hyperresonant, but tactile fremitus was equal throughout, and no rales were heard. The heart was not enlarged, but there was a snapping second aortic sound and a soft systolic murmur at the base. The abdomen and genitalia were normal. The extremities showed contractures at both elbows, limiting extension to about 65 degrees. Both fifth fingers were stiff and flexed. Heberden's nodes were present. There was no edema, and dorsalis pedis pulses were strong. The neurologic examination was normal.

Serologic tests for syphilis were negative.

Hematocrit was 30 vol. per cent and hemoglobin 11 Gm. per 100 ml. Leukocytes were 11,400 per cu. mm. with 63 neutrophils, 1 basophil, 32 lymphocytes, and 4 monocytes. Urinalysis was normal. The fasting blood sugar was 115 mg. and nonprotein nitrogen 24 mg. per 100 ml. Plasma proteins were 7.3 Gm. per 100 ml. with 3.2 Gm. of albumin and 4.1 Gm. of globulin. A test for Bence Jones protein was negative. Uric acid was 3.7 mg. per 100 ml. Serum calcium was 4.9 mEq. and inorganic phosphate 1.6 mEq. per L. Alkaline phosphatase was 0.7 and acid phosphatase 0.1 mM units. Chest x-ray was normal. A flat x-ray of the abdomen disclosed an oval, calcific density overlying the left transverse process of the first lumbar vertebra. An intravenous pyelogram was normal. The stool guaiac on the sixth hospital day was negative.

During the first eleven days at bed rest the patient showed little change. On the twelfth day he was started on ACTH gel, 20 units per day, with marked improvement thereafter. On the twenty-third day he vomited about 500 ml. of bright red fluid and clots, complained of pain in the back, and later lost consciousness. Blood transfusion was started immediately. After an hour, blood pressure was 75/45, pulse 108, and the patient was beginning to respond. ACTH was discontinued. Five hours later, after two pints of blood were given, arterial pressure had risen to 114/60, and the patient's color was "good." He complained of blurred vision, but the retinal vessels showed no change. The abdomen at this time was soft and not tender. He vomited blood twice more in the next three days, each time going into shock. Although he received 11 pints of blood, the patient expired on the twenty-seventh hospital day in a state of shock.

Discussion

Dr. Curtland C. Brown, Jr.: We thought it would be interesting to approach today's case from two directions. Dr. Farrell will open the discussion to give us a surgeon's point of view.

Dr. John J. Farrell: The only way that I could possibly approach this case could be to start with the death of the individual and try to work back through the clinical course. While most of the history has to do with medical rather than surgical disease, and the patient died on the medical service, he died of what appeared to be massive gastric hemorrhage. If we put ourselves in the role of a surgeon called in when the hemorrhage occurred, trying to establish a diagnosis at that point and review the possible pathophysiology that led to extensive gastric bleeding, we may be able to arrive at a correct solution.

There was a longstanding history of arthritis treated with the usual degree of success. Treatment had been continued at least for several years. Then, after the patient was admitted to the hospital and started on ACTH, he suddenly developed the gastric hemorrhage which led eventually to his death. Here the surgeon should think immediately of possible causes for gastric hemorrhage. Considering the more common ones, gastric ulcer, doudenal ulcer, esophageal varices, neoplasms, various blood dyscrasias, and gastritis, he will be on the right track in the majority of cases. Other possibilities, such as ruptured abdominal aneurysm or biliary tract bleeding, are exceedingly rare.

There are other things, however, that should help us in the analysis of this patient's problem. Initially, he complained of low back pain which, as described, is difficult to interpret. Evidently this symptom was first treated as back pain associated with joint pain. Early in the history, on the other hand, the back pain was also accompanied by abdominal distress which was relieved on occasions by the ingestion of milk. The presence of abdominal distress should lead the surgeon to think of other things which might also produce referred back pain. One of the most common intra-abdominal conditions associated with back pain is pancreatic disease. This could represent primary disease of the pancreas, or it could be secondary to an ulcer, for example, overlying the pancreas. Abdominal aneurysms often present back pain as their first symptom. This patient's back pain was never relieved, although he probably obtained more relief from drinking milk than from anything else. He was treated with aspirin and later with phenylbutazone, and both of these drugs can produce gastric side-effects. The patient continued without too much difficulty, however, until he was put on ACTH, which will cause an increase in uropepsin excretion. This drug also leads to increased secretion of hydrochloric acid and pepsin which, in turn, could reactivate a chronic gastric ulcer. There is also a relatively high incidence of peptic ulcer in patients with rheumatoid arthritis since Bauer[1] reported a history of ulcer in more than 4 per cent of 650 arthritics. This has been substantiated in reports by other observers. Riefenstein and his coworkers,[2] for example, stated that three in a group of 60 arthritic patients treated with ACTH had previously given an ulcer history. Of those three, two came to emergency surgery for gastric bleeding after they had received ACTH for a good length of time. In their entire group of 60 patients there were five individuals who developed ulcers with no previous history of gastrointestinal disturbance.

In my opinion all or a goodly portion of this patient's back complaints could have represented intermittent ulcer activity. A posterior wall lesion might easily have caused pancreatic irritation and produced his back pain. There is nothing in the history or physical examination that would lead one to suspect an abdominal aneurysm.

Hence, the only way that I can explain the entire clinical picture is on the basis of an unrecognized peptic ulcer which went through the usual course of remissions and exacerbations. With ACTH therapy the ulcer reactivated, leading to massive gastrointestinal hemorrhage and death. The ulcer could have been single or even multiple.

One remaining point concerns the fact that massive gastric hemorrhage can result from gastritis alone. Did this man have gastritis or an ulcer? If he had an ulcer, was it duodenal or gastric? I feel that he had an ulcer rather than gastritis because of the long history of back pain accompanied by abdominal distress and because the back pain was relieved by the ingestion of milk. I believe the ulcer was gastric rather than duodenal for two reasons: The patient gave none of the complaints usually associated with duodenal ulcer, and the history states that his back pain on occasions would start with a shift in position after the patient was up and about. This symptom is a little more common with a posterior gastric ulcer than with a duodenal ulcer which is well fixed in its relation to the pancreas.

Dr. Brown: Dr. Yunich, what comments would a gastroenterologist have to offer?

Dr. Albert M. Yunich: With regard to the question of hematemesis, I should like to recall that several weeks ago during a quiz, we asked the third-year class to list in order of frequency the common causes of massive bleeding from the upper gastrointestinal tract. This case presents an excellent opportunity to show that statistics sometimes are of great value. I am pleased to report that 75 per cent of the class listed peptic ulcer as the first cause for massive upper gastrointestinal bleeding. It is a very significant figure, indeed, because in our experience at this hospital and other institutions, at least 75 per cent of the patients who are admitted with massive bleeding show evidence of peptic ulcer. A duodenal ulcer is found in the majority of instances, gastric ulcer less frequently, rarely a peptic ulcer of the lower end of the esophagus, and in some instances a marginal or a gastrojejunal ulcer.

I would like to show two slides. The first was borrowed from Dr. Stuart Welch's collection and reflects his experience at the Pratt Diagnostic Hospital in Boston. It shows peptic ulcer, either gastric or duodenal, as the cause in 75 per cent of cases with bleeding from the upper gastrointestinal tract; portal hypertension occurs as the cause in 15 per cent and hypertrophic erosive gastritis in 5 per cent of all cases. The remaining 5 per cent of causes include such infrequent items as diaphragmatic hernia, blood dyscrasias, benign tumors, etc.

The next slide represents experience at the Massachusetts General Hospital. Here again in a series of 363 cases of massive gastrointestinal hemorrhage, 59 per cent were found to be due to duodenal ulcer, 11 per cent accompanied a gastric ulcer, and 2 per cent resulted from a marginal or jejunal ulcer, making a total of 72 per cent attributable to peptic ulcer. This serves to reemphasize the clinical significance of peptic ulcer as the major cause of massive upper gastrointestinal hemorrhage.

Dr. John F. Roach: I'd like to say a few words about x-ray studies in patients bleeding from the gastrointestinal tract. The only real contraindication in examining a bleeding patient is shock. It is possible to do gastrointestinal studies safely in patients who are bleeding but not when they are in shock. It is preferable, however, to wait twenty-four to forty-eight hours after the acute bleeding has ceased. The examination is just a little different from that which we ordinarily do. It is conducted in the horizontal position, and no palpation of the abdomen is used. Every effort is made to insure that the patient does not in any way increase his intra-abdominal pressure. Even with these physical limitations, it is possible to obtain fairly adequate visualization of the esophagus, stomach, and duodenum, and frequently the point of bleeding may be identified. Needless to say, if the bleeding point is established, the surgeon's hand is strengthened, and the patient's chance of survival is materially increased.

DR. RICHARD T. BEEBE: Would it be fair to ask Dr. Hesser if he'd clarify the last two sentences in the second paragraph which Dr. Farrell skipped over?

DR. FREDERICK H. HESSER: It is logical for someone to ask that question, Dr. Beebe. Left homonymous hemianopsia was found in the Eye Clinic, but at the time of admission seven months later, a large scotoma was described in the left temporal visual field. The right visual field was considered normal. The significance of these apparently contradictory observations is not clear. As a neurologist, I would suspect that a small cerebrovascular episode might have occurred in relation to some side-effect of the drugs given or even from anemia alone. There was, for instance, a fall in the hematocrit value. That sort of alteration can be associated with changing blood viscosity and may lead to cerebrovascular dysfunction, especially in the presence of cerebral arteriosclerosis. Perhaps our pathologist can clarify this point further if the brain was examined.

QUESTION: Would Dr. Roach comment on the x-ray films?

DR. ROACH: Here is a film of the pelvis and hip. It was taken to determine whether or not any changes associated with arthritis are present. In the spine rheumatoid arthritis commonly manifests itself in the Marie-Strümpell type of disease. The early changes one sees in this disease occur in the sacroiliac joints. In this individual the sacroiliac joints are normal. Thus, no abnormality is recognized in this film. Here are anteroposterior and lateral views of the lumbosacral spine.

We see here rather marked atrophy of all the vertebral bodies. The superior and inferior plates are quite dense, but the bodies themselves are radiolucent. In other words, the lime salts in the bodies have been considerably diminished. That may be one of the findings in the rheumatoid type of arthritis, but it also occurs, and much more commonly, in disuse. This man was apparently a semi-invalid for a prolonged period before these films were made, so that one should not be surprised to find some atrophy in the spine. In summation there is no radiologic evidence of rheumatoid arthritis in the parts that we have studied.

QUESTION: Dr. Brown, may I ask Dr. Farrell a question that has arisen among our students? With the history of a 50-pound weight loss and other data, he didn't mention the possibility of malignancy. Is there any particular reason why he didn't consider this in the differential diagnosis?

DR. FARRELL: Actually I did. The 50-pound weight loss was spread over a period of five years, however, and I doubt that the patient would have lived this long were his symptoms due to gastric carcinoma.

Pathologic Report

DR. ARTHUR W. WRIGHT: The body of this man showed very little externally. Of average proportions, it was estimated to weigh about 180 pounds so that the history of losing 50 pounds indicated an individual who must have been much overweight. When the body was opened, the thoracic and abdominal cavities showed little of note. There was evidence, however, that the intestinal tract in situ contained blood. The right lung weighed 540 Gm. and the left 400 Gm. The right lung showed early, acute bronchopneumonia.

The most interesting findings were in the alimentary tract, primarily the stomach. After the esophagus was incised high in the thorax and opened, evidence of severe acute hemorrhagic esophagitis was found. Six small, narrow, linear ulcers were present in the lower third of this structure, but its wall was not perforated. The stomach contained a large amount of partially clotted blood. The entire mucosa exhibited the changes of an acute hemorrhagic gastritis. There were also four gastric ulcers. One of these was 2 to 3 cm. from the cardiac opening; another was situated close to it, probably 2 cm. to one side. Two others were situated about 7 cm. above the pylorus. None of these ulcers was of the typically deep, fibrotic type—the kind that one finds in the usual case of longstanding peptic ulcer. They were all shallow, one measuring only 3 mm. in depth, the others little more than 1 mm. All were characteristically of recent origin. I cannot say definitely whether they developed within a period of eleven or twelve days after ACTH therapy was started. However, I think they were older than that, and it may well be that they had existed for several weeks.

The gastric wall beneath these ulcers was not thickened in the same way that the wall beneath a chronic peptic ulcer is thickened by dense fibrous tissue. Instead these ulcers extended into the submucosa and involved the muscularis only slightly. Moreover, the underlying tissues were not thickened and sclerosed. Whereas the typical, chronic peptic ulcer usually measures from 1 to 2 cm. and rarely exceeds 2.5 cm. in diameter, the ulcers in our case measured from 3 to 3.5 cm. and were thus larger than the usual chronic ulcer. Although it is not uncommon for malignant ulcers to be large, these ulcers were definitely not neoplastic, and there was no evidence of carcinoma in the stomach.

At the base in the deepest of these ulcers was a small, eccentrically placed artery. An area in the wall of this vessel was entirely eroded and was undoubtedly the source of the massive gastric hemorrhage. The artery was relatively large for one in such a superficial position, measuring approximately 0.5 mm. in diameter. It was a vessel which, if opened, would continue to spurt and require a large occlusive thrombus to shut off the bleeding. Histologically, only traces of beginning thrombosis could be found. As a result of hemorrhage from this vessel, the entire intestinal tract from the stomach to the rectum was filled with partly clotted blood.

The difference between a typical chronic gastric ulcer and a shallow one of the type found in this patient is best seen microscopically. The ulcer from this case was shallow and superficial, although in one place it did involve the muscular layer. It undermined the mucosa in another place, an uncommon finding in chronic peptic ulcer. Its base was covered with necrotic tissue and exudate. The small artery that ruptured was visible, although the section did not pass through the point of rupture. By comparison the typical, chronic peptic ulcer has sharply cut edges, fails to undermine the mucosa, and has a base consisting of dense fibrous tissue which takes months to develop. The chronic ulcer characteristically has four layers: (1) necrotic exudate covers the base of the ulcer and overlies (2) necrotic granulation tissue; (3) viable granulation tissue is next superimposed on (4) a thick layer of dense fibrous tissue which tends to prevent the ulcer from pentrating more deeply. A small artery may rupture in the base of such an ulcer.

The other organs showed little abnormality. The only change in the liver, spleen, and kidneys was their rather bloodless appearance. Unfortunately, the brain was not examined, and I cannot answer any questions about the neurologic symptoms. Moreover, we were unable to remove tissues from the affected joints for histologic study.

The main lesson to be learned from the pathologic study of this case concerns the difference between acute and chronic ulcers of the stomach. Our patient today had multiple, acute ulcers, and one of these, like a chronic ulcer, had extended down to and actually eroded the wall of a small artery. The death of this man, was due, therefore, to massive hemorrhage from an artery in the base of an acute peptic ulcer.

The complete list of final anatomic diagnoses was as follows: acute multiple peptic ulcers of the stomach with erosion of a large artery in base of one ulcer; massive hemorrhage from artery in base of gastric ulcer; acute hemorrhagic gastritis; acute multiple ulcers of esophagus; acute hemorrhagic esophagitis; marked edema of lungs; acute early lobular pneumonia; moderate arteriosclerosis of aorta and coronary arteries; moderate dilatation of right ventricle of heart, and moderate congestion of viscera.

Comment

Dr. Brown: Dr. Frawley saw this patient in the clinic and on the ward. Would you like to comment, Dr. Frawley?

Dr. Thomas F. Frawley: I think we would all agree that Dr. Farrell has given a masterful analysis of the protocol today. I should like first to comment a little regarding the arthritic aspects of this case. Dr. Farrell gave, as one of his reasons for diagnosing peptic ulcer, the known 6 to 6$^1/_2$ per cent incidence of peptic ulcer in people with rheumatoid arthritis. Nowhere in this protocol is it stated, nor at any time was there any clinical evidence that this man had rheumatoid arthritis. He did have osteoarthritis which was borne out by the x-rays, but these did not reveal any rheumatoid involvement. He had low back pain and other symptoms suggesting a posterior penetrating ulcer.

My comments will be confined to the effect of adrenal steroids on gastrointestinal secretions. ACTH, cortisone, and other glucocorticoids, as well as phenylbutazone, are known to produce peptic ulcers. There has been considerable study in progress attempting to relate "stress" acting through the pituitary-adrenal axis as the causative mechanism in a number of peptic ulcers. The stomach secretes pepsinogen which is excreted in the urine as uropepsin. According to Spiro and Gray,[2] uropepsin is markedly increased when the adrenal cortex is activated or whenever steroids of the corticoid type are given. These steroids, such as cortisone and hydrocortisone (compound F), also increase the output of hydrochloric acid. The increase in pepsin and hydrochloric acid provides an ideal situation for the development of peptic ulceration. In the stress mechanism the hypothalamus activates the anterior pituitary to release ACTH which, in turn, stimulates the adrenal cortex to pour out primarily adrenal corticoids. These then increase gastric hydrochloric acid and pepsin. Therefore, a mechanism exists whereby either the administration of ACTH, cortisone, or compound F or increased circulating levels of these hormones following stress can produce peptic ulcer. Patients with brain tumor or other severe brain disease may develop peptic ulcers which are often multiple rather than solitary. In these a mechanism not unlike the one just described probably is at work.

The patient under discussion received at least two agents, cortisone and phenylbutazone, and possibly a third, aspirin, which could have aggravated a previous peptic ulcer. The first two drugs might have led to the development of the recent ulcers which were found at autopsy. It's a little difficult, however, to ascribe the area of ulceration and its prominent bleeding vessel to the recently administered ACTH or cortisone or to any of the other therapeutic measures.

I should like to ask one question in closing. This man first vomited blood on the twenty-third hospital day and died four days later. What is our policy regarding surgery in such a situation?

Dr. Farrell: The only bleeding ulcers in which I have seen a vessel spurting at operation were those of long standing. In acute lesions there is usually a generalized, bloody ooze from the entire ulcer surface.

To answer Dr. Frawley's question regarding surgery for recently bleeding ulcer—and I am glad to be simply discussing this problem in retrospect—I feel that I could only have recommended surgery. From the description of the ulcer locations in this case, the surgeon would probably have been forced to do a total gastrectomy. This is a rather formidable procedure and in an emergency carries a very high mortality. However, I still believe that the best treatment for massive gastric hemorrhage in a patient who is obviously dying despite multiple transfusions is emergency surgery. Emergency subtotal gastrectomy is being carried out at the present time with a mortality not much greater than that for elective gastrectomy. As Dr. Roach has emphasized, the surgeon likes to know ahead of time where he is going and why, whether he is dealing with a duodenal or gastric ulcer. During the operation he wonders whether the patient will continue to bleed. If the bleeding ulcer has been located by x-ray, however, the surgeon may be able to take the time necessary for a gastrotomy and to pack, ligate, or suture the bleeding area. He may then proceed at his leisure to accomplish a gastrectomy.

Dr. Brown: Dr. Roach, have you any further comments?

Dr. Roach: It may be a little bit surprising to you, but nevertheless it holds true that the larger and more shallow an ulcer is, the more difficult it is to demonstrate. In this patient the ulcers were large in size, and they were very shallow. I think Dr. Wright said the deepest was about 3 mm. It is most difficult to demonstrate an ulcer that's as shallow as that. Therefore, even if we had done a gastrointestinal series in this patient, I don't believe we would have succeeded in locating the numerous bleeding points which existed.

Dr. Brown: Dr. Yunich, do you have any further remarks?

Dr. Yunich: The first question in my mind after hearing this case was, "How frequently does this condition occur?" On reviewing the literature I found eight reported cases where peptic ulcers had developed while patients were receiving ACTH or cortisone. Three of these patients were treated medically with withdrawal of the hormone and got along very well. Two patients had a subtotal gastrectomy after discontinuation of the hormone, and they did very well too. Perforation in one case was first treated medically and later by gastric resection with an uneventful recovery. One of our own patients, a forty-five-year-old merchant, had a long history of duodenal ulcer. He developed chronic ulcerative colitis of the intermittent type after his ulcer had been inactive for some ten years. During a recurrence of colitis he was given cortisone for a period of eleven days, then developed epigastric pains and localized tenderness with x-ray evidence of reactivation of his duodenal ulcer. It is very unusual for both of these diseases to occur simultaneously in the same patient. We withdrew the cortisone immediately and instituted intensive medical treatment for the peptic ulceration with good results.

What lesson can we draw from today's case? First of all, only a small percentage of patients receiving cortisone or corticotropin will develop peptic ulceration. The actual incidence and etiologic background of ulcer formation will derive from more intensive follow-up statistics. When confronted with a history such as Dr. Farrell covered here today, a history of gastric distress or back pain relieved by drinking milk, we must be alert to the dangers of cortisone therapy. Where a patient gives an ulcer history and it is mandatory to administer cortisone or ACTH for relief of arthritis or any other conditions, let us bear in mind the calculated risk of reactivating a peptic ulcer. Let us remain alert for any epigastric pain or manifestation of hemorrhage, remembering always that these hormones can also mask the symptoms of perforation or peritonitis. If we treat these patients concurrently with a good medical regimen for peptic ulcer, we may be able to avoid such complications. If symptoms of peptic ulceration develop, however, x-ray immediately, as Dr. Roach indicated, in every effort to localize the lesion in the stomach or duodenum. Finally, if medical therapy fails or if an intractable complication such as obstruction or hemorrhage develops, these patients should receive immediate surgical attention.

Dr. Brown: Is there any further discussion? Dr. Campbell?

Dr. Eldridge Campbell: I simply want to dispel or correct one impression which you may have gotten from the citation of Dr. Yunich's case in which the individual survived four and one-half years despite surgery. While I can think of very few bleaker fields than that of cancer of the stomach, with the possible exception of cancer of the lung or brain, it has nevertheless been possible to effect a five-year arrest or cure of gastric cancer in some instances. I can recall at least five cases in this hospital, three of Dr. Glasier and one each of Drs. Welch and Alderson. While surgery often has very little to offer save palliation, it's the best treatment at the moment. If we can only get patients early enough, some of them can be helped a great deal.

Dr. Brown: There is one point I should like to make in closing. Dr. Yunich mentioned that on a recent examination, 75 per cent of the third-year students knew that massive hemorrhage is most frequently due to peptic ulcer. However, they were apparently so concerned with the possibility of a red herring that they failed to appreciate the simplicity of this case. While nine students entered the diagnosis of peptic ulcer with hemorrhage, 15 made the diagnosis of peptic ulcer with perforation.

References

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Ambulatory Management of Pulmonary Tuberculosis

The impact of chemotherapy on management of tuberculosis has had complex repercussions, clinical, social, and economic. In providing some answers it has opened some new questions, and in a paper Drs. I. G. Tchertkoff, J. J. Burascano, and George G. Ornstein, explore some of the latter which may be summarized thus: (1) Should the comparatively rigorous standards for discharge previously held be modified in the light of new possibilities presented? (2) Do patients who become apparently negative after chemotherapy sustain this status consistently enough to be considered arrested? (3) How desirable is the continuation of the chemotherapeutic regimen in the follow-up clinic? Seeking answers, the doctors studied 79 patients for twelve to eighteen months after their discharge from the hospital to the follow-up clinic. Results of their study lead them to conclude that isoniazid and other chemical agents present situations in which revisions may be indicated of what formerly was considered the safe point at which medication could be stopped and the patient discharged without danger to himself or the community. Despite physical and roentgenographic evidence of residual cavitation in many of these cases, the authors feel that these may be a variety of healed pathology in which surgery may not be indicated unless there is impairment of pulmonary function, even though the cavitation seems to persist.—*Bulletin of the Sea View Hospital, January, 1955*

The Treatment of Cancer of the Larynx

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CANCER of the larynx comprises roughly about 2 per cent of all human malignant neoplasms. Theoretically, it should be curable since the larynx is in an "accessible site" for early diagnosis.[1] With a minimum of time and equipment a larynx can easily be seen and cancer diagnosed if the patient arrives with the earliest symptoms. Surgery or irradiation, two standard modalities in cancer therapy, should potentially be able to cure early laryngeal cancer.

Differences of opinion in the treatment of laryngeal cancer are becoming less, although there are still those who prefer one form of therapy to the other in certain specific lesions, As Martin[2] so aptly put it, "Such controversy is to be expected, for the power of speech is considered to be one of the most precious of human attributes and one which distinguishes man from the lower animal." Deprivation of the function of speech naturally causes reluctance on the part of the patient and physician to solve the problem specifically and clearly. The ultimate safety of life is often relegated to the background at the moment when the decision regarding the loss of speech must be made. It is, therefore, extremely important in determining the type of treatment to understand which modality offers the best chance of complete cure.

Anatomic Terminology

In reviewing the literature one is impressed by the various anatomic sites in which cancer may arise and which are discussed under the general subject, treatment of laryngeal cancer. This is a natural phenomenon because of the specific locations of the larynx. At the inlet to the neck, the larynx is surrounded in a small space by continuous mucosa which covers the base of the tongue, the pyriform sinuses, and the inlet to the cervical esophagus. With large bulky carcinomas arising in this area it is difficult to determine the true origin of the tumor. The most common subdivision of laryngeal cancer is that of extrinsic and intrinsic. Some feel that any cancer arising within the cartilaginous confines of the larynx is intrinsic laryngeal cancer. For the purpose of this discussion, the anatomic classification of laryngeal cancer proposed by Martin[3] is used.

Growths arising on the ventricular bands or above constitute cancer of the extrinsic larynx. Growths arising on the vocal cords, the ventricles, or in the subglottic region are classified as cancer of the intrinsic larynx. The point of origin of the cancer determines the classification into which it should fall. Tumors arising in the pyriform sinuses or in the postcricoid area are also considered as extrinsic laryngeal cancers since most of them, because of the close proximity of structures in this area, at least involve, if they do not arise from, the extrinsic larynx, and the management is necessarily similar.

Irradiation Therapy

Modern methods of irradiation therapy for carcinoma of the larynx were inaugurated by Coutard[4] and Regaud and have been carried out with a considerable degree of success in many clinics to the present time. Some of the more recent reports concerning irradiation therapy in laryngeal cancer have been those of Lenz,[5] Nielsen,[6] and Harris *et al.*[7] From a review of the literature there is certainly no doubt that many cases of laryngeal cancer can be cured by irradiation, provided the case is well selected and is treated by a well-qualified radiotherapist who follows it to its completion.

In general, however, the over-all results of the treatment of laryngeal cancer by irradiation therapy are disappointing. This may be due to the fact that the anatomic dividing line between large intrinsic cancers and moderate to small extrinsic cancers is so minimal that truly representative selected cases are almost impossible to judge. It is true that a high percentage of small intrinsic laryngeal cancers, limited to the vocal cord without fixation or immobility, can be cured by irradiation therapy. Yet Martin[8] reports that following surgery his five-year cure rate in small cordal cancers, 1 cm. or less in diameter (and these theoretically should be the best to treat by irradiation therapy), is 95 per cent, a figure higher than that reported by anyone following irradiation therapy.

For lesions extending beyond the intrinsic larynx, it is now generally accepted by many that surgery is the treatment of choice. What then are the indications for irradiation therapy? First and foremost is nonresectability of the local lesion because of extensive local invasion. Second, radiotherapy should be given to patients in whom surgery is contraindicated because of cardiac failure or extreme debility. Irradiation is indicated in the patient who completely refuses surgery. By this is not meant the patient who is given the choice between irradiation and surgery but the patient who is told that the greatest chance of cure would be by surgery and who then refuses. Finally, patients who have recurrences following surgical procedures should receive irradiation therapy.

It is often thought that the preservation of the voice is so important that the morbidity from x-ray therapy can be easily overlooked. This is not necessarily the case; sometimes after irradiation therapy the voice is similar to, if not huskier than, that following partial laryngectomy. There is often a persistent hoarseness, dryness of the pharynx, loss of taste, and persistent pharyngeal edema which may be annoying. Although it is not seen frequently today, a chronic chondritis of the cartilages of the larynx complicates an otherwise excellent result.

Indications for Surgical Treatment of Cancer of the Larynx

Laryngofissure.—The operation of laryngofissure must of necessity be reserved for highly selected cases. It is this specific group of cases which in all probability could also be cured by irradiation therapy. The judgment in the use of laryngofissure, however, must be in the hands of the competent operator with a large clinical experience, for poorly selected cases will undoubtedly have a high recurrence rate following this procedure.

In general, the procedure must be limited to a small carcinoma or a carcinoma in situ of the anterior two thirds of one cord. The lesion should not cross the anterior commissure, although some men do include the tip of the opposite cord in the procedure of laryngofissure. There should be no immobility or fixation of the cord, and the lesion should not extend or infiltrate the arytenoid on the homolateral side. When these criteria are met, laryngofissure will produce an extremely high cure rate, and it is essential that these patients be followed carefully at regular intervals for many years. The usual result in the cured case is a husky voice, usually no more pronounced than that produced by comparable radiation therapy to these localized lesions.

Total Laryngectomy.—Any lesions which are more extensive than those mentioned under the indications for laryngofissure should be treated by total laryngectomy. This includes lesions involving the posterior third of the cord, lesions causing immobility or fixation of the cords, lesions crossing the anterior commissure, and lesions which by definition are those of the extrinsic larynx.

Thoroughness of the operation has been increased in recent years by the use of the so-called radical laryngectomy which includes the strap muscles on both sides and a wide band of pharyngeal mucosa to circumvent completely any direct extension. This operation, therefore, includes the lymphatics which travel through the strap muscles and includes the pretracheal and prelaryngeal lymph nodes. It is, therefore, more extensive than the old type of laryngectomy which merely skeletonized the larynx.

Extension of Total Laryngectomy.—Until recent years most tumors involving the extrinsic larynx, the pyriform sinus, the base of the tongue, or the postcricoid region were treated by irradiation therapy. An occasional case relegated to surgery often had disastrous results. A review of the results of radiation therapy for lesions in this category show that the over-all results were generally poor and that a five-year survival rate of not over 10 per cent was all that could be expected. With the improvements of technics in head and neck surgery, such as the use of the intratracheal tube, whole blood transfusions, antibiotics, better pre- and post-operative nursing care, this group of lesions was again surgically attacked. Early reports of five-year survivals in small groups of cases are now becoming apparent with results which appear superior to those formerly produced by irradiation therapy.

In a group of 34 cases, which he refers to as epiglottic carcinoma, Clerf[9] gives a five-year nonrecurrence rate of 65 per cent in a group treated surgically. He also reports on a small series of cases involving the postcricoid region, the arytenoids, the pyriform sinuses, and the aryepiglottic folds treated surgically. In these he mentions a 50 per cent five-year nonrecurrence rate, a figure that is infinitely better than anything that had been secured prior to this surgical attack either by surgery or by irradiation.

Radical Neck Dissection

It is generally conceded that the treatment of metastatic disease in regional lymph nodes is difficult by means of radium and x-ray. Since the middle 1940's radical bloc lymph node dissection of the neck has been used in association with total laryngectomy. It should be done in the presence of positive metastatic nodes which can be proved by aspiration biopsy.

The use of radical neck dissection in the absence of palpable nodes varies with the individual operator. The author does not use radical neck dissection along with total laryngectomy for intrinsic laryngeal cancer. He does use it for bulky extrinsic lesions which appear to be unilateral and for lesions involving the pyriform sinus, whether they originate in this structure or in the larynx.

Reports of increased cure rates are not as yet apparent when "prophylactic" neck dissections are done for unilateral lesions limited to the larynx itself.

In more centers an increasing surgical attack is being made on all types of lesions in the area under discussion. These include total laryngectomy combined with cervical esophagectomy and unilateral or bilateral neck dissection. The primary carcinoma in these cases may be of the cervical esophagus secondarily invading the larynx, of the pharyngeal wall, or of the base of the tongue with extension. The results of these extended procedures must be awaited in the future.

Certainly the attack is worth while since cures of these lesions are not anticipated by irradiation therapy.

Treatment of Recurrences

There is certainly no question that in advanced cancer of the larynx, recurrences are a problem. It must be remembered, however, that following complete and adequate removal of cancer with its metastases in the neck, irradiation therapy is available for further treatment. After surgery, if necessary, a complete therapeutic course of irradiation therapy may be delivered to any portion of the neck. By this method the patient is receiving the complete benefit of both modalities. Because of the difficulties involved in doing surgery after heavy irradiation, the reverse plan would seem to be the method of choice. The judicious use of gold tube radon seeds or radium needles in local recurrences is also of great help in keeping local disease under control.

Rehabilitation

The treatment of laryngeal cancer does not stop with the discharge of the patient from the hospital following surgery or with the final x-ray treatment. A proper program of rehabilitation must follow. First and foremost must be adequate follow-up by the physician who carried on the definitive treatment. The early recognition of recurrence is extremely important. for a judicious combination of surgery and x-ray at this time will often extend survival periods.

Of social implication to the patient, the immediate problem of loss of speech is of the utmost importance. Psychologically many patients find it difficult at first to adjust to their loss of voice and must be encouraged early to establish a new voice by the esophageal route.

Fortunately, hospitals and clinics for speech disorders recognize the problem of the laryngectomized patient and are teaching him to talk and become well rehabilitated.[10] It is extremely important for the patient immediately to meet another who has had a laryngectomy and who speaks clearly and plainly. This has a tremendous psychic impact and assures the new patient that he will be able to talk. He must be taught that he can be a useful citizen and that he has had a procedure which can give him a relatively high chance for a permanent cure.

Comment

The main problem of laryngeal cancer is still one of early diagnosis. Public education regarding the early symptoms of laryngeal cancer is still of the utmost importance. Indirect laryngoscopy should be a routine in all physical examinations. A trial of gargles, antibiotics, steam inhalations, and other local forms of treatment without thorough examination decreases the prognosis and paves the way for local extension and metastases. Cancer of the larynx in its earliest form is theoretically curable either by irradiation therapy or by extirpation.[11] As the cancer progresses, the cure rate by irradiation therapy drops off markedly. The cure rate by surgery obviously decreases, but reports indicate that curability rates by surgery are higher than by irradiation in advanced lesions. When extended radical surgery fails, irradiation therapy is still available for a curative effect.

Summary

1. Cancer of the larynx is curable with early diagnosis.

2. The larynx is an accessible site which can be examined early.

3. Surgery and irradiation can both cure early cancer of the larynx.

4. X-ray therapy does not usually cure extensive cancer of the extrinsic larynx. the pyriform sinus, or the postcricoid region.

5. X-ray therapy does not usually cure laryngeal cancer which has extended to the regional lymphatics.

6. Surgery at the present time appears to be the treatment of choice in cancer of the larynx and in its extended form is producing a high salvage rate.

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(*Number seven of a series on Treatment of Cancer*)

Race prejudice is as thorough a denial of the Christian God as atheism, and a far more common form of apostasy.—Harry Emerson Fosdick

CASE REPORT

Ebstein's Disease

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EBSTEIN'S disease is characterized by apparent downward displacement of the origin of the tricuspid posterior and septal cusps, the enlarged anterior cusps taking over their function. The faulty origin of the valve leaflets causes a large part of the right ventricle to be incorporated into the right atrium. A hypoplastic right ventricular myocardium appears to be an essential part of the malady. The passage from this "nonfunctioning" atrialized ventricle into the functioning conus is guarded by the single sail-like anterior tricuspid leaflet, causing a stenosis, but only occasionally, and terminally regurgitation.

This rare anomaly of the tricuspid valve and the accompanying maldevelopment of the right ventricle, first described by Ebstein,[1] has been of concern primarily to pathologists rather than clinicians. The spectacular advances in surgery of the heart and great vessels have led to an increased finding of cases of Ebstein's disease which, although studied by angiocardiography and cardiac catheterization, have proved to be diagnostic problems. In the past five years the number of recorded cases has doubled. A number of these cases are still alive, and thus final proof is lacking.[2-7] References to the older cases are available in the literature prior to 1950 and, therefore, are omitted from the present report.

The low output of the right heart is the underlying functional disturbance which Ebstein's malady shares with other congenital cardiac malformations.

Establishment of a correct clinical diagnosis is of practical importance since the conditions which simulate Ebstein's disease most closely—tetralogy of Fallot, isolated valvular pulmonic stenosis with patent foramen ovale, and tricuspid atresia—are amenable to surgery, whereas Ebstein's malformation is not.

Case Report

T. L., a thirty-year-old waiter, was admitted to Wyckoff Heights Hospital in September, 1952.

PAST HISTORY.—He was a "blue baby" at birth and suffered from episodes of cyanosis during feeding. At the age of nine months he began to walk. There was no impairment of growth. Although he was supposed to be on limited activity, he participated in sports. He attended school from the age of six for five years. When nine years old, he suffered an attack of dyspnea and cyanosis and was in bed for seven weeks. Digitalis therapy was started and continued until he was sixteen. During that period he had attacks of dyspnea and palpitation on moderate exertion or even at rest. At the age of seventeen he was hospitalized elsewhere for two weeks with complaints of pain over the left flank, cyanosis, and mild dyspnea. He recovered completely and was able to walk four flights of stairs. He married four years later and has a healthy child. In the past few years he became an excessive beer

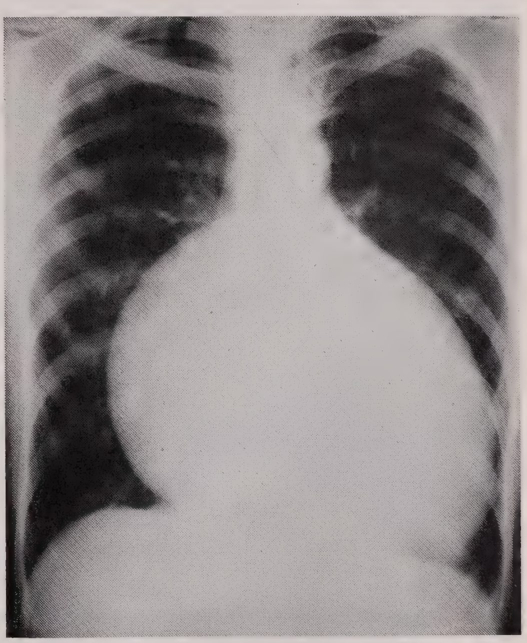

FIG. 1. Cardiac shadow grossly enlarged in all directions and globular.

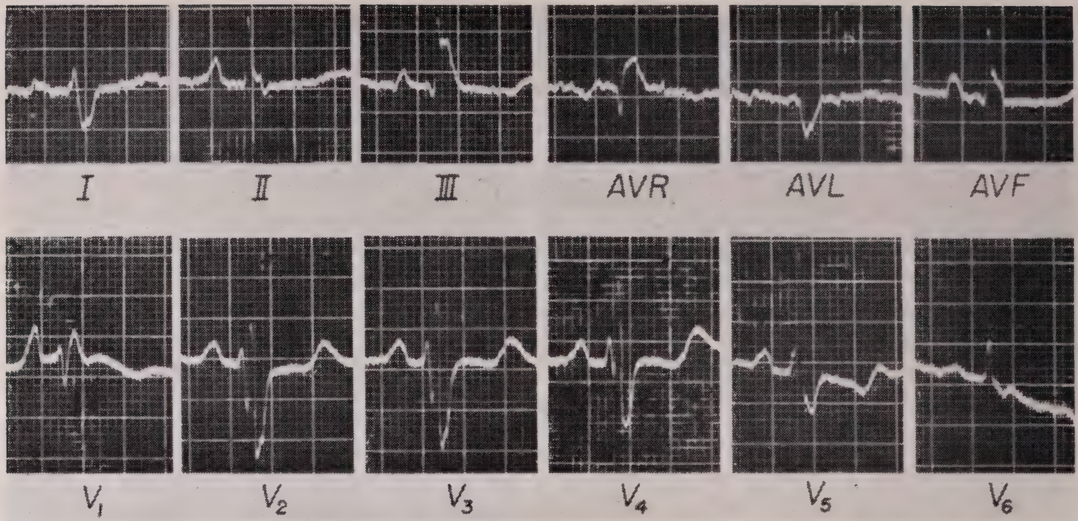

FIG. 2. Electrocardiogram reveals right bundle branch block, abnormal P waves suggesting auricular hypertrophy, and premature ventricular contractions.

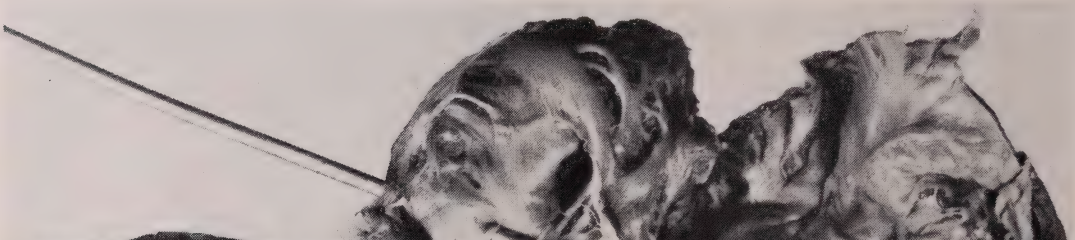

FIG. 3. Three arrows point to free margin of posterior and septal tricuspid leaflet which is almost completely fused to the ventricular wall. Probe in atrial septal defect.

drinker. At the age of twenty-nine he suffered a right hemiplegia which lasted for twelve hours.

Two years later he was admitted to Roosevelt Hospital for a condition diagnosed and treated as acute epididymitis and prostatitis. At that time he was described as slight of build with cyanotic lips and nailbeds. His blood pressure was 116/100, pulse 82 and regular. The heart was greatly en-

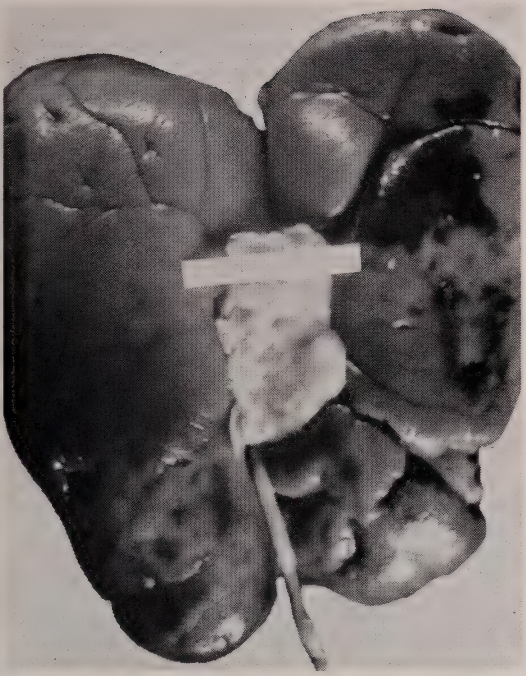

FIG. 4. Recent anemic and hemorrhagic infarcts and old depressed infarct scars of left kidney, presumably due to episodes of paradoxic embolization.

larged to percussion both to the right and left. A loud, harsh, grating systolic murmur was heard over the entire anterior chest, loudest in the fifth left intercostal space where there was a systolic retraction visible and a palpable thrill 5 cm. from the parasternal line. A questionable aortic systolic murmur was noted. The second aortic sound was louder than the second pulmonic sound. The second mitral sound was very faint. Fluoroscopy and radiology of the chest disclosed clear lung fields with moderate, generalized accentuation of bronchovascular markings. The hilar vascular shadows seemed to have abnormally large pulsations. The cardiac shadow was grossly enlarged in all directions and globular (Fig. 1). The right heart chambers caused most of this enlargement. A tentative diagnosis of Eisenmenger's complex was entertained. Electrocardiography revealed right bundle branch block, abnormal P waves suggesting auricular hypertrophy, and premature ventricular contractions (Fig. 2). There was a secondary polycythemia with 7,600,000 red blood cells and hemoglobin over 20 Gm.

PRESENT ADMISSION.—His last admission was to the Wyckoff Heights Hospital in September, 1952, for acute pain in the left abdomen and back with nausea and some vomiting. There was also diarrhea. On physical examination cyanosis of face and lips as well as clubbing of fingers and toes was seen. The blood pressure was 158/88, temperature 98 F., pulse 100, respirations 30. Cardiac enlargement and systolic murmur and thrill were noted as above. The liver was palpable two fingerbreadths below the costal margin. Chest radiographs showed the same findings as noted on previous admissions. The hematocrit was 55 per cent. Because of the sudden appearance of pain in the left back, the possibility of embolization of the left kidney was entertained by the admitting physician. The patient became irrational and aggressive. He died suddenly on the third day of hospitalization.

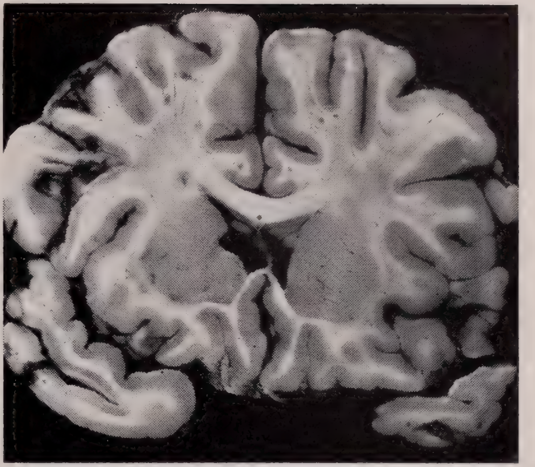

FIG. 5. Triangular defect in medial aspect of left caudate lobe, presumably due to a paradoxic embolus.

POSTMORTEM EXAMINATION.—Autopsy disclosed a greatly enlarged bizarre heart, the right half of which appeared as a thin-walled bag. The tricuspid ring admitted a fist. The posterior cusp was partly fused with the ventricular wall, while the anterior cusp was a large, fenestrated, sheetlike structure (Fig. 3). There was a patent foramen ovale (1.2 cm.). The right ventricle measured 0.2 cm. in thickness (normal 0.5 cm.), while the left ventricle appeared slightly hypertrophied (1.8 cm.). Two fingers could be passed through the mitral ostium. There was thickening of the posterior cusp of the mitral valve and its tendinous chords. Other findings disclosed at necropsy were bilateral fibrous pleural adhesions, chronic venous congestion of the liver, and several fresh large hemorrhagic lung infarcts. The acute abdominal and left lumbar pain was ascribed to extensive areas of recent infarcts on the anterior aspect of the left kidney (Fig. 4). Depressed scars in both kidneys and in the head of the left caudate nucleus (Fig. 5) were also interpreted as of embolic origin diverted by the atrial septal defect (paradoxic embolism of Cohnheim). The cerebral lesion involved the left internal capsule in its anterior limb, thus accounting for the transient right hemiplegia three years before death.

Diagnosis

It is not intended to delve at length into the clinical, radiologic, and electrocardiographic features of Ebstein's syndrome since these have been adequately covered in recent articles.[8–25] Suffice it to say that cyanosis, systolic murmurs, and gallop rhythms are almost constant findings. Diastolic murmurs recurred in about half the reported cases. Phonocardiography provides additional refinements.[26,27]

Manometry.—No attempt will be made to elaborate on pressure readings or oxygen studies by cardiac catheterization since none of these tests were carried out in our case.

Increased pressure readings from the right auricle combined with normal right ventricular pressure and evidence of venous arterial shunt through an interatrial septal defect are diagnostic of Ebstein's malformation, provided tricuspid atresia is ruled out.

Oximetry.—Voluntary hyperventilation produces a considerable increase in oxygen saturation in Ebstein's syndrome which is not the case in the more common types of cyanotic congenital malformations.[28] Catheter studies are contraindicated according to Campbell[29] because of their dangerous nature. Angiocardiography is inherently slightly more risky than catheter studies,[5] a view not shared by Taussig.[30] A more recent study reports uneventful catheterization of six cases of Ebstein's malady.[7]

Radiology.—The salient features here are increasing enlargement of the right chambers until the heart occupies most of the thorax. The pulmonary artery is normal or even small, while the infundibulum is convex. Pulmonary vascular markings are normal or decreased. Kymography of fully developed cases discloses right ventricular contractions only of the conus segment.[7] Late cases show fluoroscopically quiet cardiac outlines. Angiocardiograms demonstrate enormous right-sided dilatation[2,3,5,27,31–33] and greatly delayed emptying time. Atrial septal defects are shown by direct passage of dye and poor visualization of the pulmonary artery.

Electrocardiograms.—The majority of the published tracings[4,27,34] reveal high peaked P waves, delay in conduction time, and a right bundle branch block with small R deflections in leads V_1 to V_4. Various types of extrasystoles are common. Left bundle branch block is rare.[35,36] Fatal paroxysmal tachycardia has been observed. The P wave changes are probably due to hypertrophy and dilatation of the right auricle, while the small R waves in leads V_1 to V_4 and the right bundle branch block can be explained by the thin myocardium of the right ventricle.

Differential Diagnosis

The differential diagnosis of Ebstein's disease must include consideration of the following: various forms of pulmonary stenosis with or without overriding aorta, tricuspid atresia, and enlarged cardiac silhouette.

The cyanotic phase of Ebstein's disease is less incapacitating than the various types of pulmonic stenosis. Important criteria in differentiation are absence of right ventricular hypertrophy as evidenced by a quiet heart on palpation, normal jugular pulse, and small radial pulse. On auscultation there is often a diastolic murmur and a triple rhythm and almost always a systolic murmur. Faint heart sounds occur later in the course of Ebstein's disease. Electrocardiographic findings will be helpful since right ventricular hypertrophy, as seen in Fallot's tetralogy or isolated pulmonic stenosis, does not commonly occur in Ebstein's disease.

Isolated pulmonic stenosis is fairly common and in its severe forms will show a large "a" wave in the venous pulse tracings as well as a systolic thrill and strong right ventricular thrust. Pulmonic artery dilatation is common in these cases as is a rather small (although hypertrophied) heart. The electrocardiographic pattern of extreme right hypertrophy will substantiate the diagnosis. Later in the course of pulmonic stenosis grotesque cardiac dilatation may occur, thus increasing the difficulty of differentiation. Slight or absent pulsation to the left of the sternum may prove useful in eliminating right ventricular hypertrophy.[27]

The various forms of tricuspid atresia produce less cardiac enlargement and will show left axis deviation or even left ventricular hypertrophy.

Enlarged cardiac outlines are produced by the congenital disorders, idiopathic hypertrophy and familial cardiomegaly, as well as by acute myocarditis of various etiology and by pericarditis with effusion.[5,37] Careful histories as to previous absence of heart disease as well as familial occurrence and recent concomitant infections are important. Cardiac catheterization plus fluoroscopy will assist in showing the separation of auricular wall and margin of cardiac shadow in pericarditis. Electrocardiograms in cases of myocarditis and pericarditis will be of great help.

Kymography likewise will differentiate pericarditis by demonstrating right ventricular contractions only in the conus.

Episodes of pulmonary and paradoxic embolization (brain, abdomen) in the patient's history should be searched for in all instances.

Prognosis

Very few patients reach old age; most cases are dead before they reach thirty years of age. A low resistance to infections and tuberculosis is evident from the available reports, as is a tendency to episodes of paradoxic embolism, arrhythmias, and sudden death. Anesthesia, laparotomy, and thoracotomy are risky procedures, while cardiac surgery is invariably fatal. When pulmonary or systemic embolization occurs, femoral vein ligation under local anesthesia may have to be considered.

Summary

The present knowledge of Ebstein's tricuspid anomaly is briefly reviewed. This lesion is encountered more often now because of increased interest in congenitally malformed hearts. Since this disorder at present is not amenable to surgical treatment, it has to be separated from other malformations, primarily stenosis of the pulmonary artery. Discussion of the various points of differential diagnosis and a case of Ebstein's disease are presented.

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Accident Rates Increasing

Soaring accident rates, which have reached epidemic proportions, indicate that local and national safety campaigns are far from being the whole answer to accident prevention. The discovery of and removal of medical factors which make a person "accident-liable"—such as biologic limitations and awareness of what causes them—is the needed accident protection. Marion Gleason, research assistant in the Division of Pharmacology and Toxicology, University of Rochester School of Medicine and Dentistry, in collaboration with her son, Dr. Peter Gleason, University of California Medical School, have made these conclusions as a result of a questionnaire study of nonfatal accident cases.

Many hidden disorders make people accident-liable as well as chemicals in common use in industry, on the farm, or in the home can produce in some patients symptoms of dizziness, muscular weakness, lack of coordination, lassitude, and so on as well as medications—barbiturates, antihistaminics, and bromides. Although more work is needed on the questionnaire before it can provide diagnostic material which a physician would want to use in caring for an accident-liable patient, such disorders could be discovered before the patient has a serious accident by distributing a similar type questionnaire to all patients who visit their doctors regardless of their symptoms.

The Influence of the Erie Canal on Medical Education and Practice in Upstate New York

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For three hundred and sixty miles, gentlemen, through the entire breadth of the state of New York; through the numerous populous cities and most thriving villages; through long dismal, uninhabited swamps, and affluent, cultivated fields, unrivalled for fertility; by billiardroom and barroom; through the holy-of-holies of great forests; on Roman arches over Indian rivers; through sun and shade; by happy hearts or broken; through all the wide contrasting scenery of those noble Mohawk counties; and especially, by rows of snow-white chapels, whose spires stand almost like milestones, flows one continual stream of Venetianly corrupt and often lawless life.—Herman Melville, "Moby Dick," 1851.

THE beginnings of modern medicine, modern science, and modern political economics are traced to the nineteenth century. Many factors, such as political and social revolutions, technologic inventions, and scientific discoveries, which had their influences on the rest of the world also had their influences on the State of New York, but the greatest single factor in the development of this State was the building of the Erie Canal.

The young republic of the United States in the early years of the nineteenth century found its boundaries extended to the Rocky Mountains, its territories, Northwest and Louisiana, larger in area than the original thirteen colonies. The Northwest Territory became part of the United States by the treaty of peace at the close of the Revolutionary War. The Northwest Ordinance of 1787 granted full civil liberties and the opportunity for statehood and prohibited slavery within the territory. The price of land was fixed by legislation, and there was a continuing reduction until 1820 when an acre cost one dollar and a quarter. By then the population of the territory had grown to a million settlers, and in this great migration to the West, central New York State became an important passageway. The greatest obstacle for the pioneer was transportation. He had to struggle with small loads along trails, unimproved, primitive roads, or river valleys. At the turn of the century ships were being built and sailed on the Great Lakes, but as soil of the new territories became very productive, the settler had to find more efficient and faster means of carrying his products to the eastern markets.

The fur trade flourished in the early part of the century, and fur became one of the most valuable articles for commerce. An important route from Montreal and other Canadian trading centers extended along a line of natural trails and waterways between Oswego and Albany. The construction of a canal system joining these points, therefore, offered the promise of furthering the fur trade while effecting the juncture of the Great Lakes with the eastern seaboard.

Several plans were investigated, but early surveys found and supported a natural route

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Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Session on History of Medicine, May 10, 1955.

TABLE I.—INFLUENCE OF THE ERIE CANAL ON POPULATION AND NUMBER OF PHYSICIANS IN NEW YORK*

	Population								
Year†	New York State	Per Cent Increase	Upstate New York Per Cent Urban	Albany	Buffalo	Rochester	Syracuse	Freight Arrival at Tidewater via Erie Canal (Tons)	Number of Physicians, New York State
1820	1,372,812	...	0.73	12,630	2,095	2,063	...	...	...
1830	1,918,608	39.6	2.6	...	...	...	...	...	...
1840	2,428,921	26.6	3.8	33,721	18,213	20,191	...	480,149	4,610
1850	3,097,394	27.4	6.2	50,763	42,261	36,403	22,271	1,644,690	5,060
1860	3,880,735	25.2	12.9	62,367	81,129	48.204	28,119	2,917,094	6,253
1870	4,382,759	12.9	24.4	69,422	117,714	62,386	43,051	2,290,698	6,810
1880	5,082 871	15.9	30.1	90,758	155,134	89,366	51,792	4,608,651	9,272
1890	6,003,174	18.1	40.1	94,923	255.664	133,896	88,143	3.673,654	11,139

* Source: Census of the United States, IV–XVI.

† Erie Canal opened 1885.

extending from the Hudson River to Lake Erie at Buffalo. The construction of the Erie Canal, entirely at State expense, was started at Rome, July 4, 1817, and completion of the canal was celebrated at Buffalo, October 26, 1825. Aboard a flotilla destined for New York City was Governor DeWitt Clinton who led the campaign for the construction of the Erie Canal. Several physicians were very active in this campaign, including Cadwallader Colden and David Hosack. The original cost of construction was $7,602,000. When the Erie Canal was opened, it was the longest canal in the world and represented the greatest feat of construction engineering.

Some of the first boats to travel on the Erie Canal could carry 75 tons' burden. The capacity to carry such large loads over a water route gave the canal a great advantage over all other routes to the interior of the continent. By the time the Erie Canal had opened, the steamboat had begun to replace the sailing ship so that large cargoes could be transported to the West on faster schedules. Buffalo became the main port for the transfer of passengers and cargo between canal barge and lake steamer. The Industrial Revolution had started in Great Britain and had spread very quickly to the United States so that cities and towns along the canal which had started as trading posts became manufacturing centers, with the natural resources of the entire nation available and their manufactured goods transportable to domestic and foreign markets. Since 1830 New York State has ranked first in the nation in the value of its manufacture.

Most historians agree that the modern history of New York City began with the opening of the Erie Canal. The harbor of New York City became the focal transshipping point for the traffic between Europe and the developing interior of the United States. This gave New York City a tremendous advantage over all other ports along the eastern coast. The tonnage arriving at tidewater via the canal kept increasing during the nineteenth century, even after railroads had spanned the State.

The Erie Canal also had an influence on railroad construction in the State. The first charter for railroad construction in New York State was granted in 1826, and by 1842 several railroads were merged into a chain of links between Albany and Buffalo. Not until 1853 did the New York Central System come in to establish a continuous route between Albany and Buffalo. The railroads found it profitable to follow the level water route of the canal which joined prosperous manufacturing centers. They competed, of course, for the shipping along this established commercial route; nevertheless, except for a brief period following the Civil War, freight tonnage on the canal continued to increase at a remarkable rate until 1890 (Table I).

Physician Population

The need for more physicians kept pace with the growth of settlements into towns and then into cities. Physicians faced with the task of furnishing medical service in these expanding communities followed the traditional custom of training apprentices in their own homes and offices. The shortcomings of this method of training were flagrant and were denounced by Drake and others who, although they had received their own early training under this sytem, led in the establishment of medical schools with comprehensive curricula. As towns grew, physicians pooled their skills and attempted to organize medical schools. The proprietary medical school became characteristic of nineteenth-century American medicine; it was established not only to meet the needs of the community but for profit to the faculty, who received the fees paid by the students. Competing for larger enrollments of students, the medical schools offered many inducements such as less stringent entrance requirements and shorter terms of instruction. Many of these schools were so transient in their existence they left no records by which to trace their history. The effort to regulate medical schools and licensure was begun by the Medical Society of New York State, and the movement for the organization of the American Medical Association was initiated by that Society in 1847.

Medical Schools

The first medical school opened in upstate New York was the College of Physicians and Surgeons of the Western District of New York at Fairfield. Fairfield was a prosperous town on the fur-trade route to the north and had a successful literary academy. When the northern route became secondary to the Erie Canal route, the growth and prosperity of Fairfield stopped, and the medical school became extinct after an illustrious existence of twenty-six years. Medical schools were then opened in Auburn, Geneva, and other country towns, but they did not survive. The large centers of population, reaping the profits of the traffic boom along the Erie, Canal, offered greater possibilities of financial support and growth; thus the medical schools in Albany, Buffalo, and Syracuse survived. Several schools, homeopathic and eclectic, were started in Rochester during the nineteenth century, but none survived.

The directory of the American Medical Association lists 43 medical schools started in the State of New York, 27 in metropolitan New York and 16 in upstate New York. Of these 43 two were opened in the twentieth century, the others prior to 1890. At present there are nine medical schools in this State.

Dr. T. Romeyn Beck made a study of the medical schools in the United States during the period 1830–1840 in order to "test by figures" the thesis that a great proportion of students left New York to attend medical schools in other states. The statistics he gathered show that New York State led all other states in the number of medical schools and students. He claimed these figures showed that there were not enough graduates from incorporated medical schools to meet the needs of the growing population. Beck undertook his study at a time when the medical school at Fairfield, of which he was a faculty member, was preparing to close its doors.

New York was the first state to grant a medical degree to a woman. Dr. Elizabeth Blackwell was graduated from Geneva Medical College in 1849.

Licensure

In 1806 the New York State Legislature passed a law authorizing "the legally qualified physicians and surgeons of each county to form into a society, named after the county in which it was formed, with power to choose officers, make all needful rules for government of its members, and appoint a board of censors to examine and license all applicants for admission into the profession in their respective counties. But no one could be admitted to an examination until he had given evidence of having studied three years with some practitioner, and had arrived to the age of twenty-one years." The law forbids anyone to enter the medical profession or to practice medicine or surgery without first having procured a license from a county or State society or a diploma from an organized medical school. County medical societies were quickly organized, and the organization of the State Society was completed at its first meeting held in Albany in 1807.

Medical schools organized and chartered in the State of New York were authorized to issue licenses to their graduates without further examination. Graduates of medical schools out of the State could be licensed with or without examination at the discretion of a county society, the State Society, or the Regents of the State of New York. A law requiring examination by the Regents of the State of New York was passed in 1891.

Hospitals

As the construction of the canal progressed to the West, hordes of laborers and camp followers swarmed into towns and villages along the course of the proposed canal. Lack of sanitary facilities, existing health hazards, and inadequate police control, in the fore of a mounting influx of inhabitants, kindled health problems which persisted during the entire nineteenth century. The growth of settlements into urban communities was overshadowed by a scourge of epidemics. Endemic diseases associated with filth and overcrowding, such as typhoid fever, typhus fever, and malaria, burst into epidemics with great frequency. The great killers were yellow fever, smallpox, and diphtheria. Tuberculosis ran rampant. Histories of these epidemics are filled with accounts of heroic physicians who remained with their patients fully aware of the risk they were taking and the high death rate among their colleagues.

During the first seven decades of the nineteenth century the hospital was established to meet social problems, namely, quarantine of the victim of contagious disease; isolation of the sick criminal, the alcoholic, and the insane; shelter for the sick poor, infirm, and aged. New York was a pioneer in the construction of State-owned institutions for the care of the insane. Rowdyism, a rugged life of adventure along the canal, and poor police control brought about the opening of many institutions for the confinement and treatment of the alcoholic and the opium eater.

The discovery of anesthesia and the introduction of Lister's principles of antiseptic surgery brought about a great change in the position of the hospital in the social order. Surgery prior to Lister was a last resort, an admission that all other forms of treatment had failed. Dr. Roswell Park stated, ". . . since when I began my work, in 1876. . . as a hospital interne, in one of the largest hospitals in this country, it happened that during my first winter's experience—with but one or two exceptions—every patient operated upon in that hospital, and that by men who were esteemed the peers of any one in their day, died of blood poisoning, while I myself nearly perished from the same disease."

Toner's statistical analysis of 1872–1873 revealed only two hospitals out of 53 in New York State which acknowledged association with a medical school: Albany Hospital (allied with Albany Medical College) and Long Island College Hospital. The Albany Hospital, the first hospital in this State associated with a medical school, was founded eleven years after the organization of Albany Medical College. Furthermore only 5 per cent of all graduates of American medical schools of the nineteenth century had received clinical study and experience prior to graduation.

Summary

The Erie Canal during the nineteenth century unfolded the pattern for the development of New York State. The medical schools in this State in the twentieth century are located in metropolitan centers which owe their growth and prosperity to the Erie Canal.

The author expresses his gratitude to Miss Mildred E. Hoover, librarian, Medical Department, Grosvenor Library, Buffalo, for her assistance in the preparation of this paper.

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Management of Pleurisy with Serous Effusion

Since pleurisy with effusion is not so much a disease entity in itself as it is a sign of underlying pathology, the immediate approach has two cardinal objectives: (1) relief of pain and dyspnea and (2) investigation and treatment of the underlying cause. In the relief of pain and shortness of breath, the problem is one of relieving the patient without inhibiting the necessary cough reflex. Dr. John E. Peterson, College of Medical Evangelists, makes a number of recommendations calculated to accomplish this. Although tuberculosis is the most common underlying cause of pleurisy, other infections, as well as collagen diseases, tumors, injuries, pulmonary congestion, and miscellaneous causes are listed. Dr. Peterson presents his own attitude on indications for aspiration, along with some notes on technic.—*John E. Peterson, M.D., Medical Arts and Sciences, Third Quarter, 1954*

MEDICAL NEWS

Recognition of Cardiovascular Clinics by the New York Heart Assembly—During the past two years, eleven cardiovascular clinics in upstate New York have received certificates of recognition from the New York Heart Assembly. These clinics are as follows:

- Norwich Cardiovascular Clinic, Norwich
- Essex County Heart Clinic, Lake Placid
- Diagnostic Heart Clinic of the Rochester Health Bureau, Rochester
- Cortland County Heart Clinic, Cortland
- Riverhead Children's Cardiac Diagnostic Center, Riverhead
- Tioga County General Hospital Cardiac Clinic, Waverly
- New Hope for Hearts Clinic, Plattsburgh
- Dutchess County Children's Cardiac Clinic, Poughkeepsie
- Montgomery County Cardiac Clinic, Amsterdam
- Huntington Children's Cardiac Diagnostic Center, Huntington
- Lewis County Heart Clinic, Lowville

The New York Heart Assembly, which is the State affiliate of the American Heart Association for New York State, exclusive of New York City, undertook the task of evaluating and recognizing cardiovascular clinics some two years ago when the American Heart Association relinquished its role in this field. The Assembly appointed a Committee on Cardiovascular Clinics which surveys clinics requesting the Assembly's recognition from the viewpoints of the purposes of the clinic, hospital and medical center affiliations, sources of referral of patients, methods of examination of the patients, follow-up procedure on patients referred for diagnosis only, teaching activities, records, clinic personnel and their qualifications, clinic facilities and equipment, consultation services and cooperation with other agencies. Visits are made to the clinics and the methods of operations observed.

If, in the judgment of the Committee on Cardiovascular Clinics, the clinic conforms to acceptable standards in accord with its purpose, or can reach such standards when certain minor modifications in personnel, facilities, equipment, policies, and management are made, it will be accepted for recognition by the Assembly for a period of two years from the date of approval. However, if the required modifications are significant, provisional approval of six months may be granted, at the end of which time the application may again be reviewed to determine whether the modifications have been effected; if so, a two-year recognition can then be granted. An appropriate certificate of recognition is presented to each clinic approved by the Assembly.

The membership of the Committee on Cardiovascular Clinics is as follows:

I. Jay Brightman, M.D., Albany, *Chairman*
Edward Cummins, M.D., Cortland
George L. Collins, M.D., Buffalo
Leray B. Davis, M.D., Westhampton Beach
J. C. Zillhardt, M.D., Binghamton
J. G. Fred Hiss, M.D., Syracuse
Mrs. George Patrick, Troy
Mrs. Rowena Dutcher, Johnson City

Recognition of a cardiovascular clinic by the New York Heart Assembly indicates that the Assembly recognizes that the clinic has a well-defined objective, is serving a useful purpose in the community, and is operating in accordance with acceptable standards and efficiency. It is not intended as an official seal of approval to meet an eligibility requirement for financial assistance from a local heart agency. Rather, the entire process of gaining recognition is designed to assist the clinic in evaluating its own operating performance, to point up deficiencies and means of correction, and to guide the clinic in the promotion or expansion of its program so that the needs of cardiovascular patients in the community may best be served.

In general, the standards followed by the New York Heart Assembly are those listed in the booklet, "Recommended Standards and Minimum Requirements for Cardiovascular Clinics," prepared by the Committee on Cardiovascular Clinics of the American Heart Association, and those appearing in the "Guide for Local Rheumatic Fever Program," published by the New York State Department of Health. However, each clinic is evaluated on its own merits in accordance with the needs of the community, the stated objective of the clinic, and the available personnel, facilities, and funds, from the viewpoint of determining whether the clinic is doing an effective and efficient job in the light of existing circumstances.

A clinic to be eligible for recognition by the New York Heart Assembly must have been organized and functioning according to acceptable standards for at least six months before the application of recognition is filed.

Clinics interested in applying for recognition should communicate with the New York Heart Assembly, 105 East 22nd Street, New York 10, New York.

New York State Academy of General Practice—The seventh annual scientific assembly of the New York State Academy of General Practice will be held October 17 through 20 at the Hotel Statler in New York City. The theme for the scientific session will be "From Before the Cradle to the Grave."

Dr. Garra Lester, president of the New York State Academy of General Practice, will give the welcoming address on Monday morning. Other speakers include Dr. Renato J. Azzari, president of the Medical Society of the State of New York, who will give the felicitation, and Drs. Philip M. Stimson, Mary A. Engle, Walsh McDermott, and Carl H. Smith, all from Cornell University Medical College, in a symposium on pediatric problems.

Dr. Locke L. Mackenzie, professor of clinical obstetrics and gynecology at New York University College of Medicine, will speak on "Exfoliative Cytology" on Tuesday morning, and in the afternoon, participants in a symposium on adult malignancies will include Dr. Howard Canning Taylor, Jr., of the Columbia University-Presbyterian Medical Center; Dr. Harold D. Harvey, associate professor of clinical surgery at Columbia University, and Dr. Archie L. Dean, surgeon at the Memorial Center for Cancer and Allied Diseases in New York City.

On Wednesday morning, Dr. Thomas Hodge McGavack, professor of clinical medicine at New York Medical College, will speak on "Endocrine Deficiencies and Adjustment in Geriatric Patients," and Dr. Currier McEwen, associate professor of medicine at New York University-Bellevue Medical School, will speak on "Arthritis in the Aged." There will be a symposium on geriatrics on Wednesday afternoon. Participants will include Dr. Flanders Dunbar, the nation's foremost woman psychiatrist and psychoanalyst, Paul De Kruif, Ph.D., internationally known writer, and Dr. Herman E. Hilleboe, commissioner of health of the State of New York.

Thursday's program will feature a live clinic on rehabilitation by Dr. Howard A. Rusk and his staff. Dr. Rusk is professor and chairman of the Department of Physical Medicine and Rehabilitation at New York University College of Medicine; chief of the Rehabilitation Service at Bellevue Hospital, and director of the Institute of Physical Medicine and Rehabilitation of New York University-Bellevue Medical Center.

Civil Defense—One-day Civil Defense Emergency Medical Services institutes will be held this fall at 14 locations throughout the State. This year will mark the start of a series of courses developed to train personnel to work in improvised hospitals after an enemy attack. The short evening session will be devoted to an orientation to the use of the mobile hospital outfit as an improvised emergency hospital in schools or other preselected buildings. In addition to the orientation in the evening, the training course for personnel to work in the sterile supply section of the improvised emergency hospital will be presented during the day. Training for emergency treatments that will be performed by nurses in aid stations will also be a part of the institute program.

The institutes will run from September 15 through November 15 and will be held at Binghamton, Syracuse, Utica, Saranac Lake, Albany, Valhalla, Newburgh, Buffalo, Rochester, Corning, Niagara Falls, Jamestown, Farmingdale, and New York City. Physicians interested in attending the orientation to the improvised emergency hospital can obtain the specific time and place of the institute in their locality from their local civil defense director.

American College of Chest Physicians—The annual convocation of the American College of Chest Physicians was held in Atlantic City, New Jersey, on June 4, during the 21st annual meeting of the society. Certificates of Fellowship were awarded to 251 members from 42 states, the District of Columbia, five provinces of Canada, and Brazil, India, Korea, and the Philippines.

The following physicians from New York received their Fellowship certificates: *Bay Shore*—Dr. Max Bendersky; *Brooklyn*—Drs. Alvin A. Bakst, Philip Cantor, Milton B. Filberbau, Rudolph E. Fremont, Silvio Guglielmelli, Irving G. Kroop, Lazarus Marcus, Aaron Plachta, Edward A. Reilly, Benjamin Richman, Morris J. Robin, Abraham Rosenberg, Benjamin G. P. Shafiroff, Norman Shaftel, Joseph Weinstein, Samuel Weinstock, and Nathan H. Wexler; *Buffalo*—Drs. Theodore H. Noehren, Francis W. O'Donnell, and Simon Rodbard; *Castle Point*—Drs. David M. Hauptman and Nicholas Michelson; *Flushing*—Dr. Morton B. Coburn; *Glens Falls*—Dr. Bruno B. Klein; *Hempstead*—Dr. Henry H. Kalter; *Hollis*—Dr. Arthur A. Mintz; *Jamestown*—Dr. Ernst Paulsen; *Kew Gardens*—Dr. Arnold Nathan; *Long Beach*—Dr. Jacob J. Yarvis; *Long Island City*—Dr. Harold Fruchter; *New York City*—Drs. Louis F. Bishop, J. Maxwell Chamberlain, Frank R. Cole, H. Harvey Cooperman, Arthur J. Cracovaner, John F. Daly, Frank H. Granito, Arthur Grishman, Seymour L. Halpern, George A. Hyman, Irving Klein, Adrian Lambert, John D. Matis, John P. Mihaly, Gertrude H. B. Nicolson, David I. Scherf, Henry G. Simmons, Moe W. Spickler, Joseph M. Spitzer, and George A. Zak; *Schenectady*—Drs. Morris A. Shapiro and Richard L. Woodruff, and *Valley Stream*—Dr. Philip Crastnopol.

American Goiter Association—The American Goiter Association is offering the Van Meter Prize Award of $300 and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the Association to be held at the Drake Hotel, Chicago, Illinois, May 3, 4, and 5, 1956, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations, should not exceed 3,000 words in length, and must be presented in English. Duplicate typewritten copies, double spaced, should be sent to the secretary, Dr. John C. McClintock, 149$^1/_2$ Washington Avenue, Albany, New York, not later than January 1, 1956.

Medical Consultant Applications—The Department of Personnel of the City of New York will accept applications for the position of medical consultant, with a specialty, from October 4 through October 26. The seven fields of specialization are dermatology, ophthalmology, proctology, urology, otolaryngology, orthopedics, and gastroenterology.

The part-time vacancies to be filled are with the Department of Health and the pay will be at the rate of $17 per session. New York City residents only may apply in person or by mail at 96 Duane Street, New York 7, New York. Mail request for applications must be accompanied by a nine-inch, self-addressed envelope, stamped six cents. The filing fee is $4.

In all cases candidates must meet these minimum requirements or equivalents: possess a valid New York State license to practice medicine; two years as a resident in the specialty in an approved hospital; five years of similiar experience of which two were on the in-patient visiting service of an approved hospital. For the positions of otolaryngology, orthopedics, and gastroenterology, certification by the specialty board is also required.

In the case of gastroenterology, residency may be internal medicine, and in proctology, residency in general surgery will be acceptable.

Candidates will be rated on the basis of technical test, training, and experience. If the technical test is written, there will also be an oral examination.

Atomic Energy Commission Contracts—The award of 64 unclassified life science research contracts in the fields of biology, medicine, and biophysics has been announced by the U.S. Atomic Energy Commission. New York State awards went to Columbia University, New York City; Long Island Biological Association; Health Research, Inc., at Roswell Park Memorial Institute Division in Buffalo; Research Foundation of the State University of New York; New York University-Bellevue Medical Center, New York City; Fordham University, Bronx; Rochester General Hospital; Children's Hospital of Buffalo; New York University, and the University of Rochester.

Arthritis and Rheumatism Foundation—The Arthritis and Rheumatism Foundation is offering the following research fellowships in the basic sciences related to arthritis: Predoctoral fellowships ranging from $1,500 to $3,000 per annum, depending on the family responsibilities of the fellow, tenable for one year with prospect of renewal, and postdoctoral fellowships ranging from $4,000 to $6,000 per annum, depending on family responsibilities, tenable for one year with prospect of renewal. Senior fellowships for more experienced investigators will carry an award of $6,000 to $7,000 per annum and are tenable for five years. The deadline for applications is October 15, 1955. For information and application forms, address the Medical Director, the Arthritis and Rheumatism Foundation, 23 West 45th Street, New York 36, New York.

Veterans Adminstration—Veterans Administration has launched a residency training program in physical medicine and rehabilitation for its full-time career physicians, the VA has announced. The new plan has an obligated service requirement, but prior service in the Veterans Administration will not be a requirement for this training as long as the obligated service contract is signed.

Initially, five VA hospitals have been designated to put this program into effect on a pilot basis. The hospitals are located in Boston, Massachusetts; Bronx, New York; Hines, Illinois; Houston, Texas, and Los Angeles, California.

Application should be sent to the manager of the VA hospital where the physician wishes to take his residency training.

Venereal Disease Postgraduate Course—The 24th Venereal Disease postgraduate course for physicians sponsored by the University of Chicago and the Public Health Service will be given at the University of Chicago September 26 through 30.

The one-week course is designed to acquaint the practitioner with the latest developments in diagnosis, treatment, and management of the venereal diseases. No tuition will be charged for this course. Applications for admission are to be sent to the Section of Dermatology, Department of Medicine, University of Chicago, Chicago 37, Illinois.

Personalities

Elected

Dr. Francis M. Tisdale, of Canaseraga, president; Dr. Paul J. Wolfgruber of Arkport, vice-president, and Dr. Gordon C. Stenhouse of Hornell, secretary-treasurer, Hornell Medical and Surgical Society.

Speakers

Dr. Clarke T. Case, Utica, to address the annual meeting of the Broome County Medical Society on January 28, 1956, on "Medicine in India Today"... Dr. Carl T. Javert, professor of gynecology and obstetrics at Cornell University Medical School, on "Endometriosis" in the auditorium of the Jewish Chronic Disease Hospital on September 8 at 8 : 30 P.M. . . Dr. Arthur Alexander Knapp, New York City, as a participant in the "Global Strategy Discussions" at the U.S. Naval War College in Newport, Rhode Island, from June 6 through 11, at the invitation of the Secretary of the U.S. Navy... Dr. George T. Pack, New York City, at the opening of the Woman's Medical College of Pennsylvania on September 9, and at the Sommer Memorial Lectures, under the auspices of the Oregon State Medical Society, September 28, 29, and 30.

Awarded

Dr. Arthur J. Bedell, Albany, the American Ophthalmological Society's Lucien Howe Medal in recognition of his distinguished service to ophthalmology, at the Society's latest meeting in June.

Honored

Dr. Kornel Terplan, professor of pathology and head of the Department of Pathology in the

University of Buffalo Medical School, by the Austrian Tuberculosis Society for outstanding contributions in the fight against tuberculosis.

Appointed

Dr. Frank L. Horsfall, Jr., member of the Rockefeller Institute, as vice-president for clinical studies and physician-in-chief, and Dr. Douglas Whitaker, provost and professor of biology at Stanford University, as vice-president for administration of the Institute...Dr. Aaron Kellner, director of the Central Laboratories of the New York Hospital-Cornell Medical Center and associate professor of pathology at Cornell University's Medical College, as chairman of the general medical committee of the New York Regional Red Cross Blood Program... Dr. Joseph B. Pincus, Brooklyn, as chief of the Department of Pediatrics at the Jewish Hospital of Brooklyn...Dr. Hyman Pleasure, as director of Middletown State Homeopathic Hospital...Dr. Vincent M. Sottile, Westerleigh, as senior resident in internal medicine at the Brooklyn Veterans Administration Hospital...Dr. Samuel J. Werlin, Troy, as associate in pediatrics at the Albany Medical College of Union University.

New Offices

Dr. Paul Sachs Barr, general practice in Spring Valley...Dr. Mario Bonaquist, practice of orthopedic surgery in Schenectady...Dr. Edmond J. FitzGibbon, practice of general surgery in Schenectady...Dr. Harold Clemens Heintz, practice of radiology in Utica in association with Dr. Robert Hall and Dr. Robert J. MacCallum...Dr. Robert A. Hoekelman, Jr., practice of pediatrics in Canandaigua...Dr. Gordon F. Marquisse, general practice in Churchville...Dr. Duncan McCarthy, general practice in Burdett...Dr. George F. Nolan, general practice in Glens Falls...Dr. Harry S. Pittler, general practice in Canandaigua...Dr. Paul E. Reeves, general practice in Scottsville...Dr. Alan S. Zisman, practice of pediatrics in Spring Valley.

Resumes Practice

Dr. Joseph V. Farugia, in Niagara Falls, after taking courses for two months at Ohio State University and for six weeks at the Indiana Medical Center.

Retired

Dr. Thomas M. Rivers, vice-president and director of the Rockefeller Institute and Hospital, after thirty-three years of service...Dr. H. N. Squier, Utica, after fifty-one years of medical practice.

MEDICAL MEETINGS

International Academy of Proctology

The New York Chapter of the International Academy of Proctology will meet at the Hotel Utica in Utica on September 29. Dr. Joseph O'Brien, coloproctologist at Roswell Park Memorial Hospital in Buffalo, will read a paper on "Lesions of the Colon," and Dr. James Compson, radiologist at Slocum-Dickson Clinic, Utica, will speak on "Radiologic Examination of the Colon."

Academy of Psychosomatic Medicine

The Academy of Psychosomatic Medicine will hold its second annual meeting on October 6, 7, and 8, at the Plaza Hotel in New York City. The subject of this year's scientific program is "The Psychosomatic Aspects of Drug Administration."

A preliminary program can be obtained from the secretary, Dr. Ethan Allan Brown, 75 Bay State Road, Boston, Massachusetts. Reservations should be made directly with the Plaza Hotel, and a carbon copy sent to the secretary's office.

American Medical Association

The American Medical Association is sponsoring medical-legal conferences this fall in Chicago on October 9 at the American Medical Association Headquarters, 535 North Dearborn Street, Chicago 10, Illinois; in Omaha, on October 16 at the Hotel Blackstone, and in New York City on October 30 at the Hotel Statler. Some of the subjects to be included are: "Medical Professional Liability," "Trauma and Disease," "Medical Science in the Administration of Justice," and "The Doctor as a Medical Expert Witness." Attendance will be limited to 300 persons at each meeting, and only those who have registered in advance will be permitted to attend.

NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Changes—The Department of Public Health and Preventive Medicine at the College have announced two changes in the teaching staff. Dr. Robert P. Whalen, a 1951 alumnus of the College, has been appointed instructor in public health, and Dr. Franklyn B. Amos, a member of the Department since 1950, has been promoted to associate professor of public health from assistant professor.

Elected—Dr. Edwin L. Crosby, first director of the Joint Commission on the Accreditation of Hospitals and former director, Johns Hopkins Hospital, Baltimore, to the Board of Trustees of the College.

Columbia University College of Physicians and Surgeons

Grants—$24,000 has been received from the Damon Runyon Memorial Fund for Cancer Research, Inc., to support a project supervised by Dr. Howard C. Taylor, Jr., and Dr. Seymour Lieberman.

Dr. Alvan L. Barach, professor of clinical Medicine, and his associates Dr. Gustav J. Beck and Dr. Hylan Bickerman, will use a grant of $19,770 from the National Foundation for Infantile Paralysis to improve the design and functions of a mechanical cough machine (exsufflator) which is used in the treatment of certain respiratory polio patients.

Retired—Dr. George Francis Cahill, professor of urology and director of the urological service and executive officer in the Columbia-Presbyterian Hospital, will retire. Dr. Cahill was one of the founders of the J. Bentley Squier Urological Clinic at Presbyterian Hospital.

Albert Einstein College of Medicine

Appointed—Dr. Arthur S. Abramson, president of the New York Society of Physical Medicine and Rehabilitation, as professor and chairman of the Department of Rehabilitation Medicine.

New York University-Bellevue Medical Center

Consultant—Dr. Edward W. Lowman, director of the Institute of Physical Medicine and Rehabilitation, will act as consultant to the Medical School of Chile in planning the establishment of a department of physical medicine and rehabilitation. In addition to the lectures, demonstrations, and clinical consultations, Dr. Lowman will also advise in forming plans for a rehabilitation center in Santiago which will be connected with one of the general hospitals.

New Office—A grant to implement a central office for the collection, evaluation, development, and dissemination of information concerning self-help devices for the arthritic has been made by the National Office of the Arthritis and Rheumatism Foundation. Located in the Institute of Physical Medicine and Rehabilitation, Dr. Edward W. Lowman will be the director. The primary purpose of this office is to provide without cost information on the latest self-help devices developed as well as offering free consultation to arthritic patients by mail, telephone, or through personal interview.

Promoted—Dr. Paul S. Seager has been promoted from associate professor to professor of clinical otorhinolaryngology.

Dr. David Lyall has been promoted from associate professor to professor of clinical surgery at Post-Graduate Medical School. Dr. Lyall also succeeds Dr. Herbert Willy Meyer as director of the Center's University Hospital Tumor Service and the Fourth Surgical Division of Bellevue Hospital.

Grants—$245,427 has been received from the National Foundation for Infantile Paralysis. Dr. Howard A. Rusk, professor and chairman, Department of Physical Medicine and Rehabilitation, received $136,404 for an intensive teaching program for undergraduate and graduate medical students in the concepts and basic technics of total rehabilitation. Dr. Joseph G. Benton, associate professor of clinical physical medicine and rehabilitation, $95,372, for research and patient care at the Goldwater Memorial Hospital Respirator Care and Rehabilitation Center. Research will be directed toward developing methods by which polio victims can be taught to breathe without aid of iron lungs or other mechanical aids, and the methods developed will be taught to those caring for polio patients in other areas. A home care program is to be developed also.

NECROLOGY

Charles J. Basile, M.D., of Hempstead, died on July 21 at the age of forty-three. Dr. Basile graduated from New York Medical College in 1937. He was director of orthopedic surgery at Mercy Hospital, Rockville Centre, consulting orthopedic surgeon at South Nassau Communities Hospital, Oceanside, and orthopedic surgeon in the orthopedic surgery and tumor service at Meadowbrook Hospital, Hempstead. Dr. Basile was a Diplomate of the American Board of Orthopedic Surgery and a member of the Associated Physicians of Long Island, the Nassau Surgical Society, the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Frank Berner, M.D., of New York City, died on August 4 after a short illness in the Lenox Hill Hospital at the age of sixty. Dr. Berner received his medical degree from the University of Basel in 1924. From 1930 until 1951 he was instructor in psychiatry and associate professor of psychiatry at Columbia University College of Physicians and Surgeons. At one time he had been executive director of the American Institute of Psychoanalysis and a director and teacher at the Psychoanalytical Institute in New York City. At the time of his death he was a member of the American Orthopsychiatric Association, the American Psychoanalytic Association, the American Association for Research in Psychosomatic Problems, the New York Academy of Medicine, the New York Society for Clinical Psychiatry, the New York Psychoanalytic Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Peter James Dulligan, M.D., of Brooklyn, died on July 29 in his home in Flushing at the age of seventy-one. Dr. Dulligan graduated from Harvard Medical School in 1911. A former senior surgeon at St. Mary's Hospital, Brooklyn, Dr. Dulligan had served also as chairman of the cancer prevention committee of the Brooklyn Cancer Society and in 1953 Pope Pius XII named him a Knight of St. Gregory in recognition of his services to hospitals and charities. Dr. Dulligan was consulting surgeon at St. Charles and Greenpoint Hospitals. He was a Fellow of the American College of Surgeons and a member of the Brooklyn Surgical Society, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Harry Feldman, M.D., of Brooklyn, died on July 29 at the age of sixty-three. Dr. Feldman graduated in 1916 from New York University and Bellevue Hospital Medical College. He was director of surgery at Greenpoint Hospital, associate attending surgeon at St. Catherine's, Caledonian, and Prospect Heights Hospitals, consultant in surgery at Brooklyn and Unity Hospitals, and attending surgeon at Maimonides Hospital. A Fellow of the American College of Surgeons, Dr. Feldman was a member of the Brooklyn Surgical Society, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Arnold Leo Friedman, M.D., of Freeport, died on July 31 at the Long Island College Hospital after an illness of seven months, at the age of thirty-seven. Dr. Friedman graduated from the University of Michigan Medical School in 1942. He was a junior attending surgeon at Meadowbrook Hospital and attending surgeon at South Nassau Communities Hospital, Oceanside. Dr. Friedman was a member of the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Abraham Goldberg, M.D., of Lynbrook, died suddenly on June 23 at the age of sixty-nine. Dr. Goldberg graduated in 1907 from Columbia University College of Physicians and Surgeons and interned at Lebanon Hospital, Brooklyn. He was consulting gynecologist at St. Joseph's Hospital, Far Rockaway. At the time of his death he was a member of the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Richard Harrington, M.D., of Clarence Center, died on July 5 after an illness of several years, at the Brothers of Mercy Sacred Heart Home for Men, Clarence Center, at the age of eighty-two. Dr. Harrington graduated from Trinity Medical College, Ontario, in 1901. He was a past president of the Amherst and Clarence Medical Society. In 1951 he was presented a certificate of recognition for the practice of medicine by the Medical Society of the State of New York. He was a member of the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

George Allan Lyall Irwin, M.D., of Hollis, died of a short illness on June 27 while visiting friends in Southampton. Dr. Irwin received his medical degree in 1912 from Queens University Faculty of Medicine in Kingston, Ontario, Canada. He was a founder of the Irwin Nursing Home in Hollis and until recently director.

Abraham Lightstone, M.D., of New York City, died on August 6 of a heart attack in the Surf Club, Atlantic Beach, Long Island, at the age of eighty. Dr. Lightstone graduated from the New York University and Bellevue Hospital Medical College in 1902. He had practiced medicine for more than fifty years and at one time had served on the staffs of the Jewish Memorial, Brownsville and East New York, Sydenham, and Medical Arts Hospitals. At the time of his death he was a Fellow of the American College of Surgeons and a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Theodore R. Lombardo, M.D., of Brooklyn, died on July 20 at St. Vincent's Hospital after a short illness at the age of forty-five. Dr. Lombardo graduated in 1936 from the Long Island College of Medicine. He was assistant attending obstetrician and gynecologist at St. Mary's Hospital in Brooklyn and a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William F. Mitchell, M.D., of Syracuse, died on August 4 in Syracuse Memorial Hospital at the age of sixty-five. Dr. Mitchell graduated from Syracuse University College of Medicine in 1916. At the time of his death he was an honorary physician at the Crouse-Irving Hospital. He was a member of the Syracuse Academy of Medicine, the Onondaga County Medical Society, and the Medical Society of the State of New York.

Samuel James Post, M.D., of Center Moriches, died on July 31 at the age of seventy-two. Dr. Post graduated from Long Island College Hospital School of Medicine in 1912. He was a Fellow of the American College of Chest Physicians and a member of the Suffolk County Medical Society and the Medical Society of the State of New York.

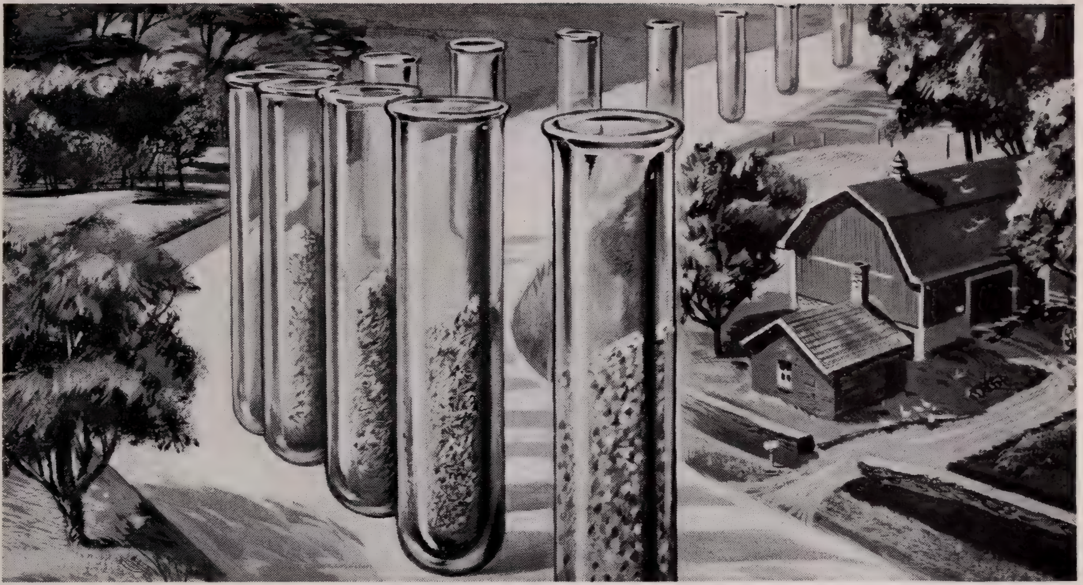
Frederick Rieth Small, M.D., of Newburgh, died on July 20 at the age of fifty-seven. Dr. Small graduated from University and Bellevue Hospital Medical College in 1931 and interned at Knickerbocker Hospital, New York City. He was chief of surgery at St. Luke's Hospital, Newburgh, and consultant in surgery at the Outpatient Department of St. Luke's and Highland Beacon Hospitals. At the time of his death he was a Fellow of the American College of Surgeons and a member of the Mid-Hudson Surgical Society, the New York Academy of Medicine, the Orange County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Edmond Walther, M.D., of New York City, died on May 24 at the age of sixty-nine. Dr. Walther received his medical degree from the University of Jena in 1911. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Maurice W. Wolff, M.D., of New Rochelle, died on August 8. Dr. Wolff graduated from Albany Medical College in 1904.

But the age of chivalry is gone; that of sophisters, economists, and calculators has succeeded.—Edmund Burke

SECOND REPORT



LECITHIN RESEARCH—AT THE BEND OF THE ROAD

The Therapeutic Usefulness of Lecithin – a natural phospholipid

Because lecithin, a natural, edible food constituent, is an excellent emulsifying agent its application in diseases characterized by disturbed fat absorption and metabolism is logical. Research has proved its value in facilitating intestinal absorption of fats and fat-soluble substances such as Vitamin A.[1-5] For this reason it suggests itself as worthy of trial in treating underweight and steatorrheal diseases (sprue, celiac disease, etc.).

Encouraging results were also achieved in the management of psoriasis, together with dietary and topical measures,[6] and in fatty livers.[7] In the treatment of diabetes, lecithin together with vitamin E has reduced insulin requirements in certain patients.[8] Research on its potentially useful role in the management of the more complicated forms of deranged lipid and cholesterol metabolism – as encountered in essential hyperlipemia, idiopathic familial hypercholesteremia, xanthomatosis, diabetes, etc. – is now being actively conducted.

An excellent source of lecithin is Glidden's "RG" Oil-free Soya Lecithin, a highly purified extract containing a minimum of 95% phospholipids. It is packed in a specially designed 8 oz container to maintain its purity and freshness and is available at your drugstore.

Dosage: Investigators of lecithin have used quantities from 7.5 to 30 grams daily in divided doses. (3 teaspoonfuls equal 7.5 grams.)

Administration: "RG" Lecithin is presented in palatable granules which may be taken plain, in milk, in orange juice or other citrus juices, or sprinkled on cereal.

Literature available on request.

Bibliography: 1. Adlersberg, D., and Sobotka, H.: J. Nutrition *25*:255 (March) 1943. • 2. Adlersberg, D., and others: Gastroenterology *10*:822 (May) 1948. • 3. Adlersberg, D.: New York J. Med. *44*:606 (March 15) 1944. • 4. Adlersberg, D., and others: Am. J. Digest. Dis. *16*:333 (Sept.) 1949. • 5. Augur, V.; Rollman, H. S., and Deuel, H. J., Jr.: J. Nutrition *33*:177 (Feb.) 1947. • 6. Gross, P., and Kesten, M. B.: New York J. Med. *50*:2683 (Nov. 15) 1950. • 7. Schettler, G.: Klin. Wchnschr. *30*:627 (July) 1952. • 8. Dietrich, H. W.: South. M. J. *43*:743 (Aug.) 1950.

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DISTRICT BRANCH MEETINGS

Medical Society of the State of New York

SECOND DISTRICT BRANCH

Wednesday, September 14, 1955
Riverside Inn, Main Street, Smithtown

Evening

6:00 P.M.—Registration

7:00 P.M.—Dinner

Introduction of Officers

Address: RENATO J. AZZARI, M.D., Bronx, president of the Medical Society of the State of New York

Remarks: MRS. ISADORE ZADEK, New Rochelle, president of the Woman's Auxiliary to the Medical Society of the State of New York

"History of Long Island"—PAUL BAILEY, Amityville, Editor and Author

Officers—Second District Branch

President	Leo T. Flood, M.D., Hempstead
First Vice-President	Arthur E. Corwith, M.D., Bridgehampton
Second Vice-President	John N. Shell, M.D., Freeport
Secretary	Albert M. Biglan, M.D., Central Islip
Treasurer	George C. Erickson, M.D., Hempstead

Presidents—Component County Medical Societies

Nassau	Gerard V. Farinola, M.D., Roosevelt
Suffolk	Victor K. Young, M.D., Riverhead

Presidents of Woman's Auxiliaries to Component County Medical Societies

Nassau	Mrs. James L. McCartney, Garden City
Suffolk	Mrs. Fred Bromberg, Bay Shore

THIRD DISTRICT BRANCH

Thursday, September 15, 1955
Elks Club, 601 Union Street, Hudson

Morning

9:30 A.M.—Registration

10:00 A.M.—Film: "Emotional Preparation of Children for Surgery," to illustrate a county medical society accomplishment in public relations

10:30 A.M.—Clinicopathologic Conference

11:30 A.M.—Business Meeting

12 NOON— Cocktails and Luncheon
The Woman's Auxiliary is invited.

Introduction of Officers

Address: RENATO J. AZZARI, M.D., Bronx, president of the Medical Society of the State of New York

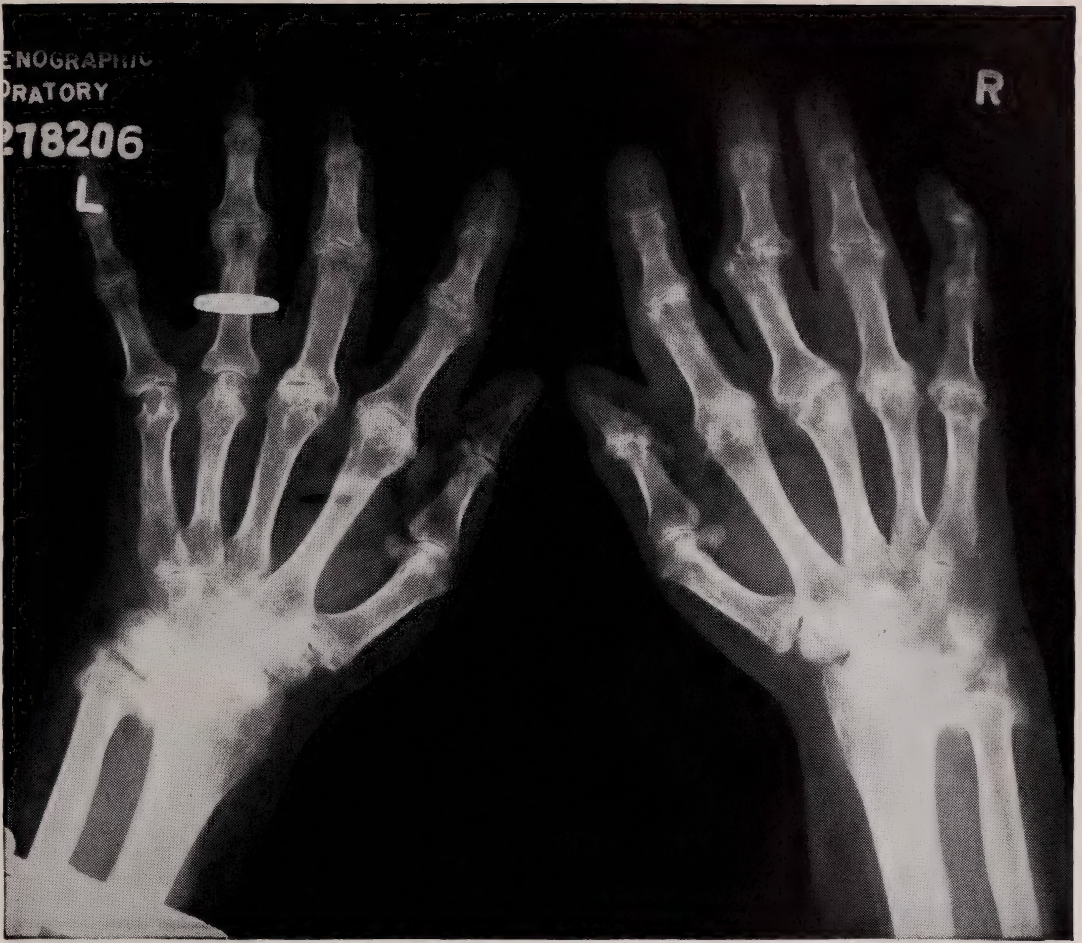
Remarks: MRS. ISADORE ZADEK, New Rochelle, president of the Woman's Auxiliary to the Medical Society of the State of New York

Afternoon

2:00 P.M.—Round Table Discussion: "Intervertebral Disk Injuries of the Cervical and Lumbar Spine"

FREDERICK R. THOMPSON, M.D., *Moderator,* New York City, Attending Orthopedic Surgeon, St. Luke's Hospital

[Continued on page 2538]



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Although patients often use sodium bicarbonate with aspirin to alleviate gastric symptoms, clinicians know that this causes a lowering of the salicylate level of the blood serum.[2] Moreover, this practice may cause retention of the sodium ion.[3] Pre-existing symptoms of cardiorenal disease have been aggravated.[1]

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References: 1. Fremont-Smith, P.: J.A.M.A. 158: 386, 1955. 2. J.A.M.A. 141: 124, 1949. 3. M. Times 81: 41, 1953.

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[Continued from page 2536]

Opening Remarks, Incidence, Mechanism of Injury and Clinical Diagnosis—Dr. Thompson

Discussion

1. "Radiographic Diagnosis"—John F. Roach, M.D., Albany, Radiologist-in-Chief, Albany Hospital
2. "Nonsurgical Treatment"—Henry A. Shenkin, M.D., Philadelphia, Pennsylvania, Neurological Surgeon
3. "Surgical Treatment"—Eldridge Campbell, M.D., Albany, Chief of Surgery and Neurosurgery, Albany Hospital

Questions and Answers

4:30 p.m.—Adjournment

Officers—Third District Branch

President	Everett A. Jacobs, M.D., Hudson
First Vice-President	Edwin G. Mulbury, M.D., Windham
Second Vice-President	Clement J. Handron, M.D., Troy
Secretary	Henry J. Noerling, M.D., Valatie

Presidents—Component County Medical Societies

Albany	John C. McClintock, M.D., Albany
Columbia	John Dardess, M.D., Chatham
Greene	Thomas E. McQuade, M.D., Coxsackie
Rensselaer	Leo S. Weinstein, M.D., Troy
Schoharie	Virginia Oliver, M.D., Cobleskill
Sullivan	George Seiken, M.D., Liberty
Ulster	Frederic S. Carr, M.D., Kingston

EIGHTH DISTRICT BRANCH

Wednesday, September 28, 1955
Ballroom, Hotel Niagara, Niagara Falls

Afternoon

Postgraduate education credit will be allowed by New York State Academy of General Practice

1:30 p.m.—Registration

2:00 p.m.—Scientific Program

"Headache"—Francis L. McNaughton, M.D., Associate Professor of Neurology and Neurosurgery, McGill University Faculty of Medicine, Montreal, Canada

"Recent Advances in Vascular Surgery"—Jere W. Lord, Jr., M.D., Clinical Professor of Surgery, New York University Post-Graduate Medical School, New York City

"Changing Aspects of Thyroid Disease"—Laurence H. Kyle, M.D., Associate Professor of Medicine, Georgetown University School of Medicine, Washington, D.C.

5:00 p.m.—Business Meeting

Report of Nominating Committee

Election of Officers

Evening

6:30 p.m.—Dinner

Introduction of Officers

Address: James Greenough, M.D., Oneonta, president-elect, Medical Society of the State of New York

Remarks: Mrs. Isadore Zadek, New Rochelle, president, Woman's Auxiliary to the Medical Society of the State of New York

"The Physician as Seen in Literature"—Dr. Charles A. Brady, Buffalo, Professor of English, Canisius College; Literary Critic, *Buffalo Evening News;* Author and Lecturer

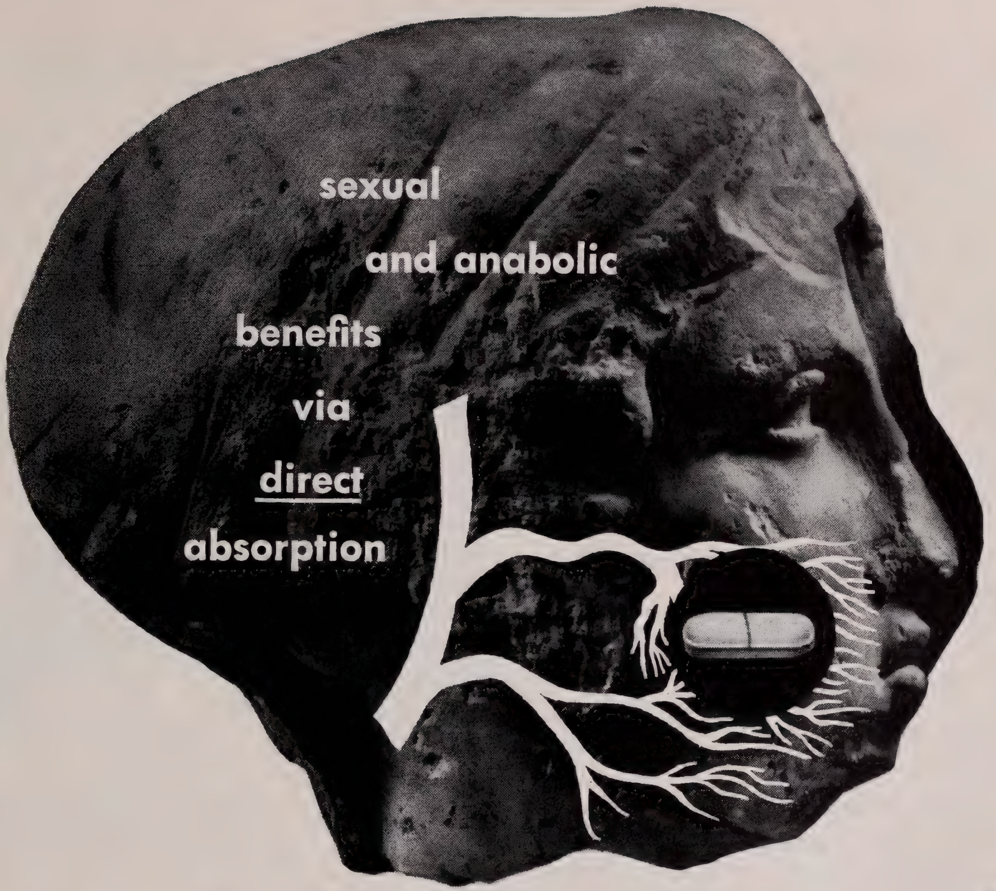
Dancing will follow the dinner meeting.

Officers—Eighth District Branch

President	Sydney L. McLouth, M.D., Corfu
First Vice-President	Elmer T. McGroder, M.D., Buffalo
Second Vice-President	Wilfrid M. Anna, M.D., Lockport
Secretary	Clyde L. Wilson, M.D., Jamestown
Treasurer	Richard A. Loomis, M.D., Ellicottville

Presidents—Component County Medical Societies

Allegany	Edward W. Briggs, Jr., M.D., Wellsville
Cattaraugus	Thomas G. Gardner, M.D., Salamanca
Chautauqua	Harold A. Blaisdell, M.D., Jamestown
Erie	Walter Scott Walls, M.D., Buffalo
Genesee	Ralph B. Smallman, M.D., Batavia
Niagara	Vincent L. Pellicano, M.D., Niagara Falls
Orleans	Arden H. Snyder, M.D., Holley
Wyoming	Fritz D. Dreyfuss, M.D., Gainesville



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Woman's Auxiliary

to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

"Leadership in Action" To Be Fall Conference Theme

This year the annual Fall Conference of the Woman's Auxiliary to the Medical Society of the State of New York will be held on Monday, Tuesday, and Wednesday, October 3, 4, and 5, at the Nelson House, Poughkeepsie.

Attending will be the State Auxiliary officers, district councillors, and chairmen of committees, and the presidents and presidents-elect from each county auxiliary.

The conference, which is essentially a workshop, is especially designed and planned for the county auxiliary presidents and presidents-elect and provides them with an opportunity to meet to discuss and plan their local county auxiliary activities for the coming year, under the guidance and with the cooperation of the State officers and committee chairmen.

Tuesday morning will be devoted to a session on "Group Dynamics and Leadership." Leading the discussion will be Mrs. Clarice Pennock, field director for social services at Vassar College, Poughkeepsie. Other participants will include Dr. Nevitt Sanford of the Mary Conover Mellon Fund and Dr. Dwight Capman and Dr. Leslie Koempoel, members of the Vassar College faculty.

The Tuesday afternoon session will be devoted to "The Auxiliary Program with Three Age Groups—Teenagers, Homemakers, and Senior Citizens." Mrs. R. T. Corey, Cortland, nurse recruitment chairman, will discuss future nurses clubs; Mrs. Edward Ryan, Glens Falls, public relations chairman, will discuss GEMS (good emergency mother substitutes), a course for baby sitters; Mrs. Eugene Wolff, Newburgh, program chairman, will discuss "Home Safety," and Mrs. Albert M. Biglan, Central Islip, mental health chairman, will discuss "Problems of Aging."

High light of the conference is the annual dinner to be held Tuesday night at the Nelson House. Guest speaker will be Dr. Howard A. Rusk, chairman of the Department of Physical Medicine and Rehabilitation of the New York University-Bellevue Medical Center. Other guests will include officers and representatives of the Medical Society of the State of New York.

On Monday night and Tuesday morning of the conference, five-minute reports will be given by the State Auxiliary committee chairmen.

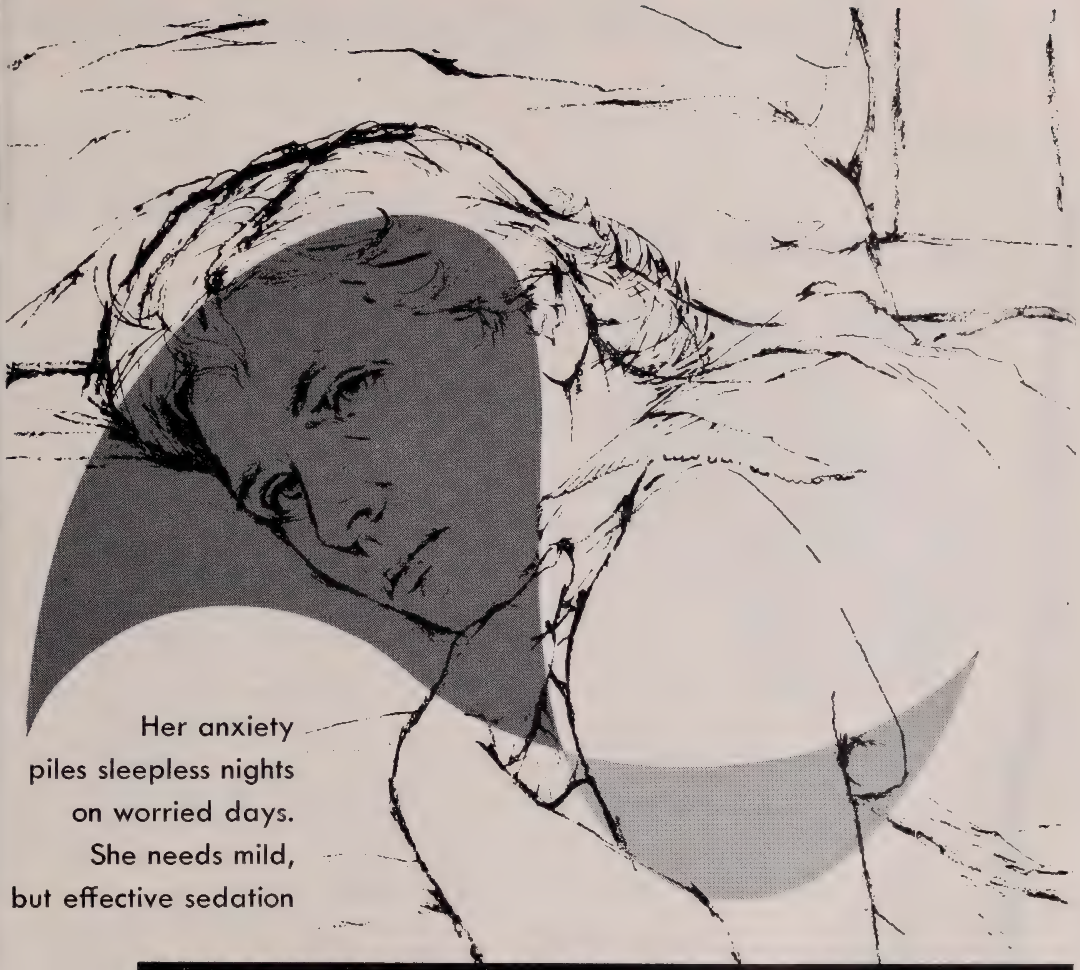
The conference committee cordially invites any officer or member to attend all or any portion of the sessions. This will be an opportunity to demonstrate in capsule form the scope and serious intent of the member auxiliaries.

Throughout the year in many ways the State and county medical societies manifest their appreciation for the purposes for which the Auxiliary exists. This recognition is gratefully acknowledged and serves constantly as a reminder that Auxiliary aims and tangible achievements are purposeful.

Mrs. John F. Rogers, *Chairman*
Fall Conference Committee

The Emergence of Antibiotic-Resistant Gram-Negative Bacilli

Evidence of a significant decrease in antibiotic sensitivity of gram-negative bacilli isolated from urinary tract infections emerged from a series of comparative in vitro tests with streptomycin, chlortetracycline, and oxytetracycline. With chloramphenicol, which was also tested in this study, no significant change was apparent, although there was evidence of a trend toward increased resistance of the organisms tested. In their summary of results, Drs. J. P. Sanford and Cutting B. Favour report that the decrease in the proportion of sensitive strains is not associated with changes in colony morphology or loss of virulence for mice. Levels of susceptibility of organisms to antibiotics apparently are not affected by repeated lyophilization, at least insofar as determined by in vitro tests. The decrease of sensitive strains did not seem to be related entirely to previous antibiotic therapy in a given subject. The importance of urinary tract infections from the viewpoint of incidence, and the importance of antibiotic therapy in their management combine to make these findings a matter of concern.—*J. P. Sanford, M.D., and Cutting B. Favour, M.D., Journal of Laboratory and Clinical Medicine, April, 1955*



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Clinical choice.

Among the various contraceptive technics advocated in clinical studies, the diaphragm-and-jelly method provides the greatest degree of protection.[1] When patients use the method properly, unplanned pregnancies seldom occur. Tietze observes that urban population groups using the diaphragm-and-jelly technic have an unplanned pregnancy only "once in ten to 15 years."[1]

Wanted: Pregnancy after protection.

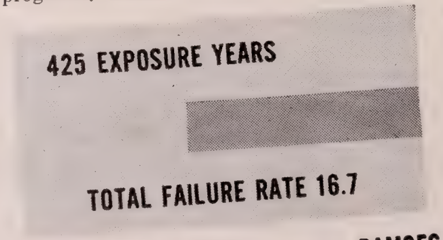
The patient who interrupts conception control in order to have a child may become anxious and irritable if no pregnancy results. However, experience shows that when regular users of the diaphragm-and-jelly method discontinued it in the hope of pregnancy, "25 to 30 per cent achieved pregnancy within one month."[1]

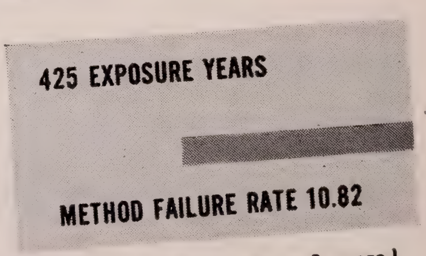
Physician knows best.

Instead of diaphragm-and-jelly, the physician may prescribe the protection of jelly-alone for women of low parity,[2] or where there is anatomic deviation such as: Relaxed pelvic floor[3,4] ■ Extensive cystocele or rectocele[3,4,5] ■ Intact hymen[5] ■ Short anterior vaginal wall[4] ■ Complete prolapse.[5] In 325 women observed who had used the jelly-alone (RAMSES® Vaginal Jelly) method from 3 months to 3 years, the total unplanned pregnancy rate was only 16.7 per 100 patient-years of exposure. Of these pregnancies, over 35% were due admittedly to patients' negligence or failure to use method properly. Thus the actual pregnancy rate was 10.82 per 100 patient-years of exposure.[2]

Fulfill individual needs.

In prescribing diaphragm-and-jelly, specify RAMSES "TUK-A-WAY"® Kit illustrated on opposite page. In prescribing jelly-alone, specify RAMSES Vaginal Set No. 3, which supplies a tube of RAMSES Vaginal Jelly and a measured-dose applicator. Either package provides optimum protective technic in its proper indication.





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An introducer sized to fit the diaphragm – for easy insertion and correct placement.

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5. Greenhill, J. P.: Office Gynecology, ed. 5, Chicago, The Year Book Publishers, Inc., 1948.

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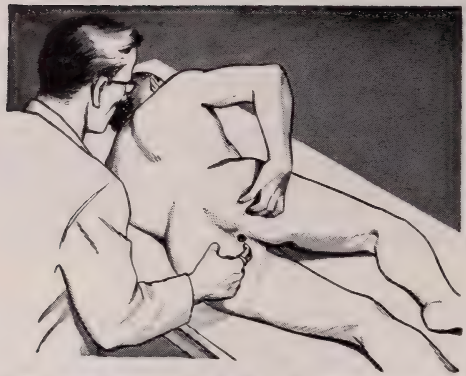
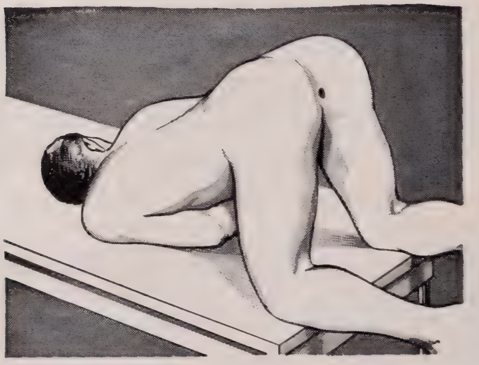
DETECTION OF RECTAL, RECTOSIGMOID, AND COLONIC POLYPS AND CANCER

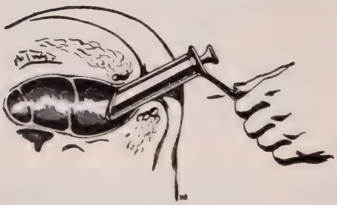


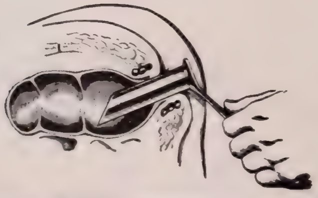
Sims position for digital and anoscopic examination, right knee across and in front of left thigh.



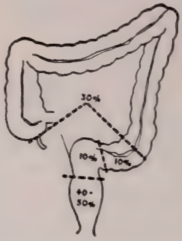
Shoulder-chest position on ordinary table for proctoscopic and sigmoid examination. Thighs slightly apart, at right angles to edge of table. Left shoulder under chest, face to right.

Anorectal examination — digital and anoscope or proctoscope.





After gentle digital examination of the walls of the rectum, the well-lubricated anoscope or proctoscope with its obturator is inserted within the anal canal in the direction of the table. The obturator is withdrawn and air enters the rectum, permitting a view beyond the length of the proctoscope.



40 to 50 per cent within reach of digital and proctoscopic examination.

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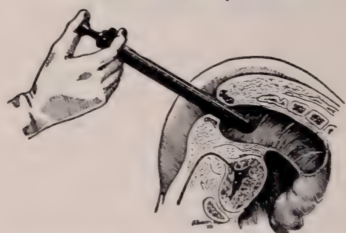
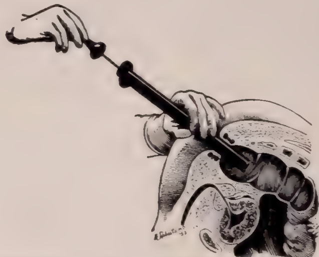
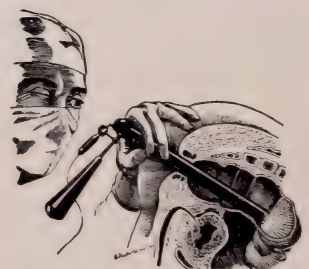
Sigmoidoscopic examination, with the patient in the knee-chest position.



Introduction of sigmoidoscope with obturator *just beyond the sphincter.*



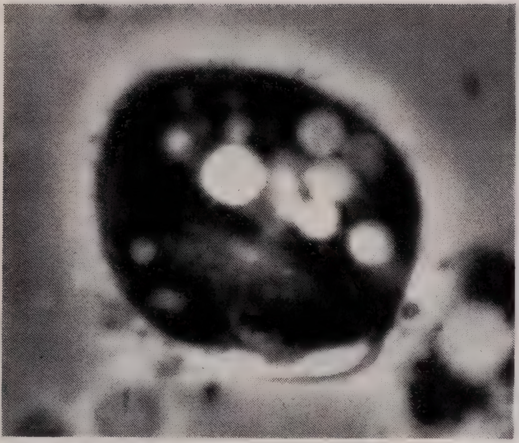
Obturator is removed before advancing the sigmoidoscope.



ONLY UNDER DIRECT VISION *should* the *sigmoidoscope be advanced.*

(Prepared by the Subcommittee on Cancer, Medical Society of the State of New York)

DAVIS TECHNIC USING VAGISEC* JELLY AND LIQUID EXPOSES AND EXPLODES TRICHOMONADS HIDDEN AWAY IN RUGAE



Phase-contrast microscope shows a trichomonad in a mucinous vaginal smear.

MANY trichomonacides failed in years past largely because they reached only the parasites swimming freely in the vaginal canal—not those hiding under epithelial cells deep among the vaginal rugae. In fact, some agents actually coagulated the albuminous material lining the surface and protected the trichomonads![1]

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Overpowering action. Three surface-acting chemicals in VAGISEC liquid, acting synergistically, not only reach trichomonads but explode them![3] A chelating agent complexes and removes the calcium of the calcium proteinate. A wetting agent removes lipid materials. A detergent denatures the protein. The parasites imbibe water, swell and explode.

The Davis technic.† Dr. Davis recommends a combination of office treatments and home treatments, using both VAGISEC jelly and liquid in home treatments. "A few women have infected cervical, vestibular or urethral glands and require other types of treatment. . . ."[2] It is well to remember the role of the male as carrier of the organism and prescribe protection against re-infection from the husband.[2]

Office treatment. Expose vagina with speculum. Wipe walls dry with cotton sponges and wash thoroughly for about three minutes with a 1:250 dilution of VAGISEC liquid. Remove excess fluid with cotton sponges. Dr. Davis recommends six office treatments, three the first week, two the second, and one the third.

Home treatment. Patient inserts VAGISEC jelly each night and douches with VAGISEC liquid (2 teaspoonfuls in 2 quarts of warm water) each morning except on office treatment days, through two menstrual periods. Continued douching two or three times a week helps to prevent re-infection. Pregnant women should have office treatments only.

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Active ingredients: Polyoxyethylene nonyl phenol, Sodium ethylene diamine tetra-acetate, Sodium dioctyl sulfosuccinate. In addition, VAGISEC jelly contains Boric acid, Alcohol 5% by weight.

1. Davis, C. H.: Am. Jour. Obst. & Gynec. 68:559 (Aug.) 1954.
2. Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955.
3. Davis, C. H.: J.A.M.A. 157:126 (Jan. 8) 1955.

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1. Eisenberg, et al., Antib. & Chemo., 3:1026-1028, Oct., 1953.

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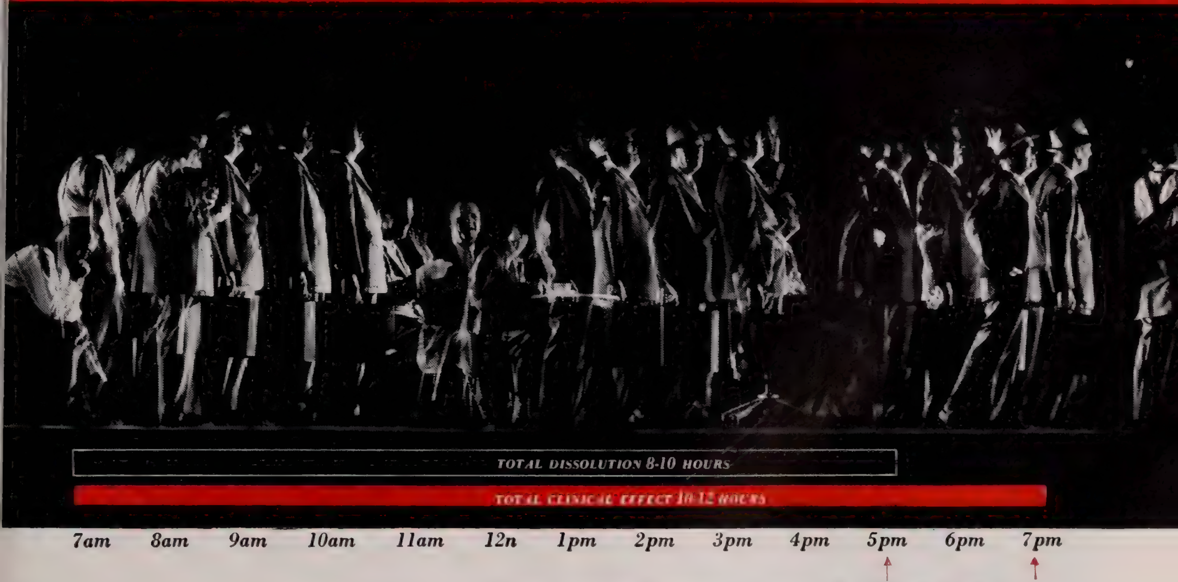
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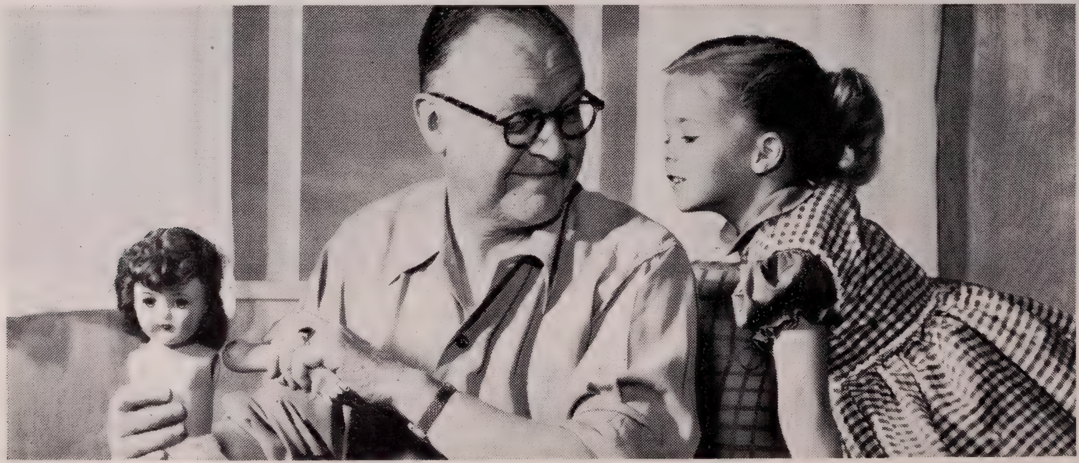

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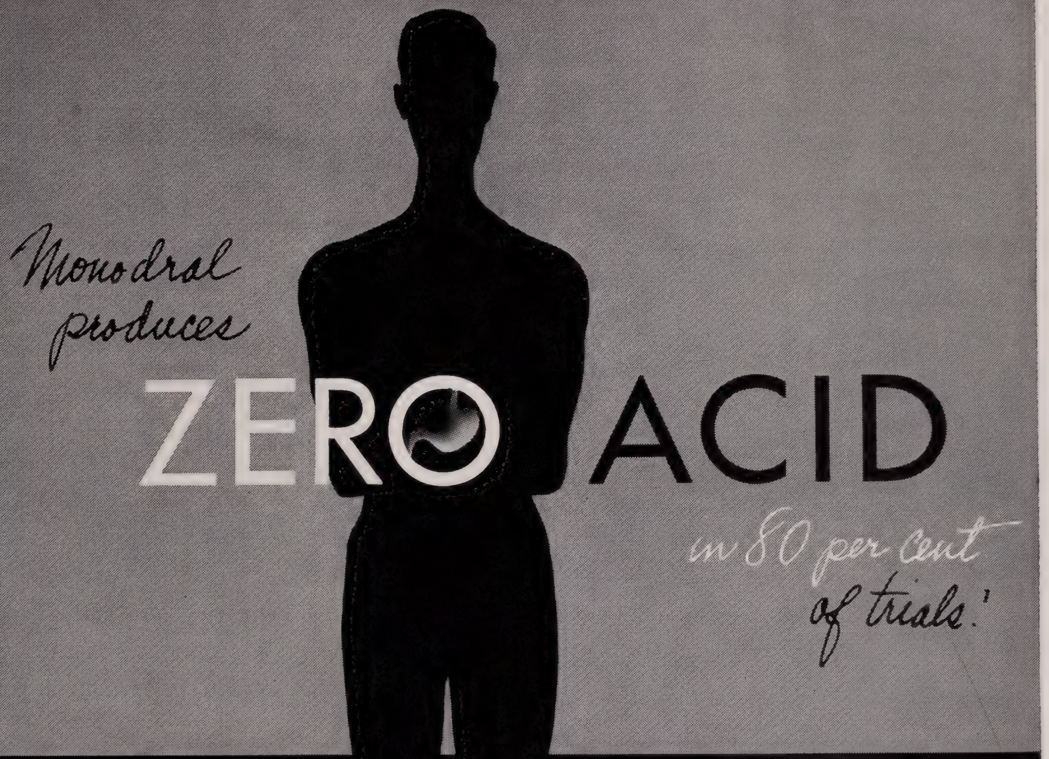

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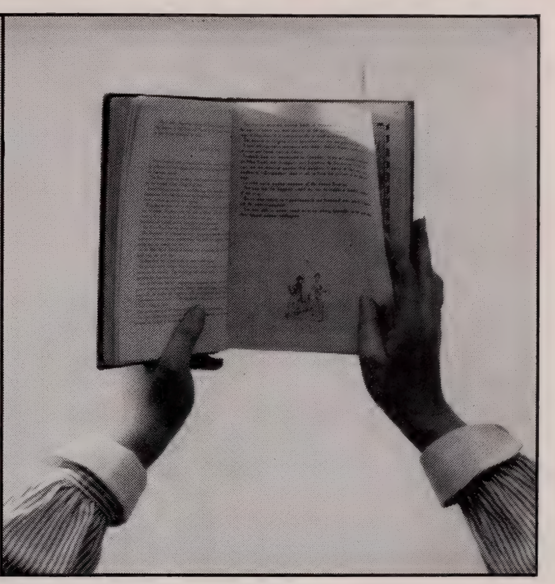

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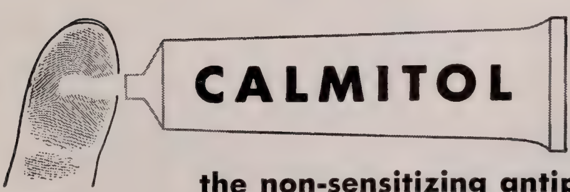

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1. Lubowe, I. I.: New York State J. Med. 50:1743, 1950.

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1. Robinson, H. M., Jr., et al.: South. M. J. 46:773, 1953.

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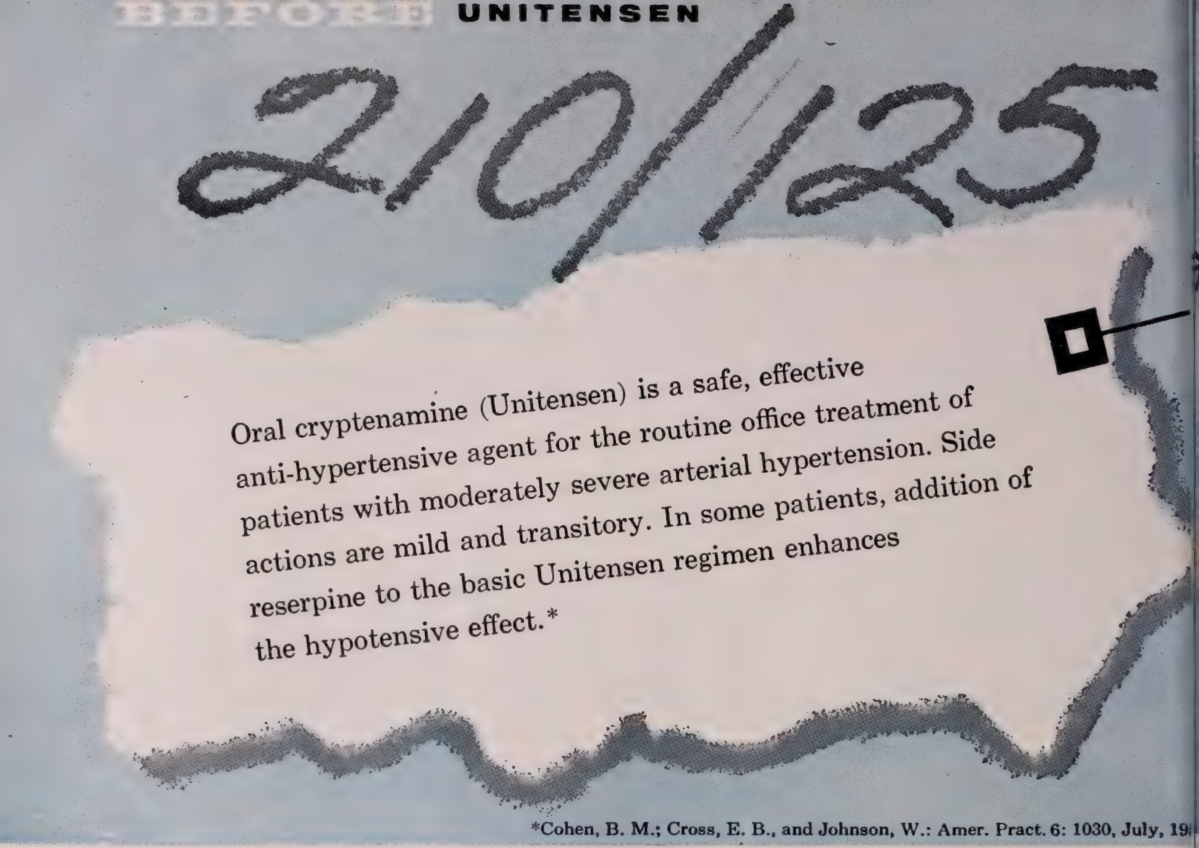

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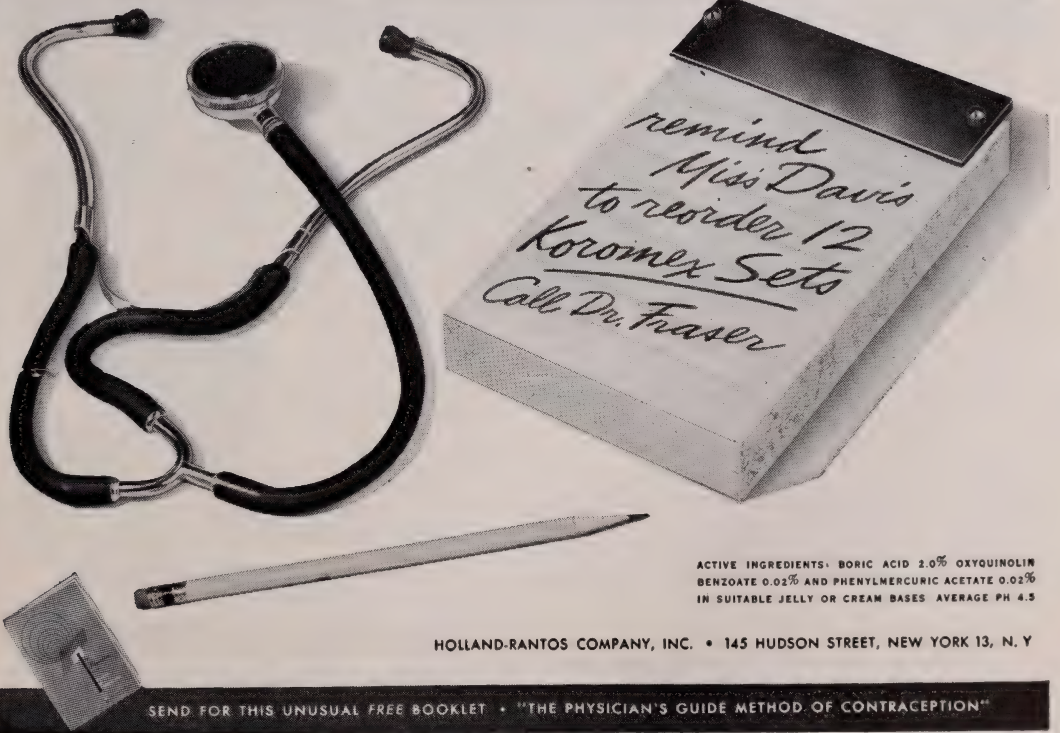

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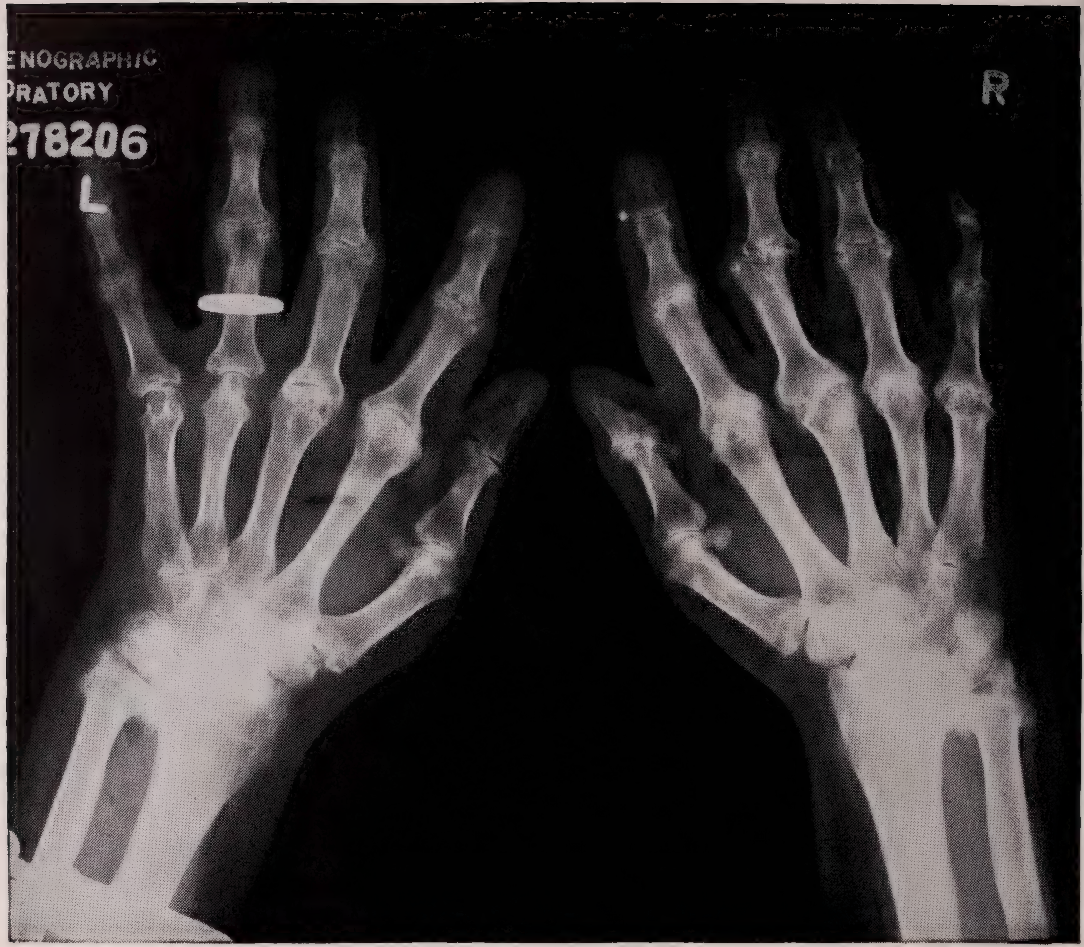

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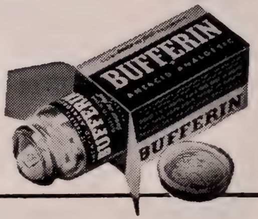

References: 1. Fremont-Smith, P.: J.A.M.A. 158: 386, 1955. 2. J.A.M.A. 141: 124, 1949. 3. M. Times 81: 41, 1953.

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1. Kulz, F. and Rosenmund, K.W., Klin. Wchnschr., *17*:344 (1938).
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5. Ohr, A., Therapie d. Gegenwart, *80*:29 (1939).

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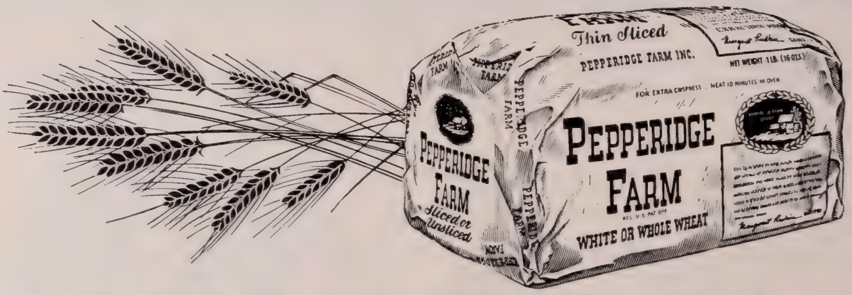

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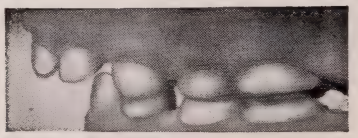

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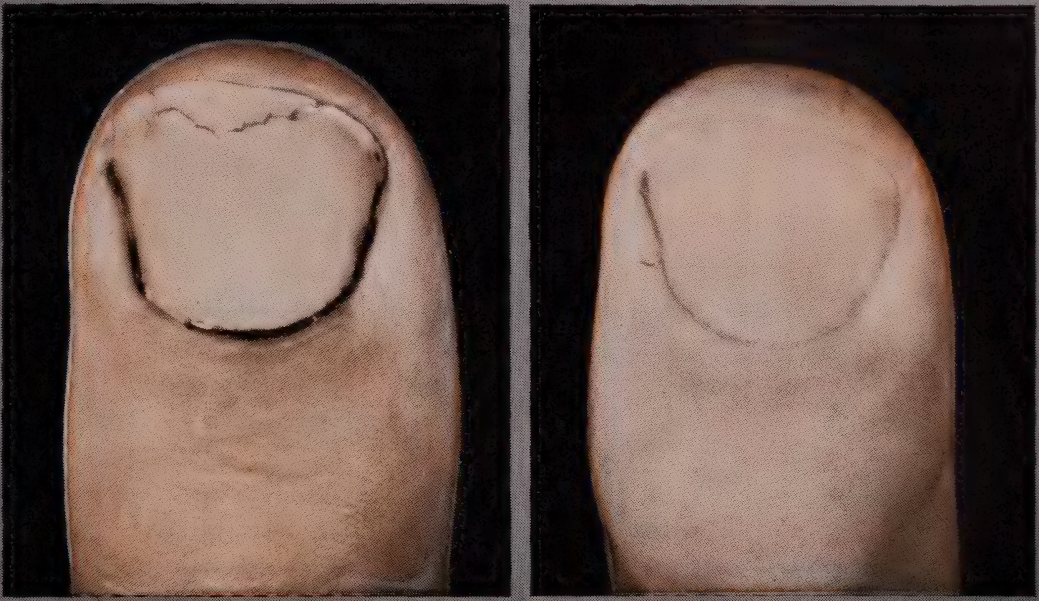

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1. Rosenberg, S. and Oster, K. A., "Gelatine in the Treatment of Brittle Nails," *Conn. State Med. J.* **19**:171-179, March 1955.
2. Tyson, T. L., *J. Invest. Dermat.* **14**:323, May 1950.

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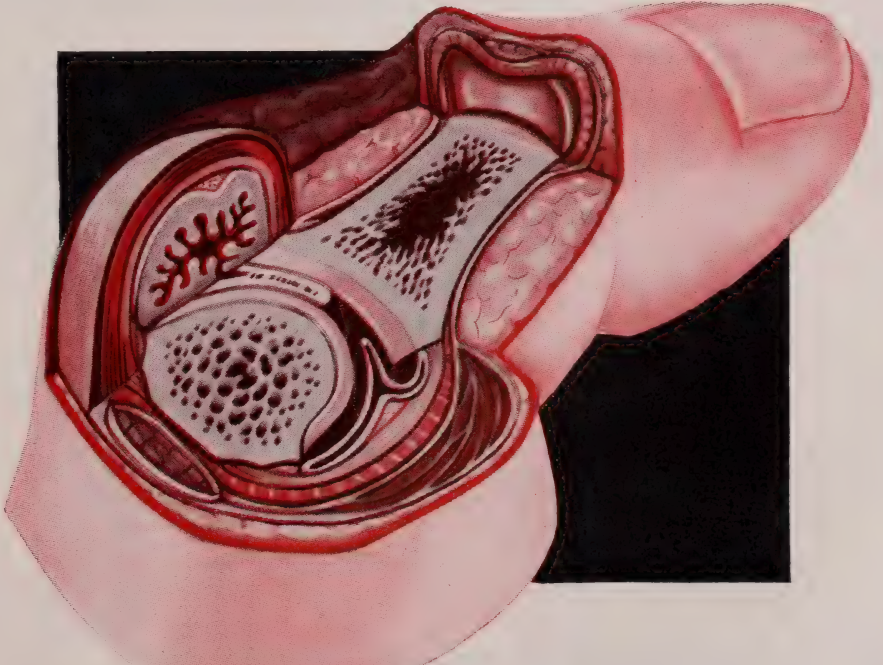

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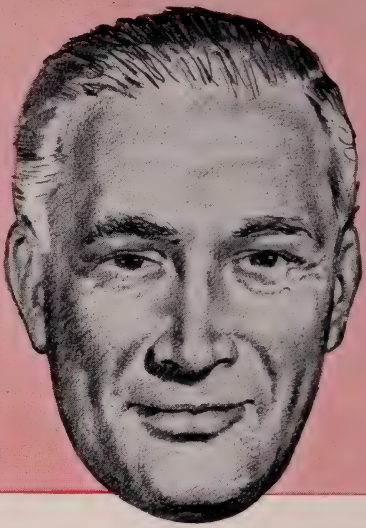

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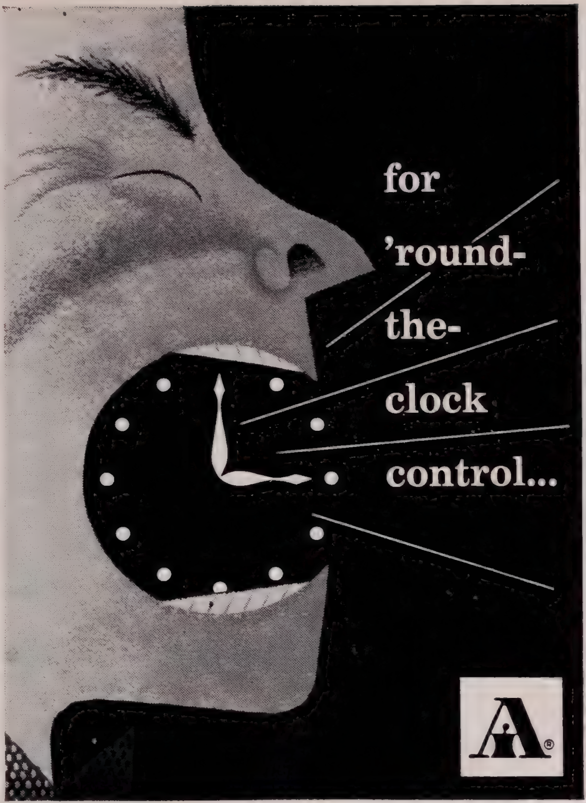

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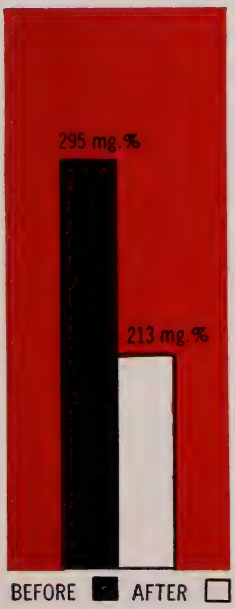

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1. *Albert, A., and Albert, M.: Texas State J. Med.* 50:814 (Dec.) 1954.
2. *Sherber, D.A., and Levites, M.M.: J.A.M.A.* 152:682 (June 20) 1953.

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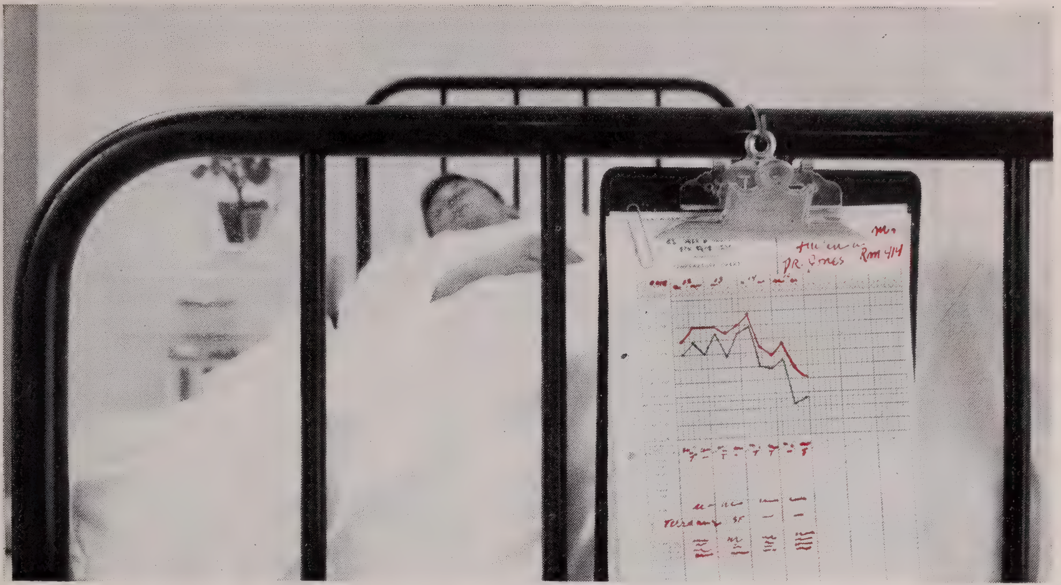

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1. Dumas, K. J.; Carlozzi, M., and Wright, W. A.: Antibiotic Med. *1*:296 (May) 1955. 2. Prigot, A.: Ann. New York Acad. Sc., in press. 3. Milberg, M. B., and Michael, M., Jr.: Ibid. 4. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, Prepared in Collaboration with the Committee on Therapeutic Nutrition, Food and Nutrition Board, National Research Council, Washington, D. C., 1952.

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*Talkov, R. H., Ropes, M. W., and Bauer, W.: *The Value of Enteric Coated Aspirin.* N.E.J. Med. 242,19 (Jan. 5) 1950.

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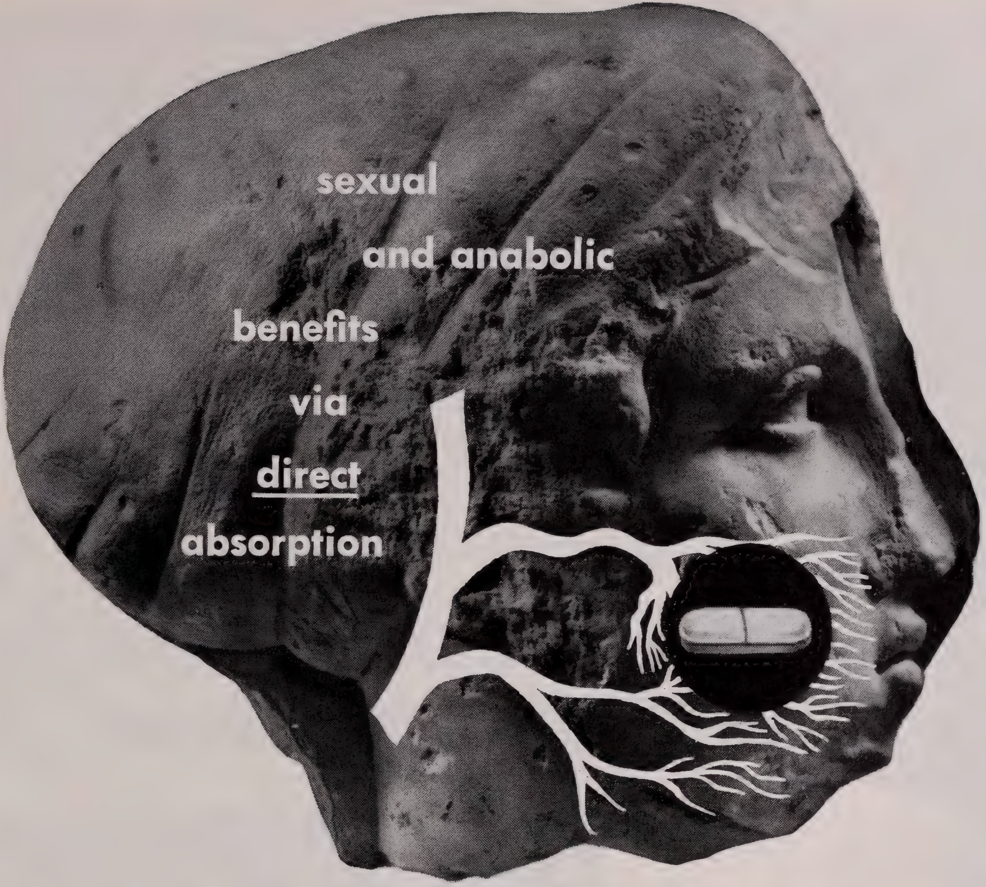

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EDITORIALS

The New York Heart Assembly

Ordinarily, physicians might look with some question upon the development of a new voluntary health organization, with annual scientific meetings for him to attend and more published material for him to read. Nevertheless, with the growing problem of cardiovascular disease in the practice of medicine and with its relationships to the medical and social problems of aging, rehabilitation, compensation, and employment, physicians may take not only a tolerant but a very sympathetic attitude toward the establishment of the New York Heart Assembly four years ago and the incorporation of a scientific session into the last two annual spring meetings.

The New York Heart Assembly, which is associated with the State Committee on Tuberculosis and Public Health of the State Charities Aid Association, is an affiliate of the American Heart Association. Excluding New York City and a small group of counties in the remainder of the State, the Assembly serves as a coordinating unit for the activities of some 50 local heart chapters. Its annual meetings have been devoted to the establishment of procedures and standards for community heart programs, the evaluation of current activities, the introduction of new concepts, and the reorientation of existing policies to bring better medical and related services to the cardiovascular disease patient.

The Assembly works through five standing committees devoted to the organization's major interests of program development, cardiovascular disease clinics, professional and public education, rehabilitation and occupational guidance, and fund raising. During annual meetings the programs have been divided into sections covering each of these fields in addition to the general sessions.

During the 1954 and 1955 meetings scientific sessions were added for the benefit of the many physicians who are devoting part or all of their professional careers to this subject and are volunteering so much time and effort to bring success to the local heart programs.

These scientific sessions were of such excellent quality that arrangements were made this year for the publication of several of the 1955 papers in the JOURNAL. Some of these appear in the current issue beginning on page 2633. It is believed that they are well worth the earnest attention of our readers.

We wish the New York Heart Assembly well and believe it should continue to explore methods of better reaching its well-designed objectives. Certainly, the JOURNAL should serve the purpose of bringing to its readers the benefits of high caliber scientific sessions which are arranged by State organizations.—I. J. B.

Report to Our Readers

The editors of the JOURNAL are pleased to report some progress in recent months. In bringing to the membership the distinguished series of articles on the treatment of cancer now running, they hope the JOURNAL has assisted in bringing to a focus much of the latest information on this topic briefly and with authority.

It will be noted also that with the cooperation of the medical schools and the hospitals of the State one clinicopathologic conference now appears in each issue of the JOURNAL. These have proved to be one of the most popular features of the book according to questionnaires conducted this year and last at the time of the Annual Meeting.

In process of development are two series of articles, one on anesthesiology and another on allergy. Also there is projected for later in this year an interesting study of the educational, training, postgraduate, and hospital opportunities for Negroes in New York State including New York City. No such study in New York State has been done prior to this time to our knowledge.

It is anticipated that it will be possible to resume from time to time the articles on nutrition which have in the past proved to be an extremely popular feature of the JOURNAL, together with some Conferences on Therapy.

We should also like to remind the membership that following the action of the House of Delegates at its 1955 session and by direction of the Council, the Publication Committee will continue to distribute this year, as a good will gesture, copies of the JOURNAL gratis to all senior medical students in the nine medical schools of the State during the academic year. According to letters received at the JOURNAL office, this action of the Society is much appreciated by the students who thus have an opportunity to get well acquainted with the publication and to learn about the Society and its deliberations and activities as many of them prepare to become future members. Some 600 gratis subscriptions make up this professional relations project now in its third year. Needless to say our advertisers appreciate the opportunity to bring their products to the notice of a group who will use them in the future.

It will be remarked that the JOURNAL has been able to extend its news of the medical schools of the State thanks to the very hearty cooperation of the several deans' offices and that of their public relations bureaus.

The medical profession originates in the schools, and what goes on in these teaching centers is of interest to every graduate and, we believe, to others who may be graduates of out-of-state schools but who practice here and who may have relatives who are enrolled or would like to be enrolled in one or another of our New York colleges. The JOURNAL is appreciative of the steady flow of news items from these sources.

It is anticipated that the articles on infant mortality, being the proceedings of the special committee on that subject of the Medical Society of the County of New York, will continue to appear from time to time. It will be recalled that the predecessor of the present committee, namely, that on maternal mortality, accomplished dramatic results in the reduction of maternal deaths some years ago. It is to be hoped that the work of the present committee, aided by advances in modern knowledge and technology in medicine, may achieve comparable ends which will be reported in the proceedings.

Editorial Comment

Distant Insurance Pastures. Commenting editorially on "distant insurance pastures," the *Westchester County Bulletin*[1] says that

> In various parts of the county there is some dissatisfaction among individuals and groups of physicians with the State Society's plan for malpractice and defense coverage by insurance.
>
> This dissatisfaction is concerned with: (*a*) the specifications in Classes I, II, and III, major surgery, minor surgery, and nonsurgery respectively. Many general practitioners feel that in order to be adequately covered they must insure in a higher premium bracket than they consider justifiable. (*b*) Many also think that Westchester deserves a preferential rating in all classes on the basis of loss experience. (*c*) Many consider that the county should be classed as "upstate" rather than "metropolitan."
>
> For one or more reasons specified above numerous physicians and groups of doctors are negotiating with private companies for coverage at premium rates initially lower than those quoted under the State Society's group plan. There is also discussion of the possibility of the county society withdrawing from the State-wide group.
>
> None of this is new. Distant insurance pastures have seemed greener before. And certainly exploration of other possibilities is to be encouraged. In that way one learns. If he or she learns to read his or her present group contract before abandoning it and to assess correctly the advantage of the State Society's contract with its carrier based on the solid foundation of its large membership, something has been gained.
>
> Surely it would be possible to change the allocation of procedures in the three classifications by negotiation with the State Society's malpractice and defense board if such changes were justifiable and desirable. But to abandon the group plan, even with its higher premium rates, seems to us to be throwing out the baby with the bath water.
>
> Certainly other insurance companies may be able to offer lower initial rates for this kind of coverage. But how long will they remain lower if the advantageous competition of the State Society's group plan is removed? Or if their loss experience rises to the level of the State plan's statistical level?
>
> The principal consideration seems to us to be to have a State plan in force to which any exploring physician dissatisfied with his "distant pasture" experience may return, possibly "a sadder and a wiser man" but with an intact bargaining agency ready to go to bat for him.
>
> "Who makes the group plan's premium rates?" someone may ask. To some extent the courts, to some extent the generally rising costs of doing business, but basically the acts and attitudes of

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[1] Westchester County Bulletin 23: 24 (Mar.) 1955.

the insured physicians themselves. It should not be necessary to point out that were there no suits, the premium rates could be reduced merely to the costs of the administration of the plan which are not inconsiderable.

Certainly it would be possible State-wide to set aside certain preferred risks and to insure them at lower rates. That seems to have been done in setting up Classes I, II, and III where Class III pays a lesser premium than Class I. Also upstate and downstate enjoy differential rates based on experience.

But this has been done insofar as it has appeared feasible to the members of the committee without destroying the economically advantageous bargaining position of the State Society. However one may question the decisions of the committee on classification of risks and division of the State by areas, remember that the committee is doing its apparently thankless best to preserve the refuge of the group plan for the membership at rates based on actuarial experience. Too many withdrawals from that plan would assuredly destroy it.

Schedule of District Branch Meetings, 1955

District	*Date*	*Town*	*Place*	*Time*
First	(during Annual Meeting of Medical Society of the State of New York)			
Second	Wednesday, September 14	Smithtown	Riverside Inn	Dinner Evening
Third	Thursday, September 15	Hudson	Elks Club	Morning Lunch Afternoon
Fourth*	Wednesday, October 19	Glens Falls	Queensbury Hotel	Luncheon
Fifth	Thursday, October 27	Utica	Hotel Utica	Afternoon
Sixth	Wednesday, October 26	Elmira	Arnot-Ogden Hospital	Afternoon Dinner Evening
Seventh	Thursday, September 29	Rochester	Oak Hill Country Club	Morning Lunch Afternoon
Eighth	Wednesday, September 28	Niagara Falls	Hotel Niagara	Afternoon Dinner
Ninth	Wednesday, October 5	West Point	Hotel Thayer	Dinner Evening

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* Executive Committee only.

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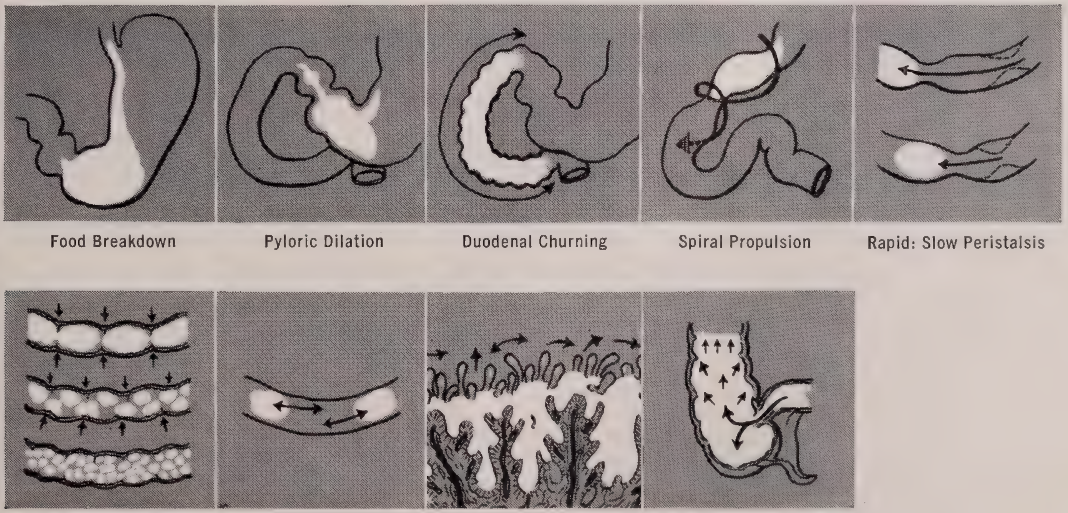


Food Breakdown

Pyloric Dilation

Duodenal Churning

Spiral Propulsion

Rapid: Slow Peristalsis

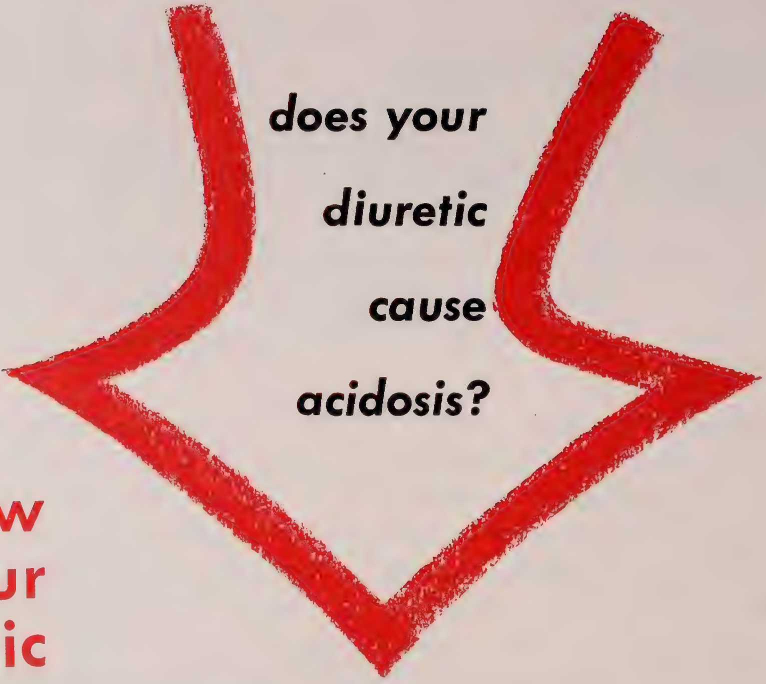
Kneading Action

Pendulous Movement

Villi Mixing

Ileocecal Dilation

SEARLE



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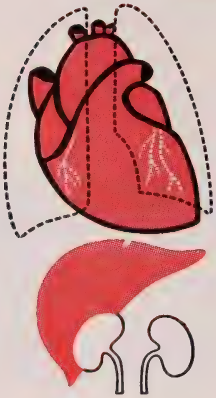
know your diuretic



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The Prophylaxis of Allergic Disease with Special Reference to the Newborn Infant

JEROME GLASER, M.D., ROCHESTER, NEW YORK

(From the Department of Pediatrics of the University of Rochester School of Medicine and Dentistry and the Pediatric Services of the Genesee and Strong Memorial-Rochester Municipal Hospitals)

Almost twenty years ago Rowe[1] noted that allergy, next to infection, is the most important agent in human symptomatology. While the growth of psychosomatics in the years which have since elapsed might well offer a challenge to Rowe's statement, no one can deny the great importance of allergic diseases and the desirability of developing measures for their prevention. Since most allergic disorders begin in childhood, prophylaxis, which is the ideal form of therapy, is the particular province of those dealing with children.

It is not the purpose of this presentation to review the literature dealing with the general subject of the prophylaxis of allergic disease or the relationship of heredity to allergy. These subjects have been sufficiently reviewed elsewhere.[2] It is practically universally accepted that heredity is one of the most important elements in the development of allergic disease. On this basis, for the purposes of prophylaxis, a potentially allergic child may be defined as one who has one or more allergic parents or siblings.[3] A recent study in my practice[4] revealed the astonishing fact that approximately 60 per cent of such children developed major allergic disorders, particularly eczema (atopic dermatitis), pollinosis, and/or asthma before they reached the age of six years.

Assuming that one or more of the parents or siblings in a given family is allergic, the next point to consider is whether or not any form of management of the pregnant mother of a potentially allergic child may help prevent allergy in the expected infant. This is a much disputed subject, and although all the evidence in man is on clinical grounds alone without supporting experimental studies, it is difficult indeed to escape the impression that in some way the diet of the pregnant woman may influence the development of allergic disease in her offspring.[2] In order to prevent or minimize sensitization of the fetus to important foodstuffs, Shannon[5] in 1922 recommended as a general prophylactic measure that all pregnant women should be cautioned to eat a large variety of foods and only relatively small quantities of any individual articles of diet and that eggs be restricted rather than forced in the diet of the mother. The observations of Shannon in this respect have been amplified and extended by Ratner.[6]

It is my opinion that it is sound practice to apply these principles which, although having the possibility for much good, can do no harm, and the pregnant mothers of potentially allergic infants in my practice are instructed to avoid eggs as such and foods consisting largely of egg, as custard, etc. It is also recommended, and this will probably be regarded as rank heresy, that the prospective mothers drink not more than a pint of milk a day, boiled for ten minutes, and that they eat no cheese. They are instructed to make meats in variety their chief source of protein and to take added calcium and phosphorus to make up for what they do not get in milk. The same diet is given to the mother in those rare instances in which she can be persuaded to nurse her baby.

Having now brought our potentially allergic

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infant into the world, we must next consider the subsequent steps. Breast feeding is urged since Grulee and Sanford,[7] even without placing the nursing mothers on the modified diet just mentioned, have shown that the breast-fed baby has seven times as many chances of escaping eczema (atopic dermatitis) as the bottle-fed baby. If the mother will not or cannot nurse her baby, an attempt is made to start the infant on soybean or meat base milk.

The basis for this procedure is highly interesting. When I first started practice in 1929, it was the custom of many pediatricians to start infants on raw egg yolk at the age of three months. This method of feeding had been recently introduced because at that time there was very widespread interest in rickets and anemia in infants and egg yolk was believed to be a good prophylactic agent for both. It was soon discovered in the course of routine feeding of raw egg yolk to children three months of age or less that many developed rashes or other evidence of intolerance, and within a few years this practice was almost universally discontinued. Egg yolk subsequently was not introduced into the diet until the age of six to nine months when it was commonly tolerated without difficulty. *This observation suggested that during the interval between three months of age and six to nine months of age, the infant developed some type of protection against allergy to egg.*

It was well known at that time, as a result of precipitin studies,[8,9] that egg white protein could pass unaltered into the bloodstream through the intestinal barrier. Reactions to egg yolk, for all practical purposes, are reactions to egg white contained in the yolk. It was at first thought that perhaps the immunity to egg protein acquired as the child grew older was due to some anatomic change which would no longer permit the passage of unaltered egg white through the intestinal barrier. However, with the development of the passive transfer reaction,[10-13] it was shown that the intestinal tract is permeable to egg white and other proteins at any age. It thus appears evident that the protection acquired by the infant against egg white as the child develops is immunologic in nature.

As I became increasingly interested in allergy in infancy, it became increasingly evident that cow's milk is responsible for many disagreeable allergic phenomena in this age group, as has been so ably described by Clein.[14] In his practice, which is the practice of the pediatric allergist, the incidence of allergy to cow's milk was estimated as high as one infant out of every 15 or approximately 7 per cent. What it is in the practice of most pediatricians not majoring in allergy is not known, but I am sure that it is much higher than is generally suspected. It is also not commonly realized that cow's milk is one of the most common foods disagreeing with adults. In a study by Alvarez and Hinshaw[15] of the Mayo Clinic, of foods that gave more or less distress to 500 patients, milk ranked second among the foods known by the patient to disagree (onion was first), and in 500 patients who had severe reactions to foods such as vomiting, diarrhea, or severe pain where the cause was not obvious, cow's milk was discovered to be the chief offender. As opposed to the high sensitization potential of cow's milk, Ratner and associates[16] have recently demonstrated that certain forms of soybean milk cannot be shown to possess sensitizing properties. Their laboratory studies provide a firm base in support of the clinical studies in the feeding of newborn infants here reported.

With the knowledge that within the relatively short period of three to six months infants can develop immunologic protection against such a potent allergen as egg white, the thought occurred that if they could be started on some other food than the traditional cow's milk during this period of physiologic, immunologic immaturity, the symptoms of milk allergy might be avoided, minimized, or even prevented. Consequently, the incidence of atopic dermatitis (eczema) and intestinal intolerance to cow's milk, which comprise two of the most exasperating syndromes with which those dealing with infants must contend, might be minimized or even prevented. That such a possibility existed was indicated by the work of Grulee and Sanford[7] to the effect that seven times as many infants developed eczema on cow's milk as compared with infants fed breast milk. Breast milk, which is the human infant's only "natural" food, as contrasted with cow's milk which is a "natural" food, not for the human infant but for calves, at least during the first few months of life, would appear to be the ideal food on which to start feeding the newborn infant. However, breast milk is not commonly available and, although at times it can be purchased, is very expensive. These facts preclude its general use in the feeding of potentially allergic infants. It is also now well known that a variety of substances ingested by the nursing mother may pass into the breast milk and cause allergic disturbances in the infant. For these reasons it is desirable to have readily available an adequate substitute for breast milk which should also be of reasonable cost. The milk of other animals, such as the goat, is not commonly satisfactory. If the sensitivity is due to the lactalbumin, which is largely species specific, it may be denatured and the milk made satisfactory for use by boiling the formula. However, if the sensitivity is due to the casein, as is often the case, this is group specific and essentially the same chemically and immunologically in the mammals thus far studied. Casein, unlike lactalbumin, cannot be denatured by heat. This subject has been thoroughly reviewed elsewhere.[2]

Hill and Stuart[17] in 1929 introduced a commercially available soybean milk, and in the same year Tso[18] reported on one infant raised from birth to the age of six months on a soybean milk. Shortly after the publication of these reports, I began feeding newborn, potentially allergic infants soybean milk as their sole source of protein. Other than breast milk and soybean milk, only meat base milk[3] has been used and this in but a very few cases.

The starting formula for the infants was usually one third of a commercial soybean preparation* and two-thirds water, which was gradually increased to equal parts of soybean milk and water as the infants became accustomed to the formula. While granting that, if well tolerated, soybean milk will nourish an infant as well as cow's milk, Hill[19] in commenting on our work has pointed out that soybean formulas are likely to cause diarrhea and irritation of the buttocks, which in newborn infants may become matters of serious concern. Hill's warning is appropriate and timely. The feeding of the newborn should be undertaken only by those who are well trained in this respect. However, when diarrhea and/or sore buttocks appeared, we endeavored to treat this in the usual manner but, if unsuccessful, discontinued the soybean preparation. This was necessary in less than 15 per cent of our cases, however, and this includes those infants in whom intractable colic and emesis also appeared to be due to the soybean feeding.

The results of this method of feeding, as far as the prophylaxis of allergic disease is concerned, far exceeded our expectations. It is a priori reasoning that if one does not feed cow's milk to an infant, allergy to cow's milk does not occur. Only 8 per cent of our experimental group developed eczema as compared with about 30 per cent of the control group, the eczema in this 8 per cent of the cases, of course, being due to other factors than cow's milk. In a few instances where there was a congenital sensitivity to cow's milk, the infants reacted when again fed cow's milk at an average age of six to nine months. In only one instance, however, was the milk sensitivity retained after further prolonged abstinence from cow's milk.

Commenting further on our work, Hill[19] inferred that while withholding cow's milk from the diet the first few months of life would logically minimize or prevent the development of allergy to cow's milk, this could not reasonably be expected to prevent subsequent sensitization to other allergens as the child grew older, and his view certainly appears to be good common sense. However, previous studies[2] in my clinic on the incidence and progression of allergic disease in pediatric practice had apparently confirmed the observation previously made by many others that once the allergic state is established, it tends to be followed by the development of other allergic diseases. For this reason we thought it would be interesting to see what happened to our patients as they grew older. Much to our surprise, we found that only about 15 per cent of our experimental group developed major allergic diseases before the age of six years as compared with about 60 per cent of our control group. This finding was so astonishing that we felt our experimental group might well be weighted in the direction of a greater incidence of allergies than might occur by chance in a random sampling of potentially allergic children. The reason for this was, of course, that these infants were placed on the experimental regime because their siblings or others in the family had suffered from various allergic diseases.

Consequently, a second control group was selected. From reviewing the histories of 4,710 children in 1,215 allergic families, 175 were

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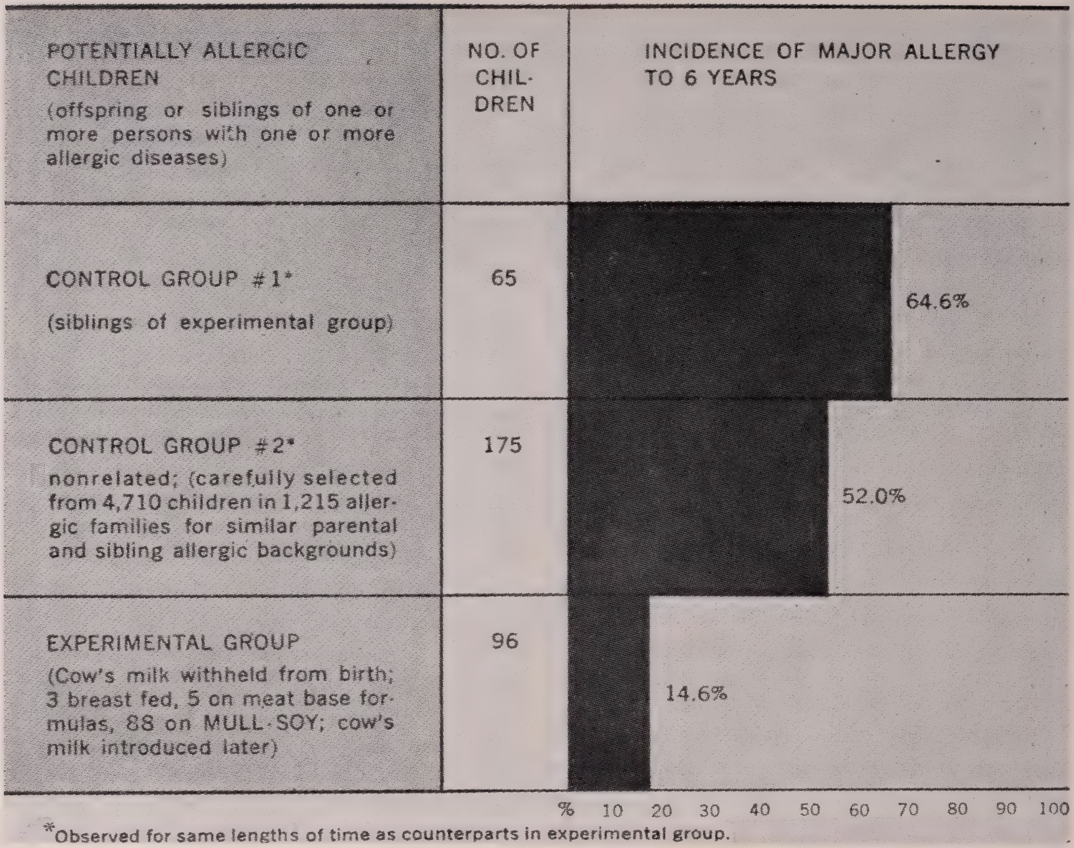
* These experiments were for the most part carried out using the liquid Mull-Soy of the Borden Company. Since the completion of the original study, we have been using the new powdered Mull-Soy, which is often tolerated by infants with whom the liquid preparation disagrees.



POTENTIALLY ALLERGIC CHILDREN (offspring or siblings of one or more persons with one or more allergic diseases)	NO. OF CHILDREN	INCIDENCE OF MAJOR ALLERGY TO 6 YEARS
CONTROL GROUP #1* (siblings of experimental group)	65	64.6%
CONTROL GROUP #2* nonrelated; (carefully selected from 4,710 children in 1,215 allergic families for similar parental and sibling allergic backgrounds)	175	52.0%
EXPERIMENTAL GROUP (Cow's milk withheld from birth; 3 breast fed, 5 on meat base formulas, 88 on MULL-SOY; cow's milk introduced later)	96	14.6%

*Observed for same lengths of time as counterparts in experimental group.

FIG. 1. The incidence of the development of major allergic disease in potentially allergic infants fed from birth for varying periods of time on a substitute for cow's milk as compared with the incidence in two independent control series. (*Reprinted through the courtesy of Charles C Thomas, Publisher*[2])

selected to comprise the second control group of this study. These children were followed for the same number of years as their opposite members in the experimental group and had the same number of younger siblings with closely similar allergic histories. Their parents, also, had allergic histories closely resembling the histories of the parents of the children of the experimental group. Members of the sibling group, as well as the nonrelated control group, were considered as having allergic disease only if their symptoms occurred by or before the present age of their counterparts in the experimental group. We feel it is highly significant that in this nonrelated control group 52 per cent of the children developed major allergic disease as compared with 64 per cent of the sibling control group, a remarkably close correlation. Thus there is approximately a fourfold incidence of allergy in potentially allergic children started on cow's milk from birth as compared with those started on soybean milk. This study is graphically summarized in Fig. 1.

At this point it is interesting to consider the often discussed problem as to whether or not allergic diseases are more common in children now than they were years ago. There are unfortunately no well-documented studies concerning this. However, if the observations of Grulee and Sanford[7] to the effect that seven times as many bottle-fed babies develop eczema as compared with breast-fed babies are factual and if my observations that 80 per cent of infants with eczema later develop asthma or pollinosis or other allergic disease before the age of ten years are correct,[2] then one may easily see why the progressive abandonment of breast feeding, which began in this country twenty-five or thirty years ago, could easily be responsible, at least in part, for the progressive increase in allergic disease in children if this, as many believe, has actually taken place. If this line of reasoning is not erroneous, the proponents of breast feeding are provided with a very potent argument in their support.[20]

It must be emphasized that to be successful, this regime must be instituted from the moment of birth. To give a potentially allergic newborn infant a trial feeding of cow's milk ignores the basic premise of this procedure, namely, that these children have an immunologic immaturity in the first few months of life which makes them predisposed to become sensitized to the first foods which are introduced in the diet.

In concluding this discussion, it is important that you should not be left with the impression that I regard cow's milk as a food which is highly dangerous to the human race. Nothing could be farther from the truth. For the individual with whom cow's milk agrees and, fortunately, this includes the vast majority of our population, *it is without doubt the greatest gift of food which nature has given to mankind.* However, in the case of potentially allergic children we deal with a very important aberration of nature. It is my hope that by following the principles of feeding the potentially allergic newborn infant just elucidated, in the future many who would otherwise suffer because of the too early feeding of cow's milk will be spared this and thus eventually be enabled to enjoy this most valuable food throughout the rest of their lives without impairment to their well-being.

If the method of prophylaxis of allergic disease which has just been discussed actually reduces the incidence of allergic disease in infancy and childhood to the degree indicated, and it is my considered opinion that it does, the possibilities that this procedure offers for improving the health of our nation (not to mention others) are fantastic. Swartz,[21,*] who reviewed the literature of this subject in detail, states that one out of every eight children in the United States is an allergic child, and at least 10 per cent of the total population suffers from major allergic disease. Certainly this study opens up a vast new field for the pediatrician in the area in which he is most interested, that of prophylaxis.

Summary and Conclusions

1. The subject of the prophylaxis of allergic disease in infancy and childhood is discussed.

2. It is suggested that certain factors in the management of the diet of the pregnant mother of a potentially allergic infant may be helpful.

3 It is suggested that the best feeding for the prophylaxis of allergic disease in the newborn, potentially allergic infant is human breast milk with the nursing mother on the same diet as advocated during pregnancy.

4. If the mother cannot or will not nurse her infant, the substitution of soybean milk for cow's milk (or some other substitute for cow's milk) from birth or from the time of the abandonment of breast feeding is urged. It is shown that such a procedure will reduce the incidence of major allergic disease before the age of six years from about 60 per cent to 15 per cent.

5. The problem as to whether or not there has been a progressive increase over the years in the relative frequency of allergic disease in children is discussed. Reasons are given indicating that if this actually is the case, the explanation could very well be the gradual abandonment of breast feeding which has taken place in this country over the past twenty-five or thirty years.

300 South Goodman Street

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[*] The original references are not mentioned in this publication. However, when questioned as to their source in a personal communication, Swartz replied as follows: "*The World Almanac* published by the World Telegram and Sun, 1952, page 398, presents tables of United States population from which is derived the figure of approximately 40 million for the age group fourteen or under. Vaughn and Black in *Practice of Allergy*, 2nd edition, C. V. Mosby, chapter IX, established a 10 per cent plus major allergy and a preponderance of the onset of allergy in the first and second decades." Swartz also checked all the original source material for this chapter.

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Discussion

Joseph H. Fries, M.D., *Brooklyn*.—Dr. Glaser was very gracious to ask me to comment on his paper, knowing that I am not in full agreement with him. However, he is too good a scientist not to welcome honest and sincere criticism.

Actually, we have many points of agreement. Prophylaxis is deservedly a field of growing interest in medicine, and I certainly agree with the use of a hypoallergenic diet for potentially allergic children. It will be more constructive, however, for us to consider matters of disagreement, and for this reason my discussion will cover facets which I find controversial.

During the early months of the neonatal period the foundations of tissue structure, especially of dentition and bone, are being laid down. I cannot feel that soybean milk is a complete nutritional substitute for cow's milk during this crucial period. One has to reserve judgment on the desirability of dependence on soybean milk and the complete deprivation of cow's milk for six to nine months until the long-range effects on growth and development have been evaluated.

The disadvantages of soybean milk—gastrointestinal disturbances, such as vomiting, colic, diarrhea and abnormal looking stools, and perianal dermatitis —I encounter much more frequently than does Dr. Glaser. It is true that some infants tolerate it very well, but my experience does not yield the 85 per cent success noted by the speaker. Also, despite its low allergenicity I have in my private practice several cases of clinical sensitiveness to soybean preparations with confirming positive cutaneous tests to soybean.

In preference to artificial milks made with soybean, I find the common evaporated cow's milk, in which the lactalbumin has been altered by heating incident to evaporation, to be a practical choice because it is my impression that lactalbumin sensitivity is more common than casein sensitivity.

Moreover, I have not found that sensitivity to cow's milk is as frequent as described. Dr. Glaser and Dr. Clein use a very broad definition of milk hypersensitiveness in children. Colic, cramping, and diarrhea may be the result of improper technics in formula making, feeding schedules, and even inadequate sterilization of bottles. These mundane matters should be considered by practicing physicians before incriminating cow's milk. However, today's trend to the early use of unboiled milk seems unwise because of the additional allergenicity and the higher bacterial content.

Intolerances to milk in adults, as described by Alvarez, were for the greater part based on phenomena which are not allergic—he calls them "disagreements"—very much like to the onion, to which his greatest percentage were reactive.

These intolerances in adults would not seem to have any connection with the allergy seen to milk in infants. In most instances these are due to food idiosyncrasies to the natural, chemical, or physical constituents of the foods. In the logical development of Dr. Glaser's concept, he has not strengthened his argument by including Alvarez's adults.

In my experience I have seen very few cases of atopic eczematous dermatitis benefited solely by the avoidance of milk. Most instances are of multiple etiology. Usually there are other foods involved, contactants, or bacterial cutaneous infection or sensitization.

Egg is known to be a more potent sensitizer than milk. It is a frequent factor not only in the etiology of infantile eczema but also in the causation of gastrointestinal disturbances. I agree with Dr. Glaser that egg should be introduced late in the diet—in fact, later than he suggests—beyond the first year.

Another point—it does not seem reasonable from an immunologic viewpoint to presume that the avoidance of cow's milk sensitization in the prenatal and early postnatal period would prevent the development of allergic reactivity to other ingestants or to the inhalants which later become important incitants.

There is very little opposition today to the concept that the predisposition to be allergic is inherited in accordance with Mendelian principles. I wonder whether Dr. Glaser has considered that prophylaxis can be instituted earlier than the uterine stage by stimulation of an awareness that intermarriage between atopic individuals is unwise. Such marriage is more likely to produce a greater proportion of and more severely predisposed offspring. This eugenic concept has not been sufficiently emphasized.

Dr. Glaser is to be congratulated for his thoughtful and provocative discussion. Despite my differences on technicalities, I believe he has provided the practicing physician with a coordinated scheme for prophylaxis.

As regards these technicalities, there is a Latin quotation which says, "*Quot homines tot sententiae*" ("Many men, many minds").

Jerome Glaser, M.D., *Closing Remarks*.—I am deeply grateful to Dr. Fries for his very complete discussion of my admittedly revolutionary concept of the proper method of feeding newborn infants as a prophylactic measure against the development of allergic disease. Unfortunately, in this brief presentation it was not possible to go into many facets of this problem which have been considered in previous publications and which constitute a reply to many of Dr. Fries's highly pertinent criticisms.

Dr. Fries's statement to the effect that he cannot feel that soybean milk is an adequate substitute for cow's milk is probably based on published research now long outdated. The present evidence is that it does not matter from what source, animal or vegetable, the amino acids are derived as long as that source contains the necessary amino acids. The mineral salts are no problem whatsoever. Block and Mitchell have also shown that the biologic value for soybean protein, which is 75, is higher than that of casein, which is 69, and casein is the principal protein of cow's milk. As regards digestibility, soybean protein and casein are practically identical. There is other evidence that soybean protein is equal, perhaps superior to that of cow's milk, but time does not permit its inclusion here.

It is true that it is somewhat more difficult to feed the newborn infant soybean milk than cow's milk preparations, but I have been doing this for more than twenty years. With the newer soybean preparations it should not present much of a problem for anyone accustomed to the feeding the newborn to do this successfully in at least 85 per cent of cases. I also most heartily disagree with Dr. Fries's inference that evaporated milk is an adequate substitute for soybean milk as far as allergy is concerned.

I know that the majority of pediatric allergists, including Lewis Webb Hill who pioneered this field, are in agreement with me. I also know that if one conscientiously looks for evidence of allergy to cow's milk, he will be surprised at how much he will find, although of course in many of its manifestations a differential diagnosis must be made from other conditions which will produce similar symptoms.

To say that intolerance to milk in adults, which Alvarez and Hinshaw showed to be the food second in importance in the list of foods which people know disagree with them and first in importance in the list of foods which can be shown to disagree with people, is due to idiosyncrasy rather than to allergy is begging the point since the differences between idiosyncrasy and allergy are either of definition or semantics.

Other critics besides Dr. Fries have pointed out that it seems unreasonable that because this method of feeding the newborn appears to prevent eczema and other allergic diseases in early infancy, it will prevent to a significant degree the development of subsequent allergic disease. At first sight this appears highly reasonable. Yet it is my experience, as well as that of others, that once one allergic disease, particularly eczema, develops, others tend to follow. By preventing eczema in infancy we may well prevent or delay or minimize the appearance of the commonly following allergic diseases thereafter.

In agreement with Dr. Fries, in my very first publication in 1936 on the subject of the prophylaxis of allergic disease, I did advise against intermarriage between atopic individuals. However, I have subsequently found that although this is good advice, like other good advice it is rarely heeded by disciples of Cupid, whether allergic or not.

Cardiac Tamponade

Taking all factors into consideration Drs. J. L. Farringer, Jr., and Duane Carr conclude after studying a series of cases that cardiac tamponade should be treated with primary aspiration of the pericardium and supportive intravenous therapy. Open thoracotomy should be reserved for those showing a continued tendency to relapse, with falling blood pressure and other evidence of recurring intrapericardial bleeding. Even if cardiotherapy is required, there is better chance of survival if the blood pressure has been temporarily restored to normal levels. Since in the series of 30 cases reported there was no significant difference in mortality between the group treated by open operation and those treated by aspiration, these doctors see no reason to operate upon patients who respond to aspiration alone. In the series of 30 patients, there were 11 deaths, or a mortality of 36.7 per cent. However, in six, the penetrating wound of the heart was completely overlooked. In 23 whose condition was promptly recognized and treated, 19 survived, bringing the mortality rate for this group down to 17.3 per cent. Seven of the 11 deaths were due directly to the failure to recognize the tamponade and treat it promptly.—*J. L. Farringer, Jr., M.D., and Duane Carr, M.D., Annals of Surgery, April, 1955*

Radical Surgery in Advanced Cancer of the Lung

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An analysis of cancer of the lung before a group of practitioners is especially appropriate at this time in view of the high incidence of the disease and the likelihood of its becoming increasingly prevalent.

In a series of 14,000 consecutive autopsies done recently at Bellevue Hospital,[1] 16 per cent were due to cancer. Of these cancer deaths 23 per cent were due to primary cancer of the lung. In the male group of 1,200 carcinoma deaths, over 30 per cent of all tumors were primary carcinomas of the lung. Cancer of the stomach, which used to be the number 1 cancer killer in man, is now down to second place with an incidence of approximately 15 per cent. In other words, one out of three males dying of carcinoma succumb to primary carcinoma of the lung.

Before discussing what surgery has to offer in cancer of the lung, I would like to mention some of the conclusions that have been made in regard to the disease and its management. In the first place, it is important to remember that the man in general practice is the first physician to come in contact with the patient who develops cancer of the lung, and therefore, he is the one who is responsible for obtaining a cure. The surgeon who performs an operation on a patient and removes the lung or a lobe with the cancer inside it can never cure a patient if metastases have been disseminated before he undertakes the operation. The man who gets a cure for his patient is the physician who so understands the disease that he insists upon bringing his patient to exploration early so as to have resection performed early in the disease process before metastasis has had time to occur. Frequently this means bringing the patient to the operating table for a diagnosis, without waiting for a negative bronchoscopy or a negative Papanicolaou smear to become positive, and exploring without waiting for symptoms to develop. It is, then, the suspected diagnosis that brings the patient to operation that will save the patient's life, rather than the proved diagnosis before the patient is explored. This decision for early exploration rests solely in your hands.

The second point which is important to emphasize is that the disease is treacherous mainly because of the location of the tumor and the nature of the surrounding lung tissue. Because of the insensitive character of the parenchyma of the lung, a lesion may grow to fill a lobe completely and still not give evidence of its presence by symptoms. Cough which results from irritation of a bronchus, from either direct encroachment by the tumor or secretions that are secondary to it, may be present in the centrally located tumors but is a late symptom in the peripheral type. Hemorrhage and pain are similarly late manifestations of the disease, as are weight loss and the presence of a wheeze. Postponement of exploration because of lack of symptoms may still enable the surgeon to remove the primary cancer in the lung successfully but in the interval will also encourage seeding of metastases, from which the patient will subsequently die. Because of the tremendous vascular and lymphatic supply in the lung, there is a great tendency for cancer of the lung to metastasize early in the disease so that approximately 25 per cent of all patients with cancer of the lung develop the first symptom of the disease from the metastasis rather than from the primary tumor.

Because so much depends on correct interpretation of the early x-ray changes in carcinoma of the lung, it is important that all physicians familiarize themselves with the characteristic changes that take place in this disease. It is important to recognize the typical hilar shadow enlargement of a centrally located tumor and to appreciate the small peripheral density that represents the early circumscribed shadow of primary carcinoma of the lung. The more obscure x-ray changes will include atelectasis of a lobe, segment, or subsegment which will occur

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behind an obstructed bronchus. Clinically this may present the picture of an unresolved pneumonia. Similarly, the unilateral type of localized pulmonary emphysema occurring distal to a tumor will be present when the obstruction forms a ball-valve action, trapping air distally in the periphery of the lung.

In considering a patient for surgery, the value of bronchoscopy and Papanicolaou smear for malignant cells will mainly be in that group of patients in whom the diagnosis has been unsuspected because of an associated suppurative disease. The chance of a five-year survival in a patient who comes to exploration for carcinoma of the lung is greater in those cases in which the bronchoscopy and Papanicolaou smear are negative. This emphasizes the importance of not delaying exploration in the presence of negative studies. Certain contraindications to exploration should also be borne in mind. A patient in whom the disease is not localized to the thorax will in no way benefit from removal of the primary tumor. Similarly, the patient who suffers from pulmonary insufficiency is not a candidate for surgery since removal of any of his functioning lung tissue will result in his becoming a respiratory cripple. The third contraindication to exploration is seen in those patients who suffer from some overwhelming disease such as uncontrolled tuberculosis, etc., in which case the cancer of the lung will play a secondary part in the clinical picture.

At the present time there are four types of surgical procedures that can be offered a patient who comes to the operating table with cancer of the lung. Lobectomy is performed on patients in whom the disease is localized to one lobe and who, for reasons of age or because of respiratory embarrassment, will need the remainder of their lung tissue postoperatively. Pneumonectomy is employed when the disease involves the hilum and where it is impossible to remove the tumor completely by simple lobectomy. Radical pneumonectomy includes a mediastinal dissection with removal of lymph-bearing tissue from the base of the neck down to the pulmonary artery to include both right and left chains of bronchial nodes, the carinal node, and the paratracheal chains on either side. Because of the impossibility of determining at operation the extent of lymphatic spread which has occurred either on inspection or by examination of lymph glands on frozen section, the radical procedure is the operation of choice provided the patient can tolerate the additional surgery. In most cases this is feasible since the added time required for dissection does not imply an added risk. The fourth surgical approach is the palliative resection in which the primary tumor is removed along with the surrounding lung tissue without removal of the malignant extension in the mediastinum. This operation is of value in those patients who are suffering from the effects of the primary tumor, such as hemorrhage and overwhelming sepsis. Following this operation the patient will be greatly improved symptomatically by the removal of the offending primary tumor, although he will later succumb to the progressive extension of his metastases.

During the past five years the radical surgical operation for lung cancer has been developed and now offers the patients in whom early diagnosis had not been made a chance for possible cure. Previously inoperability of a tumor depended frequently on the surgeon's inability to handle the mediastinum and his relative unfamiliarity with the disease process.

In considering the operability of a tumor which has extended outside the lung, there are three classifications into which these patients fall. The first includes those with lymphatic extension to either the bronchial, carinal, or paratracheal nodes without involvement of the adjacent organs in a direct extension of the process. The second group represents the extension of the tumor to adjacent organs that can be resected with a chance of a five-year survival. This comprises direct extension into the chest wall and direct extension medially to involve the pulmonary artery, pulmonary veins, pericardium, auricular wall, and diaphragm. The third group represents the extension of the tumor to organs which are vital to the patient's existence and which, if removed, would require some type of anastomosis or replacement prosthesis. This includes direct invasion of the vena cava, the esophagus, and the trachea.

In considering the short period of time during which the radical procedure has been performed, i.e., just a little over five years, it is impossible to evaluate the results of surgery in these various groups from their five-year survival at the present time. On the other hand, it appears that the first group is amenable to curative resection in that the lymph-bearing tissues, which represent the only extension of the tumor, are removed by the radical operation. The third group represents the most desperate extension of the disease amenable to radical surgery. In this type of case the patient's condition usually will not warrant the risk of additional surgery.

Radiation therapy at the present time is of value for patients in whom the tumor has been found inoperable at exploratory thoracotomy. Relatively long cases of survival following x-ray therapy have been reported in a series in which exploration has not been performed to determine the extent of the tumor. In these cases, because the extent of the disease has not been ascertained, it is impossible to attribute longevity to the effects of radiation. No cases cured by radiation therapy without surgery have come to the author's attention. Cases with mediastinal extension have been cured by surgery. Occasionally, improvement of mediastinal extension has followed high-voltage therapy, but this has been only temporary. Before the institution of therapy, a reasonable period of approximately six weeks should be allowed to intervene following surgery so that the patient will have a chance to recover fully from his operation. Additional measures for the incurable patient include various mustard compounds. These have been used with varying success, and it is again important to maintain the appetite as well as the blood picture in patients receiving this therapy.

In summarizing the value of surgery for carcinoma of the lung, therefore, several points become apparent. The first is that at the present time surgery is the only means of cure for this disease. Second, the chance of curing a patient with carcinoma of the lung is proportional to the stage to which the disease has progressed at the time the patient comes to the operating table. The third point is that radical surgery will be of benefit and has eradicated the malignant extension of the disease in cases where the cancer is not localized to the lung but has extended outside it, either to the chest wall or to the mediastinum.

768 Park Avenue

Reference

1. Hall, J. W., Jr.: Personal Communication.

ANNOUNCEMENT

SCIENTIFIC EXHIBITS

1956 ANNUAL CONVENTION MEDICAL SOCIETY OF THE STATE OF NEW YORK

Applications for space for the scientific exhibits should be made directly to the Chairman of the Subcommittee on Scientific Exhibits of the Convention Committee:

William L. Watson, M.D.
340 East 72nd Street
New York 21, New York

The Annual Convention will be held May 7 to 11, 1956, at the Hotel Statler, New York City.

No applications can be considered after January 1, 1956.

There will be two groups of awards:

Group I: Awards in Group I are made for exhibits of individual investigation, which are judged on the basis of originality and excellence of presentation.

Group II: Awards in Group II are made for exhibits which do not exemplify purely experimental studies and which are judged on the basis of presentation and correlation of facts.

W. P. Anderton, M.D., *Secretary*
Medical Society of the State of New York

Evaluation of Transtympanic Mobilization of Stapes as a Treatment for Otosclerosis

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HAVING observed the results of transtympanic mobilization of the stapes for one year, it is now time to make a critical appraisal of this procedure.

The thinking behind this technic is on a sound physiologic basis, and the approach is completely rational. It is based on the knowledge that the underlying pathology which causes the hearing loss in otosclerosis is the fixation of the footplate of the stapes in the oval window. It has always been assumed that this bony ankylosis, even if incomplete, could not be broken up sufficiently to allow the stapes to become mobile again. Because of this false assumption the fenestration is done to reroute sound through a newly created window in the bony labyrinth. The mobilization operation utilizes the normal ossicular conduction system to carry sound to the cochlea.

The proper exposure in the mobilization operation is accomplished by reflecting the posterior half of the tympanic membrane and the contiguous skin of the auditory canal forward and over on itself, thus exposing the incus and stapes. An attempt is then made to break up the ankylosis by rocking the stapes in its physiologic plane. At this time it has been definitely shown that certain cases of stapes fixation are reversible and that by delicate instrument manipulation the stapes may be mobilized and the hearing restored.

Transtympanic mobilization is not new, for as early as 1888 Kessel,[1] Boucheron,[2] Miot,[3] and Faraci[4] were employing this method to mobilize the stapes through a miringotomy.

In 1953 Rosen[5] developed a new technic and special instruments for lifting up the intact drum and mobilizing the fixed stapedial footplate. He removes enough of the edge of the posterior bony canal wall to expose the entire stapes and stapedial tendon. It is basically his method which was used in the 170 cases from which are drawn all the observations in this preliminary report.

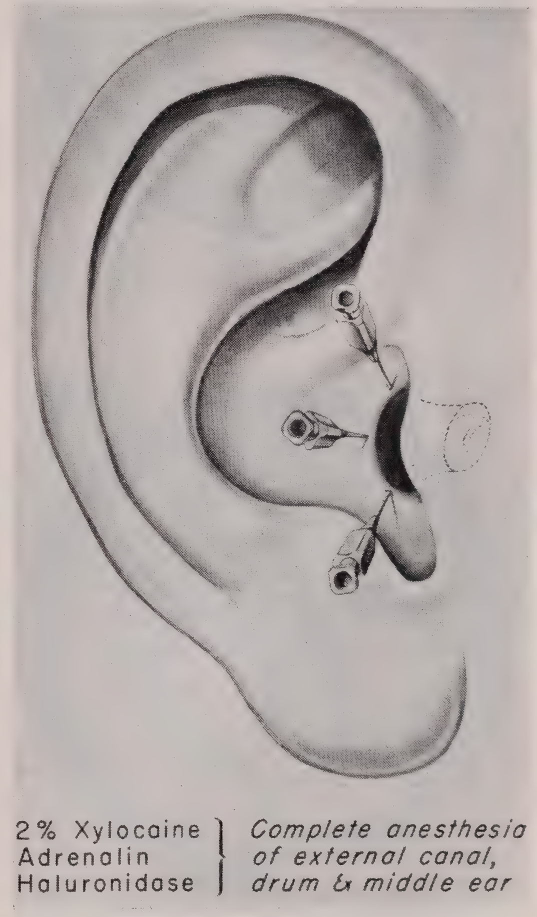

FIG. 1

To avoid repetition and for reasons of brevity, only the salient features modifying this technic will be described, and in actuality they are minor for in the end the same results are obtained. Hyaluronidase has been added to the mixture of 2 per cent Xylocaine (3 cc.) and adrenalin (1 cc. of 1:1,000). The effectiveness of this

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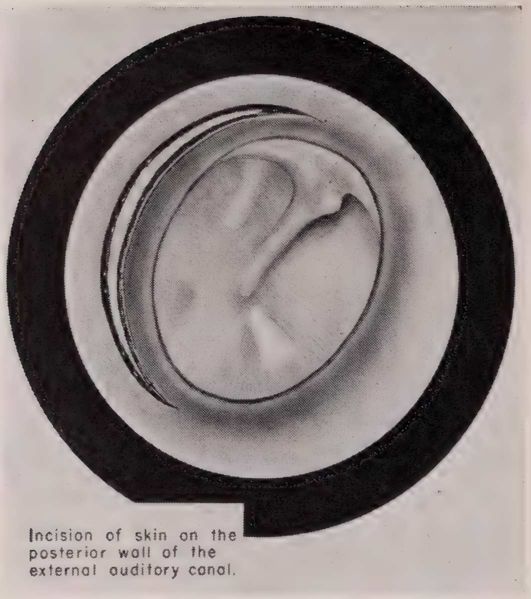
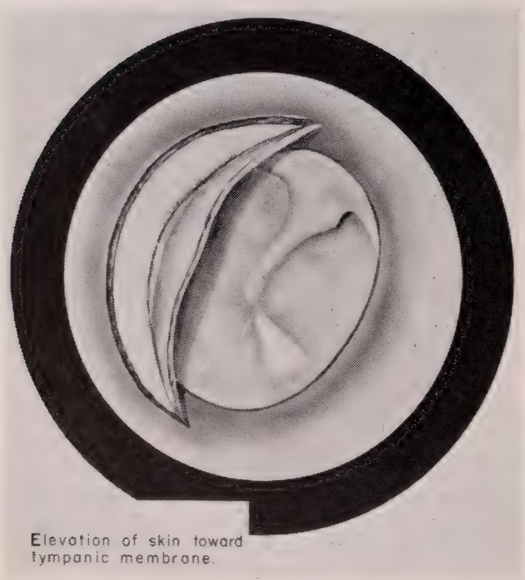


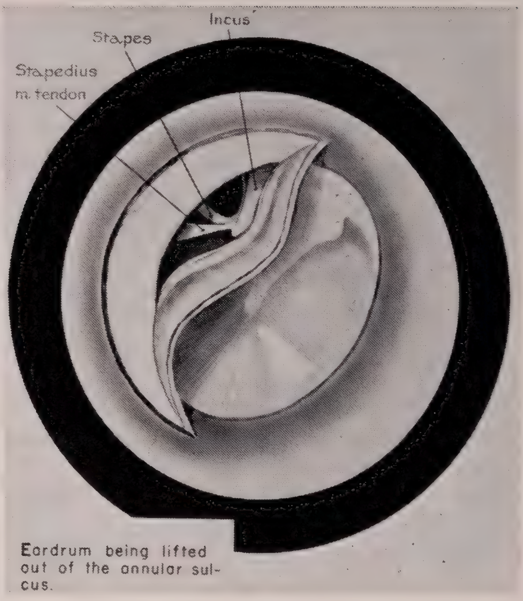
Incision of skin on the posterior wall of the external auditory canal.

Fig. 2



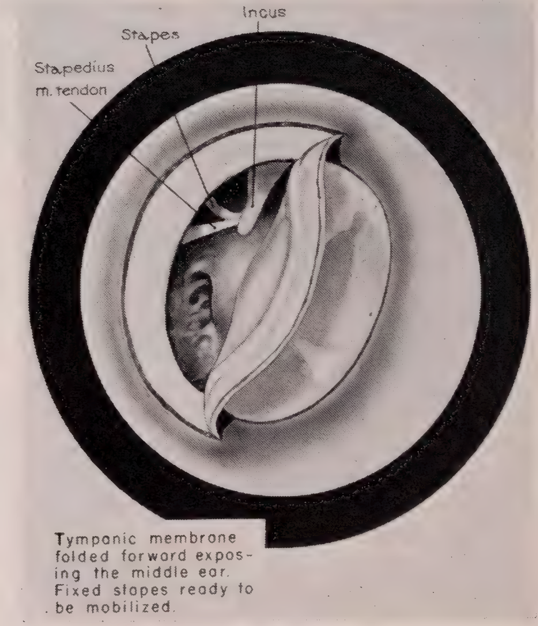
Elevation of skin toward tympanic membrane.

Fig. 3



Eardrum being lifted out of the annular sulcus.

Fig. 4

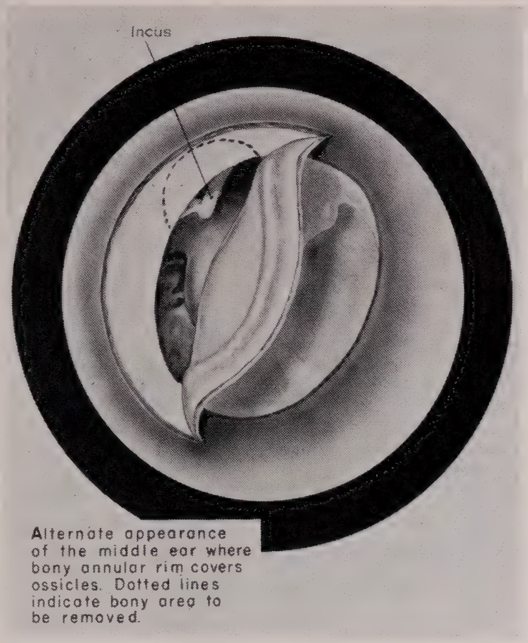


Tympanic membrane folded forward exposing the middle ear. Fixed stapes ready to be mobilized.

Fig. 5

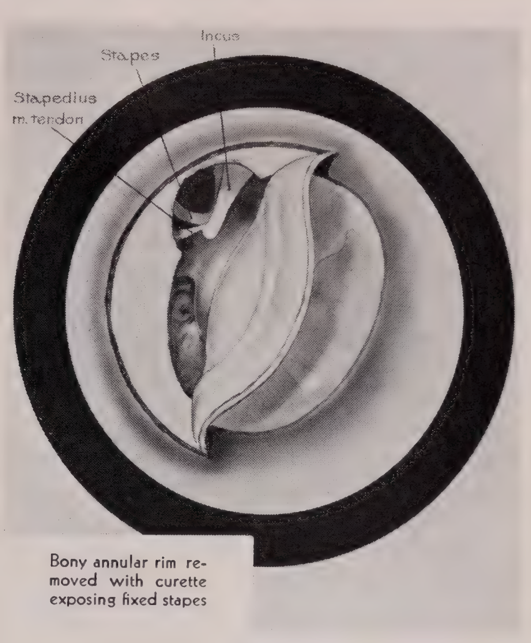
local anesthesia goes far beyond the scope of this operation. A total of 1.5 cc. of this solution is injected into the soft tissue at three points just external to the bony portion of the external auditory canal (Fig. 1). Unnecessary injection into the tragus may produce transient facial paralysis.

Since the stapes is in the posterior superior quadrant, the incision is made from twelve to six on the posterior canal wall from the roof to the floor. This exposure is shown in Fig. 2. It is always better to make the incision a little more external to the drum than necessary, rather than too close, since the skin may fray or a large part of the annular rim may be removed during the course of the procedure (Figs. 3 and 4).



Alternate appearance of the middle ear where bony annular rim covers ossicles. Dotted lines indicate bony area to be removed.

FIG. 6



Bony annular rim removed with curette exposing fixed stapes

FIG. 7

Whether or not any bony annular rim is removed depends on whether there is adequate visibility of the stapedius tendon. Exposure of the tendon is absolutely necessary to judge the mobility of the stapes since a mobilized stapes, when moved, will cause shortening of this tendon (Figs. 5, 6, and 7).

An attempt is made to mobilize the stapes after a delicate instrument is applied to the anterior aspect of its neck. The accurate placement of this instrument can only be accomplished after much practice on the cadaver for the neck of the stapes is only 1 mm. in length. Rather than slide the mobilizer up and down on the anterior crura before feeling the niche in the neck of the stapes, the technic is reversed. First, the instrument is applied to the anterior portion of the incus next to its lenticular process, and the incus is moved posteriorly just slightly on the head of the stapes. The instrument is then dropped slightly deeper until it falls on the first solid part, which is the neck of the stapes. This exact location is not visible. Too deep an application will fracture the crura, and too shallow an application will separate the incudostapedial joint.

A slow, pulsating pressure applied by the mobilizer for short intervals is the safest type to exert. This enables the surgeon to have complete control of the instrument, which is vital.

After the stapes is mobilized or its crura fractured, the tympanic membrane and the contiguous skin of the canal are replaced in their original position. It is undesirable to use any packing in the external auditory canal, and in recent cases sterile cotton in the outer part of the canal has replaced the mastoid dressing.

There is no doubt that this transtympanic mobilization technic can restore hearing in certain cases of stapes fixation, but certainly all stapes cannot be mobilized. The wide variation in the degree of fixation and the physical structure of the stapes are the final determining factors in the outcome of each operation. There is an entirely different feel between a stapes that is partially fixed and one that is completely immobile. Certain stapes which feel completely and solidly fixed will mobilize after prolonged manipulation, and, of course, others will fracture. It is difficult to visualize being able to mobilize a stapes where the footplate has been replaced to a large extent by the otosclerotic process. Correct application of the mobilizer informs you if there is any spring or "give" to the stapes, indicating partial fixation. When the stapes is too fixed, the applied pressure will cause the crura to fracture near the footplate and always with an audible click. Since the hearing of all cases accepted for surgery is below the 30-decibel level, fracture of the crura will not aggravate the hearing loss.

The degree of fixation varies and is not always in proportion to the hearing loss. In the same person with an equal bilateral loss, one stapes can be immovable and the other only moderately fixed. No correlation has been noted between the age of the patient or the duration of the hearing loss with the degree of stapes fixation.

It is important to be able to predict preoperatively the degree of fixation since this will help in establishing the probability of a successful mobilization. The following pertinent facts have been observed to be justified:

1. When the Rinne test was negative with the 512 fork but was still equal (air conduction equals bone conduction) with the 1,024, it was observed that the stapes was not completely fixed and could usually be mobilized.

2. If the Rinne test was negative with the 512 and 1,024 forks but the patient could hear a raised voice, the stapes would be firmly fixed. Fifty per cent can be mobilized.

3. If in the presence of a negative Rinne with the 512 and 1,024 forks, the patient had difficulty even in hearing a very loud voice, the stapes will be too fixed to be able to be mobilized.

4. Those patients who can hardly hear without their hearing aid have a stapes that is too firmly fixed.

The cases that have the greatest percentage of good results are in the group that have a negative Rinne with the 512 fork but whose air and bone conduction are still equal with the 1,024 fork.

There have been no complications as a result of this surgery in the 170 cases performed. The stapes was never avulsed. Following mobilization there has been occasional labyrinthine vertigo accompanied by nystagmus which lasted three to four minutes. Twelve traumatic perforations were produced during the process of elevating the annulus out of its sulcus. Ten of these perforations healed spontaneously. Nine postoperative infections developed, all of which were controlled with antibiotics. It is important to remove all the bony spicules from under the flap since these will act as sequestra. Involvement of the facial nerve has been completely avoided since all curetting is done external to the level of the stapedius tendon.

TABLE I—Results in 100 Cases

	First 50 Cases (12 to 14 Months Follow-up)	Second 50 Cases (6 to 9 Months Follow-up)
Found mobile	3	0
Found fixed	47	50
Fractured	16(32%)	14(28%)
Mobilized	31(62%)	36(72%)
Group A results—all speech frequencies 30 decibels or better	15(30%)	18(36%)
Group B results—some improvement but not to 30-decibel level	4(8%)	3(6%)
Mobilized but no improvement	12(24%)	15(30%)
Hearing maintained in group A	12	16
Hearing dropped 10 decibels	2	0
Hearing dropped to preoperative level	2	2
Revisions	2	1
Group A result following revision	2	1
Cases that had other ear attempted when first mobilization failed	7	3
Successfully mobilized	4	3
Group A results	1	2
Fenestrations following mobilization	1	0

Results

Fifty cases have been observed for one year (Table I). Therefore, only these can be informative:

1. Forty-seven stapes were found to be fixed at the time of surgery, and three were found to be mobile.

2. Sixteen stapes had their crura fractured.

3. Thirty-one stapes were successfully mobilized.

The cases which are mobilized can be divided into two groups: group A where there is a very marked improvement in hearing and group B where there is little or no gain. For a case to be classified in group A, all the speech frequencies must be at or above the 30-decibel level. Fifteen of the mobilized cases fall into group A, and 16 fall into group B.

The air conduction of seven of the 15 cases in group A reached the preoperative bone conduction level. The eight remaining in group A had marked improvement above the practical 30-decibel level, but the air conduction did not equal the bone conduction.

The return of hearing in the operating room of the group A cases was often dramatic. As soon as the stapes was mobilized, these patients noted an increase in the loudness of the spoken voice and various noises in and outside of the room. It was an emotional moment for many of the women. Two patients who spoke with very low voices before the return of their hearing were noted to have an increased volume in their speech immediately after the procedure.

At the time of this preliminary study the reason for failure to obtain a greater hearing improvement in the mobilized group B patients can only be conjectured. It is reasonable to think that if a stapes has been fixed about a large portion of the perimeter of the footplate, the irregularity of the fractured area (if it actually is a fracture) would prevent its normal movement within the oval window. If the annular ligament or footplate had been replaced to any extent by the otosclerotic process, the stapes could not be expected to vibrate normally unless the fracture line through the otosclerotic process was linear and regular in type or if the area of disease causing the fixation was small.

If clinical improvement in hearing was obtained, it was always noted at the time of the surgery. The maximum audiometric improvement was always obtained within five days unless a clot remained in contact with the tympanic membrane.

Of the 15 patients in group A, 12 have maintained their original hearing improvement for a period of time varying from twelve to fourteen months. Two have had a sufficient drop to offset all of the original gain.

The two cases where the hearing returned to the preoperative level did so within a period of one month. One ear developed a postoperative infection under the skin flap, and the loss was quite rapid. The hearing did not return when the infection cleared. (This has been observed in two additional cases outside of this series.)

The two patients in group A whose hearing dropped to the preoperative level after successful mobilizations had revisions. The same surgical procedure was done again. The skin of the posterior canal wall elevates easier the second time because it is slightly thicker and not so adherent to the underlying bone. The drum folds forward more easily because the annulus does not have to be lifted out of its sulcus. Since all the bony annular rim necessary for the proper exposure has been removed at the original operation, this secondary procedure is simpler. Both cases that were revised were noted to have recurrence of stapes fixation. Each stapes was found to be as fixed as at the original procedure but could be remobilized. The hearing in each case was returned to approximately the same level that had been attained with the first mobilization.

In seven cases where the original mobilization had failed because the stapes was fractured, the opposite ear was attempted. Three cases were again unsuccessful because the stapes was too fixed and, therefore, fractured. Four cases were successfully mobilized. Of these mobilized, one was a group A result, and three were group B.

A fenestration was performed on one patient who had a bilateral mobilization which was unsuccessful (fractured stapes). The fenestration was performed on the ear nine weeks after the mobilization, at which time the skin of the external canal was completely healed and the drum had a normal luster. There was no unusual difficulty encountered in preparing the tympanomeatal flap or at any time during the surgery. The improvement in hearing is very satisfactory. Despite the fact that only one fenestration was performed following an unsuccessful mobilization, I believe that other cases should be no different, provided the tympanic membrane is intact and the skin of the external canal is completely healed.

In this series of 50 cases were five that had had a previous fenestration on the opposite ear. Three stapes could not be moved and, therefore, fractured. Two stapes were mobilized, but only one patient obtained any improvement in hearing. The case that was mobilized but whose hearing did not improve was noted to have a complete closure of the round window niche. In its place was a small porous area. Only one other ear in this series had a narrowing of this niche.

Several patients in this series had bone conduction near the 30-decibel level in the middle frequencies and occasionally below this at the 2,048 frequency, yet they were able to enjoy enough hearing improvement to make a tremendous difference. This comprises a large group of patients who before this had no alternative except a hearing aid since a satisfactory result could not be obtained with a fenestration.

Conclusions

The transtympanic mobilization of the stapes has been devised so that it can be used as an adjunct to the present-day surgical therapy of otosclerosis. Through this technic it has been learned that partial fixation of the stapes is often reversible. In this series of 50 cases 30 per cent had a hearing improvement up to or above the practical 30-decibel level in the speech frequencies. Eighty-six per cent have maintained this gain for one year. The two cases in which the stapes became refixed were revised with subsequent improvement which has been maintained for nine months. It has also been shown that a successful fenestration can be performed after an unsuccessful mobilization.

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Discussion

Samuel Rosen, M.D., *New York City.*—Dr. Scheer is to be congratulated on an excellent presentation of his results in the mobilization operation for otosclerotic deafness. Since developing and employing this technic for mobilizing the fixed stapedial footplate for the past three years, I have taught and demonstrated it to over 150 otologists in this country and abroad. It is heartening to know that my technic has been successful in the hands of at least 35 otologists in America and some in foreign countries. Like Dr. Scheer the success obtained by most men in restoring serviceable hearing (30 decibels or better) in ideal cases is about 30 per cent. With more experience the percentage, I believe, will become higher, as mine has. Yet this is a fairly good beginning for a simple operation for otosclerotic deafness.

In the more than 600 stapes mobilizations I have done thus far, there have been no complications and no labyrinthitis. Generally if the mobilization operation fails, there is no resulting deterioration in the hearing. The risk to the patient is almost nil. I recommend the stapes mobilization as the first to be done in all cases of otosclerosis suitable for fenestration. Should the mobilization fail, fenestration can be done with the same results as obtained in virgin ears. Dr. Scheer describes one such case, and others have reported many.

Dr. Scheer states that one can predict the degree of stapes fixation by hearing tests with tuning fork and raised voice. First of all, the raised voice and tuning fork are not too reliable as indicators since the proper type and amount of masking and how it is applied are too variable. I believe it is best to rely more on the use of the most advanced electronic equipment available, uniformly calibrated, and operated under fully controlled acoustic conditions, and the tests must be performed by highly trained personnel, preferably other than the surgeon for objectivity.

It has not been my experience that the preoperative hearing tests bear any close relationship to the degree of footplate fixation in most cases. In long-standing otosclerosis cases (deafness for twenty to thirty-five years) the degree of fixation is apt to be greater than when the deafness has been of much shorter duration (three to ten years). There are notable exceptions, however.

I cannot agree that the best results are obtained where air and bone conduction are equal for the 1,024 fork, since almost by definition the bone conduction should surely be better than air conduction in cases of otosclerosis due to stapedial ankylosis exclusively.

Dr. Scheer does not state what audiometric types the operated patients were. His report does not include preoperative air and bone conduction losses or speech reception thresholds, nor does he tell us how these tests correlate with success or failure.

Of the 30 per cent which Dr. Scheer says showed "excellent improvement," he does not state specifically which cases reached 30 decibels and which reached the 35 level.

In summary, I believe that the selection of cases and the description of results in mobilization must be based upon careful and complete audiologic evaluation, including pure tone air and bone and speech audiometry. Such details as calibration of equipment, selection and calibration of proper masking for the bone conduction tests, control of test conditions, and skillful testing, preferably by a third party, will do much to validate this as an important procedure for the relief of deafness due to otosclerosis.

Definition: An abortion in Czechoslovakia is a cancelled Czech.—Missouri Medicine, June, 1955

The Use of Isotopes in Medical Practice

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SINCE the first use of a radioactive isotope by Hevesy[1] in 1921 in his study of lead metabolism in plants and the discovery of artificial radioactivity in 1934 by Joliot and Curie,[2] the uses of radioisotopes in medicine have increased rapidly in number. With the development of nuclear reactors by the Manhattan Project in the 1940's, radioisotopes became available for the first time in considerable quantity for extensive distribution and use which are now under the control of the Atomic Energy Commission.

It is evident that the present review can only include discussion of a few of the many applications of these radioisotopes. Therefore, several well-established applications of isotopes in clinical medicine have been selected for more detailed discussion: the use of radioiodine in the diagnosis and treatment of thyroid disease and the use of radiophosphorus in the treatment of blood dyscrasias. These applications are well established, and it is possible for properly qualified physicians with adequate equipment to use these isotopes in practice.

The majority of other clinical applications are usually readily available only through the services of a medical center. With more extensive equipment and trained personnel radioiodine-labeled human serum albumin may be used for brain tumor localization as well as for the measurement of blood volume, cardiac output, and peripheral blood flow. Labeled albumin may also be used to demonstrate possible tumors of the liver. Radiochromium has been used for blood volume and red cell survival studies; radioactive gold, cobalt, and chromic phosphate for the treatment of malignant diseases; radioactive sodium and potassium for electrolyte studies, and radioactive iron for the study of hematologic diseases. Many of these applications have practical clinical implications.

Radioiodine

Radioiodine is by far the most widely used radioisotope, and its greatest application has been in the diagnosis, treatment, and investigation of thyroid disease. Its use in the evaluation of thyroid function is based on the fact that inorganic iodine, when taken into the body, will be deposited for the most part in the thyroid gland or be promptly eliminated through the kidneys. The speed with which the iodine enters the thyroid gland, the total quantity which accumulates in the gland, and the quantity of organic iodine formed by the gland are directly related to and indicative of the level of thyroid function.

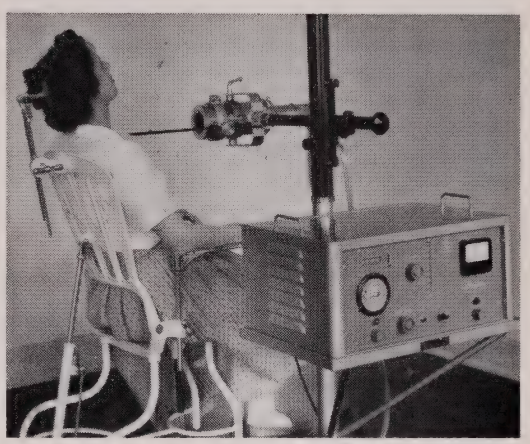

FIG. 1. Equipment used to measure the uptake of radioiodine by the thyroid gland.

The simplest test of thyroid function using radioiodine is the determination of the percentage of the administered dose that is taken up by the thyroid gland at a specified number of hours after the tracer dose has been given. In most instances radioiodine is given by mouth, and measurements are made after six and twenty-four hours. Instrumentation and counting methods used may vary widely between different laboratories. Figure 1 illustrates counting equipment used in our laboratory. The patient is placed so there is a distance of 40 cm. between the neck and the scintillation crystal of the counter. This distance insures that the entire gland is

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TABLE I.—Range of Radioiodine Uptake by Thyroid Gland

	VA Hospital, Syracuse (Per Cent)	Quimby,[4] New York (Per Cent)
Hypothyroid	0 to 10	0 to 10
Euthyroid	10 to 50	10 to 45
Hyperthyroid	50 to 100	30 to 90

counted and decreases to a minimum any error related to the varying location of the thyroid gland in the neck. In addition, a lead filter ($^1/_{16}$ to $^1/_8$ inch in thickness) is interposed between the gland and the counter to absorb and eliminate scattered secondary radiation. It has been clearly shown that an artifactitious elevation of the uptake will occur if these radiations are not compensated for or eliminated.[3]

It is essential that a standard set of values be formulated for each individual counting arrangement. Table 1 summarizes the approximate range of radioiodine uptake by the thyroid gland in hypothyroid, euthyroid, and hyperthyroid patients in our laboratory and in a large series reviewed by Quimby.[4]

It is evident that some overlap does occur. In borderline cases clinical evaluation of the patient and other tests using radioiodine[5-7] may be helpful in establishing a definite diagnosis. In general, however, the radioiodine uptake is considered to be about 90 per cent accurate as a test of thyroid function.

Although not always used, the urinary output of I^{131} may give information concerning thyroid function and at the same time may serve as a correlative check on thyroid uptake values.[8]

The administration of certain drugs or diagnostic x-ray dyes may interfere with thyroid uptake determinations. Inorganic iodine in cough medicines, vitamin preparations, or applied to the skin may cause a falsely low uptake. This effect may persist for from two to eight weeks. Organic iodine compounds exert a similar effect. Diodrast may have an effect for several weeks. Priodax gallbladder dye may interfere for as long as four to six months, while lipiodol bronchography or myelography may depress the uptake for years.

Thyroid uptake may also be falsely low if thyroid hormone is given. This effect is thought to be mediated by suppressing the secretion of thyroid-stimulating hormone by the pituitary. This effect may persist for as long as twelve weeks, although Greer[9] has observed that the suppression usually lasts only two weeks. Actually, the association of a low I^{131} thyroid uptake and an elevated protein-bound iodine may be virtually diagnostic of thyrotoxicosis factitia. This suppressive effect may also be used in the diagnosis of borderline hyperthyroid patients. Thus, if tri-iodothyronine is administered to such a patient, the uptake will be markedly depressed if the patient is euthyroid but will not be depressed below 35 per cent in patients with toxic goiter.[10]

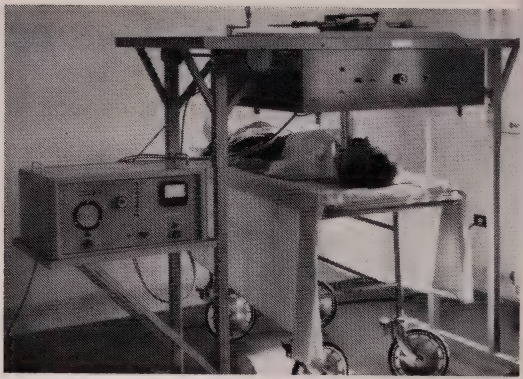

Fig. 2. Automatic scanning scintillation counter used to outline area of radioactivity in the body.

Thiouracil and its associated drugs will also suppress uptake values, and this effect may persist for as long as twenty-four to forty-eight hours after the drug is discontinued. After forty-eight hours an increased uptake may be observed. Severe iodine deficiency will lead to an increased avidity for iodine, and high uptakes may be observed in large nontoxic goiters.

It is evident that the I^{131} uptake is not infallible, and errors in interpretation may occur if extraneous modifying factors are not recognized. If properly performed and interpreted in relation to the clinical state of the patient, it is a relatively simple, convenient, and accurate method for evaluating thyroid function.

The ability of radioiodine to concentrate in functioning thyroid tissue is also used in diagnostic studies utilizing the automatic scanning scintillation counter illustrated in Fig. 2. Representative scans of the thyroid gland obtained with this equipment are shown in Figs. 3, 4, 5, and 6. A thyroid gland of normal size and configuration is shown by Fig. 3. Figure 4 demonstrates the presence of a large nonfunctioning adenoma in the right lobe. This adenoma was removed surgically and is shown superimposed on the scan in Fig. 5. A diffuse, hyperactive hemithyroid is illustrated in Fig. 6. A

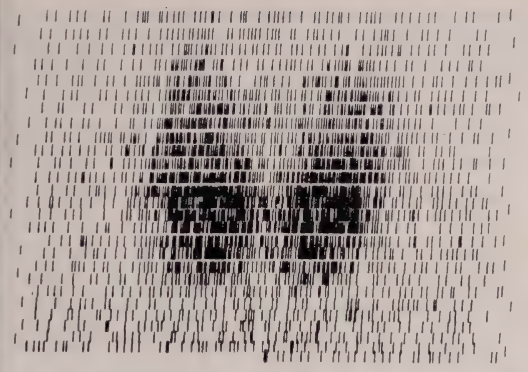

FIG. 3. Scintiscan of a thyroid gland of normal size and configuration.

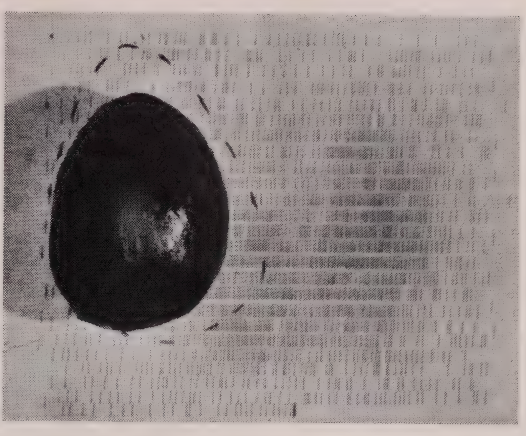

FIG. 5. Nonfunctioning adenoma of the thyroid superimposed on the scintiscan shown in Fig. 4.

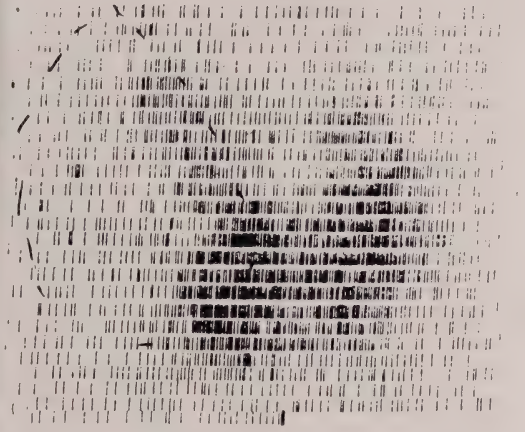

FIG. 4. Scintiscan of a thyroid with a huge nonfunctioning adenoma of the right lobe.

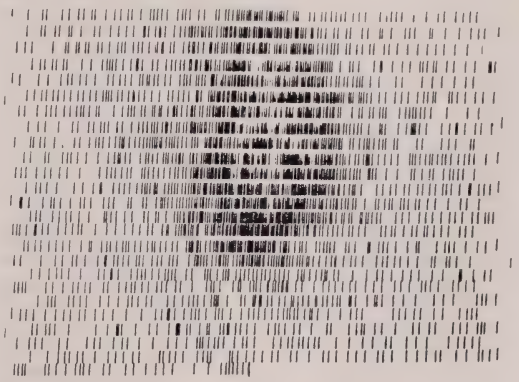

FIG. 6. Scintiscan of a hyperfunctioning hemithyroid several years after hemithyroidectomy.

subtotal thyroidectomy (hemithyroidectomy) had been performed several years prior to this scan.

With this equipment it is possible to outline functioning or nonfunctioning nodules within the thyroid. Metastatic thyroid tissue, if functional, may also be demarcated by this technic. By outlining the thyroid gland itself in several perspectives, it is possible to determine the size and weight of the gland.[11] This is of value in calculating a therapeutic dose for hyperthyroidism.

Other diagnostic procedures, such as the demarcation of tumors in the liver, have been developed using scanning equipment.[12,13] For these studies radioiodine-labeled human serum albumin may be used. The group at the Los Angeles Veterans Administration Hospital in a series of 151 patients have reported an over-all accuracy of 95 per cent in demonstrating tumors in the liver.[13]

The fact that rapidly metabolizing tumor tissues will show earlier and higher uptake of a metabolite than corresponding normal tissue has been used to localize tumors with radioactive tracers. In addition, it has been observed that the so-called "blood-brain barrier mechanism" (BBB), which normally inhibits the rapid entrance of certain materials into the central nervous system, is disrupted in the presence of inflammation or a neoplastic growth. As a result of this disruption, certain substances have been found to concentrate in brain tumor tissue. Radioiodine-labeled diiodofluorescein was used initially. More recently radioiodine-labeled human serum albumin has been found to be superior.[14] Localization is obtained by carefully counting symmetric sites on both sides of the head to determine whether there are any differences between areas. Small lesions or midline tumors are not easily located. The over-all accuracy has varied among different groups using this technic. Dunbar's group[15] arrived at a 76 per cent accuracy, applying very strict criteria and basing their diagnosis on this method alone. Yuhl[16] obtained an over-all accuracy of 83 per cent with radioactive diiodofluorescein and of 90 per cent using radioactive iodinated human serum albumin.

The use of radioiodine in the therapy of hyperthyroidism is now well recognized, although the extent to which it is used and the selection of patients for this treatment vary somewhat between different groups. In general, it has proved most satisfactory in the treatment of diffuse toxic goiters and somewhat less successful for toxic adenomas. The contraindications will vary again according to groups. Contraindications that are generally accepted include the presence of a very large thyroid causing mechanical interference, the presence of a solitary "cold" nodule, and the presence of pregnancy or lactation. Patients below the age of forty-five are not treated with radioiodine by some clinics because the possible development of neoplastic disease following radioiodine therapy has not been excluded. This form of therapy has been in use for fifteen years, however, and to date there has not been a single case of malignancy definitely attributable to therapy with radioiodine.

The program of treatment also varies in different clinics. Some groups prefer to administer repeated small doses of radioiodine until a euthyroid state is attained. Using this approach, Gordon[17] reported 100 per cent success in a series of 385 patients with an incidence of hypothyroidism or myxedema of only 2.7 per cent. Others prefer to give larger doses and in many instances aim to attain the euthyroid state with a single dose. The incidence of hypothyroidism or myxedema with this approach may range from 6 to 15 per cent.

Our method has been to administer a dose of radioiodine which will subject the thyroid to a dose of radiation ranging between 7,000 and 10,000 roentgens equivalent physicals (rep). One rep may be defined as the amount of tissue ionization equivalent to one roentgen of x-ray. The dose in millicuries required to produce the desired radiation can be calculated from a formula which requires knowledge of the size of the thyroid gland, the per cent uptake, and the time the radioiodine remains in the gland, i.e., the effective half-life. These details of therapy have been described by Burrows and Ross.[18]

Despite the error introduced by the estimation of the gland size and the variability of tissue sensitivity to radiation, therapy with doses of radioiodine which will deliver the desired amount of radiation have proved very effective. The recurrence rate after a complete remission has been obtained is very low. Complications are uncommon, and the small but definite risk of recurrent laryngeal nerve paralysis or of permanent hypoparathyroidism which is associated with surgery is avoided.

Radioiodine may also be used in the therapy of certain types of thyroid carcinoma. Unless the tumor tissue is capable of picking up a significant amount of radioiodine, little benefit can be anticipated. Unfortunately, relatively few thyroid tumors are capable of accumulating much iodine. However, in certain cases metastases may pick up iodine after surgical or I^{131} ablation of the thyroid gland. If this ablation is supplemented by the administration of thiouracil drugs or thyroid-stimulating hormone, the eventual I^{131} uptake by the metastatic lesions may be significantly increased. Although some beneficial effects have been obtained,[19,20] this form of therapy has not produced startling results.

Radioiodine has also been employed to induce a hypothyroid state in patients with incapacitating heart disease. Selected patients with either intractable congestive failure or angina pectoris have been treated with radioiodine on the basis that by lowering the total metabolism of the body, the systemic circulatory requirements may be reduced sufficiently to place them within the cardiac reserve. Blumgart, Freedberg, and Kurland[21] have recently summarized the results of treatment by 50 clinics of 1,070 patients with these disabilities. They report that approximately 75 per cent of 720 patients with angina pectoris showed worth-while improvement, and approximately 60 per cent of 350 patients with congestive failure also improved significantly. In selecting patients it is suggested that those with angina pectoris should have been stationary or only slightly progressive for at least one year. Those with congestive failure should show some evidence of a cardiac reserve. The basal metabolic rate should be more than minus 10 per cent, and it is preferable that the patient be emotionally stable. After a hypothyroid state is attained, small daily doses of thyroid hormone are administered to maintain the lowest metabolic level consistent with comfort.

Radiophosphorus

Radiophosphorus has been used extensively for the therapy of chronic leukemias and polycythemia vera. It has also been widely employed in research, e.g., as a radioactive label of red cells in blood volume studies and as a tracer element in studies of lipid metabolism. The present discussion will be limited to its therapeutic application in blood dyscrasias.

In the therapy of blood dyscrasias the object has been to restore the cytology to or toward normal, to alleviate signs and symptoms, and to maintain these effects without overtreating the patient. To accomplish these aims best, it is necessary to individualize therapy depending on the disease state, its stage, and the individual response to therapy. It has been our policy to administer an initial course of radiophosphorus and to repeat therapy when there is clinical or hematologic evidence of progression of the disease process. This is in striking contrast with the continuous titration form of therapy which has been strongly advocated by Osgood.[22]

It is now generally accepted that radiophosphorus is the treatment of choice for polycythemia vera.[23,24] The disease process can be successfully controlled for long periods without the inconvenience of frequent phlebotomy. The major objection offered to this form of treatment of polycythemia vera has been the reported 2 to 5 per cent incidence of leukemia after radiophosphorus therapy. This incidence is actually less than the 10 per cent reported by Tinney[25] in patients treated by venesection.

Our approach has been to administer an initial course of from 2 to 8 mc. of radiophosphorus intravenously over a period of several weeks. If the oral route is used, this figure is multiplied by $^5/_4$. Venesections may be carried out to reduce the hematocrit quickly in order to decrease the hazard of vascular thromboses during the period before the therapeutic response to radiophosphorus occurs.

As a general rule subsequent therapy is delayed for approximately eight weeks. This is necessary because the maximum inhibitory effect on red blood formation cannot be satisfactorily evaluated until most of the red cells present when therapy is instituted have run their normal life span. With this conservative approach hematologic complications develop infrequently. Additional radiophosphorus is then administered periodically to maintain the hematocrit below 50 per cent. The size of the dose is dependent on the response of the individual patient.

Radiophosphorus has also been found to be as effective as x-ray in the therapy of chronic granulocytic leukemia and moderately effective in chronic lymphocytic leukemia.[26] In our experience the average initial course of P^{32} for chronic granulocytic leukemia has ranged between 10 and 12 mc., while somewhat smaller doses in the range of 6 to 8 mc. have been used in chronic lymphocytic leukemia. The maximum response will occur in two to sixteen weeks and will consist of a significant decrease in the leukocyte count and a subsidence of any existing splenomegaly, hepatomegaly, and lymphadenopathy. The patients are evaluated at intervals of one to two months by the usual hematologic and clinical methods. Further therapy is administered if there is evidence of progression of the disease process. Treatment is again individualized according to the disease process, the response of the patient, the severity of the relapse, and the state of the disease. In general, the dose of radiophosphorus used for subsequent therapy ranges between 1 and 5 mc. with the smaller doses being used more often for lymphocytic leukemia. Supportive therapy, such as blood transfusions and antibiotics, is used as indicated, as may be adjuvant forms of treatment such as x-ray.

The average survival of 30 patients with chronic granulocytic leukemia treated in this fashion has been three years from the onset of the symptoms and two years from the date of diagnosis. Twelve patients with chronic lymphocytic leukemia have survived an average of four years from the onset of symptoms and three years from the diagnosis. Leukopenia occasionally occurs terminally in patients with chronic granulocytic leukemia treated with radiophosphorus. More often an acute blastic leukemia may develop. Thrombocytopenia is not infrequently present, and hemorrhage may occur terminally, particularly in the granulocytic form.

In our experience radiophosphorus has been minimally effective in Hodgkin's disease, lymphosarcoma, multiple myeloma, and acute leukemia.

Radiogold

Radioactive colloidal gold (Au^{198}) has been used for the palliative treatment of malignant disease since its clinical introduction in 1947 by Sheppard and Hahn.[27] Since then it has been reported to be of assistance in the treatment of selected patients with recurrent pleural effusions or ascites due to malignant neoplasms.[28-31] The beneficial effects obtained have consisted of a reduction of fluid accumulation and relief of associated symptoms such as pain.

Radioactive gold has also been injected interstitially as supplementary treatment for carcinoma of the cervix[32] and prostate.[33] Seeds of radioactive gold have also been developed for interstitial radiation therapy.[34]

Properly assayed radiogold is now available commercially, and improvements in the methodology of administering Au^{198} have been made. It would seem that radiogold may serve a useful purpose in the palliative treatment of selected patients with malignant disease.

Radioiron and Radiochromium

It is apparent from the preceding discussion that the uses of isotopes in clinical medicine are many and varied. In addition, they have proved to be of great value in research. One such application which also has some clinical significance has been the use of radioiron and radiochromium in the study of the pathogenesis of anemias.

Blood formation can be measured with a fair degree of accuracy with radioiron,[35] and blood destruction may be estimated with radiochromium.[36,37]

Thus, the plasma and red cell iron turnover in the anemia of cancer has been determined using Fe^{59}.[38] Contrary to the general impression that this anemia is myelophthisic and the result of decreased blood formation, it has been found that blood formation is actually normal and even increased. Blood destruction studies by both the Ashby and Cr^{51} tagged-cell methods, as well as quantitative fecal urobilinogen studies, have demonstrated a definite hemolytic element in many patients with the anemia of cancer.

Further information concerning blood formation and destruction can be obtained by external measurements over the sacrum, spleen, liver, and precordium following the intravenous administration, respectively, of radioiron[39] or of radiochromium-labeled red cells.[40] Patterns of radioiron distribution between the blood, bone marrow, liver, and spleen have been obtained which appear to be characteristic for various abnormalities in blood formation. Thus, a normal subject will accumulate iron initially in the sacrum. In contrast, a patient with polycythemia vera with myelofibrosis will initially concentrate the iron in the spleen. In myeloid metaplasia both the spleen and liver appear to take up iron, while little appears in the sacrum. Additional information concerning the kinetic distribution of iron in the body is obtained by further external measurements during the succeeding days.

Similar external measurements following the infusion of radiochromium-labeled red cells may indicate whether the spleen is playing a significant role in blood destruction. These data, when considered along with that obtained by radioiron studies, will contribute valuable prognostic information as to whether splenectomy may be beneficial for a patient with hemolytic anemia.

In addition, blood destruction may be measured by following the survival of Cr^{51}-labeled red cells. This technic is simpler than the Ashby agglutination method and has the significant advantage that a patient's own red cells can be followed within his own body. Thus, after the patient's red cells are labeled, some are reinfused into the patient, while others may be given to a normal recipient. Figure 7 illustrates the survival of Cr^{51}-labeled red cells from a patient with the anemia of chronic renal disease. It is apparent that the patient's cells had a normal survival (a half-time disappearance of thirty-five days) in a normal recipient and a significantly decreased survival in his own body. The survival of labeled normal donor cells may also be followed in a recipient subject by this technic.

By this approach it is usually possible to determine whether any decreased survival is due to an intrinsic defect of the patient's own cells or to some derangement of the internal environment of the patient which may adversely affect the cell survival.

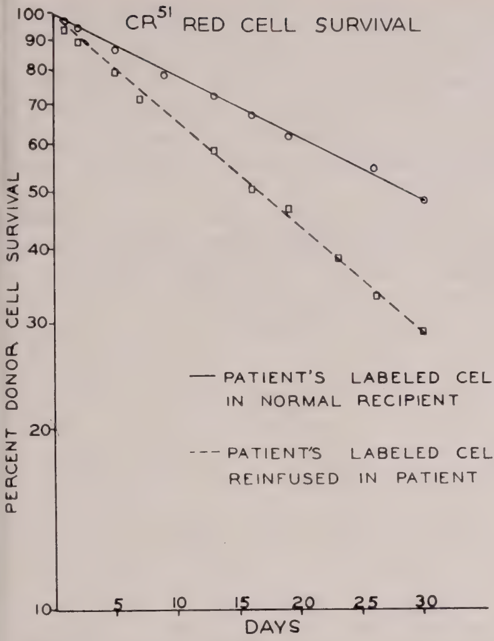

FIG. 7. Survival of the Cr^{51}-labeled red cells of a patient with the anemia of chronic renal disease. The labeled cells of the patient had a normal half-time disappearance in a normal recipient. When the patient's labeled cells were reinfused into the patient, the survival was significantly decreased.

Summary

The uses of radioisotopes in medicine are many and varied. A few isotopes such as radioiodine and radiophosphorus may be used by qualified men in practice. The majority, however, are restricted to use in hospitals and research laboratories. Representative applications of each type have been discussed.

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Discussion

Joe W. Howland, M.D., *Rochester.*—I first wish to congratulate Dr. Chodos on his compact and critical presentation. There are certain items, however, which, because of the time element, he was unable to consider.

It is not generally appreciated that radioactive isotopes are merely radioactive elements which are handled by the physiologic systems of the body in exactly the same manner as are nonradioactive or stable elements. The great use of iodine^{131} is related to the fact that iodine is used only within the thyroid, and that which is not accumulated is excreted in the urine. Also since I^{131} is a halogen, it can readily be fixed to protein or synthesized into compounds and used as a radioactive label.

A second characteristic of radioactive isotopes is related to the radiations produced. Isotopes of medical significance produce penetrating gamma rays and beta particles. The penetrating gamma rays are useful in localization and measurement since the presence of the element within the body can be measured at some distance. The beta particles have a short, intense radiation which is easily localized within tissue.

An isotope giving off beta radiation when deposited in pathologic tissue can give off killing dosages which are sharply localized and do not endanger normal host tissue. Hence, we might say that gamma rays have their major value in diagnosis and beta particles in therapy.

Use of radioactive isotopes in clinical diagnosis and treatment depends more on physiologic principles than on radiation characteristics. These physiologic traits determine the localization and nature of effect of the radiation and cannot be neglected in any radioactive isotope usage. The success of phosphorus^{32} in the treatment of polycythemia depends on the abnormal sensitivity of the red cell precursor and the lesser sensitivity of other tissue to the radioactive phosphorus which enters all cells.

A review of the criteria necessary for the establishment of a radioactive isotope facility was given. This information can be obtained by direct application to the Isotope Division, Atomic Energy Commission, Oak Ridge, Tennessee.

ANNOUNCEMENT

PRIZE ESSAYS

The Lucien Howe Prize and the Merrit H. Cash Prize will be open for competition at the next Annual Convention of the Medical Society of the State of New York, May 7 to 11, 1956, in New York City.

The *Lucien Howe Prize* of $100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The *Merrit H. Cash Prize* of $100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win a prize automatically becomes the property of the Medical Society of the State of New York, "to be published as it may direct."

All essays must be presented not later than *February 1, 1956*, and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

R. Townley Paton, M.D., *Chairman*
Committee on Prize Essays

Treatment of Intracranial Carotid Aneurysm by Extracranial Ligation

WILLIAM F. BESWICK, M.D., IRVING HYMAN, M.D., AND WILLIAM R. KINKEL, M.D.,*
BUFFALO, NEW YORK

(From the Department of Neurosurgery and the Section of Neurology, Millard Fillmore Hospital)

EXTRACRANIAL ligation of the internal and common carotid arteries as definitive treatment of nonfistulous intracranial aneurysms is not new. In 1902 Sir Victor Horsley[1] ligated the right common carotid artery of a forty-eight-year-old woman who suffered pain over the distribution of the second division of the right trigeminus associated with complete paralysis of the abducens and paresis of the trochlear nerve on the same side. Surgical exploration had revealed an aneurysm, $1^3/_4$ inch in diameter, of the intracranial portion of the internal carotid artery. Five years later the patient was found to be in "extremely good health."

In 1927 Magnus[2] reported finding a "chestnut size" aneurysm on the right gasserian ganglion in a patient. While attempting to remove it, he provoked hemorrhage. He then ligated the internal carotid artery and sectioned the posterior root of the trigeminal nerve. Fifteen days later the patient was discharged "relieved." In 1929 Dandy[3] reported having partially ligated the left internal carotid artery for a leaking intracranial aneurysm. The patient, a thirty-three-year-old man, died four days later, hemiplegic and in coma. Necropsy revealed that death was due to cerebral softening over the area supplied by the left middle cerebral artery. A ruptured aneurysm on the left middle cerebral artery was found associated with an unruptured, symmetrically placed aneurysm on the right middle cerebral artery.

In the past twenty-two years successful ligations for nonfistulous intracranial aneurysms have been reported by Dott (1933),[4] Moniz (1934),[5] McKendree and Dorshay (1935),[6] Walsh and Love (1937),[7] Jefferson (1938),[8] Dandy (1947),[9] Murphy (1950),[10] Poppen (1951),[11] Hamby (1952),[12] Jefferson (1953),[13] and others.

Jefferson[8] believed the ill repute of carotid artery ligation was the result of statistics compiled from cases with infection, secondary hemorrhage, and malignant disease of the neck and, therefore, urged that new data be gathered. In answer to the moot question, which artery should be tied, the internal or common carotid, Jefferson wrote, "There is no doubt that ligature of the internal carotid cuts off the blood supply most thoroughly. If the common carotid alone is tied, the collateral circulation through the external is so free that blood will eventually find its way again into the skull. Ligature of the common carotid for hemorrhage is of little use but the needs in aneurysmal cases are different. It will be remembered that after ligature of the main artery to a limb, to use a parallel case to help in clarifying the problem, the pulse rarely fully returns, although the extremity survives. This means a cutting down of the intravascular tension, and it might be enough to favor thrombosis in the aneurysmal sac, a condition toward which there is a strong natural tendency, even in untreated specimens."

Although Dandy[9], Jefferson,[8] and Dorrance[14] agree that common carotid ligation is safer than internal carotid ligation, Dandy added that he believed partial occlusion of the internal carotid was just as safe, while intracranial ligation of the internal carotid was safest. He pointed out, however, that some individuals regardless of age will withstand closure of the internal carotid artery with impunity while others will not, and therefore, the determining factor remains the acquired or congenital collateral circulation at the circle of Willis. He urged the use of Matas' test for adequacy or inadequacy of this collateral circulation before carotid occlusion and unequivocably stated, "In our hands compression of the internal carotid in the neck for ten minutes without symptoms, such as dizziness, numbness or weakness of the contralateral arm, or loss of

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* By invitation.

Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Neurology and Psychiatry, May 12, 1955.

TABLE I.—Summary of Results of Carotid Ligation in 14 Cases

Case Number	Date of Ligation	Age	Sex	Location		Hemorrhage	Preparation	Results	
				Side	Clinoidal			Immediate	Final
1	Jan. 28, 1941	37	F	Left	Sub.	No	Matas	Aphasia and hemiplegia	Good
2	May 5, 1941	43	F	Right	Supra.	Yes	Matas	No untoward signs	Good
3	Mar. 31, 1952	46	F	Right	Sub.	No	Tape	Relief of symptoms; Apr. 7 craniotomy	Apr. 13 slight hemiparesis
4	Apr. 20, 1952	26	M	Right	Supra.	Yes	Tape	Hemorrhage on second postoperative day; Apr. 30 intracranial clipping	Good
5	Aug. 8, 1952	69	F	Right	Supra.	Yes	None	Hemiplegia	Hemiplegia; ocular palsy disappeared
6	Aug. 25, 1952	54	F	Right	Sub.	No	None	No untoward signs	Good
7	Dec. 4, 1952	65	M	Right	Sub.	No	Poppen clamp	No untoward signs	Good
8	Jan. 30, 1953	48	F	Right	Sub.	No	Poppen clamp	No untoward signs	Good
9	May 20, 1953	59	M	Right	Supra.	Yes	Poppen clamp	No untoward signs	Good
10*	Mar. 17, 1954	20	F	Right	Supra.	Yes	Poppen clamp	No untoward signs	Good
11	Aug. 27, 1954	36	F	Left	Supra.	No	Poppen clamp	No untoward signs	Fair
12	Dec. 10, 1954	40	F	Left	Supra.	No	Poppen clamp	No untoward signs	Good
13	Dec. 22, 1954	42	M	Right	Supra.	No	Poppen clamp	No untoward signs	Good
14	Mar. 18, 1955	53	F	Right	Supra.	Yes	Poppen clamp	Hemiplegia and coma	Improving; flaccid hemiplegia remains; (patient still hospitalized)

* Case 10 treated by ligation of internal carotid artery.

vision, has never failed to indicate correctly that the internal carotid artery may be ligated intracranially or in the neck with safety. Compression for a lesser time is not safe."

Matas[15] indicated that carotid ligation remained the safest and surest method of attack for aneurysm of the sellar, parasellar, and infraclinoidal levels of the internal carotid artery, provided that "the efficiency of the collateral circulation is duly tested by prolonged periods of compression of the carotid artery in the neck."

Poppen,[11] who used internal carotid ligation for treatment of aneurysms in 101 patients, recommended it ". . .as a procedure of choice in the majority of patients in whom the aneurysm is confined to the bifurcations of the larger arteries in the circle of Willis. The indirect attack should not be utilized in aneurysms favorable for excision or in instances in which it could be of little or no value, as might be the case when aneurysms are well away from the circle of Willis."

However, Sweet and his coworkers[16,17] have devised an apparatus which measures and records intra-arterial pressure and have shown that there is virtually no measurable pressure drop in the anterior and middle trunks when compared with the intracarotid pressure in the neck. Bakay and Sweet[18] state, "Even in the small arteries on the superolateral surface of the hemisphere the systolic pressures run 65 to 92 per cent of those in the carotid with an average of 83 per cent in the twelve vessels measured in as many patients." When the carotid artery was occluded, the percentage drop in pressure in all portions of the internal carotid and its accessible branches was the same.

In January, 1941, having been stimulated by Jefferson's[8] observations and treatment of intracranial aneurysms, one of us (W.F.B.) started a series of common carotid ligations in the treatment of nonfistulous aneurysms of the internal carotid artery. At that time arteriograms were not being used as commonly as they are now. The clinical history with its orderly progression of symptoms and the signs of neurologic dysfunction established the diagnosis and localized the lesion. We particularly wanted to employ common carotid ligation in patients having symptoms and signs of impaired function implicating the optic, oculomotor, trochlear, abducens, and trigeminal nerves in various combinations with and without subarachnoid hemorrhage.

We believed the effectiveness of the ligation would be reflected clearly by the progression,

TABLE II.—OPHTHALMOPLEGIAS

Case Number	Extraocular Palsies	Trigeminal Division	Return of Function*
1	III, IV, VI (also II)	1st, 2nd	3 months
2	III, VI	....	1 month
3	III, VI (partial)	1st	2 months
4	III	....	3 months
5	III, VI	1st	3 months
6	III, VI	2nd, 3rd	3 months
7	III, VI	....	3 months
8	III, VI	1st	3 months
9	III, VI (partial)	1st	1 week
10	III, VI	1st and partial 2nd	4 months
11	III, VI	....	Improvement at 3 months; minor palsy remains
12	III, VI	....	2 months

* Headache and sensory dysfunction relieved in all cases following ligation.

regression, or persistence of the signs of cranial nerve dysfunction.

The early patients were subjected to the Matas test. No ligations were done until carotid digital compression could be tolerated for from fifteen to thirty minutes without arousing complaints or neurologic signs. Two patients were treated in this manner in 1941 (Cases 1 and 2), and then the study was interrupted by World War II and resumed in 1946. In 1952 the Poppen clamp was used to replace the Matas test. In general, partial occlusion of the common carotid artery was in effect from ten to twenty-four hours followed by complete occlusion for from four to six hours.

Fourteen consecutive cases of nonfistulous intracranial aneurysms of the internal carotid trunk comprise the series to the present (Table I). In 13 patients the common carotid and in one patient (Case 11) the internal carotid artery was ligated. The patients ranged in age from twenty to sixty-nine years with an average of 46.3 years; ten of the 14 were females. Nine of the aneurysms were supraclinoidal and five subclinoidal in location. In six cases there was associated subarachnoid hemorrhage.

Ophthalmoplegias were manifested in 12 of the 14 cases (Table II). One patient had an oculomotor palsy; ten oculomotor and abducens palsies, and one a complete internal and external ophthalmoplegia. This last-named patient (Case 1) was almost completely blind in the involved eye.

The trigeminal nerve was involved in seven cases. In four instances the first division, in two the first and second divisions, and in one the second and third divisions were affected. The sensory dysfunction and headache were relieved in one or two weeks following carotid ligation, while the ophthalmoplegias subsided slowly in from one week to eight months, or a general average of two and one-half months.

In Case 1, while the patient was being subjected to carotid compression, dizziness and numbness and tingling of the contralateral arm and side of the face developed early in the testing period. This patient finally was able to tolerate complete carotid occlusion by digital compression for thirty minutes. Forty-eight hours after common carotid ligation there was sudden onset of expressive aphasia and flaccid paralysis of the right arm, but this disappeared within four days with no residual symptoms. The patient represented by Case 3 tolerated compression tests well, but thirteen days after common carotid ligation and six days after exploratory craniotomy, a right hemiplegia developed. Recovery was slow, and today there is evidence of nondisabling right hemiparesis.

In Case 5 carotid ligation was done without carotid compression tests because of the desperate nature of the case, and immediate postoperative permanent hemiplegia resulted. The patient is alive, but the hemiplegia is complete. The ptosis and ophthalmoplegia have subsided.

In Case 4 recurrence of subarachnoid hemorrhage two days after common carotid ligation was sufficient evidence that the intra-aneurysmal pressure had been inadequately lowered. Intracranial "trapping" was therefore indicated and was successfully accomplished.

One patient (Case 2) died of an unrelated disease in 1947. Necropsy was performed by an assistant pathologist who did not explore the arteries of the brain or comment on the cavernous sinus.

While the follow-up in the greater percentage of this series represents a relatively short period of time, the response of this group of patients to extracranial carotid ligation is most gratifying and tends to indicate that the treatment promises long control over neurologic sequelae of intracranial aneurysms.

Conclusions

From our experience with this selected series of intracranial nonfistulous aneurysms treated by carotid ligation it is concluded that:

1. In a high percentage of cases common carotid ligation will lower the intra-aneurysmal tension to levels incompatible with "leakage" and will markedly relieve local pressure signs.
2. Intracranial "clipping" or "trapping" procedures should be resorted to only when extracranial carotid ligation proves inadequate.
3. Satisfactory response to carotid compression tests does not always insure against the immediate or delayed appearance of signs of cerebral ischemia after permanent ligation.
4. Early poor toleration of the compression tests can be reversed by repetition.
5. The subsidence of ophthalmoplegias in this group of patients within a relatively short interval following carotid ligation is definite objective evidence of the effectiveness of this procedure.

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Discussion

W. B. Hamby, M.D., *Buffalo, New York.*—I am grateful to Drs. Beswick, Hyman, and Kinkel for this discussion of intracranial aneurysms and their treatment by cervical carotid ligation. This is a topic of great importance to all physicians and especially to neurologists and neurosurgeons. Although much time and toil have been devoted to the problem, we still do not know the optimal therapy for a lesion which, untreated, kills approximately 50 per cent of its victims.

At the Buffalo General Hospital intracranial aneurysms have been identified by angiography in 66 patients. For one reason or another, 17 of these were not treated, and 11 died (mortality 65 per cent). Forty-nine were treated with a mortality of 22.5 per cent. Only nine of these cases (13.6 per cent) were fortunate enough to have been seen before the onset of subarachnoid hemorrhage. This loads our series unfavorably as against that of the authors where eight of 14 (57 per cent) had escaped that complication.

It would be misleading to leave you with the impression that extracranial carotid ligation alone is an innocuous form of therapy for all intracranial aneurysms. This might be inferred from the series reported here, in which none of 14 patients died and ten have remained in good condition to the present time. In our series 12 patients were treated by cervical carotid ligation alone, and three died (25 per cent). Another patient died three years later of recurrent subarachnoid hemorrhage. A certain number (9 to 15 per cent in various reports) of people have multiple aneurysms on several cerebral arteries. Ligation of a carotid would pose a great problem in treatment of later rupture of another lesion. Indeed, ligation of one artery has caused contralateral aneurysms to rupture. In some cases carotid ligation alone does not control the situation, and the lesions must be attacked intracranially later. Intracranial arterial anastomoses are sufficient in most people to protect the brain from the effects of loss of one or more of the four major arterial trunks, but they also permit sufficient circulation to cause some aneurysms to bleed again. It has seemed to us desirable to attempt perfection of methods permitting closure of the necks of aneurysms, leaving the trunk vessels intact. This has been accomplished in 18 cases with four deaths (22 per cent). In 18 other cases the intracranial segment of the affected artery required occlusion also. Four (22 per cent) of these people died.

From our series of cases with 86 per cent complicated by subarachnoid hemorrhage, the conclusion may be drawn that cervical carotid ligation is not an entirely innocuous treatment, especially for bleeding intracranial aneurysms. It is the only treatment known at present for subclinoid aneurysms where it is much less dangerous than in cases of supraclinoid ones. In our hands intracranial attack on the lesions has been a little safer and permits the possibility of preserving the cerebral circulation intact.

Prejudice is being positive about something negative.—P. K. THOMAJAN

Perinatal Mortality in the City of Buffalo

A Ten-Year Survey

RICHARD W. BAETZ, M.D., BUFFALO, NEW YORK

With the marked drop in the maternal mortality, particularly from 1935 on, many obstetricians became more interested in the fetal death rates. In 1946 when the obstetric staffs regained full numbers, a study was started in Buffalo to see if at least a partial answer could be obtained for the question, "Why did many pregnant women leave the maternity divisions without a live child?"

A preliminary report for the year 1945 was presented to the Buffalo Obstetrical and Gynecological Society in 1946. These figures brought out a lot of discussion and among other things was instrumental in drawing up a new labor, delivery, and puerperium record which has been in use in all the major hospitals since then. The report also helped point out a need for more rigid rules in the obstetric departments. Most of the present consultation regulations followed shortly thereafter.

Material

The ten years studied were 1945 through 1954. The seven major hospitals within the city limits of Buffalo all cooperated in this study. This accounts for an average of 92 per cent of all the deliveries in Buffalo for these years. The total number of deliveries performed in these hospitals in this ten-year period was 168,785.

Method of Study

The survey is divided into two major parts. The first is concerned with the comparison of the number of infant deaths, both stillborn and neonatal, in the various types of deliveries. The second deals with the cause of stillborn and neonatal deaths, and this is further divided into fetal and maternal causes.

The term stillborn means only those babies weighing over 1,500 Gm. which were born dead. The neonatal deaths are those infants born alive but who died before the mother was discharged from the hospital or approximately ten days following birth.

All the figures given are completely uncorrected except where specifically stated in the last few years of the study. Also the rates of deaths are recorded in percentages.

Buffalo City Compared to Upstate New York

To obtain a comparison of Buffalo's perinatal death rate with the rest of the State excluding New York City, the Bureau of Vital Statistics kindly supplied their figures, which have been incorporated in Table I. It should be pointed out that the State counts all stillborns after the twenty-fifth week of gestation, whereas our study is from 1,500 Gm. upward, which is approximately twenty-eight weeks or viability. Also, the State records its neonatals for one month as compared to our seven to ten-day period. This of course makes the State figures more all inclusive and their rates slightly higher.

From Table I it is obvious that there has been a general trend downward in the number of babies lost in the past ten years except for the year 1953 when there was an unexplained rise in both the State and in Buffalo. The downward trend was more rapid in the first five-year period. Another interesting observation is that in the first five years the number of deaths was almost equally divided between stillbirths and neonatal deaths with stillbirths being slightly higher. However, the biggest improvement has been in the stillbirth group so that the neonatal group definitely have a higher rate in each of the recent years.

Translating these figures to infant salvage in 1954 there were approximately 17 more babies saved per 1,000 deliveries than in 1945 at the start of this study.

The corrected figures, those in brackets, for the City of Buffalo in the last few years exclude

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TABLE I.—Comparison of Perinatal Mortality Rates for City of Buffalo and State of New York*

	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
State of New York										
Infant deaths	5.0	4.5	4.3	4.1	3.8	3.6	3.5	3.3	3.6	3.4
Stillborns	2.7	2.6	2.2	1.9	1.8	1.7	1.7	1.5	1.7	1.6
Neonatal deaths	2.3	1.9	2.1	2.2	2.0	1.9	1.8	1.8	1.9	1.8
City of Buffalo										
Infant deaths	4.4	3.6	3.5	3.4	3.3	3.0	2.6 (1.3)	2.8 (1.4)	3.2 (1.3)	2.7 (1.3)
Stillborns	2.2	1.7	2.0	1.8	1.6	1.5	1.3	1.2	1.3	1.1 (0.4)
Neonatal deaths	2.2	1.9	1.5	1.6	1.7	1.5	1.3	1.6	1.9	1.6 (0.9)

* All figures are percentages. Parentheses ( ) represent corrected figures.

TABLE II.—Comparison of Infant Death Rate per Type of Delivery for the City of Buffalo*

Delivery	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
1. Low forceps	2.2	1.7	1.5	1.5	1.4	1.4 (0.7)	1.2 (0.7)	1.1 (0.6)	1.5 (0.8)	1.2 (0.8)
2. Spontaneous	5.1	4.5	4.3	5.5	5.8	4.7 (1.7)	3.9 (1.2)	4.8 (1.7)	5.4 (1.6)	4.2 (1.5)
3. Versions	7.4	9.3	9.0	9.5	8.3	7.7 (6.3)	11.2 (6.8)	11.4 (8.3)	11.1 (6.7)	12.0 (7.2)
4. Operative forceps	11.5	8.9	5.2	5.0	4.4	7.2 (5.4)	3.4 (3.1)	2.0 (1.5)	3.1 (2.9)	3.5 (1.5)
5. Sections	6.3	6.9	4.5	6.2	5.2	7.1 (5.4)	5.1 (3.1)	6.0 (4.7)	6.7 (2.7)	5.6 (4.1)
6. Breeches	20.0	19.4	19.2	17.7	18.6	15.5 (7.3)	15.2 (7.8)	16.6 (9.0)	16.1 (4.6)	17.5 (5.0)

* All figures are percentages. Parentheses ( ) represents corrected figures.

gross fetal defects, macerations, and neonatals under 1,500 Gm. which was the critical nonviable weight generally accepted at the onset of this study.

Death Rates Compared to Types of Deliveries

This comparison is particularly interesting to those of us doing obstetrics. Just what type of delivery carries the highest death rate for the infant? Some light on this question and several others including the age-old controversy between spontaneous and low forceps may be shed by some of these figures.

The figures in Table II are again in percentages, and those in brackets over the last five years are corrected.

The largest number of deliveries, 110,335, were done by *low forceps*. From the first line it becomes obvious that this type of delivery also carried the lowest infant mortality. In breaking these figures down to the various hospitals, even one hospital doing mostly spontaneous deliveries, the fetal death rate for low forceps was one-half that of the next safest type of delivery, i.e., spontaneous. From this volume with such consistently low mortality rates it seems that the low forceps, outlet forceps, or "prophylactic forceps" is the safest method of delivery for the baby. During this decade the perinatal mortality has dropped from $^2/_{100}$ to $^1/_{100}$, a low rate to start with but a definite improvement.

From low forceps, let us look at line 4, *operative forceps*. The term operative forceps was used for station only and included all mid and high forceps. It has nothing to do with type of forceps used. A Scanzoni maneuver or Kielland rotation done below mid or station zero was classified under low forceps.

This shows the best improvement. It also shows a rather noticeable drop in the percentage of operative forceps as the yearly statistics were reported and consultation regulations were enforced more rigidly. The total number of operative forceps for this study was 3,750. The rather low rate for the last few years seems to indicate that the judicial use of forceps, even in face of imperfect conditions, is not so hazardous to the baby as some of the other types of deliveries.

The *spontaneous deliveries* comprised the second largest group, 38,932. The number of deliveries in this group each year has been almost identical (4,000), but with the total births rising from 12,541 to 19,745 the percentage of spontaneous deliveries would therefore decline slightly. The mortality across line 2 shows a slight decline almost paralleling the decline in percentage of spontaneous deliveries being done. Early in the study it was pointed out that many deliveries are spontaneous when maceration or monsters are expected, and therefore, a correction should be made. The last five years shows a very decided drop in the bracket figures, but if low forceps are also corrected, there are still two times as many deaths percentagewise in the spontaneous group. Perhaps the low forceps, which is usually accompanied with episiotomy, is one example of a man-made improvement on Mother Nature.

Line 3, *versions,* like operative forceps has had a decline, not only in the number of versions but also markedly in percentage. Unlike operative forceps, however, the fetal salvage from this procedure has become progressively lower. Even more disturbing is the fact that the corrected figures remain high, which points out perhaps that the version delivery should be undertaken only after considerable deliberation and then only by a man well acquainted with the mechanics of this type of delivery. There were 3,711 versions performed with a decline from 593 in 1945 down to 208 in 1954.

Breeches have shown the highest mortality of any group throughout the entire study; also the consistency in the number of breech deliveries in each hospital each year has been very remarkable. The percentage of breech deliveries has varied only 1 per cent from 3 to 4 per cent for the past ten years. The uncorrected infant mortality rates have been the highest of any type of delivery. Of course, it is true that many monsters and prematures will present by the breech. But even the corrected figures for the past five years have shown this type of delivery to be quite hazardous to the newborn as shown in the bottom line of the table. It is true that breech deaths do correct proportionately to a much lower figure than any of the other deliveries. It is also true in scanning these figures that there are still more babies lost percentagewise in this line than any other. To present this figure in another way, there were 118 babies lost out of 6,309 breech deliveries as compared to 168 lost with 110,335 low forceps deliveries, almost 13 times as great a risk to the baby when comparing breech deliveries to low forceps. An interesting note on breeches is that the hospitals most proficient in versions had as high a breech death rate as the other hospitals.

On line 5 we see a very disappointing set of figures. The first few years in this study set many of us to analyze why our *section* rate of infant deaths was so high. Obviously our studies have not given the answer. We hope that there may be many more city-wide studies of this kind to see if suggestions for lowering this rate can be made available. In a certain selected series, i.e., conservative treatment of bleeding mothers in the third trimester, the infant death rate was lower; however, that same hospital had a higher perinatal rate in low forceps and spontaneous deliveries. There seems to be an almost absolute low of about 2 per cent infant mortality at the present time which seems nonreducible. This group represents for the most part the hyaline membrane group and prematures. The latter could possibly be reduced by more rigid study of size of baby before cesarean is advised. The over-all city cesarean rate has been 3 per cent.

TABLE III.—Perinatal Mortality for 1954

	Number	Per Cent
Stillborn	226	1.1
Normal	82	36.0
Congenital defects	16	7.0
Macerated	128	57.0
Neonatal deaths	306	1.6
Viable	170	56.0
Nonviable	136	44.0

Analysis of 1954 Perinatal Deaths

Let us turn our attention now to a different phase of this study; these figures, which will be of more interest to the doctors caring for the newborn rather than obstetricians, are given in Table III. This is a detailed study of only the most recent year, 1954, during which time there were 19,745 deliveries. It is concerned with the breakdown of the perinatal deaths into stillbirths and neonatal. The total infants lost were 532 or 2.7 per cent of the number of births.

There were more neonatal deaths than stillbirths, 306 to 226. As was mentioned earlier, the trend in the past few years has been toward a definite increase of neonatal deaths over stillbirths. Under stillbirths there are three groups. The first and most important to us is the number of babies which seemed normal at the onset of labor and died before birth. This division amounted to 36 per cent of the stillbirths, and Table IV shows what actually was the cause of death of these 82 babies. The stillborn gross congenital defects were small in number, only 16 or 7 per cent. The largest percentage, 57, was in the macerated classification. These infants were not studied in detail because they were for the most part dead long before the onset of labor. In the continuation of this study this group will be analyzed more to see if some of them could be salvaged by changes in

TABLE IV.—ANALYSIS OF CAUSES OF PERINATAL MORTALITY FOR 1954 (CORRECTED FIGURES)

Causes	Stillborns	Neonatal Deaths	Totals
Fetal	55	154	209
Prematurity	7	23	30
Asphyxia	41	55	96
Trauma	6	24	30
Syphilis	0	0	0
Erythroblastosis	1	10	11
Congenital defects	0	42	42
Maternal	27	16	43
Toxemia	3	1	4
Premature separation	20	7	27
Placenta previa	3	3	6
Acute and chronic diseases	1	3	4
Infections	0	2	2
TOTALS	82 (0.4%)	170 (0.9%)	252 (1.3%)

prenatal care or earlier intervention for delivery.

The neonatal deaths were divided into only two groups: (1) viable, 1,500 Gm. or 3 pounds, 3 ounces, and (2) nonviable, under 1,500 Gm. This weight was chosen as the critical level because in 1945 the pediatricians were using this figure. Today, of course, this has been lowered to 1,000 Gm. in most reports and even to 800 in a few premature centers. Even with 1,500 Gm. it is seen that over one half (56 per cent) of all the neonatal deaths were viable. These 170 babies are studied in detail in Table IV.

Table IV is a breakdown of the 252 infants, which are listed as corrected. It consists of 82 stillbirths and 170 neonatal deaths. Each of these is further divided into fetal and maternal causes of death as listed.

The total fetal causes account for 209 of the 252 which immediately points to a need for more attention to the pathology of the fetus itself, and especially after birth, since 154 or approximately 61 per cent died during the first week of life.

Under fetal causes the one which should be considered first is the large group of babies lost from asphyxia. This term is used to include all cases where respiratory distress was determined as the main reason for death. It was not broken down into pneumonia, hyaline membrane, atelectasis, etc., because of the large number of different pathologists studying this group of material.

The 42 babies listed under neonatal congenital defects could possibly be dropped or corrected as they were in Tables I and II when they occurred as the cause of death in the stillbirths. These were left in because the babies were born alive, and many of them conceivably were amenable to surgery.

Prematurity was the leading cause of death in the earlier years of this study but is now lowered to a place comparable to trauma. The advent of marked emphasis on prematurity with special premature nurseries being established during this decade is undoubtedly responsible for the drop.

Erythroblastosis is a small but definite contributing factor to our list. It has been interesting to see the lack of syphilis as a problem. There has been only one death due to this disease in the entire ten years.

The maternal factors are concerned practically entirely with the bleeding group, with premature separation accounting for many more deaths than placenta previa. Toxemia like prematurity has had a steady drop since the onset of this study and during this last year actually was responsible for only four deaths.

Summary

Perinatal mortality has been studied for the City of Buffalo for the ten-year period of 1945 through 1954. There were 168,785 deliveries included in this period. Seven major hospitals, all with approved obstetric services, cooperated in the study. This total accounts for 92 per cent of all the deliveries in Buffalo during this time.

A comparison between upper New York State and the City of Buffalo was presented. This showed that there has been a drop in the stillborn and neonatal rates in both surveys. The death rates per type of delivery showed the lowest mortality in low forceps, with spontaneous next lowest but twice that of the outlet forceps. Next followed operative forceps, sections, and versions, and the highest rates occurred in breeches.

The neonatal deaths and stillbirths were each responsible for about 50 per cent of the deaths in the early years with stillbirths definitely dropping in the past five years.

The fetal pathology was far more important as leading factors of death than maternal. Early in the study prematurity was responsible for more deaths than any other single cause but has given way to asphyxia in recent years.

Premature separation was the most frequent cause of maternal pathology with the other bleeding disease, placenta previa, second. In the first few years toxemia was a much more important factor than it appears to be now.

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I should like to express my sincere appreciation to the men who have contributed so much to make this report possible and especially to the obstetric residents of our hospitals, without whose wonderful cooperation this vast amount of material could not have been compiled.

Discussion

Edwin M. Gold, M.D., *Brooklyn.*—As obstetricians we think of perinatal mortality as expressing loss of life just before, during, or just after birth since these are areas of prime obstetric responsibility. Also we should consider the ways and means to speed the decline in perinatal mortality.

Dr. Baetz has given an excellent analysis of the perinatal mortality picture in the City of Buffalo, and his findings are very similar to our own experience in New York City. In New York City we develop the perinatal mortality rate from the formula:

$$\frac{\text{Infant deaths (under 1 week)} + \text{fetal deaths (28 weeks and over)} \times 1{,}000}{\text{Live births} + \text{fetal deaths (28 weeks and over.)}}$$

A summary of certain vital statistics from New York City for an eight-year period, 1946 through 1953, during which time there were 1,410,850 total births, reveals the following facts:

1. The fetal death ratio per 1,000 live births rose 41.1 per cent.
2. The early neonatal death rate per 1,000 live births fell 12.0 per cent.
3. The fetal death ratio (twenty-eight weeks and over) per 1,000 live births fell 28.0 per cent.
4. The perinatal mortality rate fell 19.5 per cent.
5. The maternal mortality rate per 10,000 live births fell 44.4 per cent.

The changes enumerated, whether upward or downward, were continuous during the eight-year period of the studies.

The 41 per cent rise in the fetal death ratio (all fetal deaths) is ascribable to the increased reporting of early fetal deaths, particularly in the under twenty weeks group. The late fetal deaths (twenty-eight weeks and over), which fell 28 per cent, numerically represent approximately half of the perinatal deaths herein reported, the other half being the early infant deaths. In New York City as in Buffalo, as pointed out by Dr. Baetz, in the latter years the number of early infant deaths is increasing, while the number of late fetal deaths is decreasing. This leads to a conclusion that possibly, by improvements in prenatal care and improved nutritional guidance together with improved technics of coping with the complications of early pregnancy, we are now carrying more fetuses beyond the twenty-eighth week and delivering them alive. In other words, we are bringing more "poor risk" infants into the early neonatal period, thereby accounting for the relatively slower improvement of the early infant death rate which declined only 12 per cent.

The early infant deaths are of further interest and importance because they comprise 90 per cent of the infant deaths in the first month of life, and over 50 per cent of them occur on the first day of life. More noteworthy is the fact that 90 per cent of the early infant deaths are due to perinatal causes, namely, prematurity 51 per cent, birth injuries and malformations about 15 per cent each, and anoxia and erythroblastosis 11 per cent. Prevention of prematurity is an incentive to reducing further the early infant deaths. The expansion of prenatal care on a continuous basis to the lower socioeconomic groups of women, particularly to the nonwhite patients in general and the woman under twenty, is a desirable achievement. The problem of birth injury brings up the desirability of having qualified directors of maternity services who will set policies for delivery and consultation and enforce them. The deaths due to Rh incompatibilities and AB isoimmunization factors may be related to the thoroughness of antepartum diagnosis thereof and the preparations in the immediate puerperium for coping with them. The anoxic deaths must decline with better obstetric management of prolonged labor, operative delivery, and hemorrhagic complications at or near term, such as abruptio placenta, placenta previa, and marginal sinus rupture. In addition, increasing awareness of the role the qualified anesthesiologist plays in bringing conduction and regional anesthetic technics into the delivery room and his growing role in supervision of neonatal resuscitation will further tend to decrease infant loss from anoxic causes.

Also of paramount interest is the fact that in the late fetal deaths (twenty-eight weeks and over) the cause was ill defined or unknown in 41.6 per cent. Hughes and Schoeneck in their experiences at the Syracuse Preconceptional Clinic have shown that if a woman had a premature, stillbirth, or abortion in one pregnancy, she had a better than average chance of perinatal loss in a future pregnancy. They suggest that further studies of the uterine environment, the endometrium, and uterine anomalies are indicated because of the importance of these factors in repeated pregnancy wastage.

In New York City at present the autopsy rate in late fetal and early infant deaths ranges between only 25 to 40 per cent. In Chicago on the other hand autopsies are being performed on 85 per cent of all dead infants. The major cause of neonatal mortality in Chicago is due to conditions of abnormal pulmonary ventilation, an anatomic cause of death, rather than prematurity, a purely clinical and nonanatomic cause. Thus a vital source of information as to anatomic cause of perinatal mortality in New York City is being sadly neglected.

In conclusion, I suggest increased efforts along the following lines in order to speed up the decline in perinatal mortality:

1. *Preconceptional care:* To investigate families with history of pregnancy wastage in the interval between pregnancies, especially along the lines that endometrial insufficiency and uterine anomaly play in pregnancy wastage.

2. *Prenatal care:* To augment our efforts in giving early, continuous, high-quality prenatal care to all pregnant women, but especially to those in the low socioeconomic strata, nonwhite patients in general, women under twenty, and particularly multiparas under twenty.

3. *Intrapartum and postpartum care:* Continuous dissemination and application of current accepted standards of skilled obstetric and anesthesia care in all deliveries and especially in the premature. To make liberal use of qualified consultation in obstetric and newborn practice.

4. *Use of autopsy in perinatal deaths:* To attempt to raise the numbers and quality of autopsies performed at hospital and community level. These autopsies both in late fetal and early infant deaths should be done promptly by specially trained pathologists and the results collated with the clinical course of the pregnancy and delivery so that the findings would be more meaningful.

5. *Perinatal mortality conferences:* To stimulate the development of these conferences at hospital level with the joint participation of the obstetrician, pediatrician, anesthetist, and pathologist in the hope that much information of a preventive and therapeutic nature would accrue.

Blind Rehabilitation Program Led by Blinded Veteran

Newly blinded veterans and servicemen are learning to walk, work, and play again under the leadership of a man just as blind as they. Serving as a constant example of success and adjustment to the newly blinded men at the VA hospital, Hines, Illinois, is Russell C. Williams, B. S., himself a blinded veteran. He is chief of the blind rehabilitation section at Hines.

Williams and Dr. Maxwell D. Flank, chief of the physical medicine and rehabilitation service at the VA hospital, outline the program of the centralized blind rehabilitation section in the July 9 *American Medical Association Journal.*

Assisting Williams are specially trained sighted therapists who work "seven days a week, twenty-four hours a day" on an individual basis with the patients.

The program participated in by the patients, who come from throughout the United States, is not vocational training but a way of making the emotional and physical change needed for "a fresh launching into society". Underlying all the activities is the aim of showing blinded men that they can adjust and succeed in everyday life.

The activities begin with simple projects and progress to harder ones. This is called establishing a "success pattern." As patients conquer each new situation, they move to the next, always gaining confidence in their ability to succeed. Each patient progresses at his own rate under the supervision of his own therapist. In the shop unit, patients begin with leather work, move to weaving, then to the use of hand tools and, finally, to power equipment.

The men are taught to walk with a cane in simple situations in the hospital. The "expected rather than the unusual goal" of this phase is a variety of trips through the congested Loop area of Chicago. Patients are encouraged but not required to participate in recreational activities, such as swimming, golf, bowling, dancing, and card-playing. They are designed to show the patient that he can participate in group activities with success. Typewriting which does not require sight, is taught to all patients along with braille and blind handwriting methods.

Throughout the program, patients and therapists are evaluating, measuring, and analyzing the patient's successes and failures. A clinical psychologist helps the patient in understanding his individual problems—but the emphasis is on the most activity and the least talk.

Length of stay at the hospital varies, depending on the patient's individual responses. Maximum length is usually eighteen weeks.

Of the 249 patients treated before December, 1954, 209 were significantly benefited, the authors said. The other 40 remained only a short time.

The section, the only one of its kind in the country, can handle 27 patients at one time.

NEW YORK HEART ASSEMBLY

1955 Scientific Session

ROCHESTER, NEW YORK MARCH 17, 1955

Relationship of Obesity to Cardiovascular Disease

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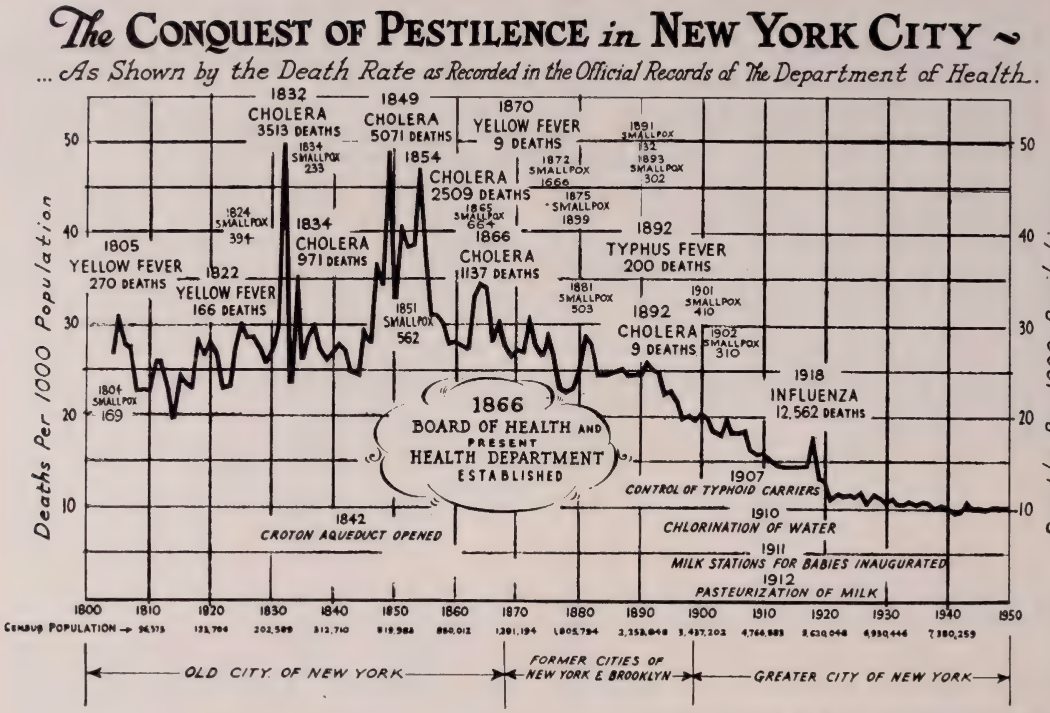
SOME few years ago I stated that the only nutrition advice that the medical profession could offer with confidence to its patients with heart disease was never to become overweight and, if overweight, to reduce and stay reduced.[1] In spite of the fact that since then some of the gaps in our knowledge have been partially filled, particularly on the relation of dietary fat and cholesterol with serum cholesterol and atherosclerosis, and in spite of the fact that we can speak more profoundly and learnedly if not more assuredly on such matters as lipoproteins, phospholipids, and Sf 12-20 molecules, we still do not know the causes of atherosclerosis. Still our best advice remaining to one who has or wishes to avoid atherosclerotic heart disease is never to become overweight and, if overweight, reduce and stay reduced.

The recognition of obesity as a problem in the management of heart disease dates back at least to Laennec,[2] who in 1831 recognized the "fatty heart" as an anatomic condition, and to Stokes,[3] who showed that the muscle mass of the heart is relatively small in the obese patient. For the next fifty years investigations on the relation of obesity with heart disease dealt predominantly with the pathologic physiology responsible for the relative cardiac insufficiency in obesity. These investigations established that obesity was deleterious in any form of heart disease because of the harmful effects of increased body fat on both hemodynamics and total energy output.[4] These harmful effects are more or less proportional to the amount of excess body fat. These facts are too well known to require documentation here.

Simultaneous with these advances in pathologic physiology, other events in seemingly unrelated fields were taking place that had a profound effect on the prevalence of heart disease. These events were the conquest of pestilence in the western world, a saving in human energy by labor-saving devices, and a considerable change in our dietary habits.

There is no need to document in detail to a medical audience the results of the conquest of pestilence other than to remind you of some of its details. Figure 1 graphically portrays the crude death rates in New York City since 1800 by which one may compare the first half of this century with the nineteenth century. Inspection confirms why the first half of this century is often called man's greatest half century in public health. This achievement is not unique for New York City but is fairly representative of other cities and countries in much of the western world where pestilence, infantile diarrheas, pneumonia, and the classic deficiency diseases have largely disappeared. As a result death rates have been halved in this half century. Life expectancy at birth has increased more than twenty years. The proportion of the population sixty-five plus has increased more than two and one-half times, and our population between forty-five and sixty-four years of age has almost doubled (Fig. 2). At least 90 per cent of the present population will live to and beyond age forty-five bringing them into age



(*Courtesy of New York City Department of Health*)

FIG. 1

groups most susceptible to degenerative heart disease, so that it may be calculated, if the death rates remain those of today, about 64 million people now living will die of cardiovascular disease.

Along with this population change there has also occurred a wide use of labor-saving devices in our factories, our homes, and in our means of transportation. This has resulted in a definite decrease in the expenditure of human energy and the resulting benefits, if any, of daily regular muscular effort. I have estimated the saving in energy expenditure by these labor-saving devices as a minimum of 5 per cent and the lessened requirement of an older population at 2.5 per cent.[5] So if 3,520 calories was the correct energy requirement in 1900–1910, then 265 calories less or 3,250 calories per capita population would be a comparable maximum now for an older and less hard working population. In 1952 food disappearances per capita population was 3,240 calories. Therefore, relative to our energy needs we are consuming as many calories as in 1900–1910.

However, there has occurred, very significantly, a qualitative change in the composition of our diet in that we have an increased consumption of "empty calories."[6] "Empty calories" are those sources of body energy which are devoid or nearly so of protein, essential minerals, and vitamins. They are for practical purposes pure chemicals, and in no single category of protein, essential minerals, or vitamins do they contribute their share of these nutrients in proportion to their energy contribution. These empty calorie sources* are principally sugar and cooking fats. On the other hand, a food group is considered to carry its own weight, to be a "full calorie" nutritionally speaking, when it supplies, in some one ingredient of protein, essential minerals, or vitamins, an amount equal to its percentage energy contribution to the total diet. These full calorie sources are principally the animal proteins, the starchy grains, tubers and legumes, and the watery vegetables and fruits.

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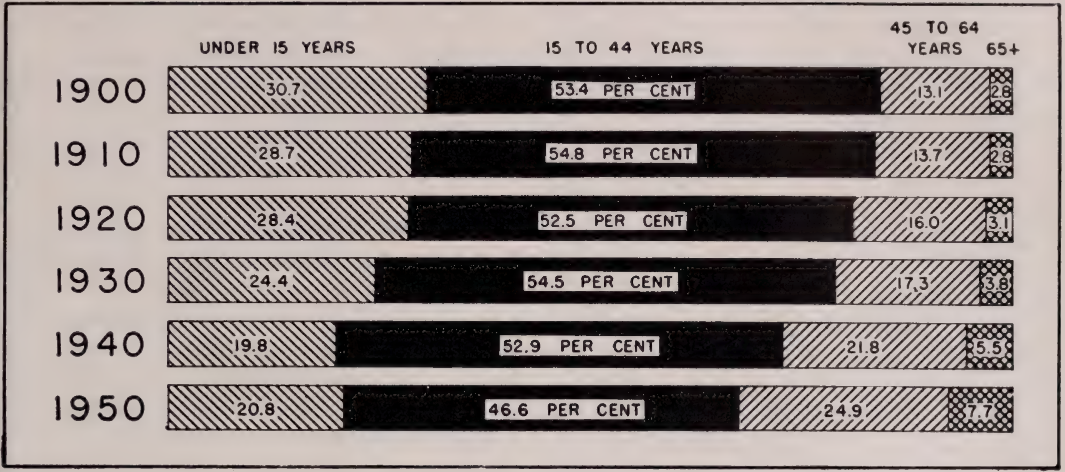
* In this category might also be listed alcohol, which, when distilled and made into potable spirits, is as pure and as empty of amino acids, vitamins, and minerals as is sugar. Alcoholic beverages contribute 120 calories per capita daily to our population fifteen years of age or older.



New York City's Aging Population

(Courtesy of New York City Department of Health)

Fig. 2

Sugar and syrup, according to the U.S. Department of Agriculture,[7] in 1952 supplied 500 calories per capita daily, which is 125 Gm. or 4.4 ounces. Not all of these 500 calories are used from the family sugar bowl since considerable is used in the preparation of commercial foods, carbonated beverages, cakes, and pastries and some goes into bread baking. Most of the latter is converted into carbon dioxide to raise the bread and, therefore, does not enter into the energy pool of the body.

Our other large source of empty calories is from cooking fats, which in 1952 amounted to 505 calories per capita daily. This is equivalent to 60 Gm. or 2 ounces of fat. It should be noted that the "fats and oils" category in the Department of Agriculture Handbook Number 62 does not include the fat that is in fluid milk or that in poultry, sheep, beef, lean pork cuts, or in vegetables or fruits. This category, however, does include fat pork cuts and butter and margarine. In my calculations I have subtracted from the "fats and oils" category both butter and margarine.[*] The "cooking fats" category thus obtained accounts for 60 Gm. of our 145 Gm. per capita daily intake of dietary fat. Even if we should completely eliminate these empty fat calories, the American people would still consume 85 Gm. of fat daily which is more than most other people consume.

Combining the empty calories in sugar and in cooking fats gives us in 1952 a total of 1,005 empty calories in our total of 3,240 calories per capita daily. Thus, in 1952, 30.9 per cent of our total calories were empty. This figure is an increase of 27 per cent from the 800 empty calories in 1909–1913. Proportionately, we have increased our empty calories by 36 per cent, i.e., from 22.7 per cent in 1909–1913 to 30.9 per cent in 1952.

It would be surprising then, indeed, that with the increasing age of our population, its decreased human energy expenditures, and the increased consumption of empty calories, particularly those derived from fat, if the population today was not more obese than fifty years ago, even on the same proportionate calorie intake. Whether or not this is true no one knows for sure for there are no good data on the prevalence of obesity in 1900 or thereabouts or, for that matter, today. The recent study of Downes[8] of about 18,000 persons twenty or more years of age residing in 34 city blocks in the Eastern Health District of Baltimore shows the prevalence of 10 per cent or more overweight to be actually much larger than the 25 to 28 per cent often quoted. Among males in the twenty to twenty-four-year age group the prevalence was 30 per cent, increasing to 55 per cent between ages thirty-five and fifty-four, decreasing to 42 per cent with the sixty-five plus age group. Among females the prevalence was higher at every age starting with 32.5 per cent in the twenty to twenty-four-year age group, reaching 80 per cent between ages forty-five and fifty-four, and then decreasing to 60 per cent in the sixty-five plus age group. Not only were the females more frequently overweight, but they showed a higher prevalence of excessive overweight, that is, 30 per cent or more above the standards used.

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[*] These two items, either normally or by fortification, each supply about 15,000 units of vitamin A per pound and contribute together about 680 units of vitamin A per capita in 1952. This is not a large amount of vitamin A in our total per capita intake of 7,800 units, but together they furnished, in 1952, 8.7 per cent of our vitamin A and 3.5 per cent of our calories and are, therefore, not included in the empty calorie category.

If these findings for Baltimore hold for the entire country, the problem of overweight is even a greater one than previously reported. This same study confirmed previous clinical judgments and life insurance figures in that heart disease, hypertension, vascular diseases, arthritis, diabetes, and gallbladder disease were significantly associated with overweight. So, whether or not obesity is more prevalent than in 1900–1910, we do know that the increasing age of our population, its decreased energy expenditure, and its increased consumption of "empty" calories, particularly those derived from fat, are associated with a real increase in prevalence of degenerative diseases, particularly atherosclerotic heart disease in men between forty and sixty-five.

I am not going to bore you with a repetition of the figures on the increased death rates in the insured overweight population.[1] Suffice it to say that they are about 50 per cent higher in the obese, including those only slightly overweight, than for the nonobese population. And this is important—the bulk of this increase is for the population age forty to sixty-five, and in this age group it is the men who account for most of this increase. Another fact to bear in mind is that although in America life expectancy at birth is near the best of any civilized country in the world today, at age forty life expectancy is near the bottom. Furthermore, the reason for this poor showing at age forty is our high death rate among men forty to sixty-five. In this respect Keys *et al.*[9] has impressively related the death rate from degenerative diseases in several countries with the level of fat consumption.

Now let us turn to what we know in a practical way concerning diet in the prevention and treatment of atherosclerotic heart disease. First, it is almost universally agreed that there is no real relation between dietary cholesterol and serum cholesterol in man on any practical dietary.[10,11] In the rabbit it requires a minimum of about 5 mg. of cholesterol per calorie of food to raise the serum cholesterol.[12] Except on a very queer diet indeed, man seldom eats more and usually less than 1 mg. of cholesterol per calorie. This amount of cholesterol, even in the cholesterol-sensitive herbivorous rabbit, is too little to be of significance. In young men and in men with disturbed cholesterol metabolism,[12] it requires the ingestion of 10 Gm. of pure cholesterol dissolved in butter and eggs to obtain a 5 to 6 per cent rise in serum cholesterol within seven hours which disappears within twenty-four hours. It requires 10 to 30 Gm. of cholesterol in the diet to produce in some months in some subjects a definite but small increase in serum cholesterol. This is of the order of 5 to 15 mg. of cholesterol per calorie intake of food.

Second, with protein, calories, minerals, vitamins, and age approximately constant the serum cholesterol levels are influenced by the proportion of total fat in the diet.[11–13] For example, on a constant calorie intake a diet of 11 Gm. of fat which is very little fat and no cholesterol, the serum cholesterol was lowered 64 mg. per cent as against 61 when the diet included 650 mg. of cholesterol. On 68 Gm. of fat the serum cholesterol was reduced 27 and 21 mg., respectively, while on 110 Gm. of fat there was no change in the serum cholesterol, on either the zero cholesterol or 650-mg. cholesterol diet. This observation has very great practical value for it indicates not only the type of diets most suitable for reducing but the potential danger of a diet averaging 145 Gm. of fat, which the average American uses today. For reducers the amount of fat included in the diet should be kept as low as practicality permits without exclusion of such important food items as eggs, meat, fish, poultry, seafood, and nonfat milk. Twenty-five grams of total fat probably will supply all that is necessary of essential fatty acids; to consume less than this amount of fat is extremely unlikely in any dietary regimen that includes four ounces of meat or fish and one egg daily. Significantly more fat than this is hardly ever necessary and should seldom be prescribed. Since the reducing diet should always be a re-education of dietary habits,[1] it is further indicated that the use of table fats and cooking fats should be discouraged, even though it is recognized that the reducer may lose weight as fast on the same calorie intake if a larger proportion of calories from fat is permitted.

This observation is pertinent also to our recommendations for maintenance diets. The serum cholesterol, if I read the literature correctly, will remain low if the calories are increased to the level of calorie balance if the fat also remains low. This is probably not always so, however, if the increase in calories are of fat.

Third, serum çholesterol will rise if a positive calorie balance and weight gain are permitted, regardless of whether the excess calories are from carbohydrate or fat.[14] To speculate, this observation further emphasizes the importance of the fact that if a man is reducing because of atherosclerosis, it would probably be better not to reduce if he is only 10 to 15 per cent overweight unless he plans to stay reduced. The regaining of this weight with the resulting rise in cholesterol would probably be more deleterious in the long run to the susceptible person than to have remained a little overweight but maintained calorie balance on a low-fat diet.

Summary

In spite of the fact that recent advances have filled in some of the gaps in our knowledge on the relation of dietary fat and dietary cholesterol to serum cholesterol and atherosclerosis, we still do not know definitely the cause or causes of atherosclerosis. Our best advice remains to those who have or wish to avoid atherosclerotic heart disease is to go on a low-fat diet, never become overweight, and, if overweight, reduce and stay reduced.

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The Iatrogenic Aspects of Heart Disease

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Several months ago Dr. McCann wrote asking me to speak to you on the subject of iatrogenic aspects of heart disease. I was pleased by his invitation for several reasons. First, because of my friendship with the late Sir Arthur Hurst, who, to the best of my knowledge, first applied the term "iatrogenic" to disease. Second, for almost twenty years I have rarely been asked to speak on any subjects except those dealing with sulfonamides or antibiotics, and I must say I am a bit jaded by them. Third, for many years I have been interested in the harm which doctors may do their patients by well-intentioned, but at the same time misguided efforts in treatment.

In beginning this talk I want to define what is meant by iatrogenic. The prefix *iatro* comes from the Greek word for physician. *Genic* comes from "gen," which in turn is derived ultimately from a Greek word which has the meaning of "that which produces." Thus, iatrogenic means in essence "physician-produced." The fact that physicians may produce an illness of the heart may seem odd, but at times they do just that by the administration of drugs or other forms of treatment which have a deleterious effect on the heart muscle itself or on the proper functioning of the heart or by giving patients advice which, through the patient's interpretation, results in the production of a cardiac illness. My initial remarks will be concerned with the production of cardiac illness by the administration of drugs or by other forms of treatment.

All physicians who have had experience with serum sickness or drug idiosyncrasy have noted cardiac arrhythmias in patients suffering from such diseases. Inasmuch as most patients recover from these diseases, there have been few opportunities to study possible pathologic lesions of the heart in these particular forms of hypersensitivity. It is of interest to note that several reports of arterial and myocardial damage associated with serum sickness or intoxication with sulfonamides do exist. Longcope[1] reported that Dr. E. Cowles Andrus studied a patient who died of pneumonia while having serum sickness. During the reaction to antipneumococcal serum, definite changes were noted in the T waves in the electrocardiogram, and an extensive arteritis and acute myocarditis were found at postmortem examination.

About twenty years ago Clarke and Kaplan[2] reported that certain patients who died of pneumococcal pneumonia and who had serum sickness at the time of death showed very definite pathologic changes in their arteries and hearts. Proliferation of histiocytes in the endocardium and in the intima of the aorta and pulmonary arteries was noted, and in one patient a necrotizing arteritis and periarteritis of the smaller coronary arteries was present.

A few years later Rich[3] studied the tissue of seven patients, five of whom had received either rabbit or horse antipneumococcal serum only, one antimeningococcal serum only, and one sulfathiazole only. In all of the tissues from these patients the constant lesion was that of acute arteritis and periarteritis affecting a large variety of organs. These lesions appeared to be somewhat similar to those produced by Rich and Gregory in animals, and it was Rich's belief that severe pathologic lesions in the arteries may occur in the course of serum sickness and in instances of intoxication with sulfonamides.

It would seem quite clear from these reports that in the course of reactions of hypersensitivity or idiosyncrasy to foreign proteins or sulfonamides, extensive arterial and myocardial lesions may develop. How frequently these lesions occur we do not know because patients developing these types of hypersensitivity almost always recover, and hence there are few opportunities for the study of their tissues. Furthermore, little if anything is known about the remote effects of serum sickness or intoxication with sulfonamides.

Probably the most common instance of iatrogenic heart disease is that which occurs in the course of digitalis therapy, and unfortunately it is one to which physicans as a group pay too little attention.

Frequently, because in many patients a clear-cut endpoint for digitalization is difficult to determine, the physician continues to administer digitalis until signs of toxicity appear. Then an attempt is made to establish a maintenance dose of the drug which falls just short of toxicity while producing a full therapeutic effect. With all digitalis preparations, the leaf, the tincture, or the purified glycosides, it takes about 60 per cent of the toxic dose to produce the proper therapeutic effect. (A possible exception to this is gitalin, for which it is claimed, but as far as I know not confirmed, that the therapeutic dose is one third of the toxic dose.) It can easily be seen that when signs of toxicity appear, the major portion of the fatal dose has been administered. In animals it has been shown that ventricular extrasystoles occur when from 50 to 80 per cent of the minimal lethal dose has been administered.

It seems to me that it is worth while at this point to review the symptoms and signs of digitalis poisoning. As Lown and Levine have so well pointed out in their most valuable monograph, *Current Concepts in Digitalis Therapy*,[4] a book with which every medical student and physician should be thoroughly conversant: "Little can be added to the keen observation of Withering on the results of overdosage: 'The foxglove when given in large and quickly repeated doses occasions sickness, vomiting, purging, giddiness, confused vision, objects appearing green or yellow; increased secretion of urine with frequent motions to part with it and sometimes inability to retain it; pulse even as slow as thirty-five a minute; cold sweats, convulsions, syncope and death.' "

The most frequent symptoms of digitalis poisoning are loss of appetite, nausea, and vomiting. These are due to the central action of the drug. They must not be confused with similar signs which result from enlargement of the liver or other abdominal organs in the course of congestive failure. Visual disturbances or dizziness occur in about a quarter of the patients who are intoxicated with digitalis. These important symptoms of poisoning may be missed unless the physician inquires carefully for them. Headache may be a prominent symptom of intoxication, and neurologic symptoms such as those of neuritis, hyperesthesia, or hypoesthesia, or mental symptoms or signs such as confusion, stupor, apathy, delirium, disorientation, or grave psychotic derangements may indicate the presence of digitalis poisoning. General muscular weakness and, in older men, gynecomastia may result from the prolonged administration of digitalis. And it must always be kept in mind that severe digitalis intoxication may be present without symptoms of its existence.

The best objective evidence of overdosage with digitalis is obtained from careful and frequent surveys of the heart itself. Every form of cardiac arrhythmia has been described as being due to intoxication with digitalis. The earliest signs of a digitalis effect which may be noted in electrocardiographic tracings consist of a shortening of the QT interval, the scooping of the ST segment, and an inversion of the first part of the T wave. However, these changes in the electrocardiogram, if they appear, are not reliable indicators of the proximity of digitalis poisoning since poisoning may occur without them.[4]

Ventricular extrasystoles are probably the most frequent indicators of overdosage with digitalis. If the drug is continued, coupling or bigeminy may occur. This is evidence of serious digitalis intoxication. With coupling, a continuation of the medication may produce ventricular fibrillation and death, the former being generally preceded by an increase in the frequency of ventricular premature beats, bursts of multifocal premature beats followed by uni- or bidirectional ventricular tachycardia or by a polymorphism of normal or abnormal beats. The appearance of heart block of various degrees and types may be due to overdosage with digitalis, and the studies of Lown *et al.*[4] have shown that arrhythmias of atrial origin, such as paroxysmal auricular tachycardia with block, may be produced by too much digitalis.

It can be said that the incidence and severity of digitalis poisoning is constantly on the increase. One reason for this increase is the widespread use of diuretics such as the mercurials, carbonic anhydrase inhibitors (Diamox), and ammonium chloride, the administration of cortisone or ACTH, the use of parenteral fluids containing electrolytes, and the administration of cation-exchange resins. These compounds all affect the electrolyte balance, and shifts in electrolytes in patients suffering from congestive heart failure frequently change the reaction of the myocardium to digitalis.

The most important of the electrolytes in this respect is potassium. Frequently too little thought is given by physicians to what may be happening to the potassium ions in patients who are suffering from congestive failure. Even without the addition of digitalis (or, for the matter of that, without heart failure), hypokalemia or hyperkalemia may have a deleterious effect upon the heart and bring about definite changes in the electrocardiogram.

When digitalis is administered in doses which produce a toxic reaction, potassium is liberated both from the heart muscle and from striated muscle. The situation relative to the loss of potassium when truly therapeutic doses of digitalis are administered is unclear, but the best evidence is that potassium is not lost from cardiac muscle. Also there is evidence that under certain conditions the administration of potassium, by decreasing the response of the heart muscle to digitalis, lowers or abolishes toxic manifestation of digitalis. This has been repeatedly shown in patients suffering from ventricular extrasystoles or paroxysmal ventricular tachycardia. Here the administration of potassium will slow down and at times do away with the tachycardia or the arrhythmia. Buff[4] has also reported that the administration of potassium will often abolish the symptoms of digitalis poisoning.

One must keep in mind that the patient who presents congestive failure may have electrolyte disturbances as a result of his failure. Also it is not difficult to produce such disturbances by the therapeutic measures which are now so much in vogue for the treatment of the congestive or edematous phase of heart disease. We know that in the development of failure, sodium is generally retained in the body, while potassium is generally lost. As a rule the concentration of sodium in the serum is lowered slightly while that of potassium is essentially normal. Chlorides are slightly increased. Furthermore, the potassium loss especially affects the cardiac muscle since it is from the musculature of the failing chamber or chambers that the potassium loss may be greatest.

It is often at this point that the physician with the best of intentions furthers the potassium loss by the prescription of a low-sodium diet and the administration of mercurial diuretics. Serious losses of potassium are liable to take place. Then to help (?) matters—i.e., to increase the excretion of water—ammonium chloride may be added as a therapeutic measure to increase the activity of the mercurial diuretics. Again, a further serious loss of potassium may occur. But let us suppose that a satisfactory diuresis has not been obtained by these methods. The physician may change his therapy and use a cation-exchange resin, and in this instance if a potassium cycle resin is not used, potassium may be lost in undesirable amounts. Or the physician may decide to use a carbonic anhydrase inhibitor, a procedure which also may cause a serious loss of potassium.

Generally, shortly after digitalization has been completed, a patient in congestive failure will be treated with one of the methods just described for producing diuresis. If a good diuresis is obtained, symptoms of digitalis poisoning, such as nausea, vomiting, headache, etc., accompanied at times by electrocardiographic changes, may occur. These symptoms and signs are the result of the increase in the effect of digitalis on the myocardium, mediated by the loss of potassium. These toxic effects may be abolished by the administration of potassium. The same is true of atrial tachycardia, an arrhythmia which has been demonstrated to be associated with potassium losses from cardiac muscle.

Concomitant therapy with other drugs such as cortisone or desoxycorticosterone acetate may produce losses of body potassium which are great enough to potentiate digitalis so that the latter produces toxic effects. Too little thought is given to this possibility, especially when cortisone is being used. Patients who have had their body stores of potassium depleted by vomiting or by diarrhea are prone to develop digitalis poisoning, even though very small doses of digitalis are prescribed. This whole question of the electrolytes can be summed up very succinctly as far as it relates to the heart by saying: "Physician, remember potassium!" If he does, he will keep out of a lot of trouble.

There is another area of iatrogenic heart disease which I would like to discuss, and this has to do with the production of cardiac illness by unfortunate words of the physician. The first case record I would like to discuss is that of a patient seen with the late Dr. Francis W. Peabody when I was resident physician in the Thorndike Memorial Laboratory in the Boston City Hospital in 1925.

Case 1.—Miss B. F.-H. was a single woman, twenty-nine years of age, who was admitted to the Thorndike Memorial Laboratory on January 8, 1925, complaining of palpitation, rapid heart beats, shortness of breath, and complete disablement of more than twenty years duration. Important in her history was the fact that her father, who was a physician, had told her, when she was eight or nine years old, that she had rheumatic infection and that she must always be very careful of her activities. She was carried from her bed to a couch during the day, was not allowed to move about much, and was constantly made aware of the dangers of heart disease. A year or so later her father died. The patient and her family took her father's advice very seriously, and for the next twenty years she was a complete cardiac cripple. The slightest exertion produced palpitation, shortness of breath, weakness, and a very rapid heart rate.

Physical examination showed that the patient was a well-nourished young woman whose respirations were very rapid and shallow and whose heart rate varied from 140 to 160 beats per minute. The blood pressure was normal. The heart was not enlarged. The remainder of the physical examination was essentially normal with the exception that areas of anesthesia, paresthesia, and hyperesthesia were noted. A diagnosis of hysteria with functional heart disease (neurocirculatory asthenia) was made.

After considering the patient's situation, Dr. Peabody decided that nothing would be said about her heart and that the therapeutic approach would be directed entirely toward her rapid breathing. This was carried out by a series of graduated exercises in which slow breathing was continually stressed, i.e., "inhale and exhale, deeply and slowly." These exercises were carried out for two or three hours a day under the guidance of the resident physician. Within two weeks after the exercises had been started, the patient was able to scamper up the seven flights of stairs in the outpatient building, ending the runup with respiration of 22 and a pulse of 110. (The resident physician's pulse was 120, and he was badly blown!) Next, long walks, morning and afternoon, were added to the exercises, and within two days the patient was able to walk five miles in a blizzard with minimal acceleration of either her heart or respiratory rate. Interestingly enough, her sensory disturbances disappeared. She was discharged on January 28, 1925. A follow-up two and a half years later showed that the young woman was leading a normal life.

This patient is an excellent example of an individual in whom a disabling cardiac illness was produced as the result of admonitions of a physician who, I am sure, with the best of intentions gave advice which was completely accepted by his patient but which, instead of benefiting her, produced incapacitation for more than twenty years.

The second patient illustrates again how well-intentioned efforts of a physician produced illness in the patient.

Case 2.—Mr. A. R. was a vigorous-looking individual of fifty-seven years who was first seen by me in November, 1948, because he was worried about his heart. Some years before in the course of a checkup his physician had stated that his blood pressure was somewhat elevated and that his heart appeared to be somewhat enlarged. Soon after this, the patient began to notice that at times, when he was emotionally upset, he would experience palpitation, shortness of breath, and sometimes would practically "black out." In fact, when enraged, he would have to sit down wherever he was to keep from "blacking-out." He had also learned by himself that the taking of a deep breath and holding it would generally stop the palpitation, and then the blackout symptoms would disappear. These attacks apparently worried the patient's physician because he then told the patient that he should take "better care of himself . . . that he should increase his rest." The physician was also worried about the patient's blood pressure and thought, because of the presence of a systolic murmur in the aortic area, that he might be developing aortic stenosis. The patient himself became convinced that his days were numbered.

It became apparent during the initial interview with this patient that he was a highly intelligent, alert individual who had a high regard for his own ability to analyze all situations. He had an enormous amount of drive and, naturally, despite his self-assumed assurance in his own ability at self-analysis, was scared to death by his own interpretation of what his doctor had said about him.

On physical examination he was found to have a labile blood pressure which varied from 130/80 to 150/100. The blood pressure in his left arm was consistently lower than it was in his right arm. The left border of cardiac dullness measured 9.5 cm. in the fifth interspace and 5 cm. at the base. A rough systolic murmur was heard in the systolic area. This murmur was transmitted down the right border of the sternum. The pulse rate was 76. Except for multiple small lipomas the physical examination was otherwise essentially normal. The laboratory studies were of little help except that the chest film showed some widening of the descending aorta and prominence of the aortic arch, both of which findings were accentuated by a scoliosis of the dorsal spine.

When all examinations were completed, their results were carefully gone over with the patient, and a detailed explanation of the interactions of psyche and soma was made to him. This afforded a great deal of immediate relief. However, it took about two years to tame down his emotional outbursts to a point of reasonable control. Now, seven years later, except for symptoms referable to prostatic enlargement, the patient is enjoying good health and a good life. Only once in this period has he had short bouts of palpitation (paroxysmal tachycardia) and shortness of breath. These occurred during a period of intense business activity and strain. The prompt identification of the relation between his business worries and the palpitation made the latter clear up promptly. Here then is another patient who was on his way to becoming a cardiac cripple because of what a physician had told him.

These two case records are typical of those of many patients who have become or who are on the way to becoming cardiac cripples because of what their doctors have told them. They point up the fact that we, as physicians, must be very careful of what we tell our patients. The patient who is conditioned to become an invalid accepts every remark the physician makes and interprets it in the light of his own experience. Physicians should bring hope and cheer to their patients even though, by doing so, they may at times be staking their reputations.

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The Research Program of the American Heart Association

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WHILE the history of medicine can be traced back to ancient times, the scientific discoveries made by primitive peoples and by ancient civilizations were largely the result of the painfully slow process of trial and error or of chance observation. In some instances discoveries were made through the genius of those rare individuals whose names are a part of our medical heritage, but such men lived many years or even centuries apart, and progress in science was, therefore, measured in centuries rather than in years or, as is true today, in weeks and months.

It is only during the past four or five hundred years that what we know today as *the scientific method* has been applied to the problems which science faces. This method is used by all sciences, not medicine alone; it is as important to agriculture, or to engineering, or to industry as it is to the biologic sciences. The method may be described as follows: The investigator in the course of his work is faced by a particular problem and sets out to solve it. He first reviews existing knowledge on the subject until he is familiar with all of the known facts. He then thinks about the problem and speculates as to possible solutions. Finally, he develops a hypothesis which seems to him to be the most likely explanation. Then, and only then, does he plan a controlled experiment which tests out this hypothesis and proves or disproves it. Thus the scientific method is a basic philosophy of science, and research encompasses the technics by which new facts are acquired.

Research is merely a search after the truth utilizing the scientific method. It involves thought and planning in advance of the actual investigation; it also involves planning and control of the investigation itself.

The end result of research is discovery, the discovery of new things, new facts, or new ideas. Occasionally the end result may be something which was not suspected at the time the investigation was started. There have been investigations in which the main objective was not attained or was found to be unimportant, whereas some byproduct of the research became a world-stirring discovery. The discovery of penicillin by Sir Alexander Fleming is probably the best known recent discovery of this sort. We call this *serendipity*, the chance discovery arising as a byproduct of a planned research. The trained and experienced investigator is more apt to recognize the importance of chance observations than is the unskilled worker.

The reason that modern research places so high a premium on brainpower is that only the trained and experienced mind, only the alert and interested mind, only the skilled and devoted mind is likely to get the most out of research.

We live today in an age of science, the direct consequence of the development of modern research. There is an ever-increasing demand for research and, consequently, for individuals who are trained investigators.

There are at least five essentials for the conduct of research. First and foremost is the need for brains, preferably the best brains, but at the very least well-trained brains. But, there are additional needs: adequate physical facilities and equipment, a suitable intellectual environment, adequate means of communication for the exchange of ideas, and the funds necessary to make all of these possible. This is true of all research, including cardiovascular research.

The Research Program

The total program of the American Heart Association is described by the phrase, "Research, lay and professional education, and community service." This is an adequate, if abbreviated, description of the things which the Association does. On a national level at least one half of all funds coming to the national office must be spent in the support of research; all other functions and activities are supported by the other one half of the funds received. The Association supports research financially; *it does not perform research itself.*

The primary objectives of the research program are (1) to support *basic or fundamental research* as well as *applied clinical research,*

(2) to support research in a wide variety of disciplines, even though the relationship between the research and heart disease may occasionally appear tenuous, and (3) to support individuals rather than projects.

What do we mean by these statements, and why does the Association hold these particular views?

Basic or fundamental research is that research which adds to the sum total of scientific knowledge, even if no immediately practical benefits from it can be foreseen. The sort of information obtained is the real foundation of science since all practical research is built upon this base of fundamental knowledge. Applied clinical research, which is the application of such basic facts to practical medical problems, is important too and cannot be neglected. This latter type of research should be supported largely on a local level by affiliated heart associations and their chapters, whose professional members will appreciate the practical results obtained and whose people will benefit thereby.

The support of individuals in preference to the support of specific research projects is sound from the long-range view. The object is to get young scientists into research and to keep them there on a full-time basis until they have established themselves. It is hoped and intended that the support of most of these men will later be taken over by medical schools or research institutes where the individuals will become permanent members of the faculties and staffs. The Association is trying to make it possible for more young men to receive the necessary training and experience so that they will be sought after by these schools and other institutions. We are simply trying to increase the number of educated and trained individuals in the pool of scientific manpower available to the scientific world.

In the light of these concepts then, the Association offers several types of research fellowship support* by which the investigator is paid a stipend for periods of from one to five years so that he may become established in the scientific world. The Association also offers support for research in the form of grants-in-aid, which are funds designed to provide the facilities, equipment, and supplies necessary for carrying on an investigation.

A unique type of fellowship award is the Association's *Career Investigatorship*, which is made at irregular intervals to carefully selected individuals of proved research ability and attainment. It is unique in that the chosen investigator is offered lifelong fellowship support plus an annual contribution toward the cost of his research. This award is not open to application, but appointments are made from a list of candidates who have been nominated by senior scientists and medical educators. Three individuals have been made Career Investigators since the inception of the Association's research program six years ago.

The research program of the American Heart Association was initiated in 1949, and its experience is therefore limited. Funds for the program are obtained as follows: Of all monies collected in the Heart Drive throughout the country each year, three-quarters (75 per cent) remain within the state where the money is collected, and one-quarter (25 per cent) goes to the national office. One half (50 per cent) of the amount which comes to the national office must be spent in the support of research. Additional amounts of money are spent on research from the funds which are retained locally, and some heart associations spend up to 50 per cent of their budgets in the support of research in their own communities or elsewhere. Local funds are allocated by local research committees and, in general, support work being done by local physicians and other scientists.

On the national level funds available for research have increased over the past six years from less than one quarter of a million dollars to more than one and one quarter million dollars. However, the number of requests for support have increased as rapidly as have the available funds. The serious demand for additional funds for the support of research will prevail for some years to come, no matter how successful the Heart Drive is during the coming years.

Affiliated heart associations and their chapters can play a definite and direct role in advancing medical science by supporting research. In areas where no research is being done and where there are no facilities or personnel available to conduct research, support can be offered to nearby research centers. Additional sums can also be invested in the research program of the national organization. Research cannot be performed everywhere, and local pride should not prevent the investment of needed money in other areas where facilities are more adequate. Research knows no geographic boundaries; its discoveries are available for the benefit of everyone everywhere.

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*Further information concerning the research program of the American Heart Association, including information pamphlets and application blanks, may be obtained from the Medical Director, American Heart Association, 44 East 23rd Street, New York 10, New York.

In our modern society scientific advances are of tremendous importance to each of us in our daily life. Medical science depends upon the discoveries made in the scientific laboratory and in the hospital wards for its progress. With the increasing complexity of science and with its ever-expanding frontiers, there is an accelerated need for trained personnel, improved facilities, and highly complex equipment. Furthermore, there is a constant competition between industry and research centers, including the universities, for the trained scientist. The only solution to this problem is to train more people for careers in science.

We are frequently asked certain questions, the answers to which may be of interest to the reader. The first of these is, "In what fields (or, in what diseases) is the American Heart Association performing research?" As already stated, the American Heart Association does not do research; it only supports research financially. It does support investigations in practically every known biologic discipline, including embryology, anatomy, physiology, pharmacology, therapeutics, surgery of the heart and blood vessels, diagnostic methods, statistics, and epidemiology. Much research is being supported in basic sciences, and it is sometimes difficult to explain to the nonscientist just what the relation is between a particular investigation and the clinical picture of heart disease. Nevertheless, in reference to specific cardiovascular diseases, research work is being done with A.H.A. support on arteriosclerosis, hypertension, rheumatic fever and rheumatic heart disease, coronary artery disease, cerebrovascular diseases, renal diseases, and the peripheral vascular diseases. There is really not a single kind of disease of the heart and blood vessels which is not being attacked by the total research program of the American Heart Association.

Another common question is, "Why doesn't the American Heart Association offer more kinds of fellowship support and award more and larger research grants?" The answer to this question is that only a limited amount of money is available for allocation each year. The American Heart Association could spend profitably and wisely two or three times as much money as is available today for research support. Ultimately much more money will be needed. Space does not permit an elaboration of the evidence for this statement, but it can be pointed out that very much larger sums of money are being spent in the support of research by other leading voluntary health agencies and by many of the research-supporting branches and agencies of the Federal government. We know that as larger sums become available to us, more and more investigators turn to us for support.

How can a local heart association augment this research program? First, it should spend as much money in support of research as it can budget without curtailing unwisely its other functions. Second, it should support research being performed in the local area to the extent that existing facilities and personnel permit. Finally, if research funds cannot be spent judiciously in the local area, they may be applied to the direct support of American Heart Association-approved fellows or projects, for which full credit is given to the local association. A list of American Heart Association-approved fellows and projects is distributed to all heart associations each spring so that a selection may be made by any association wishing to offer such direct support.

In selecting research for support, emphasis should be on the inherent merits of the investigation and on the proficiency of the investigator rather than on the geographic location of the work. The discoveries of research are contributions to the sum total of scientific knowledge available to all men everywhere. The beneficiary of research is the public; in fact, the beneficiary is the peoples of the world. The return on our investments in medical research is the greatest return on any investment in the world—the improved health and increased longevity of mankind. One could not ask for more.

Prejudice is the reason of fools.—VOLTAIRE

TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

with the cooperation of

Bureau of Cancer Control
New York State Department of Health

Treatment of Primary Cancer of the Lung

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PRIMARY cancer of the lung (bronchogenic carcinoma) is a rapidly increasing disease. The increase is actual and real, not merely statistical as a result of better present-day diagnosis or reporting. Primary lung carcinoma comprises about 10 per cent of all malignancies and is now the most common form of visceral cancer in males, superceding gastric carcinoma. Men are afflicted from ten to twenty times more frequently than women.

As is the case with most visceral cancers, the etiology of lung cancer is not known, but there are certain facts about it which may be important. In Germany a high incidence is reported in chromate workers. In England and America much has been written regarding its higher incidence in cigaret smokers. Several of our outstanding thoracic surgeons, including Graham and Ochsner, are apparently deeply convinced of this causal relationship. There is still no scientific proof of the association; there is only a very potent statistical analysis which indicates that heavy and moderately heavy cigaret smokers (one pack per day for fifteen years) are definitely afflicted with epidermoid bronchial carcinoma ten times more often than are light smokers or nonsmokers. However, it should be emphasized that these statistics point up the fact that the carcinogen in cigarets must be weak indeed since even in heavy smokers the incidence is only one case per 400.

There are several types of bronchial carcinoma, and each has its own characteristics and course, but all are malignant and should be considered as a whole in the matter of diagnosis. A simple working pathologic classification is as follows: (1) epidermoid or squamous carcinoma, (2) anaplastic or undifferentiated (small cell or "oat" cell carcinoma), (3) adenocarcinoma. Grossly the tumor may present as a localized mass, an abscess cavity, an invasive mass, a pneumonic infiltration, or in other ways. There is no typical picture.

As with all malignancies, early diagnosis is the keystone to a better recovery rate. Although it is not the purpose of this paper to discuss early diagnosis, there are several self-evident facts worthy of mention. Most bronchial cancers are insidious and silent, producing no symptoms until far advanced. The textbook history of cough, hemoptysis, and dull pain usually indicates far-advanced disease and incurability. If the presence of clear symptoms means advanced disease, it follows that the disease must be discovered before symptoms appear, that is, in the "silent" phase. It also means that with all the diagnostic measures at our disposal at the present time, the only way early diagnosis in the "silent" phase can be accomplished is by frequent roentgenographic examinations. If this point is conceded, a logical suggestion would seem to be semiannual chest x-rays of cigaret-smoking males over forty years of age. Many more lung cancers would be discovered in apparently healthy, asymptomatic men, and thus, with early treatment the survival statistics would be greatly improved. "See your dentist twice a year" is an accepted byword. "Have your chest x-rayed twice a year" would save more lives. Until some magic blood or other test which could be diagnostic of silent cancer becomes part of our armamentarium, the simple and direct maneuver of x-raying the chest semiannually should certainly improve early diagnosis of lung cancer more effectively than we can hope to do for organs such as pancreas, stomach, prostate, etc.

The wisdom of surgically removing all undiagnosed pulmonary lesions can no longer be questioned. Round, silent x-ray shadows in all individuals over forty are often malignant (from 20 to 50 per cent). They are analagous to a lump in the breast insofar as an aggressive attitude toward treatment must be assumed. There should be exploration and frozen section diagnosis followed by the proper surgical maneuver for cure.

The accepted treatment for bronchogenic carcinoma is surgical extirpation of the affected lung and regional lymph nodes. Graham performed the first successful pneumonectomy in 1933 upon a physician (who I believe is still living). Thereafter the surgical mortality and morbidity remained high for a number of years. In the past few years the mortality has been reduced to about 10 to 15 per cent. Several factors account for the lowered surgical risk: better positive pressure anesthesia, blood replacement, surgical technical improvements, and antibiotics. This lowered figure obtains even though far more extensive procedures are now being done in cases of invasion of the chest wall, pericardium, diaphragm, and mediastinum.

The surgical statistics readily indicate the frustration and disappointments that befall the thoracic surgeon. In our personal experience about 50 per cent of the cases are obviously inoperable when first seen and diagnosed. The signs of inoperability are several: (1) distant hematogenous or lymphatic metastasis, (2) hoarseness due to recurrent laryngeal nerve involvement, (3) inadequate cardiorespiratory reserve to survive pulmonary resection, (4) bronchoscopic evidence of extension of the tumor up to the carina or trachea, and (5) presence of bloody pleural effusion or paralyzed diaphragm. The presence of pleural fluid is often said to indicate inoperability. We have accomplished resection in more than a few cases with fluid but only in those in which no carcinoma cells were found in the fluid. Bloody fluid with carcinoma cells present generally indicates pleural carcinoma and inoperability, but there may be occasional exceptions to this rule of thumb. This places one half of the cases in the incurable group.

The remaining 50 per cent can and should be subjected to exploratory thoracotomy, whence further disappointment may await the surgeon. Indeed, about one half of these cases will be nonresectable for technical reasons, i.e., extension and invasion into the pulmonary vessels or other mediastinal structures. So we are able to resect only about 25 per cent of all cases seen. Further, a definite percentage of the resections are palliative only, not curative.

The survival statistics are gloomy, but they offer hope for improvement. Several large series have been analyzed and indicate an over-all five-year survival of 5 per cent. This 5 per cent can be transposed to 20 per cent in terms of those resected. In our own private practice we have two cases that have survived for eight years and two for seven years. Now that the importance of the diagnosis of lung cancer in the silent phase is getting proper stress and thoracotomy is being done for asymptomatic x-ray lesions, there should be a marked improvement in the statistics regarding operability, resectability, and, of course, subsequently in the survival rates.

Although pneumonectomy with removal of the regional hilar and mediastinal nodes is generally accepted as the proper surgical technic for extirpation of a lung cancer, there are many of us who are strong advocates of partial resection—lobectomy. Some of the more potent reasons to do lobectomy are (1) the operative mortality rate is lower because many patients will survive lobectomy who would succumb to pneumonectomy and (2) peripheral lesions with negative nodes can probably be cured as well by the lung-conserving partial resection as by total pneumonectomy. The survival rates are as good or better at this time for lobectomy, but as with all statistics one must be aware of inadvertent loading. It is probable that many more favorable peripheral lesions are being treated with lobectomy. It will take another five or ten years to evaluate properly the cure rate with lobectomy versus pneumonectomy. Obviously, the decision about how much lung to remove must be left to the surgeon.

What then is the fate of the 50 per cent of cases not operated and those that are operated but not resected? This unfortunate total group constitutes three out of four of all cases of bronchogenic carcinoma. Once the diagnosis has been established in this group, the cancer relentlessly leads to the exodus of the patient within an average of nine months. The prognosis cannot be predicted accurately even after considering carefully the microscopic grading of the lesion, its size and localization, as well as all other factors. The individual biologic nature of each cancer is too little understood. We have all seen, to our surprise, extensive cases live several years and conversely, to our dismay, apparently relatively favorable cases die quickly with hematogenous metastatic disease.

The measures available to treat this large group of cases are only two, x-ray therapy and intravenous nitrogen mustard. The philosophy and rationale involved in their prescriptions can only be to palliate symptoms such as cough, pain, hemoptysis, wheeze, etc., and to prolong life slightly. There are a few documented cases apparently cured by x-radiation. Our personal philosophy about the use and abuse of this modality has changed several times from universal use in this group to use only for palliation of harassing symptoms. At the risk of losing our necks to the radiologists, let us say that most results of deep x-ray therapy are disappointing, but in some cases there certainly has been salutary benefit. Unpleasant side-effects will at times seem to outweigh possible gain. Although we all dislike ordering and sanctioning therapy just to be doing something, there are times when this becomes an important part of the art of medicine. Occasionally, for example, it is necessary to treat the family as well as the patient in order to keep them out of the hands of fakers, quacks, and dishonest healers. Radiation therapy is further justifiable because there is always the honest hope of a measure of palliation. Deep therapy is delivered by either the 200,000-kilovolt machine or supervoltage or rotation machines.

There will be some patients who for one reason or another cannot be offered x-ray therapy. For them we have used nitrogen mustard intravenously. The results are very disappointing, and the drugs are very toxic. Those few cases who are benefited have only short periods of improvements which is generally subjective rather than objective.

Conclusion

1. Primary bronchogenic carcinoma is the most common visceral carcinoma in men, and it is on the increase.
2. The only curative treatment is surgical excision. Five-year survival may be expected in 20 per cent of the resectable cases.
3. When resection cannot be accomplished, x-ray therapy may offer palliation.
4. Early diagnosis, which means diagnosis when the disease is asymptomatic, offers the most practical present approach to better salvage.

(*Number eight of a series on Treatment of Cancer*)

I have a patient who complains he always has too much month left at the end of his money.—MISSOURI MEDICINE, MARCH, 1955

Special Committee on

INFANT MORTALITY

Medical Society of the County of New York

HAROLD ABRAMSON, M.D., *Editor*

Some Methods of Improving Pediatric Care of Newborn Infants

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EXPERIENCES during the past three years at the Sinai Hospital of Baltimore, a voluntary community hospital with over 3,000 deliveries a year, have prompted us to choose for discussion two topics: hospital logistics and some facets of the treatment of anoxia.

Hospital logistics is the term used by Obes Polleri[1] to describe the practice of having the right people and right facilities in the right place at the right time. Problems in many hospitals stem from the following interrelated factors: (1) a booming birth rate, the high proportion of hospital deliveries, early ambulation and discharge from the hospital, (2) an absolute shortage of nursing and house staff personnel whose morale is apt to suffer as a result of the shortages, (3) inadequate facilities for the care of sick newborn infants, and (4) the fact that most newborn infants do well, with resultant delays in diagnosis and treatment of the sick ones.

There is little we can do about the booming birth rate or early discharges from the hospital other than to accept them as challenging facts of life. The benefits of hospital delivery in decreasing maternal mortality and the increased availability of hospital services render impractical consideration of return to more home deliveries; our responsibilities to the community plus the quality of medical service given make any foreseeable drop in our admissions improbable. Early ambulation and pressure of admissions have led to discharge of our private patients on the fifth to seventh day, our service patients on the third day postpartum. This requires a reorientation in our thinking concerning weight gain in the newborn period and constitutes another formidable obstacle to breast feeding, to be challenged only if mother, pediatrician, and nurse are willing to take infants home on a falling or stationary weight curve. It requires a will to attempt breast feeding that for many reasons is already weak.[2] It leads to earlier introduction of cows' milk feedings, which if too concentrated or too large in amount may lead to tetany.[3-5] It requires closer supervision in the home either by the private pediatrician or public health nurse, as witness the experience we had with an infant discharged with his mother at forty-eight hours after birth. No abnormalities were recognized during his stay in the hospital, but he developed transient cyanosis on the third and fourth day of life. He was readmitted on the fifth day to die of a cerebral hemorrhage from a torn falx, nothing in his delivery or first forty-eight hours having been noted to suggest difficulty. Obviously the need for close early clinical supervi-

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sion is increased by these earlier discharges. How have we handled some of the problems within the hospital?

Improvement of care has concerned itself primarily with personnel. Our nurseries have been regularly under the supervision of the pediatric service, but this has been extended to include assignment of the nurseries as the primary responsibility of one or two first-year pediatric residents or rotating interns and of one second-year pediatric resident. Regular teaching rounds are made by the pediatric attending staff three times weekly, just as on the service for sick infants and children. There is a weekly obstetric-pediatric morbidity conference attended by medical and nursing inpatient and outpatient staffs, and there is a monthly neonatal mortality conference conducted by the pathologist. These educational conferences have quickened both interest and communication. Maintenance of uniform standards under the conditions of rotation of house officers has been partially solved by an all-year assignment of over-all responsibility to one attending pediatrician who has compiled and revised guides for management of Rh sensitization, resuscitation, transfer to suspect nurseries or to the sick infants' ward.

Because two thirds of the patients are private, obtaining a reasonable conformity in methods of practice by a large pediatric staff might have been a stumbling block. Fortunately, Dr. Alexander J. Schaffer, my predecessor as director of the pediatric service, had tactfully established the principle of using the records of all patients for teaching. Open records and curious house officers help guarantee high standards. A spirit of cooperation has speeded transfer of sick infants, whether private or service, to the more adequate facilities of the pediatric ward. We have no sympathy with a practice we have seen in several hospitals around the country of transferring full-term infants with respiratory distress to the premature nursery for more expert care; the high incidence of pneumonia makes this undesirable.[6,7] In planning the new Sinai Hospital ten of 50 beds on the pediatric service have been assigned to bassinets for sick newborn infants with room for quick expansion if necessary. This allotment seems justified for two reasons: (1) These infants will have already been admitted to the hospital through the obstetric service, and (2) prompt removal of sick infants from the nurseries is necessary not only for their own care but to relieve nurses whose work load has been gauged in terms of well babies. Provision of such pediatric services can be a major aid to pediatricians who take care of infants in hospitals where large obstetric services have developed without adequate pediatric facilities, nurses, and house officers. We wonder whether the premature infant transport service should be extended to transfer of sick newborn term infants to those hospitals with adequate facilities for their care.

Now let me talk of more specific clinical problems. When called to see a newborn infant sick or suspect of illness, I frequently have difficulty in obtaining an adequate history. First comes the obstetric history. Before the birth of the baby we have a right as pediatricians to ask from the obstetrician sufficient notification of impending trouble; premature or postmature labor, cesarean section, maternal bleeding, anoxia, hypotension, Rh sensitization, diabetes, toxemia, pre-eclampsia, nephritis, heart disease, respiratory or other infection, slowing of the fetal heart rate are all conditions in which forewarned might mean fore-prepared. Not only can indicated steps be taken promptly, but the pediatrician can obtain directly from the obstetrician pertinent facts which are too often inadequately recorded. The pediatric house officer on whom the brunt of these problems usually falls is apt to be properly disturbed because his call comes as an emergency which might have been anticipated; he fails to note that the obstetrician, preoccupied with the mother's difficulty, is also disturbed by his failure to anticipate the baby's difficulty. The spirit of cooperation engendered in the weekly obstetric-pediatric morbidity conference has served to minimize assumption of the self-righteous attitudes which so often precede a fighting stance.

The second point concerning communications has to do with nurses' notes. As already mentioned, newborn services are geared to the care of well babies, and careful records are hard to obtain. Common hospital procedures such as daily weighing and multiple readings of temperature for sick infants were instituted by continental pediatricians many years ago in an attempt to substitute repeated observations by nurses for the more or less continuous maternal observation of an infant's status. Rooming-in carries an advantage here beyond the psychologic ones that are usually considered. In making the limited nursing service for well newborns more effective, supervisors have deliberately discontinued some procedures, and recording of feeding and other behavior has been simplified. We have prepared a list of symptoms as indications to the nurse that she is to call the pediatrician and to start, without his specific order, a more detailed nursing record such as that ordinarily kept in the premature infant nursery: cyanosis, early jaundice, labored breathing, exposure to any infection, elevated temperature, abdominal distention, poor feeding or failure to suck, vomiting, loose stools, twitching or convulsive movements of any sort, "baby doesn't look right." Obviously, training of student nurses by experienced supervisors to recognize abnormal symptoms is a first step.

We had a recent experience which added "absence of stool for twelve hours" to this list of symptoms. An infant who at birth appeared depressed was placed in oxygen with orders that no feedings be offered. During the next forty-eight hours he continued to be listless, cried very little, vomited only twice, and failed to pass a meconium stool. Because he was not distended and vomiting was minimal, adequate attention was not paid to the failure to pass a stool. After forty-eight hours he became more vigorous, glucose was offered, and with the appearance of abdominal distention, a proper diagnosis of intestinal obstruction was made. The detailed notes already present permitted us to conclude that repeated vomiting and abdominal distention are not necessary early symptoms of intestinal obstruction and to speculate that the delay in development of the distention could perhaps be attributed to this infant's failure to cry and swallow air. At this point chagrined house officers began to question precisely when one should begin to worry about failure of passage of a meconium stool. Statements were found in textbooks, but supporting data were scarce. A study was made of time of notation of passage of the first stool by 500 normal full-term infants.[8] It was found that 27 per cent had passed meconium stools before they left the delivery room, 67 per cent by twelve hours after birth, and 94 per cent by twenty-four hours. In one normal infant the first stool was not passed for sixty hours. Since two out of three infants had their first stool by twelve hours, it has seemed proper to consider failure to pass one by this time as indication for special observation. A similar study is now being made of premature infants. Of course, this statistical approach doesn't take the place of diagnosing imperforate anus on careful physical examination within one-half hour after birth at one o'clock in the morning, as one of our house officers did recently. He happened to be in the delivery room suite awaiting another baby in whom difficulty had been anticipated by the obstetrician.

And this brings us to the responsibility of the supervising pediatricians. First, a sufficient number of house officers should be assigned to the nursery service, and, second, the newborn service must be made a good place in which to learn pediatrics. In our hospital this goal has been attained not only because the newborns who don't do well represent such difficult problems in diagnosis—our pathologist holds an eat-humble-pie session for us each month—but also through the teaching by the attending pediatricians who make rounds three times weekly during the year. Some in private practice are particularly qualified by their experience to teach, among other things, certain noninstitutional aspects of young infant-mother-doctor relations. In turn the pediatric house officers are available in the hospital to give twenty-four-hour service. We must admit that we assign our least experienced house officers to the private service, but this is because their responsibility is limited by that of the private pediatrician. During the past year we have made some progress in enforcing a rule that each newborn infant on the private service must have a private physician, who will himself both perform and record admission and physical examinations. The failure of medical insurance plans to provide fees for medical care of the newborn, separate from the fee for delivery of the mother, means that care of the newborn is not infrequently left to the obstetrician who in turn leaves it to a pediatric house officer.

We would like now to discuss briefly some facets of a troublesome clinical problem, anoxia. This subject has been discussed extensively before this group, and our remarks are not intended as a complete summary. The subject was chosen because we are not too happy with some of the results of treatment.

We have already listed circumstances prior to birth in which one may anticipate difficulty in initiating and maintaining respiration. If pediatric house officers are to take the responsibility for resuscitation, then it is our responsibility to train them, particularly if they are new, so that they don't cover their ignorance by skeptic nihilism. This training, best given for the sake of uniformity to the obstetric and pediatric house staffs together, should consist of explanation of principles of resuscitation and demonstration of the few necessary procedures by an anesthesiologist, obstetrician, or pediatrician, preferably after certain principles of management have been adopted. Because direct laryngosocopy and laryngeal intubation are rarely indicated in older infants, the necessary pediatric skills have either atrophied or failed to develop. Actually, in apneic, depressed infants, passage of a tracheal catheter without direct laryngoscopy is not too difficult and can be learned by practice on infants who have died at birth. It should be demonstrated formally as a spur to such practice. Recently, an otolaryngologist supervised practice by our pediatric house staff in the dog laboratory.

We should like now to discuss some of the procedures used in treatment of anoxia. All agree that the first steps must be to clear the upper airways, but there is disagreement on the role of tracheal catheterization. Routine tracheal catheterization for primary apnea may act as a powerful neural stimulus to respiration; it rarely yields a mucous plug. On the other hand, two infants were recently saved by the prompt action of one of our obstetric residents. In each baby an initial gasp before suction of thick mucous from the oropharynx was followed by apnea for several minutes. Tracheal catheterization was promptly performed. In each instance a thick plug of mucus was pulled out of the trachea. This was followed by a quick respiratory response to 0.1 mg. of nalorphine in one instance and to rhythmic stimulation in a Rockette in the second. The subsequent courses were wholly uneventful, and I am sure these infants were spared much difficulty, if not actually their lives, by a quick-thinking, deft, obstetric resident. Routine tracheal catheterization for apnea is not indicated, but if there is any suggestion that a strong respiratory movement may have taken place before clearing of the oropharynx, such catheterization should precede the use of positive pressure or stimulants. Obviously, careful attention to the history of the labor is necessary to permit this judgment.

The second point concerns the use of the Kreiselman apparatus. Most observers are agreed on the value of this device which rhythmically delivers oxygen into the upper respiratory passages under controlled pressure. It is used routinely in many delivery rooms for infants who fail to breathe after clearing of the oropharynx and frequently with success. There is some danger, however, in its prolonged use because oxygen, entering under pressure only those parts of the lungs which it can, may produce alveolar dilatation, interstitial and mediastinal emphysema, and pneumothorax, all of which may secondarily interfere with expansion of the lung. Accordingly we have set an arbitrary time limit of ten minutes for use of the Kreiselman with transfer thereafter to the Rockette for more prolonged artificial respiration. It is possible that Day's suggestion[9] of a shorter but higher pressure pulse of oxygen may yet be translated into a more effective method for initiating expansion of the lungs.

The third item for discussion is the use of devices for prolonged rhythmic artificial respiration. Numerous respirators have been tried, found wanting, and are collecting dust in otherwise needed storage space. The latest one apparently slated for such a fate is the Bloxsom airlock. As you know from the October, 1954, issue of the *Journal of Pediatrics*, this device is supported by neither data nor rationale worthy of the name. Its widespread trial stems from the thorniness of the problem, an active sales force, and the oft-repeated statement that infants are pink in the airlock who would be blue if they were breathing or gasping the same way outside the apparatus. We have never recommended purchase of these machines but found them in use at both the Hopkins and Sinai Hospitals. Accordingly we too have had a chance to see infants "pink up." The disadvantages of a sealed apparatus which interferes with other procedures needed for some of these infants has made us willing to try the Rockette, which seems a simple, gentle way of giving prolonged rhythmic stimulation to an apneic baby. A study is being conducted at present at Johns Hopkins which over a long period may yield meaningful data. For premature infants who may develop attacks of secondary apnea after birth, the rocking bed suggested by Lee[10] seems worthy of trial.

The fourth item for discussion is the use of n-allylnormorphine, an analog of morphine.[11] There have been several reports of its value in combating respiratory depression in infants delivered to mothers who had received morphine or meperidine.[12-14] Dramatic responses have been seen following injection of doses of 0.1 to 0.2 mg. into the umbilical veins of infants with apnea.

Whether this drug will serve as a stimulant to infants who would not have shown depression from the amount of narcotic transmitted from the mother, but who do show it because of further compromise by circulatory accidents such as placental hemorrhage or kinking of the cord, remains to be determined. The genuine value of this drug does not justify promiscuous oversedation of the mother and infant.

The fifth item is another stimulant, carbon dioxide, whose use had become rare because of the finding that asphyxiated infants already had high carbon dioxide tensions in their blood. The recent studies of Miller[15] indicate, however, that inhalation of 5 per cent carbon dioxide in 20 or 95 per cent oxygen is a more effective stimulant of respiration of infants previously subjected to oxygen deprivation than the use of pure oxygen. We hope that this report will lead to an increased availability of a carbon dioxide-oxygen mixture in delivery rooms and nurseries than has recently been the case. It had always seemed to us particularly helpful in those premature infants who become dusky after feeding and abdominal distention.

The sixth item is the use of mist. Although no controlled studies are as yet available indicating value or lack of value in the treatment of dyspnea in newborn infants, some have seemed to breathe more easily when placed in a misty environment. Mist is prescribed routinely at both Sinai and Hopkins for initial care of all premature infants weighing less than 1,500 Gm. at birth and for infants, regardless of weight, born by nonelective cesarean section or who have dyspnea. Studies now being conducted by Silverman at Babies' Hospital may indicate whether such a recommendation has any basis in fact. The disadvantages noted have been maceration and secondary infection of the skin, which may occur from prolonged use, and interference with ready observation of the infants because of clouding of the incubator. Weight loss, and presumably fluid requirements, have been diminished by the use of mist.[16]

This brings us to our final item, the use of oxygen in the care of premature infants. There is no longer any question that the administration of oxygen to those premature infants whose retinas have not been fully vascularized at birth is the major cause of retrolental fibroplasia.[17,18] Our problem is to determine the amount of oxygen needed to give maximum survival and minimal retrolental fibroplasia. At the Colorado General Hospital limitation of environmental oxygen to concentrations not to exceed 40 per cent by regular analyses resulted in a sharp drop in incidence of retrolental fibroplasia with no increase in mortality rate over a two-year period beginning January, 1951.[19] We have recently reviewed our experience with 103 infants who weighed less than 1.5 Kg. on admission to the premature nursery of the Johns Hopkins Hospital for an eighteen-month period beginning March 1, 1953.[20] During this whole period oxygen therapy had been restricted, for the last twelve months by a standing order that oxygen concentrations were not to exceed 40 to 45 per cent for the first forty-eight hours with gradual weaning to room air as soon as the experienced nurses in charge believed it safe. The average number of days of oxygen for 52 infants who survived was seven, but 30 or 58 per cent were removed by the fifth day. Only one infant developed retrolental membranes, and this was a baby born under bad home circumstances and who had a stormy course in the hospital, which included seventeen days of oxygen therapy. Eleven infants who survived weighed less than 1,000 Gm. (750 to 980 Gm.) on removal from oxygen on the third to the fourteenth day. None of these has any obvious residual lesions of the retina. At the Sinai Hospital we have an infant who weighed 780 Gm. at birth, was removed completely from oxygen on the seventeenth day of life when she weighed 665 Gm., and has no signs of retrolental fibroplasia now at eight months of age.

Fifty-one infants died, all while continuously in oxygen since admission. The nurses had kept them in oxygen for one or more of the following signs already present in all but three infants during the first twenty-four hours after admission: apnea, labored or markedly irregular respiration, cyanosis, pallor, high-pitched or weak cry, limpness, inactivity, "jerkiness," convulsion, abdominal distention, oozing of blood from nose or mouth, "infant looks bad." Because these signs were present in 48 of the 51 infants within the first twenty-four hours, the present standing order at the Johns Hopkins and Sinai nurseries is to place all infants under 1.5 Kg. in incubators with 30 to 40 per cent oxygen (determined and recorded three times daily) for twenty-four hours with gradual removal as soon thereafter as qualified nursing and medical estimate of the infant's status permits. With this twenty-four instead of forty-eight-hour rule it is hoped to decrease the amount of oxygen still further.

One might ask whether it is necessary to use supplemental oxygen routinely for small infants for it is probably true that many require no supplementation. However, since some premature infants breathe more regularly in oxygen-enriched than in room air, since some have low blood oxygen saturation without obvious cyanosis, since some have attacks of secondary apnea which further interfere with oxygenation of the blood, since so many deaths occur with respiratory failure in the first twenty-four hours, we believe it proper to place small infants, that is, those less than 1.5 Kg. at birth, in an oxygen-enriched atmosphere routinely for the first twenty-four hours. Since the risk of extensive retinal disease is now small, we have not recommended the gradual discontinuance of oxygen at the twenty-four-hour mark unless this comes on a shift when the physician can be sure of close nursing supervision. On the other hand, the evidence that high concentrations of oxygen may cause hyaline membrane in the lungs of animals[21–24] and the occurrence of prompt vasoconstriction of retinal vessels in newborn kittens after a single exposure to 70 per cent oxygen[24] make one anxious to limit the use of oxygen as much as possible. It may prove desirable to use lower concentrations of oxygen for initial resuscitation than the pure oxygen now used. Further studies of both toxicity and utilization of oxygen would appear indicated.

In conclusion we recognize that we have not mentioned important problems such as the recognition and treatment of surgical emergencies or of infections or the continuing riddle of the offspring of diabetic mothers. If we were to summarize these remarks, we would state that we need to know when to go from a relaxed position, since most newborn infants do well, to "running scared" and in the right direction. This requires interest which leads to vigilance which leads to experience and judgment.

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Omphalitis and Peritonitis in the Neonatal Period

Although umbilical infection of the newborn is still relatively common, peritonitis as a consequence of it has become quite rare in this era of antibiotics. Yet the three cases reported indicate that direct transmission of infection to the peritoneum through the umbilicus is still a real danger, although nowadays it does not often occur. After a review of etiology, pathogenesis, and diagnosis, Lts. Leslie S. Holve and Framcos M. Smith outline a plan of management consisting of blood transfusion, administration of fluids, nasogastric suction, antibiotics, and oxygen therapy. Three abbreviated case histories are presented. All infants in this series recovered.—*Leslie S. Holve, MC, USNR, and Framcos M. Smith, MC, USNR, U. S. Armed Forces Medical Journal, April, 1955*

CLINICOPATHOLOGIC CONFERENCE

ST. JOSEPH'S HOSPITAL

ELMIRA, NEW YORK

Conducted by JOSEPH F. SHORTSLEEVE, M.D. OCTOBER 13, 1954

Discussed by PAUL H. GARVEY, M.D.,* ROCHESTER, NEW YORK

Case History

The patient was a twenty-nine-year-old, male factory worker who was admitted to the hospital complaining of inability to walk.

One month before admission the patient had an acute illness characterized by follicular tonsillitis and a temperature of 102 F. He was put on penicillin, 600,000 units daily for five days, and the temperature became normal. Immediately after this a sister came to live in the patient's house because she did not feel well. After two days a diagnosis of infectious hepatitis was made on the sister, and she was hospitalized. The patient was given 2 cc. of gamma globulin intramuscularly as a prophylactic measure because of his exposure to the sister's illness. One week after his initial fever there was a sudden recrudescence of fever to 100 F. which lasted less than twenty-four hours. Then he felt well for four days when he had a short attack of nausea and vomiting. Generalized lymphadenopathy and a palpable spleen were found. His white count was 19,200 with neutrophils 20 per cent, lymphocytes 63 per cent, and monocytes 17 per cent. The heterophil antibody agglutination was positive in a dilution of 1:448. He was kept at bed rest at home for the next two weeks.

When the patient was allowed up, he was aware of weakness in the lower extremities and difficulty in walking. He was unable to raise himself from the squatting position. During the next three days this weakness progressed, and all deep tendon reflexes were lost in the arms and legs. He then accepted hospitalization.

An appendectomy had been done at about age twelve. At age twenty-two he had been admitted to another hospital because of abdominal complaints "suggesting either intestinal obstruction or perforated ulcer." However, he recovered without surgery and never had a recurrence of those symptoms.

Physical examination revealed a well-developed, thin, ill-appearing man. He was able to walk only with assistance. His gait was waddling. The general examination was negative. The generalized lymphadenopathy and splenomegaly had disappeared. There was marked weakness of both the upper and lower extremities. All deep tendon reflexes were absent. The abdominal and cremasteric reflexes were present. There were no abnormal reflexes.

The temperature was 98.6 F., pulse 80, and respirations 22. The blood pressure was 122/80.

The urine showed a specific gravity of 1.012 and was otherwise negative. The red count was 4,200,000 with 13.6 Gm. hemoglobin (85 per cent). The white count was 6,500 with polymorphonuclears 60 per cent, lymphocytes 38 per cent, and monocytes 2 per cent. The sedimentation rate was 15. Heterophil antibody agglutination test was positive in a dilution of 1:56. Lumbar puncture showed a clear, colorless fluid under no increase in pressure. There was one lymphocyte present; the protein was 168 mg. per cent and the chlorides 697 mg. per cent.

During his first week of hospitalization he became noticeably weaker. The abdominal muscles especially seemed to be more involved so that it became necessary to give daily enemas for bowel movements. At the beginning of the second week, passive exercises were started, and the patient tolerated these fairly well.

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On the fourteenth day it was noted that the expansion of the lower chest was noticeably decreased. He was nauseated all that day, and in the evening hiccoughing appeared. The abdomen was distended and tense with no bowel sounds other than a splashing sound with each hiccough. A Levine tube was passed, and 1,200 cc. of fluid were aspirated. This made the patient more comfortable; the hiccoughs stopped, and bowel sounds were again heard. During the night the patient removed the drainage tube. This was replaced the following morning and drained thick black fluid. The abdomen was distended and tender. Bowel sounds were again absent. Abdominal cremasteric and costal margin reflexes could not be obtained. Respirations were 40 per minute, and the temperature had risen to 102.4 F.

Anteroposterior and right lateral decubitus bedside x-rays of the abdomen showed "multiple distended loops of small bowel in the upper central abdomen. No free air was noted. Fluid levels were made out on the lateral film." His white count was 13,200 with polymorphonuclears 77 per cent, stabs 8 per cent, and lymphocytes 13 per cent.

Weakness progressed, and the patient became unable to cough. Suction was necessary to keep the airway clear. His head could not be moved voluntarily because of weakness of the neck muscles. Temperature rose to 105 F. and, finally, just before death, had reached 107.6 F. The patient became cyanotic and two hours before death lapsed into coma. He died quietly on the fifteenth hospital day.

Discussion

Dr. Paul H. Garvey: The picture presented by this patient is not entirely a neurologic one. The terminal illness in my opinion concerns the internist and the surgeon as well as the neurologist. We are given the story of a twenty-nine-year-old male whose past history, with the exception of two events, is noncontributory. At the age of twelve he had an appendectomy without complication; ten years later, at the age of twenty-two, he had some symptoms indicative of an acute abdominal condition which subsided without specific medical or surgical treatment. I think those two episodes are of importance in the evaluation of this patient's terminal abdominal complaints.

He began his acute illness with a follicular tonsillitis and a temperature of 102 F. He was given penicillin, and his temperature returned to normal. Of considerable interest is the fact that at approximately the same time, the patient's sister became ill with a condition which was diagnosed as infectious hepatitis. We have no additional information about the illness of the sister, but it seems to me quite possible that the illness in both individuals was produced by the same disease process manifested in different ways. The history of tonsillitis, the appearance of generalized glandular enlargement with a palpable spleen, and the blood findings of a leukocytosis with marked increase in the lymphocytic type of cell suggest the diagnosis of infectious mononucleosis. This was substantiated by the heterophil titer of 1:448.

We know that there are many neurologic syndromes which often accompany infectious mononucleosis: a lymphocytic type of meningitis, encephalitis, involvement of the cranial nerves, involvement of the spinal cord, or involvement of the peripheral nerves. These may occur in combination or in sequence. The neurologic complications have been emphasized during the past twenty years. For example, when this patient was allowed up, it was noted that he had a weakness of the lower extremities and pelvic girdle muscles. This weakness gradually progressed, and later the arms became involved. It was at that time that he was hospitalized. The neurologic symptoms, as far as we can tell, began during the third week of this acute illness.

It is quite obvious from the information given us in the protocol that we are dealing with a symmetric involvement of the peripheral nerves or lower motor neurons since he had muscle weakness without any sensory disturbance and since he had areflexia and a progressive course. This of course suggests the Guillain-Barré syndrome, a syndrome in which we find predominantly a motor disturbance involving, usually, all four extremities, although sometimes this disturbance begins in the legs and gradually ascends. There is loss of the tendon reflexes and preservation of the cutaneous reflexes. Some patients have paresthesias, numbness, and tingling of the hands and feet, but the sensory disturbances are rarely pronounced. In some instances these patients have considerable nerve-muscle tenderness. Frequently there is an involvement of the cranial nerves, particularly of the facial nerve, and not infrequently there is bilateral involvement of the facial nerves. With these findings the spinal fluid shows a normal pressure and is clear and colorless, although some patients show a slight xanthochromia. In this syndrome the important finding is the so-called albuminocytologic dissociation, i.e., a marked increase in the total protein content of the spinal fluid with a normal cell count.

That generally speaking, constitutes the Guillain-Barré syndrome. It is a syndrome because it occurs in association with other diseases. In the Strong Memorial Hospital over a period of years we have found it in association with chickenpox, pleural effusion of tuberculous origin, and artificial fever therapy given for syphilis before the advent of penicillin. It has been described following the administration of sulfonamides. It has been described in the case of infectious mononucleosis and following the administration of antirabic serum. It has also been noted in association with diabetes. In perhaps one third of the cases the neurologic manifestations are preceded by a respiratory infection of one type or another with a moderate degree of fever.

To return to the patient in question, it was noted at the time of his admission to the hospital that he had a waddling gait. This type of gait is quite characteristic of weakness of the pelvic girdle muscles and back muscles, similar to that observed in muscular dystrophy. The general physical examination was negative. The general lymphadenopathy and splenomegaly had disappeared. In addition, the blood picture had returned to normal, and the heterophil titer had dropped from 1:448 to 1:56. The lumbar puncture disclosed a spinal fluid which was compatible with the diagnosis of the Guillain-Barré syndrome. One cannot say that this albuminocytologic dissociation is necessarily diagnostic of this syndrome because marked increase in the protein content of the spinal fluid without increase in cells may occur in several different conditions, the best example of which is probably spinal cord compression. In this circumstance a xanthochromic fluid is found with very marked increase in the protein and without increase in the cells. However, in this particular instance the spinal fluid findings in association with the clinical picture certainly are compatible with the diagnosis of the Guillain-Barré syndrome.

In these cases of Guillain-Barré syndrome the progress may be very rapid, and death may occur as the result of the medullary paralysis in the course of twenty-four to forty-eight hours. Landry's paralysis is the term usually applied to this rapidly ascending paralysis. When the syndrome runs such a fulminating course, oftentimes gross pathology cannot be detected on careful examination of the nervous system microscopically.

The Guillain-Barré syndrome does not usually follow this pattern. Sometimes the patient runs a progressive course over a period of days until he is completely paralyzed, possibly even having lost his ability to swallow or to speak. His condition may remain stationary for a period with eventually a gradual recession of symptoms. The patient will recover normal function, as a rule, with few residuals. And still there is the patient who may run a very slowly progressive course, ending oftentimes in death in a period of eight to ten months.

We are not surprised, therefore, in the case in question that the abdominal muscles became weak and that he had difficulty with respiration and that finally the paralysis involved the neck muscles, making it impossible for him to maintain his head in the elevated position. The critical stage of his illness occurred on the fourteenth day after admission. At that time it was noted that the expansion of the lower chest was noticeably decreased. He was nauseated and hiccoughing. The abdomen was distended and tense. There were no bowel sounds other than a splashing sound with each hiccough. A Levine tube was passed, and 1,200 cc. of fluid were aspirated. This decompression made the patient more comfortable. The hiccoughs stopped, and bowel sounds were again heard. The abdomen was tender, and the respirations were increased. He had x-ray evidence of distention of the small bowel but not of the large bowel.

The latter, to me, is the disturbing part of this medical case. As a rule infectious mononucleosis is a benign disease, although fatal in some instances. Occasionally death results from one of the neurologic complications. Very infrequently, rupture of the spleen may take place. In this case it would seem to me that there is very little likelihood of a ruptured spleen in the differential diagnosis of this abdominal condition because the spleen had been enlarged and then had decreased in size to the point where it was no longer palpable. In view of the fact that he had had an appendectomy and ten years later had had symptoms which might have represented intestinal obstruction, the possibility of some mechanical obstruction must be taken into consideration. When he developed this illness, characterized by marked weakness of his arms, legs, and abdominal muscles, I presume that he could possibly have had some mechanical obstruction, the result of adhesions. However, I rather doubt that this is the explanation of the abdominal complaints.

The patient's illness progressed, his temperature became high, and he developed cyanosis. He then went into coma. Death occurred on the fifteenth hospital day, which I believe was about forty-five days after the onset of his initial illness. I think that the bowel obstruction or complaint was probably related to the neurologic disease and probably not the result of a ruptured viscus, intussusception, or obstruction caused by adhesions. I would say that the patient had infectious mononucleosis followed by a Guillain-Barré syndrome. I don't think we can say, until we know about the pathologic findings, whether or not it was an uncomplicated Guillain-Barré syndrome.

QUESTION: Do you think this patient's life might have been saved when he developed the ascending paralysis if he had been placed in a Drinker respirator?

DR. GARVEY: I don't know, but I doubt it very much. Very often the respirator is a lifesaving measure for a patient with ascending paralysis of the Guillain-Barré type. However, this is not necessarily true. In the last ten years two of our cases at the Strong Memorial Hospital have died in spite of all our efforts; both patients were in their late teens, and both were placed in respirators soon after their arrival at the hospital. On the other hand, although a patient with Guillain-Barré syndrome may have complete paralysis of his facial muscles, muscles of swallowing and of speech, he will usually recover and return to normal health. Therefore, we regard the Guillain-Barré syndrome as a relatively benign one, but it does at times cause death in spite of everything we can do to prevent it. In the Army Institute of Pathology there are records of 36 fatal cases of Guillain-Barré syndrome.

QUESTION: Were any of your cases at the Strong Memorial Hospital preceded by gastrointestinal upsets?

DR. GARVEY: Not that I recall; most of them followed respiratory infections. I do not recall a case where the symptoms were predominantly referable to the gastrointestinal tract.

QUESTION: Were any preceded by vaccination?

DR. GARVEY: No. You are probably referring to the fact that I mentioned that antirabic vaccine has produced this syndrome. I presume that almost anything could produce it because it certainly is not a disease. It is merely a syndrome. In fact, when we encounter it now, we routinely do special examinations to determine whether or not there is any evidence of infectious mononucleosis because that has been emphasized so much in recent years.

Diagnoses

Clinical.—*Infectious mononucleosis; Guillain-Barré syndrone; intestinal obstruction.*

Dr. Garvey.—*Infectious mononucleosis; Guillain-Barré syndrome; ileus.*

Anatomic.—*Intestinal obstruction due to adhesive band; infectious mononucleosis; Guillain-Barré syndrome.*

Pathologic Report

DR. JAMES A. MITCHELL: At autopsy there was no external lymphadenopathy noted. There was an old, healed longitudinal scar in the right lower abdomen. The spleen was only moderately enlarged, weighing about 200 Gm. The liver was moderately enlarged, weighing 1,900 Gm. The stomach was not distended. The contents consisted of a brownish, fecal-like material. The jejunum and the ileum were markedly distended, and the serosa of the ileum varied from a bright red to plum color in appearance. Several loops of small bowel had become adherent to each other due to a thin fibrinous exudate on the serosa, and they were easily separated. At a point approximately 7 inches above the ileocecal valve, there was noted an adhesive band attached to the posterior peritoneum, which surrounded the ileum, was attached to the mesentery, and completely constricted the lumen of the bowel at this point. The distal small bowel was collapsed and ribbon-like in appearance. Examination of the brain showed no gross evidence of softening, degeneration, or hemorrhage. Microscopic examination of the nervous system showed no definite, specific changes.

Most of the few cases of this syndrome which have come to autopsy were seen in the Army. Very few definite microscopic pathologic changes have been reported. Some showed just slight lymphocytic infiltration surrounding the nerve roots and the peripheral nerves. Some showed minor degenerative changes in the cerebral cortex, the Purkinje cells of the brain. No specific pathology has been described for this syndrome. Of course there is also the possibility that this patient was recovering from the disease and that any pathologic changes that had been present might have disappeared.

Summary

DR. GARVEY: When they described the syndrome about the year 1916, Guillain and Barré insisted that if the patient died, their syndrome had been eliminated because death had not occurred in any case and because all of their patients had gone on to complete recovery. However, the ensuing years have disproved this premise. It has been definitely established that the Guillain-Barré syndrome does at times result in death.

Occasionally the acutely stricken patient will have residuals when he recovers. One patient under my care, a man forty-three years of age, was placed in a Drinker respirator, and a tracheotomy was performed. He was close to death for several days, and it was necessary for him to remain in the respirator for weeks. He finally began to get some recovery of muscle function. Although after three years he is again working, he has some rather severe residuals, including a bilateral foot drop.

How often does one see ileus in this syndrome? Not very often, I would say. The two fatal cases, of which I spoke earlier and which I recall vividly, showed no evidence of it. Ileus is a not infrequent complication, however, with any severe, sudden neurologic disorder.

Before starting this conference, I seriously considered the possibility of intestinal obstruction due to adhesions as a contributing cause of death in this patient but eventually decided in favor of one diagnosis, the Guillain-Barré syndrome with its many and varying complications.

New Drug Combination Used for High Blood Pressure

A combination of chlorpromazine, a French-originated drug, plus Rauwolfia, the old "snakeroot remedy" from India, has been used successfully to treat a form of high blood pressure. Dr. Harold B. Eiber, of the New York Medical College, in a preliminary report said early experience with the combination gave "promising results." The report appeared in the July 2 *Journal of the American Medical Association.*

Both of the drugs have been used separately in treating essential hypertension—high blood pressure without known cause. Use of the combination has not been reported previously.

"The improvement with combined chlorpromazine-Rauwolfia therapy was much greater than with the use of either preparation given alone," Dr. Eiber said. Of the 75 patients treated with the combination, 95 per cent said they felt better after two or three weeks of treatment.

Chlorpromazine (Thorazine) has been used to treat nausea and vomiting, irradiation sickness, and psychiatric states. Rauwolfia serpentina, an herb grown in India, inhibits the sympathetic nervous system. It has been used extensively for the treatment of essential hypertension and in certain types of mental illness

"More than 85 per cent of the patients with mild hypertension showed demonstrable, significant lowering of their blood pressure; more than 70 per cent of the patients with moderate hypertension were benefited, and more than 60 per cent of the patients with severe hypertension were improved," Dr. Eiber said. Only one patient was unable to tolerate the preparation, because of sleepiness.

"Chlorpromazine when given in larger doses may cause jaundice, which disappears with the withdrawal of the drug; however, no such toxic reaction occurred in this series. The duration of hypotension was approximately six to eight hours; there were no side-effects; the combination is effective when taken orally, and the dosage schedule is simple and uncomplicated," Dr. Eiber concluded.

CASE REPORTS

Typhoid Colitis

HERBERT BERGER, M.D., F.A.C.P., STATEN ISLAND, NEW YORK

(*From the Richmond Memorial Hospital*)

This is a report of a patient with typhoid fever whose symptoms, signs, and pathology suggested colonic rather than ileal disease.

Case Report

On April 12, 1954, N. L., a forty-eight-year-old, white male, was admitted to the Richmond Memorial Hospital suffering from fever, prostration, and delirium. The illness started in a western city with lassitude and weakness two weeks prior to admission. He received medical care there, but since one of the predominating symptoms was diarrhea, he feared the reappearance of a severe, nonspecific proctitis for which he had been treated here ten years previously. Consequently, he returned to the East.

On admission he was acutely ill, feverish, moderately delirious, and obviously in poor condition. He had lost 9 pounds in two weeks and had had several movements (four to eight) daily with rectal tenesmus. There were no unusual dietary experiences. The temperature was 104.2 F., pulse 84, respirations 18. His tongue was dry and brownish, neck and chest normal. A soft spleen was palpated; liver was not felt; no unusual reflexes; skin clear. The rectum was swollen, tender, and red on proctoscopic examination. The sigmoidoscope showed some ulcerations, $^1/_2$ inch (13 mm.) in diameter, with grayish base and bright red edges which bled as the instrument touched them. Cultures were taken of these.

In view of the prostration, fever, slow pulse, and enlarged spleen, a tentative diagnosis of typhoid fever was entertained. Against this were the sigmoidal ulcers and the colonic symptoms. Absence of "rose spots" was not significant in view of the two-week history.

The laboratory was called in to help with the bacteriologic examination of the smear from the ulcers, stool, blood, and urine. Agglutination tests were made for the typhodysentery group and Proteus vulgaris. Stools were studied for amebas, ova, and parasites. Cultures from both ulcers and stools showed Bacillus typhosus, while cultures from blood and urine were negative. Agglutination test results are shown in Table I.

The blood counts on several occasions showed a low-grade leukopenia and lymphocytosis. The red count was unaffected. A typical result on April 20, 1954, showed white blood cells 4,950 with neutrophils 44 per cent, basophils 0, eosinophils 2 per cent, and lymphocytes 54 per cent.

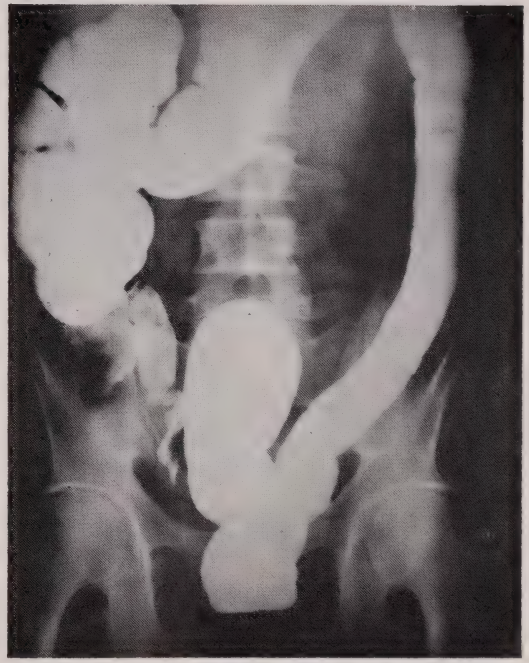

FIG. 1. Barium study showing no haustral markings and rigid appearance of colon observed frequently in ulcerative colitis.

TABLE I.—RESULTS OF AGGLUTINATION TESTS

	April 15	April 20	April 29
Typhoid O	Negative	Positive 1:160	Positive 1:320
Typhoid H	Positive 1:80	Positive 1:160	Positive 1:320
Para A	Negative	Positive 1:80	Negative
Para B	Negative	Negative	Negative
Brucella	Negative	Negative	Negative
Proteus X 19	Negative	Positive 1:80	Positive 1:80

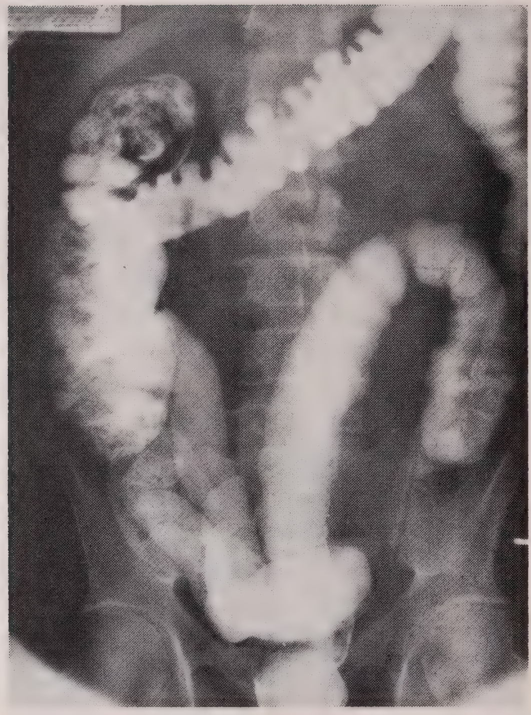

FIG. 2. Repeat barium study of colon six weeks after recovery from disease shows normal colon. (*Courtesy of the Permanente Foundation*)

Figure 1 shows a barium colon study with no haustral markings. This rigid appearance of the colon is observed frequently in ulcerative colitis. It was particularly apparent on fluoroscopic examination.

He received three penicillin injections of 30,000 units each prior to his admission. Aureomycin and Terramycin were administered while waiting for the laboratory data to accumulate. During this period the fever continued high, and the pulse advanced to 112. The delirium was marked. Gastrointestinal series with small intestine one-hour studies showed no abnormalities in the small gut on repeated examinations. While such findings do not rule out ileal or jejunal disease, no other method of studying the small gut was available to us since the patient was not explored surgically.

Treatment with chloramphenicol (1 Gm. daily) was instituted with appropriate blood studies to recognize as early as possible any depression of the bone marrow should it occur. The response to this medicament was most gratifying. The temperature dropped to normal in thirty-two hours and stayed down. The delirium disappeared, and the patient was at last able to partake of the nourishing, high-caloric diet with which we plied him from his admission. He became alert, attentive, and cooperative. The diarrhea disappeared. Sigmoidoscopic examination on May 8, 1954, showed no evidence of ulceration as previously described. He was discharged with negative stools on May 9, 1954, and returned to his home.

Comment

A patient with typhoid fever, while unusual in New York City, barely warrants a report, but this individual seemed to have typhoid colitis, a particularly unusual variant of the disease.[1] There may have been ileal involvement as well since the negative small intestine x-ray studies do not necessarily rule it out. Since the abnormal colonic findings of ulcerative colitis may have antedated the onset of the typhoid, a barium colon study was requested from his home city six weeks after his return. It is reproduced through the permission of the Permanente Foundation (Fig. 2). As can be seen, the colon is quite normal, particularly when compared to the picture taken at the height of his illness (Fig. 1). He had not been ill for ten years prior to the present attack and had no symptoms prior to two weeks before his admission. This is not completely conclusive evidence that this individual had typhoid colitis since nonspecific ulcerative colitis may respond to chloramphenicol also. However, the culture from the ulcers and their disappearance after this form of therapy, plus the rapid disappearance of signs, symptoms, and x-ray evidence of colonic disease, in a bacteriologically proved case of typhoid, lends some credence to the possibility that this was indeed an instance of typhoid colitis.

It is interesting to note that newspapers carried the report of 11 cases of typhoid fever with one death (a boy of eight) in the home city of this patient at about the time of his illness.

7440 AMBOY ROAD

Reference

1. Jennings, A. F., and Mathieson, D. R., in Tice, F.: Practice of Medicine, Hagerstown, Maryland, W. F. Prior Co., 1931, vol. 4, p. 599.

I had a Greek girl in outpatients yesterday and asked her if she was breathless. She didn't understand, so in despair I asked if she had dyspnea. "Ah, yes," she said, "I have dyspnea and you speak Greek."

—*The Lancet*

Periampullary Adenocarcinoma of the Duodenum

ALEXANDER A. GAINES, M.D., JACKSON HEIGHTS, NEW YORK

(*From the Department of Radiology, Coney Island Hospital, Brooklyn*)

IN ORDER to evaluate pathologic processes involving the extrabulbar portions of the duodenum, we must be cognizant of the many important structures surrounding the duodenum: the hepatic and pancreatic ducts and the numerous possible anatomic variations in their relationship to adjacent organs. Space-occupying lesions that may produce complete or partial stenosis of the duodenal lumen may be caused by many conditions, such as an enlarged liver or gallbladder, dilated ductus choleductus, right kidney of the horseshoe type, pancreatic cysts, and lymph nodes. These conditions must be differentiated from intrinsic pathology of the duodenum itself. Some intrinsic lesions of the duodenum which produce filling defects, particularly in the region of the ampulla of Vater, are polypoid lesions, sarcomas, and foreign bodies. Of course, of particular importance is the differential diagnosis of primary duodenal wall lesions from carcinomas of the pancreas. Usually, pancreatic lesions invade the lesser curvature side of the duodenum, while gallbladder lesions affect the greater side. Large ulcerating lesions must be differentiated from diverticula.

Carcinoma of the descending portions of the duodenum has been divided into three selective groups depending upon location. The three types are (1) suprapapillary, (2) peripapillary, and (3) infrapapillary. According to Ritvo and Hears,[1] until recent years carcinoma of the duodenum has been rarely reported with only three cases reported prior to 1942. This type of lesion usually occurs in older people and more often in men. As the tumor grows, there is a change in the mucosal pattern with thickening and coarsening of the rugae. Filling defects occur late, and if there is localized ulceration, barium may be retained in the ulcer crater. In the late stages there is also narrowing of the duodenum.

According to Kline and Culver,[2] diagnosis of cancer of the duodenum, ampulla of Vater, and adjacent structures has made slow progress. Early diagnosis is difficult, and investigative studies offer the greatest opportunity. Carcinoma of the duodenum is a relatively rare condition, and only about 500 proved cases have been reported in the literature. Eger,[3] Hoffman and Pack,[4] and Beyers and Koppelman[5] report that about 0.03 per cent of all carcinomas, 0.3 per cent of intestinal carcinomas, and 45 per cent of all small intestine carcinomas occur in the duodenum. This is divided into 20 per cent suprapapillary, 65 per cent peripapillary, and 15 per cent infrapapillary, and it occurs predominantly in males with a ratio of 3:1. Diagnosis of carcinomas of the duodenum before metastasis has involved the adjacent structures is usually made at operation or postmortem examination. It is rather difficult to make the diagnosis by clinical means, and probably the most constant finding is occult blood in the stool leading to the suspected diagnosis of duodenal or peptic ulcer. The most common complaint is upper abdominal pain, slight to severe, constant or intermittent, which may not be related to meals or the time of day. Weight loss, jaundice, and vomiting are late clinical manifestations when the common duct is involved.

In the suprapapillary portion of the duodenum the lesion is usually a constricting one with narrowing of the lumen and infiltration and erosion of the mucosa. These lesions are usually scirrhous adenocarcinomas. The most common complaint of this type of lesion is pain with the stool frequently positive for blood.

In the periampullary portion the lesion may be a constricting adenocarcinoma with similar signs and symptoms. In addition, since this lesion arises near the ampulla of Vater, it may infiltrate the ampulla, preventing the bile from entering the duodenum with resultant jaundice and light-colored stools.

After the most careful study with the barium meal, early lesions are revealed to the roentgenologist with the appearance varying with the type and location. In the suprapapillary portions there may be seen a small protuberance extending into the lumen with destruction of the normal mucosal pattern. These lesions may be very small, and the existing pathology may be easily missed in a hurried or careless examination. Spot films may be of extreme advantage with mucosal detail clearly visualized.

In the peripapillary portions there may be similar findings except that they tend to be adenocarcinomatous in type. Being papillary, they protrude into the lumen with more of a filling defect, and it is difficult to differentiate primary adenocarcinoma of the duodenum from carcinoma of the ampulla of Vater which the pathologist at times also has difficulty in interpreting.

Baylin,[6] Grims,[7] and Lehman[8] describe annular pancreas surrounding, constricting, and obstructing the duodenum. In this condition the mucosal pattern appears normal and intact. Malignant lesions of the infrapapillary portions are usually of the scirrhous adenocarcinoma variety with tendency to infiltrate the wall and constrict the lumen and with most of them occurring at the duodenal-jejunal junction. These patients usually come late to the physician because of the late symptoms. The earliest diagnosis is made by the roentgenologist when narrowing of the lumen is observed in the last part of the duodenum. Studies of the mucosal pattern are extremely important in the diagnosis of these lesions. Malignant lesions tend to destroy or distort the mucosal pattern with encroachment on the lumen and narrowing of the duodenum.

Chasser and Hentor[9] describe three cases of carcinoma of the duodenum which could not be distinguished from benign peptic ulcer. Mendle and Tanner[10] reported a case of carcinoma of the duodenum in the second portion treated palliatively by gastrojejunostomy and cholecystoenterostomy. Schwartz, Awingle, and Raymond[11] in reports of two cases state that, to date, 483 cases of malignancy of the duodenum have been reported, and the symptoms depend on the duration and the extent of the disease. Hemorrhage is frequent, with obstruction common, as the growth progresses into the lumen. Roentgen examination is a most important adjunct for diagnosis, with loss of the mucosal pattern and thickening and fixation of the wall. As the lesions progress, there is ulceration, filling defects, and craters. Metastases occur late. There is some controversy[12] as to whether peripapillary lesions should be considered true duodenal growths. Lunn[12] reports in detail the diagnosis and treatment of three cases of peripapillary carcinomas and one infrapapillary and one suprapapillary carcinoma. Four were examined roentgenologically, and two were diagnosed correctly.

Case Report

N. U. was a fifty-four-year-old, white male who was first admitted to the medical service of Coney Island Hospital on February 11, 1954. At that time the chief complaint consisted of light pressure sensations, similar to constrictions, occurring in the upper epigastrium and anterior chest wall. These complaints were occasionally accompanied by shortness of breath. The pain did not radiate in any direction. The present episode began two days prior to his first hospital admission. He was treated by a family physician but was not relieved of his symptoms.

Past history revealed that he had had a similar episode one year previously which lasted for several days. He was chronically constipated and had no history of vomiting or loss of weight.

Physical examination revealed a fifty-four-year-old male, well developed and well nourished. He was not in acute distress and complained of vague, mild epigastric pain. The blood pressure on admission was 125/70, pulse 75, and respirations 18. A thorough physical examination of the chest and abdomen was essentially negative. An electrocardiogram on February 16 was normal.

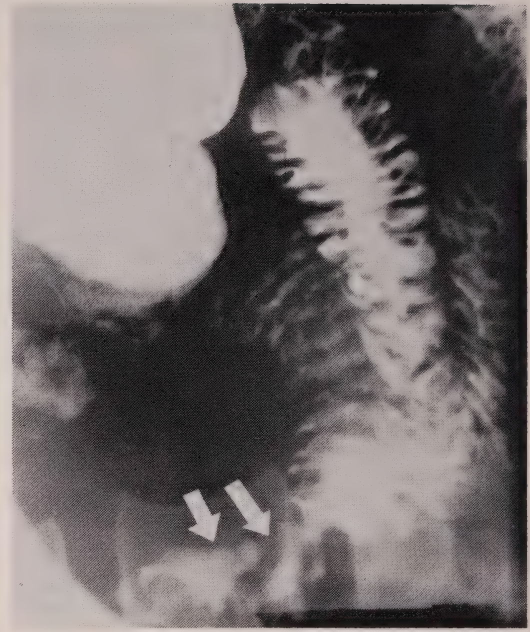

FIG. 1. The second portion of the duodenum reveals a marked narrowing and coarsening of the mucosal pattern with a large ulcer crater.

The patient signed himself out of the hospital on March 10 and was readmitted on March 27, 1954, with the same complaints as on his previous admission, except that they were more severe in character and now were associated with a 40-pound weight loss. Two days prior to his second admission he began to notice black stools.

Physical examination on this second admission revealed an enlarged liver palpable three fingerbreadths below the costal margin; it was smooth and nontender. A distended gallbladder was also palpable below the liver edge.

The laboratory workup consisted of negative serology; gastric analysis positive for occult blood in all specimens with the free acid ranging from 18 to 45 units and total acidity ranging from 26 to 55 units; sedimentation rate 0.5 in five minutes and 9 mm. in one hour. Urea nitrogen was 18 mg. with 65 mg. blood sugar. The blood count revealed 7,100 white blood cells with 64 per cent polymorphonuclears, 33 per cent lymphocytes, and 3 per cent eosinophils. The patient had a hemoglobin of 15 Gm. and a normal urinalysis. Stools were persistently positive for occult blood. Liver profile revealed an icteric index of 20; total cholesterol and ester ratio was 204:33. The total serum protein was 6.1, while the albumin-globulin ratio was 3.9:2.2. Alkaline phosphatase was 1.6 Bodansky units, and the thymol turbidity was 3.

On February 26, 1954, a gallbladder series revealed a poorly visualized gallbladder with no evidence of opaque or nonopaque calculi. Re-examination on April 4 revealed no visualization of the gallbladder following ingestion of an opaque media. Gastrointestinal series was performed on March 8 and April 4 and revealed a normal stomach with no filling defects or niche formation. The duodenal cap filled well. The proximal portion of the second portion of the duodenum appeared persistently irregular and narrowed with coarsening of the mucosal pattern (Fig. 1). At the distal portion of the second portion of the duodenum there was a persistent filling defect and pouchlike collection of barium on its mesial aspect. The third portion of the duodenum revealed alternating spasm and dilatation.

The patient was explored on June 17, 1954. The head of the pancreas was firmly adherent to the medial border of the duodenum and was enlarged, firm, and irregular and had the appearance of a malignancy. Proximal to where the malignancy involved the duodenum, it was incised revealing a large, fungating, necrotic lesion which involved all the mucosa of the second portion of the duodenum, almost completely occluding the lumen. Because of the extensiveness of the lesion it was decided to treat the patient conservatively with short-circuiting procedures only. A gastrojejunostomy was performed with the proximal jejunum to the greater curvature of the stomach. Another more distal loop of jejunum was anastomosed to the gallbladder in a cholecystojejunostomy. The patient withstood the procedure very well and had an uneventful postoperative course. He has been well and asymptomatic for the past four months.

PATHOLOGIC REPORT.—The pathologic specimen grossly consisted of four irregularly shaped masses of yellowish to pinkish-tan tissue, varying from 0.5 to 1.5 cm. in diameter. The largest of these masses was firm in consistency. On section the cut surface was homogeneously dull gray in color and showed one area of hemorrhage.

Microscopic examination revealed marked cellular activity in the sections taken from the duodenum. The cells were arranged in irregular acini with marked hyperchromatism of the nuclear material, loss of nuclear basal cell polarity, and loss of mucigenic cytoplasm. There was direct infiltration and invasion into the surrounding stroma. The diagnosis was periampullary adenocarcinoma of the duodenum.

Summary

Since proved cases of carcinoma of the duodenum are relatively rare pathologic entities, the entire recent literature concerning this subject has been reviewed in addition to presenting another proved case.

35-52 90TH STREET

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Cerebral Palsied Children Need Visual Aid

A large number of cerebral palsied children also suffer eye defects which often can be corrected and should be given attention, a New York physician has reported. Dr. Arnold S. Breakey, Lenox Hill Hospital, said an estimated six per 1,000 live born babies suffer cerebral palsy, which ranks second only to polio as a crippler of children. More than half of these children may have eye defects.

He said in the June *Archives of Ophthalmology*, published by the American Medical Association, that all infants found to have eye defects should be examined for evidence of cerebral palsy, a disability resulting from injury to the motor centers of the brain. Children who have eye defects accompanying cerebral palsy should be treated, since many of the defects can be corrected and total rehabilitation of the patient may be helped by visual improvement.

Dr. Breakey pointed out that poor vision in these children may have been overlooked because of more obvious defects, such as difficulty in walking. A study of 100 cerebral palsy patients at Lenox Hill Hospital showed that 56 per cent had visual defects, which he said was "representative" of cerebral palsied children as a whole. The most usual disorder was in muscle balance. About 40 per cent of the group studied suffered turning in or out of the eyes. Lenses, surgery, exercise, and other forms of treatment were used and many of the children showed improvement.

"Cerebral palsy victims in our population represent a very significant group," Dr. Breakey said. ". . . every victim of this disease deserves an early eye examination. Careful diagnosis and adherence to accepted methods of therapy yield gratifying results."

HISTORY OF MEDICINE in New York State

Editor
FREDERIC D. ZEMAN, M.D.

Development of Medical Education in Upstate New York: The Albany Area

EMERSON CROSBY KELLY, M.D., ALBANY, NEW YORK

(*From the Department of Surgery, Albany Hospital and Medical College*)

THAT white man by the name of Henry Hudson, who explored the Hudson River in 1609, entered a territory where medical education was hundreds of years old. The medicine man of the Indians had taught his art to the succeeding generation for uncounted ages. But we think of medical education as a modern attribute of the white man.

In the years following Hudson, clergymen-doctors from the Netherlands sailed with the Dutch West India Company to the trading post on the present site of Albany. Sebastian Jansen Crol, Dominie Megapolensis, Reverend George Mancius, and Abraham Stott are only a few of those who helped keep souls, and bodies, in a salubrious state within the stockade.

The crossroads of Albany were important to the varied armies heading north and west. During the French and Indian Wars a hospital within the Albany stockade was well filled. At the time of the American Revolution, Albany served as headquarters of the Northern Department of the Continental Army, and over five hundred patients, including Benedict Arnold's leg, were cared for at one time within the hospital just below the Capitol on the present Court House grounds. The wounded from Saratoga also crowded the cantonment in East Greenbush across the Hudson and also some buildings just north of the town on the Schuyler Flats. So Albany has always been a medical center, and there must have been medical education of a sort.

But quackery was rampant, and irregular practitioners flourished. Regulation of license and practice was led by an upstate man, John Stearns (1770–1848), an educated but degreeless practitioner of Saratoga County. In his words his work was undertaken "with a view to reclaim the profession from the degradation and contempt to which it had been reduced by ignorance, professional broils and the grossest empiricism."

The true beginning of medical organization dates from April 4, 1806, when the New York State Legislature passed "An Act to incorporate Medical Societies for the purpose of regulating the practice of Physic and Surgery." The county medical societies were given the power of licensure. Three months later, on July 29, 1806, the Albany County Medical Society was formed. The first meeting of the Medical Society of the State of New York was held at Albany on February 3, 1807.

It was not until 1820, with the arrival in Albany of Dr. Alden March, that a spark was struck for the advancement of medical education in the city. It took eighteen years for the small wood to ignite.

Dr. Alden March had studied with Dr. William Ingalls in Boston, with his brother, Dr. David March, and at Brown University which then had a medical department. A year after his arrival in Albany he was teaching a class of 14 students in anatomy and surgery. Local public pressure necessitated transportation of anatomic material from Massachusetts, in the wagon of Dr. March. Local opinion also contributed to the scarcity of patients. But Dr. March was not content to pass out pills; he was a born teacher, a sharer of experience and opinions with other men.

Love added to the pressure on the doctor. In

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1824 he returned to his birthplace to marry a childhood sweetheart, Joanne Perry Armsby. The next year Dr. March became professor of anatomy and physiology at theVermont Academy of Medicine at Castleton, Vermont. Just imagine the love of teaching, to say nothing of the necessity of raising a family, which carried him in those days into another state by horse and buggy over the early dirt roads.

Dr. March, in 1830, as an introduction to his course on anatomy and operative surgery at Albany, delivered "A Lecture on the Expediency of Establishing a Medical College and Hospital in the City of Albany." Briefly he reviewed his own history of teaching in Albany at this, the commencement of his ninth course of lectures, with a growth from 14 to over 30 students. He had little assistance, "except such as has been rendered by my distinguished colleague Dr. (William) Tully." Dr. March showed that during six sessions of the Vermont Academy of Medicine and the Berkshire Medical Institution, from 1823 through 1828, 383 students from New York State had attended those institutions, making up about a fourth of their enrollment. In addition, about 24 students from Albany County had attended the Fairfield school, and about 20 had attended "a private course in this place, and who have not attended a public course in the same season, will give us something more than one hundred." March also demonstrated that the location of the city was good, an institution of this kind was required, and the object was practicable.

But the flower bore no fruit.

Dr. March continued his teaching in Albany. A catalog of 1832 carries the title, "Dr. March's Practical School for Anatomy and Surgery." An 1833 catalog has the title, "Albany Medical School," and lists six instructors: Edwin James, M.D., on "Chymistry and Natural History"; Alden March, M.D., on "Anatomy, Physiology, and Operative Surgery"; Henry Green, M.D., on "Obstetrics and Diseases of Women and Children"; William Tully, M.D., on "Materia Medica, Pharmacy, and Therapeutics"; Theodore Woodward, M.D., on the" Principles and Practice of Surgery," and John James, M.D., on "Theory and Practice of Medicine." Twenty-eight seniors and 23 junior students are listed. Some of the same names appear in both catalogs. Dr. March's "Practical School" began in January, and the lectures at the "Albany Medical School" commenced on the first Wednesday of March. Apparently there were in reality two schools, closely associated but distinct.

The Legislature of the State of New York was petitioned for a charter for an Albany Medical College. A hue and cry arose from the established medical colleges that there were enough schools. New York City was represented by the College of Physicians and Surgeons of Columbia University, established in 1767 as King's College; upper New York State had the College of Physicians and Surgeons of the Western District of New York, established in 1812 at Fairfield, and Geneva College of 1835. Outside of the State but near at hand were Dartmouth College Medical Department, Vermont Academy of Medicine at Castleton, Vermont, and the Berkshire Medical Institution at Pittsfield, Massachusetts.

The citizens must have awakened to the state of medical practice by the appearance of cholera in Albany during the summer of 1832; 1,147 inhabitants were stricken, and 422 died. Two years later 124 cases occurred, and 78 deaths resulted. Perhaps the leading citizens, what was left of them, thought then that the State would benefit by more medical education.

Dr. March took into his home in 1831 his brother-in-law, James H. Armsby, a youth of twenty years. James went along on the teaching trips to Castleton, Vermont, studied at the school there, and was graduated in 1833. A year later Dr. Armsby took over Dr. March's chair of anatomy and physiology at the Vermont Academy of Medicine.

Public lectures were popular throughout the country for bringing information to a people thirsty for knowledge. Dr. Armsby was a popular lecturer on scientific subjects. His audience, at times numbering as many as 300 persons, was made up of citizens, members of the Legislature, and strangers seeking an evening's pastime. The best brains of the town hesitated to miss the entertainment and the learning which was freely given. Civic pride was stimulated.

After one of Dr. Armsby's lectures, committees were appointed to petition the Legislature again to appoint a board of trustees and to secure a building suitable for a medical school.

The efforts of the committees bore some fruit. The fathers of the city of 15,000 souls gave permission for free use of the abandoned Lancaster School, alterations were made, a museum was opened to the public, trustees and fellows were appointed, and a board of visitors was established.

The Albany Medical College opened on January 2, 1839. Fifty-seven students registered for the sixteen-week course, and 13 doctors were graduated on April 24, 1839. In the meantime, on February 16, 1839, the Legislature granted acts of incorporation. The school trustees must have been fairly sure of legislative cooperation.

The preliminary catalog of the college in 1838 carried this notice: "Candidates for the Degree of M.D. must be 21 years of age; must exhibit proof of having studied Medicine and Surgery during the term of three years, with a respectable practitioner; and must have attended two full courses of lectures, the last of which must have been at this College, and pass a satisfactory examination before the Faculty."

The preliminary announcement of the Albany Medical College listed an innovation: "On Saturdays there will be Clinical lectures at the Almshouse, and occasionally Surgical Operations in the presence of the Class. This institution is situated about one mile from the College, and during the winter has usually five or six hundred inmates, among whom the students will have an opportunity of witnessing a great variety of Surgical operations and diseases." So Albany started off on its first Saturday with bedside teaching!

The first faculty of 1839 was made up of Alden March, professor of surgery; James H. Armsby, professor of anatomy and physiology; Amos Dean, professor of medical jurisprudence; Ebenezer Emmons, professor of chemistry and pharmacy; Henry Greene, professor of obstetrics and diseases of women and children; David M. McLachlen, professor of materia medica, and David M. Reese, professor of theory and practice of medicine.

One of the upstate medical schools, the Fairfield Medical Academy, closed its doors after the session of 1839–40. Although a big school in its day, its location in the sparsely settled country, away from a city with clinical material of diversified diseases, led to a diminishing student body and abandonment. Three of the Fairfield professors joined the faculty of the Albany Medical College. Dr. James McNaughton became professor of theory and practice of medicine; Dr. Lewis C. Beck became professor of chemistry in the place of Ebenezer Emmons who changed to professor of obstetrics, and Dr. Theodric Romeyn Beck was professor of materia medica.

Dr. March had stressed in his address of 1830 the importance in medical education of a hospital connected with a medical college. In the first curriculum one morning a week was set aside for demonstration of patients and operations. In 1851 the Albany Hospital opened at Dove and Lydius Streets, now Madison Avenue. Two years later the board of governors of the hospital bought from the city the jail which was on Eagle Street, almost directly across from the medical college. The attending staff of the hospital were members of the faculty of the college. Close association of didactic teaching with examination of patients was an early milestone in education of the Albany students.

Dr. March died in 1869, after serving as dean (then called president) for thirty years. He was succeeded by James McNaughton, 1869 to 1874, and James H. Armsby, 1874 to 1876. The title of president was then changed to dean, and the position was held by Thomas Hun, 1876 to 1896; Albert Vander Veer, 1896 to 1903; Samuel B. Ward, 1903 to 1913; Willis G. Tucker, 1913 to 1915; Thomas Ordway, 1915 to 1937; Robert Sydney Cunningham, 1937 to 1951; James Campbell, 1951 to 1952, and Harold C. Wiggers from 1952.

In 1873 the trustees of the Albany Medical College, recognizing the importance of being a part of a university, joined with Union College in Schenectady as its medical department.

The Albany Hospital moved to a new group of buildings on New Scotland Avenue in 1899. The move separated the school and the hospital by a distance of about a mile. One wing of the hospital was occupied by psychiatric patients, the first general hospital in America to have such accommodations and such opportunity for teaching. Mr. Matthew Bender gave $22,000 for the construction of a new laboratory near the hospital. The faculty furnished apparatus and fixtures at a cost of $6,000 and guaranteed upkeep. Instruction in pathology, bacteriology, and histology was given in the Bender Laboratory. The head of the laboratory, Dr. George Blumer (later of Yale and now in 1955 living in retirement in California), was also pathologist at the Albany Hospital.

The Albany Medical College was apparently in a healthy state as the years rolled on. The

American Medical Association, in its report on medical schools in 1902, found nothing radically wrong. A part of the report said: "The faculty is composed of 14 professors, 7 adjunct and clinical professors, and 30 lecturers, instructors and assistants, a total of 51. Albany, St. Peter's, Child's, and County Hospitals, South End Dispensary, Eye and Ear Infirmary and the Albany Hospital for Incurables, also the free dispensaries connected with each, are open to students for clinical study. The curriculum embraces graded work for four years of seven and one-half months each. Teaching is carried on in the laboratories, clinics and lecture rooms. . ."

But the bombshell of the Flexner report, published in 1910, disturbed the senile peace of the old institution, after a life of seventy years.

Flexner reported that he found the institution sadly insufficient with poor use made of clinical material at the hospital and no library at the medical college. The explanation of the last accusation is that New York State had established a medical library in 1891, only two blocks from the college, and all the books belonging to the medical college, "2,500 volumes and an equal number of pamphlets," were given to the State.

The biggest blot on the Albany Medical escutcheon in the Flexner report was the fact that salaries were paid to the faculty. The teachers had not yet graduated from the days when their living was obtained from students' fees. A small school without endowment, it was paying about $500 a year to each of about 15 members of the faculty instead of using the money to increase its facilities for laboratories. We shudder at the thought now, but it was a custom of the times, and the faculty was honest, in its way.

Change came gradually. In 1915 there was complete reorganization of the school. Union University assumed educational control, coeducation was established, and Dr. Thomas Ordway, who had been at the Bender Laboratory, was made dean with a free hand. A very few of the old faculty remained for a time (most of them were old in service), new teachers were imported, and the school was revived and saved.

Any inanimate institution is known by the caliber of its animate sons. Albany Medical College points with pride to many of her alumni. A feeling of modesty causes us to refrain from listing the living. Of those who have gone to their reward, we will name a few, in chronologic order:

John Campbell, Class of 1843, medical inspector of United States Volunteers during the Civil War; after thirty-nine years of service, he retired with the rank of Brigadier-General.

Henry Darwin Didama, Class of 1846, professor of principles and practice of medicine and clinical medicine in the College of Medicine of Syracuse University and dean of the faculty at that institution.

John Swinburne, Class of 1846, Health Officer of the Port of New York, member of Congress and Mayor of Albany; Swinburne Island in New York harbor is named in his honor.

James Henry Salisbury, Class of 1850, principal chemist of the Geological Survey of the State of New York before his graduation; author of many papers on diet. Who has not eaten a Salisbury steak?

Charles Nathaniel Hewitt, Class of 1857, executive secretary, 1872 to 1897, of the Minnesota State Board of Health.

William H. Thomson, Class of 1859, for twenty years professor of materia medica and therapeutics and diseases of the nervous system in the Medical Department of the University of the City of New York.

Charles Meredith Woodward, Class of 1867, Surgeon-General of the State of Michigan.

William C. Bailey, Class of 1873, professor of theory and practice and clinical medicine, at Tennessee Medical College.

Nathaniel Emmons Paine, Class of 1875, first medical superintendent of Westboro State Hospital, Westboro, Massachusetts, with which he was associated for sixty-three years; for thirty-eight years professor of psychiatry at Boston University School of Medicine; inventor of Paine nasal feeding tube for forced feeding of mental patients.

Ira Harris, Class of 1881, for thirty-two years a missionary of the Presbyterian Board of Foreign Missions in Tripoli and Syria; United States consul at Tripoli for twenty years.

Theobald Smith, Class of 1883, our most illustrious alumnus, discovered the etiology of Texas fever and thereby the transmission of disease by parasites through ova to man. His discoveries made it possible to control yellow fever and led to the establishment of sanitary regulations which actually permitted construction of the Panama Canal; differentiated bovine from human form of tubercle bacilli; was Director of Animal Pathology at the Rockefeller

Institute for Medical Research.

Hermon Camp Gordinier, Class of 1886, author of an epochal textbook on the anatomy of the nervous system which appeared in 1899, then the only complete and comprehensive treatise on the subject in the English language.

Andrew MacFarlane, Class of 1887, originator of Nelson Loose-Leaf System of Medicine, and for a long time its editor.

J. Montgomery Mosher, Class of 1889, established first ward for psychiatric patients in a general hospital.

Thomas Wilson Salmon, Class of 1899, medical director of the National Committee for Mental Hygiene; after 1921 professor of psychiatry at Columbia University, College of Physicians and Surgeons; senior consultant in neuropsychiatry in American Expeditionary Forces during World War I.

LaSalle Archambault, Class of 1902, a renowned neurologist.

Kenneth Daniel Blackfan, Class of 1905, professor of pediatrics at Harvard Medical College from 1923 to 1941.

A great stimulation to growth and importance of the Albany Medical College came in 1927 when the old Lancaster School building on Eagle Street was abandoned, and a new Albany Medical College was constructed adjacent to the Albany Hospital. Both institutions were enlarged in 1949 under the leadership of the dean, Dr. Robert Sydney Cunningham, and today the Albany Medical Center is a pride of the capital district.

Nonparalytic Polio Diagnosis Need Not Be Guesswork

"The diagnosis of nonparalytic poliomyelitis no longer has to be guesswork," a Yale University School of Medicine physician said in the July 2 *Journal of the American Medical Association.* She said six months' experience with a relatively new method illustrates its value in diagnosing polio quickly and in winnowing out illnesses which otherwise might be diagnosed as nonparalytic polio.

The new method, a combination of virus-isolation and antibody-response tests, uses monkey kidney tissue instead of live monkeys for testing fluids from patients. The "tissue culture" method, first introduced by Dr. John Enders, Boston, in 1949, is more rapid, less cumbersome, and less expensive than the use of live monkeys, the author said.

Diagnosis of nonparalytic polio previously depended much on symptoms and epidemic factor studies. Because of the similarity of these factors in several diseases, specific and rapid polio diagnostic tests have been needed. The "tissue culture" method, providing for virus isolation, lessens this confusion.

The "tissue culture" method was carried out on 96 patients at Grace-New Haven Community Hospital, New Haven, Connecticut, and was reported by Dr. Mary O. Godenne.

The results of antibody response tests were diagnostically significant in 96 per cent of the patients later proved by virus isolation to have polio, the author said. The rapidity of the method "is an encouraging and a relatively new feature of diagnostic work. In 60 per cent of the patients from whom a poliomyelitis virus was obtained, the agent isolated from various sources was recognized and typed within seven days of the time of inoculation of the specimen. By two weeks after inoculation these positive results were available in 88 per cent."

Included in the report were patients with paralytic poliomyelitis, meningitis for which no cause could be found, nonparalytic polio, and encephalitis an inflammation of the brain.

In 49 patients with paralytic poliomyelitis, a polio virus was isolated in 44 or 90 per cent. Thirteen or 32 per cent of the 41 patients with meningitis and nonparalytic polio harbored a poliomyelitis virus, while three of the six patients with encephalitis had a polio virus.

In discussing the "tissue culture" method, Dr. Godenne said: "It has demonstrated that the diagnosis of nonparalytic poliomyelitis no longer has to be guesswork....Of the various tests now available, the isolation (and typing) of poliomyelitis viruses from specimens obtained from suspected cases is the most valuable.

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NECROLOGY

Gordon Shelswell Coutts, M.D., of Cape Vincent, died on August 18 of a heart ailment at his home at the age of fifty-four. Dr. Coutts received his medical degree in 1925 from the University of Toronto Faculty of Medicine. At the time of his death he was the health officer for the town of Cape Vincent as well as school physician at Cape Vincent Central School. Dr. Coutts was a member of the staff of the Mercy Hospital in Watertown and a member of the Jefferson County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Everett Aldrich Gladman, M.D., of Fulton, died on July 18 following a short illness in the Syracuse Hospital at the age of eighty. Dr. Gladman received his medical degree from McGill University Faculty of Medicine in 1898. He had practiced medicine in Fulton for fifty-five years and was a past president of the Oswego County Medical Society and was medical consultant to the Oswego County Welfare Association. Dr. Gladman was an attending physician at the Albert Lindley Lee Memorial Hospital in Fulton. He was also an Associate Fellow of the American College of Cardiology and a member of the American Academy of General Practitioners, the Oswego County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Isidor N. Kahn, M.D., of New York City, died on August 11 at home at the age of seventy-five. Dr. Kahn graduated in 1907 from New York University and Bellevue Hospital Medical College.

Murray F. Mudge, M.D., of Barker, died on July 25 at the home of his daughter in Newfane at the age of eighty-five. Dr. Mudge graduated in 1895 from Niagara University Medical Department, Buffalo. Dr. Mudge was a veteran of the Spanish-American War and World War I, and was a Lieutenant-Colonel in the Medical Reserve Corps, United States Army. Prior to his retirement in 1940, Dr. Mudge had practiced at Johnson Creek for more than fifty years.

Albert G. Pohly, M.D., of New York City, died on August 10 at Mount Sinai Hospital at the age of eighty-seven. Dr. Pohly was graduated from New York University Medical College in 1891. For many years he was a physician for the Board of Education and at the time of his death was a consulting physician at the Lenox Hill Hospital Outpatient Department.

Herbert Rosenberg, M.D., of New York City, died on September 1, 1954, at the age of fifty-eight. Dr. Rosenberg received his medical degree from the University of Berlin in 1922. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Herman Sand, M.D., of the Bronx, died on August 6 at the age of sixty-five. Dr. Sand received his medical degree from the University of Berlin in 1918. He was clinical assistant in pediatrics at the Lincoln Hospital, Bronx, Outpatient Department. Dr. Sand was a member of the American Academy of General Practitioners, the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

George Henry Stephens, M.D., of Syracuse, died at his summer home in the Thousand Islands on August 3 at the age of eighty. Dr. Stephens graduated from Syracuse University College of Medicine in 1903. From 1944 to 1949 he served as police and fire department surgeon and also was a member of the staffs of the University and Peoples Hospitals in Syracuse. Dr. Stephens was a member of the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Edmund W. Wilson, M.D., of Larchmont, died on August 15 in the New Rochelle Hospital following a long illness at the age of seventy. Dr. Wilson graduated from Tufts College Medical School in 1907. In 1950 he retired after twenty years with the medical division of the Metropolitan Life Insurance Company.

For those who do not think, it is best at least to rearrange their prejudices once in a while.—LUTHER BURBANK

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MEDICAL NEWS

Civil Defense—One-day Civil Defense Emergency Medical Services institutes will be held this fall at 14 locations throughout the State. This year will mark the start of a series of courses developed to train personnel to work in improvised hospitals after an enemy attack. The short evening session will be devoted to an orientation to the use of the mobile hospital outfit as an improvised emergency hospital in schools or other preselected buildings. In addition to the orientation in the evening, the training course for personnel to work in the sterile supply section of the improvised emergency hospital will be presented during the day. Training for emergency treatments that will be performed by nurses in aid stations will also be a part of the institute program.

The institutes will run from September 15 through November 15 and will be held at Binghamton, Syracuse, Utica, Saranac Lake, Albany, Valhalla, Newburgh, Buffalo, Rochester, Corning, Niagara Falls, Jamestown, Farmingdale, and New York City. Physicians interested in attending the orientation to the improvised emergency hospital can obtain the specific time and place of the institute in their locality from their local civil defense director.

Institute for the Crippled and Disabled—The second training program designed to prepare people in rehabilitation for top level positions of coordination and administration in rehabilitation centers has been announced on a tentative basis by the Institute for the Crippled and Disabled, rehabilitation center in New York City. The proposed starting date for the seven-month course is December 1. Applications received by October 15 will be given preference, and final determination on conducting the course will be made by October 1.

A preliminary announcement of the training program has been published by the Institute. Copies and additional information may be had on written request to the Director, Institute for the Crippled and Disabled, 400 First Avenue, New York 10, New York.

Public Health Medical Officers—A competitive examination for appointment of medical officers to the regular corps of the United States Public Health Service will be held in various places throughout the country on November 15, 16, and 17. Appointments provide opportunities for career service in clinical medicine, research, and public health. They will be made in the ranks of Assistant and Senior Assistant, equivalent to Navy ranks of Lieutenant (j.g.) and Lieutenant, respectively.

Application forms may be obtained by writing to the Chief, Division of Personnel, Public Health Service, Department of Health, Education, and Welfare, Washington 25, D.C. Completed application forms must be received in the Division of Personnel no later than October 15.

Physical Therapy Officers—Competitive examinations for appointment of physical therapists as commissioned officers in the regular corps of the U.S. Public Health Service will be given at central points over the country on November 15, 16, and 17. Applicants will be examined at the centers nearest their homes. Applications close October 15.

Application forms and further information can be obtained from the Division of Personnel, Public Health Service, Department of Health, Education, and Welfare, Washington 25, D.C. Applicants will be notified where to go for examinations. The examinations will include oral interviews, physical examination, and comprehensive objective examinations in the professional fields.

American Medical Education Foundation—New York State contributors to the American Medical Education Foundation for the month of July were: *Albany*—Drs. T. S. Beecher, Michael Blase, William L. Gould, Raymond Harris, Thomas O'Donnell, John C. O'Keefe, William C. Rausch, Erwin G. Rerrick, Ralph W. Reynolds, Arthur H. Stein, Francis Stephens, Robert C. Towse, Albert Vander Veer, and Arthur W. Wright; *Albion*—Dr. Walter Shifton; *Amityville*—Drs. Manoel DeBono, Joseph S. Gestal, H. B. Hendler, G. H. Kopchynski, Stanley C. Rau, and Andre Rolo; *Astoria*—Drs. Anna Arroyo, Alfred Baldassare, Arthur Gladstein, William London, and Morris Moskowitz; *Auburn*—Drs. A. K. Bates, A. B. Chidester, F. L. DeFurio, R. W. Getty, F. M. Holcombe, R. H. Joachim, W. J. Murray, A. J. Oliker, G. C. Sincerbeaux, R. J. Thomas, R. J. Walker, and Robert P. Worden; *Babylon*—Drs. Joseph Berman, Vera Emanuel, and K. C. Nicholas; *Bay Shore*—Drs. Frank R. Bussey, Samuel T. Herstone, George S. King, B. J. Ryan, Charles W. Shlimbaum, Sol Shlimbaum, and Seymour H. Wasserman.

Also: *Bellerose*—Dr. Abraham Saperstein; *Bellport*—Dr. Perry S. Horenstein; *Blue Point*—Dr. Jacob Breier; *Brewster*—Drs. Robert S. Cleaver and A. Vanderburgh; *Bridgehampton*—Dr. Arthur E. Corwith; *Brightwaters*—Dr. Lothar Kalinowsky; *Bronx*—Drs. Nathan Bander, W. M. Bronson, William J. Farrell, Joseph O. Fisher, Edward A. Pfeiffer, J. B. Pinkus, Murray Raphael, S. J. Rauch, and G. S. Stern; *Brooklyn*—Drs. Michael Buscemi,

[Continued on page 2674]

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[Continued from page 2672]

Richard M. Greenwald, and M. Waxgiser; *Brooktondale*—Dr. Mary Tinker; *Buffalo*—Women's Auxiliary to the Medical Society of the State of New York, and Dr. Albert G. Spatz; *Calverton*—Dr. Barbara J. Young; *Cambria Heights*—Dr. Joseph Schepis; *Canandaigua*—Dr. George L. Gilmore; *Carmel*—Dr. William P. Kelly, Jr.; *Cato*—Dr. M. L. Fox; *Central Islip*—Drs. Joseph J. Cacioppo and F. J. O'Neill; *Cohoes*—Drs. James M. Mitchell, III, and Hans D. Weiss; *Cold Spring*—Drs. Ralph M. Hall and Robert A. Seitz; *Copiague*—Dr. Gino L. Giorgini; *Corona*—Dr. George P. Josephson; *Crown Point*—Dr. John S. Miller; *East Elmhurst*—Dr. Abigail Durruthy; *East Hampton*—Dr. David Edwards; *Eastport*—Dr. Joseph H. Kris; *Elmhurst*—Dr. Emanuel F. Kalina; *Farmingdale*—Dr. Albert N. Meyerstein.

Also: *Far Rockaway*—Dr. Emanuel Levokove; *Flushing*—Drs. Adrian E. Donnelly, William Feiring, B. Grossman, Forrest Hayes, Knut H. Houck, Julius S. Kaufman, Sidney Leshine, Charles S. Miller, Kate F. Miller, Joseph Sullivan, and Jerome Weinstein; *Forest Hills*—Drs. Seymour S. Balkin, Robert Blaine, Matthew Freed, Joseph J. Healy, Meyer Monchek, Chester M. Raphael, Louis Rosenblum, and J. R. Van Dyne; *Fort Covington*—Dr. Philip W. Gorman; *Fulton*—Dr. Frank Meyer; *Garden City*—Dr. Thomas V. Miles; *Garrison*—Dr. V. F. Murray; *Glens Falls*—Dr. Dwight Sawyer; *Gouverneur*—Dr. G. H. Hanlon; *Greenport*—Dr. Percy J. Tuthill; *Groton*—Dr. Hans Seligman; *Hollis*—Drs. Abraham Appel and Morris Goldman; *Hudson*—Dr. Harold Levine; *Huntington*—Drs. William L. Bennett, Crispin Cooke, Milton Gordon, William L. Harris, W. W. Heroy, Ernest B. Hofman, Frank Moore, Jr., John L. Sengstack, William J. Turner, and Howard O. Wunderlich; *Huntington Station*—Drs. William C. Battle, T. J. Cacciatore, Anthony R. Cherry, Bertram Kertzner, and Samuel Teich; *Interlaken*—Dr. Stanley B. Folts; *Islip*—Dr. F. R. Pitrelli; *Islip Terrace*—Dr. David J. Wexler; *Ithaca*—Drs. Fred Asher, Temple Burling, Norman S. Moore, Martin B. Tinker, Jr., and Charles S. Wallace.

Also: *Jackson Heights*—Drs. Isidor Black, Ralph De Nicola, Louis E. Gaeta, Fred S. Grunwald, and John E. Lally; *Jamaica*—Drs. Morris Fishman, Stephen Laurens, Peter A. Miceli, Nino V. Panissidi, and William Stark; *Keene*—Dr. A. R. Goff; *Kings Park*—Dr. Robert F. Wagner; *Larchmont*—Dr. Peter A. Fauci; *Laurelton*—Dr. Jack L. Fine; *Lindenhurst*—Dr. Henry Greenberg; *Little Neck*—Dr. A. D. Juffey; *Locke*—Dr. Manes Kesten; *Lockport*—Dr. George Hixson; *Long Island City*—Drs. Joseph Shapiro and Edward C. Steiner; *Loudonville*—Dr. Dicran A. Berberian; *Merrick*—Dr. Herbert B. Holleb; *Middle Village*—Dr. Joe Liebermann; *Millerton*—Dr. Gilbert S. Tabor; *Mineville*—Dr. Oscar Greene; *Montour Falls*—Drs. James J. Norton and William F. Tague; *Mount Vernon*—Dr. Walter A. Bell; *New Rochelle*—Drs. Oscar Baumgarten and Daniel A. Sherber; *New York City*—Drs. Harold J. Harris, James R. Lisa, and N. N. Root; *Niagara Falls*—Drs. Walter Jarzab, Frank Palumbo, Victor Pellicano, and Guy S. Philbrick; *Northport*—Drs. Cyril E. Drysdale, J. W. Jacoby, and Walter Novotny; *Odessa*—Dr. Francis C. Ward; *Patchogue*—Drs. Sanford Z. Himel, David L. Jellinger, and Edward Klane; *Patterson*—Dr. Frank Genovese; *Plattsburgh*—Dr. Edwin Raymaley; *Port Chester*—Dr. Joyce Yerwood; *Port Henry*—Dr. James E. Glavin; *Port Jefferson*—Drs. Samuel Feinberg and Roswell S. Mills; *Queens Village*—Drs. Louis F. Gitlin, Richard Thorz, and Max Utens; *Richmond Hill*—Drs. Carl Stickler and Morris Wein; *Ridgewood*—Drs. Martin Sheehy and Bernath Weiss; *Riverhead*—Drs. John M. Johnson, Jr., John A. Northridge, Arnold M. Wiesen, and Victor K. Young; *Rockaway Park*—Dr. Burton F. Salpeter.

Also: *Rosedale*—Dr. Francis Muller; *Round Lake*—Dr. Arthur J. Hacker; *Saranac Lake*—Drs. G. Filley and C. Sageman; *Sayville*—Drs. Warren H. Eller and David L. MacDonell, Sr.; *Scarsdale*—Dr. Axel Hjort; *Schuylerville*—Dr. Melvin T. Boright; *Seneca Falls*—Drs. Emil J. Bove and Robert F. Gibbs; *Smithtown*—Dr. A. A. Scharbius, II; *Southampton*—Drs. Carmelo P. Cancellieri, W. C. Gaynor, Mary F. Johnson, C. V. Livingston, and Herman Rubler; *St. Albans*—Drs. Hans Bergmann and William J. Gartland; *Staten Island*—Drs. Arpad Berczeller, Anthony Cosentino, Harold Dangerfield, B. DeRespinis, and Sidney Kessler; *Stony Brook*—Dr. Walter Sieling, Jr.; *Ticonderoga*—Drs. Thomas R. Cummins, Rudolph J. Martin, and William Vilardo; *Troy*—Dr. James W. Fitzgerald; *Warsaw*—Drs. Ole T. Jonassen and Cletus J. Regan; *Waterloo*—Drs. W. R. Holmes, William Magenheimer, and Charles M. Smith; *Watkins Glen*—Drs. Milton J. Daus, Fritz Landsberg, Joseph Y. Roberts, and William C. Stewart; *West Brentwood*—Drs. Edward W. Gray and Albert E. Paganini; *West Sand Lake*—Dr. Walter Meeler; *White Plains*—Dr. Dag Egede-Nissen; *Whitestone*—Drs. Sidney Bennett and Saul B. Monto; *Woodhaven*—Drs. Charles F. Blazsik and Anthony W. Russo; *Woodmere*—Dr. A. G. Silver; *Woodside*—Drs. Thomas Costigan and N. M. Kiraly, and *Yonkers*—Drs. Charles W. Aitcheston, Carmelo E. DeAngelis, and Milton J. Eisen.

Hill-Burton Grants—The Department of Health, Education, and Welfare report that as of July, 1955, the status of all Hill-Burton grants for the State of New York is: Projects approved during the past month—North Country Communities Hospital in Glen Cove at an estimated total cost of $590,107 with an approved Federal share of $107,129, and A. Barton Hepburn Hospital in Ogdensburg at an estimated total cost of $1,300,000, an approved Federal share of $433,333, and 91 additional beds.

Approved, but not yet under construction (including the above) are six projects at a total cost of $7,212,315, including $2,314,531 Federal contribution and designed to supply 481 additional beds. Under construction are 15 projects at a total cost of

[Continued on page 2676]

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[Continued from page 2674]

$48,349,113, including Federal contribution of $6,252,874 and designed to supply 1,358 additional beds. Completed and in operation are 72 projects at a total cost of $73,330,211, including Federal contribution of $21,054,004 and supplying 4,003 additional beds.

Delaware County Medical Society—The Delaware County Medical Society has announced its committee members for the year 1955. Dr. Orin Van Dyk, Sidney, is program chairman; Dr. R. H. Gelder, Sidney, is chairman of the censor committee, and members are Dr. C. Ray Huggins, from Margaretville, and Dr. Floyd Bates, from Walton. Dr. William Gallo, Margaretville, is chairman of the United Medical Service committee, and Dr. Philip Hust, Sidney, is chairman of the legislative committee, with Dr. Sheldon Edgerton, of Delhi, as a member.

Dr. Robert V. Schatken, Walton, is chairman of the mediation committee, and its members are Dr. Donald Gibbs, Margaretville, Dr. Floyd Bates, Walton, Dr. Walter Eels, Walton, and Dr. Gilbert Palen, Margaretville. Dr. Schatken is also chairman of the public relations committee. Dr. Edgerton is chairman of the compensation committee, and members include Dr. Marvin Huyck, of Walton, and Dr. Schatken.

The diabetic committee chairman is Dr. Sydney Solomon, from Stamford; civil defense committee chairman is Dr. Elliot Danforth, of Sidney, and the speakers bureau chairman is Dr. Harold W. Jayne, also of Sidney.

Personalities

Awarded

Dr. Edward F. Cannon, Highland Hospital in Rochester, the John C. Sable Memorial Heart Fund award for an outstanding contribution to the study of heart disease, by the New York State Grand Lodge of the Independent Order of Odd Fellows, sponsor of the fund.

Appointed

Dr. Leonard H. Schuyler, New York City, assistant medical director of the American Heart Association . . . Dr. Robert D. Barnard, Laurelton, as consultant in pathology (biochemist) to Harlem Hospital in New York City.

Speakers

Dr. Robert Cruickshank, chairman of the Department of Bacteriology at St. Mary's Hospital Medical School, London, England, on "Respiratory Infection" at Albany Medical College's Huyck Auditorium on July 25 . . . Dr. John J. Untereker, chief of the In-Patient Service at the Institute of Physical Medicine and Rehabilitation at New York University-Bellevue Medical Center, New York City, on "The Treatment of the Patient with Hemiplegia," before the Steuben County Medical Society on September 8, at the Hotel Sherwood in Hornell.

New Offices

Dr. Michael J. Cavanagh, general practice and surgery in Pearl River . . . Dr. Thomas B. Crawshaw, general practice in Newburgh . . . Dr. Peter deReeder, general practice in Patchogue . . . Dr. E. Scott Frances, general practice in Middleport . . . Dr. Albert E. Roberto, practice of chest surgery in Yonkers and White Plains . . . Dr. Thomas F. Sullivan, general practice and obstetrics in Pearl River . . . Dr. Theodore F. Thomas, New Hartford, practice of internal medicine in Utica in association with Drs. James W. W. Dimon, Gerald F. Jones, and Fel G. Davies . . . Dr. William D. Wiley, formerly of Watertown, resident physician in Deferiet.

Retired

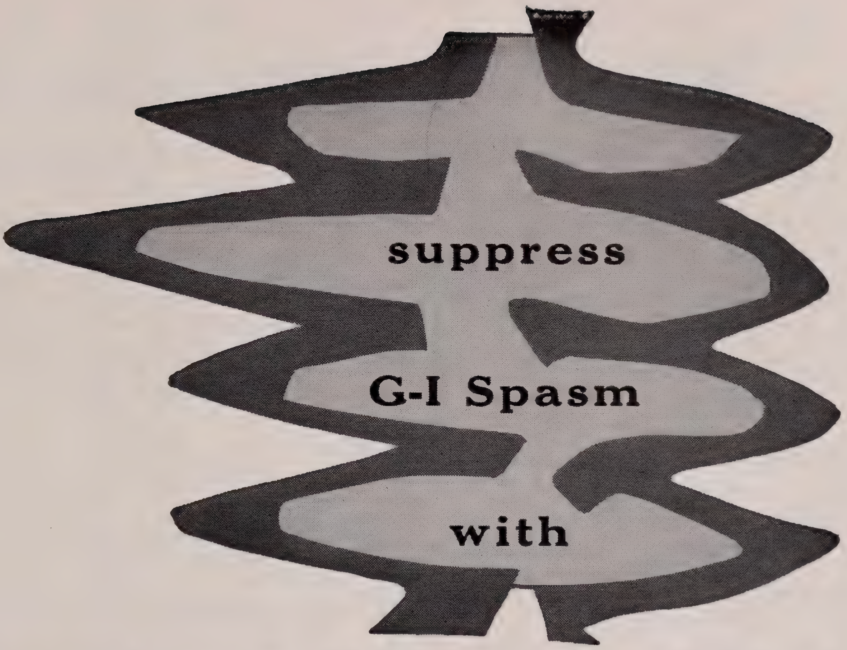
Dr. John J. Young, as chief surgeon of the Police Department of New York City, effective September 30.

Sulfadiazine Prophylaxis in Rheumatic Heart Cases

Oral sulfadiazine has the advantage of being easy to administer, inexpensive, and effective in the prophylaxis of rheumatic fever, according to a statement prepared by a committee of the American Heart Association and reprinted in the May *Pediatrics*.

The Committee advises prophylaxis in all individuals who have a well-established history of a previous attack of rheumatic fever or chorea or who show definite evidence of rheumatic heart disease. If streptococcal infection is present, it should be eradicated with adequate penicillin for ten days, following which prophylaxis may be started.

They say that prophylaxis should continue "throughout life or until new knowledge makes this recommendation invalid." It should continue, they specify, the year round because streptococcal infections dangerous to rheumatic heart patients may occur at any season.



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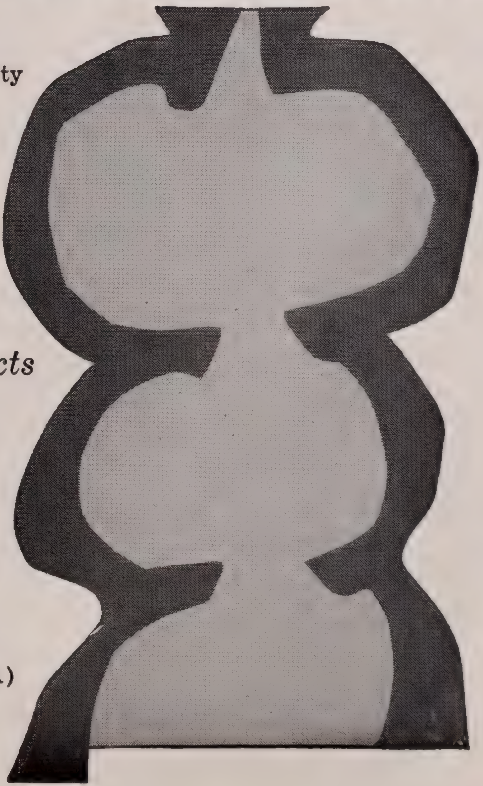

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C I B A ***Summit, N. J.***

MEDICAL MEETINGS

New York Academy of Medicine

The twenty-eighth annual graduate fortnight of the New York Academy of Medicine will be held on October 10 through 21 on "Problems of Aging." The program has been arranged by the Committee on Medical Education, and will be held at the New York Academy of Medicine, 2 East 103rd Street, New York City.

Central New York Regional Hospital Council

The Central New York Regional Hospital Council will sponsor an Accreditation Clinic at the College of Medicine in Syracuse on October 21 and 22.

The Clinic is open to hospital administrators, hospital trustees, and the medical profession in general, in the counties of Broome, Cayuga, Chenango, Cortland, Franklin, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St. Lawrence, Tioga, and Tompkins.

The purpose of the Clinic is to thoroughly familiarize hospital people and the medical profession with the philosophy, standards, requirements, and mechanics of the accreditation program of the Joint Commission on Accreditation of Hospitals. Dr. Kenneth B. Babcock, director of the Joint Commission on Accreditation of Hospitals, will be the principal speaker on Friday evening, October 21. On the following day, Dr. Babcock will be assisted by Dr. Herman Weiskotten in explaining medical staff organization and the responsibilities of the chiefs of the clinical services and medical staff committee chairmen.

Gastroenterological Convention

The annual convention of the American College of Gastroenterology will be held at the Shoreland in Chicago, Illinois, on October 24, 25, and 26.

The annual course in postgraduate gastroenterology, under the direction of Dr. Owen H. Wangensteen of Minneapolis, Minnesota, and Dr. I. Snapper of Brooklyn, will be given on October 27, 28, and 29 at the Shoreland.

The scientific sessions on October 24, 25, and 26 are open to all physicians without charge. The postgraduate course will only be open to those who have matriculated in advance.

Copies of the program and further information concerning the postgraduate course may be obtained by writing to: American College of Gastroenterology, 33 West 60th Street, New York 23, New York.

Physical Medicine and Rehabilitation

The Department of Physical Medicine and Rehabilitation of the New York Medical College will present a two-day conference on "The Practice of Medical Rehabilitation. Home, Office and Hospital Procedures" on October 27 and 28 at the New York Medical College and the affiliated teaching hospitals, the Metropolitan Hospital and the Bird S. Coler Hospital and Home. The conference will provide a comprehensive and practical review of the principles and technics of treatment procedures in physical medicine and rehabilitation for the patient requiring home care and/or office care.

The program will include lectures, panel discussions, and clinical demonstrations. Members of the American Academy of General Practice will receive training credit for attendance.

American College of Cardiology

The American College of Cardiology will hold its fourth interim meeting at the Hotel Claridge, Tennessee, on November 10 through 12. The scientific program will feature symposia on rheumatic fever, rheumatic heart disease and vascular surgery. It will include speakers from the medical schools of Vanderbilt and Emory Universities and the Universities of Tennessee, Mississippi, Arkansas, and Kansas City as well as the National Children's Cardiac Hospital of Miami.

Further information regarding the program may be obtained from the secretary of the College, Dr. Philip Reichert, American College of Cardiology, Empire State Building, New York 1, New York.

Tain't no use to sit and whine
'Cause the fish ain't on your line;
Bait your hook an' keep on tryin,'
Keep a-goin'!—*Frank L. Stanton*

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forty-ninth annual

DISTRICT BRANCH MEETINGS

Medical Society of the State of New York

SEVENTH DISTRICT BRANCH

Thursday, September 29, 1955
Oak Hill Country Club, Kilbourn Road, Rochester

Morning

9:30 A.M.—Registration

10:00 A.M.—Panel Discussion: "Thyroid Diseases"
Moderator: BERNARD A. WATSON, M.D., Clifton Springs
Participants: JACOB ADLER, M.D., Rochester; HARRY GOLD, M.D., New York City; JOE W. HOWLAND, M.D., Rochester; JOHN C. MCCLINTOCK, M.D., Albany

11:00 A.M.—"Treatment of Psychoses with Chlorpromazine and Reserpine"—CHRISTOPHER F. TERRENCE, M.D., Rochester

11:30 A.M.—"Recent Advances in Vascular Surgery"—JERE W. LORD, M.D., New York City

12 NOON—Business Meeting—Election of Officers

Afternoon

12:30 P.M.—Luncheon
Introduction of Officers
Address: JAMES GREENOUGH, M.D., Oneonta, president-elect, Medical Society of the State of New York
Remarks: MRS. ISADORE ZADEK, New Rochelle, president, Woman's Auxiliary to the Medical Society of the State of New York

2:15 P.M.—"Surgical Trends in the Treatment of Cancer"—GEORGE CRILE, JR., M.D., Cleveland, Ohio

3:10 P.M.—"Treatment of the Resistant Case of Congestive Failure"—HARRY GOLD, M.D., New York City

Officers—Seventh District Branch

President	Glenn C. Hatch, M.D., Penn Yan
First Vice-President	Everet H. Wood, M.D., Auburn
Second Vice-President	Eldred J. Stevens, M.D., Hammondsport
Secretary	Joseph A. Lane, M.D., Rochester
Treasurer	James H. Arseneau, M.D., Lyons

Presidents—Component County Medical Societies

Cayuga	Everet H. Wood, M.D., Auburn
Livingston	G. Emerson Learn, M.D., Mount Morris
Monroe	Gordon M. Hemmett, M.D., Rochester
Ontario	Bernard A. Watson, M.D., Clifton Springs
Seneca	Willis D. Allen, M.D., Ovid
Steuben	Charles A. Rose, M.D., Hornell
Wayne	Charles M. Single, M.D., Wolcott
Yates	Ralph H. Davis, M.D., Penn Yan

NINTH DISTRICT BRANCH*

Wednesday, October 5, 1955
Hotel Thayer, West Point

Golf—West Point Course
Tee Off—2 P.M.

Evening

6:00 P.M.—Registration
Cocktails

7:00 P.M.—Dinner

[Continued on page 2682]

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* Because of the division of the Second District Branch into the Second and Ninth District Branches, this is the Sixth Annual Meeting of the Ninth District Branch as a separate unit.

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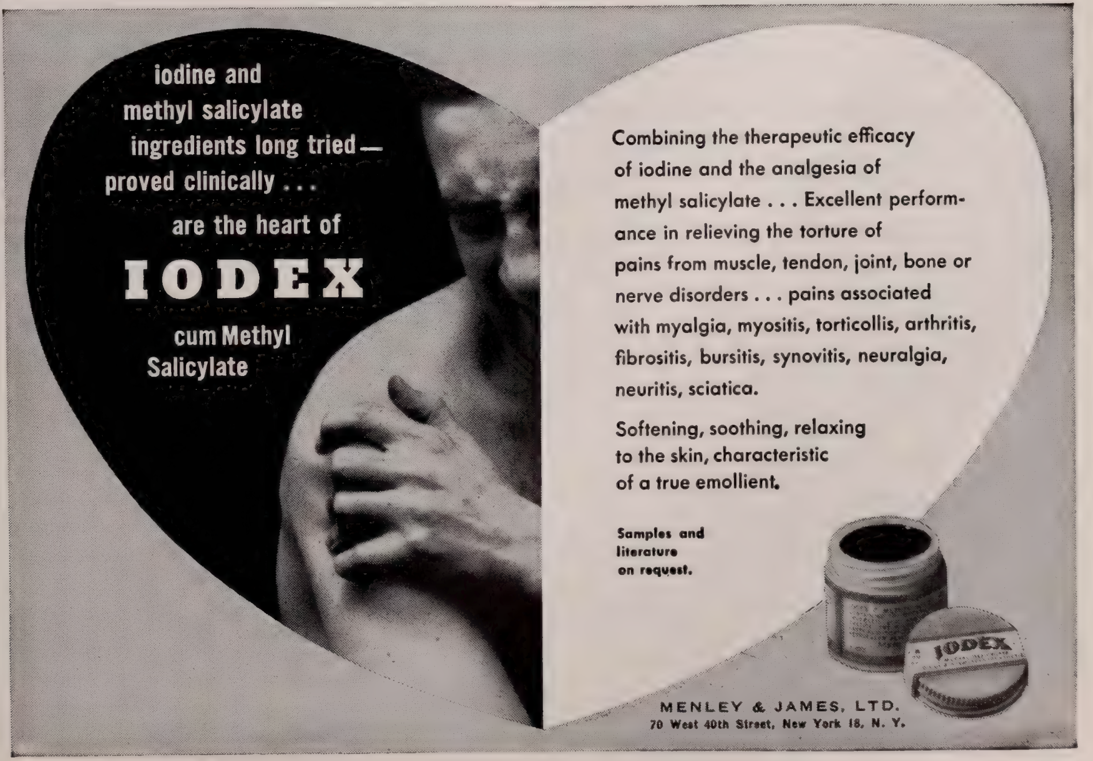

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[Continued from page 2680]

Introduction of Officers

Greetings: RENATO J. AZZARI, M.D., Bronx, president of the Medical Society of the State of New York

Greetings: MRS. ISADORE ZADEK, New Rochelle, president of the Woman's Auxiliary to the Medical Society of the State of New York

"Delinquency, Parental-Juvenile"—REVEREND GEORGE F. MCKINNEY, Chaplain, Walkill Medium Security State Prison, Walkill

Officers—Ninth District Branch

President	Harold S. Heller, M.D., Spring Valley
First Vice-President	Earl C. Waterbury, M.D., Newburgh
Second Vice-President	Reid R. Heffner, M.D., New Rochelle
Secretary	William P. Kelly, Jr., M.D., Carmel
Treasurer	Maxwell Gosse, M.D., Poughkeepsie

Presidents—Component County Medical Societies

Dutchess	Albert A. Rosenberg, M.D., Poughkeepsie
Orange	Irving Weiner, M.D., Newburgh
Putnam	Frank C. Genovese, M.D., Patterson
Rockland	Frank E. Ciancimino, M.D., Nyack
Westchester	David Fertig, M.D., Scarsdale

BOOKS RECEIVED

(The following books were received during the month of July, 1955)

Fractures and Joint Injuries. By Sir Reginald Watson-Jones, Ch.B. Volume II. Fourth edition. Octavo of 1,073 pages, illustrated. Baltimore, Williams & Wilkins Company, 1955. Cloth, $22 for set of 2 volumes. Sold in sets only.

Medical Problems of Old Age. By A. N. Exton-Smith, M.D. Octavo of 331 pages, illustrated. Bristol, England, John Wright & Sons, (Baltimore, Williams & Wilkins Company), 1955. Cloth, $7.00.

Financing Hospital Care in the United States. Volume I. Factors Affecting the Costs of Hospital Care. Edited by John H. Hayes. Octavo of 300 pages, illustrated. New York, The Blakiston Company, (New York, McGraw-Hill Book Company), 1954. Cloth, $4.00.

Clinical Biochemistry. By Abraham Cantarow, M.D., and Max Trumper, Ph.D. Fifth edition. Octavo of 738 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $9.00.

Sexual Hygiene and Pathology. A Manual for the Physician. By John F. Oliven, M.D. Octavo of 481 pages. Philadelphia, J. B. Lippincott Company, 1955. Cloth, $10.

Adaptive Human Fertility. By Paul S. Henshaw, Ph.D. Octavo of 322 pages, illustrated. New York, The Blakiston Division, McGraw-Hill Book Company, 1955. Cloth, $5.50.

The Surgery of Theodoric, Ca. A.D. 1267. Translated from the Latin by Eldridge Campbell, M.D., and James Colton, M.A. Vol. I (Books 1 and 2). Octavo of 223 pages, illustrated. New York, Appleton-Century-Crofts, 1955. Cloth, $5.50.

Problems of Consciousness. Transactions of the Fifth Conference, March 22, 23, and 24, 1954, Princeton, N.J. Edited by Harold A. Abramson, M.D. Octavo of 180 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1955. Cloth, $3.50.

The Medical Clinics of North America. Cleveland Clinic and Scott and White Clinic Number. July, 1955. Octavo, illustrated. Philadelphia, W. B. Saunders Company, 1955. Published bimonthly (six numbers a year). Cloth, $18 net; paper, $15 net.

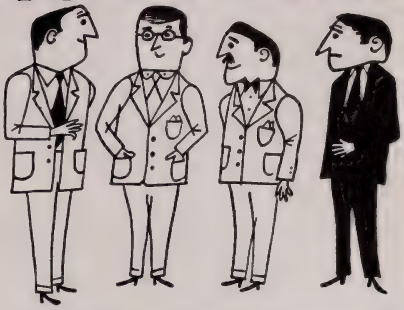
Transplantation of Tissues, Cartilage, Bone, Fascia, Tendon, and Muscle. By Lyndon A. Peer, M.D. Volume I. Quarto of 421 pages, illustrated. Baltimore, Williams and Wilkins Company, 1955. Cloth, $13.50.

[Continued on page 2684]

VAGINAL TRICHOMONIASIS –

25% OF HUSBANDS

FOUND TO HARBOR THE PARASITE



TRICHOMONAL infestation is not a purely gynecological disorder. Bernstine and Rakoff point out that "the presence of trichomonads in the genito-urinary tract of men is now known to be of rather common occurrence."[1]

Significant statistics – "The incidence of infestation in the male is placed at 5 to 15 per cent."[1] Whittington reports it in 27 per cent[2]; Feo in 15.5 per cent[3]; Freed in 28.5 per cent.[4] In Karnaky's study of 150 husbands of women with recurrent trichomoniasis, 25 per cent harbored the parasites.[5]

The ubiquitous protozoan – The reported incidence would, probably, be even higher if all foci of infection (urethra, prostate, seminal vesicles, bladder, kidney, pelvis, and preputial sac) were studied in each case. Another reason for inadequate statistics is that male trichomoniasis is largely asymptomatic.[1,3,6-8]

Re-infection now prevented – In view of this mildness or absence of symptoms, male trichomoniasis is rarely the subject of active therapy. It tends to subside by itself within a few months, provided "re-infection does not occur."[5] Unfortunately, such infected husbands, though symptom-free, are "none the less a potential source of re-infection in wives successfully treated."[8] The re-infected wife, in turn, re-infects the husband.

To break the re-infection cycle, Karnaky insists that "the husband should wear a condom at coitus for four to nine months, during which time these trichomonads will usually die out of their own accord."[7] Bernstine and Rakoff give similar recommendation: "If the male harbors trichomonads, condoms should be used during sexual intercourse until it is certain the infestation has been cleared up entirely."

Prescribe specifically—Take specific measures to win co-operation of the husband. In prescribing a condom, be selective and take advantage of Schmid product improvements.

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References: 1. Bernstine, J. B., and Rakoff, A. E.: Vaginal Infections, Infestations, and Discharges, New York, The Blakiston Co., 1953, pp. 256-258. 2. Whittington, M. J.: J. Obst. & Gynaec. Brit. Emp. 58:614 (Aug.) 1951. 3. Feo, L. G.: Am. J. Trop. Med. 24:195 (May) 1944. 4. Freed, L. F.: South African M. J. (March 27) 1948, as abstracted in Urol. and Cutan. Rev. 52:489 (Aug.) 1948. 5. Karnaky, K. J.: Urol. and Cutan. Rev. 42:812 (Nov.) 1938. 6. Glen, J. E., Jr., and Bailey, R.S.: J. Urol. 66:294 (Aug.) 1951. 7. Karnaky, K. J.: J.A.M.A. 155:876 (June 26) 1954. 8. Lanceley, F., and McEntegart, M. G.: The Lancet 1:668 (April 14) 1953.

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[Continued from page 2682]

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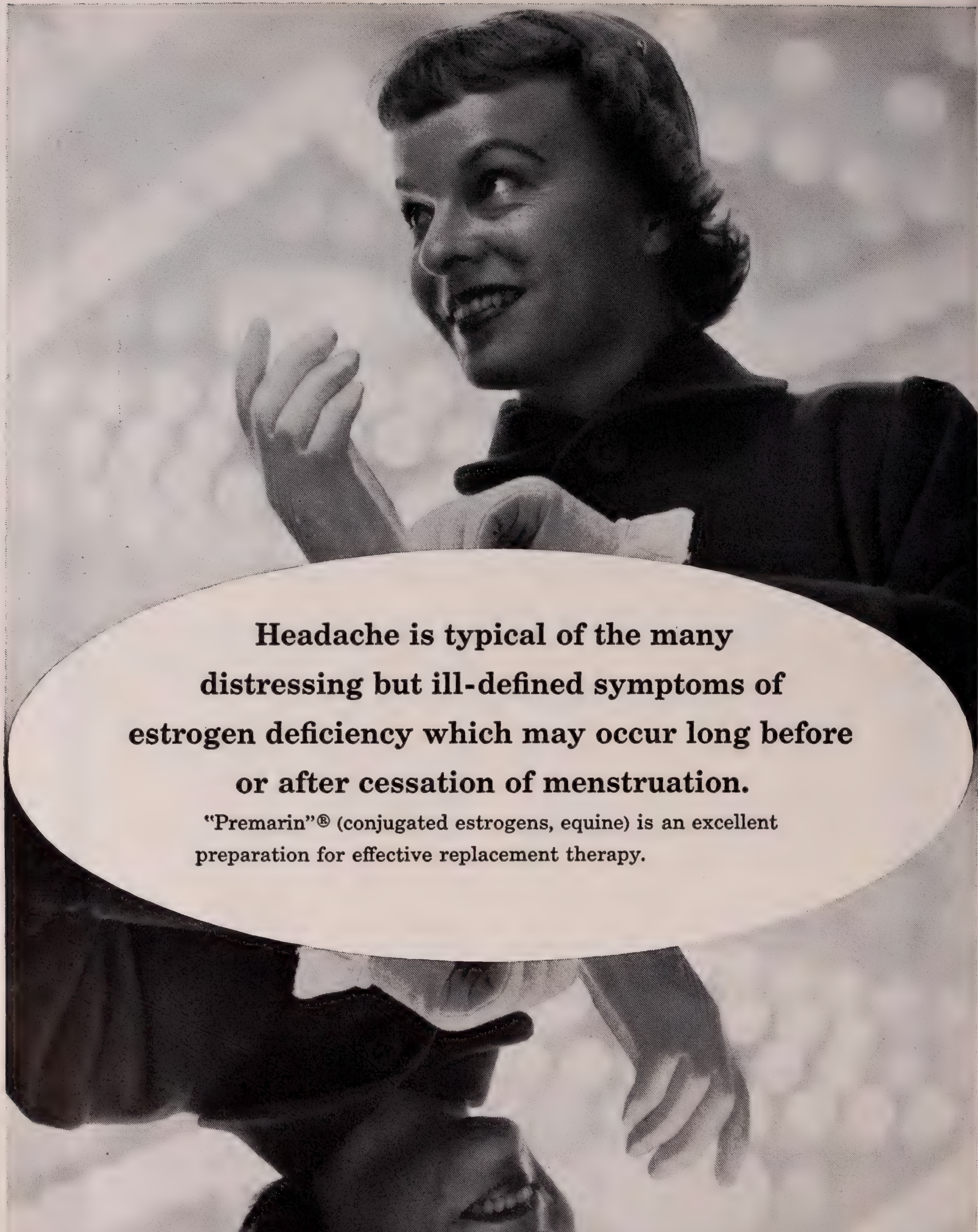

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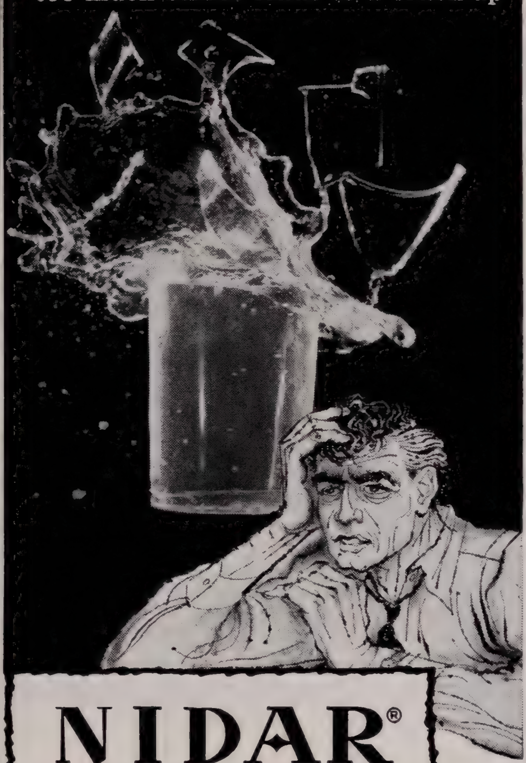

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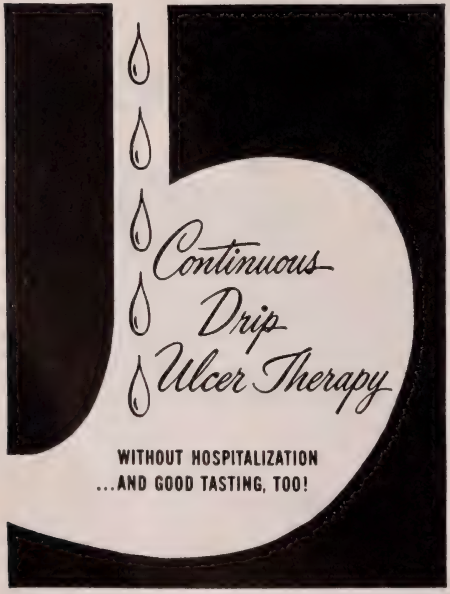

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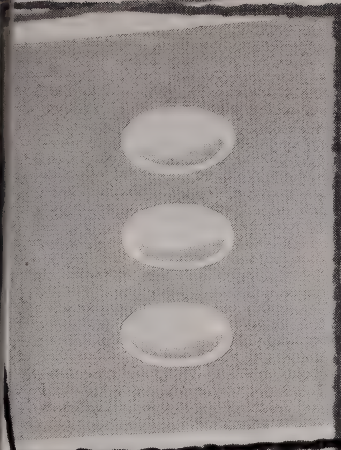

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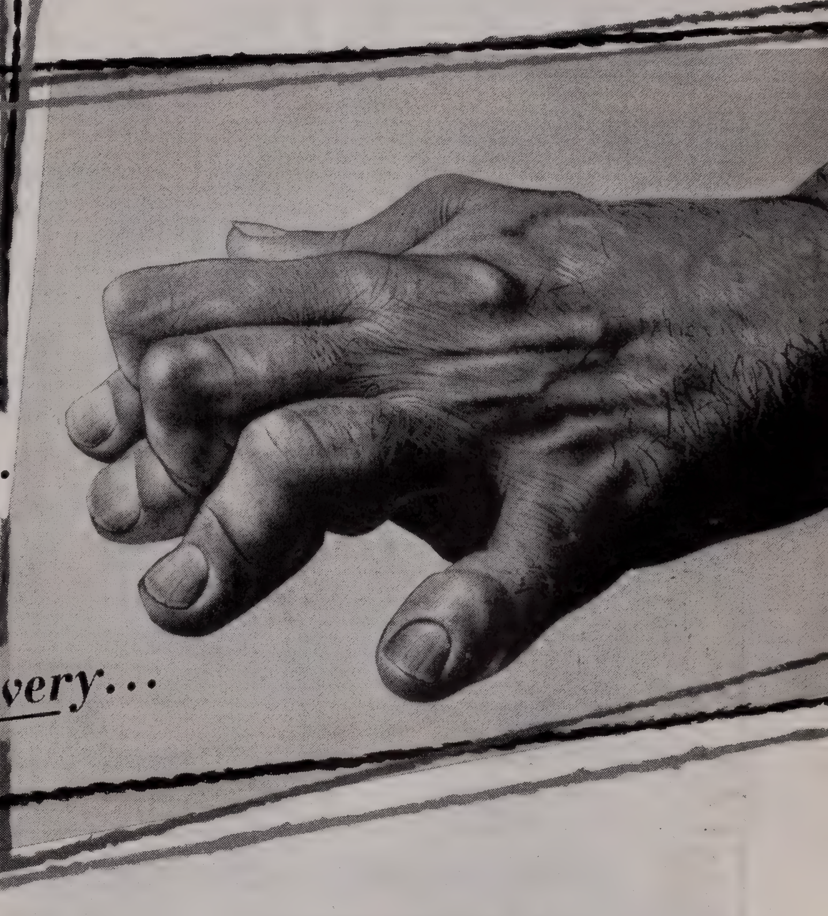

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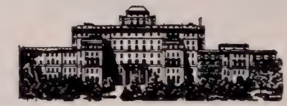

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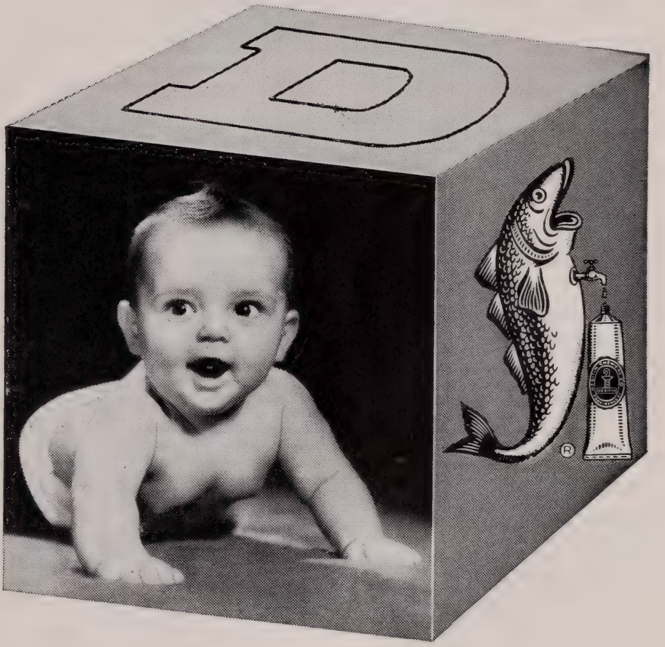

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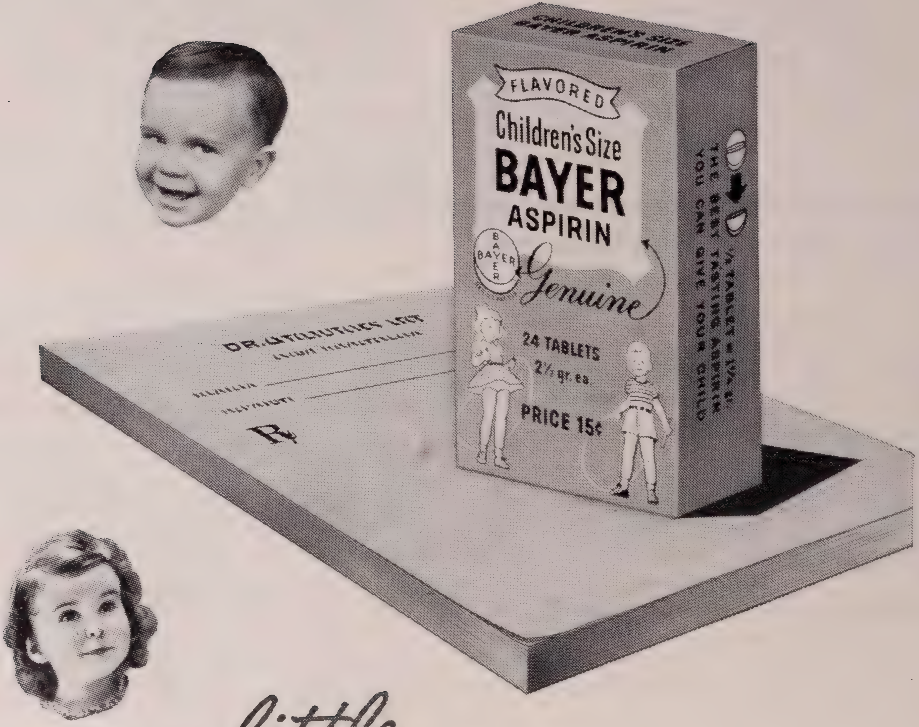
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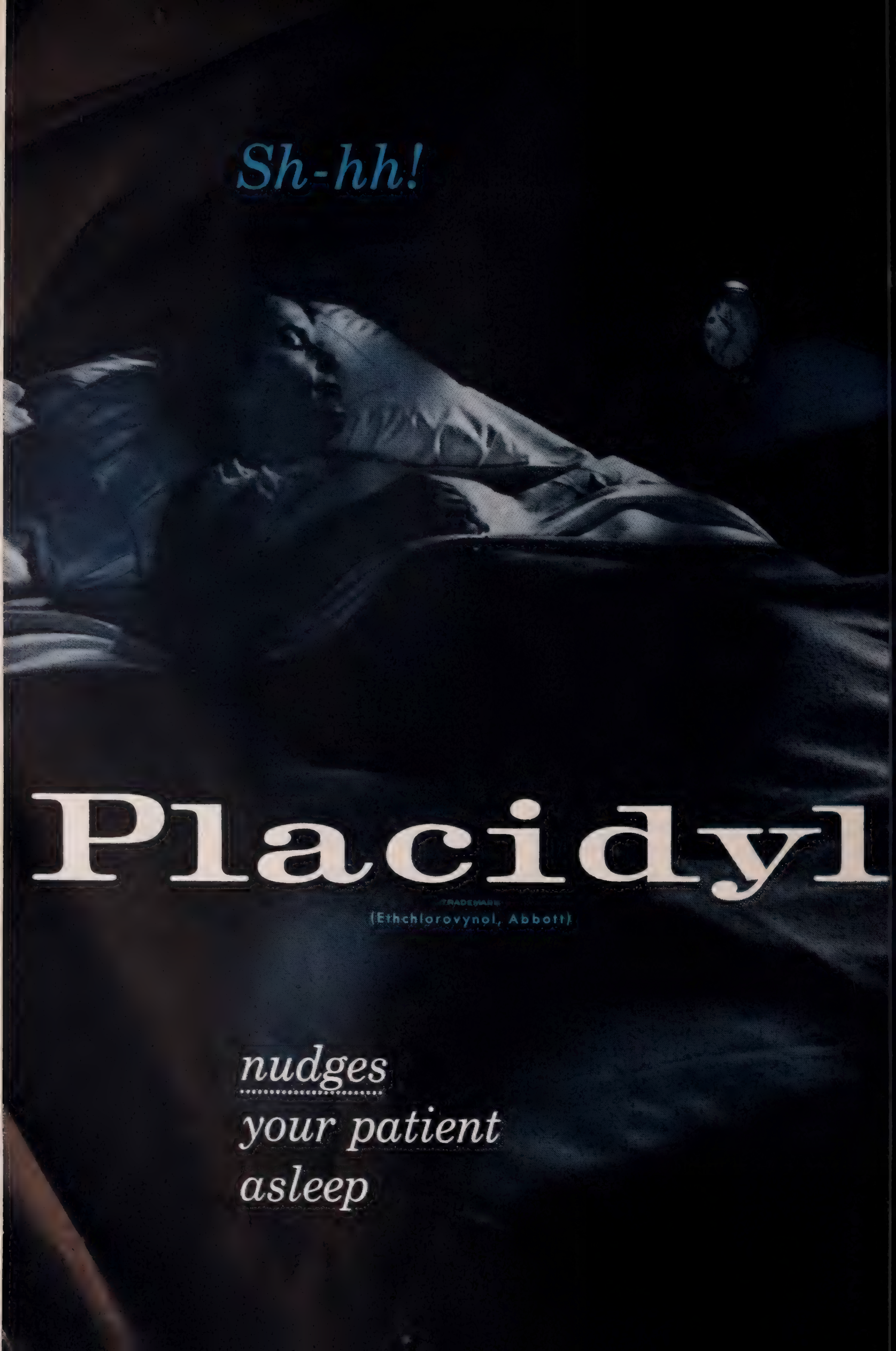
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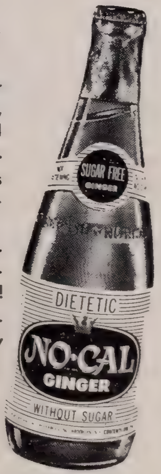

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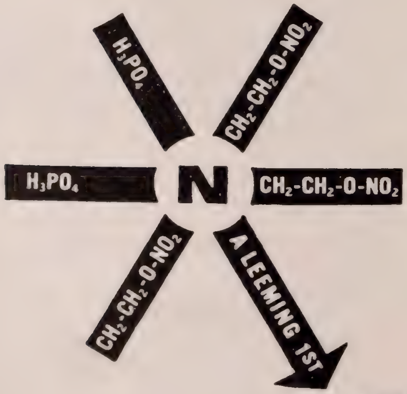

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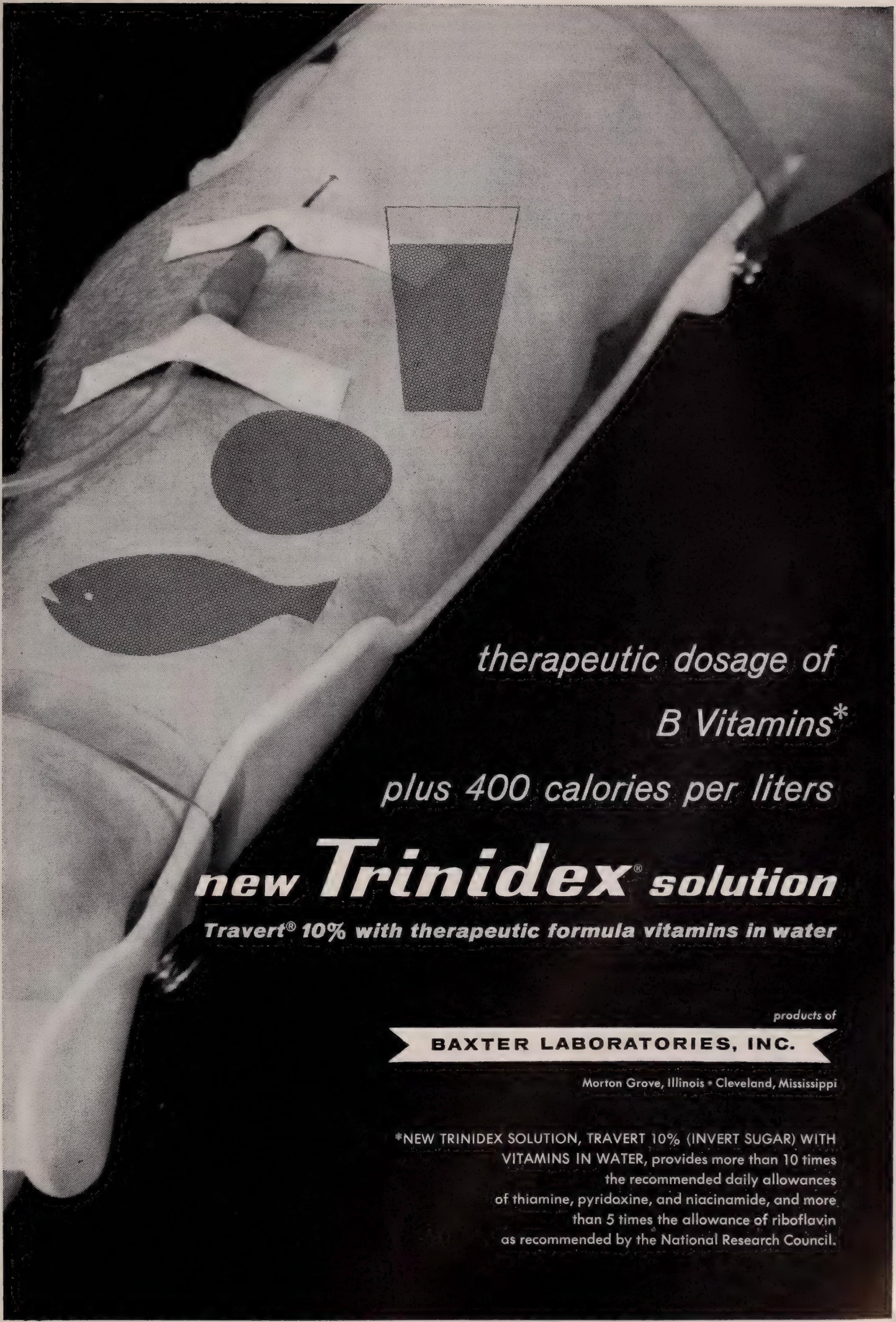

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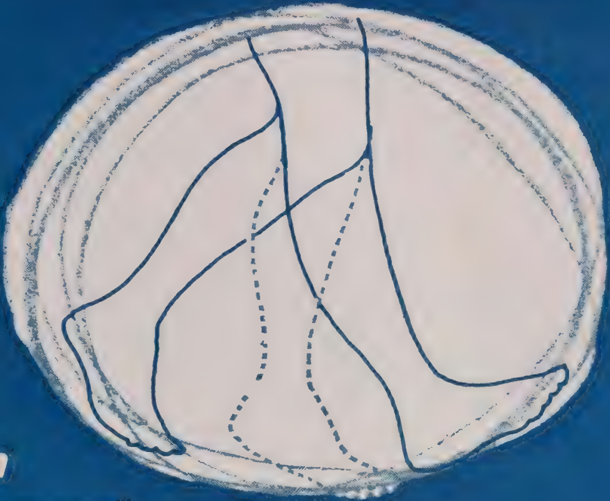

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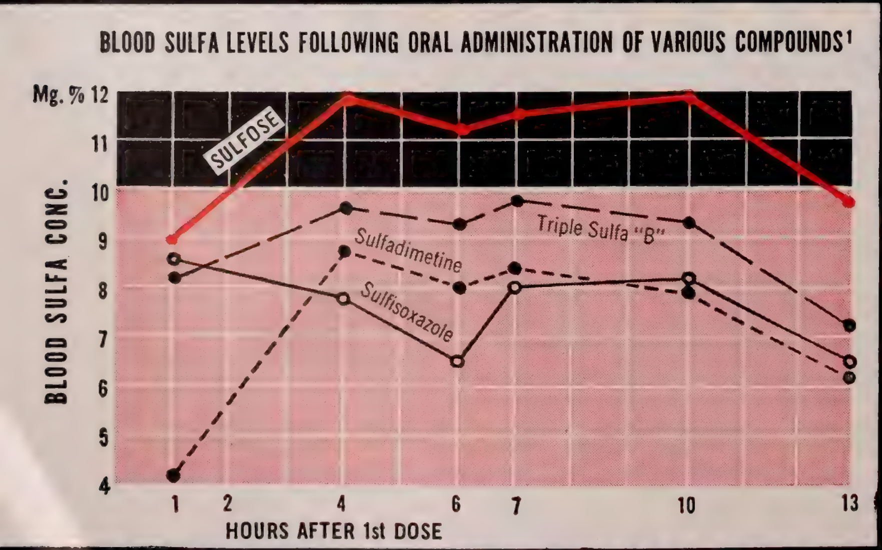

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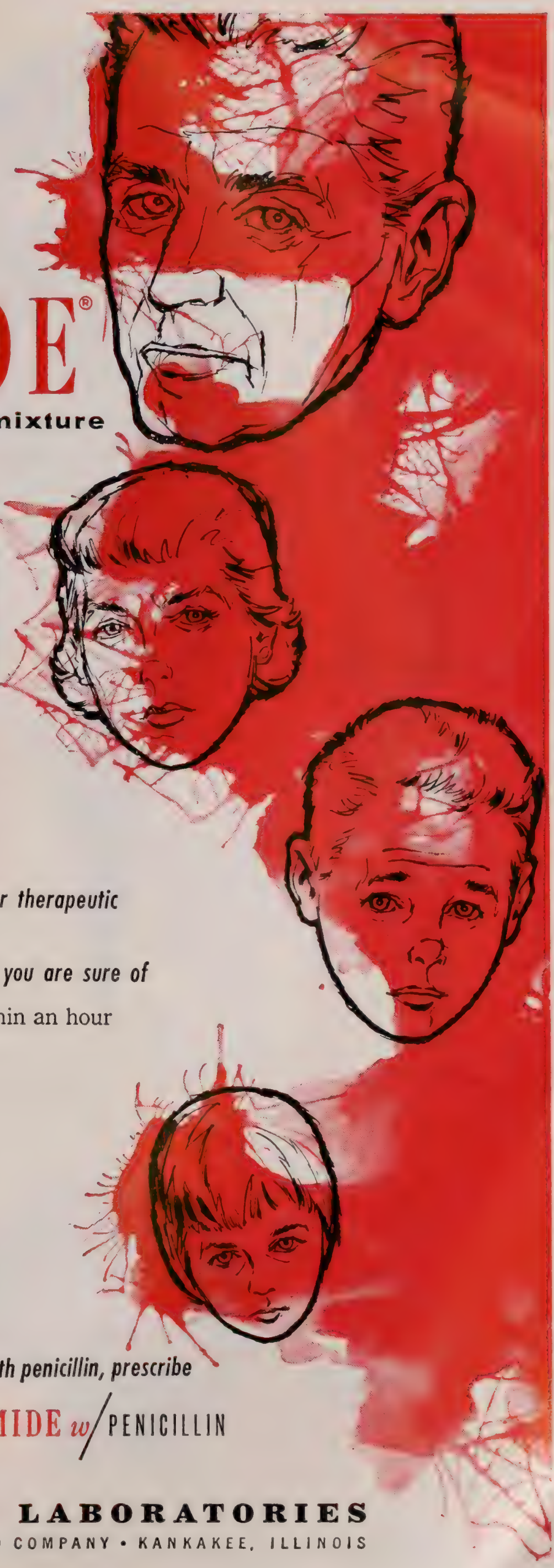
now . . . for the febrile patient

within an hour

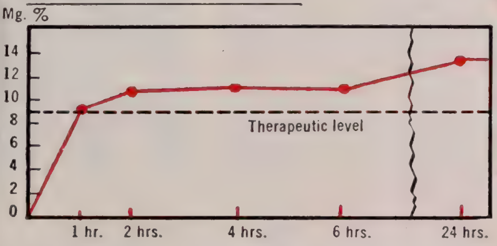
therapeutic blood levels

DELTAMIDE®

the preferred quadri-sulfa mixture



The initial dose of Deltamide provides your patients with effective blood levels within 1 hour



Average sulfonamide blood levels obtained with Deltamide in 7 patients given an initial dose of 4 Gm. followed by 1 Gm. every 6 hours.

Meyer, R. J.: Personal communication to the Medical Department, The Armour Laboratories, 1954.

Deltamide combines four sulfas for a better therapeutic effect and a remarkable freedom from toxicity.

When your patient takes Deltamide, you are sure of

- effective blood levels in most patients within an hour
- increased solubility in the urine
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- broad spectrum of activity

Each Deltamide tablet or teaspoonful of good-tasting suspension provides:

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Sulfamerazine	0.167 Gm.
Sulfamethazine	0.056 Gm.
Sulfacetamide	0.111 Gm.

Tablets: bottles of 100 and 1000.
Suspension: 4 and 16 oz. bottles

. . . and when you want to combine sulfonamides with penicillin, prescribe

Each tablet—or 5 cc. of the suspension—also contains 250,000 units of potassium penicillin G.

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Rapid diffusion and penetration, prompt control of infection, negligible side effects. Proved against Gram-positive and Gram-negative bacteria, rickettsia, and certain viruses and protozoa.

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Exclusive dry-filled, sealed capsules!

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dry-filled sealed capsules

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1954 'Alflorone' | 1955 Deltra®

'Hydeltra' tablets
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the delta$_1$ analogue of hydrocortisone

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Indications: *Rheumatoid arthritis*
Bronchial asthma
Inflammatory skin conditions

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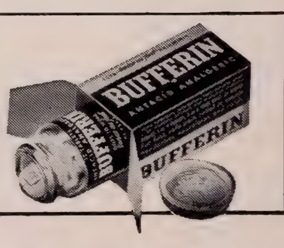

References: 1. Fremont-Smith, P.: J.A.M.A. 158: 386, 1955. 2. J.A.M.A. 141: 124, 1949. 3. M. Times 81: 41, 1953.

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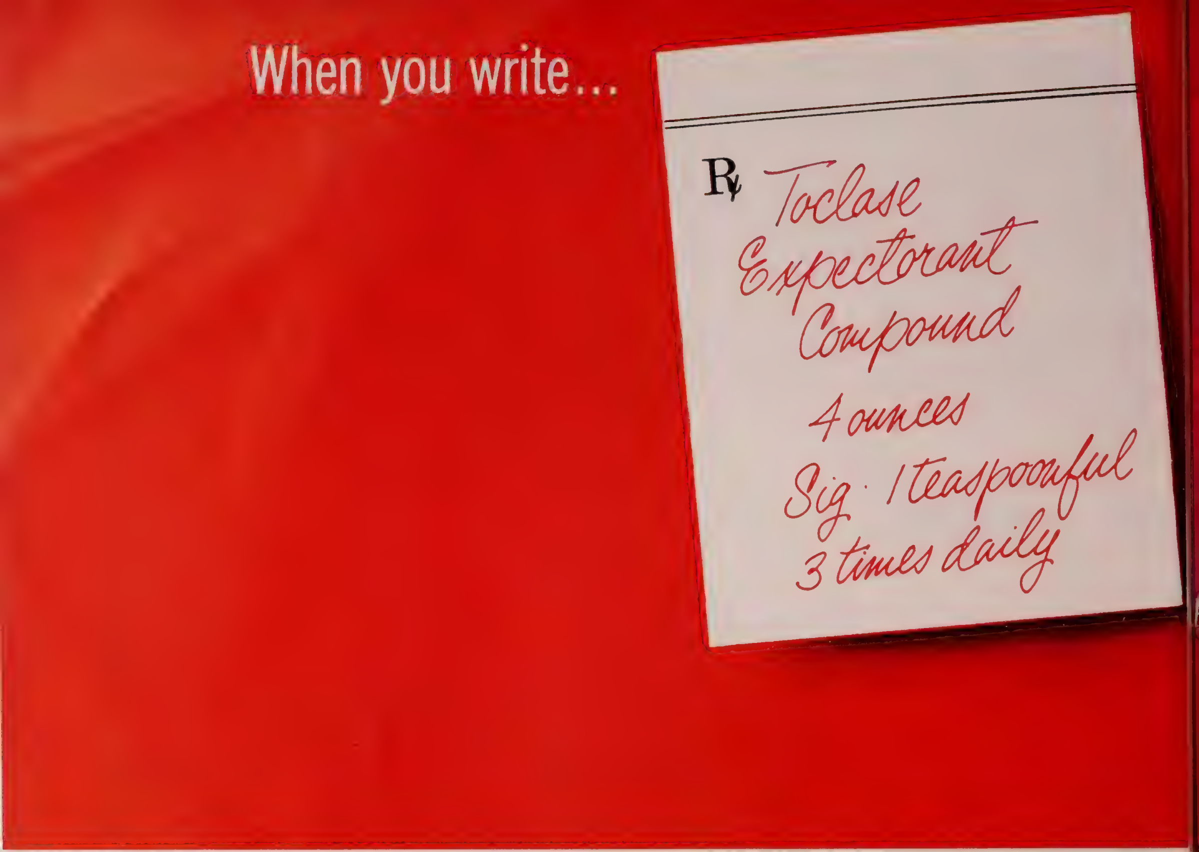

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the delta$_1$ analogue of hydrocortisone

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*Cohen, B. M.; Cross, E. B., and Johnson, W.: Amer. Pract. 6: 1030, July, 1955

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V.E.	53	14 mg.	200/135	155/100	7½
W.B.	65	12 mg.	200/120	160/90	9
C.L.	50	8 mg.	200/130	160/100	4
R.A.	48	12 mg.	210/125	160/100	3
J.J.	57	10 mg.	210/120	170/100	7½
A.W.	66	14 mg.	200/110	170/100	3
A.H.	58	12 mg.	210/100	175/110	4½
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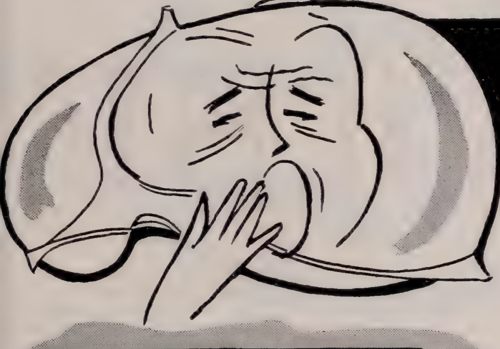

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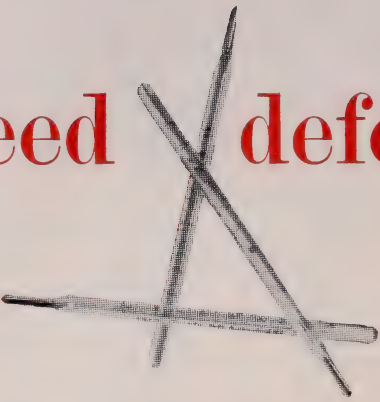

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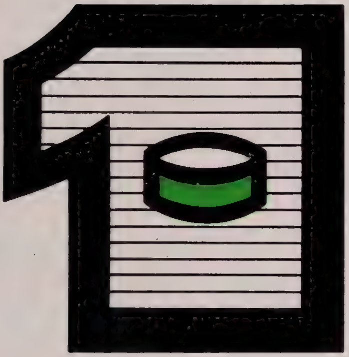

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Acetazolamide *Lederle*

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*REG. U. S. PAT. OFF.

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'Hydeltra' tablets

(PREDNISOLONE, MERCK) 2.5 mg.—5 mg. (scored)

the delta$_1$ analogue of hydrocortisone

SHARP & DOHME
Philadelphia 1, Pa.
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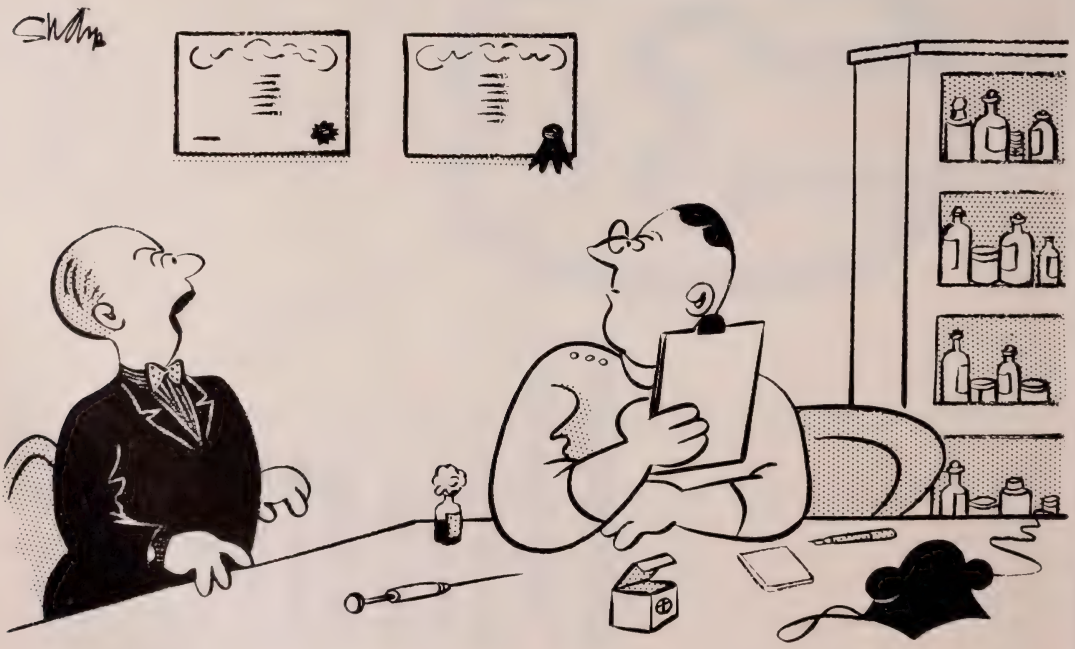
Indications: *Rheumatoid arthritis*
Bronchial asthma
Inflammatory skin conditions



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Cherry-flavored INCREMIN Drops can be added to milk, milk formula, or other liquid. An unbreakable "squeeze" bottle facilitates accurate, easy dispensing for the parent.

In 15 cc. polyethylene dropper bottle.
Dosage: 0.5 to 1 cc. (10-20 drops) daily.
Each cc. (20 drops) contains:

l-Lysine HCl	300 mg.
Vitamin B_{12}	25 mcgm.
Thiamine HCl (B_1)	10 mg.
Pyridoxine HCl (B_6)	5 mg.
Alcohol	1%

GERIATRIC USES, TOO! INCREMIN may also be prescribed as an appetite stimulant for the elderly patient.

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1950 Cortone® | 1952 Hydrocortone®
1954 'Alflorone' | 1955 Deltra®

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(PREDNISOLONE, MERCK) 2.5 mg.—5 mg. (scored)

the delta$_1$ analogue of hydrocortisone

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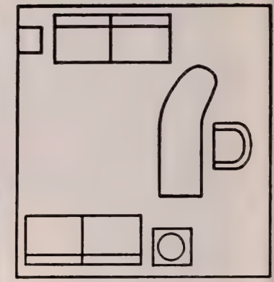
Indications: *Rheumatoid arthritis*
Bronchial asthma
Inflammatory skin conditions



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Latest data on effectiveness of Furadantin®

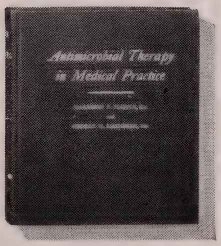
brand of nitrofurantoin, Eaton

in urinary tract infections

Investigators:

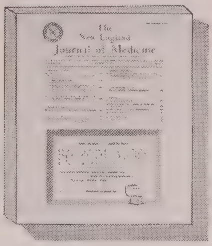
Latest data on effectiveness of Furadantin

Flippin, H. F., and Eisenberg, G. M.: Antimicrobial Therapy in Medical Practice, Philadelphia, F. A. Davis Co., 1955, p. 40.



Clinical studies have demonstrated rapid clinical response in cases of cystitis and pyelonephritis, including infections caused by refractory organisms.

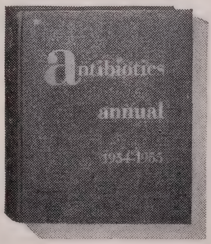
Trafton, H. M., et al.: New England J. Med. **252:** 383, 1955.



13 acute cases . . . 6 appeared cured . . . 6 markedly improved with no relapses.

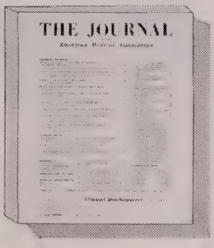
36 chronic infections: 30 showed symptomatic improvement, frequently within 24 hours.

Beutner, E. H., et al.: Antibiotics Annual, 1954-1955, New York, Medical Encyclopedia, Inc., 1955, p. 988.



30 chronic urinary tract infections: Of 47 strains of bacteria isolated from these patients, 29 strains (62%) were eradicated by Furadantin.

Hasen, H. B., and Moore, T. D.: J.A.M.A. **155:** 1470, 1954.



Of patients with acute urinary tract infections, 95.7% were benefited. Patients with chronic infections and those with organic or obstructive lesions were benefited in 82% of cases.

Dosage — average adult: four 100 mg. tablets daily, 1 tablet with each meal and 1 tablet on retiring, with food or milk.

Furadantin tablets, 50 and 100 mg. in bottles of 25 and 100. Furadantin Oral Suspension (5 mg. per cc.), bottle of 4 fl.oz. (118 cc.).

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THE **NITROFURANS**—A UNIQUE CLASS OF ANTIMICROBIALS O_2N R PRODUCTS OF EATON RESEARCH

now available
for clinical use . . .

METICORT

"possesses an augmented therapeutic ratio"[1]
in cortical hormone therapy

Schering

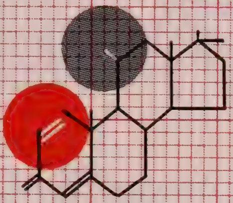
METICORTELONE possesses antirheumatic and anti-inflammatory effectiveness and hormonal properties similar to those of METICORTEN,[1-5] the first of the new Schering corticosteroids. Both are three to five times as potent, milligram for milligram, as oral cortisone or hydrocortisone. METICORTELONE and METICORTEN therapy is seldom associated with significant water or electrolyte disturbances.

METICORTELONE is an analogue of hydrocortisone, as METICORTEN is of cortisone. The availability of these new steroids, both discovered and introduced by Schering, provides the physician with two therapeutic agents of approximately equal effectiveness.

METICORTELONE is now available as 5 mg. buff-colored tablets, scored, bottles of 30 and 100. In the treatment of rheumatoid arthritis, dosage begins with an average of 20 to 30 mg. (4 to 6 tablets) a day. This is gradually reduced by 2.5 to 5 mg. until daily maintenance dosage, which may be between 5 to 20 mg., is reached. The total 24-hour dose should be divided into four parts and administered *after meals and at bedtime.* Patients may be transferred directly from hydrocortisone or cortisone to METICORTELONE without difficulty.

elone

EDNISOLONE, SCHERING (metacortandralone)



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first of the new Schering corticosteroids.

METICORTEN

PREDNISONE, SCHERING (metacortandracin)

- replacing the older corticosteroids in
  - rheumatoid arthritis[1,2,6-8]
  - intractable asthma[9-12]
  - eye disorders[5]
  - certain skin disorders such as disseminated lupus erythematosus,[13,14] acute pemphigus,[13,15] atopic dermatitis[15] and other allergic dermatoses
- more active than hydrocortisone or cortisone, milligram for milligram
- relatively free of significant water or electrolyte disturbances [5]

METICORTEN is available as 5 mg. scored, white tablets in bottles of 30 and 100.
METICORTELONE,* brand of prednisolone (metacortandralone).
METICORTEN,* brand of prednisone (metacortandracin). ML-J-55

*T.M.

Eosinophil Count . . .

Common Denominator?

NON-TOXIC

Ray-Formosil

BUFFERED FORMIC ACID AND
COLLOIDAL SILICIC ACID INJECTION

now found to be a potent

ALARM AGENT

"Alarm Agent"

Recent clinical studies reveal that Ray-Formosil parallels ACTH and Cortisone as an "alarm agent" in its effect on circulating eosinophils. Intramuscular injections of the usual therapeutic dose of Ray-Formosil (2 cc.) produced an average drop of 67% in both normals and arthritic patients.

Hypothesis:

Eosinopenia characteristically follows administration of compounds established as effective anti-arthritic agents (including gold and salicylates, in addition to ACTH and Cortisone) Ray-Formosil also causes eosinopenia. Such action may be a common denominator of agents which affect adrenal cortex activity.

Safe, Effective:

An estimated 3½ million injections of Ray-Formosil have been given during the past 20 years without a single report of toxic reactions. An analysis of nearly 4000 recent case histories from the files of 36 clinicians revealed that 85% were effectively relieved of pain, swelling and joint inflammation.

Inexpensive:

Only 30c a treatment ampul, Ray-Formosil therapy is inexpensive—an additional and important advantage to both the physician and the patient.

Dosage:

2 cc. injected intramuscularly *in the region of the affected parts* at 2-to-5-day intervals for several weeks, then 2 cc. once weekly.

Supplied in 2-cc. ampuls in boxes of 25 ($9.00), 50 ($16.50), and 100 ($30.00).

Available through your usual source of pharmaceuticals or direct from the manufacturer.

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Serving the medical profession for over a third of a century

establishing
desired
eating
patterns

Obedrin®

and the 60-10-70 Basic Plan

Correct medication is important in initiating control that leads to development of good eating habits, essential in maintaining normal weight.[1,2,3]

Obedrin contains:

- Methamphetamine for its anorexigenic and mood-lifting effects.
- Pentobarbital as a corrective for any excitation that might occur.
- Vitamins B_1 and B_2 plus niacin for diet supplementation.
- Ascorbic acid to aid in the mobilization of tissue fluids.

Obedrin contains no artificial bulk, so the hazards of impaction are avoided. The 60-10-70 Basic Plan provides for a balanced food intake, with sufficient protein and roughage.

Formula:

Semoxydrine HC1 (Methamphetamine HC1) 5 mg.; Pentobarbital 20 mg.; Ascorbic acid 100 mg.; Riboflavin 1 mg.; Niacin 5 mg.

1. Eisfelder, H.W.: Am. Pract. & Dig. Treat., 5:778 (Oct.) 1954. 2. Sebrell, W.H., Jr.: J.A.M.A., 152:42 (May) 1953. 3. Sherman, R.J.: Medical Times, 82:107 (Feb.) 1954.

Write for 60-10-70 Menu pads,
Weight Charts, and samples of Obedrin.

THE S. E. MASSENGILL COMPANY
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NEW SUPERIOR PENICILLIN
V-CILLIN
(PENICILLIN V, LILLY)
Faster, higher, longer blood levels on oral administration
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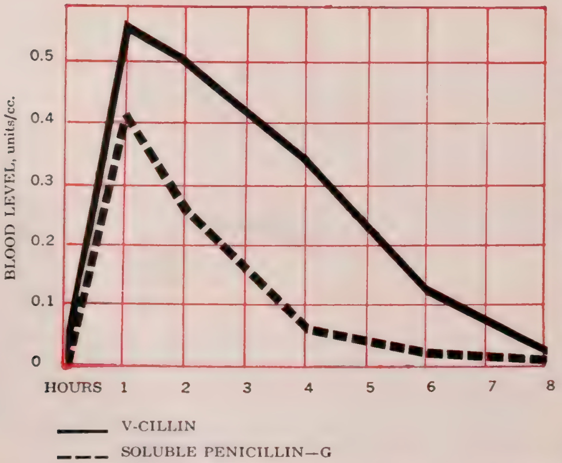
Comparative blood levels following ingestion of 125 mg. penicillin V and 200,000 units of penicillin—G, potassium



A totally different penicillin—not a modification of penicillin—G. Unlike all other penicillins, it has a unique chemical composition which assures stability in the presence of acid. Therefore, there is no loss of potency due to stomach acidity. 'V-Cillin' produces higher blood levels and a longer duration of therapeutic concentrations. It is rapidly absorbed from the duodenum.

DOSAGE: 1 or 2 pulvules t.i.d.

SUPPLIED: Attractive green-and-gray pulvules of 125 mg. (200,000 units), in bottles of 50.

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EDITORIALS

Facts About Medical Education

There has just come to our attention a recent publication of the Public Relations Department of the American Medical Association which is designed to dispel certain doubts or misconceptions about medical education in this country.

The 12-page, two-color illustrated pamphlet was prepared for distribution to the public in an endeavor to dispel the myths that medical schools fail to keep enrollments and graduates at a level commensurate with the rate of growth of the population. Its summation points out that today we have the largest turnout of graduating physicians, more approved medical schools than ever before, the largest medical student enrollment in history, the greatest increases in medical teaching facilities, and the highest operating costs, but also the biggest budgets. The facts will be welcomed by physicians as well as the public. Condensed to few pages and graphically presented, the pamphlet shows, and we repeat, that we have in this country the largest turnout of graduating physicians, more approved medical schools, the largest medical student enrollment, the greatest increases in medical teaching facilities in our history. Also the highest operating costs and the biggest budgets.

It goes without saying that the country

as a whole has a tremendous stake in medical education and is entitled to a factual appraisal of the situation confronting it. In 1954, for instance, there were 28,277 students enrolled in 80 schools of medicine as against 12,530 students in 66 schools in 1910. Today all medical schools are fully approved by the American Medical Association and the Association of Medical Colleges. This approval means that each school meets requirements for suitable classrooms, teaching hospitals, library, clinics, and a well-integrated program of instruction.

Medical schools do need more income. Although they are better supported today than at any time in history, their operating costs have increased greatly.

Schools had $148,645,201 available for 1954–1955, the eighth successive year in which operating funds have been substantially increased.

Budgeted funds and appropriations	$ 93,408,312
Funds for miscellaneous projects	4,978,812
Research grants from outside agencies	43,383,666
Teaching grants from outside agencies	6,874,411
Total	$148,645,201

The major portion of school funds comes from state appropriations (for state schools only), tuition, alumni contributions, endowments, grants, the National Fund for Medical Education, and the American Medical Education Foundation.

These two organizations raise funds from voluntary sources for the support of medical schools. The NFME secures funds from corporations and organized groups, and the AMEF raises money from within the medical profession. Since 1951 they have raised almost seven million dollars to assist medical schools. Income from tuition constituted but a small part: 19.5 per cent of the 1954 basic operating budget. The cost of training a physician totals approximately $10,000 to $12,000, yet the student's total four-year tuition averages only $2,532.

Medical education is costly because of requirements for extensive laboratory facilities, the high ratio of teachers needed for students, and the complicated technics growing out of ever-advancing American medicine.

The medical profession welcomes one-time Federal grants for medical school construction and renovation and Federal grants for special research in diseases. But it opposes continuing Federal aid lest the government seek to control that which it finances. Medical research and education can flourish only in an atmosphere where creative initiative is unrestricted. Medical educators are confident that increased private funds will be made available to their schools when their needs become more widely known.

We urge our membership and the public to consult this booklet often and carefully. It is well presented, comprehensive, and factual.

Editorial Comment

Authorization of Physicians to Examine Mental Patients. We note in the *Bulletin of the Suffolk County Medical Society*[1] the following:

> EXAMINING PHYSICIANS' MENTAL PATIENTS
>
> The Mental Hygiene Law was amended effective April 28, 1955, eliminating the provision for certified examiners to have their qualifications certified by a judge of a court of record and the certification filed with the county clerk and recorded in the Department of Mental Hygiene. This amendment replaces certified examiners with examining physicians. Reputable physicians who have practiced medicine three years or more are examining physicians authorized to make examinations as provided in the Mental Hygiene Law and Correction Law. Physicians who are now certified exami-

---

[1] Bull. Suffolk County M. Soc. 32: 109 (June) 1955.

ners are continued as examining physicians.

The amended law should facilitate the examination of mental patients for admission to mental hospitals. The following certification must be attached by the examining physician to the commitment papers:

> I hereby certify that I am a reputable physician duly licensed to practice medicine in New York State and have been in the actual practice of my profession for at least three years.
>
> Date Physician's Signature

This change in the law seems to us to be worthy of a more complete statement for the information of our membership. Therefore, we append the pertinent portions of the act, which sets up certain safeguards for the patient as well as eliminates the "certified examiners."

Certainly, as the *Bulletin* says, the new law should assist materially in the admission of mental patients to appropriate hospitals, but we feel that our members should have the opportunity to read the act for a better understanding of the changes.

An Act[2]

To amend the mental hygiene law and the correction law, in relation to physicians authorized to make examinations

18. The term "examining physician" whenever used in this chapter or in the correction law or in any rule, order or regulation made or promulgated pursuant to this chapter or the correction law, or in the printed forms prepared by the department of mental hygiene or the department of correction, shall mean a reputable physician, duly licensed to practice medicine in this state, who shall have been in the actual practice of his profession for at least three years, and any such physician shall be authorized to make examinations as provided in this chapter and the correction law.

19. 1. (b) Persons who now are duly certified examiners in lunacy or in mental defect, or psychologists, pursuant to the former provisions of this chapter or of the mental deficiency law are hereby continued as [certified examiners] examining physicians and certified psychologists respectively, without compliance with the provisions of this section.

19. 2. No [certified examiner] examining physicians shall be a relative of the person applying for the admission or of the person alleged to be mentally ill, or a manager, trustee, visitor, director, proprietor, officer, stockholder, or have any pecuniary interest, directly or indirectly, or be a resident physician in the institution to which it is proposed to admit such person.

Physicians Urged to Honor "Service Benefit" Provision. A letter to physicians recently circulated by United Medical Service over the signature of Dr. Louis H. Bauer, chairman of the board, was an earnest appeal to the medical profession to honor the letter and the spirit of the U.M.S. contracts with subscribers, particularly respecting the "service benefit" provision. The letter reads, in part,

> Ford Instrument Company is not only renewing its U.M.S. contract, but it is purchasing "escalator riders" for 40 per cent increased surgical allowances, proportionally increased anesthesiology allowances, 50 per cent increased in-hospital medical allowances, as well as rider allowances for pathology and radiology.
>
> These "escalator riders," approved by all 17 county medical societies, provide service benefits up to the $6,000 family income. They eventually will be replaced by the new $6,000 income "service benefit" contract as soon as the new Schedule of Allowances has been approved by all the county medical societies and the contract by the Insurance Department, developments that are hoped for in the not too distant future.
>
> During the company-union negotiations, considerable criticism was voiced by both management and labor against some U.M.S. participating physicians who failed to provide the service benefits they had agreed to give subscribers and made additional charges to patients. These doctors claimed that no obligation existed to accept the U.M.S. payments as full compensation because the service benefits were not requested at the time the patient arranged with the doctor for professional care. While technically within their rights, there is no

---

[2] No. 1665, In Senate, February 8, 1955, introduced by Mr. Sorin.

doubt that such a narrow interpretation of the U.M.S. contract does a great disservice to the medical profession and Blue Shield.

What is now Blue Shield will be remembered by the older members of the profession as the doctors' own plan to provide prepaid medical service to low-income groups. At that time, in the late 1930's, the physicians themselves subscribed a large part of the original funds to put the idea into operation and themselves laid down the criteria under which it would function if approved by the Insurance Department of the State of New York.

In the course of passing years it is true that the economic situation of the country has changed. But people are still people. They still need medical care and ever more of it. What is more reasonable than that they should continue to obtain it prepaid, with free choice of physician under their own plan. Some apparent abuse of the spirit of the service benefit protection might be anticipated from misunderstanding, carelessness, and other human failings since doctors are also people, but that physicians should not go along with their own plan does not seem to make sense. Says Dr. Bauer further,

> I earnestly urge you to extend "service benefit" protection to those persons whose income qualifies them, and I ask you not to make additional charges because of technicalities. Unless supplementary charges are eliminated when patients qualify for service benefits, the public's confidence in and appreciation of the medical profession will suffer.
>
> While labor and management at Ford currently favor Blue Shield coverage, nevertheless, the union intends to observe closely the treatment accorded its membership, and if at the end of the contract year there is dissatisfaction, the Ford contract will not be renewed with U.M.S. Also other large and influential groups plan to watch closely the operation of the Ford Instrument contract. Their requests for additional coverages will be predicated on the results produced by the medical profession through Blue Shield. These results, therefore, may well determine the future of Blue Shield locally.
>
> It is important that the contracts issued by U.M.S. be fully honored by you. We appeal for your wholehearted cooperation which can make the Ford contract an outstanding success and a model for others to follow.

We feel that such an appeal cannot fail.

Schedule of District Branch Meetings, 1955

District	*Date*	*Town*	*Place*	*Time*
Fourth*	Wednesday, October 19	Glens Falls	Queensbury Hotel	Luncheon
Fifth	Thursday, October 27	Utica	Hotel Utica	Afternoon
Sixth	Wednesday, October 26	Elmira	Arnot-Ogden Hospital	Afternoon Dinner Evening
Ninth	Wednesday, October 5	West Point	Hotel Thayer	Dinner Evening

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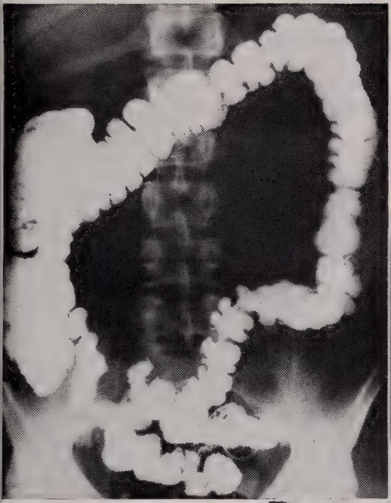
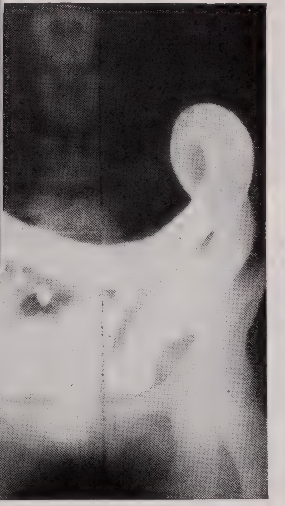
* Executive Committee only.



Normal Colon



Ulcerative Colitis

Atonic Colon

Smoothage in Correction of Colon Stasis

To initiate the normal defecation reflex, the "smoothage" and bulk of Metamucil provide the needed gentle rectal distention.

Once the habit of constipation has been established, due to any of a large number of causes, it becomes a major problem. Self-medication with irritant or chemical laxatives, or repeated enemas, usually causes a decreased, sluggish defecation reflex and may result in its complete loss.

Rectal distention is a vital factor in initiating the normal defecation reflex, and sufficient bulk is thus of obvious importance in restoring this reflex. Metamucil provides this bulk in the form of a smooth, nonirritating, soft, hydrophilic colloid which gently distends the rectum and initiates the desire to evacuate. Metamucil demands extra fluid, imparting even greater smoothage to the intestinal contents.

It is indicated in chronic constipation of various types—including distal colon stasis of the "irritable colon" syndrome, the atonic colon following abdominal operations, repressions of defecation after anorectal surgery and in special conditions such as the management of a permanent ileostomy. Metamucil is the highly refined mucilloid of Plantago ovata (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent.

The average adult dose is one rounded teaspoonful of Metamucil powder in a glass of cool water, milk or fruit juice, followed by an additional glass of fluid if indicated.

Metamucil is supplied in containers of 4, 8 and 16 ounces. It is accepted by the Council on Pharmacy and Chemistry of the American Medical Association. G. D. Searle & Co., Research in the Service of Medicine.

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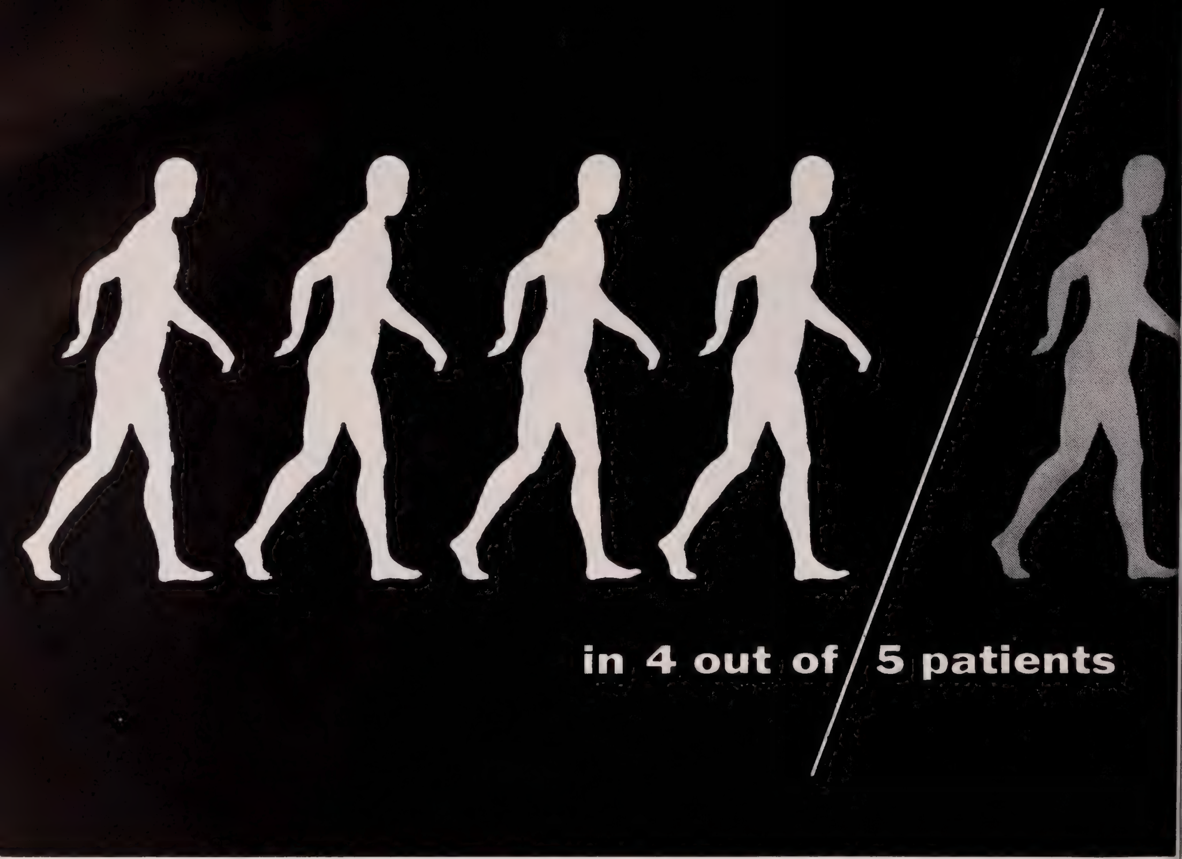

you can prevent attacks of angina pectoris

Peritrate, a long-acting coronary vasodilator, has repeatedly demonstrated its effectiveness in preventing attacks of angina pectoris in 4 out of 5 cases.[1,2,3]

Prophylaxis with Peritrate results in fewer, less severe attacks, reduced nitroglycerin dependence, improved EKG's where abnormal patterns exist and increased exercise tolerance.

Peritrate's action is similar to that of nitroglycerin but considerably more prolonged... "favorable action [can] be elicited for 5 hours or more after its administration."[4]

Usual dosage is 10 to 20 mg. *before meals* and at bedtime.

The specific needs of most patients and regimens are met with Peritrate's four dosage forms. Peritrate is available in both 10 and 20 mg. tablets; Peritrate Delayed Action (10 mg.) allows uninterrupted continuation of protection through the night. Peritrate with Phenobarbital (10 mg., with phenobarbital 15 mg.) where sedation also is required.

1. Winsor, T., Humphreys, P.: Angiology *3*:1 (Feb.) 1952.
2. Plotz, M.: N. Y. State J. Med. *52*:2012 (Aug. 15) 1952.
3. Dailheu-Geoffroy, P.: L'Ouest-Médical, vol. 3 (July) 1950.
4. Russek, H. I., *et al.*: Am. J. M. Sc. *229*:46 (Jan.) 1955.

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SCIENTIFIC ARTICLES

Recent Advances in Physiology of the Esophagus

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THE forces necessary for rapid propulsion of ingested substances from mouth to stomach consist of contraction of the striated pharyngeal musculature and esophageal peristalsis. The mechanism of the latter activity has been the object of some rewarding study during the past several years, with respect both to normal individuals and to patients with disorders of esophageal motility, particularly so-called "cardiospasm."

Normal Esophagus

By means of a transducer placed at various levels of the esophagus, Butin *et al.*[1] recorded the changes in intraluminal pressure incident to swallowing. Observation was limited to a single site in each experiment. In normal subjects four measurable components of the tracings are described in the following sequence:

1. An initial negative deflection of small amplitude (36 per cent of records), quickly followed by
2. A rather steep positive wave with a mean amplitude to 10 to 14 cm. of water (87 per cent of records); thereafter, there is
3. A second, gradual rise in the tracing, occurring most frequently in the distal esophagus (59 per cent of records), culminating in
4. A final, climactic positive wave varying in pressure from 40 to 100 cm. of water which represents the peak of the entire complex (74 per cent of records). It occurs after swallowing on the average of 2.1 seconds in the upper esophagus, 5.1 seconds in the middle, and 7.9 seconds in the lower esophagus and is not seen in the lower esophagus in about one third of the tracings.

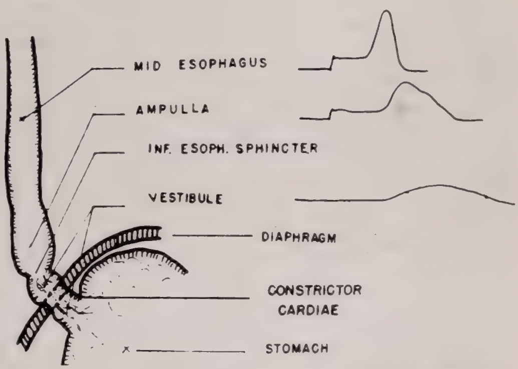

FIG. 1. Diagram of esophageal anatomy according to Lerche.[3] On the right is a diagram of typical swallowing complexes. (*Courtesy of Sanchez, Kramer, and Ingelfinger*[2]).

Sanchez *et al.*,[2] utilizing open-tipped catheters connected to electromanometers, have confirmed the essential features of this sequence of events after swallowing; however, they were unable to find the initial negative deflection and only rarely noted the second wave of positivity, the so-called "plateau rise," which precedes the final positive wave. This group of workers also expanded considerably the body of knowledge of esophageal motility. Simultaneous tracings from two sites, 8 cm. apart, revealed that the final peak wave traveled at a rate of 2.0 to 2.5 cm. per second and that this wave develops and reaches its maximum value after swallowed liquid passes the recording tip. These observations add weighty evidence to the idea that this major pressure change following a swallow is an expression of true peristalsis.[2]

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† By invitation.

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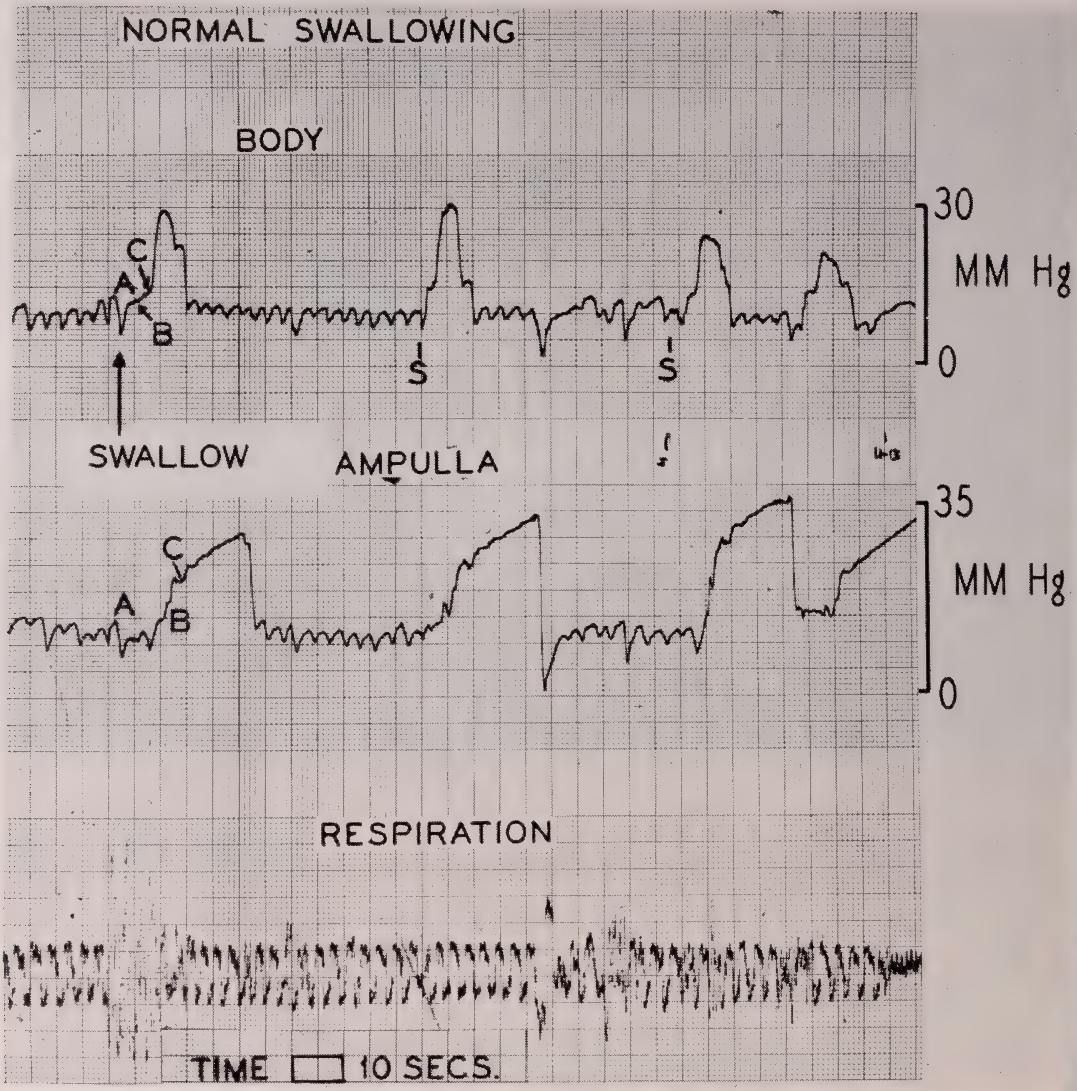

FIG. 2. Motility of the normal esophagus after a swallow of 15 cc. of water, recorded by open-tipped catheter and electromanometers. Note difference in complex of body and ampulla. (*S*) Swallow of water; (*A*) respiratory complex; (*B*) "plateau rise"; (*C*) onset of peristaltic wave.

Sanchez, Kramer, and Ingelfinger[2] have elaborated on the motility differences between the "body" (upper seven-eighths) and the "distal" (lower one-eighth) of the esophagus after swallowing. They divide the lower esophagus into ampulla and vestibule, according to the concepts of Lerche[3] (Fig. 1). The major difference, also noted by Butin,[1] is in reference to the so-called "peristaltic wave." In the ampullary area, while this wave begins with a sharp rise, it is more sustained, and its fall-off is more gradual, differing significantly thereby from the wave form observed in the body. Also, its speed of travel is somewhat slower, 0.7 to 1.2 cm. per second.[2]

The character of the swallowing complexes of the body and the ampulla of the distal esophagus and the progression of a peristaltic wave may be seen in Fig. 2. This study was done on a normal subject, using open-tipped catheters and electromanometers. In the body and ampulla there is an initial negative deflection followed by a sharp rise. This complex is attributable to inspiration and expiration associated with "sipping" (Fig. 2A). Following this, there occurs a positive

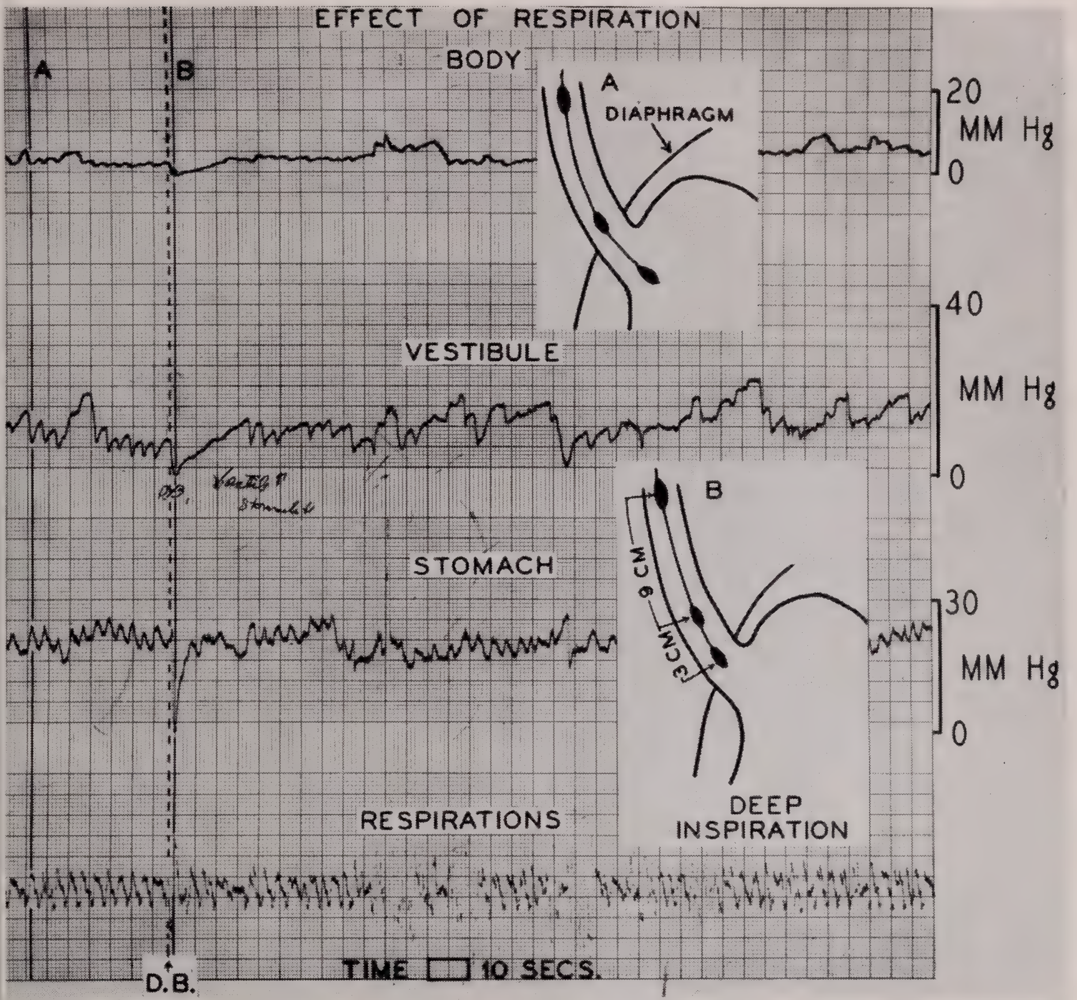

FIG. 3. Effect of deep inspiration on catheter position. (*A*) *Normal respiration*—The distal recording tip is in the stomach since deflections of the tracing are opposite to those recorded from the esophagus. (*B*) *Deep inspiration*—The distal tip has ascended into the esophagus, and the deflection becomes identical with those of the proximal sites. (*DB*) Deep breath.

wave (Fig. 2B) and, finally, a peristaltic wave. The onset of the peristaltic wave occurs in the ampulla about 4.5 seconds after its appearance in the body (Fig. 2C). Since the tips are 9.0 cm. apart, this wave travels at a rate of about 2.0 cm. per second. Furthermore, this final wave in the ampulla differs from the body in shape and duration.

Ingelfinger and his group also believe there is separate independent motor activity attributable to the so-called vestibule, the terminal 2 to 4 cm. of esophagus.[2,4] In about half of all tracings of vestibular activity after liquid swallows, there is no demonstrable change in pressure. The remaining half show a "vestibular swallowing complex" which differs from the patterns elsewhere by the absence of the initial slight positive wave, and instead of a sharp rise due to peristaltic activity, there is only a gradual rise to a maximum pressure of only 5 to 15 mm. Hg with an equally gradual decline.[2,4]

That the vestibule has a motor function separate from the remainder of the organ seems quite likely. The recording of pressure change in this segment is complicated by the uncertainty of the exact location of the recording tip in question throughout the test. As noted in Fig. 3, a negative deflection during deep inspiration, a

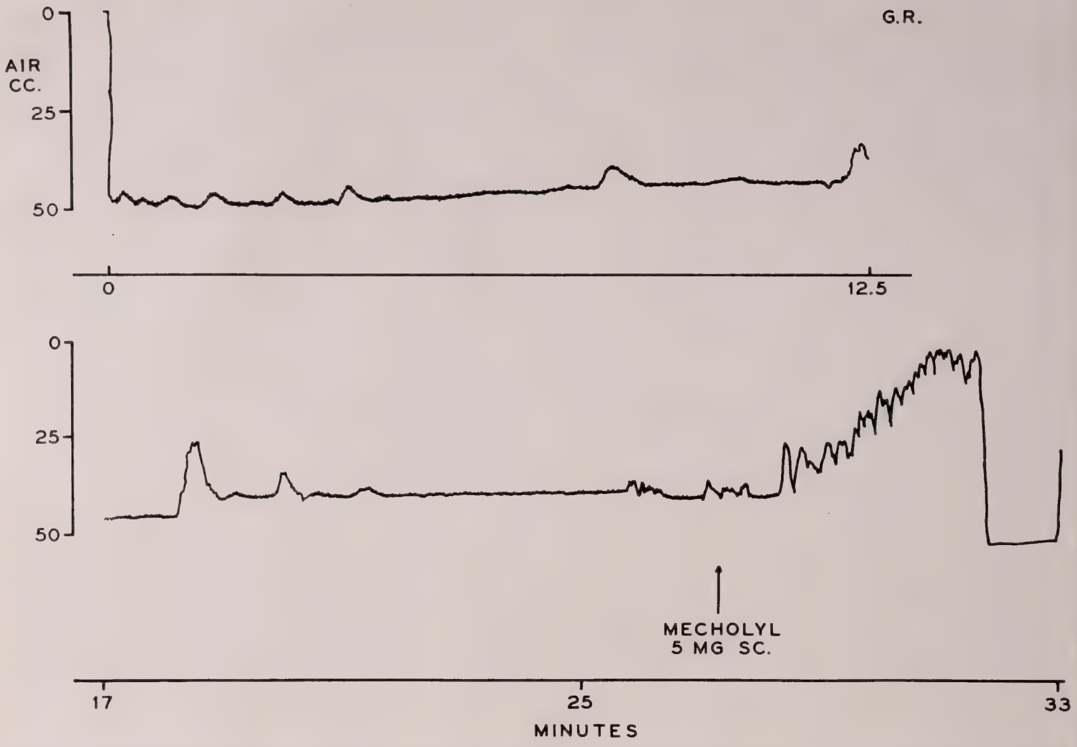

FIG. 4. Effect of Mecholyl on the motility in cardiospasm. Pressure recorded by a balloon-kymograph technic.

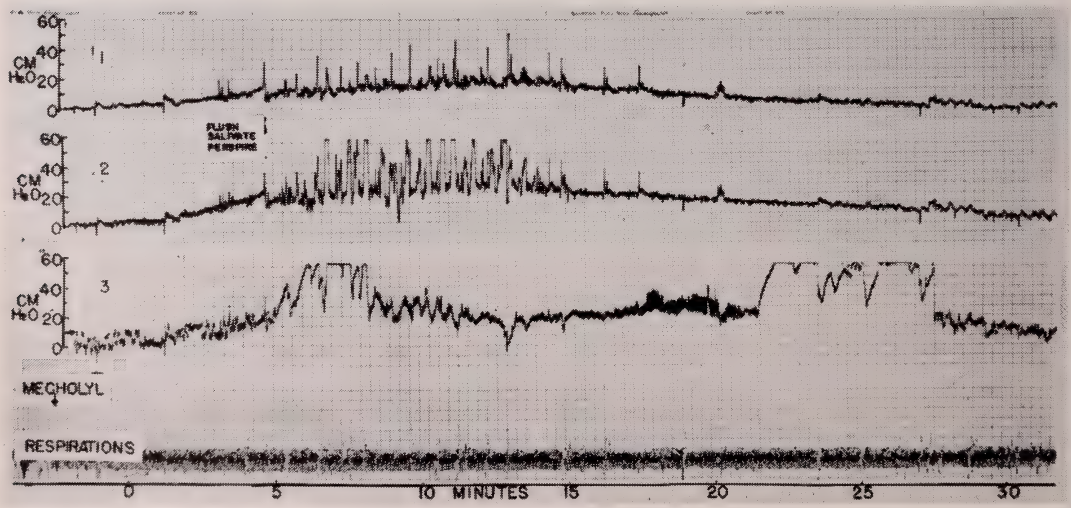

FIG. 5. Effect of Mecholyl on the motility in cardiospasm. Pressure recorded by open-tipped catheters and electromanometers: (1) upper, (2) middle, and (3) lower esophagus.

sign that pressure is being recorded from an area above the diaphragm, may occur even though the recording tip is at all other times in the stomach.

Obviously, the tip has ascended into the lower esophagus during such inspiration, and therefore, one cannot rely on this method for checking the recording position.

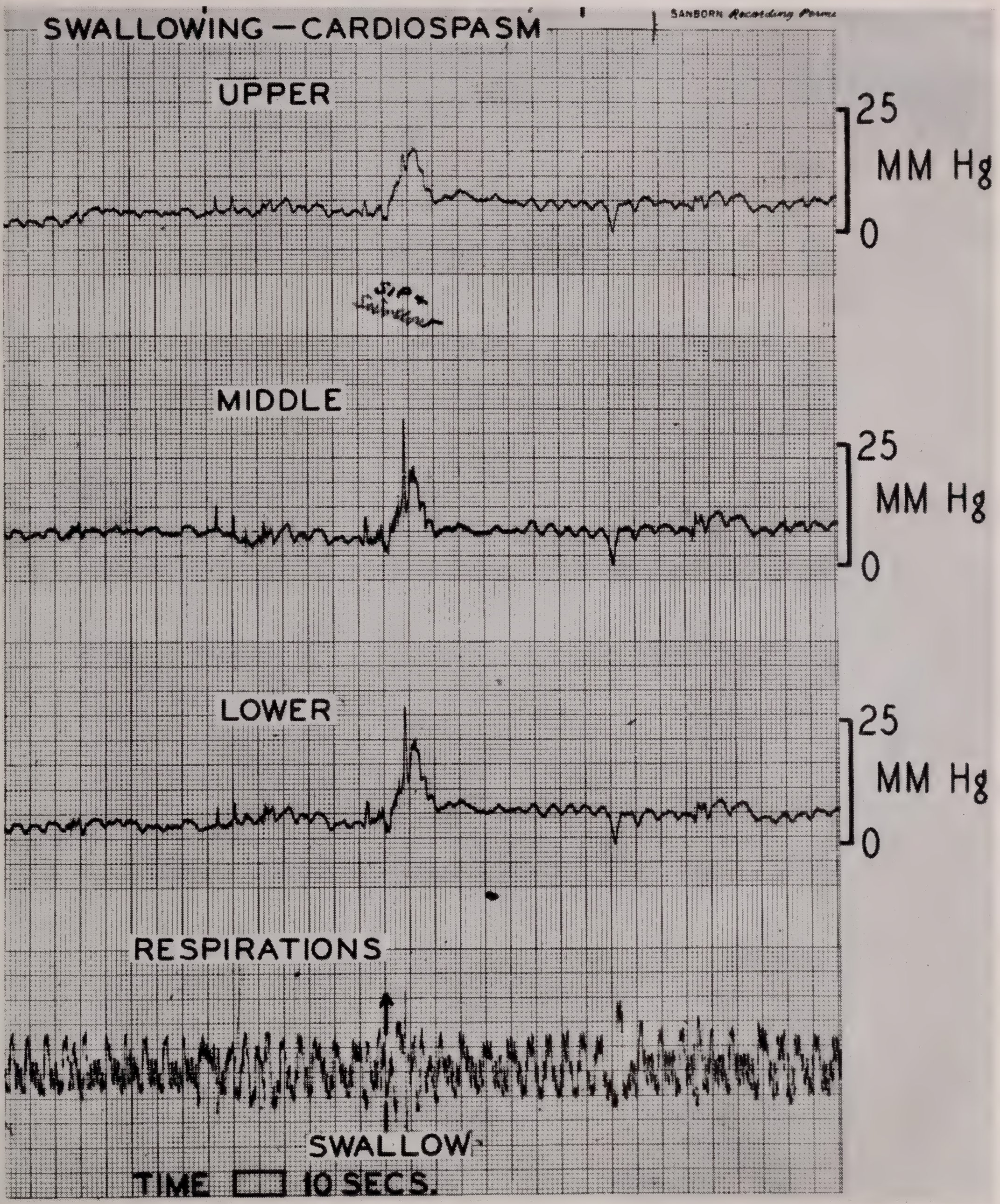

Fig. 6. Motility of esophagus in cardiospasm after a swallow of 15 cc. of water. Note that pressure rise occurs simultaneously at all sites in contrast to the progression from above downward, as in Fig. 2.

Neuromuscular Disorders of the Esophagus

Cardiospasm.—The motility studies of the esophagus in cardiospasm by Kramer and Ingelfinger have clearly elucidated the nature of the neuromuscular defect in this disorder.[5,6] Using a balloon kymograph technic to record pressure, these investigators showed that the motility of the esophagus in this disorder is abnormal and is not confined to any particular segment. The

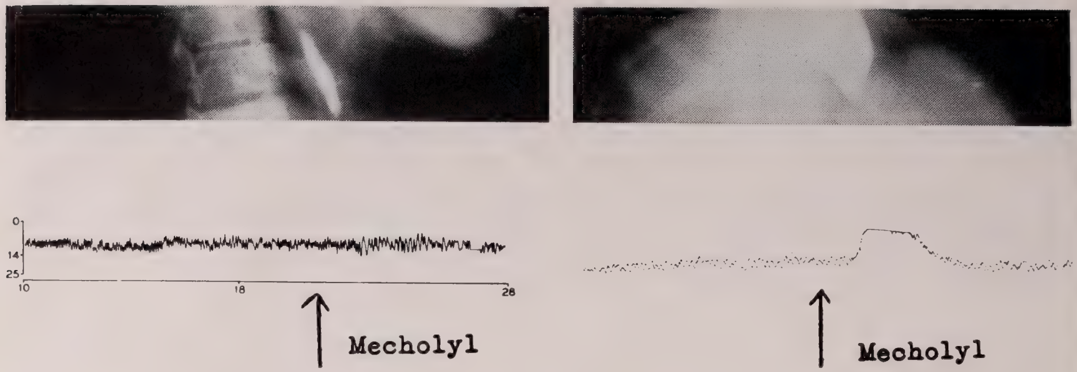

FIG. 7. Effect of Mecholyl on motility of esophagus in carcinoma (*left*) and cardiospasm (*right*). Both patients had "smooth" narrowings, and differential diagnosis was difficult. Surgical exploration confirmed diagnosis.

phasic contractions are irregular and low in amplitude. Further, there is an abnormal sensitivity of the organ to parenterally administered parasympathomimetic agents, such as acetyl-B-methylcholine (Mecholyl). When such an agent is given, the esophagus in this disorder promptly goes into a sustained tetanic contraction (Figs. 4 and 5). This phenomenon, not encountered in normal subjects or in patients with organic obstruction of the distal esophagus, has been confirmed by Sleisenger *et al.*[7] and Hightower *et al.*[8] Further, the former group demonstrated (1) that this sensitivity in cardiospasm is not dependent upon the obstruction for it persists after resection of the narrowed area and (2) that the persistent closure at the cardioesophageal juncture is not due to excessive sympathetic nervous system stimulation. This was demonstrated both by the inability of antiadrenergic and ganglionic-blocking agents to relieve the obstruction in patients with the disorder and, conversely, by the failure of intravenous infusions of l-epinephrine or l-norepinephrine to induce closure of the cardioesophageal juncture in normal subjects.[7]

Studies of motility in cardiospasm after swallowing afford further evidence of neuromuscular imbalance. A normal swallowing complex of the body, as noted in Fig. 2, occurs in only about one third of the tracings in this disorder.[1] Figure 6, a record of a patient with cardiospasm, shows that pressure change occurs simultaneously at all levels; there is no progression from proximal to distal characteristic of normal peristalsis. Similarly, abnormal, ineffectual action is noted fluoroscopically after swallowing; numerous purposeless contractions replace orderly peristalsis.[9]

The findings of Rake, Lendrum, and Cross[10–12] that the esophagus in cardiospasm has an absence or marked deficiency of ganglion cells of the myenteric plexuses furnish the explanation for the physiologic abnormality observed. The sensitivity of the organ to Mecholyl is explained by Cannon's observation that end organs deprived of their autonomic nerves react with unusual sensitivity to chemical mediators of nerve transmission ("Cannon law" of autonomic denervation[13]). Similarly, the disturbance of intrinsic parasympathetic innervation renders normal peristalsis impossible, and this is particularly true of the reflex relaxation of the distal few centimeters of the esophagus in response to increased pressure proximally.

Knowledge of this parasympathetic imbalance and sensitivity to Mecholyl may be of some practical importance. Clinically, a patient with lower esophageal obstruction may pose a difficult diagnostic problem. History, roentgenologic study, and esophagoscopy may be inadequate to differentiate carcinoma from cardiospasm. This dilemma, depicted in Fig. 7, occurs only infrequently, and when it does, the "Mecholyl test" already described may be of great aid. We have never failed to induce tetanic spasm of the esophagus by parenteral Mecholyl in patients with cardiospasm (22 tests), while we have not had a false positive with carcinoma (six tests).

SCLERODERMA.—there is a serious neuromuscular disturbance of esophageal function in progressive scleroderma, undoubtedly due to interference with the intrinsic nerve supply by the progressive thickening of the submucosa and to muscle atrophy.[14] When involved in this disease, the esophagus is dilated and

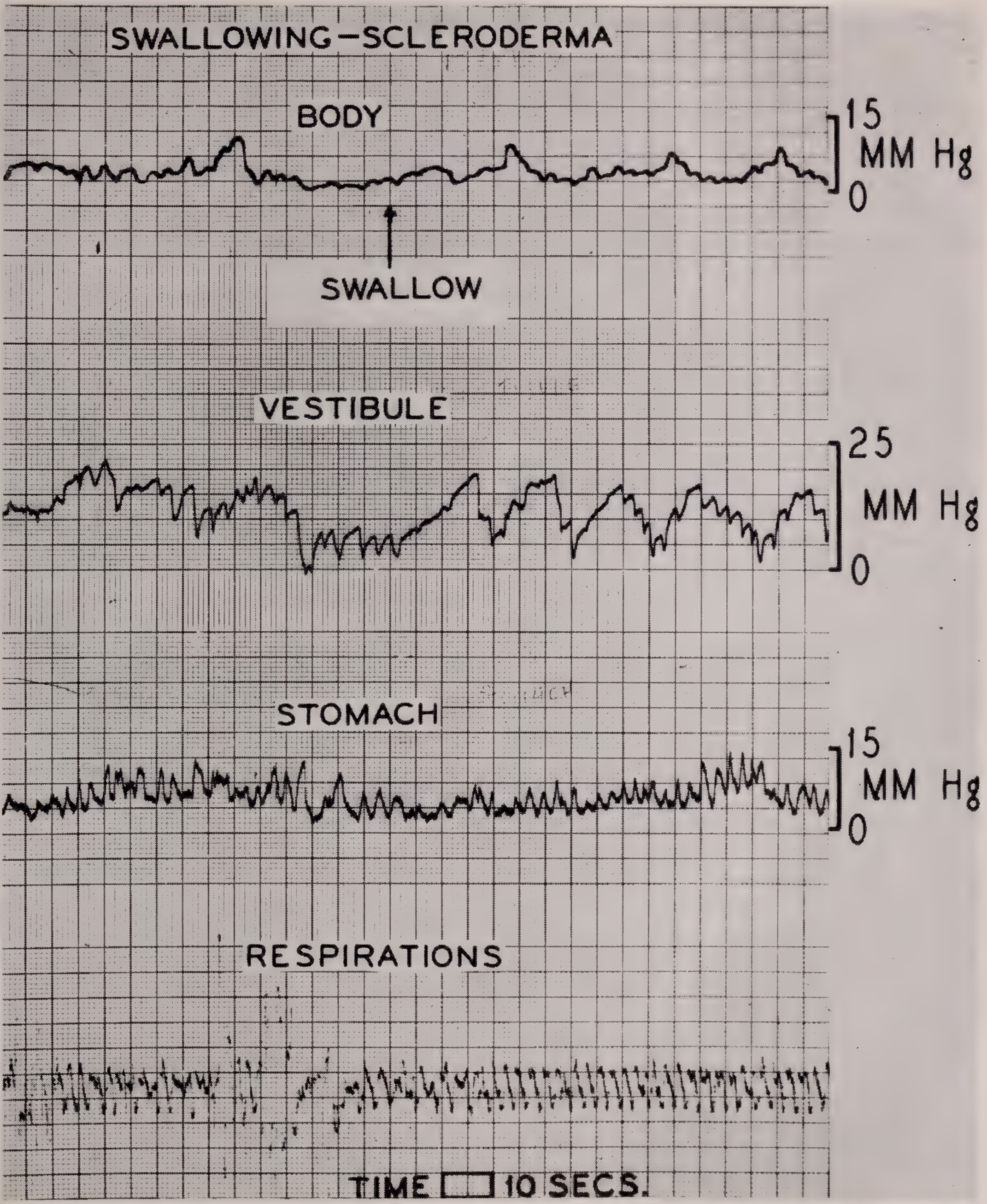

Fig. 8. Motility of the esophagus in a patient with scleroderma after a swallow of 15 cc. of water. Normal swallowing complexes not seen. Compare with Fig. 2.

lacks normal peristaltic activity, and frequently there is an area of narrowing about 5 cm. above the diaphragm. There may be ulceration and inflammation associated with mucosal thickening. The disturbance in the swallowing mechanism in scleroderma may be seen in Fig. 8. While dysphagia and other symptoms of esophageal scleroderma occur almost always in individuals with other manifestations of the disease, it is well to remember that in rare instances esophageal involvement may cause the initial symptoms of the disease.

"CONTRACTION RING" OF THE ESOPHAGUS.—Recently, Ingelfinger and Kramer[15] have described six patients, all males, with intermittent, sudden attacks of dysphagia while eating solid foods. Roentgenologic and fluoroscopic examination revealed an "annular indentation in the center of the phrenic ampulla" which appeared at onset of deglutition and increased to a maximum point before arrival of peristalsis. In several instances it migrated downwards. The authors had opportunity to examine the esophagus in one of these patients and found some muscular thickening in the area concerned. They do not believe this disorder to be a variant of cardiospasm.

Schatzki and Gary[16] feel that this "contraction" is constant, does not migrate, may be asymptomatic, and that symptoms are more likely to occur in those patients in whom the contraction is greatest and most constant on repeated examinations.

Summary

The sequence of pressure changes in the normal esophagus incident to swallowing is reviewed.

Cardiospasm should be viewed as a disorder of the entire esophagus, in which there is defective parasympathetic innervation. There is no evidence to support the contention that persistent closure at the cardioesophageal juncture is due to abnormal sympathetic influence.

The consistency of esophageal sensitivity to Mecholyl in cardiospasm may be of utmost practicality in differentiating this disorder from carcinoma.

Esophageal motility in scleroderma is disturbed, presumably due to infiltration of the submucosa and muscle atrophy.

Dysphagia may be caused by a so-called "contraction ring" of the distal esophagus, the exact nature of which is as yet obscure.

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Which Are You?

Are you an active member,
the kind that would be missed,
Or are you just contented that
your name is on the list?

Do you attend the meetings and
mingle with the flock,
Or do you stay at home and
criticize and knock?

Do you take an active part to
help the work along,
Or are you satisfied to be the
kind that "Just Belong?"

Do you ever go to visit a
member who is sick,
Or leave the work to just a few
and talk about the clique?

There's quite a program scheduled,
that you must have heard about,
The others will be thankful, if
you'll come and help them out.

So attend the meetings often,
and help with hand and heart,
Don't be just a member—but
take an active part.

Think this over, member—you
know right from wrong,
Are you an active member, or
do you just belong?

—Reprint from Rotadome,
Florida Journal of General Practice, July, 1955

Calcific Aortic Stenosis and Certain Other Valvular Distortions Simulating Rheumatic Heart Disease

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During the course of a pathologic study of rheumatic heart disease a group of cases was isolated which simulated rheumatic distortions of the valves but did not meet the established criteria for rheumatic heart disease.[1-9] Many pathologists consider the lesions discussed below as examples of rheumatic valvulitis. The literature indicates that similar cases have been encountered by others. Despite their frequent occurrence there are few reports of these distortions.

Hall and Anderson's[10] description of the lesions and their gross photographs and the disproportionate number of their cases in the older age groups leave no doubt but that they are including some of these lesions. Their selection of microscopic criteria of rheumatic stigmata is far too general and nonspecific: "Vascular lesions included arteritis rheumatica, fibrinoid necrosis, and elastic tissue alterations. Under the heading of perivascular lesions, Aschoff nodules, fibrinoid swelling, and cellular infiltration were considered. The only interstitial lesion taken into account was cellular infiltration." These criteria resulted in their considering that 90 per cent of all hearts were rheumatic. They found thickening of the mitral valve in 74 (66 per cent) of 112 hearts and of the chordae in 42 (37.5 per cent); the tricuspid leaflets were thickened in 22 (19.6 per cent) cases and the chordae in nine (8 per cent). The aortic leaflets were thickened in 13 (11.6 per cent); the aortic commissures were fused in 14 (12.5 per cent) cases. Hall and Anderson concluded that all such gross lesions evidenced rheumatic infection.

Rosenthal and Feigin[11] reported on the pathology of the mitral valve in 177 patients over forty years of age. Their gross description of abnormal valves without inflammatory changes is not adequate to allow for the selection from their material of cases coming within the group described in this paper; no photographs are presented. Using similar general and nonspecific microscopic criteria as evidencing rheumatic heart disease, they concluded that 18 per cent of these older patients had rheumatic lesions of the mitral valve.

Thus it is necessary to delineate more clearly this group of nonspecific valvular lesions in order to avoid the confusion, to obtain a truer estimate of the incidence of rheumatic lesions, and to gain some understanding of the pathogenesis and significance of these very common distortions of the heart valves.

Material and Methods

A total of 8,676 consecutive autopsies performed at the Queens General Hospital from 1936 to 1950 inclusive were reviewed. Of these 509 (5.9 per cent) were classified as rheumatic heart disease by fulfilling the following criteria: (1) fusion and retraction of the mitral or tricuspid valves; (2) fusion and shortening of the chordae tendinae; (3) noncalcific fusion of the aortic valve; (4) any fusion, including calcific changes, of the aortic valve when it was associated with definite rheumatic mitral valve involvement; (5) active rheumatic heart disease with Aschoff bodies or characteristic verrucae; (6) bacterial endocarditis of the mitral or aortic valves with evident previous valve distortion, but the exact estimation of the severity of rheumatic damage being difficult.

Cases showing the following changes were excluded from the category of rheumatic heart disease: (1) slight mitral changes (for example, tonguelike extensions of the valve cusps) or distortion which did not fulfill the criteria stated above (in points 1 and 2); (2) slight aortic fusion in region of commissures without thickening; (3) calcific aortic stenosis with or without slight

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mitral thickening; (4) calcification of the valve rings alone and simple atheroma on the valve. Thus 103 cases of calcific aortic stenosis and 72 additional cases of doubtful origin, as well as many additional similar cases encountered frequently in routine autopsy examinations (since 1950) in which there was no question of rheumatic etiology, form the basis of this report.

Results and Description

These cases occurred in patients from twelve to ninety years of age. By far the largest number of these cases occurred in older patients. These patients died of conditions common to their own age groups; the valvular distortions were incidental lesions. At autopsy the hearts showed no enlargement which was not accounted for by the presence of other associated heart disease. Most of these patients had a chronic degenerative or debilitating disease, e.g., carcinoma, diabetes, uremia, arteriosclerotic heart disease, and these were usually the direct or indirect cause of death.

Pathologically these lesions occurred in two categories. In one group the atrioventricular valves were involved predominantly, and this was the most common abnormality; in the second group the changes were of a different nature and showed best on the aortic valves.

In the first group what was considered the earliest distortion is usually ignored by prosectors because of the minimal and innocuous changes. The tricuspid is affected more commonly than the mitral valve, the aortic and pulmonary leaflets less frequently, but on occasion all of the leaflets are involved. This distortion occurs along the line of closure on the auricular aspect and appears as shiny, glistening, edematous, translucent, nodular thickenings, often faintly pink in color. Later this becomes more opaque because of overlying thickened endocardium and may assume a diffuse, grayish-white, occasionally beaded appearance, extending to the valve edge, thickening this location, and frequently in continuity along the chordae. Occasionally this process continued well along both the valve and the adjacent chordae tendinae. The summation of many such episodes of distortion results in an elongated, ectatic redundancy of much of the valve leaflets and produces a billowing sail-like appearance. Fusion of the cusps does not occur on this basis any more than rheumatic verrucae along the valve edge per se in rheumatic fever account for stenosis. An accompanying slight fusion of the atrioventricular valves occasionally may occur simultaneously by the mechanism identical to that described below for the aortic valves. As in the latter instance the fusion is not very marked in the form of thick fibrous stenosis, nor is the edge rolled and thickened. This lesion may be associated with calcification of the valve rings, but the simultaneous presence of extensive fibrous and calcific ring lesions is not too common.

The atheromatous plaques frequently seen on the aortic leaflet of the mitral valve have a different mechanism and are not considered with these groups of cases. The latter are more akin to simple calcific atheroma and are most certainly not caused by rheumatic disease per se.

The second group of lesions, occurring most commonly on the aortic valve, may be subdivided into two categories. In the first of these categories the earliest lesions were usually seen as minimal fibrous fusion of two cusps at one commissure, although occasionally all three commissures were involved. This fusion occurred on the ventricular aspect in the commissures and often just inferior to the insertion of the free commissural edge of the valve at the ring. The free edge of the cusps usually remained thin and delicate. The mechanism of this fusion is presented as the result of the fibrous transformation of lesions, which in the earliest stages are grossly and microscopically indistinguishable from nonbacterial thrombotic endocarditis in varying stages of organization. Instances with graded fibrotic organization of such vegetative lesions with and without calcification have been seen. Where minimal fusion and valvular distortion was present, these lesions were usually small in size. There was often some nodular distortion of the valve cusps adjacent to the involved areas of commissures and also similar lesions in the region of the corpora Aranti. These changes may also occasionally coexist with frank rheumatic distortion of the leaflet and, as noted below, are considered similarly nonspecific and nonrheumatic.

In cases where the fibrous change of the leaflet and/or commissure was more marked, it was frequently associated with the second category of lesions on the aortic valve. This is a very variable and completely irregular mulberry-like, nodular thickening in the region of the base of the valve, often on the aortic aspect and especially within the sinuses of Valsalva, often suggesting a petrified vegetation mass. This occurred more often several millimeters distant from the above-described region of valvular fusion and may be found independent of such fusion at the commissures. The larger of these individual lesions average 6 to 7 mm. in size but may be considerably larger. In the sinuses of Valsalva the lesions were usually more advanced, as evidenced by their larger size, more marked confluence, and more complete calcification. New lesions are very frequently *superimposed* on older organized and/or calcified ones. Because of this, lesions deep within the sinuses of Valsalva are frequently confluent. They tend to become more discrete and solitary as they ascend on the leaflets or on the aorta. This phenomenon of repeated accretion of additional lesions progressively results in the multibosselated, mulberry-like appearance of some larger, apparently solitary lesions. Calcification of a single large initial vegetation with little absorption or organization may also produce a mulberry lesion. Calcification of these larger lesions occurs frequently.

Early, typical, thrombotic, nonbacterial, vegetative lesions of the valves appear pale and faintly translucent, elevated, and friable, and they are very easily dislodged. Many soon become organized and incorporated within the valve with endothelialization of the surface and regional thickening. During the process of organization the histologic picture mimics that of rheumatic verrucae very closely. This, plus a linear localization near or at the edge of the valve, may sometimes make the differentiation quite difficult. The variation in size as well as location and different stages of organization help in differentiating the nature of this lesion. As noted by others,[4] these early nonspecific verrucous lesions tend to occur where the underlying collagen has been altered by any cause whatsoever. In turn, after reaching a fibrotic or calcific state, they favor new, additional, identical formations. This explains the more frequent occurrence in the older age group and the association with degenerative diseases.

The combination of both of the fibrous commissural and the verrucous aortic lesions results in a marked nodular distortion of the valve, usually with calcification, and represents the classic calcific aortic stenosis. The gross features of this widely recognized calcific, stenotic aortic lesion as finally evolved correspond exactly to those described above: (1) it is most frequent in the older age groups; (2) the distortion is most marked on the aortic aspect of cusps and within the sinuses; (3) there is frequently an associated calcification and underlying valvular alteration which may be sclerotic or rheumatic or both. The gradation of these lesions from slight minimal fusion of two cusps to advanced severe calcific aortic stenosis has been seen.

Comment

It would seem that preservation of the thin, undistorted shelving along the edge of the valve would rule out a rheumatic etiology for any fibrous fusion of the leaflets that might occur in the region of the ring or at the commissures, excepting of course the first initial early rheumatic verrucous valvulitis. Nor does it follow that all thickening of the valve is properly ascribed to a rheumatic distortion. A nonspecific, nonrheumatic valvular thickening occurs with advancing years very frequently. This is best seen in the heart of older dogs as a very common lesion and may be quite marked.

Calcification of the ring and atheroma of the valve are unrelated to rheumatic disease. On this score it may be noted that atheroma and, in particular, calcification are also common in the valve and in the ring in true cases of rheumatic valvular disease. The present tendency to denote as rheumatic a valve with thickened edge or fibrous thickening generally, with or without elongation and without any or with only minimal fusion in the region of the commissures, is distinctly unjustified. All of the above distortions can occur without rheumatic infection as such. The nonspecificity of the histologic picture of interstitial rheumatic myocardial involvement, both diffuse and focal, has been noted. Many stages of the specific Aschoff nodule are distinctly nonspecific and surely are not pathognomonic then. There is no doubt but that a group of cases will be encountered which cannot be classified with absolute certainty, no matter how careful the gross evaluation or how meticulous the histologic study. It seems strange that few authors stress such difficulties in their experience. This would seem to imply a too ready willingness to ascribe to rheumatic etiology many valve distortions and defects which undoubtedly have other explanations, although admittedly these mechanisms may as yet not be understood fully. Preserved shelving, thin valve edges, flexible, thickened, elongated valves, usually with thickening of chordae tendinae joining with the very edge of the valve—neither one nor all of these changes indicate true rheumatic distortion. Nonspecific changes of arteriosclerosis involving the ground substance, the collagen, the elastica of the valve and chordae and ring, undoubtedly explain many of these distortions. Organization of edematous changes in the valve substance and of thrombotic, nonbacterial vegetations on the edge of the valve, on its surface, deep in its substance, and in the region of the commissures is a not uncommon mechanism for such distortions, often too readily ascribed to rheumatic disease. By years of slow accretion such minimal changes result in rather marked gross changes in such valves in summation. They then ordinarily lack any evidence whatsoever of old or fresh rheumatic verrucae or real interstitial valvulitis, and they show no firm, thick fusion which makes the identification of the true limits of the original commissures in true rheumatic fusion so often quite difficult. Proof of active rheumatic infection, past or present, is usually lacking. Such valves are too readily called rheumatic.

It is worth noting again that many of the changes seen in known rheumatic valves are more properly ascribed to subsequent late nonspecific arteriosclerotic, thrombotic, nonbacterial vegetations, recurrent valve edema, and other changes independent of any rheumatic infection; all are changes that tend to involve thickened and usually devitalized collagen anywhere. To the extent that old rheumatic valves show marked collagen fibrosis and hyalinosis, they are more prone to these added nonspecific changes. The segregation of such nonspecific changes in the valve from known rheumatic changes is often most difficult. It is our impression that in a quantitative sense much of the more crass distortions of rheumatic valves are actually not due to the original or persistent or recurrent rheumatic infection per se, but rather can be referred to these secondary degenerative and sclerotic, nonspecific changes, which cannot then be readily isolated from the rheumatic insult and reaction.

The nonspecific nonrheumatic lesions attain significance from several aspects:

1. They are significant in the development of calcific aortic stenosis which was formerly attributed to a congenital or rheumatic mechanism per se.
2. It is important to distinguish these lesions from rheumatic alterations in order to estimate the real incidence of each disease.
3. By superimposition on previous rheumatic valvulitis these lesions may be responsible for much of the progressive valvular distortions seen in chronic rheumatic heart disease and usually attributed wholly to the rheumatic process.
4. The nonbacterial thrombotic lesions in their earliest stage may represent the source of emboli[3] in patients with or without old rheumatic valvulitis.
5. The thrombotic nonbacterial vegetations form the real basis for superimposed bacterial contamination with resulting acute and subacute bacterial endocarditis.[5–7,12]

Summary and Conclusions

The gross and microscopic appearance of valvular lesions simulating rheumatic heart disease is described. The probable morphogenesis of these distortions is outlined.

The significance of such alterations is discussed in terms of the pathogenesis of calcific aortic stenosis; determination of a more realistic incidence of rheumatic heart disease; the understanding of the mechanism of various valve distortions, including many of the severest changes seen in later years in known rheumatic valves; the detection of the source of emboli in patients with valvular disease, and the elucidation of the development of bacterial endocarditis.

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Character is what you are in the dark.—Dwight L. Moody

Bacterial Sensitivity

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Agassiz once said that every scientific discovery, or for that matter every new thought or scientific idea, must go through three stages: First, it is contrary to scripture. Second, it is not *really* new. Third, we have always known and believed it. In the case of bacterial sensitivity we have now reached the second stage—it is not really new.

At the beginning of this century when the subject of allergy was in its first stages of development, many students of the subject not only neglected the entire phase of bacterial sensitivity but denied entirely that such a phenomenon existed. Such pioneers in the field of allergy as Arthur F. Coca and Robert Cooke were among those who maintained that there was no such thing as bacterial sensitivity. Some years later Dr. Cooke, who is a good allergist and also an excellent investigator and clinician, changed his mind and recognized the importance of the subject. Since then he has been a strong and convincing exponent of the phenomenon of bacterial sensitivity.

Ehrlich's concept of "receptors" corresponds to our present idea of the antigen-antibody mechanism which represents an integral part of infectious diseases, particularly chronic infections. Low-grade and active tuberculosis may be taken as an example of a chronic infectious disease.

Chronic streptococcic disease is a definite clinical entity, just as chronic tuberculous disease, and chronic recurrent streptococcic infections produce tissue reactions of the sensitizing type (in a constitutionally predisposed individual). Rheumatic infections are an example of this type of sensitization.

The fruitful investigations and outstanding contribution of Homer Swift[1] in the field of rheumatic fever over a period of a lifetime helped to establish the principle of bacterial sensitization in rheumatic infections. Many other workers, particularly Rich,[2] Derick,[3] Harris,[4,5] and Murphy,[6] also corroborated the principle of bacterial sensitivity in rheumatic infections. The bacterial allergy in many types of microbic infections is similar and analogous to the bacterial allergy of tuberculosis. The tuberculous type of infection differs from the rheumatic infection in that a tuberculous infection may be either allergic or suppurative, while rheumatic infections are allergic only, never suppurative.

TABLE 1.—ALLERGIC CLASSIFICATION OF DISEASES OF ALLERGIC ORIGIN (ACCORDING TO BOHROD[7,8])*

Classification of Histologic Lesions	Diseases Almost Certainly Allergic	Diseases Which May Have Allergic Causes
Anaphylactoid	Anaphylaxis, serum sickness, hay fever, asthma, eczema, migraine, urticaria, periarteritis nodosa, glomerulonephritis	Thromboangiitis obliterans, temporal arteritis, Loeffler's syndrome, Reiter's syndrome, eosinophilic granuloma (bone)
Necrotizing tissue selective	Carbuncle of kidney, diffuse cortical necrosis, acute pancreatic necrosis, hypersensitivity angiitis, necrotizing angiitis	Acute hepatitis, acute yellow atrophy, necrotizing cholecystitis, encephalomyelitis, demyelinizing lesions
Cell selective	Thrombocytopenic purpura, agranulocytopenia, aplastic anemia	.....
Granulomatous	Tuberculosis, brucellosis, tularemia, sporotrichosis, coccidioidomycosis, beryllium granulomas	Histoplasmosis
Rheumatoid	Rheumatic fever, rheumatoid arthritis, rheumatoid scleritis, sympathetic ophthalmia	.....
Hyalinoid collagen (fibrinoid) diseases	Disseminated lupus, dermatomyositis, scleroderma	.....
Amyloidosis	Amyloidosis	.....

* Slightly modified by author with Dr. Bohrod's consent.

Bohrod's work[7,8] on inflammation is fascinating. His various types of experiments and the pathologic reactions produced in different types of tissues are confirmatory evidence of the principle of bacterial sensitization in infection (Table I). His results are not only convincing, but his work represents a fundamental contribution to

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TABLE II.—Schematization of Inflammatory Reaction and Immune Response

Infection

$$\text{Tissue Reaction}\left\{\begin{array}{l}\text{Embryo}\\ \text{Infant}\\ \text{Child}\\ \text{Adult}\end{array}\right.$$

Immunity

Passive
Active

Original Acute Infection (Infant)

Death
or
Allergy and Immunity

Subsequent Infection

$$\left.\begin{array}{l}\text{Immunity}\\ \text{Stimulation}\end{array}\right\}\text{Health}$$

$$\left.\begin{array}{l}\text{Irritation}\\ \text{Exhaustion}\end{array}\right\}\text{Disease}$$

the basic principles of the pathology of inflammation. He refers to the sensitization of the tissue reaction in his experiments as the rheumatoid reaction, whether it be the skin, kidney, joint, spleen, sclera, or any other tissue or organ.

In the process of their metabolic activity many pathogenic bacteria produce toxins as metabolites. These bacterial metabolites are separate and distinct from the toxic substances inherent in the bacterial bodies which, dead or alive, consist mainly of nucleoproteins. The latter are in many instances not nearly so specific or antigenic as the soluble toxins which are generated by the bacteria during their life cycle. Such toxic and highly allergenic metabolites are produced especially in some staphylococci, pneumococci, and that large group of ubiquitous organisms known as streptococci. As a matter of fact, some of the diagnostic tests which are supposed to be more or less specific for rheumatic diseases, acute or chronic, are more specific for streptococcal disease than they are for this or that clinical name which we give to the disease.

Every inflammatory reaction is a sensitizing reaction, and the result of the inflammation will be dependent upon the balancing effect of the immune response. A balance of the sensitizing tissue reaction and the immune response is essential to health. Any disturbance in this balance will result in disease, and the character (sometimes referred to as the velocity or tempo) of the inflammation and tissue reaction will determine the acuity or chronicity of the disease process. The eventual outcome will depend on whether the inflammatory reaction is exhausting, irritating, stimulating, or immunizing (Table II). The irritating stage may go on indefinitely and, if it continues, results in chronicity. Our problem in therapeutics is to convert the irritating into the stimulating phase and then promote a balanced immunity.

Toxins have the antigenic property of producing antitoxins, which are specialized forms of antibodies. Antibodies concern us primarily because they represent a method of tissue defense, and no immunity could be possible without their presence. They exist in two main types: (1) circulating antibodies and (2) fixed tissue antibodies. The latter are present in focal sites, shock organs, and in the surface tissue, the skin, which is also the most convenient site for testing an allergic reaction.

When circulating antibodies are present, the allergic reaction may be transferred (which is the basis of the Prausnitz-Küstiner phenomenon), while in the presence of only fixed tissue antibodies the allergic reaction cannot be transferred through the serum but may be transferred through the white cells, as shown by Lawrence.[9] Again, when a homologous antigen is introduced in the presence of a circulating antibody, the specific reaction is usually immediate, while in fixed tissue allergy the specific reaction is of the delayed type and occurs after many hours or days. The latter type is best represented by the tuberculin reaction which is a true, specific, and allergic reaction of the fixed tissue variety. Some chronic recurrent infections caused by the more common pathogenic bacteria produce a mechanism similar to the fixed tissue allergy of tuberculosis. Clinically many tissues may take part in such a process, and the clinical symptomatology will depend on the particular tissues involved. The pathologic changes which occur in a swollen joint of a rheumatoid arthritis patient are not unlike the edema, serous and cellular infiltration, which occurs in the pulmonary tissue of a patient with infectious asthma or a chronic swollen nasal and sinus mucous membrane.

In infectious arthritis of the rheumatic fever or the rheumatoid type, it is now assumed that some form of streptococcus is of etiologic significance, although other organisms may sometimes precipitate the disease. However, there is no uniformity of opinion as to the mechanism of infectivity and the character of the tissue reaction produced by this mechanism. To me the answer is simple. It is the bacterial allergy which characterizes the clinical picture. Some years ago in discussing the subject of bacterial sensitization in diseases in which streptococci are of etiologic significance, we described the overlapping tissue reactions to streptococcic toxins in cases of rheumatic fever, scarlet fever, and erysipelas. These patients show a common response to the toxin, although the degree of the response may differ. In Swift's excellent paper "The Etiology of Rheumatic Fever,"[1] published in 1949, it was a pleasant surprise to read his description of a similar experience.

As to specificity, it may be said that it is the patient's tissue which is specific in its reaction to stress or injury of the bacterial invasion, especially the tissue reaction to the toxins produced by the bacteria, thus giving the particular clinical syndrome which we label by some name. The specificity is not in the bacterial organism which can adapt itself to any "soil" in which it finds itself. Bacteria may even mutate in the same patient, or different bacteria may precipitate a recurrent attack of polyarthritis in a patient whose musculoskeletal system has been sensitized previously by an infection of another variety or organism.

Let me illustrate:

A woman, forty years old, gave a history of a severe rheumatoid polyarthritis of nine years duration when she was first seen. From a culture of her nasopharynx a toxic strain of hemolytic streptococcus was isolated. A bacterial antigen[10] was prepared, and the patient was treated with it for a period of six months, during which time she made a gradual and steady improvement. She felt well for about one year, and then she developed a recurrent attack of polyarthritis following an acute upper respiratory and sinus infection. The maxillary sinuses were punctured, and from the semipurulent washings we isolated a pure culture of Bacillus pyocyaneus. With repeated sinus washings the acute infection subsided, and within several weeks the joint symptomatology cleared up completely.

In a recurrent infection toxin production may be the key factor in precipitating the attack as we see it clinically. The antigenic substances produced in the body as a result of the tissue reaction to bacterial invasion may be more etiologic than the bacteria themselves, and the toxic substances or bacterial products may be an important factor in the stimulation of the immune mechanism necessary to recovery.

It may be said in passing that the adrenocorticosteroids as such do *not* encourage natural immunity and in some instances interfere with healing processes. What is their relation to recovery? Where they fit into the scheme of reversing the process from disease to health is still a moot question. Is it all a matter of empiricism, or do we still lack the answer to the question of their relation to recovery? *Perhaps all diseases in which the corticosteroids are of value are diseases of sensitization.* It may be stated with a fair degree of accuracy that a method of therapy need not be specific, but it may be effective if it tends to alter the patient's type of tissue reaction. Then the patient himself corrects his disease in his own specific way.

The relation of adrenocorticosteroids to lymphocytes is most interesting.[11] Some workers attempted to relate the steroids to immunity because of a rise in antibodies following their injection, but on closer observation it has been found that the antibody rise was due to dissolution of the lymphocytes which release their globulin antibodies in the process. While this may and does serve temporarily as a beneficial effect in shock and exhaustion, the continued use of these steroids may vitiate the benefit caused by the destruction of the lymphocytes since no *new* antibodies are produced, whereas, following a single injection of a bacterial antigen, new antibodies *are* produced. This is further substantiated by the observation that in adrenalectomized animals antibody production goes on very well with proper antigenic stimulation.

It seems to me that the adrenocorticosteroids are essentially desensitizers and should be used primarily in tissue reactions in which sensitization is a prime factor. Their use should be discontinued when desensitization is sufficient for the natural forces of immunity to take over. In this way the steroids may be of use even in cases of tuberculous meningitis if used only for a short period of time as an emergency measure during the acute stage of sensitization. The same may be true in acute hepatitis or nephritis if the infection is of the sensitizing type. The proper use of these hormones and the proper time to discontinue them may make a difference between recovery and a fatal termination, especially in acute infections. With our present state of knowledge there can be no rule of thumb, but there is a field here for keen, clinical, empiric judgment. Greater and better knowledge in the use of these drugs will inevitably come later. When a patient with a severe and persistent infection has had the benefit of all our antibiotics and hormones and yet goes downhill and we stand helpless and watch him expire, what has happened? Could it be that we did not know the proper use of our therapeutic agents or did not know when to stop their use? Our present-day pathologists come up with new descriptions of disease processes following their postmortem investigations. We hear such terms as "necrotizing angiitis" or "acute hypersensitivity angiitis" which are acute fulminating infectious processes of sensitized vascular systems, frequently involving all organs and tissues of the body, against which processes all our therapeutic agents seem to have no effect. Could there be a relationship between the newer types of pathology and our newer therapeutic agents?

The problem of infection is still one of the most important in all phases of medicine, either by itself or as a complication in other types of pathologic processes, and exists as a threat from the very beginning of life to the very end—from the hospital nursery in individual or epidemic form to the expiration of the last breath in extreme old age. The antibiotics have been and still are a great advance in antimicrobial therapeutics. The little animalcula have been caught by surprise, and they are retreating before the onslaught of our new weapons. But in the perspective of time, this victory is only temporary. A battle has been won, but the war is still on, and the enemy is quite formidable. Some day in the future, and we see some signs of it now, the bacteria will develop a resistance to all antibiotics, and it is a question of whether we can keep a step ahead of them forever. Let me say parenthetically that they are here to stay forever—more so than we are. They were here ahead of us and will remain long after we are gone, whether through our own stupidity of self-annihilation or any other way. They are inside of us, outside of us, and all around us, and that holds true for all other species of life, animal and plant kingdoms. They are everywhere—on the surface of the earth, inside its crust, at the bottoms of the seas, and at the peaks of the mountains as well as all over space, either in active or hibernated forms. As a matter of fact, we frequently forget that life would be impossible without bacteria. They make our nitrogen cycle and give us our air to breathe. They grow our food and digest it for us by making vitamins and enzymes. Their use in agriculture and industry cannot be overestimated. We even use them to make our new wonder drugs. And yet, there are unbelievable rumors that some evil men are planning our mass destruction by using bacteria as our undertakers. The Federal Civil Defense Administrator, Val Peterson, said that in case of atomic warfare the motto of his department was "Dig, disperse, or die." In bacteriologic warfare digging and dispersing will be of no use.

Therefore it may be a good idea perhaps, instead of trying to kill bacteria or being killed by them, to learn how to live with them—a sort of coexistence. The microscopic and ultramicroscopic world of life, learned that principle long ago. The Greeks had a word for it. It is called "symbiosis," which really means coexistence. What makes a nonpathogen pathogenic? Could the fault be with us? What has broken down our balance or immunity? How can we build our defense mechanism from the beginning, recognize it when it begins to break, and rebuild it when broken? We know that all types of immunity must be boosted from time to time, and once built, our tissues possess an excellent anamnestic reaction of immunity. We had a sample of it on a large scale in the scare of smallpox in the City of New York only a few years ago; out of several million vaccinations there were many "positive takes." The basic principle of immunity is the same, and it does not matter whether the disease be smallpox, tuberculosis, typhoid fever, diphtheria, polio, cholera, rheumatic fever and its allied conditions, or any other type of infectious disease, endemic, epidemic, or pandemic. At present we are more subject to the latter than ever before because of our means and methods of communication. Perhaps in the future when we conquer space and visit the satellites (I mean astronomic satellites) or other planets, we may bring back some new types of diseases from those places.

Some years ago we wrote a fantasy on the philosophy of a germ and read it before a group of the Society of American Bacteriologists. In it we asked the bacteria a very pertinent question: "What do you want from us? Why don't you leave us alone?"

Their reply was, "We, not you, are the real object of creation. You, like many other objects, are here merely for our convenience, for use by us as our culture media, and when you are gone, either naturally or through your own untimely and stupid method of choice, we take you apart—back to the cosmic elements for new forms of creation."

Summary

The problem of infection, although greatly controlled at present, will never be conquered until we learn to approach it from the standpoint of bacterial sensitization, or rather tissue sensitization to bacteria and their toxic products, the antigen-antibody mechanism, tests for recognition of susceptibility to infections of all types, proper antigenic stimulation, and finally immunity (passive and active) to each and every type of infectious disease. Then the gained immunity will have to be maintained by periodic checking and boosting it to normal balance when necessary or in accordance with individual requirement. Let me add that the doctor of the future will of necessity have to be a good allergist because not only will he have to understand the phenomenon of sensitization of tissue in disease—and the phenomenon of tissue sensitization exists in many other diseases besides infectious—but he will also have to know how to cope with tissue sensitization produced by our new wonder drugs, the frequency of which is becoming more and more of a problem. Let us hope that the hereditary transmissibility of acquired characteristics will not transmit drug allergy to future generations.

Therein lies the future of medicine—constant vigilance, the understanding of disease in all aspects, the building of health from birth on, and maintaining it throughout life, the span of which could and will be much longer than it is at present and much more enjoyable.

In conclusion, let me add that we shall have to learn one thing more besides the understanding of disease and its management. We shall have to learn how to understand one another, learn the cause of interhuman sensitization and human reaction to it, desensitize ourselves, remove the fears or diseases of human relationship, and build a world of health, peace, and social balance and immunity. Our accomplishments will then be truly constructive and creative, and life will be really worth living.

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Unusual Disease Appears at Air Force Base

A disease which rarely appears except in epidemics of a certain liver infection has been found in 43 men at an Air Force base where there was no epidemic.

Major Robert L. Chancey and Lt. Leslie M. Zatz of the medical service at Lowry Air Force Base, Colorado, describe the outbreak of anicteric hepatitis in the July 23 issue of the *Journal of the American Medical Association.*

Hepatitis is an inflammation of the liver. The anicteric type occurring in the absence of epidemics of infectious hepatitis rarely has been reported. However, it deserves emphasis because of "its unusual nature" and the "possibility of chronic liver disease developing in unrecognized cases," the authors said.

In addition, because the disease may be a type of infectious hepatitis, persons with it should be removed temporarily from the roll of blood donors. The ailment appeared in conjunction with upper respiratory infections, which were controlled by antibiotics within four to seven days. However, a majority of patients continued to have fatigue, pain, or loss of appetite. Forty-one complained of sharp or aching pain in the liver area. Eleven patients showed abnormal liver function, while the remaining 32 were normal. All showed signs of inflammation of the liver. None developed jaundice.

Treatment for hepatitis consisted of rest and high-protein and high-caloric diets, with hospitalization varying from eighteen to one hundred fifty-five days.

Cause of the outbreak is unknown. It could be one of several things, but no specific diagnostic tests have been developed, the doctors said. Had the possibility of liver disease not been considered, these cases might easily have been misdiagnosed as unusual upper respiratory infections or as influenza. Correct diagnosis is important because of the possibility of future complications.

Recent Developments in Diarrhea of the Newborn

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EPIDEMIC diarrhea of the newborn is an important disease to health personnel because outbreaks, although tending to commence innocuously, frequently develop a high case fatality rate with attendant unfavorable publicity. It is our intention to summarize briefly our current knowledge of this disease, to trace its history in upstate New York, and to indicate the efforts that the State Department of Health has been making to control it.

Diarrhea of the newborn occurs primarily in infants during the first four weeks of life, especially in premature and debilitated infants, and epidemics are limited to nurseries of hospitals or other institutions where such infants are congregated. Although a detailed clinical description of this disease will not be made, it should be emphasized that there is wide variation in its manifestations ranging from mild anorexia, failure to gain weight, and a few loose stools to severe vomiting and frequent watery and explosive stools resulting in marked dehydration, acidosis, and depletion of electrolytes. A typical epidemic starts insidiously with mild unrecognized cases developing symptoms after discharge from the hospital. Next infants begin to develop mild illness while still in the nursery. It may take a few days to several weeks before patients with serious symptoms appear in the nursery and the full extent of the outbreak becomes manifest.

Until recently little has been known about the etiology of this condition. A few epidemics of infantile diarrhea caused by Salmonella, Shigella, protozoa, and parasites have been described, and more rarely other bacteria have been incriminated. Some investigators have been able to transmit filtrable agents in individual epidemics to animal hosts,[1,2] but this work is largely unconfirmed. It seems probable that viruses have caused certain epidemics of this disease in which there has been a coexisting widespread gastroenteritis in the community. In 1945 Bray[3] was able to isolate a specific serogroup of Escherichia coli from cases of newborn diarrhea, and identify it using serologic technics. Since then at least 14 different pathogenic serogroups of E. coli have been found in association with infantile diarrhea in various countries. While these serogroups of E. coli have occasionally been found in older children and adults, they appear to be much more virulent in the newborn. These organisms frequently persist in the stools of patients following recovery and may lead to relapses or to secondary cases. Fortunately most of these pathogenic strains have been found to be sensitive to neomycin.[4,5]

TABLE I.—REPORTED CASES, DEATHS, AND OUTBREAKS OF DIARRHEA OF NEWBORN IN UPSTATE NEW YORK, JULY, 1946, TO DECEMBER 31, 1954

Year	Cases*	Deaths†	Outbreaks**
1946	75	18	5
1947	203	47	6
1948	160	27	5
1949	68	14	2
1950	67	19	3
1951	56	3	5
1952	7	5	0
1953	17	9	0
1954	92	21	5
TOTAL	745	163	31

* Includes sporadic cases.

† In 1946 through 1951, includes those not primarily attributed to diarrhea.

** 6 outbreaks are recorded in 1942 and 7 in 1945.

The exact mode of transmission of this disease has not been proved but has been assumed to be similar to that of other enteric pathogens which are spread via the fecal-oral route by means of contaminated hands, linen, and clothing. Although pathogenic E. coli have been found in the nose and throat of patients and in nursery dust, the significance of this is not known. It has been postulated that the reason E. coli diarrhea is so highly contagious is that the stools contain such very large numbers of E. coli. The incubation period has been variously described but in most epidemics is from four to eleven days with an average of six days.

Experience in Upstate New York

In upstate New York epidemic diarrhea of the

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TABLE II.—EPIDEMICS OF DIARRHEA OF THE NEWBORN IN UPSTATE NEW YORK SINCE JULY 1, 1946

Epidemic	Size of Hospital*	Duration of Epidemic	Cases	Deaths	Case Fatality Rate	Laboratory Findings
1946						
1	C	3 months	17	5	29.4	No pathogen isolated
2	D	1 month	6	1	16.6	No pathogen isolated
3	B	unknown	6	0	0	No pathogen isolated
4	D	6 days	7	1	14.3	No pathogen isolated
5	D	5 days	17	0	0	No pathogen isolated
1947						
1	D	1 month	18	0	0	No pathogen isolated
2	D	11 months	60	12	20.0	E. coli 0-111 (5/5 cases)†
3	C	3 days	7	0	0	Hemolytic E. coli (4/7 cases)†
4	B	1 week	10	0	0	No pathogen isolated
5	D	24 days	57	18	31.6	E. coli 0-111 (2/2 cases)†
6	D	2 months	19	2	10.5	No pathogen isolated
1948						
1	D	8 months	25	0	0	No pathogen isolated
2	D	3 days	14	0	0	No pathogen isolated
3	C	2 months	28	2	7.2	No pathogen isolated
4	B	2 months	5	4	80.0	No pathogen isolated
5	D	1 month	15	0	0	No pathogen isolated
1949						
1	D	5 days	5	0	0	Salmonella (2/5 cases)†
2	D	7 days	4	0	0	No pathogen isolated
1950						
1	D	1 day	4	0	0	No pathogen isolated
2	C	1 month	12	3	25	No pathogen isolated
3	B	1 day	5	0	0	No pathogen isolated
1951						
1	D	1 month	20	0	0	No pathogen isolated
2	C	6 weeks	12	0	0	No pathogen isolated
3	D	8 days	6	0	0	E. coli (4/6 cases)†
4	B	5 days	9	2	22.2	No pathogen isolated
5	A	1 day	3	0	0	Salmonella (1/3 cases)†
1954						
1	B	1 day	5	0	0	No pathogen isolated
2	C	5 months	17	8	47.1	E. coli 0-127 (2/2 cases)†
3	C	5 days	3	0	0	E. coli 0-26 (2/3 cases)†
4	D	3 weeks	13	0	0	E. coli 0-111 (1/14 cases)†
5	C	6 weeks	31	0	0	Staphylococcus aureus, albus, or citreus (12/17 cases)†

* Size of hospital:
A—0 to 99 births per year
B—100 to 499 births per year
C—500 to 999 births per year
D—1,000 and over births per year

$\dagger\ \frac{\text{Cases with positive culture}}{\text{Cases cultured}}$

newborn has been known to exist since 1935. After the disease became reportable in July, 1946, more reliable information concerning its incidence became available. Table I shows the number of reported cases, deaths, and outbreaks from July, 1946, until the end of 1954. This includes sporadic as well as epidemic cases. The table shows the sharp drop in the number of reported cases in the years following the enactment in 1948 of Regulation 35, Chapter II, of the State Sanitary Code. It also shows that there were no epidemics reported in 1952 and 1953 but that five epidemics occurred in 1954.

A review of the 31 outbreaks of diarrhea of the newborn reported from 1946 through 1954 reveals several interesting facts (Table II). In 20 epidemics there were no deaths, while in 11 others the case fatality rate ranged from 7.2 to 80 per cent. The duration of the epidemics ranged from one day to eleven months. In general, the case fatality rate was lower in short epidemics, there being no deaths in 14 out of 16 epidemics lasting less than three weeks. This is consistent with the observation that most epidemics of this disease start insidiously with milder cases and points to the importance of early recognition and vigorous corrective action.

The etiologic organism was undetermined in 23 outbreaks. Pathogenic serogroups of E. coli were isolated from the stools of some of the patients in five epidemics; in three epidemics the organism was 0-111, and in one each 0-127 and 0-26. Two outbreaks were probably caused by Salmonella, while in another large numbers of Staphylococcus aureus and albus were found in many cases. Actually these figures are deceiving since in very few of these epidemics was a thorough search made for pathogenic E. coli. In two epidemics frozen stool specimen examined for E. coli five years later revealed the probable etiology.[6] The frequency with which pathogenic serogroups of E. coli have been found when looked for during the past year indicates the value of submitting E. coli isolated from stools in outbreaks of this disease to a laboratory equipped and staffed to do this work. At the present time serogrouping of E. coli is being done at the Children's Hospital in Buffalo, at the Nassau County Health Department Laboratory, and at the Division of Laboratories and Research of the State Health Department in Albany. Later this year the State Health Department plans to distribute to approved laboratories pooled sera for preliminary detection of pathogenic strains of E. coli.

State Health Department Program

The yearly occurrence of outbreaks of diarrhea of the newborn prompted the New York State Department of Health to initiate in 1948 the control program which has been described previously.[7,8] The aim was to prevent the introduction of infection into newborn nurseries and to limit its spread by modifying nursery facilities and practices so as to set up effective barriers between infants and between mother-infant units. A preliminary questionnaire sent to all hospitals and institutions having nurseries for newborn infants revealed that roughly one-half had definite defects which could readily permit the spread of enteric infections. Chief among these were overcrowding, understaffing, lack of handwashing facilities, the use of common equipment and common bathing and dressing tables, and the omission of terminal heating of formulas.

Regulation 35, Chapter II, of the Sanitary Code, designed to control diarrhea of the newborn, became effective January 1, 1949. The provisions of this regulation were based on the recommendations of leading authorities in the medical, nursing, and hospital fields. These provisions prohibited overcrowding of nurseries, understaffing of nurses, and the use of common equipment. Personnel were to wash their hands between contacts with infants. Any infant even suspected of having diarrhea was to be removed from the nursery. Nursery nurses were not to care for infected patients. Terminal heating of formulas was specified.

There was an immediate improvement in the standard of care of newborn infants following the enactment of this regulation. Local and State Health Departments supplied specialized consultation to the hospitals. Institutes were set up to train nurses in improved nursery technics and practices. Within two years the vast majority of the nurseries were in substantial conformance with the regulation, although 16.2 per cent were granted short-term deferments for construction.

TABLE III.—OUTSTANDING VIOLATIONS OF REGULATION 35

Selected Major Provisions of Regulation 35*	Per Cent of Hospitals with Violation		
	1948†	1949–1951**	1954**
Facilities			
24 square feet of floor space or cubicles	66	32	10
Nurseries limited to 12 or fewer infants	45	18	8
Practices			
Separate nurses for well and sick infants	14	3	8
Nurse-baby ratio of 1:12 around the clock	33	14	7
Terminal heating of formula	58	9	5
Use of individual equipment except scales	53	8	5

* For each major provision other than these, violation occurred in less than 5% of hospitals inspected in 1954.
† Questionnaire before Regulation 35 became effective.
** Hospital inspections.

During the years 1950 to 1954 hospital nursery facilities and staffing did not keep pace with the increased number of births. Despite this fact the annual number of cases of diarrhea of the newborn continued to fall, and as has been stated, there were no outbreaks reported in 1952 and 1953. It was generally believed that the problem of newborn diarrhea in upstate New York had been effectively surmounted. This complacency was abruptly shaken when the news of a large outbreak in an eastern New York hospital was made public in the summer of 1954.

Recent Control Measures

The State Department of Health immediately set about re-evaluating the situation. All full-time health officers were directed to reinspect the newborn nurseries within their jurisdictions and to report their findings. The finding that many hospitals were not complying with Regulation 35 demonstrated the need for better routines for carrying out inspections of nurseries at regular intervals, following up on recommendations, and enforcing the regulation. Finally the regulation itself was known to have certain imperfections. The meaning of some sections was not clear; others were not spelled out in enough detail, while a few important measures for the control of diarrhea of the newborn had been omitted. For these reasons plans were made to revise and amplify the existing regulation.

TABLE IV.—RESULTS OF 1954 HOSPITAL INSPECTIONS, UPSTATE NEW YORK, BY SIZE OF MATERNITY AND NEWBORN SERVICE

Size of Maternity and Newborn Service (Number of Births per Year)	Total Number of Hospitals Inspected	Hospitals with One or More Major Violations					
		Facilities		Practices		Total (Unduplicated Count)	
		Number	Per Cent	Number	Per Cent	Number	Per Cent
0 to 99	22	1	4.5	5	22.7	6	27.3
100 to 499	90	10	11.1	21	23.3	27	30.0
500 to 999	47	6	12.8	9	19.1	10	21.3
1,000 and over	59	20	33.9	15	25.4	22	37.3
TOTAL	218	37	17.0	50	22.9	65	29.8

The results of the inspections of newborn nurseries in 1954 showed that satisfactory progress had been made in the previous six years except in specific areas (Table III). Thirty per cent of the 218 nurseries inspected had at least one violation of the more important provisions of Regulation 35 (Table IV). Too many nurseries were still overcrowded. Nursing staffs, especially in the larger hospitals, were inadequate in numbers, and many smaller hospitals and institutions were permitting nurses assigned to the well infant nurseries to care for infected patients also. A significant number of hospitals were not performing the terminal heating of formulas in a satisfactory manner. The use of individual equipment for each infant was not being carried out in several hospitals. Other violations of the important provisions of Regulation 35 were found less frequently. The proportion of hospitals with important violations was highest in those with over 1,000 births per year, yet this was the very group in which most of the outbreaks had taken place in the past nine years.

In reviewing the results of the investigations of the five outbreaks in 1954, the most frequently observed defects were overcrowding of nurseries, understaffing, inadequate professional nursing supervision, poor handwashing technics, and general misunderstanding of the principles of unit care. In addition, prompt concerted action was prevented in four out of five epidemics by considerable delay in reporting to the health department. It is believed that failure to carry out the provisions of Regulation 35 was a major factor in permitting the spread of these epidemics in the nurseries involved. The epidemics were brought under control following the correction of all observed defects and in some instances the administration of antibiotics to infants and nursery personnel or the temporary closure of the maternity and newborn services.

In order to insure that the provisions of Regulation 35 are carried out, policies and procedures for enforcing the regulation have now been clarified and strengthened. The local full-time health officer or his representative must inspect all newborn nurseries at least once a year. He must take appropriate steps to see that violations of the regulation are corrected as soon as feasible. The State Health Department also plans to prepare in the near future a guide to assist health officers in making hospital inspections and in helping hospitals to meet the requirements of the regulation.

Revision of Regulation 35

The revision of Regulation 35 was completed this winter and was reviewed by the Medical Society of the State of New York, the Hospital Association of New York State, and the Conference of County, City, and District State Health Officers, as well as by the professors of pediatrics in all the upstate New York medical schools and by many individual pediatricians and qualified professional nurses in New York City and in upstate New York. Many of the suggestions of the above-mentioned groups and individuals were incorporated into the revised regulations. On March 25 the revised regulation was passed by the Public Health Council. It will go into effect September 1, 1955.

Although the regulation has been completely rearranged and rewritten in considerably more detail than previously, the principles embodied in it are much the same. There are several sections, however, which contain new requirements. Most of the provisions are modeled on the recommendations of the American Academy of Pediatrics.[9]

The first part of the regulation deals with hospital facilities. Observation or suspect nurseries are now required. Newly constructed or remodeled observation nurseries must have space for housing one bassinet for every 12 bassinets in the well infant nurseries, but they may not contain more than four bassinets per room. Each newly constructed or remodeled nursery must have a nursery accessory room communicating with it. Rooms for the isolation of definitely contagious cases may not be located on the maternity and newborn service.

The second part of the regulation covers assignment of personnel. A member of the medical staff must be designated as physician-in-charge and a registered professional nurse as nurse-in-charge of the newborn nurseries; a registered professional nurse or qualified dietician must be designated as responsible for the supervision of the preparation of formulas. The nursing care of mothers and newborn infants must be supervised by a registered professional nurse. The nursing staff for the maternity and newborn service must be separate from the rest of the hospital nursing staff twenty-four hours a day.

In the section on hospital policies all personnel and all visitors with known symptoms of diarrhea or other communicable disease are excluded from the maternity and newborn services and formula room. Visitors are limited to two per mother except in the case of rooming-in where only the father or a person designated by the mother may visit.

Formula preparation is next described. No exceptions to the terminal heating of formulas are permitted, and a sample of the formula must be examined bacteriologically in a State-approved laboratory once a week. The changing of nipples at any time after preparation of the formula is prohibited.

The provisions concerned with nursery technics and practices have also been amplified. Bassinets are to be maintained at least 2 feet apart. The nurseries and accessory rooms are not to be used to store extra bassinets and nonessential equipment. The use of gowns is outlined. Masks are prohibited unless changed every thirty minutes. When an infant has been exposed to potential sources of infection or when he has been born outside the hospital, he must be placed in the observation nursery for one week before being transferred to the well infant nursery.

Finally a section has been added which directs the hospitals, physicians, and nurses to inform the local full-time health officer if any newborn infant has one or more watery or explosive stools on two successive days, if any patient is admitted to the hospital with diarrhea the onset of which occurred when the patient was less than twenty-nine days of age, or if the existence of diarrhea of the newborn is even suspected. By this provision it is hoped that the health departments can be informed of outbreaks soon after their onset and before a definite diagnosis of diarrhea of the newborn can be made on individual infants. The health officer can thus be of the most value in evaluating the situation and in advising measures necessary to check an incipient outbreak.

Conclusion

The last chapter has definitely not been written on the control of diarrhea of the newborn. In many epidemics the etiology is still not known, although E. coli serogroups are being reported with increasing frequency.[10] Since many strains of E. coli are susceptible to antibiotics, particularly neomycin, this drug has been used not only to treat cases of E. coli diarrhea throughout their hospital stay, but as prophylactic medication in well infants and nursery personnel to check the further spread of an epidemic. Inasmuch as it has been demonstrated that E. coli diarrhea can be transmitted from one institution to another by patients continuing to harbor these organisms, it is now recommended that infants admitted to hospitals be carefully screened, isolated, and if necessary treated with neomycin. No doubt other barriers to the development and spread of newborn diarrhea will be discovered as our knowledge of the etiology and pathogenesis of this disease increases. Our experience in New York State reveals that the knowledge we have at the present time, if fully understood and consistently utilized by all persons dealing with newborn infants, can effectively prevent the spread of this disease throughout a nursery community. This can only be done, however, with the cooperation of hospital administrators, nurses, physicians, and health department personnel.

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Auditory Involvement in Divers and Caisson Workers

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Auditory involvement in decompression caisson illness manifests itself in a sensation of pressure, deafness, and pain in the ears which may arise from unequal pressure between the middle ear cavity and the outside. It is divided into three types:

1. Transitory middle ear involvement with auditory symptoms as the result of faulty or too rapid decompression. This causes a disturbance of pressure on the drum and results in eustachian tube blockage. This is known as a "blocked ear." When the pressure on the drum is again equalized, no change in hearing acuity takes place. There is no definite characteristic for the hearing loss in a blocked ear.
2. Temporary deafness with or without vertigo and lasting from four to fourteen days. In such cases the drums show congestion, and in severe cases there are signs of hemorrhage into the drum or middle ear. Blood coming from the eustachian tube may appear in the sputum.
3. Permanent deafness which appears as a Ménière's syndrome with vertigo, vomiting, and nausea. The symptoms may last indefinitely and are caused by lesions produced by air bubbles in the cochlea and vestibular nerve or in the internal labyrinth of the ear.

The effect of compression on the auditory apparatus is easily explained. The gas present in the middle ear expands so that it bulges the drum, and when sufficient pressure is built up, it either opens the eustachian tube and escapes or else ruptures the drum so that the pressure is equalized. In decompression the opposite occurs. The drum becomes retracted, the middle ear pressure becomes negative, and the eustachian tube tends to collapse. This results in symptoms of diminished hearing, tinnitus, pain, and fullness in the ears. When the eustachian tube is patent, the symptoms quickly disappear, especially when the worker is trained to clear the blockage by yawning, swallowing, or performing Valsalva's maneuver (blowing the nose with the nostrils occluded). In this manner the eustachian tube is opened, and equalization of the pressure in the middle ear takes place. Any abnormal otolaryngologic condition, including allergies, which does not permit free ingress of air can cause congestion and swelling of the nasal mucosa and contribute to the tubal blockage. It is advisable, therefore, that pre-employment examination be done to eliminate such conditions before a man is hired to do this type of work. When equalization does not take place, the drum becomes retracted, hyperemic, and painful. If not relieved, the congestion increases until fluid accumulates in the middle ear and a fluid level can be distinguished.

Auditory symptoms of decompression occur only as the end result of faulty or too rapid decompression. The predominant symptoms are, first, the "bends" with pain in the extremities and abdomen and, less frequently, disturbances of the cerebral nervous system and collapse. This is sometimes accompanied by a Ménière's syndrome. When upper respiratory symptoms occur, resulting in tracheitis, bronchitis, and hyperemia and congestion of the mucous membrane dyspnea may occur, and this is referred to as the "chokes." When the symptoms occur only as an ear block resulting from tubal occlusion, the first sign is severe pain with a feeling of fullness in the ears. This is followed by a hollow muffled feeling when talking so that the voice sounds nasal. If this condition is not relieved, perforation of the drum may ensue. If relieved within a reasonable period of time, all symptoms will clear up, and no damage to the auditory apparatus takes place so that the worker may not have to lose any time from work.

When the symptoms occur from inner ear lesions, it will be found that the worker has been too rapidly returned to normal environment, or there is faulty decompression. The resulting hearing loss rarely clears up completely. These symptoms result from the rapid formation and liberation of nitrogen and carbon dioxide bubbles, and because the blood cannot carry them to the lungs quickly enough, these bubbles are set free in the tissues to form emboli. When such emboli enter the inner ear and labyrinth, Ménière's syndrome results. This may take the form of pain, tinnitus, vertigo, dyspnea, and nystagmus. When migraine or severe headache occurs, it is usually due to vascular spasm of the cerebral vessels as the result of bubble formation in the cerebral tissue. A marked loss in bone conduction and a loss of hearing in the upper ranges result. Deafness usually follows when bubbles form in the labyrinths and cause hemorrhage into the cochlea or semicircular canals.

In examining the tympanum at this stage, it will appear markedly retracted and congested. In extreme cases multiple hemorrhage will appear in the drum, and this may be followed by perforation, usually of the central type. Where no perforation has occurred, hearing usually returns to normal in from ten days to two weeks, especially if treatment is instituted and patency of the eustachian tube is re-established. When there is a perforation, the degree of hearing disability depends on the position of the perforation and whether it is ragged, multiple, or of the simple type, and usually there is a hearing loss of from 25 to 35 decibels.

While the audiogram will often show a diminution in hearing over the entire frequency range, as the pathology clears up, hearing will return to the initial threshhold of acuity except where the inner ear has been involved by hemorrhage or gas emboli. In such cases the hearing loss will be more or less permanent.

No worker should be permitted to enter a caisson or compression chamber if his ears, nose, or throat are not in a normal condition. Those suffering from colds, chronic rhinitis, sinusitis, nasal obstruction, and allergies should be excluded. Decompression should not be hurried since too rapid a decompression is responsible for a great many symptoms.

The experienced worker usually knows how to equalize the pressure in his middle ears. He does this by self-inflation or repeated swallowing. If this fails to give relief, he should seek medical aid in having the eustachian tube inflated and opened. When there are acute symptoms of tinnitus, dizziness, vomiting, aural pain, and bilateral hearing loss, it signifies involvement of the labyrinths. Such workers are also suffering from the "bends" or "chokes," and the only treatment for immediate relief is rapid recompression which restores the normal blood supply and eliminates the gas emboli in proportion to the amount of pressure applied. This compresses the gas bubbles permitting them to be redissolved slowly and carried away by the blood supply.

A diagnosis of nerve deafness in a caisson worker, where no accident has occurred, requires proof of several years work in a noisy chamber where drilling or air hammering has been going on. The fact that a laborer has worked in a caisson and under compressed air does not necessarily mean that his auditory apparatus becomes involved. Only when there are repeated ear blocks, accompanied by hemorrhage into the drum, middle ear, or labyrinth, or when gas bubbles form in any part of the auditory apparatus during an attack of "bends" or "chokes" will the hearing become affected.

A blocked ear rarely causes a handicap in hearing, and working in compressed air rarely results in a permanent hearing loss unless an accident or faulty decompression takes place. When no perforation occurs in a blocked ear, hearing usually returns to normal or status quo, especially when tubal patency is re-established.

Equalization of pressure in the middle ears and sinuses usually occurs promptly and without difficulty even in rapid decompression if no nasal or oral pathology exists. However, when the eustachian orifices are occluded for any reason, the drum may rupture, and other unpleasant aural symptoms may appear during rapid decompression.

To prevent the hazards of ear block in decompression of caisson workers, all oral or nasal pathology which tends to obstruct the eustachian tube orifices must be eliminated. Enlarged and diseased tonsils, nasal polyps, or hypertrophied lymphoid tissue in the nasopharynx should be removed either surgically or by radiation. Temporomandibular as well as dental abnormalities should be corrected. Colds and upper respiratory infections must be cleared up, and under no circumstances should a worker suffering with these conditions be permitted to enter any compression chamber. The resulting edema of the membrane seals the orifices of the eustachian tubes, and the danger of ear blockage is greater. In trying to force open the eustachian tube during decompression, the worker may force infectious matter from the nose and sinuses into the middle ear.

Caisson workers and sandhogs should have no difficulty with their ears, nose, or throat if they follow the regulations and if the decompression is not faulty or too rapid. Often the worker is in such a hurry to get home that he will disregard the decompression regulations and sneak out through an emergency exit without proper decompression and, in so doing, gets into difficulty.

Recently the author examined a number of compressed air workers who had been employed in the construction of the Brooklyn-Battery Tunnel. These sandhogs were generally employed for an average of from fifteen to nineteen hours per week, four days a week, or three to four hours per day. As is customary in this type of work, the men work half of their shift on any one particular day under compressed air and then are above ground doing no work for anywhere from two to four hours before returning to the second half of their shift.

The noise level in this type of work runs up to 120 to 125 decibels during drilling. Usually one or two air hammers are in operation at any one time but not continuously since drilling is done only when rock strata are encountered.

The histories given by all these men claiming deafness resulting from their occupation were almost identical. They had all worked at their occupation over a period of from twenty to thirty years, and the majority of them claimed that they could recall no ear blocks until working at their current job. A few of the workers admitted having had mild ear blocks on their previous jobs but claimed that none was severe enough for them to need medical attention or to keep them from their work. A number claimed that one or both ears blocked on entering the air chamber but cleared up as soon as their ears were blown out. There was no aural bleeding or discharge. Several others felt the symptoms were relieved after leaving the chamber, and the majority of these felt well enough to continue their work. A number of the men examined were able to clear their ears by themselves, either by yawning, chewing, or using the Valsalva method.

The symptoms were all similar. The sandhogs felt blockage of one or both ears on entering the compressed air chamber. The majority felt no pain, and none bled from the ears. A few had nasal bleeding. All claimed that they noticed a loss in their hearing. A few admitted having a loss in hearing prior to the time they started working at their last place of employment but claimed that the last ear block aggravated the hearing loss.

The majority of ears examined following claims of ear block and subsequent hearing loss showed dull, retracted, thickened, and sclerotic drums. Many showed old healed perforations. Almost all showed an absence of light reflex and calcified peripheries. A number showed the ossicular chain surrounded by a chalky, sclerotic area. Strangely enough, all had patent eustachian tubes. Only a few cases showed pathology resulting from recent ear block.

From the above findings it was readily seen that most of these cases showed chronic old pathology of many years duration, and their condition was not the result of recent employment.

Audiometer findings in the majority of the cases disclosed a mixed deafness with loss in both the low and the high tones, and in many cases the characteristic dip around the 4,000 frequency found in nerve deafness was present.

In acute cases or when a diagnosis of barotrauma was made, the loss was found in the low tones, but this usually cleared up completely, leaving no permanent hearing loss.

X-ray findings in those cases showing mixed deafness revealed advanced sclerosis of the mastoids in the majority, corroborating the findings of chronic middle ear deafness.

Case Reports

Case 1.—J. M., age sixty-two, a sandhog for thirty years who worked in tunnels and caissons, admitted that he had had numerous ear blocks but that these had caused no disability or loss of time from work. He denied any illness, accident, or operation on his ears, nose, or throat and denied ever having had any head injuries. There was no history of deafness in the family. He claimed he had never had malaria and could recall no childhood diseases.

In December, 1951, the patient started work on the present job, and in June, 1952, on entering the compressed air chamber, both ears became blocked. There was no aural bleeding or discharge. He left the air chamber and finished out the day's work in the open. When his ears did not clear up, he called at the New York Eye and Ear Hospital where both ears were blown out, and this cleared up the condition considerably. He returned to work in the air chamber and continued to work until the job was finished. When examined on September 22, 1953, he complained of inability to hear well but claimed that he had no noises in his ears. He stated that

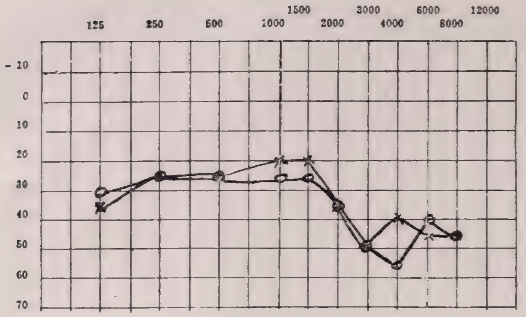

FIG. 1. *Case 1*—Audiogram showing 24 per cent loss in right ear (X) and 25 per cent loss in left ear (O).

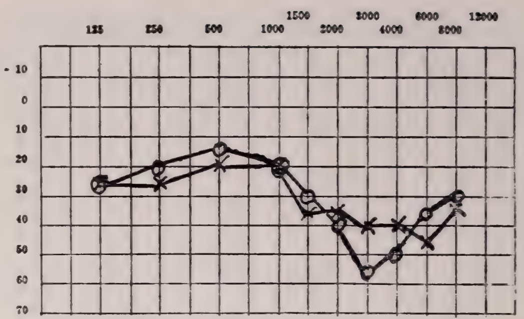

FIG. 2. *Case 2*—Audiogram showing 18 per cent hearing loss in right ear (X) and 23 per cent loss in left ear (O).

while he had had some trouble with his ears before starting on the present job, the ear block he suffered while on this job caused his hearing loss to become much worse.

Otoscopic examination showed the right drum to be dull, thickened, and retracted. There was an old, healed central perforation. The anterior part of the drum was scarred and bound down by adhesions. The light reflex was absent. The left drum was likewise dull, thickened, and retracted and showed a scar of an old healed perforation.

The Rinne test was diminished positive. There was no lateralization, and Schwabach's test showed shortening of twelve seconds in bone perception. A diagnosis of mixed deafness was made, the audiogram showing a hearing loss of 24 per cent in the right ear and 25 per cent in the left ear with the characteristic nerve deafness dip around the 4,000 frequency (Fig. 1).

Comment.—This worker had a mixed deafness consisting of an old chronic middle ear disease of suppurative origin and a nerve deafness, the result of working thirty years in caissons, with a part of the nerve deafness due to presbyacusis. His employment on the last job was only of seven months duration; he worked from three to four hours a day, 4.6 days per week, at a noise level between 125 and 130 decibels. During this time he had had only one ear block which cleared up without hemorrhage or perforation, did not cause the existing deafness, and was not of sufficient length to have aggravated the original condition.

CASE 2.—M. B., age fifty-three, a mucker and compressed air worker since 1929, claimed that while working in the Brooklyn-Battery Tunnel, he suffered from the "bends" once, and his ears were blocked on several occasions but said these incidents were trivial. He was not hospitalized and lost no time from work because of them. He denied any previous illness, accident, or operation on his ears, nose, or throat, had never had malaria, and had suffered no head injuries. He worked one hundred and three days, averaging 4.7 hours a day, 19.4 hours per week, or 4.8 days per week. He worked on the first shift for one and a half hours, then went on relief for four hours, returning to the second shift for the same period of time.

During his working time the noise level was between 120 and 125 decibels.

The patient claimed that on March 3, 1952, on entering the compressed air chamber, both ears became blocked. He came out of the chamber and was examined by the doctor in attendance. He had no bleeding, and there was no perforation. He reentered the chamber after a short rest, following the disappearance of the uncomfortable ear symptoms, and finished out the shift. He said that he had been able to clear his ears himself. He later was treated by his own physician and once at the Harlem Hospital Dispensary. His doctor made a diagnosis of bilateral aero-otitis. He continued working on the job until it was finished on July 8, 1952, and then put in a claim for impaired hearing due to his occupation.

Otoscopic examination showed both drums to be dull and retracted with sclerotic areas around the ossicular chain. The light reflexes were present. There were no acute aural symptoms.

The Rinne test was positive. Weber's test lateralized to the right, and Schwabach's test showed shortening in bone perception.

X-ray of the mastoids showed advanced sclerosis with few cells remaining.

A diagnosis of mixed deafness was made, the audiogram showing a hearing loss of 18 per cent in the right ear and 23 per cent in the left ear (Fig. 2). The characteristic nerve deafness dip was present around the 3,000 frequency.

Comment.—This worker admitted to only one ear block on the last job. This was not severe enough for hospitalization and did not cause any loss of time from work. There was no bleeding or perforation. Aural pathology and audiometric reading of the claimant a year after the incident of the ear blockage led to a diagnosis of mixed deafness with presbyac-

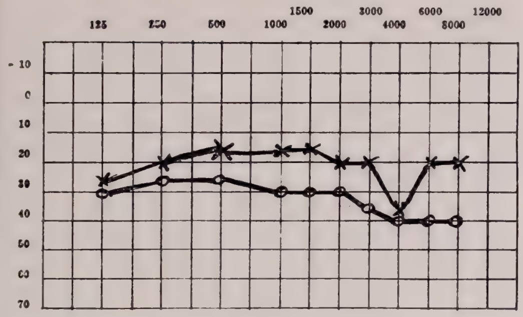

FIG. 3. *Case 3*—Audiogram showing 8 per cent hearing loss in right ear (X) and *20* per cent loss in left ear (O).

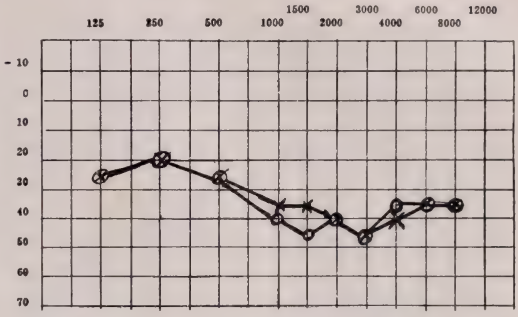

FIG. 4. *Case 4*—Audiogram showing 24 per cent hearing loss in right ear (X) and 31 per cent in left ear (O).

usis. It was my opinion that the short period of exposure on his last job could not have caused the existing hearing loss.

CASE 3.—J. Mc., age forty-seven, a tunnel and caisson worker for twenty-eight years, admitted numerous ear blocks in the course of his work for the past twenty years but claimed that these were all trivial and he never had to consult a physician. He denied any accident or illness except for a tonsillectomy performed twenty years ago and a fractured nose in 1947. He had never had malaria but had had measles, chickenpox, mumps, and smallpox during childhood.

The patient started on his last job in December, 1951, and in June, 1952, upon entering the air chamber, his left ear became blocked. The ear cleared up as soon as he left the chamber, and he returned to work to finish out the shift. When he left the chamber again, the left ear blocked. There was no bleeding or discharge. He consulted a physician, was treated by him four times, and was then referred to an otologist. He was out of work two days. The ear block cleared up except for a whistling noise. He continued to work on this job until it was finished. His present complaint was a whistling sound in his ears.

Otologic examination showed the right drum to be dull and retracted with all landmarks gone. Calcified plaques were present, both at the center and periphery. The eustachian tube was patent. The left ear showed a similar condition except that the calcified plaque was larger, and the entire periphery was calcified. X-ray of the mastoids showed sclerotic changes bilaterally.

The Rinne test was positive in the right ear and negative in the left ear. Weber's test showed no lateralization. Schwabach's test showed no shortening in bone perception. A diagnosis of chronic middle ear deafness was made. The audiogram showed a loss of 8 per cent in the right ear and 20 per cent in the left ear, the binaural loss being 10 per cent (Fig. 3).

Comment.—This sandhog admitted to working in air chambers since the age of nineteen, and during this time he had had several ear blocks, none severe enough to require medical attention. The employment in the last job averaged one hundred forty-three days, five hours per day. During this time he experienced only one ear block. As a result, he was away from work two days and was treated by a physician.

Examination in October, 1952, showed the presence of old chronic middle ear pathology, more marked in the left ear. This was corroborated by x-rays which showed sclerotic mastoids. The one ear block he had while on the last job cleared up and was not severe enough to aggravate the old standing middle ear condition. It was my opinion, therefore, that this claimant had chronic middle ear disease which had been present over a period of years and was not the result of the present occupation.

CASE 4.—J. B., age fifty-two, a tunnel worker for the past twenty-five years, denied any history of illness, operation, or accident to his ears, nose, or throat and denied ever having had the "bends" or "chokes." He admitted numerous ear blocks while working in caissons but claimed that these always cleared up completely without medical treatment.

At his last place of employment the noise level ran from 120 to 125 decibels during drilling. He claimed that after working on this job for three or four months, he noticed that he could not hear so well as formerly. He admitted that during this time his ears became blocked on several occasions but cleared up immediately on leaving the compressed air chamber, and he never had to consult a physician for this condition.

His only complaint at the time of examination was difficulty in hearing.

Otologic examination disclosed both ear drums to be dull, thickened, and sclerotic. The lower parts of the drums were chalky, and the upper parts appeared bound down by adhesions. There were no

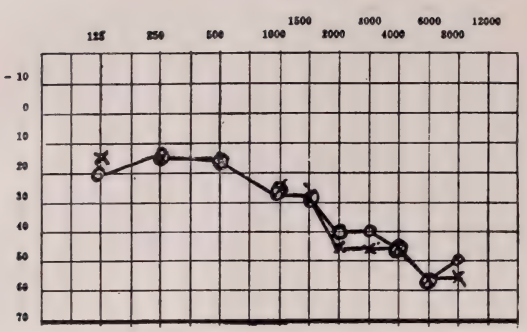

Fig. 5. *Case 5*—Audiogram showing 28 per cent hearing loss in right ear (X) and 23 per cent loss in left ear (O).

signs of any perforations or recent hemorrhages into the middle ears.

The Rinne test was negative in the left ear and diminished positive in the right ear.

Rhinologic examination showed a deviation of the septum with obstruction in the left nostril. There was a perforation in the anterior part of the septum. The tonsils were embedded, cryptic, and diseased.

A diagnosis was made of mixed deafness consisting of an old chronic middle ear disease and a superimposed nerve deafness. The audiometer showed a loss of 24 per cent in the right ear and 31 per cent in the left ear, the combined loss being 25 per cent (Fig. 4).

Comment.—This claimant had been a sandhog for twenty-five years and during this period had had numerous ear blocks which cleared up spontaneously without medical attention. On the last job he had worked about six months on an average of four hours a day, and during this time he had several ear blocks which cleared up as soon as he left the caisson.

Examination on August 20, 1952, revealed an old middle ear deafness with a superimposed nerve involvement, part of which could be attributed to presbyacusis. X-rays taken of both mastoids showed extensive sclerotic changes in the region of the antrums.

Case 5.—D. M., age forty-nine, a sandhog for the past twenty years who had worked in compressed air chambers in the construction of the Queens-Midtown Tunnel, Throggs Neck Sewerage Project, and the Brooklyn-Battery Tunnel, denied ever having had any illness or accident during this time except for numerous ear blocks which cleared up in from five to thirty minutes and never required medical attention.

His last job started in January, 1952. He worked there for a total of twenty-seven weeks for 4.6 days each week, averaging 4.9 hours per day. In June, 1952, he entered the air chamber, and his left ear blocked. He remained in the chamber two hours; on leaving, the ear became very painful, and there was bleeding from the nose. He consulted the doctor on the job who instilled drops into his ear, and after a short time the ear cleared up. Several weeks later the same ear blocked as he was leaving the air chamber, and this time the physician irrigated his ear. He did not return for further treatment. His job was finished on August 8, 1952.

His complaint at the time of my examination was a stinging sensation and noises in the left ear with a loss of hearing in this ear only. He claimed that the right ear was all right.

Otologic examination revealed the right ear drum to be dull and retracted with the light reflex absent and the ossicular chain prominent. The left ear showed the drum to be dull, thickened, and retracted with all landmarks gone. Schrapnell's membrane appeared red and stood out prominently.

The Rinne test was positive, and Schwabach's test showed a shortening in bone perception.

A diagnosis of mixed deafness was made with a hearing loss of 28 per cent in the right ear and 23 per cent in the left ear, the binaural loss being 24 per cent (Fig. 5).

Comment.—This claimant had been a sandhog for twenty years, admitting ear blocks on almost every job but claiming that they were of a minor nature and cleared up in from five to thirty minutes without his ever having to consult a doctor.

His employment on the last job was for only twenty-seven weeks, and during this time he had two ear blocks which were not severe enough to keep him from work and required no hospitalization. It was my opinion, therefore, that the ear blocks suffered on the last job were of a temporary and minor nature, cleared up without any permanent result, and caused no aggravation to the hearing loss he already had. This hearing loss was evidently present for a very long time before the start of his last job.

X-rays of the mastoids showed them to be of a sclerotic nature.

10 East 96th Street

Excerpts from Dr. Bean's Thesis on Obstetrics:
Having babies would seldom be done
If getting them started was not great fun.
—*Rant and Rave, Detroit Med. News, Aug. 8, 1955*

Low-Dosage Estrogen-Androgen in the Management of the Menopausal Syndrome and Other Estrogen Deficiency States

CLAYTON L. MORAVEC, M.D., AND MAX E. MORAVEC, M.D., SCHENECTADY, NEW YORK

During wide experience in the management of the menopause we have seen many patients who are not relieved of symptoms by estrogen or are refractory to it after prolonged use. Undesirable responses in the uterus, vagina, and breasts have sometimes complicated the prolonged use of doses necessary to relieve psychic and vasomotor symptoms. Although providing symptomatic relief in some of these situations, androgen possesses the disadvantage of possible arrhenomimetic effects which may occur with large doses and extended use. Combined in the proper ratio, however, estrogen and androgen can largely overcome these drawbacks and produce a response superior to that obtained with either hormone alone.

Estrogen-androgen combinations possess many advantages over single hormone therapy in the menopause.[1-4] Together estrogen and androgen exert a synergistic effect so that smaller doses of each are required in a mixture to produce a satisfactory result. Additive in suppressing the overactive pituitary, estrogen and androgen oppose each other in action in the genital sphere.[5-8] When the mixture contains the hormones in a properly balanced ratio, neither androgenic nor estrogenic effects predominate. The stimulating effects of estrogen on the endometrium are nullified so that uterine bleeding rarely occurs.[5,9-11] The small dose of testosterone avoids hypertrichosis and other undesirable androgenic effects.[2,11]

Synergistic anabolic effects of estrogen and androgen in combination engender a sense of well-being. The tonic properties of the mixture produce a better response in psychoneurotic patients. Patients refractory to estrogen frequently improve with the combined treatment.[12] The two hormones in admixture assure a smooth transition to nonreproductive physiology in menopausal patients.[1,2]

Clinical experience with estrogen-androgen combinations has demonstrated the benefits obtainable with the two, both orally and parenterally.[9-17] In the search for ideally balanced ratios and minimal effective doses, improperly balanced combinations have been encountered which permit one or the other effect to predominate.[18,19] For example, we have observed that approximately 40 per cent of patients receiving daily an estrogen-androgen combination containing 10 mg. methyltestosterone have developed facial acne within two months. Thus there has been a tendency to reduce the androgen content, for example, to 5 mg. methyltestosterone.

Loeser[20] has reported that "well-balanced preparations of ethinyl estradiol and methyltestosterone do not produce the undesirable side-effects [vaginal bleeding, hirsutism] even when treatment is given over years." A combination of 0.02 mg. ethinyl estradiol with 5 mg. methyltestosterone used once daily by Kupperman and Studdiford[21] proved "efficient" in menopausal patients. McGavack[22] states that "in a majority of climacteric individuals the daily oral administration of a tablet containing methyltestosterone, 5 mg., and ethinyl estradiol, 0.02 mg., will usually suffice."

Material

We have had experience with more than 5,000 patients who have been treated with estrogen for menopausal and other estrogen-deficiency states. Many of these came to us after prolonged periods of therapy ranging from six months to ten years. Some had obtained initial relief of symptoms only to become refractory to continued estrogen therapy. In others such complications as uterine bleeding and painful breasts necessitated discontinuance of the hormone.

From this large group of patients we selected 150 for the study of Gynetone,* a low-dosage estrogen-androgen combination containing 0.02

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* Gynetone Repetabs were furnished by Norman L. Heminway, M.D., Division of Clinical Research, Schering Corporation, Bloomfield, New Jersey.

	Gynetone (all dosages)					Estrogen-Androgens (10 mg. methyltestosterone)					Estrogens (various)				
		Subjective Response					Subjective Response					Subjective Response			
Diagnosis	No. Pts.	0 No.	+ No.	++ No.	+++ No.	No. Pts.	0 No.	+ No.	++ No.	+++ No.	No. Pts.	0 No.	+ No.	++ No.	+++ No.
Menopausal Syndrome	9	-	-	-	9 (100)	9	-	2 (22.2)	4 (44.5)	3 (33.3)	9	-	-	5 (55.5)	4 (44.5)
	57	1 (1.8)	4 (7.0)	8 (14.0)	44 (77.2)						57	2 (3.5)	10 (17.5)	31 (54.4)	14 (24.6)
	3	-	-	1 (33.3)	2 (66.7)	3	-	2 (66.7)	1 (33.3)	-					
	32	-	1 (3.1)	4 (12.5)	27 (84.4)										
Total	101	1 (1.0)	5 (5.0)	13 (12.8)	82 (81.2)	12	-	4 (33.3)	5 (41.7)	3 (25.0)	66	2 (3.0)	10 (15.2)	36 (54.5)	18 (27.3)
Castration Symptoms	12	-	-	2 (16.7)	10 (83.3)						12	-	3 (25.0)	9 (75.0)	-
	3	-	-	1 (33.3)	2 (66.7)										
Total	15	-	-	3 (20.0)	12 (80.0)						12	-	3 (25.0)	9 (75.0)	-
Hypo-pituitary-Ovarian Syndrome	2	-	-	-	2 (100)	2	-	-	1 (50.0)	1 (50.0)	2	-	-	1 (50.0)	1 (50.0)
	22	-	1 (4.5)	4 (18.2)	17 (77.3)						22	-	2 (9.1)	13 (59.1)	7 (31.8)
	1	-	-	1 (100)	-	1	-	-	1 (100)	-					
	9	-	1 (11.1)	-	8 (88.9)										
Total	34	-	2 (5.9)	5 (14.7)	27 (79.4)	3	-	-	2 (66.7)	1 (33.3)	24	-	2 (8.3)	14 (58.4)	8 (33.3)
Grand Total	150	1 (0.7)	7 (4.7)	21 (14.0)	121 (80.6)	15	-	4 (26.6)	7 (46.7)	4 (26.7)	102	2 (2.0)	15 (14.7)	59 (57.8)	26 (25.5)

Note: Figures in parentheses = per cent.

FIG. 1. Comparison of subjective responses to Gynetone, estrogen-androgen combinations containing 10 mg. methyltestosterone, and various estrogens.

mg. ethinyl estradiol and 5 mg. methyltestosterone in a repeat-action tablet.

Since some of the patients had received various estrogens and estrogen-androgen combinations containing 10 mg. methyltestosterone, we were able to compare the effects of different hormone preparations in the same patients. Comparison was thus made between Gynetone and estrogen in 91 patients, Gynetone and higher dose estrogen-androgen combinations in four, and all three preparations in 11. Forty-four patients received Gynetone alone.

The 150 patients treated with Gynetone were grouped as follows: (1) 87 menopausal and 14 postmenopausal patients, aged thirty-seven to sixty-nine years, (2) 15 surgical castrates, aged thirty-one to sixty-six years, and (3) 34 patients with premenopausal hypopituitary-ovarian syndrome, aged twenty-five to forty-three years. The patients in these three groups were selected because of the severity and persistence of their symptoms. This was, for example, treatment of the menopausal syndrome with a multiplicity of signs and symptoms at an advanced recalcitrant stage. The presence of the following symptoms was noted among the patients: fatigue, headache, hot flushes, vertigo, dyspnea, tinnitus, scotoma, nervousness, nervous tension, excitability, irritability, depression, anxiety neurosis, decreased memory, inability to concentrate, a feeling of losing their mind, formication, insomnia, tachycardia, palpitation, vague pains, constipation, cold hands and feet, sore breasts, and tightness in the throat. The appearance of these symptoms was variable. At one time or another all of the patients had approximately three-fourths of these symptoms. Besides the patients castrated surgically, four others had undergone partial oophorectomy. A variety of concomitant conditions was present in the 150 patients, among them rheumatoid arthritis and gout.

Treatment Method

One Gynetone tablet of 0.02 mg. ethinyl estradiol and 5 mg. methyltestosterone daily was initially used in an attempt to determine the minimum effective dose. Therapeutic response was evaluated on the basis of ultimate rather

	Subjective Response				Subjective Response			
	With Estrogen-Androgen	With Gynetone	Patients No.	%	With Estrogen	With Gynetone	Patients No.	%
Improved Response with Gynetone	+ → + → ++ →	++ +++ +++	1 3 6 10	66.7	0 → 0 → + → + → ++ →	++ +++ ++ +++ +++	1 1 6 6 50 64	62.8
Equivalent Responses	++ ↔ +++ ↔	++ +++	1 4 5	33.3	+ ↔ ++ ↔ +++ ↔	+ ++ +++	2 7 25 34	33.3
Poorer Response with Gynetone					+ ← ++ ← +++ ←	0 + +	1 2 1 4	3.9
Total No. Patients			15				102	

Fig. 2. Analysis of subjective responses to Gynetone compared with higher-dosage estrogen-androgens and with estrogen.

than initial doses. For a third of the patients this was one tablet daily. Some required only one tablet every other night or every third day.

Both placebo and interrupted Gynetone therapies were employed to determine the effectiveness of the low-dosage combination and the possibility of withdrawal bleeding. When the dosage had been adjusted to the minimum effective level, one Gynetone tablet every second or third night, a placebo tablet was substituted. The symptoms returned on placebo medication but disappeared with reinstitution of the low-dosage estrogen-androgen regimen. A plan of interrupted therapy was also used. Treatment with Gynetone continued from one to twelve months with interruptions at intervals for rest periods. No withdrawal bleeding occurred.

The higher-dosage hormone combination employed for comparison was 1 mg. estradiol or 0.166 mg. estradiol benzoate together with 10 mg. methyltestosterone daily except in one patient who received 1.25 mg. conjugated estrogens and 10 mg. testosterone propionate daily. Estrogen was administered in daily dosages of 0.02 to 0.05 mg. ethinyl estradiol, 1.25 to 2.50 mg. conjugated estrogens, or 0.166 mg. estradiol benzoate. Most of the patients receiving estrogen had been treated previously with a variety of this hormone. Partially oophorectomized patients in the menopausal group had proved more difficult to control with estrogen than had total castrates. In the former, estrogen dosage was never constant but had to be increased or decreased in accordance with the patient's needs.

Vaginal smears were examined before and during treatment to determine the effects of therapy.

Comparative Analysis of Subjective Responses

In view of the multiplicity of symptoms and the variability of their appearance, the effects of therapy were evaluated on the symptom complex as a whole rather than on individual symptoms. The subjective responses to the three kinds of therapy are tabulated in Figs. 1 and 2 as

TABLE I.—INCIDENCE OF SIDE-ACTIONS WITH GYNETONE COMPARED WITH OTHER ESTROGEN-ANDROGEN COMBINATIONS OR ESTROGENS

	Gynetone (150 patients)		Combined Estrogen-Androgens (15 patients)		Estrogens (102 patients)	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Uterine bleeding	1	0.7	...	...	34	33.3
Painful breasts	...	...	2	13.3	4	3.9
Acne	4	2.6	1	6.6	...	...
Hirsutism	1	0.7	5	33.3	...	...
Edema						
Facial	1	0.7	1	6.6	...	...
Ankle	4*	2.6	1	6.6	2	1.9
Headache	1	0.7	...	...	...	...
Hoarseness	...	...	1	6.6	...	...
Epistaxis	...	...	1	6.6	...	...
TOTAL	12	8.0	12	80.0	40	39.1

* Phenylbutazone may have been responsible for ankle edema in one patient.

follows: complete relief or the disappearance of all symptoms, 3 plus; moderate relief or the disappearance of most of the symptoms, 2 plus; little relief or the disappearance of only a few symptoms, 1 plus, and no relief, the persistence of all symptoms, 0.

Figure 1 shows the responses of the *same* patients to each medication they received. Gynetone elicited superior responses in all groups of patients. Of the 150 patients treated with Gynetone as a group 80.6 per cent experienced complete relief, 14 per cent moderate, 4.7 per cent little, and 0.7 per cent no relief. In contrast, the 15 patients receiving higher-dose estrogen-androgen showed a response of 26.7 per cent complete relief, 46.7 per cent moderate, and 26.6 per cent little. Estrogen alone in 102 patients provided complete relief in 25.5 per cent, moderate in 57.8 per cent, little in 14.7 per cent, and none in 2.0 per cent.

Symptoms could be controlled in ten of 12 surgical castrates with Gynetone, and the other two were moderately benefited. Lesser degrees of response were elicited in these patients by estrogen.

Similar results were obtained in premenopausal patients with hypopituitary-ovarian syndrome. Among 22 such patients, symptoms disappeared in 17 (77.3 per cent) with Gynetone contrasted to elimination of symptoms in seven (31.8 per cent) with estrogen. Again, the response to estrogen was moderate improvement rather than complete relief in more than half of the patients.

Figure 2 also presents a comparative summary of subjective responses to all three modes of therapy. Gynetone gave greater degrees of response than the higher-dose estrogen-androgen combinations in 66.7 per cent of the 15 patients receiving both and an equivalent response in 33.3 per cent. In the 102 patients receiving Gynetone and estrogen, Gynetone induced greater degrees of response in 62.8 per cent, equivalent response in 33.3 per cent, and a poorer response in 3.9 per cent.

Subjective Response to Gynetone at Various Dosage Levels

Complete disappearance of symptoms could be accomplished with one Gynetone tablet daily or every second or third day in 43.3 per cent of the 150 patients. An additional 33.3 per cent were completely relieved by divided doses of two tablets at the same intervals. Thus a total of 76.6 per cent of these patients were rendered symptom-free with dosages no greater than one tablet twice a day.

Of the menopausal patients and surgical castrates, the ultimate response was obtained in approximately two thirds with dosages no greater than one tablet daily. About half of the patients with hypopituitary-ovarian syndrome required dosages up to two tablets daily to produce the recorded responses.

Patients' Evaluation of Gynetone Therapy

Almost every patient receiving Gynetone described a sense of well-being usually greater than that with estrogens or the other estrogen-androgen combinations. Libido improved in a majority of patients, and some patients reported an increase in strength. With the control of menopausal symptoms, constipation disappeared without the use of laxatives. Many patients voluntarily expressed a preference for Gynetone and were satisfied with the results obtained. Only one patient complained of feeling worse.

Eight menopausal and three postmenopausal patients with rheumatoid arthritis were treated concomitantly with cortisone or phenylbutazone. In two instances the dosage of cortisone could be reduced while the patient was receiving Gynetone. Arthralgia was controlled by Gynetone but not by estrogen in four of the arthritic patients. The reverse was true in one.

Side-Actions

Table I indicates that from the point of view of side-actions Gynetone practically eliminates the hazard of uterine bleeding, a principal drawback to the use of estrogen alone in the menopause and other estrogen-deficiency states. The undesirable effects of acne and hirsutism which are seen with higher-dose estrogen-androgen combinations are largely avoided with the lower-dose Gynetone. At the same time it causes no significant incidence of other side-actions.

Uterine bleeding occurred in only one patient of the 150 receiving Gynetone compared to an incidence of one third of the patients receiving estrogen. The lack of effect of Gynetone on vaginal smears and the absence of uterine bleeding indicate that undesirable estrogen stimulation of the endometrium is effectively prevented by use of a properly balanced hormone ratio. No soreness of the breasts was observed with this low-dosage combination. Facial or ankle edema occurred infrequently in all three groups of patients.

The one patient whom Gynetone failed to benefit complained of headache. Hoarseness and epistaxis occurred one time each with the higher-dose combinations but not with Gynetone or estrogen. No side-effects were reported by the surgical castrates.

Correlation of Degree of Response to Estrogen Alone with Incidence of Uterine Bleeding

The complete alleviation of symptoms of the menopause or of the premenopausal hypopituitary-ovarian syndrome with estrogen alone usually entailed uterine bleeding. Thus, uterine bleeding occurred in 61 and 75 per cent, respectively, of the patients with a maximum subjective response (3 plus) in these two groups. Among patients in these groups having moderate improvement (2 plus subjective response), uterine bleeding occurred in 25 and 35.7 per cent, respectively.

The menopausal patient with uterine bleeding following Gynetone was one of 82 completely relieved of symptoms, an incidence of only 1.2 per cent.

Summary and Conclusions

Gynetone, a low-dosage estrogen-androgen combination containing 0.02 mg. ethinyl estradiol and 5 mg. methyltestosterone gave complete symptomatic relief in 80.6 per cent of 150 menopausal patients, surgical castrates, and patients with hypopituitary-ovarian syndrome. This was 53.9 and 55.1 per cent, respectively, more patients than were completely relieved of symptoms with estrogen-androgen combinations containing 10 mg. methyltestosterone or with various estrogens. All degrees of subjective response were improved by Gynetone over those with the other medications in two thirds of the patients who received both.

Complete alleviation of symptoms could be achieved in 43.3 per cent of the 150 patients with dosages no greater than one tablet daily and in 76.6 per cent with dosages not exceeding one tablet twice a day. A surprising increase in sense of well-being over that with other therapy accompanied the use of Gynetone. Patients expressed a definite preference for the low-dosage combination.

The 0.66 per cent incidence of uterine bleeding with Gynetone contrasted sharply with its occurrence in one third of the patients receiving estrogen. Complete alleviation of symptoms with estrogen usually entailed uterine bleeding, whereas such bleeding occurred in only one of 82 patients completely relieved of symptoms by Gynetone. Hirsutism, occurring in one third of patients receiving higher-dose estrogen-androgen combinations, occurred only once (0.66 per cent incidence) to a mild degree with Gynetone. The incidence of acne, usually encountered frequently with higher-dose combinations, was also reduced by Gynetone.

It was concluded that the combination of estrogen and androgen in Gynetone approaches the ideal ratio. In clinical experience Gynetone gives a superior response in the treatment of the menopause, natural or acquired, and estrogen deficiencies of pituitary or ovarian origin. A definite sense of well-being accompanies the use of Gynetone. The low-dosage combination avoids the principal disadvantage of therapy with estrogens, uterine bleeding, and of therapy with higher dose estrogen-androgens, hirsutism and acne.

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ANNOUNCEMENT

PRIZE ESSAYS

The Lucien Howe Prize and the Merrit H. Cash Prize will be open for competition at the next Annual Convention of the Medical Society of the State of New York, May 7 to 11, 1956, in New York City.

The *Lucien Howe Prize* of $100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The *Merrit H. Cash Prize* of $100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win a prize automatically becomes the property of the Medical Society of the State of New York, "to be published as it may direct."

All essays must be presented not later than *February 1, 1956*, and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

R. Townley Paton, M.D., *Chairman*
Committee on Prize Essays

The Hysterectomy Problem

A Review of 4,453 Cases, Central New York Surgical Society, 1948–1953

LEONARD K. STALKER, M.D., STEWART H. GIBB, M.D., AND THOMAS B. GARLICK, M.D., ROCHESTER, NEW YORK

DURING the past twenty years the operative mortality following all types of hysterectomy has been so reduced that it has made the operation available in a number of situations where formerly its risk would have been a contraindication. The result has been a great increase in the number of hysterectomies with proportionate increase in the number of good and bad results. The bad results have provoked considerable discussion, and during the past few years many articles have appeared in both the lay and medical press criticizing hysterectomies performed.

It is with this in mind that we suggested a review of the hysterectomies performed by the members of the Central New York Surgical Society. This is an organization of approximately 158 general surgeons, representing 26 communities in central New York State, as follows:

Auburn
Bath
Binghamton
Canandaigua
Cooperstown
Corning
Cortland
Elmira
Endicott
Geneva
Horseheads
Gouverneur
Ithaca
Johnson City
Little Falls
Lowville
Ogdensburg
Painted Post
Rochester
Rome
Schnectady
Syracuse
Utica
Watertown
Oneida
Oneonta

A comprehensive questionnaire was completed by 71 of these members, and 4,453 hysterectomies were reported in detail during the period 1948 through 1953. Fifteen of the surgeons reported fewer than ten hysterectomies, and only four reported more than 200. The largest number reported by one individual was 226. Some of the members of the society had no hysterectomies to report, and a few others failed to enter reports. A good enough cross section with balanced geographic distribution was obtained, however, so that we feel that our conclusions can be well founded and for the most part represent the feeling of the Central New York Surgical Society. It is realized that in any discussion of this sort, statistical data may be considered to represent the entire group, but the over-all discussion is, of necessity, colored by one's own ideas on the subject.

TABLE I.—AGE OF PATIENTS HAVING HYSTERECTOMIES

Ages	Number of Patients	Per Cent
Under 30	188	4
30 to 40	1,161	26
Over 40	3,104	70

All hysterectomies were done by general surgeons. The results in all instances were passed on either by a tissue committee, or a pathologist, or both. In the total of 4,453 hysterectomies, 3,097 total hysterectomies (69 per cent), 707 subtotal (16 per cent), and 649 vaginal (15 per cent) were performed.

Ovarian Tissue Preservation

Some ovarian tissue was preserved in more than 50 per cent, there being an incidence of approximately 63 per cent in the subtotal hysterectomy group as compared to 37 per cent in the total group. One readily sees from Table I that the majority of patients were over forty years of age.

When one studies in detail the age of the patient, the type of hysterectomy, and the preservation of ovarian tissue, it is significant that there were 821 cases with some ovarian tissue preservation in the group of 2,524 abdominal hysterectomies performed in individuals over the age of forty. It is interesting that there was such a strong tendency toward the preservation of ovarian tissue. It is our feeling that this is a somewhat overrated necessity. Of course, in individuals under age forty, where normal ovaries are present and hysterectomy is indicated, it

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Presented at a meeting of the Central New York Surgical Society, Syracuse, New York, October 14, 1954.

might be advisable to preserve one or both ovaries. In individuals over age forty, we feel that one should more or less routinely remove both ovaries. The desirability of preserving the ovary in younger women is not questioned, but the threat of ovarian carcinoma makes the ovary of doubtful value after the menopause period. We believe, however, that it should be emphasized that ovarian function is altered, not ended, with the cessation of menstruation. Thus the statistics of this group as regards ovarian function are very satisfactory.

Total Versus Subtotal Hysterectomy

When one includes the vaginal hysterectomies, there were 3,746 or 84 per cent total hysterectomies, as compared to 707 or 16 per cent subtotal hysterectomies. Certainly the total hysterectomy has several advantages over the subtotal. We think that when one reads the literature, he will find many advocates of the total operation stressing the point that it is a more difficult operation and advising the surgeon who performs hysterectomy only occasionally to practice the subtotal procedure. This is a dangerous teaching, for any surgeon who opens the abdomen, we think, should be able to care properly for any condition found. Lack of general training or overspecialization in any field is not desired. We are satisfied that a total hysterectomy can be performed in all cases with as low a mortality rate as a subtotal hysterectomy and with probably a lower morbidity.

Cervical Stump

There are those who seem to think that the only difference between the subtotal and the total hysterectomy is that one patient may or may not later develop carcinoma of the cervical stump. This is not true, but in our group of 197 cancers of the cervix, 29 cases of cervical stump cancer were reported. This is an incidence of 14 per cent, which is much higher than generally reported in larger series. The percentage usually varies from 2 to 6 per cent. It should be pointed out, however, that for every patient with carcinoma of the cervical stump that is seen, many patients will be seen with benign conditions of the cervical stump with sufficient concern to bring the patient to the doctor and to require treatment. Personally, we feel that all must accept the fact that when a hysterectomy is indicated, a subtotal hysterectomy is an incomplete operation.

Vaginal Hysterectomy

Under vaginal hysterectomy we can say that one of the authors (L.K.S.) has been particularly interested in the vaginal hysterectomy group, and for this reason a very intense survey was made of these cases. In his practice he does about 50 per cent of his hysterectomies vaginally. In this over-all series there were only 649 vaginal hysterectomies (15 per cent). We had nine patients (1.4 per cent) under age thirty, 60 (9.3 per cent) between thirty and forty years of age, and 580 (89.3 per cent) over the age of forty. The incidence of 15 per cent is generally lower than that reported throughout the country. In some clinics the incidence of abdominal hysterectomies as compared with vaginal hysterectomies has reversed from 20 per cent to as high as 80 per cent vaginally and 20 per cent abdominally. There are many reasons for this renewed interest in the vaginal hysterectomy during the past few years. Although vaginal plastic procedures have been refined and their selective indications are better understood, we feel that when some associated prolapse exists, vaginal hysterectomy is preferred for those cases in which various types of vaginal plastic operations may formerly have been performed. Safety is one of the operation's greatest advantages.

The major indication for vaginal hysterectomy is prolapse of the uterus. In patients over forty years of age this operation is almost the only safe and surgically sound method of treating this condition, especially when accompanied by a cystocele and rectocele, which also require surgical repair. In the rare case of a young woman who desires more children, an attempt to suspend the completely prolapsed uterus may be justifiable and has been successful in some of our cases.

We do not want to give the impression that all types of prolapse are to be treated by vaginal hysterectomy. Certainly one must be versatile and able to apply the Fothergill and Manchester type operations when indicated. In other instances an interposition operation may be indicated. As you know, these operations have for their functional result the elevation of the bladder to a high level. It seems to us that in most instances where these procedures are done, we are doing something that entails too much effort to preserve an organ which is no longer useful. Furthermore, the patient is much safer with respect to malignancy if the uterus is removed.

We consider that menorrhagia and metrorrhagia caused by small fibroids or uncontrollable ovarian dysfunction before the menopause can be treated by vaginal or even abdominal hysterectomy more satisfactorily than by radium or x-ray. We are all getting less enthusiastic about the use of x-ray and radium for uterine bleeding.

It is not often that one considers doing a vaginal hysterectomy for carcinoma of the fundus, but this type of hysterectomy was first done for carcinoma of the fundus many years ago. Unfortunately, carcinoma of the fundus occurs principally in the postmenopausal group. Many of these patients are obese, diabetic, and in some cases suffer from cardiovascular disease. Occasionally, in selected cases with a small carcinoma of the fundus or in a poor risk old age patient with relaxation of the vaginal wall, a vaginal hysterectomy can be done at much less risk than is entailed with an abdominal operation, and the adnexa can be removed at the same time with little difficulty. In such patients almost as radical an operation can be done vaginally as by abdominal hysterectomy. Certain cases of carcinoma in situ can be well handled by vaginal hysterectomy.

From these remarks one will sense that we are enthusiastic about the use of vaginal hysterectomy, and we think rightfully so, because it accomplishes so much for the patient. It provides total removal of the uterus together with a complete vaginal repair when necessary. Any opinion on the contraindications to vaginal hysterectomy depends largely on the experience of the surgeon with the procedure and consequently his confidence and enthusiasm for the method.

Primary Indications for Hysterectomy

There has been and always will be considerable discussion about the indications for hysterectomy. The main object should be the elimination of the disease process and the preservation of all possible useful functions. In most instances there are specific reasons for treatment about which there can be no doubt. Other pelvic symptoms may be functional, and one needs to evaluate these carefully in the light of the possible results. There can be no doubt that many uteri showing no organic disease will be sent to the pathologist. We, as surgeons, may be criticized because a normal uterus has been removed. However, symptoms may be functional, and the pathologist cannot criticize until he knows the condition of the patient. In preparing our statistics we recognize that in many instances there are two or three reasons for doing the hysterectomy, but we consider only the first indication, which in all instances was the major problem as presented by the patient. The primary indication was not correctly listed by a few men, and their figures were not used. Table II is a breakdown of indications in 3,895 cases.

TABLE II.—Primary Indications for Hysterectomy

Indication	Number of Cases	Per Cent
Fibroids	1,460	38
Bleeding	880	23
Prolapse	682	17
Endometriosis	237	6
Pelvic inflammatory disease	133	3
Benign ovarian tumors	107	3
Malignancy	350	9
Cervix	59	. . .
Uterus	133	. . .
Ovaries	130	. . .
Adjacent organs (colon, rectum, etc.)	28	. . .
Other conditions	46	1
Diverticulitis	25	. . .
Tuberculosis	2	. . .
Subinvolution	16	. . .
Infection	2	. . .
Perforation of rectum	1	. . .
Total	3,895	100

It is interesting that when bleeding was reported as the major indication, in the majority of instances some other lesion, such as a fibroid, was present. However, there was a certain number of cases in which a normal uterus was present where intractable bleeding, which had not responded to medical measures, was present. A certain few of these cases are definitely handled better by hysterectomy than by other means.

Dilatation and Curettage

In the total group there were 724 patients who had a dilation and curettage with an examination under anesthesia performed at the time of the hysterectomy. More surgeons reported these procedures prior to surgery. There seemed to be a feeling that when the diagnosis was not self-evident, this procedure contributed immeasurably, occasionally prevented the anticipated abdominal exploration, and at other times made the necessary surgery more radical.

Anesthesia

A survey of the anesthetic used in these 4,453 cases would indicate that it varied with the com-

TABLE III.—Causes of Mortality

Causes	Number of Cases
Pulmonary embolism	6
Faulty anesthesia	1
Shock	1
Peritonitis (colon carcinoma)	3
Coronary	2
Pyelitis after ureter transplant	1
Perforation of stomach	1

munity and the medical setup. Spinal and general anesthesia was used in about equal amounts. There were no untoward complications mentioned from any individual type of anesthetic.

Mortality

When one reviews critically the small mortality group, many interesting things are noted. In the total of 4,453 hysterectomies, there were 15 deaths, a surgical mortality of 0.33 per cent. The deaths are listed in Table III.

Eight of the 15 patients had extensive malignant disease, and four of the hysterectomies were done only incidental to a resection of the colon for malignancy. There were no deaths due to peritonitis where a malignancy was not removed. The anticipated incidence of pulmonary embolism, 0.1 per cent, was present. Six cases, and probably eight if the alleged coronaries are included, died from pulmonary embolism.

One of the mortalities that seems deserving of mention occurred in one of our personal series (L.K.S.). A seventy-six-year-old woman had a vaginal hysterectomy for a complete prolapse of the uterus. She was in excellent condition at the conclusion of the operation, but it was decided to give her oxygen on a prophylactic basis. This was administered by a nasal catheter. The catheter was inserted by the nurse and hooked up in the routine fashion. Shortly thereafter the physician arrived in the patient's room and found her in shock with a hugely distended abdomen. She died secondary to a perforation of the esophagus due to the pressure incurred from the use of nasal oxygen. This was thought to be rare, but since then many other surgeons have mentioned similar cases. It was felt that this should be mentioned to indicate one of the dangers which may be present from the use of nasal oxygen.

Normal Uteri

There are those who seem to think that surgeons are removing normal uteri promiscuously, but statistics in our group do not bear this out. We all realize that the normal uterus under the microscope may be normal in appearance, but the mechanical or incidental reason for removing the uterus was great. In all instances the tissue removed in our series was passed on by a pathologist and tissue committee, and in all instances when a normal uterus was removed, some reasonable explanation was present for its removal. There were 70 (1.5 per cent) hysterectomies performed for uncontrollable bleeding in which the uterus was pathologically normal. A uterus removed for prolapse, extensive ovarian disease, and the like, even though pathologically normal, cannot be so classified.

Endometriosis

In 237 hysterectomies (6 per cent) the primary indication for hysterectomy was endometriosis. From these figures it can be further estimated that more than 2,500 cases of endometriosis were treated more conservatively by this same group of surgeons during this period of time. The treatment of this condition is a real challenge to surgical judgment. Essentially, the radical approach, which entails the removal of both ovaries with or without hysterectomy, is being done less frequently today. When the patient comes to surgery, we think that at almost any age, unless the disease is severe and extremely advanced, one should try to preserve some ovarian tissue. In advanced endometriosis it may be necessary to remove both tubes and ovaries, uterus, and cervix. In some cases one is justified in spending a great deal of time removing endometrial implants from the cul-de-sac and other areas of the pelvis. At the same time endometriomas may be enucleated from the ovaries, and in some cases where the uterus is in a posterior position, it may be suspended. One of us (L.K.S.) feels that in some cases where there is pain, usually in the midline, i.e., dysmenorrhea, a presacral neurectomy should be done. We are not advocating that uterine suspension and presacral neurectomy are definite treatment for endometriosis, but they are adjuncts that occasionally can be successfully utilized. If one carries out conservative therapy in well-selected cases, he can expect a recurrence rate of about 7 per cent.

Uterine Fibroids

There were 1,460 cases (39 per cent) in our group in which fibroids were listed as the primary indication. In the majority of cases when a uterine fibroid is detected, it should be treated surgically. Myomas are prone to degenerate, chiefly because of insufficient blood supply, and then become edematous, and necrosis and liquefaction are frequently seen. Sarcomas occur in probably less than 1 per cent of fibromyomas. We had two sarcomas in our group. Carcinoma of the uterus is found in conjunction with myomas, and this has led to a false impression that cancerous degeneration of myomas is a common occurrence. In rare cases carcinoma may originate from degeneration of an adenomyoma, but it never arises from a pure myoma.

Many factors are important in influencing our decision relative to the treatment of myomas. It is important to consider the age of the patient and the symptoms which are produced. We do not feel that all myomas need surgical treatment, but certainly most of them will. It is feasible in some cases to watch the patient with frequent examination, but we are sure that all of us have seen uterine fibroids associated with carcinoma of the uterus in which the diagnosis of malignancy was not made preoperatively. This occurs too frequently, and the coincidental and confusing relationship of cancer in uterine fibroids must not be overlooked.

Pelvic Inflammatory Disease

There were 133 hysterectomies (2.9 per cent) performed for pelvic inflammatory disease. Ten years ago this incidence would have been much higher, but today it is only occasionally that the pathology of pelvic inflammatory disease cannot be controlled by antibiotics and other palliative measures. In these instances there are good reasons for surgical intervention. In the presence of a frozen pelvis, tubal abscesses, hydrosalpinx, and other inflammatory processes, lesions which we see rarely at the present time, hysterectomy may be indicated.

Ovarian Tumors

In the treatment of benign tumors of the ovary, we think that every effort should be made to preserve as much normal ovarian tissue as possible, and in most of these instances the problem of hysterectomy will not be necessary. We had 107 hysterectomies in which the primary indication was benign tumor of the ovary. In the majority of these the tumor was bilateral. When this occurs, we feel that hysterectomy is always indicated.

One of the most disturbing problems in the field of female surgery is the lateness with which most ovarian cancers are seen by the physician. The expectancy of most of these patients is only about two years from the time they present themselves for surgery. This would suggest that we must be more diligent in our study of this problem, and certainly most ovarian tumors in females over the age of forty should be explored surgically. When a malignancy of the ovary is present, there is no place for conservatism, and it is mandatory to remove the uterus with both adnexa, even though the tumor is unilateral. In our group of 4,453 hysterectomies there were 130 (2.9 per cent) done for malignant ovarian tumors. When one considers the great difficulty of diagnosing malignant tumors of the ovary in any age group, perhaps one is justified in the attitude of routine bilateral oophorectomy with hysterectomy in patients over forty years of age.

Carcinoma of the Uterus

There were 133 or 2.0 per cent hysterectomies performed for carcinoma of the uterus. In the management of endometrial cancer we believe it is reasonably safe to state that histologic grading has no definite correlation with the clinical extent of the disease or survival but that the survival rates by groups are gravely influenced by the extent of the spread of the disease. The problem arises here as to whether radiation, surgery, or a combination of the two would be the best type of therapy. The purpose of preoperative radiation is to damage neoplastic cells to a point where manipulative spread at the time of surgery becomes unlikely, and it seems fairly well authenticated that this can be achieved. Because of the size or deformity of the uterine cavity due to the tumor present, the problem of radium implantation has shifted back and forth, and various methods have been employed.

Thus, radium therapy in conjunction with roentgen therapy preoperatively should lead to around an 80 per cent five-year survival when associated with surgery radical enough to eliminate pathology in Grade I cases and a 50 to 60 per cent survival when there is spread past the myometrium or the serosa.

Carcinoma of the Cervix

There were 197 cases of carcinoma of the cervix listed in our series. It was interesting to review the various opinions obtained from the participants in regard to the treatment of cancer of the cervix. Fifteen years ago there would have been little or no discussion as to the therapy indicated. However, with the advent of modern anesthesia, blood replacement, antibiotics, and other supportive treatment, the problem of surgical treatment of the cervix has been reopened.

Before we get into this discussion, we should reflect on the very controversial subject of carcinoma in situ. In various centers there is a difference of opinion as to whether this is preinvasive cancer, invasive cancer, or intraepithelial cancer. Carcinoma in situ is a term which should be used when microscope examination shows a surface cervical epithelium in which the individual cells of the full thickness of the epithelial layer have the same characteristics as those of invasive cancer. It is a histologic diagnosis and should be applied only to the tissue which is under the microscope. The cervix from which the tissue is obtained may harbor invasive cervical cancer. Our group was inclined to feel that findings would indicate that invasive cervical cancer is preceded by noninvasive cancer in a high percentage of cases but that there might be a latent period of several years before true invasion. We decided that there was no emergency in the treatment of carcinoma in situ, and in some cases there may be reason to try cauterization or conization or even amputation if one is convinced by multiple biopsies that the lesion is in situ and if the patient is watched with extreme diligence. In the young where pregnancy is desired or where pregnancy is present at the time of finding the carcinoma in situ, conservative treatment is justified. In the final analysis, with rare exception, a hysterectomy removing a wide vaginal cuff and a moderate amount of parametrial tissue is the safest procedure and one that will yield the most satisfactory results.

The problem of invasive cancer of the cervix is entirely different. Some of the surgery that is done for this condition today is grossly meddlesome and does not obtain the satisfactory results which have been and still are produced by x-ray and radium therapy. It is interesting that there were 59 patients with invasive carcinoma of the cervix who were treated entirely surgically by this group. We feel that when surgery is done in these cases, it should consist of the removal of the entire uterus, the upper half of the vagina, both tubes, both ovaries, the entire parametrium, and the sacral, obturator, and iliac lymph nodes as far as the bifurcation of the aorta. Unfortunately, the publicity given to this operation has been taken lightly and not analyzed carefully or critically, so that a number of these meddlesome operations have been done and have yielded results which are certainly not so good as those obtainable through the services of the roentgenologist.

In the future whether the use of the x-ray in conjunction with radical surgery is going to offer better prognosis in this disease is still problematic. Whether or not selected cases should have lymph node dissection and radiation or radical surgery and/or radiation is still equivocal.

Comment

It is interesting that over 4,000 hysterectomies could be performed in 26 different communities with a very negligible mortality rate and with the indications and contraindications so well accepted by a group of 158 general surgeons. Where there are various methods of treating the same problems, there will be controversy which in all probability will fall into the public's hands and may cause unnecessary confusion and misunderstanding. In all instances the hysterectomies performed by this group were reviewed by a pathologist or a tissue committee and generally by both. In no instance were we able to demonstrate a hysterectomy that was performed unnecessarily. This would indicate that the medical profession is still carrying on its usual, anticipated high-caliber work.

Summary

A critical review of 4,453 hysterectomies that were performed by 71 general surgeons, members of the Central New York Surgical Society, is made. There were 3,746 (84 per cent) total hysterectomies, as compared to 707 (16 per cent) subtotal hysterectomies. The importance of the place of vaginal hysterectomy is discussed. A statistical review of the primary indications for hysterectomy is given with special emphasis on endometriosis, fibroid tumors, bleeding, pelvic inflammatory disease, and malignancy of the ovaries, uterus, and cervix. Our opinion regarding the treatment of carcinoma in situ and the surgical therapy versus radiation for cancer of the cervix is stated. There was a mortality of 15 cases (0.33 per cent) in the total series of 4,453 hysterectomies.

Plasma Concentrations of Vitamin A, Carotene, and Tocopherols in Rheumatic Fever During ACTH Therapy

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THE vitamin A concentration in the blood plasma is characteristically decreased during acute infections[1] such as rheumatic fever.[1,2] Relatively low plasma levels recently reported in a large group of individuals with rheumatic activity were interpreted as evidence of interference with vitamin A metabolism and as indicating a need for supplementation with this nutrient between, as well as during, acute exacerbations.[3] A reduction in the plasma concentration of carotene precursors has also been demonstrated in affected individuals,[3] although this phenomenon seems neither as consistent nor as pronounced as that noted for the vitamin A itself.[2]

These reports would seem to suggest that the plasma vitamin A and/or carotene concentration might serve as a valid index of rheumatic activity, supplementing other criteria in the practical management of this condition. However, the widespread use of ACTH and cortisone in its treatment provokes speculation concerning the value of these and even of the other, more routine laboratory tests that comprise the diagnostic "battery" and guideposts to treatment of the rheumatic disorders.

The present report outlines three cases of acute rheumatic fever treated with ACTH in which plasma levels of carotene and vitamin A were measured periodically during the illness. Because of the apparent biologic relationship of vitamin E to vitamin A[4] and of their common association with the blood lipid fraction,[5-7] the plasma tocopherol concentration was also determined for correlation with other features of the clinical picture.

Material and Methods

Each of the three patients had a typical history of rheumatic fever for at least ten days prior to hospitalization, presented a clinical picture of rheumatic activity on admission, and responded symptomatically within one week of the initiation of ACTH therapy.

The plasma vitamin A and carotene were determined by the method of Kimble, employing the Carr-Price reaction.[8] The plasma tocopherol concentration was measured by the method of Harris and Quaiffe, employing the Emmerie-Engel reaction.[4,9] The blood sedimentation rate was determined by the Westergren technic.[10]

Results

Results are outlined in Table I. The plasma vitamin A concentration remained within normal limits in all instances except for the initial, low reading in Case 2. The plasma carotene concentration was below the normal range initially in Cases 1 and 3. In each case both of these levels tended to rise in association with clinical improvement, although the vitamin A/carotene ratio showed no consistent pattern. The plasma tocopherol concentration was initially low in each case, and while it returned fully to normal only during observation of Case 3, it showed a general tendency to rise as the rheumatic condition subsided.

In general, the plasma concentrations of these substances tended to vary inversely with the sedimentation rate and the white blood cell count, although this was not a constant relationship. The sedimentation rate, for the most part, varied with the severity of the clinical picture, but in one instance the white count remained elevated long after the clinical condition improved.

Comment

In the light of earlier reports[2,3] the apparent failure of the acute rheumatic process to "suppress" abnormally the plasma vitamin A level requires explanation except perhaps in the initial

TABLE I.—BLOOD COUNTS, SEDIMENTATION RATES, AND BLOOD PLASMA CONCENTRATIONS OF VITAMIN A, CAROTENE, AND TOCOPHEROLS IN 3 CASES

Case 1.—A white male, age 14, was hospitalized from June 18 to September 12, 1951, with a diagnosis of acute rheumatic fever (recurrent) and received ACTH therapy from June 18 to July 23 and cortisone therapy from June 22 to June 25.

	Hospital Day													
	1, 2	6	8	15	18	23, 24	36, 37	43	50, 51	57, 59	64, 68	72, 73	80	86, 87
Hemoglobin (Gm.)	9.8	..	11.8	13.0	...	10.5	...	13.4	...	...	...	...	...	...
Red blood cells (millions)	3.5	..	4.0	4.5	...	4.8	...	4.6	...	...	...	...	...	...
White blood cells (thousands)	10	..	25	21	...	21	...	8	...	...	...	5	6	6
Neutrophils (per cent)	65	..	76	81	...	82	...	52	...	...	...	50	48	57
Sedimentation rate (mm. per hour)	118	80	27	2	1	1	11	25	10	7	5	...	...	...
Vitamin A (micrograms per 100 ml.)	...	..	35	49	34	30	55	75	51	34	42	55	70	44
Carotene (micrograms per 100 ml.)	...	..	69	74	52	71	161	130	191	107	193	190	166	161
Vitamin A-carotene ratio	...	..	0.51	0.66	0.65	0.42	0.34	0.58	0.29	0.32	0.22	0.29	0.42	0.27
Tocopherols (mg. per 100 ml.)	...	..	0.1	<0.1	...	<0.1	...	...	...	...	0.2	...	0.2	...
ACTH therapy*	XX	XX	XX	XX	XX	XX	X	...	...	...	...	...	...	...

Case 2.—A white female, age 20, was hospitalized from April 2 to May 16, 1951, with a diagnosis of acute rheumatic fever (apparent initial attack) and received ACTH therapy from April 6 to April 30.

	Hospital Day									
	1	2	3	11	18	20	25	32	37	39
Hemoglobin (Gm.)	11.2	..	...	12.2	13.1	...	...	...	..	...
Red blood cells (millions)	4.1	..	...	3.6	4.5	...	...	...	..	...
White blood cells (thousands)	11	..	...	19	20	...	...	...	..	...
Neutrophils (per cent)	76	..	...	75	83	...	...	...	..	..
Sedimentation rate (mm. per hour)	62	96	...	32	12	...	4	39	44	18
Vitamin A (micrograms per 100 ml.)	...	..	13	...	37	36	27	34	..	48
Carotene (micrograms per 100 ml.)	...	..	110	...	120	88	125	137	..	153
Vitamin A-carotene ratio	...	..	0.12	...	0.31	0.41	0.22	0.25	..	0.31
Tocopherols (mg. per 100 ml.)	...	..	0.1	...	...	...	0.2	0.5	..	1.1
ACTH therapy*	...	..	...	XX	XX	XX	XX	...	..	...

Case 3.—A Negro female, age 15, was hospitalized from March 1 to May 8, 1951, with a diagnosis of acute rheumatic fever (apparent initial attack) and received ACTH therapy from March 10 through April 5.

	Hospital Day											
	1, 2	5, 6	8, 9	10, 12	16	21	26	31	33	48	57	66, 68
Hemoglobin (Gm.)	14.2	14.2	...	...	...	...	12.7	...	12.2	..	12.4	...
Red blood cells (millions)	4.3	4.4	...	...	...	...	4.3	...	3.7	..	3.3	...
White blood cells (thousands)	10	9	9	...	...	24	20	23	20	5	6	...
Neutrophils (per cent)	67	66	52	...	...	86	84	89	90	62	54	...
Sedimentation rate (mm. per hour)	35	26	28	12	22	6	7	...	2	18	18	27
Vitamin A (micrograms per 100 ml.)	...	34	...	26	...	...	...	...	...	..	...	45
Carotene (micrograms per 100 ml.)	...	64	...	97	...	...	...	...	...	..	...	110
Vitamin A-carotene ratio	...	0.53	...	0.27	...	...	...	...	...	..	...	0.41
Tocopherols (mg. per 100 ml.)	...	<0.1	...	<0.1	...	...	...	...	...	..	...	0.2
ACTH therapy*	...	...	...	XX	XX	XX	XX	XX	XX	..	...	...

* "XX" signifies ACTH therapy administered on days denoted. In Case 1 the ACTH was terminated after the thirty-sixth day.

specimen in Case 2. The tendency of the plasma "A" level to rise in association with clinical improvement, although no more satisfactorily explained, is in harmony with published expectations.

The rapid defervescence attendant on therapy was probably not in itself an important factor in the maintenance of the relatively normal plasma vitamin A levels. Infections reportedly cause a reduction in the concentration of this nutrient even in the absence of fever,[3] just as does hyperthermia unrelated to infection.[11]

An improved diet and added vitamin A (up to 50,000 international units per day) may have tended to elevate or maintain the plasma "A" level during therapy, but intensive supplementation does not ordinarily seem effective in the presence of rheumatic fever[2] or even in such noninfectious disorders as cirrhosis of the liver[12] and hyperthyroidism.[13] An altered protein intake, however, has been demonstrated to modify the blood sedimentation rate,[14] a generally accepted criterion of rheumatic activity, and conceivably could exert an influence on other blood findings as well.

In addition to affecting the white blood count, ACTH therapy is known to modify the pattern of the serum lipid fractions, although reports differ concerning the magnitude and direction of these changes.[15–18] Stress in the form of physical exercise also alters the blood "A" concentration,[18] possibly through autonomic stimulation of the liver[19,20] but probably through the pituitary adrenal system for the most part. In the three cases cited, the administered hormone doubtless exerted some influence on the plasma components measured. The postulated direct effect of ACTH on these moieties, beyond that mediated through clinical improvement, cannot readily be established through studies of diseased subjects alone.

The plasma carotene concentration, initially low in Cases 1 and 3, increased with clinical improvement, as might be anticipated of a component of the lipid fraction since the blood cholesterol level characteristically falls during acute infections and returns to normal or higher (temporarily) during recovery.[21] The plasma tocopherol level, although it returned to normal during only one of the three periods of observation, also seemed to follow this pattern. Here too hormone therapy doubtless contributed to the changes noted.

The evidence provided by these cases indicates that plasma concentrations of vitamin A and carotene are not abnormally depressed in all cases of rheumatic fever. They would not, therefore, appear to be reliable indices of rheumatic activity. The plasma tocopherol level, which often fails to parallel the plasma vitamin A concentration in other conditions,[22,23] might prove a more valuable addition to the laboratory criteria employed in the evaluation of patients with this disorder.

Summary

Vitamin A, carotene, and tocopherol concentrations were determined in the plasma of three patients with acute rheumatic fever during treatment with ACTH.

The vitamin A and carotene levels were not abnormal throughout the periods of rheumatic activity but tended to increase in association with clinical improvement.

The plasma tocopherol concentration was abnormally lowered in each instance and tended to rise more slowly during the period of convalescence. Serial determinations of the plasma concentration of this substance might provide an additional laboratory guide for the management of patients with this disorder.

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Personality is to man what perfume is to a flower.—CHARLES M. SCHWAB, *Ten Commandments of Success*

CLINICOPATHOLOGIC CONFERENCE

ROSWELL PARK MEMORIAL INSTITUTE

BUFFALO, NEW YORK

Conducted by EUGENE STUDENSKI, M.D.

FEBRUARY 18, 1955

Discussed by DAVID GREENE, M.D.*

Case History

DR. JAMES HOLLAND: This forty-year-old, white woman was referred for admission to Roswell Park Memorial Institute in July, 1954, for severe, progressive dyspnea and abdominal pain.

Past History.—From 1941 to 1952 this woman was seen by her private physician on several occasions for dyspnea. Bilateral apical infiltrates were seen on a film in 1941, and these progressed slowly. Over this period of time tuberculin tests were positive, but sputa and guinea pig inoculations were negative. There were no roentgenologic changes after streptomycin therapy.

In 1948 mild generalized abdominal pains appeared which were relieved by eating, and in 1950 a right lower quadrant mass was palpated. At laparotomy acute inflammatory cecitis and terminal ileitis were discovered. A lymph node was interpreted as subacute lymphadenitis. In 1952 she suffered a bout of bronchopneumonia.

Marked dyspnea appeared in 1953. At that time her hemoglobin was 16 Gm. and white blood cells 18,000; an extrinsic mass compressing the gastric fundus was noted by x-ray examination. A biopsy of the right middle lobe was performed. Thereafter, she continued to experience incapacitating dyspnea, improved transiently by cortisone, and abdominal pain with intermittent diarrhea. Sometime before 1951 she noted clubbing of the fingers.

Physical Examination.—On admission her vital signs were as follows: temperature 99.2 F., pulse 130, respirations 60, and blood pressure 120/85. She was cachectic and cyanotic. There was no adenopathy. Coarse rales were heard in the lower halves of both lungs with wheezing throughout. The liver was palpable in the epigastrium, and there was marked clubbing of the fingers.

Laboratory Data.—Hemoglobin was 13.4 Gm. and white blood cells 13,500 with polymorphonuclears 72 per cent, lymphocytes 28 per cent, and monocytes 1 per cent. Urine studies revealed persistent infection, and urine cultures contained Staphylococcus aureus, Proteus, enterococci, and paracolon bacilli. Blood chemistries revealed nonprotein nitrogen 30 to 41, albumin 4.3, globulin 2.6, and carbon dioxide combining power 26.5 volumes per cent. Sputa were negative for tumor cells on five occasions. Electrocardiogram showed sinus tachycardia, prominent P waves, and right axis deviation. X-rays demonstrated reticular and nodular, diffuse pulmonary infiltration, compression of the fundus of the stomach by an extrinsic mass, and a normal skeleton.

Course.—In the early weeks the patient complained of abdominal pain which was never satisfactorily explained. She was bedridden and required continuous oxygen. Approximately 3,900 r were delivered in thirty-eight days to the left upper lung without change in appearance of her x-rays.

She was digitalized and seemed to improve slightly. A course of nitrogen mustard was given in September, 1954, without change in condition. She languished torporously and was totally anorexic. A week of cortisone administration produced no improvement. Multiple antibiotics

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Conference notes edited by Dr. George E. Moore, director, Roswell Park Memorial Institute.

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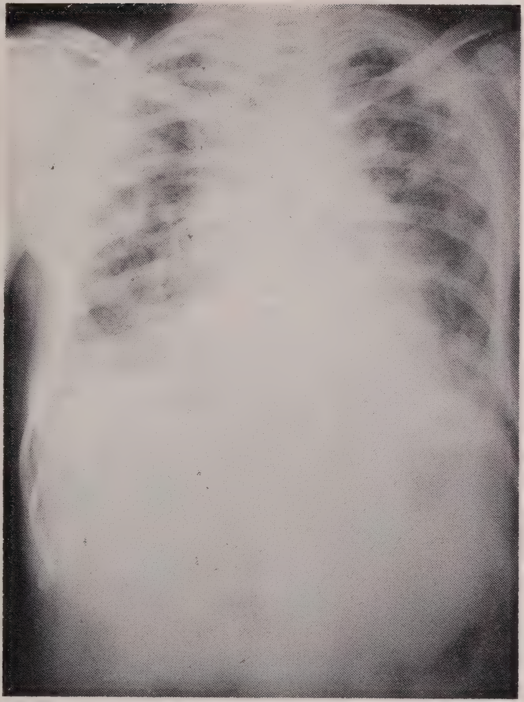

Fig. 1. Chest x-ray taken shortly after admission showing diffuse pulmonary infiltration.

were employed in an unsuccessful attempt to control urinary infection. Shortly after being transferred to the medical service in December, she became stuporous while oxygen by nasal catheter was running at 2 L. per minute. At that time arterial oxygen pressure was 70 and carbon dioxide pressure 31 mm. Hg. Her condition improved after an increase in oxygen flow and antibiotic therapy.

On January 5, 1955, the patient suddenly collapsed during a nasogastric feeding. Right pneumothorax was revealed by an emergency chest film, and transient improvement followed thoracentesis of air to pressures of minus 36, minus 9. She expired nine hours later.

Dr. Elliott Lasser: The first film was obtained in July, the next one in August (Fig. 1). As you can see, there was relatively little change. There was a diffuse, streaky appearance throughout both lungs with nodular components. The mediastinum was moved to the right, and the heart was a little large. Again in September there was relatively little change. Lateral film at this time showed what appears to be right-sided cardiac enlargement. Portable film obtained in November showed a pneumothorax to be present on the left.

Dr. Holland: This followed an attempt at thoracentesis on the premise that fluid existed in her left chest.

Dr. Lasser: Finally, we have this film taken on January 5. As Dr. Holland mentioned, she had a massive pneumothorax at this time; otherwise there was no definite change.

Discussion

Dr. David Greene: This case history brings up the problem of chronic pulmonary insufficiency. I should like to approach it from the general and work toward the particular. Chronic pulmonary insufficiency is associated with several different pictures from the functional point of view. This immediately gets us into the problem of nomenclature. Pulmonary fibrosis is not an entirely satisfactory term because, as was described by Baldwin,[1] roentgenographic pulmonary fibrosis may be associated with various types of functional abnormality. Conversely some cases with pulmonary dysfunction of a similar nature do not show pulmonary fibrosis on pathologic examination. Therefore, the term "alveolar-capillary block" has been used to indicate a specific type of chronic pulmonary dysfunction in which there is a disturbance in oxygen transfer from the alveolar space to the pulmonary capillary.[2]

A wide variety of pathologic changes can lead to this type of physiologic disturbance. Actually some of the altered physiology involved is not very different from the respiratory difficulties experienced by those who climb mountains slowly to high altitudes. Clinically, dysfunction of this nature is seen in patients who have had pulmonary injuries from such agents as beryllium, asbestos, and sulfur dioxide. Similar pictures are seen in patients who have what has been called "visceral scleroderma" involving the lungs, in patients with metastatic carcinoma spread through the lungs by lymphatic routes, and in patients with pulmonary granulomatosis of unknown cause or following mild respiratory infections.

To describe this functional abnormality in its essentials, I should like to talk in terms of oxygen tension. In the gas phase oxygen tension is linearly related to oxygen percentage. We may speak of an oxygen percentage in the inspired air of 21 per cent, or we may speak of 160 mm. of mercury of oxygen tension which is approximately 21 per cent of atmospheric pressure of 760 mm.

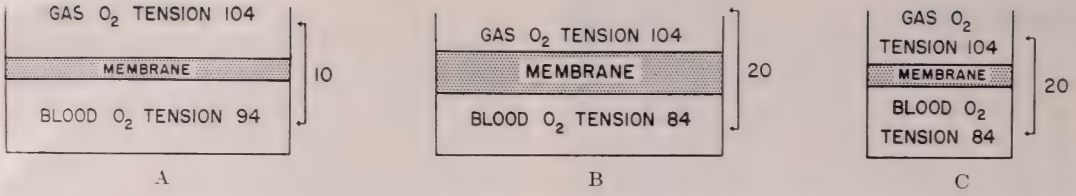

FIG. 2. (*A*) Normal relationship with blood-gas interface of normal area and alveolar membrane of normal thickness. (*B*) Normal interface area but increased membrane thickness. (*C*) Reduced interface area with normal thickness.

Hg. Discussions in terms of tension have the advantage that one may use the same units whether one is referring to the gas phase or the blood phase.

At the altitude of Buffalo we may think in terms of oxygen tension in the inspired air of 154 mm. Hg. This is simply the oxygen tension which we are now breathing. In a normal person like those of us here in the room, one might expect to find an alveolar air oxygen tension of 104 mm. of mercury. The gradient in oxygen tension between inspired and alveolar air, therefore, would be 154 minus 104 equals 50 mm. Hg. We know that there is a further gradient between the mean alveolar air oxygen tension of 104 mm. Hg and the arterial blood oxygen tension of 94 mm. Hg. This amounts, therefore, to a gradient of 10 mm. Hg between the alveolar air and the arterial blood.

In patients who have the particular type of chronic pulmonary insufficiency with which we are dealing here, i.e., alveolar-capillary block, the disability is at this point. They have an increased gradient in oxygen tension between their alveolar air and the arterial blood. This results because it is more difficult for oxygen to cross the blood-gas barrier for one of two reasons. There is either a diminished blood-gas interface (Fig. 2C) or else there are changes in the pulmonary membrane (Fig. 2B). We will not be specific about the pulmonary membrane but simply include whatever intervenes between alveolar air and the hemoglobin in the red cells. These different situations may be symbolized as in the figures. In Fig. 2A we have diagrammed the normal situation. There is a blood-gas interface of normal size and a membrane of normal thickness. A gradient of 10 mm. of mercury between the gas and blood phases is adequate for the normal oxygen change of, for example, 300 ml. of oxygen per minute. There are two ways in which this situation can be altered. As in Fig. 2B, we may postulate a membrane of similar area but double the thickness. A gradient of 20 mm. of mercury across the pulmonary membrane will be necessary in order to achieve the same amount of oxygen exchange. On the other hand, as in Fig. 2C we may diagram a pulmonary membrane of normal thickness but only half the surface area, and again a gradient of 20 mm. of mercury will be necessary in order to exchange the same amount of oxygen. A combination of these two circumstances, thickening of the pulmonary membrane and diminution in the area of the blood-gas interface, may also be seen. In any case what results is an increase in the alveoloarterial gradient to 20 mm. of mercury.

If this were the only thing that happened, the result would be that arterial oxygen tension would drop to 84 mm. of mercury. Actually there are compensatory mechanisms which come into play. The first and most important item of compensation is hyperventilation. By hyperventilation one may reduce the gradient between the inspired air and alveolar air. If this gradient is reduced from 50 to 40 mm. of mercury, the alveolar oxygen tension is then raised to 114 mm. of mercury. Even with a gradient of 20 mm. of mercury across the pulmonary membrane the arterial oxygen tension is 94 mm. of mercury. In this way hyperventilation compensates for the increased alveoloarterial gradient.

As time goes on, there are other changes which may take place, some known and some unknown, which go under the general heading of acclimatization. Such changes enabled the acclimatized mountain climbers of the 1953 K-2 expedition to live for ten days without an accessory oxygen supply at an altitude of over 25,000 feet. Sudden exposure to such an altitude for a nonacclimatized individual would result in loss of consciousness in less than fifteen minutes.

The difficulty in these patients is that as the membrane gets thicker or the blood-gas interface gets smaller, the alveoloarterial gradient gets bigger. Complete compensation by hyperventilation then becomes impossible. Compensation usually breaks down first during exercise, and cyanosis appears. They are unable to increase the blood-gas interface by opening up additional capillary channels in the lungs and thus increasing the surface for diffusion of gas. Finally, in extreme cases the situation may progress to the point where there is partial anoxemia even at rest.

When these patients are treated with oxygen, it is easy to compensate for a large alveoloarterial gradient. One can easily give inspired air tensions of 200 to 300 mm. of mercury or higher; thus it is easy to attain a much higher alveolar oxygen tension. The danger is that a few days of oxygen therapy will destroy the acclimatization to an hypoxemia which has developed as the disease has progressed. In a severe case the patient may be unable to exist at the oxygen concentration of room air and becomes hopelessly and completely addicted to oxygen.

I remember well a patient with beryllosis who lived in a four-room apartment with a hall in the center. Her daily 3 cylinders of oxygen were lined up in the center hallway, all attached to a long rubber tube and mask. The tube was long enough to go to any part of her apartment. She could carry on a perfectly normal life in her apartment doing her own housework, but she was unable to leave her house without a portable oxygen tank. Such dependence on oxygen is obviously a great inconvenience to the patient and a severe financial burden. It emphasizes the reason for hesitation and careful consideration when oxygen therapy is instituted in the patient with this difficulty.

I have been asked to close with a few remarks as to what I believe the pathologic lesion is here. The patients that I have seen with this functional difficulty have not been distinguishable from one another on the basis of their physical findings. These are generally rather few except for the cyanosis, sometimes clubbing, and hyperventilation. The roentgenographic picture is also not specific.

Here we have no history of toxic dust inhalation, so presumably one may rule out pneumoconiosis. The changes noted in the gastrointestinal tract might lead one to implicate the pulmonary changes associated with scleroderma. The extrinsic mass on the stomach does not suggest scleroderma, however, and the findings reported at surgery were far from diagnostic. Certainly she had a urinary tract infection, which I believe is a side issue. The pneumothorax is adequate cause for her exitus through cutting down on the size of the blood-gas interface.

I would be left with the unsatisfactory but, to my mind, the most probable diagnosis of ***pulmonary granulomatosis of unknown cause.***

DR. EUGENE STUDENSKI: Would anyone else like to comment on the diagnosis?

DR. HOLLAND: Would you like to consider carcinoma, Dr. Greene, a diagnosis which was entertained by some observers here for a period of time? The possibility was advanced that a carcinoma of the stomach evidenced by the abnormal gastric x-ray was followed by metastatic spread to her lungs with consequent pulmonary insufficiency.

DR. GREENE: I've never seen this secondary to carcinoma of the stomach, although if I recall correctly, there is one such patient in the files at the Buffalo General Hospital. The cases which I have seen have been secondary to carcinoma of the breast and prostate, neither of which is a likely original source here. Metastatic carcinoma is possible, but I would think that here one would have certainly discovered a primary source by this time.

DR. J. S. WU: On what basis did you make your diagnosis other than by just simply ruling out the other possibilities?

DR. GREENE: Boeck's sarcoid is another possibility.[3] There is nothing to suggest it. Statistically, in about half of these patients one does end up with the unsatisfactory diagnosis of pulmonary granulomatosis of unknown cause. I might say that the biopsy has not yet been described in detail. We did have a chance to get a rather unsatisfactory, nonconclusive report on the pulmonary biopsy, and that perhaps may influence me somewhat.

DR. STUDENSKI: There was a difference of opinion concerning the pulmonary biopsy. In one hospital it was called pulmonary adenomatosis, and that is why the patient was referred to this hospital. On the other hand, the slide was reviewed when it was received here, and the opinion held by this department was that it was not consistent with true pulmonary adenomatosis and looked more like a peculiar form of bronchitis or bronchiolitis.

DR. HOLLAND: I'd like to hear Dr. Lasser's opinions about the x-ray changes.

DR. LASSER: I've jotted down a list of things that come to my mind when I see this sort of a picture, and I will begin by admitting that in this type of chest disease the roentgenologist is very much at a disadvantage on the basis of the films alone, as Dr. Greene has indicated. There is a nodular pattern here, and if you'll look closely at this nodular pattern in some of the earlier films, it appears somewhat stellate as well and has much the same appearance as lipiodol when it gets out into the alveolus, except that it is considerably less dense. Now the things that I would consider most often in this particular picture are pneumoconiosis, sarcoid, and lymphogenous metastases. In addition, nonspecific pulmonary fibrosis, whether manifestation of bronchiolitis or an advanced stage of radiation or other etiology; pulmonary hemosiderosis associated with mitral heart disease; unresolved interstitial pneumonia; malignant lymphoma, and occasionally tuberculosis must be considered. Berylliosis has been mentioned and has become more and more recognized in the past few years. Again I can't see any differentiating points.

Likewise, the collagen diseases must also be considered here, particularly scleroderma as Dr. Greene intimated. Alveolar cell carcinoma of the lung or pulmonary adenomatosis might be considered; however, again I do not believe these can be differentiated on the basis of the plain film. I would like to qualify my entire statement about this problem, however, by saying that perhaps all of these diseases, if *entirely* classic in their appearance, can be identified. There are little points of interest that draw the attention of the roentgenologist. In radiation fibrosis, for example, one looks for the elevation of the diaphragm, pleural changes that go along with this, etc. In pneumoconiosis you look for peripheral emphysema and so on, but the point I'd like to make particularly is that when these things are *not* perfectly classic, then they all fall into one indistinguishable group.

Dr. Holland: Are you implying that the scarring that comes from pneumoconiosis produces emphysema peripherally, and the change of tissues which occurs from metastatic carcinoma, for example, or pulmonary fibrosis does not produce distal emphysema?

Dr. Lasser: No, I didn't mean to imply that entirely. In relation to lymphogenous metastases it is true that if we take 100 cases of lymphogenous metastases and 100 cases of pneumoconiosis, you will see peripheral emphysema much more frequently in the pneumoconiosis. The reason for this, of course, is the chronicity of the process in one case as against its relatively short duration in the other.

Pathologic Report

Dr. Studenski: In pathology we can frequently admit in these cases to the same difficulties that face the clinician and the radiologist. The syndromes, save for a few, are not characterized by pathognomonic morphologic findings.

In this case, I think, we can show you some findings of interest that possibly explain some of the situation. The left upper lobe was radiated. It was shrunken down further than the right side and was firm. The surfaces of the lungs were fibrotic. The pathologic process was almost uniform throughout both lungs. On close inspection the surface of the lung showed interlacing bands of grayish and yellowish fibrous tissue with numerous small blebs where the parenchyma had been pushed aside and air trapped in small vesicles. This pattern was quite consistent with the mode of exodus of this particular patient, one of these blebs having ruptured.

The pattern here isn't that which one would expect from pulmonary adenomatosis, which gives a relatively uniform infiltration of the lung. It doesn't fit most of the usual pneumoconiosis either. On cut section there was a pattern of interlacing strands of carnified tissue with blown-out, rounded spaces filled with air.

Microscopic examination revealed a lobular pattern with blown-out distal bronchi and compressed bronchiolar segments surrounding these dilated spaces (Figs. 3 and 4). No true alveolar structure could be seen. Instead, there were dense bands of muscle around the distal bronchi, interlacing bands of muscular tissue around the surrounding bronchioli, and a considerable amount of elastic tissue with areas of diffuse fibrosis.

In the subpleural region where there is normally a minimal amount of smooth muscle, large amounts of muscle had appeared. In the residual alveoli, in relatively uninvolved bronchiolar segments, the epithelium was, as usual, inconspicuous, but in focal areas with fibrosis it was piled up in the same way that these changes occur in foci of bronchiectasis and pulmonary fibrosis of any etiology. The columnar epithelial cells in this particular case were relatively well localized to really muscular areas close to bronchi probably representing terminal bronchioli and to

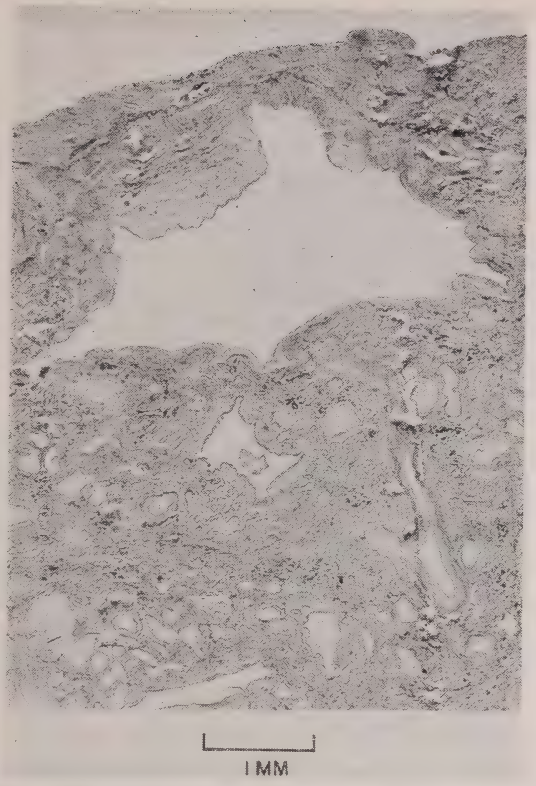

FIG. 3. Subpleural region showing dilated bronchioles with residual hyperplastic muscle and parenchymal fibrosis. Vessels show marked intimal sclerosis.

alveolar ducts. The epithelium did not appear to be spreading out into the parenchyma covering true alveolar walls.

In several of the distal bronchi and in focal alveolar regions there was chronic inflammation with fibrosis and the formation of plugs of granulation tissue. In these regions there was epithelial metaplasia and occasional giant cells containing spicular inclusions. These inclusions were apparently water soluble since they did not stain with fat stains in frozen section and were not doubly refractile in paraffin sections.

Sections taken from the radiated lung showed dense hyalinization, loss of smooth muscle pattern, and minimal changes in the epithelium. The only distinction between this lobe and the others lay in the amount of dense fibrosis.

In true pulmonary adenomatosis the alveolar walls and the alveolar septa themselves are covered with columnar epithelium. These lesions, as they progress and grow over long periods of time, may show considerable fibrosis but still show in many places the original pattern of primary epithelial proliferation. In diffuse fibrosis of Hamman and Rich the lung shows a relatively smooth surface without dilated and blown-out terminal bronchi. Microscopically, the bronchial walls and alveolar walls are thickened by proliferation of the vessels with little proliferation of the epithelium and no major dense fibrosis. There is no proliferation of the elastic tissue or muscle.

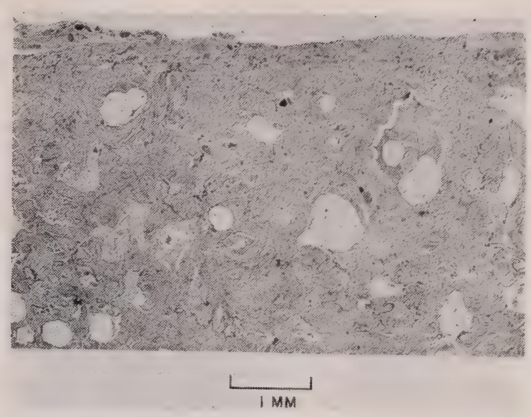

FIG. 4. Subpleural region showing collapsed bronchioles with residual hyperplastic muscle forming an almost solid muscular mass.

We can now go back and say that the findings in our case consist primarily of focal fibrosis combined with diffuse dilation of small bronchi and marked muscular hypertrophy. This syndrome is fairly well established; parts of it were first described as far back as 1832, and a name which is still used was given to it in 1870 when it was first called muscular cirrhosis of the lung. It was republished several times in the 1930's and again even more recently under this title and under the head of diffuse muscular hyperplasia of the lung.[4] Anatomically it could be more precisely named ***disseminated bronchiolectasia with muscular hypertrophy.*** The clinical syndrome associated with the disease is essentially a long period of progressive pulmonary insufficiency terminating most frequently with a ruptured emphysematous bleb and exodus with pneumothorax. The actual etiology of the syndrome at present is uncertain. It has been suggested, parenthetically at least, that in some cases the situation may be primarily one of muscular hypertrophy with the muscles acting as valvular structures causing focal areas of emphysema with secondary fibrosis. It has also been suggested that some of our cases of diffuse emphysema arise in the same manner since such muscular hypertrophy has been found in them and that these cases would and do receive relief through the use of muscular relaxants. Another possible etiology lies in the observation that some cases of virus pneumonitis may develop this pattern after long periods as a result of the interstitial inflammation. It is also interesting to note the parallelism between these findings and those reported focally as forms of congenital cystic disease of the lung. Would anyone like to make further comments or ask questions?

Dr. Holland: What was in her stomach?

Dr. Studenski: I can only say that her stomach showed no intrinsic lesion whatsoever. The only way that we could explain the filling defect was possibly that the enlarged left lobe of the liver pressed from above on the lesser curvature. She was extremely emaciated at the time of examination, and of course the stomach was being pressed upon by the spine and the pancreas as well. I can say that there were no lesions in the intestine; the cecum did not appear unusual. There was no resection of the terminal ileum.

Dr. Greene: Would you say that there were generalized emphysematous changes in the lung or areas of focal emphysema?

Dr. Studenski: There were small focal areas of bronchiolar size, but they were scattered throughout the substance of the lung and were not limited to one lobe or to any part of a lobe. They may be found anywhere; they involved, in substance, the entire lung.

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ANNOUNCEMENT

SCIENTIFIC EXHIBITS

1956 ANNUAL CONVENTION MEDICAL SOCIETY OF THE STATE OF NEW YORK

Applications for space for the scientific exhibits should be made directly to the Chairman of the Subcommittee on Scientific Exhibits of the Convention Committee:

William L. Watson, M.D.
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No applications can be considered after January 1, 1956.

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Group I: Awards in Group I are made for exhibits of individual investigation, which are judged on the basis of originality and excellence of presentation.

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TREATMENT OF CANCER

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The Treatment of Carcinoma of the Breast

C. D. HAAGENSEN, M.D., NEW YORK CITY

(*From the Department of Surgery, Columbia University College of Physicians and Surgeons, and the Surgical Service of Presbyterian Hospital*)

AMERICAN physicians, perhaps more so than their colleagues abroad, have recently become aware that the results of the generally accepted surgical methods of treating carcinoma of the breast are poor and that there is great confusion as to how the disease should be treated. Several students of the disease, beguiled by statistics and lacking sufficient clinical experience, have in fact wandered so far to the left as to suggest that all therapy is futile. I mention this point of view without naming its proponents because this is not the place to enter into a complex discussion of the statistical data concerned. I wish, however, to condemn without reservation this therapeutic nihilism. All surgeons and radiotherapeutists who attack carcinoma of the breast skillfully know that they cure some patients and palliate the ravages of the disease in many others.

It is important, however, that we now take stock in as critical a manner as possible of what we have been accomplishing with our conventional methods of therapy for carcinoma of the breast. An excellent summary of the results of treatment in teaching hospitals both here and abroad has recently been presented by Smithers and his associates.[1] Their summary shows that the absolute five-year survival rate of patients with breast carcinoma treated by various methods during recent years ranges between 30 and 40 per cent in the different clinics. Although the absolute *survival* rate is without doubt the ultimate measure of results, the absolute five-year *cure* rate is also an important criterion. By "cure" we of course mean continuous freedom from indications of breast carcinoma from the date of treatment. Data regarding "cure" in this sense can be provided only for patients treated surgically. In the patients treated by irradiation it is often impossible to determine by clinical examination whether or not any residual carcinoma remains locked up in the sclerotic breast. The five-year "cure" rate is something like 10 per cent lower than the survival rate in most data reporting surgical results.

It is essential that results be expressed in *absolute* terms. By this we mean that *all* patients with primary untreated breast carcinoma coming to the clinic in question during the period of time in which results are being studied be counted as a basic total number, or divisor, in calculating the per cent surviving or cured. No patients may be deducted from this original total number of primary patients, whether they received no treatment, or died of intercurrent disease, or were lost track of, or what not. With this method of determining *absolute* survival and cure rates we achieve an expression of what the clinic in question achieves as a whole with breast carcinoma.

The brutal facts are that in the teaching hospitals where special attention is given to breast carcinoma and where all the facts concerning patients with the disease are known, approximately 35 per cent of the patients survive five years, and 20 per cent survive ten years. It is fair to say that in the average hospital the results are not as good.

There are two features of the treatment for carcinoma of the breast in the average American hospital which should be emphasized. The first is the high operability rate. In a recent survey of the treatment of carcinoma of the breast in hospitals in upstate New York,[2] it was found that the treatment in 93 per cent of patients in whom the diagnosis of breast carcinoma was made was mastectomy. Now we know from biopsy studies which we have been carrying out at Columbia that the disease has metastasized beyond the reach of surgery in between 30 and 40 per cent of the patients when they first come to us. Our own operability rate, which formerly was in the vicinity of 75 per cent, has been steadily reduced by our strict criteria of operability, which make it possible for us to exclude patients who cannot be cured by surgery. We now operate on only about 60 per cent of the patients.

A second feature of the surgical attack on breast carcinoma, as it is carried out in most parts of our country, is that the operation done is not that described by Halsted and Willy Meyer a half century ago. It is nowhere near as thorough a dissection. The true Halsted operation included among other features the sacrifice of such a large area of skin that the wound could not be closed without a skin graft. It included dissection of *thin* skin flaps, medially to the midline of the sternum and laterally to the latissimus, thus removing the whole of the mammary gland. In the American "radical" mastectomy of today, so little skin is sacrificed that the wound can be closed primarily, and the rapidly cut skin flaps, usually several centimeters in thickness, include not only superficial fat but the superficial portion of the mammary gland. Halsted dissected the axilla meticulously with knife and forceps. In the modern standard American operation the axillary tissues are pawed out with gauze over the operator's finger. Although a good axillary dissection will yield an average of about 35 lymph nodes, the present-day standard axillary dissection yields perhaps from five to ten. The true Halsted radical mastectomy requires about five hours to perform and is a meticulous, gentle dissection. The standard American "radical" is done in an hour or an hour and a half and is necessarily a rough procedure, no matter how dexterous and how good an anatomist the surgeon may be. The custom in our country has been to follow the standard "radical" operation with postoperative irradiation. The total radiation dose thus administered rarely exceeds 3,000 r to the skin. This is not enough to destroy the carcinoma that the surgeon has left behind. The local recurrence rate after this plan of therapy is often 30 to 40 per cent.

Many surgeons, discouraged by the poor results of this kind of therapy, are looking for another solution to the problem of breast carcinoma. At this moment two alternatives have been presented to them by skillful pleaders.

The first alternative is to abandon radical surgery and substitute irradiation for it. The Scottish radiologist, McWhirter,[3] persuaded his colleagues in Edinburgh in 1941 to undertake an experiment of this kind. Since that date all patients with breast carcinoma in southwest Scotland have been treated with intensive irradiation. A total tumor dose of about 3,750 r is given over a period of about three weeks. Many of the patients have a preliminary partial mastectomy that removes the bulk of the breast and the carcinoma within it. This limited excision must not be interpreted as being in any sense curative. Residual carcinoma is certainly left behind. The purpose of the operation is merely to make it easier to deliver the required dose of radiation. What results are obtained by the McWhirter plan of treatment must be credited wholly to irradiation. The results are impressive from a purely statistical point of view. Some 1,182 patients have been treated, and 42 per cent have survived five years. This, it must be noted, is at least as good a five-year survival rate as has been achieved in most hospitals where radical mastectomy is the accepted form of treatment.

It should be pointed out, however, that the morbidity of intensive irradiation treatment, even when it is given as skillfully as it is in McWhirter's clinic, is considerable. It is greater in my own experience than the morbidity of a skillfully performed Halsted type radical mastectomy.

Another important disadvantage of irradiation is the uncertainty of the permanence of the "curative" effect of radiation. From a number of careful microscopic studies of carcinomatous breasts removed after intensive irradiation,[4,5] we know that this weapon usually fails to destroy carcinoma completely but merely locks it up in a dense fibrous stroma. After a variable period of time, sometimes many years, the carcinoma may break free of its fibrous bonds and again threaten the life of the patient. I have seen this occur as late as fifteen years after irradiation in patients whom I have followed. The patient's future after surgery is more secure. A patient treated by radical mastectomy rarely develops either local recurrence or distant metastases more than ten years after operation. In order to evaluate fairly the comparative value of radical mastectomy and irradiation we shall have to have ten and even fifteen-year absolute survival data. These are not yet available. Until we have satisfactory data on which to base our judgment, we must not discard the Halsted radical mastectomy. In my experience it is a highly efficient method for dealing with breast carcinoma on the chest wall and in the axilla, provided that certain types of cases with more advanced chest wall and axillary disease are excluded.

This brings me to a consideration of the selection of cases suitable for radical mastectomy. At Columbia Dr. Arthur Purdy Stout and Dr. Maurice Lenz and I have been working on this problem for many years. We have evolved from the experience in the Presbyterian and Delafield Hospitals a set of criteria of operability, or curability by surgery, if you wish. These criteria, which are listed below, represent the actual experience of our surgeons. Patients operated on in defiance of these criteria—and there have been many so treated—have not been cured.

Breast carcinoma is inoperable:

1. When extensive edema of the skin over the breast (more than one third of the skin area) is present.
2. When satellite nodules are present in the skin over the breast.
3. When the carcinoma is the inflammatory type.
4. When any *two*, or more, of the following signs of locally advanced carcinoma are present:
    (*a*) Ulceration of the skin.
    (*b*) Edema of the skin of limited extent (less than one third of the skin over the breast).
    (*c*) Solid fixation of the tumor to the chest wall.
    (*d*) Axillary lymph nodes measuring 2.5 cm. or more in transverse diameter.
    (*e*) Fixation of axillary lymph nodes to the skin or the deep structures of the axilla.
5. When there is edema of the arm.
6. When, in patients with clinically involved axillary lymph nodes, biopsy of the apex of the axilla reveals metastases.
7. When biopsy of the internal mammary lymph nodes in the first interspace reveals metastases.
8. When roentgenographic study of the skeleton reveals metastases or when trochar biopsy of a lumbar vertebra reveals metastases.
9. When roentgenographic study of the lungs reveals metastases.
10. When palpation of the liver suggests that it contains metastases.

There are two of these criteria which I should like to discuss in some detail, those which refer to biopsy of the lymph nodes of the apex of the axilla (number 6) and the internal mammary areas (number 7). Having been interested by Dahl-Iversen and his Danish colleagues[6] in dissection of the supraclavicular nodes and by Handley[7] and Margottini[8] in dissection of internal mammary nodes, we began about three years ago to excise these nodes in what we call a triple biopsy. This was done as a separate preliminary operative procedure with the object of determining not only the presence of carcinoma in the breast, but the extent of its spread to the outposts of the regional lymph node filters. We first biopsied the primary tumor and proved its carcinomatous nature by frozen section. We next biopsied the upper three interspaces, excising not only the lymph nodes but the fat and areolar tissue surrounding the internal mammary vessels. Finally we did a bloc dissection of the supraclavicular lymph nodes. The internal mammary tissues were not studied by frozen section but were embedded in paraffin and sectioned at a number of levels. The supraclavicular nodes were dissected out of the operative specimen and similarly studied. If metastases were found in the supraclavicular or internal mammary areas, we usually treated the disease by irradiation. If these two areas were free of carcinoma and none of the other criteria indicating inoperability was present, we performed radical mastectomy.

These biopsies, we found, excluded from operation a good many patients whom we would otherwise have treated surgically. The internal mammary and supraclavicular nodes are but rarely involved unless there are axillary metastases. But when the axillary node filter begins to be blocked by metastasis, carcinoma emboli tend to go to the internal mammary nodes. At a still later date in the dissemination of the disease, after the nodes at the apex of the axilla have become involved, the disease reaches the supraclavicular nodes.

We have recently abandoned supraclavicular involvement as a criterion of inoperability and substituted involvement of the nodes of the apex of the axilla. I have been taught by the biopsy findings in several patients that supraclavicular involvement is too late a phenomenon to be a reliable guide to operability. In the patients to whom I refer, no metastases were found at biopsy of the internal mammary or supraclavicular areas, yet at radical mastectomy almost all of the axillary nodes were found to be involved, including those situated upon, or caudad to, the axillary vein at the apex of the axilla. These so-called subclavicular nodes are usually the last to be involved in progressive axillary involvement. From these nodes lymphatic trunks run beneath the subclavius muscle and the clavicle, a distance of only about 3 cm., to reach the grand central lymphatic terminus at the junction of the subclavian and internal jugular veins. Here metastases in the lymphatics empty into the venous stream, and hope of cure is of course gone. When the nodes at the apex of the axilla contain metastases, I believe that the disease is not curable by surgery.

This statement leads me to a discussion of the second alternative that has been presented to the modern surgeon who is discouraged with the results of the conventional therapy of breast carcinoma.

It is the so-called superradical surgical attack. One group of surgeons (Margottini in Italy, Dahl-Iversen in Denmark, Urban[9] in New York) have been combining excision of the internal mammary nodes with radical mastectomy. Dahl-Iversen also adds supraclavicular dissection. Another, and still more radical approach, is that of Wangensteen,[10] who carries his axillary dissection by continuity into the supraclavicular area and into the chest to include the internal mammary area. In both Urban's and Wangensteen's technic the thoracic cavity is opened and part of its wall excised. This has a price in morbidity and mortality, but more important the chest wall resection limits the thoroughness of the removal of the tissues upon the chest wall (skin, subcutaneous tissue, breast). It is not technically possible in most patients to resect the chest wall in the internal mammary area and at the same time remove the superficial tissues in the mammary area as widely as we are accustomed to do in our Halsted type of radical mastectomy. We face the question, therefore, of deciding whether it is worth while to sacrifice to some degree the known local curative value of our type of radical mastectomy for the questionable gain that may come from excision of the chest wall in the internal mammary area.

In patients whose disease has metastasized to the second or third internal mammary area only, the first interspace having been proved free of metastasis, chest wall resection of the internal mammary area may be justified, and we have performed it occasionally. We find, however, that patients whose disease fits into this category are rare. Moreover, irradiation may eventually prove to be a better treatment for this internal mammary disease. I feel strongly that if breast carcinoma has reached the apex of the axilla or the supraclavicular area along the axillary route of spread, or the level of the first interspace along the internal mammary route of spread, any so-called superradical operation, as well as any other lesser operative attack, is not only futile but probably harmful. The involvement of these peripheral lymph nodes by the widening floodtide of the disease can be proved by biopsy. It is a simple and harmless procedure. I recommend it to the surgical enthusiasts. Irradiation is a kinder and, I believe, better method of treatment for the patients with breast carcinoma who cannot be cured by surgery.

Let us, however, in condemning superradical operations take care not to discredit all surgery. For the present, if breast carcinoma is within the limits of the criteria of operability that we have suggested, the Halsted radical mastectomy is our most useful weapon, and we should use it with all the skill and perseverance that we can muster.

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Scientists Report Unique Epidemic

A unique epidemic was reported in the June 25 *Journal of the American Medical Association.*

Four Duke University scientists described an epidemic on North American blastomycosis, a fungus disease limited to the United States and Canada. It occurred in 1953–54 in a four-mile area centering around the town of Grifton in Pitt County, North Carolina.

The disease, rarely diagnosed two decades ago except in a few medical centers, may occur in the Midwest, Ohio River Valley, and the southeastern United States, which are areas where some cases have occurred. The report was made in order to alert physicians and public health workers of those areas. No cause for the epidemic has been found, but the scientists hope a study of the Grifton area and population may provide a clue to the method of disease spread.

Eleven cases of North American blastomycosis were admitted to Duke University Hospital within a few months. All patients lived either in Grifton or within a four-mile radius of the town. The occurrence of 11 cases within a few months in a small area can be considered as "epidemic" since it was a sudden increase in contrast with the record of 14 cases scattered over the past sixteen years through the much larger area of Pitt County and seven adjacent counties, the scientists said.

Blastomycosis is a chronic infection marked by tumors in the skin (cutaneous blastomycosis) or by lesions under the skin and in the lungs, bones, liver, spleen, and kidneys (systemic blastomycosis). The reported outbreak was primarily of the systemic type.

Common symptoms in the Grifton cases were low-grade fever, cough, discomfort, weight loss, loss of appetite, and inability to work. More severely ill patients had high fever and labored breathing. All of the patients had pulmonary disease and only one had a blastomycotic lesion of the skin. The only patient who died of blastomycosis in this outbreak had received no specific treatment before her death. Another recovered without treatment, while the others were treated with stilbamidine, a drug restricted largely to treatment of a few fungus infections.

"The results of this therapy are remarkable, since prior to the introduction of stilbamidines, the mortality was as high as 92 per cent in patients with systemic cases followed two years or longer," the scientists said.

The earliest onset of the disease in the outbreak was in mid-October, 1953, and the latest in mid-March, 1954. The winter seasonal incidence is common for the systemic type. "The disease probably does not spread from man to man," the researchers said. Attempts to discover the source of the organism and the means of spread failed. However, it seems likely that persons contract the disease by breathing in the organism.

"The precipitating causes of the epidemic were not uncovered by this investigation, nor is it known why the epidemic ceased so abruptly," the scientists said. "Speculation has centered around the slightly increased rainfall; geologic characteristics of the area; the exposure of patients to dirty atmospheres, rotting vegetation, or animal dejecta, and the possibility of direct transmission from animal or human beings and mechanical inoculation. The area will be under close surveillance next year during the same season in order to detect a recurrence should one occur."

Conducting the study were J. Graham Smith, Jr., M.D., Jerome S. Harris, M.D., Norman F. Conant, Ph.D., and David T. Smith, M.D., all of Durham, North Carolina.

CASE REPORTS

Gastrectomy for Peptic Ulcer in Children

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It is now generally recognized that peptic ulcer can occur in childhood. However, considerations of diagnosis and treatment are limited by the fact that the disease is rather uncommon. Gross[1] reported one case of chronic duodenal ulcer in a three-week-old infant. In his discussion of this subject he stated that over 350 cases had been reported in the literature and stressed the possibility that instances of vague abdominal distress and other alimentary disturbances in children might indicate undiagnosed peptic ulcer. He called attention to the possible complications of malnutrition, hemorrhage, perforation, and obstruction. His recommended surgical treatment for perforation was simple closure and, for mechanical obstruction, posterior gastrojejunostomy.

In 1941 Bird, Limper, and Mayer[2] published an extensive review of the literature on this subject. They collected 243 cases of ulcer in children from infancy to fifteen years of age. Seventy-two cases were in the twelve to fifteen-year age group, this being the largest number. There were 119 instances of surgical treatment in their review: 53 for stenosis, 43 for perforation, 12 for hemorrhage, and 11 for pain. Resection was done 17 times. The other operations were either gastrojejunostomies or closures of perforations. The authors did not recommend any particular operation for the chronic type of ulcer. Nevertheless, they pointed out that children are not immune to the possibility of gastrojejunal ulcer following gastrojejunostomy. Michaelson[2] in 1925 reported three cases of gastrojejunal ulcer in children.

Franklin[3] divided childhood peptic ulcer into four categories as described in Table I. The first or neonatal is often characterized by hemorrhage. The second he called the infantile type when vomiting and hemorrhage are presenting symptoms. The third or childhood type, which occurs between one and nine years of age, is characterized by vague gastrointestinal complaints, poor appetite, upper abdominal pain, and failure to gain weight. Finally the "adult type" appearing between age ten and fifteen years presents the classic symptoms seen in maturity. Pathologically the first three classifications do not show the edema, cellular infiltration, and fibrosis seen in the adult peptic ulcer.

TABLE I.—Types of Peptic Ulcer in Children

	Group	Age	Characteristics
I	Neonatal	First days of life	Hemorrhage. Microscopic: lack of inflammatory reaction
II	Infantile	Up to 1 year	Vomiting and hemorrhage. Microscopic: as above
III	Childhood	1 through 9 years	Upper abdominal pain, vague gastrointestinal complaints, poor appetite, failure to gain weight. Microscopic: may show inflammatory reaction
IV	Adult	From 10 years	"Hunger pain" and other familiar signs and symptoms of adult peptic ulcer

In 1942 Guthrie[4] published a series of nine cases of peptic ulcer in infants up to twelve months of age who died of their disease. All came to autopsy. There were eight duodenal ulcers and one gastric ulcer. Histologically these ulcers involved all the coats of the bowel, but there was practically no inflammatory reaction, thus confirming the findings of Franklin in infantile ulcer. The author further stated that the prognosis was poor in infancy, but he did not recommend any specific type of surgical treatment. However, he discussed the appearance of the "adult type" about age ten and felt that results with surgery were good. He did not recommend any specific operation. It was also his experience that many adults first began to have evidence of gastroduodenal disease at about the age of ten years.

Further evidence of the pathologic nature of the childhood type of peptic ulcer was noted by Tashiro and Kobayashi[5] in 1935 when they reported the case of a perforated duodenal ulcer in a seven-year-old boy. This patient was operated on the seventh day of his illness, but there was practically no inflammatory reaction about the ulcer. This case illustrated the difficulty and delay in diagnosis. The authors called for a proper appreciation of the need for diagnosis of peptic ulcer in children and for accurate and early evaluation for surgery when indicated.

Case Report

The following case is an example of the "adult type" of peptic ulcer occurring in a fifteen-year-old boy.

J. B., a white student, aged fifteen years, was admitted to the Coney Island Hospital on November 28, 1951, because of bloody vomiting of thirty-six hours duration and rectal bleeding for twenty-four hours. He had been having episodes of epigastric pain relieved by food and milk for one year, and a diagnosis of peptic ulcer had been made by his family doctor. He was treated by diet until three months before admission to Coney Island Hospital when sudden profuse rectal bleeding caused his admission to another hospital. There he was treated by whole blood transfusions, and the diagnosis of duodenal ulcer was confirmed by roentgen study. After discharge his disease was controlled by diet until two weeks before admission to Coney Island Hospital when he began to have epigastric pain followed by the bleeding previously described.

On admission he was pale and apprehensive. His pulse rate was 120, and blood pressure was 90/30. His abdomen was soft and not tender. His rectum contained a large amount of tarry stool streaked with bright blood. Hemoglobin was 7.2 Gm. He received repeated whole blood transfusions until hemoglobin measured 12 Gm.; bleeding stopped three days after admission. The previous diagnosis of duodenal ulcer was confirmed by x-ray study.

Operation was performed on December 18, 1951, through an epigastric midline incision. Numerous adhesions were present about the first and second portions of the duodenum. There was a soft, yellow, 3-cm. long, ovoid, lobulated mass on the antimesenteric aspect of the jejunum 15 cm. distal to the duodenojejunal junction. This mass later proved to be ectopic pancreas. There was marked scarring and constriction of the duodenum just distal to the pylorus, and a small penetrating ulcer was present on the posteromedial aspect of the second portion of the duodenum about 2 cm. proximal to the ampulla of Vater. No fresh blood was present in the stomach or duodenum. After duodenotomy a subtotal gastrectomy with an anterior Hofmeister type gastrojejunostomy was performed. The ectopic pancreas was excised. About 70 per cent of the stomach and the proximal 2 cm. of the duodenum were removed in this procedure. His recovery was uneventful, and he was discharged from the hospital on the tenth postoperative day.

Follow-up on September 15, 1954, showed normal growth and development for his age. He has had no digestive trouble in spite of the fact that he follows an unrestricted diet and uses tobacco freely. He works as an office clerk and pursues weight-lifting as a hobby.

Comment

The indication for surgery in this case was clearly evident since the patient had had two episodes of profuse gastrointestinal bleeding within three months. However, the decision as to the type and extent of operation was approached with considerable circumspection. We felt that there was some risk of interference with normal growth after gastrojejunostomy in a fifteen-year-old boy. A review of the literature and textbooks for help in this problem was not too rewarding. Actually the general feeling conveyed in these writings was against gastrojejunostomy in children. Yet nowhere could we find definite evidence that subtotal gastrectomy in this age group would be any more dangerous than in the adult. We finally decided that the risks of gastrojejunal ulcer and recurrent bleeding far outweighed the hazard of unfavorable postgastrectomy sequelae. The operation described above was therefore performed. The result thus far has been excellent.

Summary and Conclusions

1. The various types of peptic ulceration in children have been described.
2. A case of duodenal ulcer in a fifteen-year-old boy treated by subtotal gastrectomy has been described.
3. It is suggested that selected cases of the "adult type" of peptic ulcer in children can be safely treated by subtotal gastrectomy. Such treatment, once indicated, should spare the young ulcer patient a long period of suffering and disability during his productive adult years.

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You can't hold a man down without staying down with him.—Booker T. Washington

Amebic Lung Abscess

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SUPPURATIVE lung disease is associated with variable etiologic factors and presents no distinguishing clinical features. Because of the dramatic response of infectious disease to specific therapy, it becomes imperative to identify the causative agent. This is especially essential in lung abscess. It is common knowledge that pleuropulmonary amebiasis complicates amebic hepatic abscess and results in empyema, lung abscess, or bronchohepatic fistula.[1] The occurrence of amebic lung abscess in persons without other signs or symptoms suggestive of amebiasis has been infrequently reported. Experience with military personnel returning from the Pacific and Mediterranean areas emphasizes the importance of considering this diagnosis.[2]

Asymptomatic intestinal amebiasis is reported to be present in 5 to 20 per cent of the general population of the United States.[1] Extraintestinal amebiasis most frequently involves the liver, lung, and brain. Ochsner and DeBakey[1] found amebic abscess of the liver in 15 per cent of 388 cases of active amebic dysentery; 1.8 per cent of 388 cases also had pleuropulmonary involvement. They also found that "hematogenous" pulmonary abscess with independent liver abscess occurred in 10.4 per cent of 153 cases collected from the literature. Girgis,[3] referred to by Craig,[4] reported two fatal cases of multiple pulmonary and hepatic amebic abscesses in which the Endamoeba histolytica could be demonstrated in emboli in the pulmonary arterial vessels, thus supporting the view that hematogenous dissemination of the parasite may occur. In the absence of pleural space involvement and demonstrable contiguity between hepatic and pulmonary lesions, one must assume that this type of bloodborne dissemination may occur. The pathways presumably are (1) from the liver through the hepatic veins into the inferior vena cava and right side of the heart to the lungs, (2) from the middle and inferior hemorrhoidal veins by direct anastomosis to the inferior vena cava, and (3) into the vertebral system of veins with its few valves, alternating direction of flow, and multiple communications with the other venous systems which explain cerebral and pulmonary abscesses without passage through the liver.

There are no distinctive clinical features of amebic lung abscess. As with any pulmonary suppuration, fever, cough, chest pain, and hemoptysis with the physical signs of pneumonitis are noted. Roentgenographic examination shows no distinguishing features from tuberculosis or other abscess. The only absolute diagnostic evidence is the presence of trophozoites in the sputum. The blood count is not characteristic. Lack of a causative organism in sputum cultures, and failure to respond to penicillin, sulfadiazine, and streptomycin are suggestive points in the diagnosis. Response to emetine is accepted as valid evidence of the presence of amebiasis. Recent investigation has demonstrated the efficiency of chloroquine[5] and aureomycin[6] in the treatment of various phases of amebiasis.

Case Report

A forty-nine-year-old Chinese restaurant waiter was admitted to St. Vincent's Hospital on March 14, 1949, complaining of cough, hemoptysis, and pain in the right chest of one day duration. The patient was well until February 3, 1949, when he was admitted to another hospital for pain in the left chest. He was hospitalized for nine days during which time all workup including chest x-rays was negative.

On February 21, 1949, he experienced his first chill, right chest pain, and fever. Penicillin was administered by his local physician without noticeable effect. The diagnosis of atypical pneumonia was made at this time by another local physician, and penicillin was continued. On March 13, 1949, he developed cough with bloody sputum and increasing fever and was admitted to St. Vincent's Hospital on the following day.

The patient was born in China and came to New York in 1920 at the age of twenty years. Since the age of twenty-five he had been employed as a waiter. He visited Chicago at the age of twenty-one and Philadelphia at the age of twenty-six.

In 1929 he developed constipation believed to be due to hemorrhoids. In 1930 he began to have diarrhea with bright red blood in the stools with 10 to 20 bowel movements daily. A hemorrhoidectomy was done, but diarrhea and bloody stools continued until 1942. In 1932 sigmoidoscopic examinations were done, but the cause of the diarrhea was not determined. All symptoms ceased spontaneously in 1942, and he remained asymptomatic until the present illness.

On admission the patient appeared acutely and chronically ill. The positive physical findings were limited to the chest. There were dullness, diminished breath sounds, and occasional subcrepitant rales in the right lower lung field posteriorly.

On admission the white blood count was 13,700 with 71 per cent polymorphonuclears, 1 per cent eosinophils, 22 per cent lymphocytes, and 6 per cent monocytes. The urine was negative. Chest x-ray revealed scattered areas of exudative infiltration in the right lower lung field attributed to a pneumo-

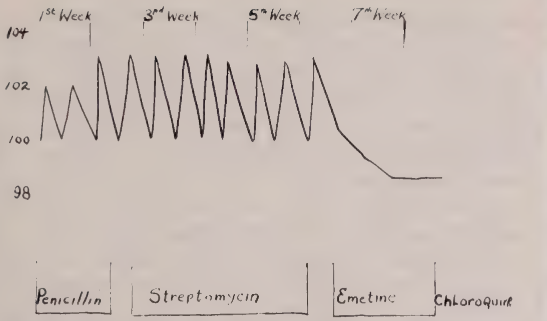

FIG. 1. Graphic representation of temperature curve with response to medication.

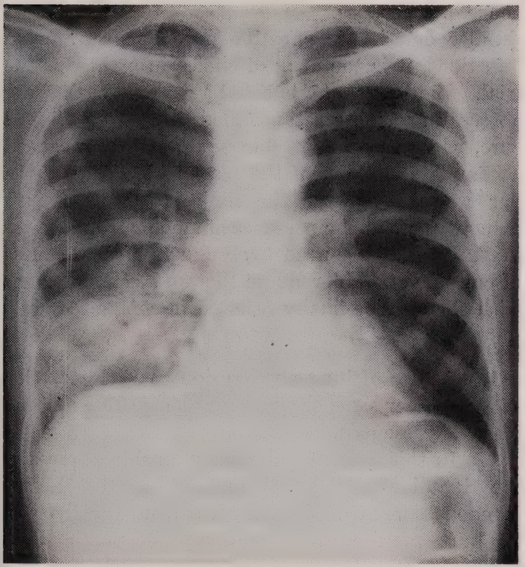

FIG. 2 April 12, 1949—Mottled infiltration of right lower lung field with nodular densities.

nitis. Sputum and gastric washings were negative for tubercle bacilli on smear and guinea pig inoculation. Mantoux test was positive in 1 : 10,000 dilution. Blood culture was negative. Agglutination tests for typhoid, paratyphoid, brucellosis, and typhus fever were negative. Sputum studies for fungus were negative on smear and culture. Bronchoscopic examination was essentially negative except for an inflammatory area below the orifice of the right upper lobe bronchus. Hanger test was 3 plus; serum bilirubin 1 mg. per cent.

The temperature ranged between 100 and 102 F. for the first week and then between 100 and 103 F. for the remainder of his illness until the sixth week (Fig. 1). He received 300,000 units of penicillin from March 19 to March 26, followed by streptomycin from March 27 to April 21 with no improvement. Fever, cough, and bloody sputum continued. Subsequent chest x-rays revealed multiple small abscesses with surrounding mottled infiltration in the right lower lobe (Figs. 2 and 3).

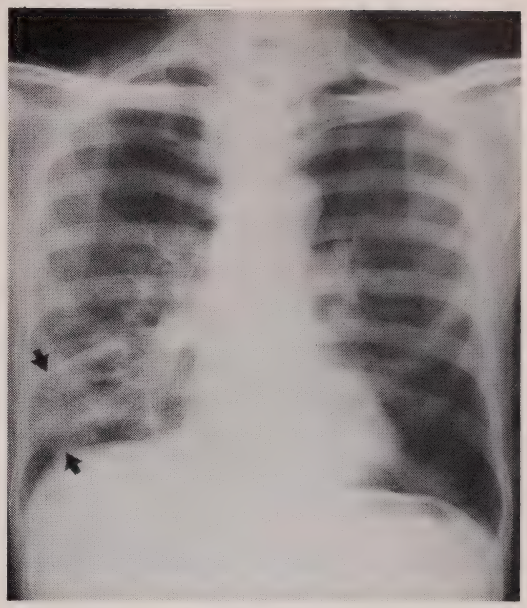

FIG. 3. May 1, 1949—Multiple lung abscesses with fluid levels.

On April 8, 1949, the patient was transferred to the general ward service and was seen in consultation. At this time the past history of bloody diarrhea of twelve years duration was recalled, and a hepatomegaly was noted. The chest findings were dullness, diminished breath sounds, and subcrepitant rales in the right lower lung field posteriorly. Fluoroscopic examination revealed elevation of the right diaphragm with no motion on respiration and a clear costophrenic angle. A mottled density with several small cavities with fluid levels as noted in the right lower lobe. The diagnosis of hematogenous amebic lung abscess was suggested. Sigmoidoscopy and a therapeutic trial of emetine were advised.

Sigmoidoscopy was negative, and the stools were negative for ova and parasites.

On April 21 streptomycin was discontinued, and emetine was administered for twelve days. The response was dramatic with a drop in temperature to normal within twenty-four hours. Cough, which had been frequent and annoying, disappeared promptly. Sputum, which had been bloody and moderate, ceased. Appetite improved, and weight gain was evident. Sputum studies for amebic trophozoites were negative at this time. Barium enema done on May 3, 1949, revealed all segments of the colon to fill without difficulty. The ileocecal junction was not well visualized due to close application of several loops of ileum on the ascending colon, which was suggestive of adhesions in this region.

At the end of the emetine course the patient received chloroquine, 1 Gm. every day for two days and then 0.5 Gm. every day for twenty-one days. He was afebrile and asymptomatic from April 23 until discharge on May 31, 1949. The Hanger test

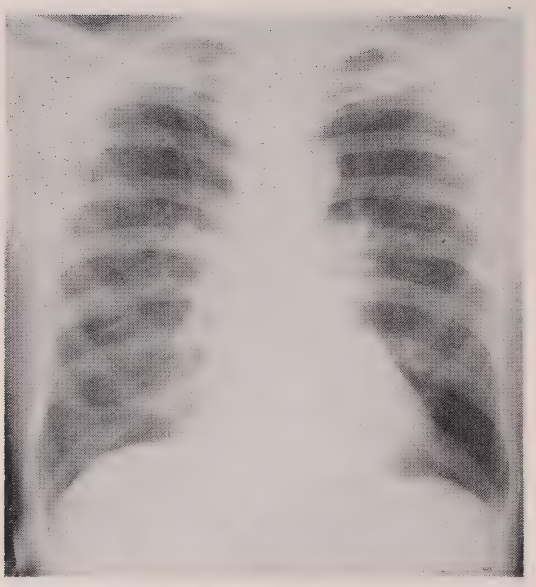

FIG. 4. October 19, 1950—Resolution of infiltration and cavities.

remained 3 plus, but bromsulfalein showed 5 per cent retention in five minutes and less in thirty minutes. Serum albumin was 3.2 Gm. per cent, serum globulin 2.5 Gm. per cent, and serum bilirubin 0.6 mg. per cent. Serial electrocardiograms revealed no abnormality. At the time of discharge the lungs were clear, and the liver edge was palpable at the costal arch.

The patient was well until June 7, 1949, when he noted recurrence of cough with moderate brown sputum. He was seen in the chest outpatient department on June 15, 1949. At this time diminished breath sounds with subcrepitant rales were again noted in the right lower lung field. Fluoroscopy and chest x-ray revealed a mottled infiltration in the right lower lobe. He was referred to a laboratory where, after forceful cough and immediate examination of sputum, amebic trophozoites were found.

The patient was readmitted to the hospital, and a second course of chloroquine, 1 Gm. every day for two days and 0.5 Gm. every day for twenty-one days, was given. Sigmoidoscopy on August 7, 1949, was negative. Serum bilirubin was 0.1 mg. per cent, Hanger 3 plus, bromsulfalein 20 per cent retention in five minutes and 2 per cent in thirty minutes. He was afebrile throughout this admission, and all symptoms cleared promptly.

The patient was followed in the chest outpatient department and continued in normal health (Fig 4). Examination on August 20, 1954, was negative, and chest x-ray was essentially negative but for linear streaking in the right lower lobe.

Comment

In the case reported the response to emetine was of considerable importance. Only after numerous studies of the sputum were the amebic trophozoites recovered, unequivocally establishing the diagnosis. The growth requirements of the parasite are such that it must live on viable tissue.[2] It is not found in the detritus which fills the abscess but in the wall of reaction surrounding it. Only when the patient was made to cough forcefully and the specimen was examined immediately, were trophozoites found.

The amebas commonly live in the cecum, and unless active dysentery is present, the trophozoites die before the stool is passed, and cysts are easily overlooked. The barium enema and gastrointestinal series revealed considerable distortion about the ileocecal region which is strong presumptive evidence of amebiasis.

Since emetine is effective only against amebic infections, it is the drug of choice in a therapeutic trial. Lindsay *et al.*[7] reported a case of amebic lung abscess in which emetine failed to effect a clinical cure, while subsequent chloroquine therapy caused a complete clearing of the pathologic process. In our case a relapse of the clinical symptoms with hemoptysis and the presence of amebic trophozoites in the sputum occurred twelve days after a course of emetine and chloroquine therapy. Retreatment with chloroquine finally resulted in complete cure.

Summary

1. A case of lung abscess due to E. histolytica without other signs or symptoms suggestive of amebiasis is presented.

2. In this case of pulmonary amebic abscess of the right lower lobe with amebic hepatitis hematogenous spread of the parasites from the liver to the lung was the most probable pathogenetic pathway.

3. The effect of emetine on the fever, cough, and sputum was dramatic.

4. One course of chloroquine failed to eradicate all trophozoites.

5. In cases of pulmonary abscess in which the usual causative agents have been excluded and which do not respond to penicillin, sulfonamides, or streptomycin, a high index of suspicion for amebiasis must be entertained.

159 EAST 49TH STREET

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Multiple Arteriovenous Fistulas of Lung

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In 1939 the first case of pulmonary arteriovenous fistula was diagnosed clinically and reported in the literature.[1] Prior to that time pulmonary arteriovenous fistulas were rare, only six cases having been reported. All of these cases were diagnosed at autopsy without previous clinical awareness of the condition. In 1942 the first case proved and treated by surgery was described.[2] Since 1942 few cases have been diagnosed by autopsy alone. In fact, up to the end of 1950 some 78 cases of arteriovenous fistula of the lung had been reported, and of these only two were not diagnosed before necropsy.[3,4]

Within recent years attention has been focused on the greater prevalence of this condition, and now arteriovenous fistulas are recognized more frequently. This is due to the widespread use of routine chest x-rays, community health surveys, cardiac catheterization, the development of angiocardiography, high-speed photofluorography and other x-ray technics, and to an increasing awareness of this condition on the part of the physician. Improvement in surgical technics also has been a prominent factor in its recognition and treatment. Since arteriovenous fistulas are amenable to surgery, particularly if uncomplicated, it is important that an early diagnosis is ascertained.

Although many observers have attempted to establish the causative agent or factor responsible for pulmonary arteriovenous fistulas, the exact etiology is unknown. Most observers feel that it is a congenital defect with a strong hereditary factor.[4-7] Since it is often associated with telangiectasias or hemangiomas in other areas and since a familial history has been established in many instances,[6] it is probably a variety of multiple hemangiomas and telangiectases of an hereditary nature.

The sex incidence of pulmonary arteriovenous fistula is evenly divided. The age range varies from twenty-two to seventy-nine.[7]

Pathologically an arteriovenous fistula of lung is a shunt in the pulmonary capillary bed. It is, in effect, an aneurysmal dilatation in the parenchyma of the lung consisting of numerous fistulous vascular channels connected on one side to a pulmonary artery and on the other side to a dilated vein. The veins are dilated more than the arteries because of a direct transmission of the higher arterial pressures into the veins depending, of course, on the phase of respiration.

This condition has been variously described as cavernous hemangioma of the lung, arteriovenous aneurysm, and also as pulmonary hemangioma. The lesion may be single or multiple and may occur in any lobe. There seems to be a predilection for the lower lobes or the right middle lobe. Of the 78 cases previously reported 25 cases or 60 per cent had multiple lesions. Occasionally chest wall involvement may be seen.

Clinically there may be no symptomatology. The chest x-ray may show the only positive finding to enable the clinician to arrive at the correct diagnosis. When present, the symptoms and signs depend on the size and duration of the fistulous vascular channels and are due to the shunting of blood from the lesser to the greater circulation. Even in the symptomatic case one or all of the prominent clinical manifestations may be absent. Cyanosis, polycythemia, pulmonary osteoarthropathy, and a pulmonary murmur predominate in the symptomatic case. Weakness, precordial pain, exertional dyspnea, and multiple hemangiomas and telangiectasias of the body are often observed. Central nervous system disturbances, hemoptysis, and epistaxis may occur.

Cyanosis is a late symptom and, once it occurs, is said to be progressive. It has been postulated[8] that it does not appear until at least 25 per cent of the blood is shunted from the pulmonary artery to the vein. The bruit may be systolic or heard during all phases of the cardiac cycle.

The central nervous system manifestations vary widely when present. Of the 78 cases reported 21 (or 27 per cent) showed central nervous system disturbances.[8] Convulsions were the most frequent manifestation. Others included visual and auditory disturbances, numbness, transient paralysis, unconsciousness, paresthesias, weakness, syncope, and transient speech disturbances. The cause of these symptoms is not apparent. Cerebral edema, anoxia, thrombosis, brain abscess, and cerebral arteriovenous fistula or hemangioma have been postulated.

The diagnosis is usually made by x-ray almost exclusively. The conventional film may show a lobulated or round mass with smooth and sharp margins in the lower lobes or right middle lobe or an elongated tortuous mass over the diaphragm, either in the symptomatic or asymptomatic patient. Under fluoroscopy these masses may pulsate, usually with the rhythm of the heart beat. If there are vessels that connect them with the hilar vasculature, the diagnosis is presumptive. These vessels are tortuous and are usually larger than the normal pulmonary vessels. The Valsalva and Müller maneuvers are also helpful in demonstrating the vascular nature of the lesion under fluoroscopy. Holding the breath after a full inspiration and making a forced expiratory effort increases the intrathoracic pressure. This decreases the size of the fistulous sac and vessels and also limits the flow of blood into the lungs. Conversely, holding the breath after a full expiration and making a forced inspiratory effort increases the negative intrathoracic pressure. This permits a greater blood flow into the lungs and a consequent expansion of the fistulous mass. Roentgen kymograms are also useful in demonstrating the pulsating character of the lesion.

Split-level tomography is also effective in that it establishes the correct diagnosis by showing the relationship of the isolated noncharacteristic pulmonary nodule to the pulmonary vessels. If surgery is contemplated, this can be done in both the frontal and lateral projections.

Cardioangiography is the method of choice.[1,7] This procedure brings out multiple lesions and should be done on all candidates for surgery. The entire pulmonary circulation is seen, including the afferent and efferent vessels as well as the pulmonary malformation. Diodrast is used, and excellent contrast is obtained to locate exactly the segment of lung containing the fistula.

The differential diagnosis is not difficult. In congenital heart disease the heart is enlarged, and the murmur is intracardiac. In pulmonary arteriovenous fistula the heart is normal in size, and the bruit is extracardiac. Polycythemia vera may be excluded by the absence of leukocytosis and immature cells in the peripheral blood and by a normal-sized spleen. Cyanosis again is progressive. Benign cysts, primary lung tumors, aortic aneurysm, and inflammatory lesions are excluded by the previously described roentgenologic procedures.

Surgery is the treatment of choice. Operations most often performed are lobectomy, pneumonectomy, bilobectomy, lingulectomy, wedge resection, ligation of the pulmonary artery, double ligation and division of an aberrant pulmonary artery, and more recently dissection and excision of the fistula without pulmonary excision.[9] In most instances cyanosis disappears following surgery.

Case Report

This patient, a sixty-two-year-old, white housewife, was admitted to the hospital complaining of melena, weakness, and syncope of eight days duration. Prior to admission the patient had been in good health except for a slight and vague intermittent left anterior chest pain associated with occasional lower lumbar and sacroiliac pains. Four years previously she had undergone an operation for a duodenal ulcer and had had a cholecystectomy many years ago.

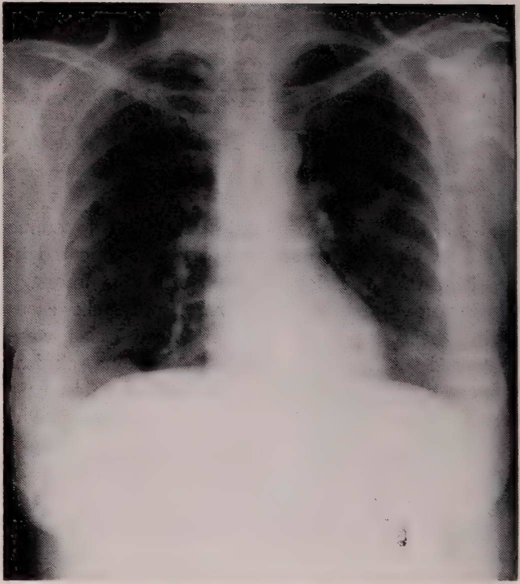

FIG. 1. Essentially negative chest x-ray except for coin-sized, lobulated, clearly defined area of radiodensity in the left central lung field located between the third and fourth anterior ribs and between the seventh and eighth posterior ribs at the midclavicular line. A similar mass impinges on the right diaphragm in the midclavicular line. Cardiac configuration is normal, but pulmonary arteries are prominent.

Physical examination revealed a well-nourished and comfortable patient with a blood pressure of 130/80, a regular pulse of 80, respirations 20, and temperature 100 F. There was moderate pallor of the skin, and no cyanosis was apparent. The thyroid was palpable and questionably enlarged. The trachea appeared to be deviated slightly to the right. The neck veins showed no distention. The chest was barrel-shaped, but the lungs were clear. The heart rate was 80. There was no evidence of cardiomegaly, thrills, or murmurs, nor was there any noticeable pedal edema, clubbing of the fingers or toes, or evidence of hemangiomas. Two paramedian abdominal scars were present.

The laboratory data revealed a white blood cell count of 7,820 with normal differential. The hemoglobin was 6.5 Gm. The sedimentation rate was 4 mm. per hour uncorrected, and the blood Wassermann was negative. The urine was not remarkable and showed a specific gravity of 1.016.

During the hospital course the patient became somewhat disturbed emotionally and felt that everyone was trying to harm her. A marked hyperexia was noted with an associated nuchal rigidity. This was followed by a generalized flaccidity, subsequent coma, and a right hemiplegia. A lumbar puncture was performed. The spinal fluid was xanthochromic and contained many red blood cells per high-

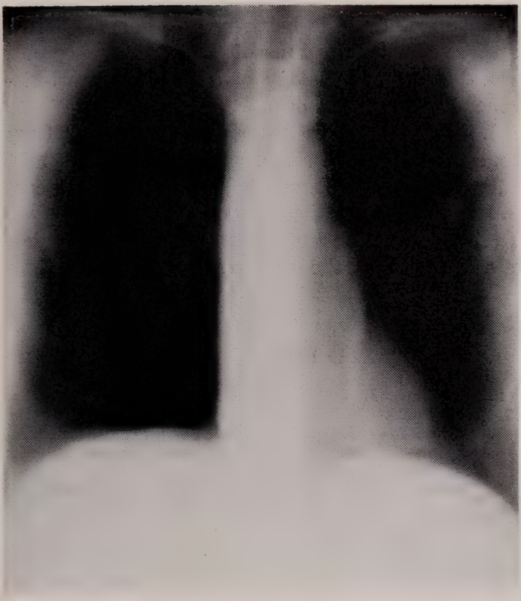

FIG. 2. Tomograms of chest demonstrate a relationship at different levels between the masses and the pulmonary arteries. The left central lung field mass is shown at this level, while the right supradiaphragmatic lesion is located more anteriorly.

power field. A total of 1,200 cc. of whole blood was administered, and a response was seen after seventy-two hours of conservative therapy.

An upper gastrointestinal series was done, and a duodenal ulcer was demonstrated. Intravenous pyelograms and barium enema studies were negative. The chest film showed a cardiac configuration of normal size and contour (Fig. 1). A discrete, coin-sized, lobulated lesion was seen in the left central lungfield. A similar elongated radiodensity was noted overlying the right diaphragm. The pulmonary vascular markings were moderately prominent. Frontal laminograms established a vascular continuity between the pulmonary arteries and both of these chest lesions (Fig. 2).

On re-examination of the patient's chest, systolic and early diastolic continuous murmurs with dullness were noted to the left of the sternum at the second anterior intercostal space and also just above the diaphragm at the midclavicular line on the right.

Further laboratory studies failed to demonstrate the presence of acid-fast bacilli. The bleeding time was forty-five seconds, and the clotting time was three and one-half minutes. No petechiae were seen after the Rumpel-Leede test. Three months after admission red blood cell count was 5,470,000 with a hemoglobin of 15 Gm. The hematocrit was 42 volumes per cent. The blood urea nitrogen was 15 mg. per cent, carbon dioxide combining power 57 volumes per cent, chlorides 101 mg. per cent, serum sodium 137 mg. per cent, and serum potassium 4.4 mg. per cent.

The diagnosis of multiple pulmonary arteriovenous fistulas was confirmed by angiocardiography (Fig. 3). A cavernous dilatation of the pulmonary artery was demonstrated in the anterior segment of the left upper lobe. A still larger one connected by two large vascular channels was seen in the middle lobe of the right lung at its anterior peripheral aspect just above the diaphragm.

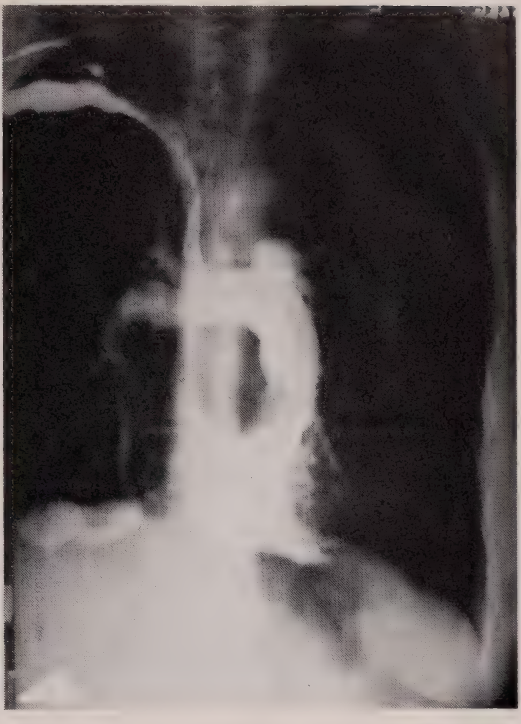

FIG. 3. Angiocardiography not only confirms the diagnosis of arteriovenous fistula of lung but also brings out multiple lesions that may not have been suspected. Here the right heart is clearly shown with both pulmonary malformations connected to the pulmonary arteries. Lateral projections further locate the lesions if surgery is contemplated.

A right middle lobectomy was performed. The surgical specimen contained a large pulmonary arteriovenous fistula of the same magnitude as that seen on angiocardiography.

Comment

This case is one of proved, multiple pulmonary arteriovenous fistulas in a patient who was relatively free of chest symptoms. The triad of cyanosis, polycythemia, and clubbing of the fingers and toes was absent. Although weakness, syncope, and intermittent anterior chest pain were present, these symptoms may be ascribed to the patient's proved duodenal ulcer. Central nervous system manifestations were also prominent. Whether they were due to subarachnoid hemorrhage or were the result of the arteriovenous fistulas or were due to both has not been determined. If the hyperexia, hallucinations, flaccidity, nuchal rigidity, coma, and transient hemiplegia can be attributed to the pulmonary malformation, then these central nervous system manifestations are the only indication of the severity of the syndrome in this case.

The diagnosis was established exclusively by x-ray procedures beginning with a routine chest roentgenogram which contained isolated, well-delineated, lobulated lesions. Tomography and angiocardiography established the multiplicity of the lesions and demonstrated a relationship between these lesions and the pulmonary vasculature. The diagnosis was confirmed by surgery.

Summary

1. A case of multiple pulmonary arteriovenous fistulas is presented.

2. The diagnosis was proved clinically by x-ray procedures and by surgical resection. Split-level laminograms and angiocardiography are recommended in all suspected cases and particularly if surgery is contemplated. Angiocardiograms will demonstrate multiple lesions that are not seen by conventional procedures.

3. A review of the literature reveals that this entity is rare but is being recognized more often because of widespread use of chest roentgenograms.

4. The exact etiology of a pulmonary arteriovenous fistula is unknown.

5. The symptoms and signs vary widely from none at all to progressive cyanosis, polycythemia, pulmonary osteoarthropathy, and oftentimes central nervous system disturbances.

6. Cyanosis most often disappears after surgical resection which is the treatment of choice.

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Atomic Test Program Gives Maximum Public Safety

Safety measures at the Nevada atomic test site have reduced hazards to the public to a minimum, Gordon M. Dunning of the Atomic Energy Commission's Division of Biology and Medicine, Washington, said.

After five major tests no one has incurred radiation exposure off the site that may be considered "anywhere near hazardous," Dunning said in the July 16 *Journal of the American Medical Association.* There have been no known cases of serious eye damage from light effects, nor any reported injury to persons from shock waves.

Carrying out an extensive program of warnings before tests and checks after tests are 100 full time employes of the Atomic Energy Commission. In addition, many persons participate on a part-time basis throughout the United States.

The basic consideration for the public's safety was shown in the selection of the test site. It covers an area of 600 square miles, with an adjacent U.S. Air Force gunnery range of 4,000 square miles. These are surrounded by "wide expanses of sparsely populated land." Preceding a test, a "warning circle" is set up and all aircraft are warned by the Civil Aeronautics Administration to remain out of the circle. Roadblocks are established on major highways in the area to alert motorists to the approaching blast and flash of light.

The AEC and U.S. Public Health Service have co-operated in establishing a liaison program with residents in surrounding areas. Liaison men live in each of 12 zones.

Their duties include becoming so much a part of the neighborhood that residents would respect their decisions and seek their advice if needed. The men also monitor radioactivity-measuring equipment following the tests.

After each blast, monitoring equipment at the site, in nearby communities, and on mobile equipment measures the radioactive fall-out. Airplanes track the clouds and plot the fall-out pattern on the ground. Ninety U.S. Weather Bureau stations throughout the United States collect fall-out data, as do 10 AEC installations in different parts of the country.

Contamination of water and air in the surrounding area was found to be relatively small after each blast, Dunning said.

There have been no reported cases of people receiving radiation burns off the site. In 1952 some cows which were 15 to 20 miles from "ground zero" received some burns, as did some horses in 1953. Damage from shock waves in nearby communities has totaled $44,300 from several blasts. If it appears that there may be slight damage from shock waves, because of weather conditions, residents are warned to open windows and doors in their homes to help equalize the pressure.

The Minimum Fee Schedule of Workmen's Compensation

A Note for the Historical Record

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FIRST it should be clearly understood that the "minimum fee schedule" is not a schedule of minimized fees. The text of the Labor Law is simple and understandable. The 1914 legislation read: "The employer shall promptly provide for an injured employee such medical, surgical or other attendance or treatment as the nature of the injury or the process of recovery may require. All fees and other *charges for such treatment* and services *shall be limited to such charges as prevail in the same community for similar treatment of injured persons of like standard of living*" (italics mine).

The above quotation from the original Section 13 of the 1914 Labor Law was loosely drawn, obviously without benefit of advice of medical understandings. In consequence the medical care of injured workers retrogressed from early excesses and abuses to scandals exposed by Moreland Commission and other investigations from 1930 to 1934. The employers and their insurance carriers, seeking cheap rather than the best possible care, fell victims, with the workers, to "cut-rate" commercialized competition.

Belatedly, an informal appeal was made by the insurance carriers to the Medical Society of the State of New York. The outcome of this appeal and the action of the Society resulted in the enactment of Section 13 (a) of the Labor Law in 1935. In part, this amendment read: "... The chairman shall prepare and establish a schedule of minimum charges and fees for such medical treatment and care.... Before preparing such schedule, the chairman shall request the president of the Medical Society of the State of New York to submit to him a report of the amount of remuneration deemed by such society to be fair and adequate for the types of medical care to be rendered under this chapter, but consideration shall be given to the view of other interested parties...." And further, "*The amounts payable by the employer for such treatment and services shall in no case be less than the fees and charges established by such schedule*" (italics mine).

This same amendment provided liberty of the worker to the doctor of his choice. It was written, "the choice of doctor shall be limited" to doctors certified to the Labor Department by the county medical society, and shortly this listing embraced some 90 per cent of the active, practicing physicians of our State. Up to this time doctors had been allergic to the mere mention of "fee schedule," and insurance people had been quite as sensitive to mention of "free choice of doctor." With the enactment of the law emotional oratory gave way to constructive action.

At an earlier date one of our western states, in which the president of the medical society submitted a schedule of fees intended to cover care of injured workers, learned the hard way the meaning of "but consideration shall be given to the view of other interested parties." There was little resemblance between the schedule submitted by that state society and the schedule which was finally printed by the commissioner.

New York profited by the experience of our colleagues, and it was proposed to the Labor Commissioner that a committee of the State Medical Society work with representatives of the insurance carriers and "the self-insurers" in the preparation of a draft of the minimum fee schedule. This proposal was accepted by him and "the other interested parties."

The New York law was signed by the Governor during the first week of June, to become effective July 1, 1935. In mid-June the first conference meeting assembled with some 200 representing the insurers, and two doctors representing the Medical Society. After several hours of unproductive discussions a spokesman for the Society called attention to the fact that the doctors of the State were depending on representation of a committee of three members and suggested that the number representing the assembly might be reduced to six. The proposal was accepted. However, seldom less than 20 attended the subsequent meetings.

Beginning in the last week of June and continuing at frequent intervals through the first of October, conferees slowly and laboriously composed the items of the schedule. Presiding at the meetings was the late Mr. Leon Senior whose attitude of judicial fairness saved many heated situations which might have disrupted and terminated the negotiations. Mr. George A. Dierauf did the secretarial recording and reporting, and how he managed to inscribe so well the essential comments and actions out of the vigorous exchanges across the table, at times going on in a babble of voices, remains an unexplained marvel.

The ratio of some 20 insurance-employer members against two for the State Society would suggest an advantage to the insurer-employers, but it worked out to be a handicap; the larger group often had difficulty in reaching agreement among themselves. On one side were the available collated records of payments made by insurance carriers over the whole nation. On the other side was a broad experience in every-day medical practice with a more practical working understanding of what would constitute a "fair and adequate" payment for the various services. At the conclusion of the conferences it was the opinion of the Society representatives that they had met with conscientious gentlemen who, like themselves, were trying to do a good job—each side faithful to their respective interests.

The agenda for each conference was prepared by the Society members—much of it after completing their professional occupations of the day in the witching hours between 10 P.M. and 2 A.M. The amounts of payment proposed for each item in the schedule were derived from various sources. Requests addressed by the medical committee to the medical societies and specialty groups were, in the main, unanswered. The State Society had been caught with a task for which there had been no prior preparation. The carrier representatives were disposed to be very liberal on items of infrequent and rare occurrence, but they bore down hard upon those of high frequency, such as Colles' fractures. In the "give and take," many inequities resulted, and some remain uncorrected at this date.

Discussions usually progressed peaceably, but quite frequently there were periods of tense tempers and some high blood pressures. The climax of conflict came with the consideration of a schedule for x-ray examinations early in August. After an hour or two of sharp conflict the carriers went into executive conference. When the meeting resumed, a motion was made to lay aside the x-ray schedule for consideration "after all other fields had been completed." The vote was 18 in favor, and the two Society members voted "no." With the announcement of the vote by the chairman, the Society members packed their briefcases, arose, and said, "It was nice knowing you, gentlemen," and departed.

Two days later a request was made for a meeting with a subcommittee of the carriers. The cost in time of highly paid executives, travel, and other incidental expenses was too great to permit them to report that the conference had broken up without tangible results. The carriers' committee presented several arguments in support of postponing the x-ray items to the final stage of the conferences. The strategy seemed to be to let this part of the schedule pass without solution which would give each carrier his own way to bargain with doctors and commercial laboratories. The Society committee quietly and calmly replied that the only condition upon which the conferences could be renewed would be to resume exactly where discussions were broken off. Reluctantly, it was so agreed.

At the next meeting a senseless compromise was reached; four different doctors were to be paid four different sums for the same type of examination. No one can offer logical justification for this compromise. It was the price of peace to get on with the completion of the work in hand.

The schedule suggested by the organized society of pathologists was cleared with hardly a word of protest. And the remaining items of the schedule were developed with only the ordinary run of controversies, relatively peaceable after the x-ray episode.

In the first stage of the conference a spokesman for the so-called "insurance buyers," another title for the "self-insured," proposed that an arrangement be devised in which contracts for care of injured workers could be "auctioned" and awarded to the lowest bidders. This was rejected by unanimous vote, save that of the proposer. Other equally unacceptable thoughts came from the same source, always expressed in "broad-A" emphasis.

When the conference reported the results of the deliberation, the Labor Commissioner announced a general meeting of all interested parties as a preliminary to the promulgation of the schedule. The first speaker at that meeting was "Mr. Broad-A." He charged that there had been collusion between the insurance carriers and the doctors, that due consideration had not been given to the concern of the employers who were compelled to pay the costs imposed by the schedule, and that a cheaper way could be found to provide medical care for injured workers.

One after another, the representatives of the insurance carriers who had participated in the schedule conferences arose and repudiated the charge and voiced approval of the proposed schedule. Members of the Society committee, who had anticipated a difficult meeting, closed the discussions with, "On behalf of the Medical Society of the State of New York, we approve the schedule as presented and recommend that it be formally adopted by the Labor Department."

The Minimum Fee Schedule was finally promulgated in October, 1935, to apply to the metropolitan counties. Notwithstanding that the carriers alleged that fees "upstate" were lower, it was not until some two years later that the application of the schedule was made State-wide. In counties with little compensation coverage some companies paid relatively higher fees as a good will measure in order to sell other forms of insurance such as life, health and accident, auto liability, fire, and other types of coverage. Upstate doctors were not disposed to accept the metropolitan schedule.

Section 13(a) as proposed by the State Medical Society was written to exclude commercial competition. It required nearly two years to accomplish its favorable consideration by the Legislature. Then late in May, 1935, in a period of less than ten days, a joker was introduced, passed, and signed by the Governor. It read: "Nothing in this section shall be construed as preventing the employment of a duly authorized physician on a salary basis by an authorized compensation medical bureau or laboratory."

The first law said the commissioner may license a medical bureau or laboratory upon the recommendation of the local county medical society. Later this provision was deleted, and power to license passed wholly out of the hands of the medical society officers in counties having a population of one million or more.

One of the outstanding sources of abuse throughout the earlier years of workmen's compensation were the charges levied for the follow-up services incident to most if not all surgical procedures. The coverage of this service as an integral part of the fee for the procedure was devised to control this abuse. It was not intended that unusual needs beyond this period were to put the patients on their own; the law required complete care. But care beyond such time required "authorization" based on the individual circumstances, and it placed a control of such extra fees under the scrutiny of those who would pay the cost.

What of the workmen's compensation schedule of today? The nomenclature is obsolete. The code numbering for identification of the various items is inept. Both are in need of revision. The A.M.A. has sponsored the "Standard Nomenclature of Disease" and "Standard Nomenclature for Surgical Procedures." These standards have been generally accepted and used by the Blue Shield plans, and these plans have sponsored a code system by which to identify the various surgical procedures listed by the A.M.A. There should be one medical language and one code system for all insured medical care.

The Labor Department should modernize its schedule of fees, both titles and code numbers, because the present publication is hopelessly obsolete.

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If a man still has his appendix and his tonsils, the chances are that he is a doctor.—MISSOURI MEDICINE, MARCH, 1955

Department of

MEDICAL CARE INSURANCE

Conducted by GEORGE P. FARRELL, *Director*

BENEFITS paid for doctors' services during the six-month period ending June 30, 1955, in the New York State Blue Shield Plans, amounted to $20,321,247, covering 544,958 claims as compared to $17,469,130 for the same period in 1954 for 450,810 claims, an increase in benefits of $2,852,117 and 94,148 claims.

During the same period membership increased by 310,507, making a total membership at June 30, 1955, of 5,177,800. Statistical tables follow.

TABLE I.—TOTAL MEMBERSHIP AND COMPARATIVE INCREASES FOR QUARTERS ENDING JUNE 30, 1955, AND 1954

By Types of Contracts	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown	Totals
Surgical								
Total Membership								
June 30, 1955	1,402,975	294,779	353,949	4,244	47,029	...	18,545	2,121,521
March 31, 1955	1,406,653	302,746	348,048	4,661	48,864	...	18,036	2,129,008
Comparative Increase								
June 30, 1955	−3,678	−7,967	5,901	−417	−1,835	...	509	−7,487
June 30, 1954	−4,332	−10,450	5,481	−74	−760	...	937	−9,198
Surgical, In-Hospital Medical								
Total Membership								
June 30, 1955	2,174,393	210,357	...	116,744*	140,725	220,036	...	2,862,255
March 31, 1955	2,056,334	193,625	...	105,319*	133,482	216,036	...	2,704,796
Comparative Increase								
June 30, 1955	118,059	16,732	...	11,425	7,243	4,000	...	157,459
June 30, 1954	118,774	12,934	...	11,074	2,225	3,010	...	148,017
Surgical-Medical (Home, Office, Hospital)								
Total Membership								
June 30, 1955	157,575	...	...	36,449	...	...	...	194,024
March 31, 1955	152,388	...	...	37,160	...	...	...	189,548
Comparative Increase								
June 30, 1955	5,187	...	...	−711	...	...	...	4,476
June 30, 1954	6,730	...	...	−1,413	...	...	...	5,317
Grand Totals								
Total Membership								
June 30, 1955	3,734,943	505,136	353,949	157,437	187,754	220,036	18,545	5,177,800
March 31, 1955	3,615,375	496,371	348,048	147,140	182,346	216,036	18,036	5,023,352
Comparative Increase								
June 30, 1955	119,568	8,765	5,901	10,297	5,408	4,000	509	154,448
June 30, 1954	121,172	2,484	5,481	9,587	1,465	3,010	937	144,136

* Indicates accumulated members with service type contracts: others in Syracuse plan on an indemnity basis.

TABLE II.—COMPARISON OF MEMBERSHIP INCREASES FOR SIX MONTHS ENDING JUNE 30, 1955, AND 1954

By Types of Contracts	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown	Totals
Surgical								
June 30, 1955	−8,794	−18,808	12,623	−650	−4,690	...	1,222	−19,097
June 30, 1954	−43,618	−20,439	11,337	−63	−1,564	...	1,883	−52,464
Surgical, In-Hospital Medical								
June 30, 1955	251,355	36,159	...	15,130	9,635	4,741	...	317,020
June 30, 1954	260,348	33,647	...	19,397	2,032	5,774	...	321 198
Surgical-Medical (Home, Office, Hospital)								
June 30, 1955	12,899	...	...	−315	...	...	...	12,584
June 30, 1954	11,760	...	...	−1,298	...	...	...	10,462
Grand Totals								
June 30, 1955	255,460	17,351	12,623	14,165	4,945	4,741	1,222	310,507
June 30, 1954	228,490	13,208	11,337	18,036	468	5,774	1,883	279,196

TABLE III.—INCOME, GAIN, AND LOSS FOR SIX MONTHS ENDING JUNE 30, 1955

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown
Earned Premium Income	$19,526,520	$2,687,209	$2,188,677	$891,856	$851,681	$1,150,766	$100,971
Claims and Expenses Incurred	17,790,719	2,386,184	1,925,975	856,859	782,764	1,065,336	88,233
Gain from Underwriting	$ 1,735,801	$ 301,025	$ 262,702	$ 34,997	$ 68,917	$ 85,430	$ 12,738
Underwriting Adjustments							
Deferred Maternity Benefits	-$ 210,000	-$ 5,500	-$ 5,230	-$ 8,000	...	-$ 1,000	-$ 5,356
Provision for Special Contingent Surplus	- 803,054	- 108,603	- 88,318	- 35,674	-$ 31,955	- 46,031	- 4,140
Increase in Reserve for Unreported Claims	...	...	...	...	...	...	- 3,974
Profit and Loss Items	- 91,206	10,163	4,219	...	- 1,734	1,050	20
Total	-$ 1,104,260	-$ 103,940	-$ 89,329	-$ 43,674	-$ 33,689	-$ 45,979	-$ 13,450
Net Gain from Underwriting	$ 631,541	$ 197,085	$ 173,373	-$ 8,677	$ 35,228	$ 39,449	-$ 712
Gain from Investments	310,729*	31,202	23,572	5,867	14,003	14,156	778
Gain from Underwriting and Investments	$ 942,270	$ 228,287	$ 196,945	-$ 2,810	$ 49,231	$ 53,605	$ 66
Surplus Adjustments							
Provision for Special Security Valuation to Cover Catastrophic and Other Contingencies	...	20,000	...	...	...	...	...
Increase in Unassigned Surplus	$ 942,270	$ 208,287	$ 196,945	-$ 2,810	$ 49,231	$ 53,605	$ 66

* $64,889, provision for additional Special Investment Valuation Reserve not included in Investment Gain.

TABLE IV.—SURPLUS ACCOUNTS, JUNE 30, 1955

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown
Surplus, December 31, 1954							
Special Contingent Surplus	$ 6,158,073	$ 857,923	$ 559,285	$199,952	$377,318	$336,058	$12,498
Epidemics, Other Contingencies	1,865,318	...	...	...	...	...	...
Special Investment Valuation	357,430	. .	...	...	24,000	...	...
Potential Future Claims for Older Age Subscribers	6,000,000	...	...	...	...	...	...
Additional Claims, Minor Surgery	1,000,000	...	...	...	...	...	...
Total Segregated Surplus	$15,380,821	$ 857,923	$ 559,285	$199,952	$401,318	$336,058	$12,498
Unassigned Surplus	2,249,996	1,061,245	1,142,739	237,792	405,096	409,018	27,753
Total Surplus	$17,630,817	$1,919,168	$1,702,024	$437,744	$806,414	$745,076	$40,251
Credits							
Other Income to Surplus	$ 62,110†	...	$ 11,770	...	...	...	...
Gain from Underwriting*	1,434,595	$ 305,688	261,691	$ 26,997	$ 67,183	$ 85,480	$ 3,428
Net Gain from Investments	375,618	31,202	23,572	5,867	14,003	14,156	778
Total Credits	$ 1,872,323	$ 336,890	$ 297,033	$ 32,864	$ 81,186	$ 99,636	$ 4,206
Surplus, June 30, 1955							
Special Contingent Surplus	$ 6,961,127	$ 966,526	$ 648,232	$235,626	$409,273	$382,089	$16,638
Epidemics, Other Contingencies	1,865,318	20,000	...	...	...	...	...
Special Investment Valuation	484,429	...	...	...	24,000	...	...
Potential Future Claims, Older Age Subscribers	6,000,000	...	...	...	...	...	...
Additional Claims, Minor Surgery	1,000,000	...	...	...	...	...	. .
Total Segregated Surplus	$16,310,874	$ 986,526	$ 648,232	$235,626	$433,273	$382,089	$16,638
Unassigned Surplus	3,192,267	1,269,533	1,350,825	234,982	454,327	462,624	27,819
Total Surplus	$19,503,141	$2,256,059	$1,999,057	$470,608	$887,600	$844,713	$44,457

* Includes Provision for Special Contingent Surplus.
† Realized and Unrealized Capital Gains on Investments.

TABLE V.—DISTRIBUTION OF EARNED PREMIUM INCOME AND AMOUNTS AVAILABLE FOR UNASSIGNED SURPLUS FOR SIX MONTHS ENDING JUNE 30, 1955

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown
Earned Premium Income	$19,526,520 100.00%	$2,687,209 100.00%	$2,188,677 100.00%	$891,856 100.00%	$851,681 100.00%	$1,150,766 100.00%	$100,971 100.00%
Incurred Claim Expense	$14,818,225 75.89%	$2,073,761 77.17%	$1,686,225 77.04%	$747,189 83.78%	$646,118 75.86%	$918,176 79.79%	$ 73,083 72.38%
Administrative Expense	$ 2,972,494 15.22%	$ 312,423 11.63%	$ 239,750 10.95%	$109,670 12.29%	$136,646 16.05%	$ 147,160 12.79%	$ 15,150 15.00%
Provision for Future Maternity Benefits	$ 210,000 1.08%	$ 5,500 0.21%	$ 5,230 0.24%	$ 8,000 0.90%	... ...	$ 1,000 0.09%	$ 5,356 5.30%
Provision for Special Contingent Surplus	$ 803,054 4.11%	$ 108,603 4.04%	$ 88,318 4.04%	$ 35,674 4.00%	$ 31,955 3.75%	$ 46,030 4.00%	$ 4,140 4.10%
Increase in Reserve for Unreported Claims	... ...	... ...	... ...	... ...	... ...	... ...	$ 3,974 3.94%
Profit and Loss Items	$ 91,206 0.47%	−$ 10,163 −0.38%	−$ 4,219 −0 19%	... ...	$ 1,734 0.20%	−$ 1,050 − 0.10%	−$ 20 −0.01%
Available for Unassigned Surplus	$ 631,541 3.23%	$ 197,085 7.33%	$ 173,373 7.92%	−$ 8,677 −0.97%	$ 35,228 4.14%	$ 39,449 3.43%	−$ 712 −0.71%

TABLE VI.—CLAIM DATA (PAID BASIS)—YEAR TO JUNE 30, 1955, AND COMPARISON OF CLAIM INCIDENCE JUNE 30, 1955, AND 1954

Plan Location and Type of Contract	Earned Premium Income	Claim Cost	Per Cent of Claim Cost to Earned Premium	Number of Claims	Average Cost per Claim	Claim Incidence per 1,000 Members per Annum 1955	1954
New York							
Surgical	$ 6,174,170	$ 4,677,084	75.75	79,983	$58.48	113.5	109.3
Surgical, In-Hospital Medical	11,372,986	8,137,235	71.55	151,216	53.81	148.9	139.2
General Medical	1,979,364	1,631,155	82.41	129,429	12.60	1,724.5	1,558.9
Total	$19,526,520	$14,445,474	73.98	360,628	$40.06	...	...
Buffalo							
Surgical	$ 1,354,570	$ 1,094,482	80.80	44,736	$24.47	293.8	280.6
Surgical, In-Hospital Medical	1,332,639	939,278	70.48	32,756	28.67	342.2	321.5
Total	$ 2,687,209	$ 2,033,760	75.68	77,492	$26.24	...	...
Rochester							
Surgical	$ 2,188,677	$ 1,635,600	74.73	38,176	$42.84	218.0	214.1
Syracuse							
Surgical*	$ 23,122	$ 22,188	95.96	718	$30.90	312.2	312.8
Surgical-Medical*	250,234	176,347	70.47	9,356	18.85	508.6	529.7
Surgical, In-Hospital Medical	618,499	411,923	66.60	13,444	30.64	249.2	300.1
Total	$ 891,855	$ 610,458	68.44	23,518	$25.96	...	...
Utica							
Surgical	$ 159,472	$ 134,157	84.12	5,555	$24.15	225.7	248.6
Surgical, In-Hospital Medical	692,209	476,233	68.80	17,334	27.47	256.6	216.4
Total	$ 851,681	$ 610,390	71.67	22,889	$26.67	...	...
Albany							
Surgical, In-Hospital Medical	$ 1,150,766	$ 905,458	78.68	20,516	$44.13	189.0	190.2
Jamestown							
Surgical	$ 100,971	$ 80,107	79.34	1,739	$46.06	193.4	170.3
Grand Totals	$27,397,679	$20,321,247	...	544,958	...	...	...

NOTE: The variation of Claim Incidence per 1,000 members per annum in plans offering the same type of contract is generally due to additional benefits such as x-ray and anesthesia.

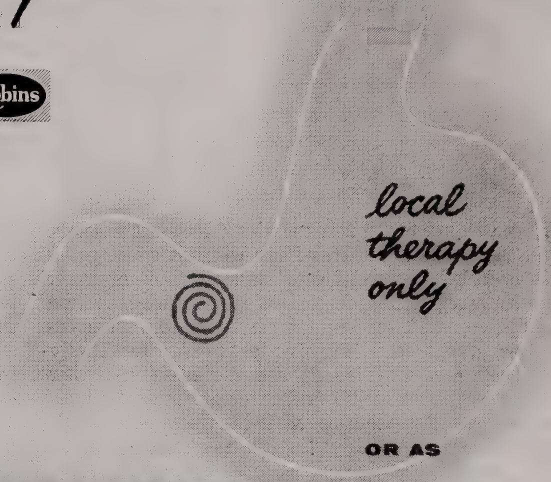
* Contracts on an indemnity basis and not offered to new groups.

for peptic ulcer

ROBALATE® Robins

provides two-way protection, with an antacid-demulcent action superior in many ways to that of dried aluminum hydroxide gel. It is 42% more efficient in acid-consuming power[2]... more rapid in its neutralizing action[1]... is not inhibited by pepsin[3]... does not disturb bowel activity[4] ... and its effectiveness is not diminished by age.[3]

Each tablet contains:
Dihydroxy aluminum aminoacetate....0.5 Gm.



OR AS EACH CASE MAY REQUIRE

- ***blocks acid erosion***
- ***blocks local irritation***
- ***blocks a hyperactive vagus***
- ***blocks emotional tension***

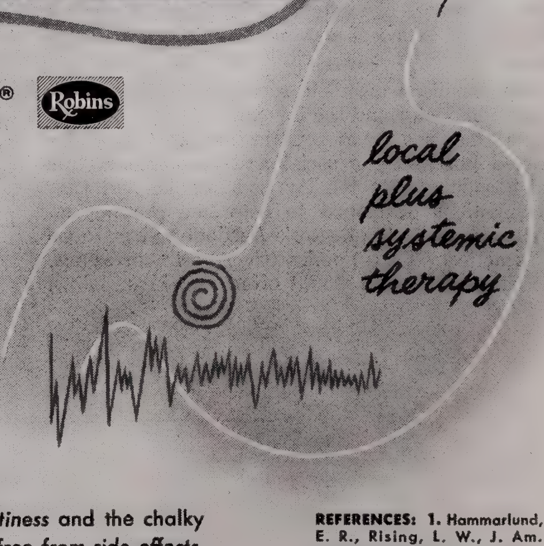
DONNALATE® Robins

provides four-way protection, with Robalate's superior antacid-demulcent action, plus Donnatal's recognized spasmolytic-sedative effectiveness.

Each tablet contains:

Dihydroxy aluminum aminoacetate	0.5 Gm.
Hyoscyamine sulfate	0.052 mg.
Atropine sulfate	0.010 mg.
Hyoscine hydrobromide	0.003 mg.
Phenobarbital (⅛ gr.)	8.1 mg.

(Each Donnalate tablet =
1 Robalate tablet + ½ Donnatal tablet)



Both Robalate and Donnalate are *free from grittiness* and the chalky feeling usually associated with many antacids... *free from side effects,* such as systemic alkalosis and disturbance of bowel activity.

DOSAGE: 1 or 2 tablets after each meal and before retiring, or as directed.

SUPPLY: Bottles of 100 and 500 white (Robalate) or yellow (Donnalate) tablets.

REFERENCES: **1.** Hammarlund, E. R., Rising, L. W., J. Am. Pharm. Assn. (Sci. Ed.), 38:586, 1949. **2.** Kranz, J. C. Jr., et al., J. Pharmacol. Exper. Therap. 82:247, 1944. **3.** Murphey, R. S., J. Amer. Pharm. Assn. 41:361, 1952. **4.** Reuling, J. R., et al., Rev. Gastroenterol, 16:856, 1949.

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Woman's Auxiliary
to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

The Doctor's Wife

THE young woman who marries a doctor is vaguely aware that her married life will not conform to the orderly routine of one married to a layman. She knows the doctor cannot plan a nine to five day because illness cannot be regulated. Nevertheless, during the first five years she inevitably experiences a surprise as she discovers that her husband's personal life and interests must be subjugated to his practice and that she and their children are seemingly further responsibilities he has accepted.

Through membership in the Auxiliary, the new wife learns that hers is not a unique situation, and through this organization she will be able perhaps to see even more of her husband. At least she will be able to share many of his nonmedical problems and understand why a doctor's practice is not necessarily concerned with merely his medical problems. She also learns to use his available free time to their advantage as well as plan projects with their children which both can enjoy. And, since she realizes cooperation is one of her marital duties, she also studies.

The Auxiliary members serve as the liaison between the doctor and the layman. The young wife learns that she must explain to her technically minded husband the social and economic factors which so dominate the lay person's life and that organizations developed to help him are not an infringement on the doctor's freedom and methods of practice. This applies to certain pressures, the causes of which would often remain unknown to the doctor if his wife was not working for and with him. But—and this is important—although her primary concern is to help her husband, through her work she helps his local medical society and eventually the State and national societies.

A doctor's wife, like a minister's, must take part in the activities of the community—civic and social —if she is to be an effective liaison. She must assume her responsibilities in the areas of civil defense, safety, voluntary health plans, aid in the surveys made periodically on diabetes, cancer, etc. These activities she could not do alone too successfully. It is the committees of the Auxiliary which do the groundwork and effectively organize the groups to carry out the necessary duties.

Membership in the Auxiliary also aids in seemingly minor points of protocol such as the best way to answer the doctor's telephone. Very often the Auxiliary member can find help in making her husband's office more attractive because she quickly learns that her marital duties do extend outside her private domain.

The doctor's wife of yesterday was known far and wide for her personal and domestic sacrifices, and the same holds true of her today. Today, however, she has become an even more integral factor in her husband's practice not just by these sacrifices but because of her understanding and liaison abilities which she has learned through the Auxiliary.

MRS. FERDINAND PITRELLI, *Chairman*
Press and Publicity Committee

For Your Patients Only

An attractive new leaflet earmarked "for patients only" was distributed in September to members of the AMA. Entitled "To All My Patients," this 12-page pamphlet (for physicians to distribute to their patients) explains the roles of various persons on the medical team in providing good medical care. In addition, the booklet briefly discusses medical and hospital fees and health insurance. Designed primarily to promote better doctor-patient relationships, the booklet also provides space for the doctor's name, address, and office hours to be inserted at the end. Quantities will be available on request from the AMA Public Relations Department.—*A.M.A. News Notes, August, 1955*

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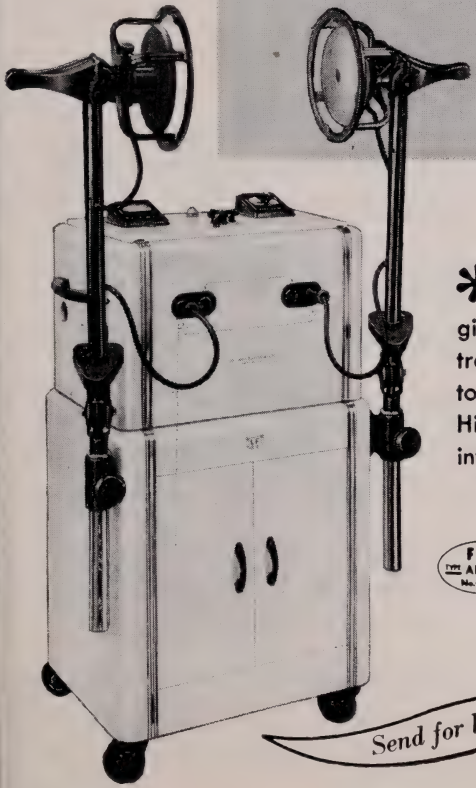

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NECROLOGY

Frederick J. Barrett, M.D., of Kenmore, died on August 17 after a long illness at the age of eighty-one. Dr. Barrett was graduated from the University of Buffalo School of Medicine in 1897. He practiced in Buffalo from 1897 until 1946, at which time he retired.

John Fielding Black, M.D., of White Plains, died in the White Plains Hospital on September 4 at the age of eighty-two. Dr. Fielding was graduated from Columbia University College of Physicians and Surgeons in 1900. He had served as a surgeon for the New York Central Railroad as well as consulting surgeon at the White Plains Hospital. At the time of his death he was a Fellow of the American College of Surgeons and a member of the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Frederick H. Buckley, M.D., of Rochester, died on August 10 at his home following a long illness at the age of sixty-nine. Dr. Buckley was graduated from Syracuse University College of Medicine in 1914. He had been consultant in otolaryngology at Genesee and St. Mary's Hospitals in Rochester and was a member of the Rochester Pathological Society, the Monroe County Medical Society, and the Medical Society of the State of New York.

Miles J. Cornthwaite, M.D., of Ballston Spa, died at his home on August 26 after an illness of several months at the age of seventy-six. Dr. Cornthwaite was graduated from Albany Medical College in 1905. He had been chief physician at Benedict Memorial Hospital in Ballston Spa. In May, 1955, he was cited by the Medical Society of the State of New York for fifty years of practice of medicine. At the time of his death he was a member of the Saratoga County Medical Society and the Medical Society of the State of New York.

Clinton Fifield Gale, M.D., of Georgetown, died at the end of July at the age of seventy-seven. Dr. Gale graduated from the University of Vermont College of Medicine in 1905. He had practiced in Georgetown for twenty-nine years.

A. Milton Goldman, M.D., of Rockville Centre, died on August 25 at his home following a long illness at the age of sixty-four. Dr. Goldman graduated from Harvard Medical School in 1917. A former president of the board of directors of Mary Immaculate Hospital, Jamaica, he was director of ophthalmology at Meadowbrook Hospital and consultant in ophthalmology at Mary Immaculate, Mercy, and Nassau Hospitals. A Diplomate of the American Board of Ophthalmology and a Fellow of the American College of Surgeons, Dr. Goldman was a member of the American Academy of Ophthalmology and Otolaryngology, the New York Academy of Medicine, the Nassau Surgical Society, the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Walter Goldstone, M.D., of Brooklyn, died on August 12 in the ship disaster of the *Levin J. Marvel* on Chesapeake Bay, at the age of forty. Dr. Goldstone received his medical degree from the University of Lausanne, Switzerland in 1942. He was an assistant physician and assistant in gastroenterology at Cumberland Hospital and assistant physician at the Prospect Heights Hospital as well as a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

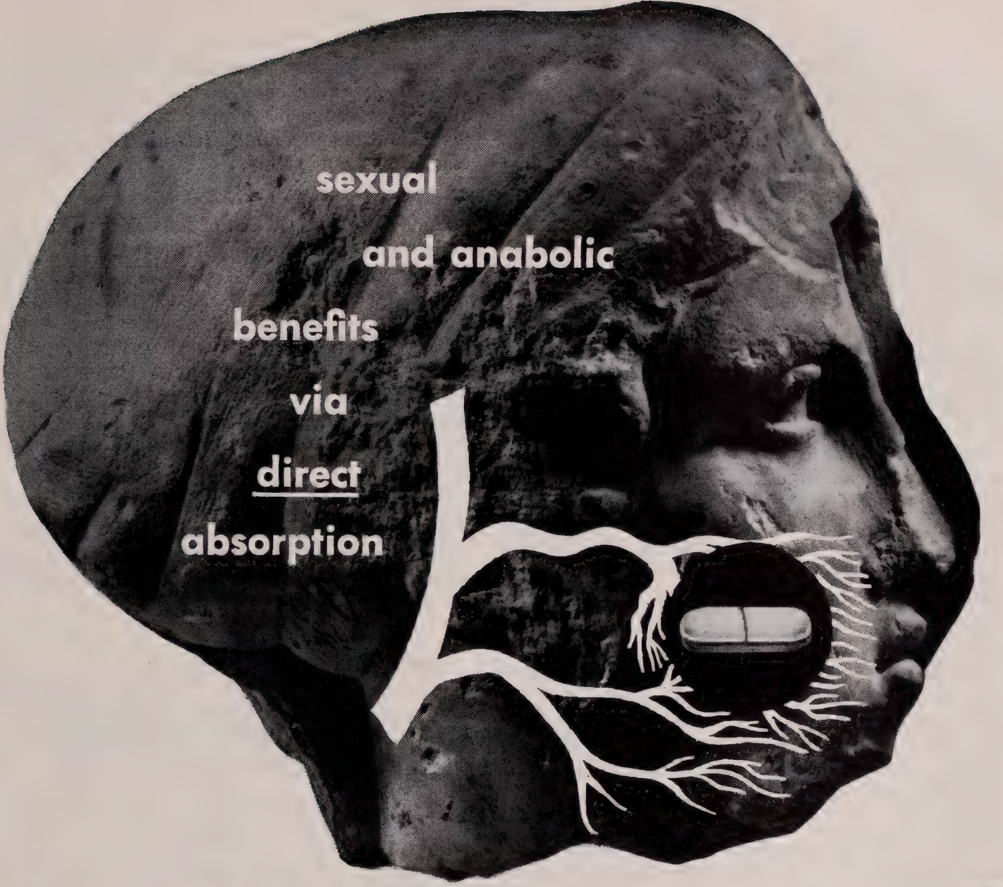
William F. Kessler, M.D., of the Bronx, died on April 30 in Howell, Michigan, at the age of forty-nine. Dr. Kessler was graduated in 1934 from Jefferson Medical College, Philadelphia, and was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Solomon Krell, M.D., of the Bronx, died on September 5 at his home at the age of fifty-eight. Dr. Krell graduated from New York University and Bellevue Hospital Medical College in 1923 and interned at the Bronx Hospital. He was cardiologist at the Bronx Hospital and associate physician at the Morrisania Hospital as well as cardiologist at the Home and Hospital, Daughters of Jacob. Dr. Krell was a Fellow of the American College of Physicians, a Diplomate of the American Board of Internal Medicine, and a member of the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Levy, M.D., of New York City, died on April 19, 1952 at the age of eighty. Dr. Levy received his medical degree from Cornell University Medical College in 1899.

Harold Arthur Lucas, M.D., of Oakland, Florida,

[Continued on page 2822]



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[Continued from page 2820]

formerly of Albany, died on August 20 at the age of sixty-six. Dr. Lucas graduated from Albany Medical College in 1911. At one time he had served as physician and surgeon for the New York Central Railroad. He was a veteran of World War I.

George Isaac Manes, M.D., of the Bronx, died in June, 1953. Dr. Manes received his medical degree from the University of Wurzburg in 1898.

Howard Sheild McCandlish, M.D., of Washington, D.C., formerly of New York City, died after a long illness in the Garfield Hospital, Washington, D.C., at the age of sixty-four. Dr. McCandlish graduated from the University of Virginia Department of Medicine in 1917. Dr. McCandlish retired from practice in April, 1955 but was appointed associate professor of clinical obstetrics and gynecology at Cornell. In 1932 he was appointed to the staff of New York Hospital. For several years he served on the Committee on Infant Mortality of the Medical Society of the State of New York as chairman. Dr. McCandlish was consulting obstetrician at the North Country Community Hospital, Glen Cove, attending obstetrician and gynecologist at New York Lying-In Hospital, and a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Stanley Jack Newmark, M.D., New York City, died on August 29 in the New York Hospital at the age of thirty. Dr. Newmark graduated from New York University-Bellevue Medical Center in 1951 and interned at Beth Israel Hospital. At the time of his death he was a resident physician at the Veterans Hospital, Bronx, and a member of the New York County Medical Society and the Medical Society of the State of New York.

William Linton Phillips, M.D., of Alden, died at the home of his daughter on August 13 at the age of eighty-six. Dr. Phillips was graduated in 1897 from the University of Buffalo School of Medicine. During World War I he was a member of the United States Army Medical Corps and later served as a member of the faculty at the University of Buffalo School of Medicine. Dr. Phillips retired from active practice about six years ago and at the time of his death was consultant in ophthalmologic surgery at the Edward J. Meyer Memorial Hospital, Buffalo.

Samuel Joshua Raphaelson, M.D., of New York City, died from a heart condition on November 25, 1954, at the age of seventy-five. Dr. Raphaelson graduated from Long Island College Hospital Medical School in 1903.

Dino Sandroni, M.D., of New York City, died in August, at the age of fifty-seven. Dr. Sandroni graduated in 1921 from the College of Physicians and Surgeons, Columbia University. He was assistant in medicine at the University Hospital and attending physician in gastroenterology at the Roosevelt Hospital Outpatient Department. Dr. Sandroni was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

James L. Segall, M.D., of New York City, died on March 24, at the age of sixty-seven. Dr. Segall graduated from Long Island College Hospital Medical School in 1915.

Joseph Collins Stammers, M.D., of New York City, died on June 21, 1954, at the age of seventy-seven. Dr. Stammers graduated from Tufts College Medical School in 1906.

Frederick Buell Streeter, M.D., of Glens Falls, died at his home on August 24 at the age of one hundred and one. Dr. Streeter, the oldest living alumnus of Albany Medical College, graduated in 1879. During his seventy years as a practicing physician he had served as health officer of the Village of Glens Falls and the Town of Queensbury and as Warren County coroner, and at the time of his death was an honorary staff member of the Glens Falls Hospital.

Van Rensselaer Voislawsky, M.D., of New York City, died at a nursing home in New York City following a long illness at the age of fifty-one. Dr. Voislawsky graduated in 1929 from Columbia University College of Physicians and Surgeons and interned at St. Luke's and Bellevue Hospitals. He was a Fellow of the American College of Surgeons.

Jacob Samuel Wagner, M.D., of Glendale, died on April 17, 1954 at the age of fifty-five. Dr. Wagner graduated from Tulane University of Louisiana School of Medicine in 1921.

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*L. J. Cass *et al.*, *New England J. Med.*, 249:132, 1953; Am. J. M. Sc., 227:291, 1954.

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MEDICAL NEWS

National Society for the Prevention of Blindness—The Mark J. Schoenberg Memorial Lecture, sponsored jointly by the National Society for the Prevention of Blindness and the New York Society for Clinical Ophthalmology, will be given December 5 at 8:15 P.M., at the New York Academy of Medicine. Dr. Irving H. Leopold, chairman of the Department of Ophthalmology of the Graduate School at the University of Pennsylvania, will speak on "Recent Advances in the Medical Treatment of Glaucoma."

Physical Medicine and Rehabilitation—A postgraduate course in physical medicine and rehabilitation will be given at the University of Buffalo School of Medicine for twenty Wednesdays beginning October 5.

The course is planned to give the physician an understanding of the technics employed in physical medicine and the methods used in the rehabilitation of disabled persons. Practical experience with patients is stressed. The course is limited to five physicians from communities in the Western New York region outside metropolitan Buffalo. Fellowships from the National Foundation for Infantile Paralysis cover the tuition of $300.

A postgraduate course in gastroenterology will also be offered on October 5 and 6. For application forms for both courses, write to Dr. Milton Terris, Assistant Dean for Postgraduate Education, University of Buffalo School of Medicine, 3435 Main Street, Buffalo 14, New York.

Assistance Grants for Medical Practices—Financial assistance to physicians to establish medical practice units is being offered by the Sears-Roebuck Foundation in cooperation with the American Medical Association. Unsecured ten-year loans of up to $25,000 will be offered to physicians seeking to establish practices but unable to get full local financing. One loan in each of five regions in the country will be given in 1955 under an original $125,000 Foundation grant.

Applications will be screened by a medical advisory board which has been appointed from nominations by the AMA Board of Trustees. Each applicant must submit information about the area where he intends to locate, indicating the need for medical care, medical resources already available, possible reasons for the success of a new practice, and benefits expected for the community.

Applications should be sent to the office of the region in which the proposed medical practice is to be established. For the Eastern region, applications should be sent to the Director, Sears-Roebuck Board, 4640 Roosevelt Boulevard, Philadelphia 32, Pennsylvania.

AMA Television Aids—Two new television "scripts-with-film" programs featuring current health education information on the eye and its functions will be released this fall by the AMA. Prepared with the cooperation of the AMA's Bureau of Health Education and the National Society for the Prevention of Blindness, these shows are designed so that a local physician can narrate while the film is thrown on the television screen.

The programs are "A Clear Picture," dealing with the eye and its functions, and "Wonderful Spectacle," which describes the functions of glasses and lenses. The programs are so constructed that they can be used as separate 15-minute programs or together as a single 30-minute presentation. The film demonstrator is Dr. Brittain F. Payne, ophthalmologist, of New York City. Both films and accompanying scripts are available through the AMA TV Library. There is no charge to medical societies.

Caleb Fiske Essay Prize—The trustees of the Caleb Fiske Prize of the Rhode Island Medical Society have announced as the subject for this year's dissertation, "Use of Radio-Active Isotopes in the Treatment and Investigation of Disease." The dissertation must be typewritten, double spaced, and should not exceed 10,000 words. A cash prize of $350 is offered.

For complete information regarding the regulations, write to the Secretary, Caleb Fiske Fund, Rhode Island Medical Society, 106 Francis Street, Providence 3, Rhode Island.

Psoriasis Research Association—The Psoriasis Research Association, a nonprofit organization whose purpose is to raise funds to finance research in the disease of psoriasis, invites doctors interested in the work of the association to write to Psoriasis Research Association, P.O. Box 513, San Mateo, California, for information and/or membership. The association does not conduct any research of its own. Grants of funds are made to the medical profession and to research laboratories on the recommendation of the medical advisory board.

Buffalo Ophthalmologic Club—The Buffalo Ophthalmologic Club will resume its monthly meetings in October. Newly elected officers of the club are: Dr. Elizabeth P. Olmsted, president; Dr. Herbert R. Reitz, vice-president; Dr. Meyer H. Riwchun, past-president, and Dr. Harold E. Wass, secretary-treasurer.

A comprehensive program of speakers for the dinner meetings has been planned, and one meet-

[Continued on page 2826]

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[Continued from page 2824]

ing will be devoted to the Buffalo Eye Bank and Research Society.

Medical Officer Post—The position of Civilian Medical Officer at Anniston Ordnance Depot, Anniston, Alabama, is now vacant. The person selected for this position will receive Federal Civil Service status as a Medical Officer, Grade GS-13, at a gross annual salary of $10,065, with paid vacations of from thirteen to twenty-six working days a year, according to length of service, and eight paid Federal holidays. The major duties of this position are the examinations of applicants and employes, first aid treatment for injured employes, and sanitary inspections of facilities.

Upon receipt of applications or letters of inquiry, arrangements will be made for interviews where further information will be furnished. All correspondence should be addressed to the Civilian Personnel Officer, Anniston Ordnance Depot, Anniston, Alabama.

Personalities

Appointed

Dr. James A. Brussel, assistant commissioner, Department of Mental Hygiene of New York State, as psychiatric adviser to the National Broadcasting Company for its nation-wide program, "Life in 1976," to be televised at 4:00 P.M. on October 9. . .Dr. Morris A. Jacobs, senior general medical superintendent of the Department of Hospitals, New York City, as deputy commissioner in charge of medical activities. . .Dr. James E. McCormack, as an assistant vice-president of the Presbyterian Hospital at the Columbia-Presbyterian Medical Center in New York City. . .Dr. Leon Stamatis and Dr. Samuel Schantz, both of Adelphi College in Garden City, as chief of surgery and chief of obstetrics and gynecology, respectively, at the Madison Park Hospital of Adelphi in Brooklyn.

Speakers

Dr. Gustav J. Beck, New York City, before the Fulton County Medical Society on September 15, on "Recent Advances in the Treatment of Non-tuberculous Chest Diseases" . . . Dr. Harry Gold, professor of clinical pharmacology at Cornell University Medical College in New York City, before the Geneva Academy of Medicine on September 19, on "The Management of the Resistant Case of Congestive Failure". . .Dr. Donald Kuntze, associate clinical professor of obstetrics and gynecology at New York Medical College, before the Rensselaer County Medical Society on October 11 on "Management of the Menopause". . .Dr. Clyde L. Randall, professor of gynecology at the Buffalo University School of Medicine, before the Suffolk County Medical Society on September 28, on "The Office Management of Female Pelvic Disorders". . .Dr. Nathaniel E. Reich, of Brooklyn, at the medical schools of the University of Athens, University of Cairo, and the Hebrew University in Jerusalem, during August under the auspices of the American College of Chest Physicians, on cardiovascular diseases. . .Dr. James J. Smith, chief of the Endocrinology Clinic at French Hospital, New York City, before the Tompkins County Medical Society on September 19, on "The Problems of Alcoholism."

New Offices

Dr. Robert D. Davis, practice of urology in Olean. . .Dr. James M. Dennis, general practice in Clyde. . .Dr. Jack Frishman, general practice in Yorktown Heights. . .Dr. Jerome Krant, practice of surgery in Staten Island. . .Dr. Frank M. Tooze, general practice in Westfield.

Resigned

Dr. Leo M. Taran, as medical and research director at St. Francis Hospital and Sanatorium for Cardiac Children, in Roslyn, to practice at the Garden City Medical Center. . .Dr. Denver M. Vickers, as chief of staff and chief surgeon of Mary McClellan Hospital in Cambridge, to accept a post in Chicago with the Joint Commission on Accreditation of Hospitals.

Resumes Practice

Dr. William H. Kober, general practice in Lima.

And some thoughts on Animal Introversion:
The centipede has numerous feet;
The nerve supply of each so neat
That she can well perambulate
Both fast and slow, both curved and straight.
The centipede was very gay
Until a frog in fun did say,
"Which legs come first, which next, which last?"
This raised her mind to such a pitch
She laid distracted in a ditch,
Her quivering thoughts came to naught,
She could not walk by taking thought;
But when she gave up introspections
Her walk was brisk in all directions.

—*Rant and Rave, Detroit Medical News, August 8, 1955*

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MEDICAL MEETINGS

Drug Addiction Conferences

Drug addiction will be discussed in a series of monthly conferences from October, 1955 through May, 1956, being held under the sponsorship of Riverside Hospital and the Welfare and Health Council of New York City, according to Dr. Rafael R. Gamso, director of the hospital, and J. Donald Kingsley, executive director of the Council.

The series, to be held at the Bellevue Hospital School of Nursing for those professionally concerned with the problem, will start October 20 with a discussion of "The Adolescent Addict—the Impact on the Community." Other topics include: "Narcotics—Traffic and Control"; "The Family of the Addict"; "Problem of Drug Withdrawal"; "Problems of Patient Management in an Institutional Environment"; "Rehabilitation of the Addict" and "The Addict After Discharge from the Institution."

Public Health Association

Evaluation of practical experience with the Salk polio vaccine by key figures in its development will be a feature of the 83rd annual meeting of the American Public Health Association and meetings of 40 related organizations in the Kansas City, Missouri, Municipal Auditorium, November 14 through 18. Dr. Herman E. Hilleboe, New York State Commissioner of Health, and president of the American Public Health Association, will preside at the special session on polio, one of 75 scientific sessions scheduled. The over-all theme of the meeting is "Where are we going in Public Health?"

American College of Surgeons

The medical profession at large is invited to attend any of six sectional meetings of the American College of Surgeons, to be held in cities throughout the United States and Canada during 1956. Meeting cities are Jacksonville, Florida, January 16 through 18; Philadelphia, Pennsylvania, February 13 through 16; Milwaukee, Wisconsin, February 27 through 29; Colorado Springs, Colorado, March 5 through 7; Little Rock, Arkansas, March 12 through 13, and Edmonton, Alberta, April 23 through 25.

These meetings are designed to disseminate information about new methods and therapies. Panels, symposia, papers, and medical motion pictures are presented. Further information may be obtained from Dr. H. Prather Saunders, associate director, American College of Surgeons, 40 East Erie Street, Chicago 11, Illinois.

European Symposium

Plans are being made for the first European symposium on vitamin B_{12} to be held the last week of May, 1956, in Hamburg, Germany. The physiology and the clinical application of vitamin B_{12} in human and veterinary medicine will be discussed. For information, write to Dr. H. Bauer, Nervenklinik, Hamburg-Eppendorf, Germany.

NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Speaker—Professor Robert Cruickshank, chairman, Department of Bacteriology, St. Mary's Hospital Medical School, London, England, spoke at the College's Huyck Auditorium on July 25. Dr. Cruickshank, successor to the late Sir Alexander Fleming, is visiting the New York State Department of Health, Division of Laboratories and Research. Dr. Cruickshank discussed "Respiratory Infection."

[Continued on page 2830]

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[Continued from page 2828]

Promotions—Dr. Matthew Levy, former assistant professor of physiology, has been promoted to associate professor of physiology. Dr. Victor Tompkins has been promoted from associate in pathology to associate professor of pathology.

Appointed—Dr. William Thomas Smyth, presently associated with the VA Hospital in Albany, as assistant professor of pathology and bacteriology.

Dr. Stanley Martin Ball, former Fellow in neurology at the College of Physicians and Surgeons, Columbia University, and assistant neurologist at the Neurological Institute, Presbyterian-Columbia Medical Center, has been appointed an instructor in neurology on the staff of the College.

Staff Change in Department of Psychiatry—Effective September, 1955, are three promotions in the Department of Psychiatry. Promoted from assistant professor to associate professor of psychiatry is Dr. Frederick D. McCandless; Dr. John D. LaTendresse, from instructor to assistant professor, and Dr. Janis L. Best, instructor from assistant in psychiatry.

New York University-Bellevue Medical Center

Psychosurgical Unit—The activities of the new psychosurgical unit at the Central Islip Hospital became a part of the broad program of the Neuromuscular Disorder Study Group under the direction of Dr. Thomas I. Hoen, professor and chairman, Department of Neurosurgery of the Center.

Fellowships—The Children's Division of the Institute of Physical Medicine and Rehabilitation and the Association for the Aid of Crippled Children jointly announce the availability of fellowships for graduate social workers in the field of pediatric rehabilitation. The fellowships pay a stipend of $250 a month and applications may be made to Miss Florence I. Mosher, Children's Division, Institute of Physical Medicine and Rehabilitation, 400 East 34th Street, New York 16, New York.

State University of New York College of Medicine at New York City

Opening Exercises—The College opened its 95th academic year on September 19 with a few welcoming words from Dr. Howard W. Potter, who was appointed dean of the College in June. Dr. Max Michael, Jr., professor of medicine at the College and chief of medical services at Maimonides Hospital, delivered the opening address on the subject "Humility in Medicine."

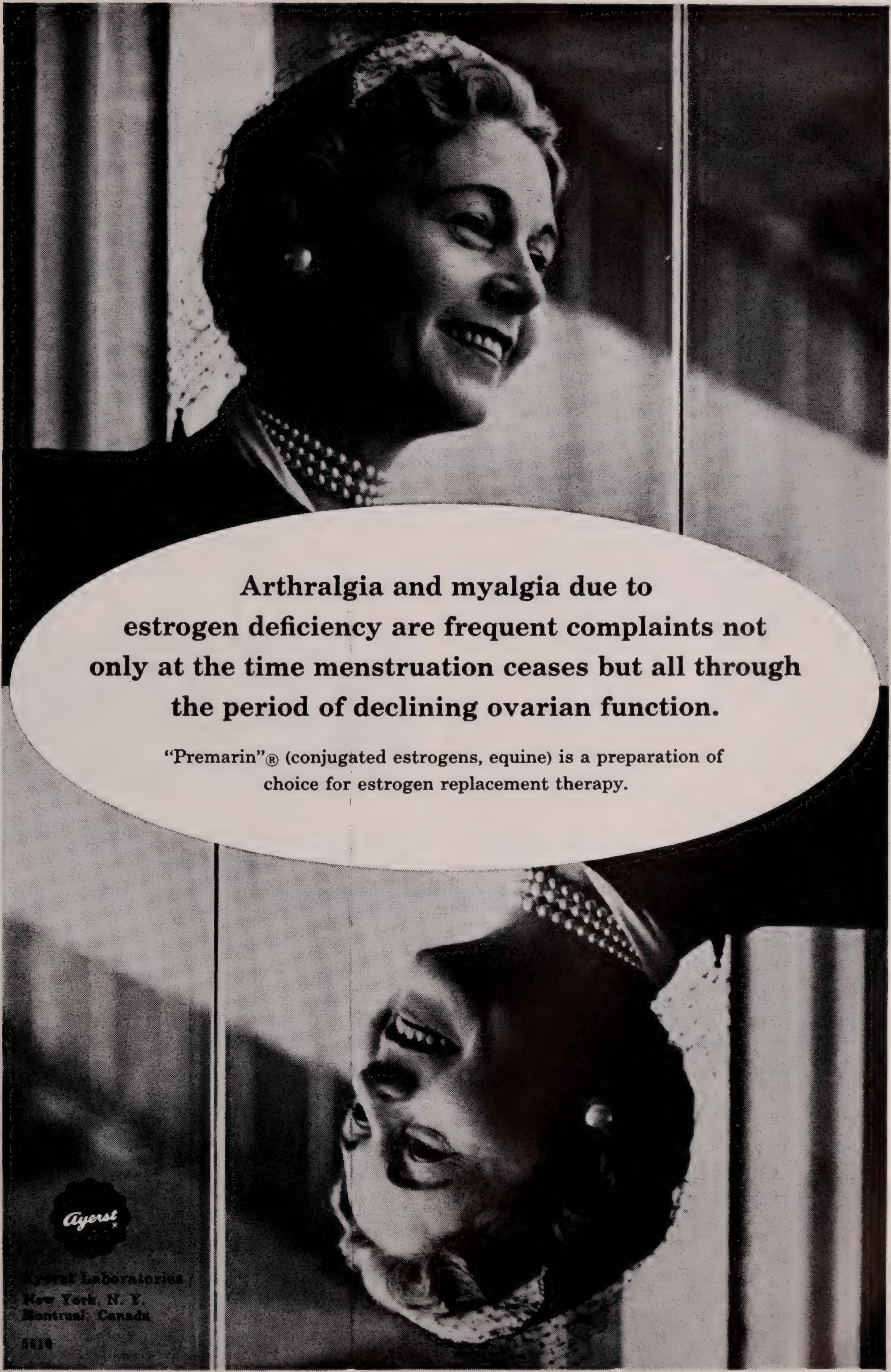
Appointments—Dr. Fedor L. Senger, retiring clinical professor of urology, has been named clinical professor emeritus of urology. A graduate of the Long Island College Hospital (forerunner of the Long Island College of Medicine and State University College of Medicine at New York City) in 1912, Dr. Senger has been on the College Faculty for twenty-five years.

Other recently announced appointments are those of Dr. John J. P. Buckley (formerly Director of Laboratories at St. Lawrence County and for the past two years Fellow in Pathology at the State University) as assistant professor of pathology; Dr. Alfred M. Freedman (assistant in psychiatry at New York University Medical School) as assistant professor of psychiatry; Dr. Thomas J. Hartnett (instructor in pathology and assistant pathologist at New York Medical College) as assistant professor of pathology; Dr. Richard C. Troutman (assistant professor of clinical surgery at Cornell Medical Center) as professor of ophthalmology, and Dr. Edward Vastola (instructor in neurology at Washington University School of Medicine) as assistant professor of neurology.

Dr. Brian MacMahon, University of Birmingham, England, has been appointed associate professor of environmental medicine and community health. From 1953 to 1954 Dr. MacMahon was a visiting lecturer and conducted an epidemiologic investigation into the incidence of leukemia in Brooklyn during the previous ten years.

Student Summer Research Fellowships—Twenty students completed special summer research fellowships early in September. The fellowships, amounting to $400 each for a two-month period, were sponsored by the National Foundation for Infantile Paralysis, the United States Public Health Service, Lederle Laboratories, the Charles Pfizer Company, the Tobacco Industry Research Committee, and the College's Alumni and Parents Associations.

The popular concept of a strengthening diet is a chicken wrung out in hot water.—Martin Henry Fischer



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BOOKS REVIEWED

Current Concepts in Digitalis Therapy. By Bernard Lown, M.D., and Samuel A. Levine, M.D. Duodecimo of 164 pages, illustrated. Boston, Little, Brown & Co., 1954. Cloth, $3.50.

This is an excellent, authoritative monograph on a subject of interest to all physicians who are in contact with cardiac patients. The pharmacologic action of digitalis, its clinical use, and its relation to electrolytes, particularly to hypokalemia, are fully discussed. The last section is devoted to the acetyl strophanthidin tolerance test, whose purpose is to ascertain the degree of digitalization and myocardial sensitivity to digitalis in patients whose digitalis status is in doubt.—LEON M. LEVITT

Clinical Psychiatry. By W. Mayer-Gross, M.D., Eliot Slater, M.D., and Martin Roth, M.D. Octavo of 652 pages, illustrated. Baltimore, Williams & Wilkins Company, 1955. Cloth, $10.

This book, by three English psychiatrists, is an attempt to present psychiatry from a multidimensional approach. The authors have incorporated in this volume the tremendous amount of work which has appeared in the decade before World War II, sifting this material, and presenting it in a readable and concise manner. The incidence, the genetics, the biochemistry, the pathology, and the methods of physical treatment of mental disorders have received adequate attention by the authors.

In line with present trends to place greater emphasis on the problems of geriatrics they have devoted 60 pages to the problems of the aged. Child psychiatry, too, has received a sympathetic evaluation with a coverage of 40 pages of material which will be of service to all practitioners of medicine.

This book will be of value to the medical student, the general practitioner and the psychiatrist. It constantly stresses the relationship of psychiatry to general medicine and this enhances its value.—JOSEPH L. ABRAMSON

Heart Disease. Its Diagnosis and Treatment. By Emanuel Goldberger, M.D. Second edition. Octavo of 781 pages, 107 illustrations. Philadelphia, Lea & Febiger, 1955. Cloth, $12.50.

The second edition of Goldberger's popular *Heart Disease* is 130 pages longer than the first and an improvement on that fine volume. There is much new material on ballistocardiography, congenital heart disease, cor pulmonale, and kidney and heart disease. Newer aspects of cardiac catheterization and heart surgery have been treated in succinct and scholarly fashion. The general practitioner will find Dr. Goldberger's sections on treatment of great value. In short, the busy practitioner will find this book to be useful and up-to-date.—MILTON PLOTZ

Antimicrobial Therapy in Medical Practice. By Harrison F. Flippin, M.D., and George M. Eisenberg, D.Sc. Octavo of 284 pages. Philadelphia, F. A. Davis Company, 1955. Cloth, $5.00.

This book should prove very helpful to the practitioner who may need a good guide to help him decide which of the commonly employed antimicrobial agents he ought to use in the treatment of a specific infection. While the modes of action of the drug are set forth along with its pharmacologic action, the authors have, for the most part, limited their discussion to noncontroversial questions and theories. They have done this purposely to keep the material in the book within reasonable limits. The antibiotics—that is the major ones—are well discussed relative to their methods of administration and dosage.—MORRIS L. RAKIETEN

The Colon: Its Normal and Abnormal Physiology and Therapeutics. M. L. Tainter, M.D. (Organizing Chairman), Thomas P. Almy, M.D. (Conference Chairman), *et al.* Octavo of 248 pages, illustrated. New York, New York Academy of Sciences, 1954. Paper, $4.50. (*Annals of the New York Academy of Sciences*, v. 58, Art. 4.)

This volume consists of a series of papers presented at a conference on *The Colon: Its Normal and Abnormal Physiology and Therapeutics* held by the Section of Biology of the New York Academy of Sciences. These papers reflect the efforts of numerous investigators in the study of the colon.

The subjects presented are grouped into four categories: physiology and pharmacology of the colon, etiology of colonic disorders, pharmacology of the abnormal colon, and the therapeutic management of colonic disorders. This conference represents an important forward step to stimulate and integrate our fundamental knowledge of the colon.

This monograph is highly recommended to both investigators and clinicians concerned with the study and management of the normal and abnormal colon.—MILTON J. MATZNER

The Medical Clinics of North America. Chicago Number. January, 1955. Octavo. Illustrated. Philadelphia, W. B. Saunders Co., 1955. Cloth, $18 net; paper, $15 net.

The Chicago issue of the *Medical Clinics* is devoted to a symposium on various aspects of clinical advances in medicine. Many of the articles are extremely good, and special note should be taken of the scholarly and literate paper by Kark on the porphyrinopathies.—MILTON PLOTZ

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Vagisec liquid penetrates to trichomonads buried among the vaginal rugae and imbedded in mucus and desquamated cells.

Trichomonads explode within seconds. "Motion pictures taken through a phase-contrast microscope at 24 frames per second, show that most trichomonads are destroyed within ten seconds after contact with a 1:250 solution. . . . Even in the presence of blood serum and mucinous material all are destroyed within 30 seconds."[1]

Explosion succeeds. ". . . over 90% of apparent cures have been obtained . . ."[1] with Vagisec liquid. This preparation "has proved in vitro to be over ten times as effective in killing T. vaginalis, when compared with any of the douche powders available through the drug trade."[1] Vagisec jelly stays in the vagina to destroy trichomonads at night.

Why they explode. Three chemical components of Vagisec liquid attack the trichomonad synergistically. A chelating agent complexes and takes away the calcium of the calcium proteinate. A wetting agent removes lipid materials. A detergent denatures the protein. The parasite imbibes water, swells up and explodes.

The Davis technic.† Dr. Carl Henry Davis, well-known gynecologist and author, and C. B. Grand, research physiologist, introduced this new trichomonacide as "Carlendacide." Over one hundred leaders in obstetrics and gynecology tested it clinically and found it a remarkably fast-acting, effective therapy. Doctor Davis recommends a combination of 1) Vagisec liquid in office treatment; 2) home treatment with Vagisec jelly at night and 3) douche with Vagisec liquid in the morning. "A few women have infected cervical, vestibular or urethral glands and require other types of treatment . . ."[1]

Vagisec jelly and liquid are non-toxic and non-irritating. In a recent collected study only about one per cent of women showed evidence of allergy to Vagisec liquid.[1]

Office Treatment. Expose vagina with speculum. Wipe walls dry with cotton sponges and wash thoroughly for about three minutes with a 1:250 dilution of Vagisec liquid. Remove excess fluid with cotton sponges. Dr. Davis recommends six office treatments.

Home Treatment. Patient inserts Vagisec jelly each night and douches with Vagisec liquid (2 teaspoonfuls in 2 quarts of warm water) each morning except on office treatment days. Continued douching two or three times a week helps to prevent re-infection. Pregnant women should have office treatments only.

Summary. The unique synergistic action of Vagisec liquid explodes both hidden and surface vaginal trichomonads. This therapy has a high apparent cure rate and results in fewer flare-ups. Vagisec jelly and liquid are non-toxic and non-irritating, and leave no messy discharge or staining.

[1] Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955.

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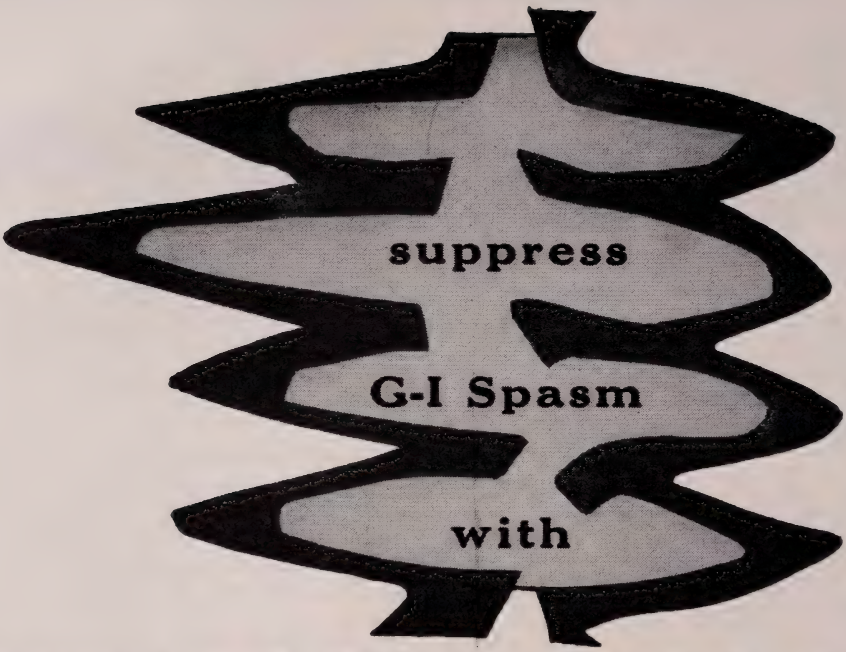

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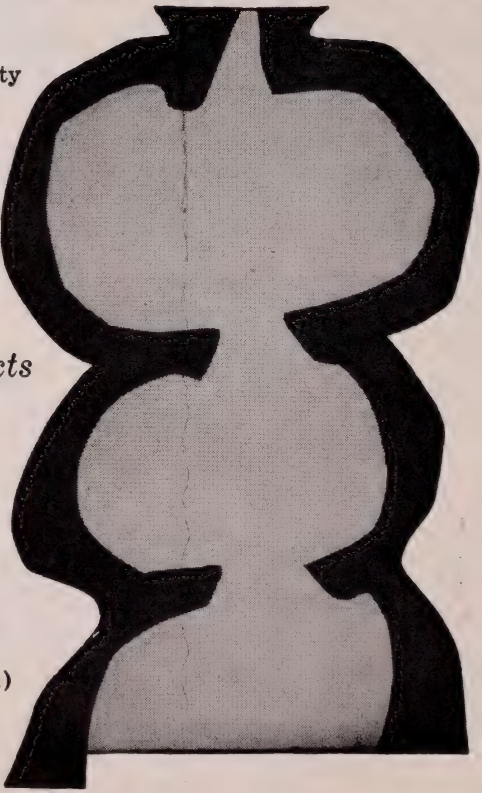

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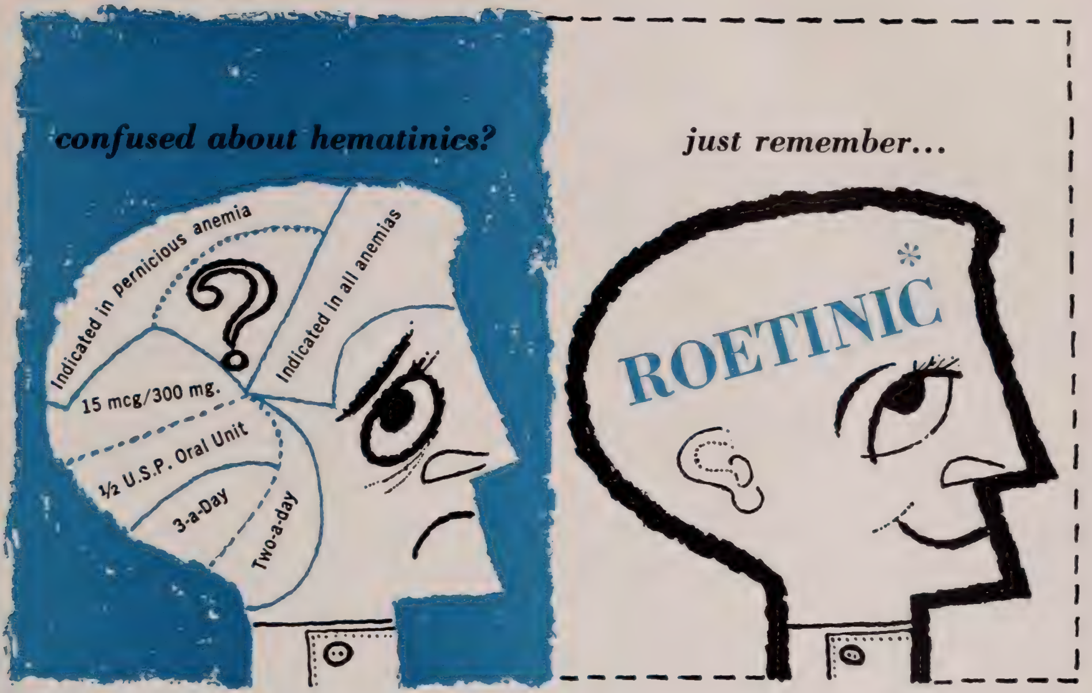

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rheumatoid arthritis

"...free of significant metabolic, water or electrolyte disturbances."[1]

The higher therapeutic ratio of METICORTEN permits marked clinical benefits unaccompanied by many of the major undesirable actions characteristic of cortisone and hydrocortisone.[1-4]

METICORTEN

PREDNISONE (metacortandracin)

Schering

- avoids sodium and water retention
- avoids weight gain due to edema
- no excessive potassium depletion
- better relief of pain, swelling, tenderness; diminishes joint stiffness
- lowers sedimentation rate even where cortisone or hydrocortisone ceases to be effective—"cortisone escape"
- most effective in smallest dosage

Bibliography

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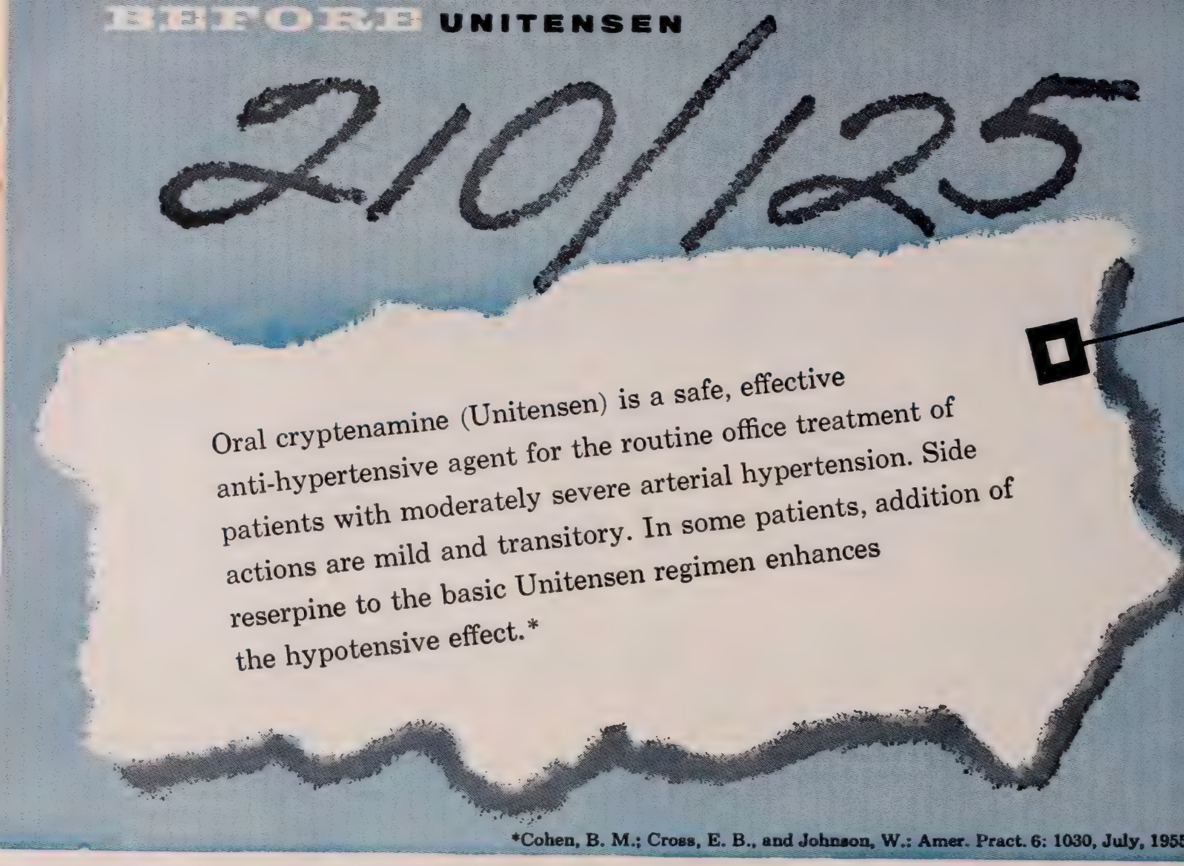
METICORTEN,* brand of prednisone (metacortandracin).
*T.M.

SCHERING CORPORATION · BLOOMFIELD, NEW JERSEY



BEFORE UNITENSEN

Oral cryptenamine (Unitensen) is a safe, effective anti-hypertensive agent for the routine office treatment of patients with moderately severe arterial hypertension. Side actions are mild and transitory. In some patients, addition of reserpine to the basic Unitensen regimen enhances the hypotensive effect.*

*Cohen, B. M.; Cross, E. B., and Johnson, W.: Amer. Pract. 6: 1030, July, 195

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AFTER **UNITENSEN**

150/100

RESULTS with Unitensen therapy in patients with arterial hypertension

Patient	Age	Daily dose Unitensen	B.P. BEFORE	B.P. AFTER	Months of treatment
A.N.	63	8 mg.	190/115	140/90	9
J.R.	55	10 mg.	205/130	170/120	4
V.E.	53	14 mg.	200/135	155/100	7½
W.B.	65	12 mg.	200/120	160/90	9
C.L.	50	8 mg.	200/130	160/100	4
R.A.	48	12 mg.	210/125	160/100	3
J.J.	57	10 mg.	210/120	170/100	7½
A.W.	66	14 mg.	200/110	170/100	3
A.H.	58	12 mg.	210/100	175/110	4½
S.P.	55	12 mg.	230/140	140/90	3

Each tablet contains cryptenamine (as the tannate salt) 2 mg. Bottles of 50, 100, 500, 1000

safe... effective... economical... **UNITENSEN**®
brand of cryptenamine
TANNATE TABLETS

IRWIN, NEISLER & COMPANY • DECATUR, ILLINOIS

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Enriched Bread...

and the Capacity to Work and Enjoy Life

Nutrition education, as important as it is, perforce is slow in effecting public health gains; practical measures on a national scale, on the other hand, can effect such gains quickly.[1] An outstanding example of practical measures for helping to overcome malnutrition has been the broad commercial enrichment of white bread initiated in 1941.

By enrichment according to official regulations, white bread became an important food for supplying thiamine, riboflavin, niacin, and iron to the national dietary.[2] Supplementing enrichment in these nutrients, nonfat milk solids are added in amounts averaging 4 per cent (by weight) of the flour component.[3] Such enriched bread is valuable not only for its contained B vitamins and iron, but for its calcium[4] and its good quality protein[5] as well.

Mortality and morbidity of nutritional deficiency diseases have dropped markedly since the advent of commercial enriched bread. No stronger evidence can be cited than the virtual elimination of pellagra in our population in recent years.[1] In 1937, pellagra mortality was 2.5 per 100,000. By 1951 it had dropped to 0.1, representing an unprecedented low of 208 deaths reported in the entire country.

But a fall in mortality data reflects only in small measure the true improvement in public health resulting from the nutritional betterment of the national dietary.[1] Of greater concern is the vast number of people who, as a result, enjoy better health with increased capacity to work and enjoy life.

---

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The nutritional statements made in this advertisement have been reviewed and found consistent with current medical opinion by the Council on Foods and Nutrition of the American Medical Association.

AMERICAN BAKERS ASSOCIATION
20 NORTH WACKER DRIVE • CHICAGO 6, ILLINOIS

today...

TOMORROW'S ANTIBIOTIC

PENICILLIN V

a new penicillin

With high resistance to degradation in acid media, complete solubility in alkaline

With minimal destruction in the stomach, maximal absorption in the duodenum

With greater activity than potassium penicillin G against certain microorganisms

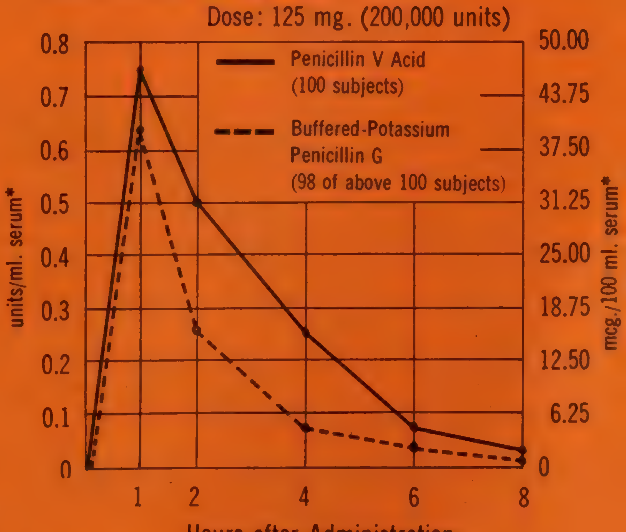
That produces assured and higher blood levels than any other oral penicillin (urinary excretion is twice that of penicillin G)

That is well tolerated and virtually nontoxic

That needs no bulky dose-limiting buffer

Supplied in Tablets, 125 mg. (200,000 units) each, bottles of 36. Also available: Bicillin®-Vee Tablets, 100 mg. (100,000 units) benzathine penicillin G and 62.5 mg. (100,000 units) penicillin V; bottles of 36.

These are the blood levels . . .



*1 mcg. penicillin V = 1.695 penicillin V units
1 mcg. penicillin G = 1.667 penicillin G units

Pen·Vee·Oral*

Penicillin V, Wyeth
Phenoxymethyl Penicillin
*Trademark

Wyeth

THERAPEUTIC BILE

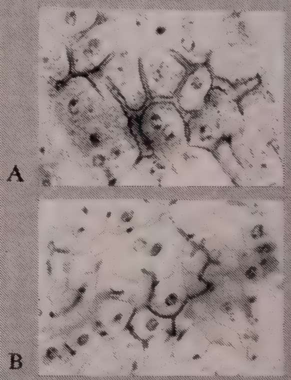
for patients with liver and gallbladder disorders

confirmed in the laboratory

In the isolated perfused liver (rat), *hydro*choleresis with *Decholin Sodium* increases bile flow 200 to 300 per cent—*with no increase in total solids.*[2]

(A) *Hydro*choleresis: Bile capillaries (rabbit liver) are filled with dilute bile 15 minutes after i.v. injection of sodium dehydrocholate.

(B) Untreated control.



Photomicrographs Demonstrate *Hydro*choleresis: Increased Secretion of Highly Dilute Bile[1]

confirmed in practice

"true hydrocholeresis —a marked increase both in volume and fluidity of the bile"[3]

"Since bile of this nature and in this large output can flush out even the smaller and more tortuous biliary radicles, hydrocholeresis [with *Decholin* and *Decholin Sodium*] aids in removal of inspissated material and combats infection."[3]

Decholin® – Decholin Sodium®

Decholin Tablets (dehydrocholic acid, *Ames*) 3¾ gr. (0.25 Gm.). *Decholin Sodium* (sodium dehydrocholate, *Ames*) 20% aqueous solution; ampuls of 3 cc., 5 cc. and 10 cc.

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AMES COMPANY, INC • ELKHART, INDIANA Ames Company of Canada, Ltd., Toronto

FOR
"MANY
HAPPY
RETURNS
OF
THE
DAY"

GERIPLEX®

KAPSEALS® GERIATRIC VITAMIN-MINERAL COMBINATION

The future is more likely to have "happy returns" for your middle-aged and older patients who avoid nutritional deficiencies.

Prophylactic use of GERIPLEX simplifies correction of dietary inadequacies that eventually lead to debility and to tissue damage. One Kapseal per day supplies mineral nutrients, eight important vitamins, and the starch-digestant Taka-Diastase®... all in ample amounts to supplement the average diet.

During febrile illness, during preoperative, postoperative and convalescent periods, and at other times when nutritional requirements are elevated, increased dosage of GERIPLEX will help maintain optimal vitamin-mineral intake.

GERIPLEX Kapseals are supplied in bottles of 100 and 500.

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AUREO
8,000 papers

During its seven years of use, Aureomycin has been the subject of more than 8,000 medical papers published in various journals. Reports have been written concerning its value in every field of medicine. Few therapeutic agents have been so well documented.

When a drug has demonstrated its worth, it is usually said to be "established," "accepted," or "proved." If any antibiotic is any of these, Aureomycin is it.

Aureomycin stands on its record!

MYCIN*

Chlortetracycline *Lederle*

Now Available:

AUREOMYCIN SF Capsules, 250 mg.

For Patients with Prolonged Illness Aureomycin SF combines effective antibiotic action with Stress Formula vitamin supplementation to shorten convalescence and hasten recovery. One capsule, q.i.d., supplies one gram of Aureomycin and B complex, C and K vitamins in the Stress Formula suggested by the National Research Council. Aureomycin SF Capsules are dry-filled and sealed, contain no oils or paste.

Lederle LEDERLE LABORATORIES DIVISION AMERICAN Cyanamid COMPANY PEARL RIVER, NEW YORK

*TRADE-MARK

1950 Cortone® | 1952 Hydrocortone®
1954 'Alflorone' | 1955 'Hydeltra'

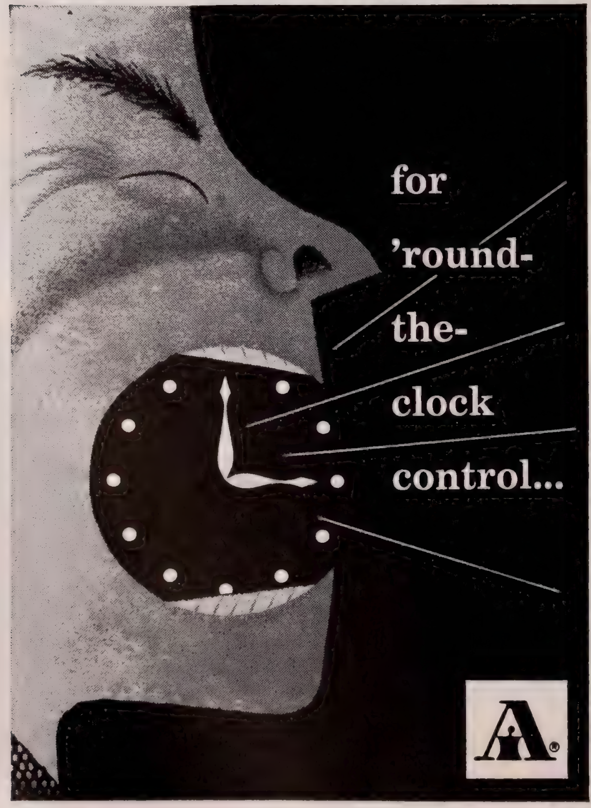
DELTRA® tablets

(Prednisone, Merck)
2.5 mg. - 5 mg. (scored)

the delta$_1$ analogue of cortisone

Indications:
Rheumatoid arthritis
Bronchial asthma
Inflammatory skin conditions

SHARP & DOHME
Philadelphia 1, Pa.
Division of Merck & Co., Inc.



of even obstinate hacking coughs

TUSSAR

quiets...soothes...

Tussar contains a superior antihistamine—prophenpyridamine maleate—and dihydrocodeinone bitartrate, approximately 6 times more potent than codeine. This means cough sedation with much smaller dosage.

THE ARMOUR LABORATORIES
A DIVISION OF ARMOUR & COMPANY · KANKAKEE, ILLINOIS

"combining the traditional with the new!"

R-S-THESODATE

THEOBROMINE SODIUM ACETATE

plus **RAUWOLFIA serpentina**

FOR ESSENTIAL HYPERTENSION

FOR YEARS *Thesodate*, the original enteric-coated tablet of Theobromine Sodium Acetate, has been used extensively for cardiac and circulatory disorders such as coronary artery disease which is often accompanied by hypertension.

NOW COMBINED with the whole powdered root of Rauwolfia serpentina (no single alkaloid or fraction having shown the beneficial effects of the whole crude root), R-S-THESODATE offers a more ideal treatment for essential hypertension whether or not coronary artery disease is present. In most cases, its use should effect gradual but sustained blood pressure reduction and a lowered pulse rate if it has been elevated.

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R-S-THESODATE TABLETS, enteric-coated to prevent gastric distress, are taken at meals and at bedtime. The bedtime tablet prepares the patient for early morning activities.

●

Each enteric-coated tablet contains:

Theobromine Sodium Acetate (7½ gr.)	0.5 Gm.
Rauwolfia serpentina	50 mg.

Supplied in 100's and 500's

available for

CORONARY ARTERY DISEASE

in following formulas

TABLETS THESODATE
7½ gr. or 3¾ gr.

WITH PHENOBARBITAL
7½ gr. with ½ gr.
7½ gr. with ¼ gr.
3¾ gr. with ¼ gr.

WITH POTASSIUM IODIDE
5 gr. with 2 gr.

WITH POTASSIUM IODIDE AND PHENOBARBITAL
5 gr. with 2 gr. and ¼ gr.

●

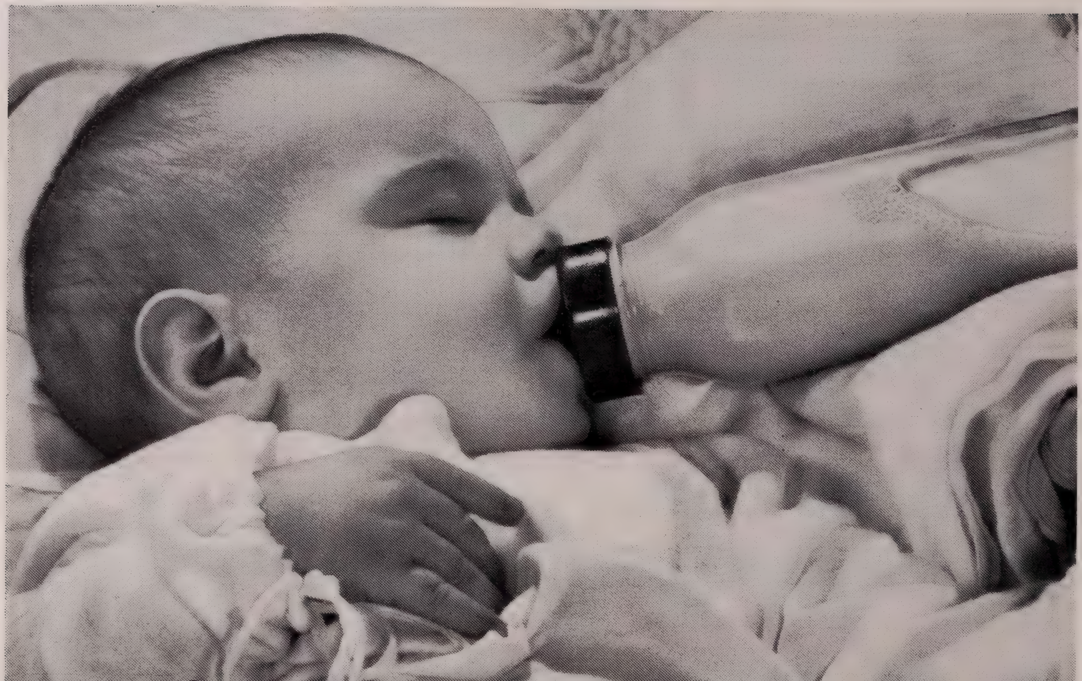
all formulas
ENTERIC-COATED

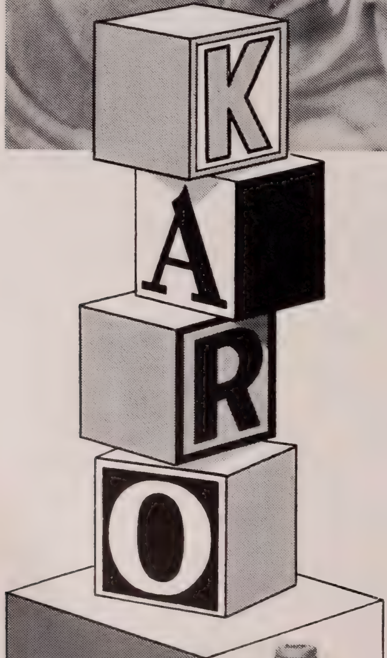
Supplied in
100's and 500's

Brewer
EST. 1852

BREWER & COMPANY, INC. WORCESTER 8, MASSACHUSETTS U.S.A.

For samples just send your Rx blank marked 14TH10





The individualized formula is the foundation of the infant's health and future development

For 3 generations KARO has been the foundation of the individualized formula

Karo is well tolerated, easily digested, gradually absorbed at spaced intervals and completely utilized. It is a balanced fluid mixture of maltose, dextrins and dextrose readily soluble in fluid whole or evaporated milk. *Precludes* fermentation and irritation. Produces no intestinal reactions. Is hypo-allergenic. Bacteria-free Karo is safe for feeding prematures, newborns, and infants—well and sick.

Light and dark Karo are interchangeable in formulas; both yield 60 calories per tablespoon.

CORN PRODUCTS REFINING COMPANY
17 Battery Place, New York 4, N. Y.

Tracinets®

BACITRACIN-TYROTHRICIN TROCHES WITH BENZOCAINE

relieve sore throat right on the job

MAJOR ADVANTAGES: Combined antibacterial action of bacitracin and tyrothricin. Soothing local anesthetic relief of benzocaine. More convenient than a gargle.

In afebrile oral infections, TRACINETS provide the combined antibacterial action of *bacitracin* and *tyrothricin* – two potent topical antibiotics–plus the soothing anesthetic effect of *benzocaine*. In severe cases, TRACINETS conveniently supplement systemic antibiotics.

Each TRACINETS troche contains 50 units zinc bacitracin, 1 *mg.* tyrothricin, 5 *mg.* benzocaine. *Supplied* in vials of 12.

SHARP & DOHME
Philadelphia 1, Pa.
DIVISION OF MERCK & CO., INC.

YOUTH IS THE TIME FOR
YUVRAL*

VITAMINS AND MINERALS CAPSULES LEDERLE

For the big and important age group between pediatrics and geriatrics, Lederle offers YUVRAL Capsules, a new diet supplement. A highly potent formula including 11 vitamins, 12 minerals, and Purified Intrinsic Factor Concentrate—all in a dry-filled, soft-gelatin capsule with no unpleasant aftertaste.

Among adolescents and young adults, there are many "nutritionally starved" persons: those with strong dislikes for certain foods, those who won't drink milk, young women on self-prescribed diets. Just one YUVRAL Capsule daily assures them of an adequate supply of essential vitamins and minerals.

Each capsule contains:	
Vitamin A	5000 U.S.P. Units
Vitamin D	500 U.S.P. Units
Vitamin B_{12}	1 mcgm.
Thiamine Mononitrate (B_1)	3 mg.
Riboflavin (B_2)	3 mg.
Niacinamide	20 mg.
Folic Acid	0.2 mg.
Pyridoxine HCl (B_6)	0.5 mg.
Ca Pantothenate	1 mg.
Ascorbic Acid (C)	50 mg.
Vitamin E (as tocopheryl acetates)	5 I. U.
Iron (as $FeSO_4$)	15 mg.

Iodine (as KI)	0.15 mg.
Boron (as $Na_2B_4O_7.10H_2O$)	0.1 mg.
Copper (as CuO)	1 mg.
Fluorine (as CaF_2)	0.1 mg.
Purified Intrinsic Factor Concentrate	0.5 mg.
Magnesium (as MgO)	1 mg.
Manganese (as MnO_2)	1 mg.
Potassium (as K_2SO_4)	5 mg.
Zinc (as ZnO)	0.5 mg.
Calcium (as $CaHPO_4$)	69 mg.
Phosphorus (as $CaHPO_4$)	53.8 mg.
Dibasic Calcium Phosphate	236 mg.
Molybdenum (as $Na_2MoO_4.2H_2O$)	0.2 mg.

*REG. U.S. PAT OFF.

LEDERLE LABORATORIES DIVISION
AMERICAN Cyanamid COMPANY Pearl River, New York

Lederle

medical advice prompted more women to ask for, use and reorder Koromex jelly or cream in 1955... *than ever before*

THE REASONS WHY MAY BE FOUND BY SENDING FOR THE BOOKLET ENTITLED, "THE PHYSICIAN'S GUIDE".

Koromex

JELLY CREAM

ACTIVE INGREDIENTS: BORIC ACID 2.0% OXYQUINOLIN BENZOATE 0.02% AND PHENYLMERCURIC ACETATE 0.02% IN SUITABLE JELLY OR CREAM BASES

HOLLAND-RANTOS CO., INC. • 145 HUDSON STREET, NEW YORK 13, N. Y.

FOR YOUR PATIENTS WITH

- **Fat intolerance dyspepsia**
- **Irritable bowel syndrome**
- **Gallbladder dysfunction**

OXSORBIL Capsules will permit the inclusion of suitable dairy and vegetable fats in the patient's diet.

POLYSORBATE 80 MAKES THE DIFFERENCE

This well balanced choleretic, cholagogic formula comes in two forms.

OXSORBIL® P.B.	OXSORBIL®
(contains phenobarbital and belladonna for patients also requiring spasmolysis and sedation)	*Plain*

Bottles of 100 capsules
Literature on request

I.V.C ®
IVES-CAMERON COMPANY
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Functional Disorders of Menopause

Bellergal®

Stabilizer of the entire Autonomic Nervous System

Ergotamine tartrate	*0.3 mg.*
Bellafoline	*0.1 mg.*
Phenobarbital	*20.0 mg.*

Adult Dosage: 4 to 6 tablets daily.

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Sandoz
PHARMACEUTICALS
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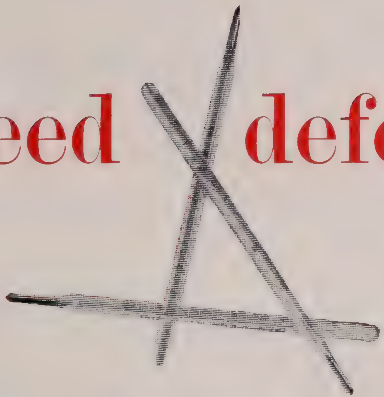
to speed defervescence



to speed convalescence

Tetracyn® SF*

Brand of tetracycline

Pfizer-discovered tetracycline fortified with water-soluble vitamins to meet the "stress" demands of fever and infection.

**Trademark for Pfizer brand of antibiotics with vitamins*

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Back to first principles for REAL BREAD

The makers of Pepperidge Farm Bread believe in fresh natural ingredients for nutritionally valuable and taste-pleasing bread.

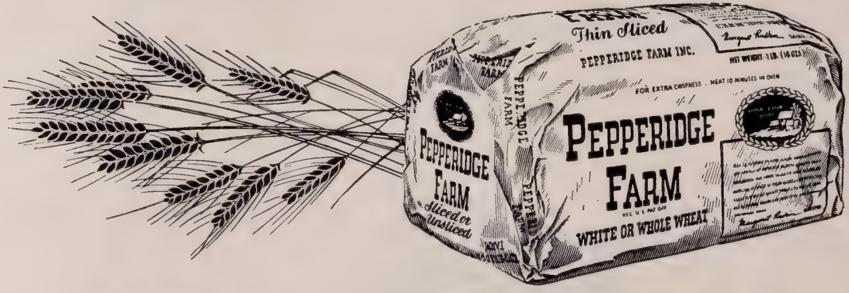
So the flour for our Whole Wheat Bread is stone-ground in our own grist mills—contains the wheat germ and all the natural goodness of the whole grain. And we use whole milk, sweet cream butter, yeast and unsulphured molasses to make our bread.

We offer White Bread, too—made with *unbleached* flour, dairy-fresh ingredients.

We suggest that Pepperidge Farm Bread deserves a place on your table.

For information about our special SALT-FREE Bread, please write to me.

Margaret Rudkin
DIRECTOR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Sliced or Unsliced
PEPPERIDGE FARM
WHITE OR WHOLE WHEAT

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FOLBESYN Parenteral may be administered intramuscularly, or it may be added to various hospital intravenous solutions. It is useful for preoperative and postoperative treatment and during convalescence.

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Thiamine HCl (B_1)	10 mg.
Sodium Pantothenate	10 mg.
Niacinamide	50 mg.
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This blood agar plate shows a strain of *beta* hemolytic enterococcus. Note extreme sensitivity of this organism to ERYTHROCIN—yet it easily resists the other antibiotics. Additional data: A study[1] involving 202 enterococcic strains showed sensitivity to erythromycin in 99.4% of *alpha* hemolytic strains and 94.3% of *beta* hemolytic strains.

specific against coccic infections

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1. Eisenberg, et al., Antib. & Chemo., 3:1026-1028, Oct., 1953.

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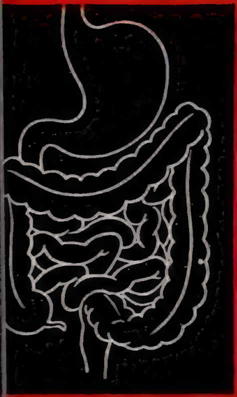
†Trademark

1. Robinson, H. M., Jr., et al.: South. M. J. 46:773, 1953.



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Laboratory experiments show that Centrine is more effective than atropine in controlling gastrointestinal hypermotility[1]—as manifest by superior reduction in the number, tone, amplitude and duration of peristaltic contractions; and it successfully relieves localized spasm.[cf. 2] It is 5 to 100 times more potent than other synthetic antispasmodic agents commonly used.

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References: 1. J. Pharm. & Exp. Ther., 98:14, 1950.
2. Gastroenterology, 24:204, 1953.

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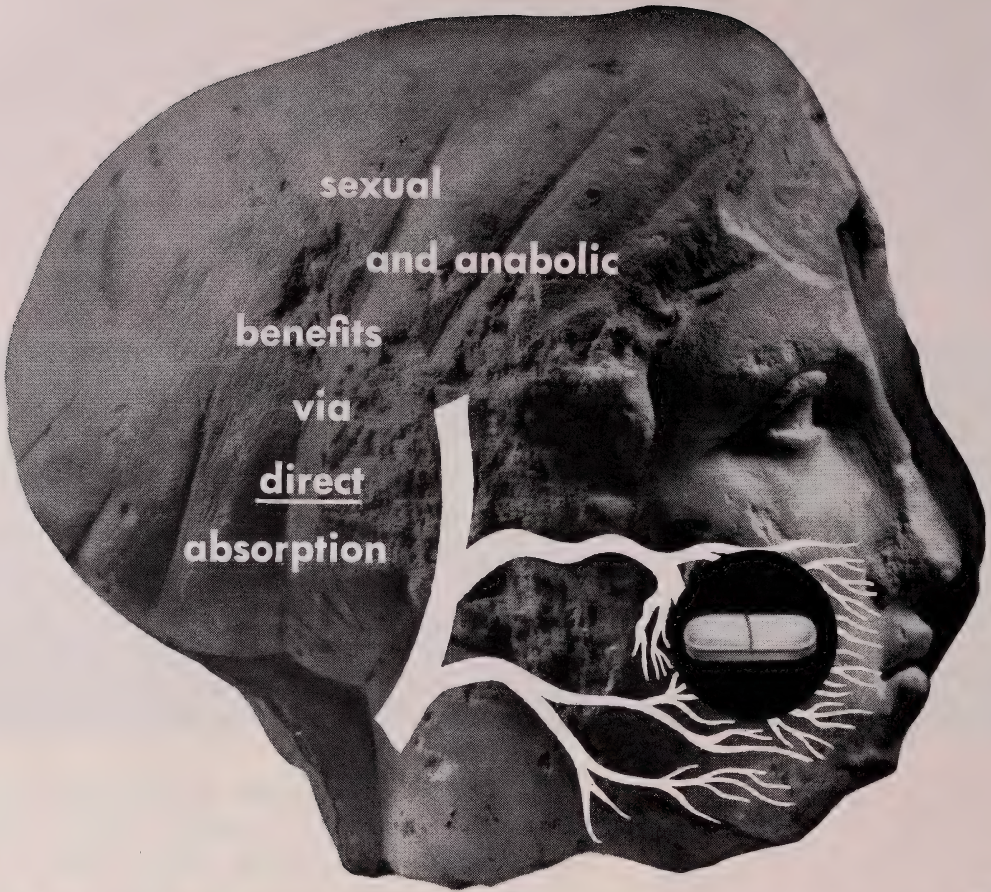

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Free from undesirable side actions

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DOSAGE: Merely two 2 mg. tablets at bedtime. After full effect 1 tablet usually suffices. In bottles of 60, an average month's supply.

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taste is as important to the young patient as effectiveness is to you. In antibacterial therapy Gantrisin (acetyl) Pediatric Suspension is useful on both counts because of its delicious raspberry flavor without "medicine" aftertaste, its wide antibacterial spectrum and notable freedom from gastro-intestinal upsets and other side effects.

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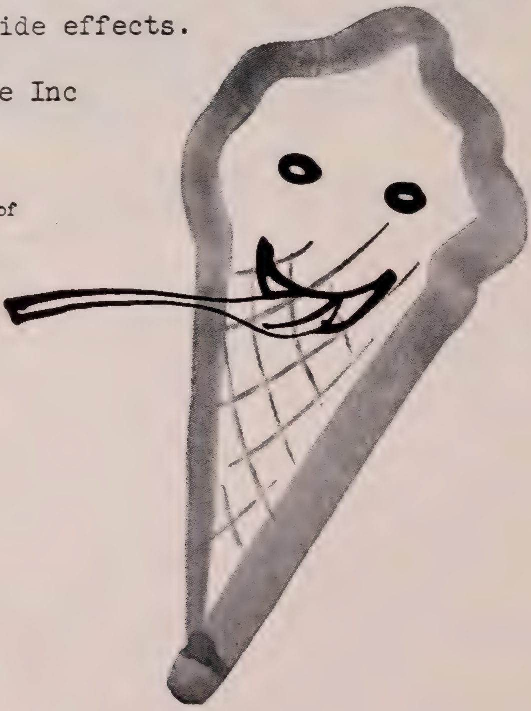

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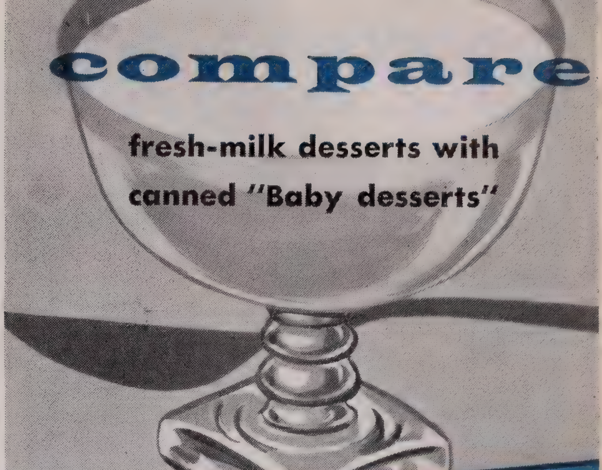


compare

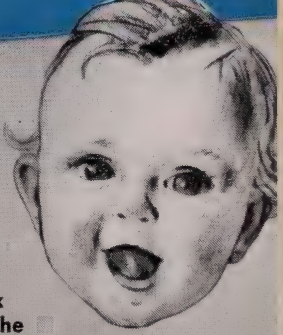
fresh-milk desserts with canned "Baby desserts"

and note the difference!

Comparative composition of 100 gram portions: rennet-custards and commercially canned "Baby Desserts".

	Cal.	Prot. gm.	Fat gm.	Carbo. gm.	Ca. mg.	P. mg.	Vit. A I.U.	Ribo. mg.
*DESSERT A	94	2.0	2.7	20.2	76	63	Trace	0.111
*DESSERT B	100	2.32	1.89	17.72	76	43	25 (USP)	0.160
*DESSERT C	102	2.4	3.2	16.5	75	69	228	0.110
**RENNET-CUSTARDS (average of seven flavors)	96.5	3.2	3.6	12.7	123	102	175	0.16

*Nationally distributed "ready-to-serve" dessert.
**Made with fresh milk and "Junket" Rennet Powder.



Rennet desserts are made with *fresh* milk and either "Junket" Rennet Powder or "Junket" Rennet Tablets. Therefore, unlike many commercially canned "Baby desserts" they are high in milk solids and supply all the nutritional values of milk.

That is why rennet-custards are widely recommended by the profession as one of the first solid foods in the infant dietary . . . why they are also recommended, with "dressed up" variations, for growing children and adults.

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Makes *Fresh* Milk into Rennet-Custards

"Junket" Rennet Powder—Vanilla, Chocolate, Lemon, Orange, Raspberry, Maple, Strawberry.

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Sex hormones—only one injection per month:

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Each cc. contains:

Estradiol, 17-Cyclopentylpropionate	1 mg. or 5 mg.
Chlorobutanol	5 mg.
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1 mg./cc. strength in 10 cc. vials
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Each cc. contains:

Testosterone Cyclopentylpropionate	50 mg. or 100 mg.
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Each cc. contains:

Testosterone Cyclopentylpropionate	50 mg.
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Available in 1 cc. and 10 cc. vials.

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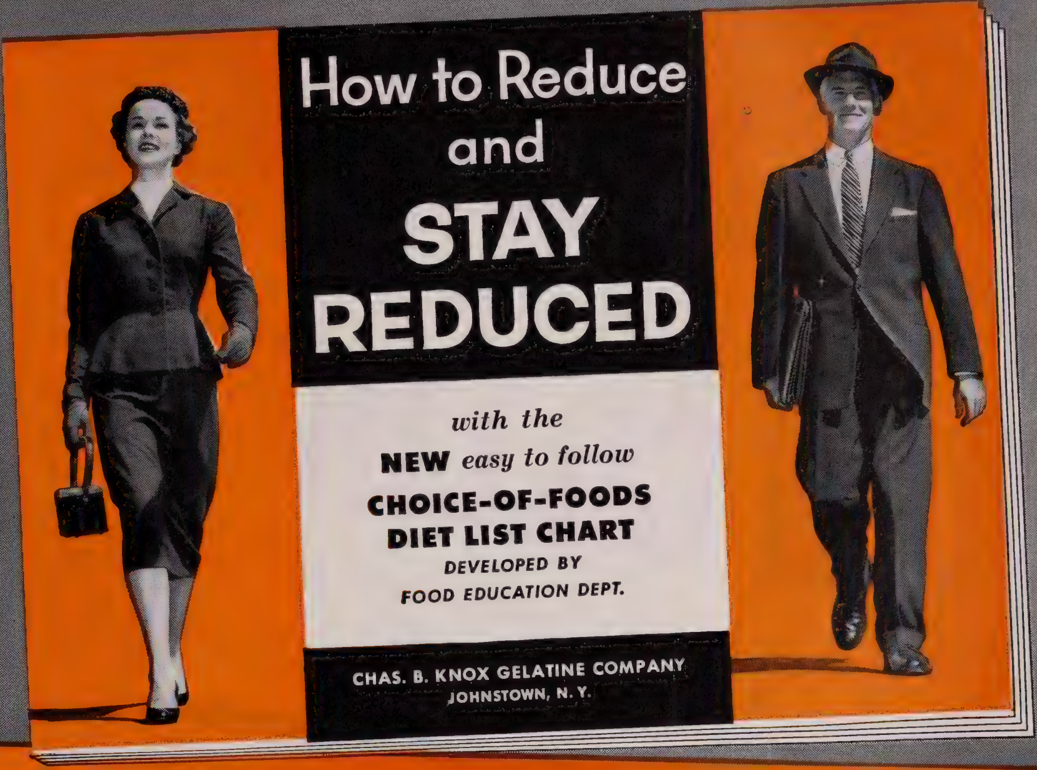

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NEW easy to follow
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e 1955 edition of the well-known Knox "Eat-
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the Food Exchanges. Physicians will find
e diets easy to revise to meet the special
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[1] Developed by the U. S. Public Health Service assisted by committees of The American Diabetes Assn., Inc. and The American Dietetic Assn.

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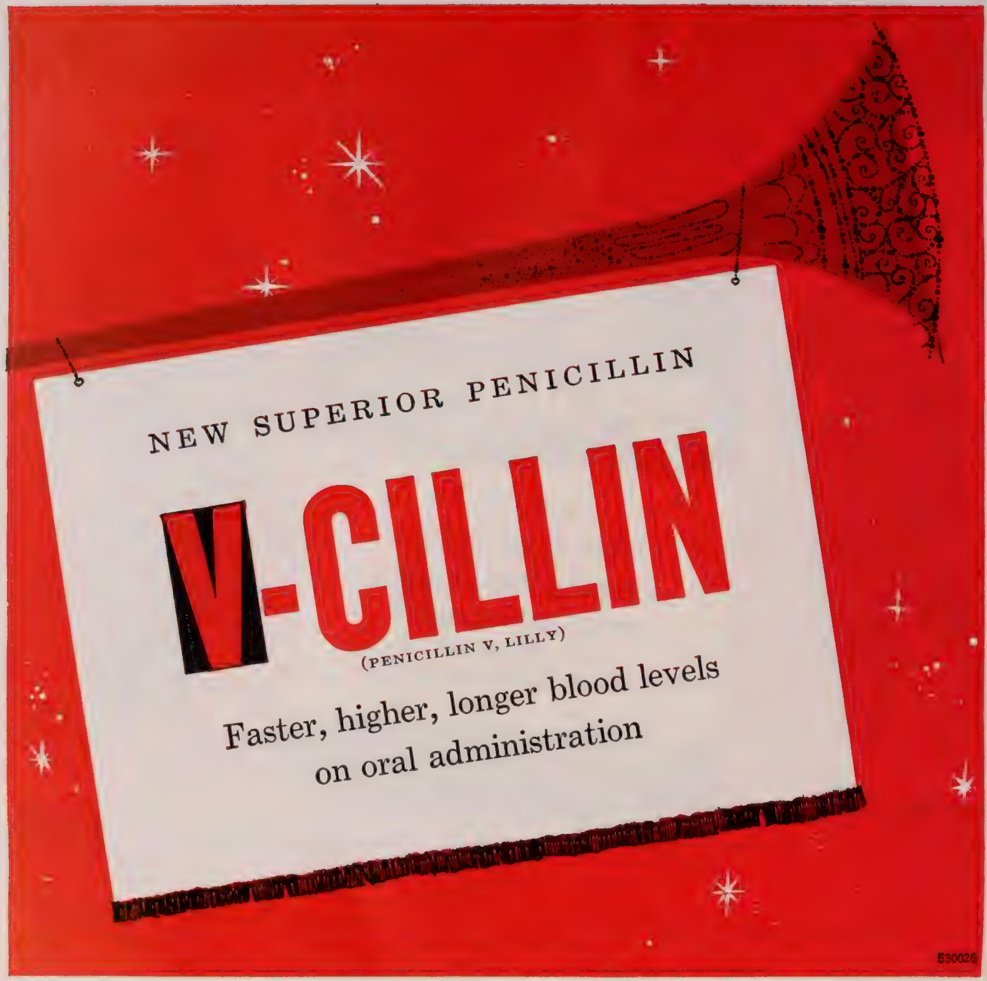
Please send me____copies of the new illustrated Knox "Eat-and-Reduce" booklet based on Food Exchanges.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Faster, higher, longer blood levels on oral administration
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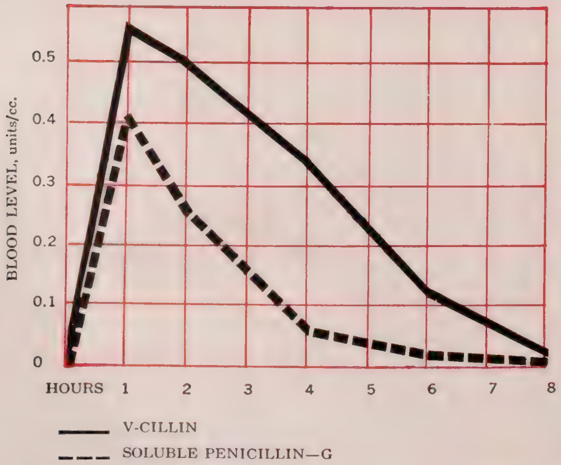
Comparative blood levels following ingestion of 125 mg. penicillin V and 200,000 units of penicillin—G, potassium



A totally different penicillin—not a modification of penicillin—G. Unlike all other penicillins, it has a unique chemical composition which assures stability in the presence of acid. Therefore, there is no loss of potency due to stomach acidity. 'V-Cillin' produces higher blood levels and a longer duration of therapeutic concentrations. It is rapidly absorbed from the duodenum.

DOSAGE: 1 or 2 pulvules t.i.d.

SUPPLIED: Attractive green-and-gray pulvules of 125 mg. (200,000 units), in bottles of 50.

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EDITORIALS

Public Interest in Medical Science

At the Session on Public Relations conducted at the 149th Annual Meeting of the Medical Society of the State of New York at Buffalo, New York, John L. Bach, director of Press Relations of the American Medical Association, said, in part, that contrary to a common misconception, doctors do have good public relations. He spoke of the vulnerability of the physician to censorship by the public because he has to do so many things to and for people that carry risk.

People are interested in medical science. For that reason newspapers and magazines "are 'playing' medical science for what it is worth." Mr. Bach then gave some interesting statistical evidence. Newspapers and magazines are publishing more and more medical science news. An average of 23 lengthy medical stories are appearing in the mass publications, those with a circulation of over a million, every month. The National Association of Science Writers, representing the "cream of the crop" in the medical science writing field today, now has more than 200 members. Most of them are full-time writers, and many specialize in writing medical science exclusively.

Mr. Dan Mich, editorial director of *Look* magazine, recently released some interesting figures showing the tremendous increase in the last thirty years in the amount of space devoted by popular magazines to medical subjects. His research department checked articles published in all American magazines in 1923 on just four medical subjects—cancer, tuberculosis, heart disease, and polio—and there was a total of 30 in 1923, and 19 of these were on tuberculosis. There were none in any magazines which today could be described as a mass circulation medium. In 1953, just thirty years later, there were 299 articles on the same four subjects in popular magazines, most with big circulation.

The *Saturday Evening Post*, with a circulation of more than four million copies a week publishes between 20 and 30 medical articles a year, and *Good Housekeeping*, with a circulation of three million copies, publishes one lengthy medical article in each issue.

Many metropolitan newspapers have their own science writers. The late Howard Blakeslee of the Associated Press once made a survey of AP member papers and found that medical science stories rated number one position in reader interest, exceeding even sports, which was surprising.

This gives you a good idea of the live interest in medical science news.

These facts may come as a surprise to many physicians. Mr. Bach says further: "Why is there so much interest on the part of the reading public in medical science stories; why is the public appetite for medical news so great?" According to popular science writer Steve Spencer of *The Post*, this appetite is traceable to two main urges of the human mind, the urge to live and the urge to know. As one patient wrote to a doctor far away from his home, "I am sick, and you are a specialist in the disease I am suffering from. I do not like to bother you, but your information is important to me. You see, I am interested in living."

These motivations on the part of the public create a greater demand for the doctor's services and, at the same time, a greater demand for the science writers' product. This interest is not apt to diminish for it seems apparent that we stand presently on the threshold of a new era of advance in medical science and technology related to the peaceful uses of atomic energy. These advances could conceivably be so great and be made so comprehensible to people everywhere, in terms of better health, better nutrition, less suffering, and greater production at less cost, that they would reduce the *destructive* potential of atomic energy to the absurdity it seems to have become except as an implied threat to aggressors.

Medical science will continue to hold the interest of the public, and the press will continue to interpret its progress in terms ordinary people can understand. Public curiosity, its desire for enlightenment seems to us to be wholesome. The nonmedical publications through the science writers are a valuable adjunct to the medical profession and should be encouraged to devote more, not less space to the facts of medical progress in the coming era.

Schedule of District Branch Meetings, 1955

District	*Date*	*Town*	*Place*	*Time*
Fifth	Thursday, October 27	Utica	Hotel Utica	Afternoon
Sixth	Wednesday October 26	Elmira	Arnot-Ogden Hospital	Afternoon Dinner Evening

Editorial Comment

Public Safety Advanced by Atomic Test Program. It seems worthy of note that public hazards have been reduced to what is said to be a minimum by safety measures developed at the Nevada Atomic test site, according to Gordon M. Dunning of the Atomic Energy Commission's Division of Biology and Medicine, Washington, D.C.[1] This is indeed reassuring information in view of some rather lugubrious but apparently unfounded rumors to the contrary heard from time to time.

After five major tests no one has incurred radiation exposure off the site that may be considered "anywhere near hazardous," Dunning said.

There have been no known cases of serious eye damage from light effects nor any reported injury to persons from shock waves. Carrying out an extensive program of warning before tests and checks after tests are 100 full-time employes of the Atomic Energy Commission. In addition, many persons participate on a part-time basis throughout the United States.

The basic consideration for the public's safety was shown in the selection of the test site. It covers an area of 600 square miles, with an adjacent U.S. Air Force gunnery range of 4,000 square miles. These are surrounded by "wide expanses of sparsely populated land." Preceding a test, a "warning circle" is set up, and all aircraft are warned by the Civil Aeronautics Administration to remain out of the circle. Roadblocks are established on major highways in the area to alert motorists to the approaching blast and flash of light. The A.E.C. and U.S. Public Health Service have cooperated in establishing a liaison program with residents in surrounding areas. Liaison men live in each of 12 zones. Their duties include becoming so much a part of the neighborhood that residents would respect their decisions and seek their advice if needed. The men also monitor radioactivity-measuring equipment following the tests.

After each blast, monitoring equipment at the site, in nearby communities, and on mobile equipment measures the radioactive fall-out. Airplanes track the clouds and plot the fall-out pattern on the ground. Ninety U.S. Weather Bureau stations throughout the United States collect fall-out data, as do ten A.E.C. installations in different parts of the country. Contamination of water and air in the surrounding area was found to be relatively small after each blast, Dunning said. There have been no reported cases of people receiving radiation burns off the site. In 1952 some cows which were 15 to 20 miles from "ground zero" received some burns, as did some horses in 1953. Damage from shock waves in nearby communities has totaled $44,300 from several blasts. If it appears that there may be slight damage from shock waves because of weather conditions, residents are warned to open windows and doors in their homes to help equalize the pressure.

Intensive studies of the kind made in Nevada and elsewhere will in the course of time result in the development of more and more effective means of combating potential injury and damage from the newer types of weapons. Man's ingenuity in the past has coped with every advance in technology from the spear and arrow through gunpowder, poison gas, and cold war tactics. Facts and time to apply them to any given situation can and must be the principal reliance of all peoples to solve these problems of public safety.

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[1] J.A.M.A. **158:** 900 (July 16) 1955.

ANNOUNCEMENT

New Provision of Social Security Law

Physicians, hospitals, and clinics will have an important part in assisting their patients to get the benefit of a new provision of the social security law which protects a worker's social security record while he is disabled.

A person who is unable to work because of mental or physical disability, or who is blind, can have his social security earnings' record "frozen" under the new law.

The effect of this action is similar to that of the waiver of premium in life insurance policies. It provides that the benefit payable to the person when he qualifies, or to his family in case of his death, will not be reduced because of the period in which he had no earnings.

Persons already receiving monthly old-age insurance benefits, if they were disabled for a considerable period of time before they reached sixty-five, may have their benefits increased under the new law beginning with payments for July, 1955.

The new law protects the social security records of people:

1. Who have been in work covered by social security for five out of the ten years before they were disabled, and for one and one-half out of the three years before they were disabled.

2. Who are unable to engage in substantial gainful activity because of a medically determinable impairment which is expected to be of long-continued or indefinite duration.

3. Who apply to have their records frozen while they are disabled and after they have been disabled six months or more.

A determination that a person is disabled must be based on medical evidence. The patient himself is expected to secure the initial medical evidence; therefore, he will frequently request a summary of the history, clinical findings, and treatment of his case from his physician or medical facility. In other cases the request, along with a release signed by the patient may come from the State agency responsible for the determination of disability or from the Social Security Administration.

The medical reports will advance the patient's welfare if they are completed promptly and accurately with sufficient detail to support the diagnosis.

The Social Security Administration hopes that many applicants can be returned to productive work through vocational rehabilitation services. Work in connection with rehabilitation services or in a "sheltered workshop" will not prevent a finding of current disability. Further information regarding the new freeze provision is available from your nearest social security office.

Department of Health, Education, and Welfare
Social Security Administration
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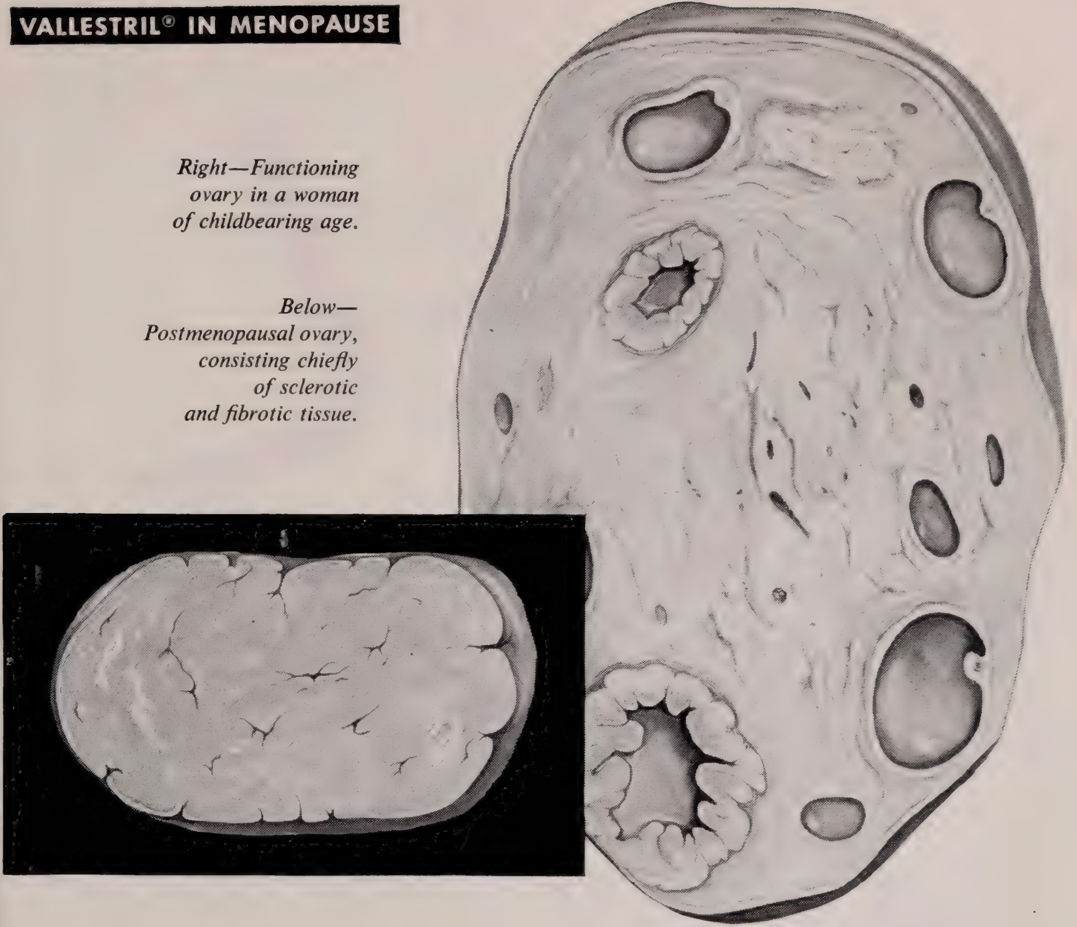

Right—Functioning ovary in a woman of childbearing age.

Below—Postmenopausal ovary, consisting chiefly of sclerotic and fibrotic tissue.

"Target Action" in Estrogen Therapy

Vallestril is described as having "target action" because it provides potent estrogenic activity *only in certain organs.*

Vallestril combines a potent action on the *vaginal mucosa* with minimal effect on the *uterus or endometrium.*

This distinctive, *selective* action helps explain the unusually low incidence of withdrawal bleeding as reported in recent carefully controlled studies. For this reason alone, Vallestril is preferentially indicated in the therapy of the menopausal syndrome.

Vallestril "quickly controls[1] menopausal symptoms, ... The beneficial effect of the medication appeared within three or four days in most menopausal patients. There is also evidence that the patient can be maintained in an asymptomatic state by a small daily dose, once the menopausal symptoms are controlled." The dosage in menopause is one tablet (3 mg.) two or three times daily for two or three weeks; then reduced to one or two tablets daily as long as required. G. D. Searle & Co., Research in the Service of Medicine.

---

[1] Sturnick, M. I., and Gargill, S. L.: Clinical Assay of a New Synthetic Estrogen: Vallestril, New England J. Med. *247*:829 (Nov. 27) 1952.

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does your
diuretic
cause
acidosis?

know
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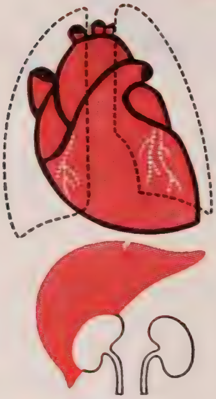
diuretic



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SCIENTIFIC ARTICLES

The Rehabilitation of the Patient with Rheumatoid Arthritis

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Rheumatoid arthritis is a systemic disease, but the disabling manifestations of this disease are almost entirely localized to the musculoskeletal system. In the management of a patient with rheumatoid arthritis a broad treatment program is necessary. Systemic treatment is essential, and it is also essential that the patient be given treatment for the prevention or correction of musculoskeletal disability.

There is a widely held impression that the pathologic changes in the bony and cartilaginous elements of the joints are the most important cause of the musculoskeletal disability. This is a misconception, for inspection of the crippled joints at the operating table reveals that the most characteristic feature of the deforming pathology is the soft tissue changes which occur in and around the joints and in the muscles, tendons, fascias, and skin. In most of the cases there is some damage to hyaline cartilage and bone, and in an occasional case extensive erosion of bone and cartilage occur. But in the majority of the cases the bony and cartilaginous changes are of only minimal importance in the causation of the deformities.

This misconception about the characteristic pathologic picture leads to an attitude of undue pessimism in regard to the prognosis. If the functional disability commonly is due to hyaline cartilage and bony damage, which is largely irreparable, the local measures which are applied to maintain or restore joint function could not be expected to be effective. On the other hand, if the disability characteristically is due to soft tissue changes which are amenable to surgical correction, it becomes worth while to expend the effort necessary to rehabilitate the articulations.

Treatment of Slight Musculoskeletal Disability

The measures which are used to prevent deformity and preserve musculoskeletal function need not be complicated or highly technical if the treatment is started at the onset of the disease and if it is continued consistently, without interruption, throughout the entire active course. In most instances this treatment can be prescribed and supervised by the internist who is responsible for the systemic treatment.

In the early stages of the disease the major portion of the pathology usually is reversible, and the musculoskeletal disability usually can be eliminated by effective systemic treatment and simple orthopedic measures. The most important features of the treatment of a mild, early joint lesion are (1) the use of splints, casts, crutches, or rest in bed to protect the inflamed joint from the trauma of overuse and prevent the development of deformity and (2) the setting up of simple corrective exercise routines for the purpose of restoring strong and accurate muscular control of the joint through the functionally useful range.

The first consideration is the elimination of trauma since in the presence of inflammation complete protection of the joint from traumatic irritation is indicated. The findings on physical examination determine the kind and amount of protection which is required at the onset of treatment. Weight-bearing and strain must always

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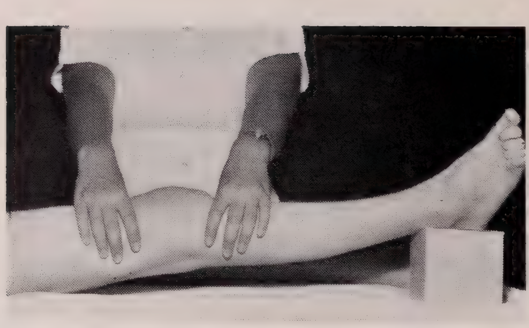


FIG. 1. Passive stretching by a technician for the correction of slight flexion deformity of the knee.

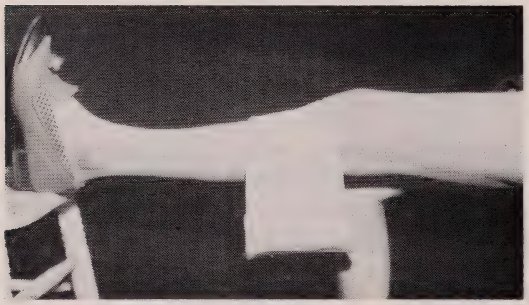


FIG. 2. Passive stretching by means of a weight suspended from the leg just below the knee to produce a hyperextension force. (*By permission of the Maryland State Medical Journal*[4])

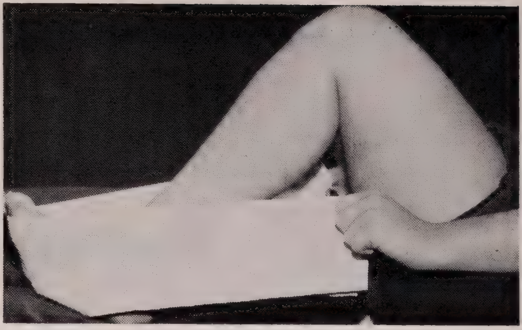


FIG. 3. Passive stretching by the patient to increase the range of flexion. As the knee is stretched, the flexor muscles are contracted firmly to assist in the motion.

be eliminated, and in most instances motion must be stopped by the immobilization of the joint in functional position or as near to the functional position as the contractures will permit.

Use of the joint should not be resumed until the inflammation has subsided and the patient is able to stabilize the joint firmly in functional position by active muscular power. Therefore, the next step in the rehabilitation program is the elimination of the contractures which limit motion of the joint, particularly those which prevent the joint from being brought into functional position. At the same time corrective exercises are started to restore the maximum range of active motion.

These mild deformities usually can be overcome by gentle passive stretching. In some instances some of the stretching is done by a physical therapy technician, but in most instances this treatment can be carried on by the patient after he has been thoroughly indoctrinated in the technic (Fig. 1). For the correction of a slight flexion deformity of the knee which has been present for only a short time, the patient sits on a firm chair with the foot on another chair, and a 10-pound weight is suspended from the leg, just below the knee, for the purpose of producing a hyperextension force (Fig. 2). The knee is stretched for a half hour, three times a day. During the stretching, quadriceps setting exercise is done. Simple stretching technics can also be devised for the restoration of flexion of the knee and the restoration of passive motion to the other joints (Fig. 3).

In some instances it is desirable to apply traction or a splint to maintain the joint in proper position when the patient is at rest in bed.

When the contractures have been overcome so that the joint can be moved into functional position and the maximum range of passive motion has been restored, the stretching treatment is discontinued with the exception of five minutes of stretching which are continued each day for many weeks. At the first sign of the loss of motion, the full therapeutic dose of stretching treatment is resumed.

The treatment for the restoration of active muscular control of the joint also can be carried out by the patient without supervision once he understands the technic. Patients with rheumatoid arthritis are chronically fatigued, and they usually have little stamina. For this reason the exercise regimen usually must be reduced to the basic essentials. When the knee is involved, the exercises are limited to those which will contribute to the ability to extend the knee through the last 20 degrees, and the patient does not do any other exercise until he is able to lock the knee firmly in functional position. Since these patients become fatigued after only a few minutes of exercise, the daily dose of exercise treatment is broken up into a number of brief sessions. The exercises are continued until normal strength and endurance of the musculature controlling the involved joint have been restored.

When the patient begins to use the joint, the trauma to which it is subjected is very carefully controlled. If the knee joint is involved, a cane is used in the opposite hand for all weight-bearing, and every step is carefully considered so as to insure relatively atraumatic function. All arduous or complicated use is eliminated. If one knee is relatively normal, he uses this knee to lift himself up out of a chair, and he goes up or down stairs one step at a time. As the efficiency of the musculature increases and it is demonstrated that use does not cause recurrence of disability, activity is increased, and the precautions against trauma are gradually relaxed. Careful physical examinations are made at frequent intervals so that the program can be adjusted promptly to accommodate for changing conditions.

Modification of the Basic Rehabilitation Program

The basic rehabilitation program has been described as it is applied to the low-grade joint lesion which has produced only mild inflammation, slight fixed deformity, and slight muscular inefficiency. This basic program is modified to meet the conditions presented by variations in the pathology by placing more emphasis on one or another phase of the treatment.

If the initial clinical study does not reveal definite signs of inflammation in or around the joint, if the physical examination discloses only slight limitation of active and passive motion with only mild muscular atrophy, and if there is complaint of no more than mild soreness on excessive use, a splint, cast, or crutches need not be used, but the patient must protect the joint from excessive trauma, and he must follow the same regimen as do the patients who are beginning use of the joint after the subsidence of more severe inflammation.

In the management of the acutely inflamed joint the immobilization aspect of the treatment becomes of major importance, but after the subsidence of the inflammation, the program continues as has been outlined for the management of the more low-grade lesions.

If the joint has become permanently contracted into deformed posture, the first consideration is the restoration of the ability to bring the part into functional position, but once the fixed deformity has been corrected, the program proceeds according to the basic principles which have been described.

Treatment of Permanent Deformity of Moderate Severity

If the treatment of the musculoskeletal lesion is neglected until fixed deformity has developed or if this treatment is applied sporadically, permitting periodic regression in joint efficiency, firm contractures develop which cannot be overcome by corrective exercise or daily stretching, and operative treatment becomes necessary.

Many procedures have been proposed for the correction of these deformities, but it is the opinion of the author that the best end results are secured by the use of either manipulation under anesthesia or open cutting of the restraining tissues, whichever is indicated. In general, closed manipulation is indicated for the correction of mild or moderately severe deformities of relatively recent origin without significant bony changes, and open operation is used when the deformity is old and severe, when there are extensive irreversible changes in the soft tissues in and around the joint, when the contours of the articular surfaces are significantly altered, or when manipulation fails to restore functional position.

Treatment with wedged casts or traction does not produce satisfactory results since complete correction of the deformity cannot be accomplished by these methods unless the contractures are easily overcome. This type of deformity can be treated more satisfactorily by corrective exercise and daily passive stretching.

The rehabilitation program for these patients is presented in detail in the following report of the treatment of a typical case in which manipulation under anesthesia was required for the correction of knee joint deformities. This case report illustrates the long period of muscular rehabilitation which often is necessary to stabilize the correction of fixed deformities and ensure the maintenance of function.

Case 1.—This forty-nine-year-old housewife developed rheumatoid arthritis four years before she was admitted to the hospital. The disease had remained moderately active since the onset.

At the time of admission to the hospital there were 40 degrees of flexion deformity in both knees. The initial physical survey also revealed slight deformities in the feet, hands, and wrists which were not of functional significance and did not require treatment at that time (Figs. 4 and 5).

It was apparent that this patient could be rehabilitated only by some type of operative procedure, and a decision had to be made as to whether

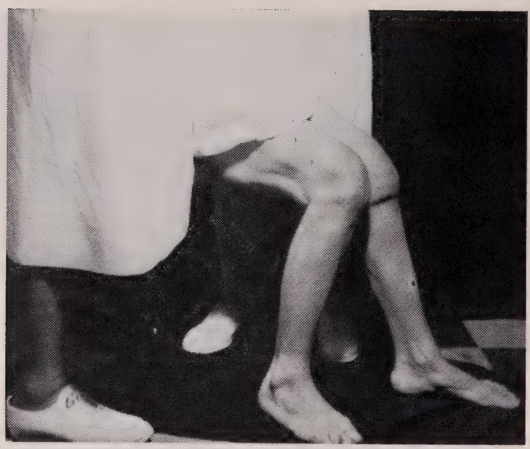


FIG. 4. *Case 1*—The patient attempting to stand prior to operation. Although the right knee extends passively to 140 degrees, when she stands, this knee is held at 110 degrees due to the extreme weakness of the extensor muscles. (*By permission of the Maryland State Medical Journal*)[4]

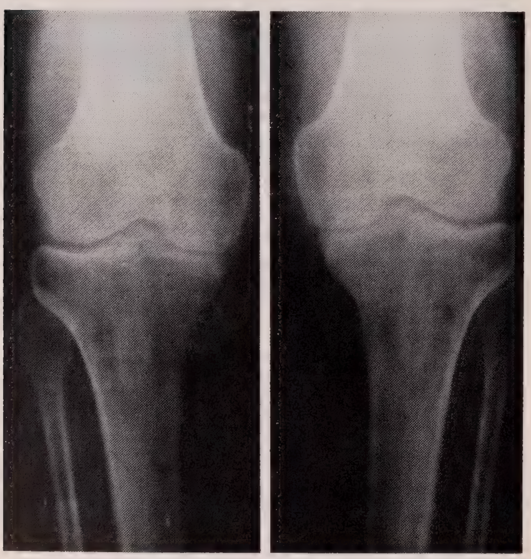


FIG. 5. *Case 1*—Preoperative x-rays of the knees. The bones are markedly osteoporotic, but there is only minimal change in the contours of the articular surfaces.

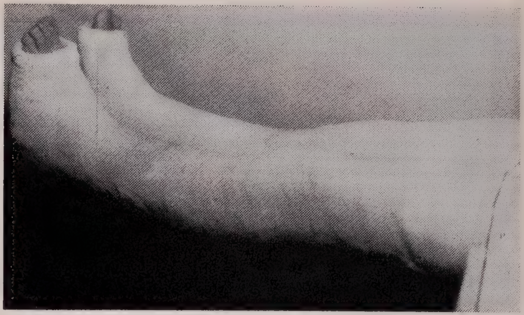


FIG. 6. *Case 1*—The postoperative casts which were applied with the knees in complete extension, the ankles in dorsiflexion, and the feet in weight-bearing position. (*By permission of the Maryland State Medical Journal*)[4]

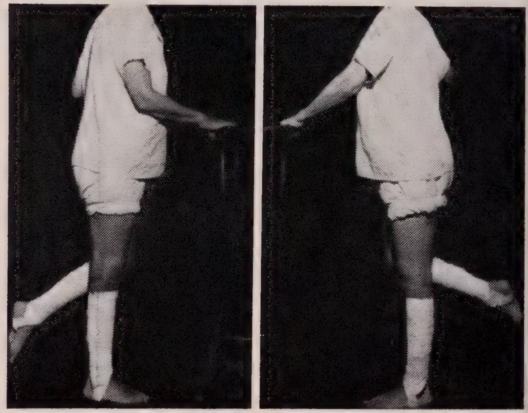


FIG. 7. *Case 1*—Two months after operation. Standing with all of her weight on one foot with the knee, hip, and trunk locked in functional position by active muscular power. (*By permission of the Maryland State Medical Journal*)[4]

to use manipulation under anesthesia or open surgery. Severe flexion contractures of both knees had been present for two and one-half years, but both knees could be flexed to the normal limit, and there did not seem to be very extensive intra-articular or periarticular scar formation. Therefore, there was a possibility that if these knees could be stretched into full extension under anesthesia, satisfactory active motion could be maintained. However, the most important factor in the decision to attempt closed correction of the deformities was the history that the patient had given up any attempt to ambulate soon after the knees became involved. It has been demonstrated that if patients make every effort to remain ambulatory, they will stretch out all of the easily eliminated contractures so that the deformities of the knees of these patients are rigidly fixed, and they usually cannot be corrected except by open operation. On the other hand, if the patient relaxes in a wheelchair from the onset of the disability, in many instances the contractures can be eliminated rather easily by passive stretching under anesthesia.

Therefore, both knees of this patient were manipulated under general anesthesia and stretched into 190 degrees of extension. Casts were applied to immobilize the knees in this position (Fig. 6).

After a week the casts were discarded, and traction was applied to both legs to hold the knees in functional position. Corrective exercises were started immediately after the casts were removed. Ten days later the patient demonstrated that she could hold the knees in the functional position of full extension by active muscle power so that at that time she could be permitted to begin ambulation with her weight supported almost entirely by the attendants and the walker. The number of steps which she was permitted to take at a time was limited to those which could be accomplished with the knees held in functional position. Unlimited activity was not permitted until about ten months after operation.

This patient left the hospital approximately two months after admission. At that time she was able to stand on one foot, bearing all of her weight with the knee locked in full extension and with the trunk and hip in functional position. It is not safe to discharge a patient from intensive observation until this degree of muscular efficiency has been attained (Fig. 7).

The use of traction while at rest in bed was discontinued at the time of discharge from the hospital since by that time the active control of the knees was so good that there seemed to be no danger of recurrence of deformity. In some cases the traction must be continued for many months, and in other cases in which the efficiency of the extensor muscles develops very slowly, braces must be worn for all ambulation for some time so as to prevent the knees from being used in deformed posture.

Three years after the discharge of this patient from the hospital, the exercises for the left knee were discontinued, and the exercises for the right knee were discontinued a year later.

At the time of the last examination, four years after operation, there was a normal and painless range of active and passive motion in the knees, and there was no significant abnormality in any of the other joints. The patient was able to engage in normal activities. Complete functional rehabilitation was accomplished. The systemic rheumatoid arthritis continued to be moderately active throughout the entire period of observation.

Treatment of Severely Deformed Joints

When the treatment of a patient with severe permanent deformity of a major joint is considered, the question always arises as to when would be the most opportune time to attempt the rehabilitation. In the literature the statement frequently is made that rehabilitation should be delayed until the disease is "burned out" and that the deformities should not be treated in the presence of any rheumatoid activity. As a result of this concept, many patients with rheumatoid arthritis are permitted to degenerate into a state of hopeless crippling during years of invalidism so that when, and if, the disease becomes quiescent, the rehabilitation is infinitely more difficult, if not impossible. Experience has proved that it is very unlikely for there to be any exacerbation of the disease in the joints which are operated, but even if this complication should occur, the function which has been restored usually can be maintained by the use of simple measures since it is relatively easy to prevent the development or recurrence of deformities. Of course, it is undesirable to engage in extensive surgical rehabilitation in the presence of markedly acute systemic activity of the disease, but during the relatively brief periods of acute inflammation, nonoperative orthopedic treatment should be applied to hold the line and prevent further functional loss. Therefore, it is possible to state confidently that as far as the level of activity of the systemic rheumatoid arthritis is concerned, deformities should be corrected as soon as the patient is seen in all except the rare case in which there is very acute generalized involvement. In this case only a few weeks delay are indicated to permit an equilibrium to be established by means of intensive systemic treatment.

The severe deformities which develop in the chronic stage of rheumatoid arthritis are the result of irreversible pathologic changes which may involve all of the articular and periarticular tissues with the most severe damage usually occurring in the soft tissues. The pathologic changes are much the same in and around any of the diarthroidal joints. Extensive scar formation may occur in the periarticular tissues so that the structures which must glide in relationship to each other during joint motion become more or less glued together, making normal amplitude of movement impossible. The capsule tends to shorten in length so that the bony framework becomes too long for the soft tissue clothing of the joint. The capsule may also contract in circumference and shrink around the intra-articular portion of the bones. The shrinkage of the capsule results in the loss of intracapsular space so that there no longer is sufficient room within the capsule for the eccentrically articulated bones to swing around the axis of motion during movement of the articulation. The capsule may also adhere to the bones.

All of the soft tissues on the flexor aspect of the joint become contracted, producing permanent flexion deformity. When the knee joint is involved, the biceps femoris muscle and the skin may be 3 to 4 inches too short, and the quadriceps muscle on the extensor side of the joint may become permanently overstretched so that it is too long to function properly. The functional ele-

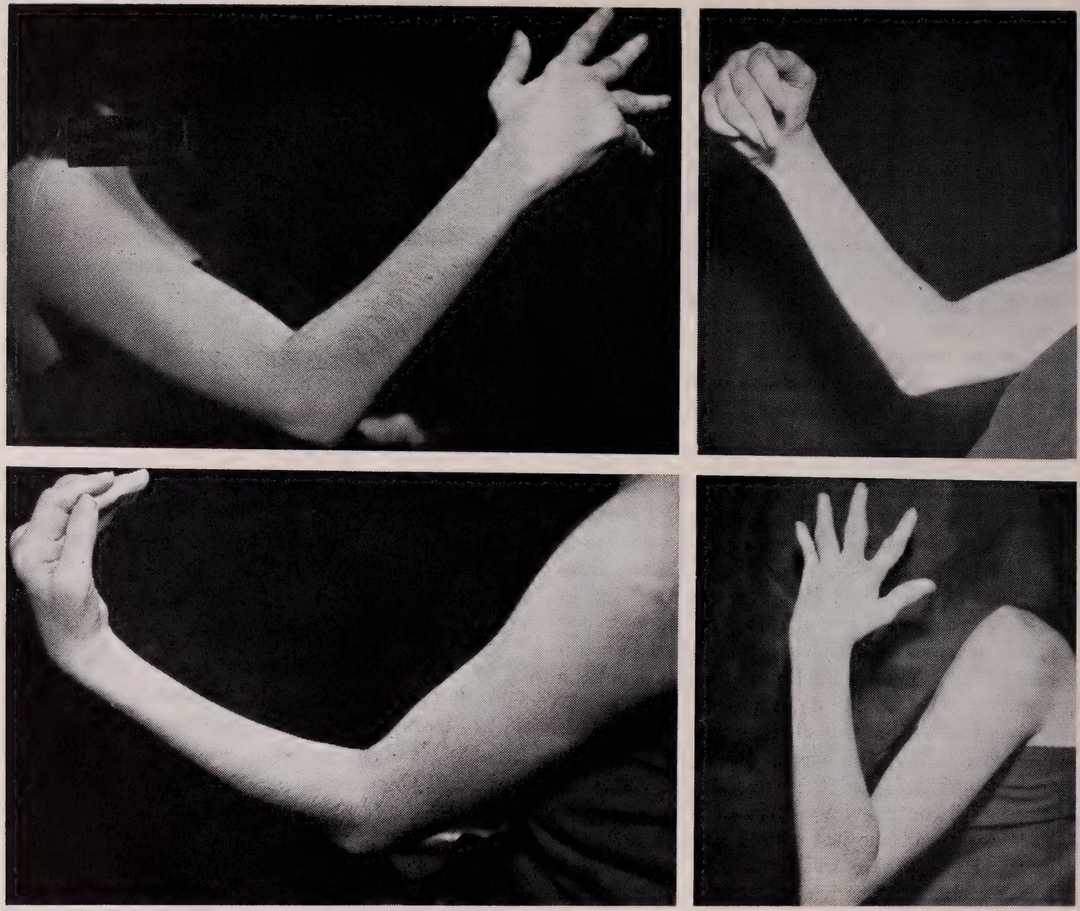


FIG. 8. *Case 2*—Preoperative posture of the wrists and forearms and the range of active motion of the hands.

ments of all of the muscles become adherent to each other and to the adjacent muscles and intermuscular septae. It cannot be expected that these muscles will ever be able to shorten half the length of the muscle belly, as do normal muscles during voluntary contraction.

The hyaline cartilage of the articular surfaces and the subarticular bone usually are involved to some extent, and in some instances the irregularity of the articular surfaces becomes sufficiently severe to interfere with function.

The operation which is done on the knee joint is typical of the reconstructive procedures which are required for the rehabilitation of severely disabled diarthroidal joints. If satisfactory function is to be restored, the operation must correct all of the principal features of the deforming pathology. The contracted tissues on the posterior aspect of the knee must be lengthened by a modification of the Wilson posterior capsulotomy operation[1,2] so that the knee can be brought into full passive extension. The intracapsular causes of impaired active and passive motion in the anterior compartment of the joint must be eliminated by the excision of scar and pannus, the removal of the irregularities of the articular surfaces, and the restoration of adequate intracapsular space. The laxity must be eliminated from the extensor motor apparatus by the displacement of the tubercle of the tibia distally a distance of $^1/_8$ of an inch for each 10 degrees of flexion contracture.[3] This restoration of physiologic tension to the extensor muscles makes it possible for them to work at maximum advantage so that even though they are permanently damaged by intramuscular scar, they are able to function sufficiently well to move the joint into the weight-bearing position of full extension.

In most instances all three phases of this operation must be done, but in an occasional case one or even two of the steps can be omitted.

In all except the rare case in which the bony degeneration is so severe that a stable, painless joint could not be expected to result from any

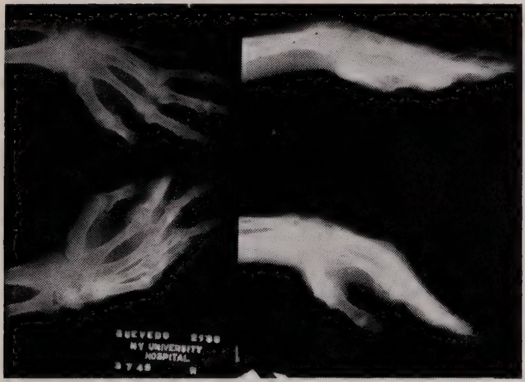


Fig. 9. *Case 2*—Preoperative x-rays of the wrists and the distal radioulnar joints.

procedure except fusion, the objective of the operation is a knee which can be moved painlessly through at least the minimal range necessary for ambulation. This objective is achieved in a high percentage of the cases.

If the plan of the reconstruction operation on any joint makes provision for adequately correcting the deforming pathology, the end result is dependent, to a large extent, on two factors: (1) the personality of the patient, as shown by his ability to cooperate in the postoperative rehabilitation regimen, and (2) the effectiveness of the systemic therapy. When adequate surgery is performed on the deformed joints, the severity of the preoperative pathology is of minor importance as far as the functional end result is concerned.

As an example of the application of the principles which have been discussed, a case is reported in which a long course of treatment was necessary before the objective of the rehabilitation program could be achieved. Reconstruction operations were required on ten of her major joints before this patient was ready to engage in gainful employment.

Case 2.—This twenty-six year-old female had rheumatoid arthritis from the age of six. Severe permanent deformity developed in most of her peripheral joints. Cortisone treatment has been used since 1950 with good control of the rheumatoid arthritis except for severe exacerbations whenever it has been discontinued.

The restoration of ambulation usually is the first objective of the rehabilitation program, but this patient is an art student so the hands, wrists, and forearms were reconstructed first so that she could carry on with her art work during the long period of lower extremity treatment.

Prior to operation the forearms were ankylosed in neutral position, the wrists were very nearly fixed in marked flexion, and there was marked limitation of motion of the fingers of both hands (Figs. 8 and 9). In 1949 fusion operations were done on both wrists to fix them in functional position, and the distal end of the ulna was excised in both forearms to restore motion in the distal radioulnar joints. The postoperative casts were applied in such a way as to avoid immobilization of the joints of the hands. Elastic traction was applied to the fingers and thumbs to stretch the joints into functional position, and the patient did corrective exercises for the joints of the hands six times a day.

As a result of this treatment the full range of active rotation of the left forearm was restored. Rotation was not restored to the right forearm by this operation because the proximal radioulnar joint

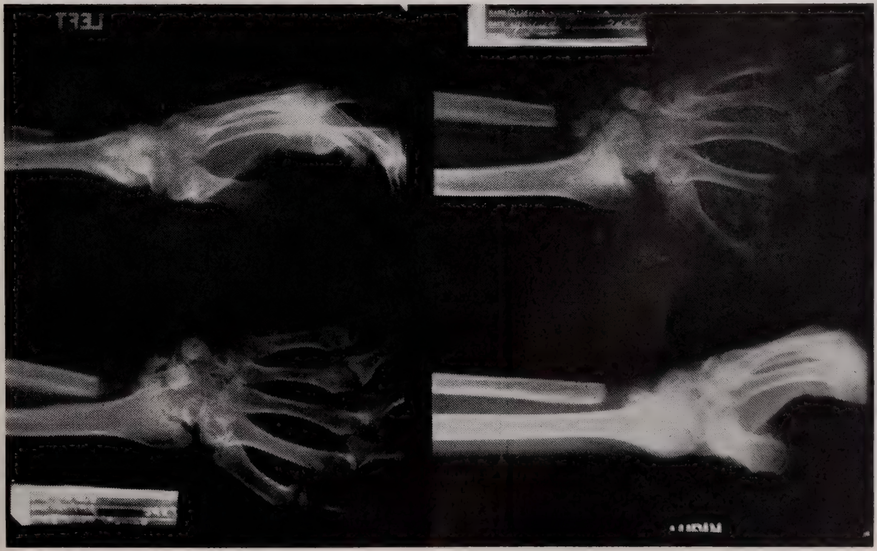


Fig. 10. *Case 2*—Postoperative x-rays. The wrists are fused in functional position, and the distal end of the ulna has been excised.

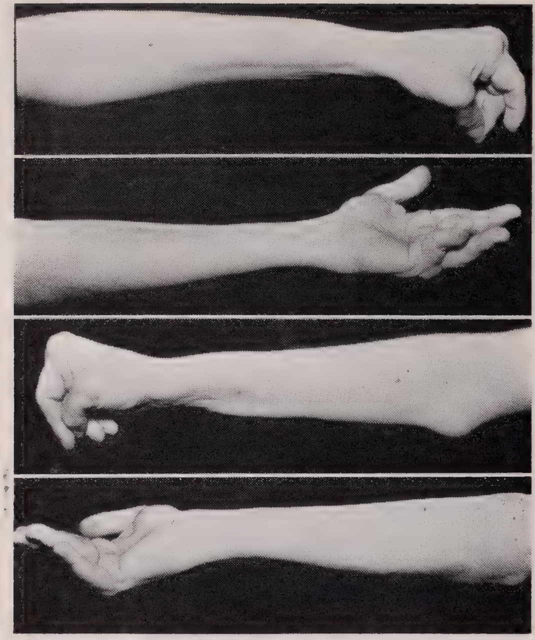


Fig. 11. *Case 2*—Six years after operation, showing the posture of the wrists and the range of active motion of the forearms and hands.

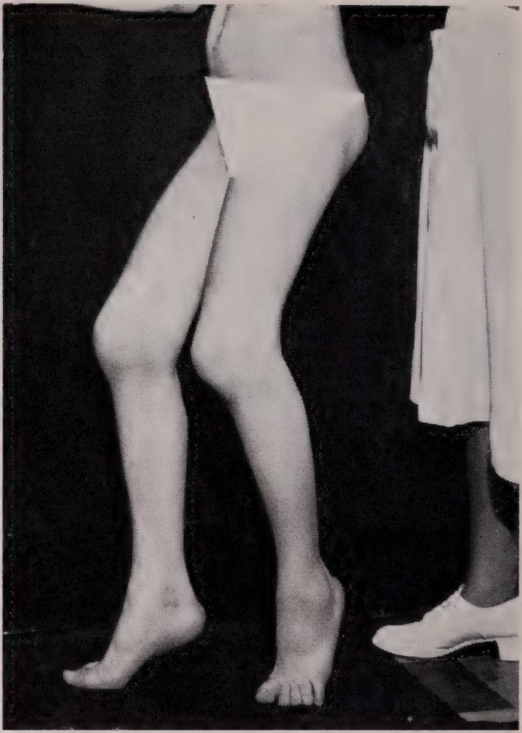


Fig. 12. *Case 2*—Preoperative posture of the lower extremities.

was also ankylosed on this side (Figs. 10 and 11). A very satisfactory range of motion was restored to the joints of both hands; the patient eventually developed the ability to extend the fingers and thumbs through over 50 per cent of the normal range and to bring the tip of each of her fingers to the tip of the thumb. The functional efficiency which was present when the corrective exercises were discon-

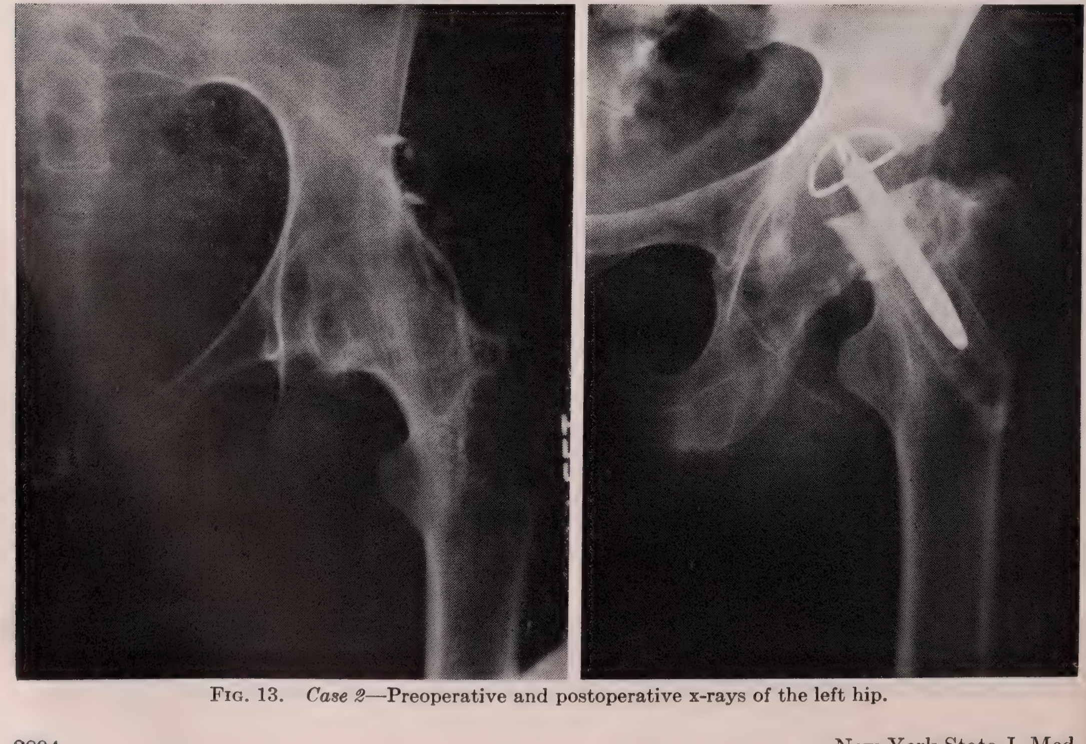
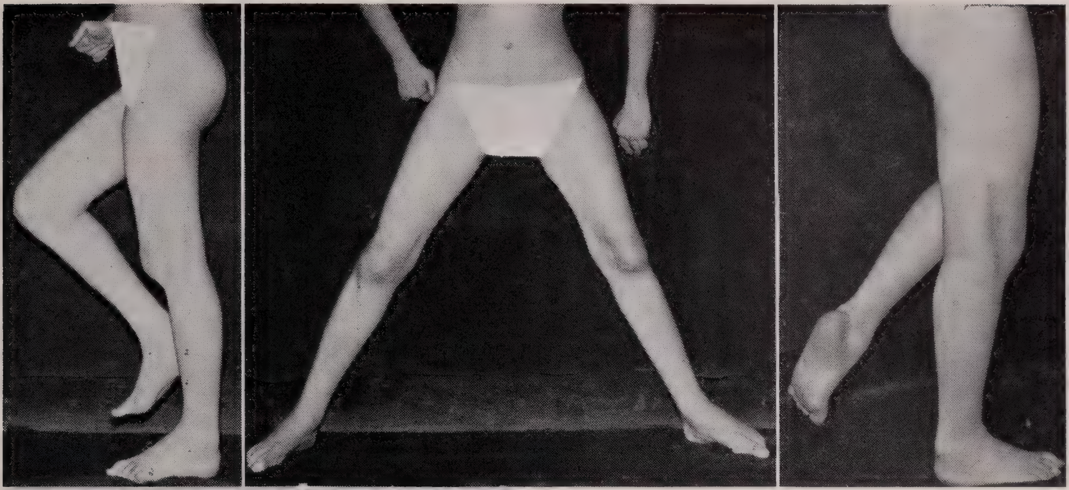


Fig. 13. *Case 2*—Preoperative and postoperative x-rays of the left hip.



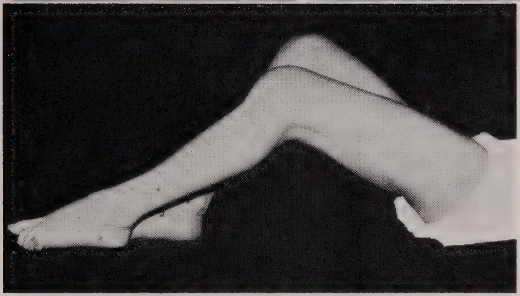


FIG. 14. *Case 2*—Range of flexion of the knees and the weight-bearing posture of the knees and hips, four years after the knee operations and one year after the operation on the left hip.

tinued at four months after operation has persisted up to the present.

In 1951 the reconstruction of the lower extremities was started. Prior to operation, the left hip was solidly ankylosed in flexion-adduction deformity. There were about 50 degrees of fixed flexion deformity in both knees with about 20 degrees of movement in the left knee and about 35 degrees of movement in the right knee (Fig. 12). There was marked rough crepitation on motion of both knees. Both ankles were contracted into extreme equinus deformity, and there were only a few degrees of motion in either ankle. The x-rays of the knees revealed marked narrowing of the intra-articular space. The condyles of the left femur had become wedge shaped as the result of the pressure of the head of the tibia against the osteoporotic bone of the posterior half of the articular surface of the femur. The outline of the articular surfaces of all of the bones of both knees was irregular.

Since the correction of the deformity of one joint of an extremity is of no value unless the extremity can be used subsequently with all of the joints in functional position, it was necessary in this case to operate both ankles, both knees, and the left hip.

The first operation was a posterior capsulotomy and lengthening of the tendo achillis of the right ankle to bring the right foot into functional position.

A week later the deformity of the right knee was corrected by the three-phase reconstruction operation. In this knee the anterior compartment of the joint was found to be obliterated, with the loss of all intracapsular space. With the knee in full extension the patellar tendon and the quadriceps muscle were found to be much too lax; therefore,

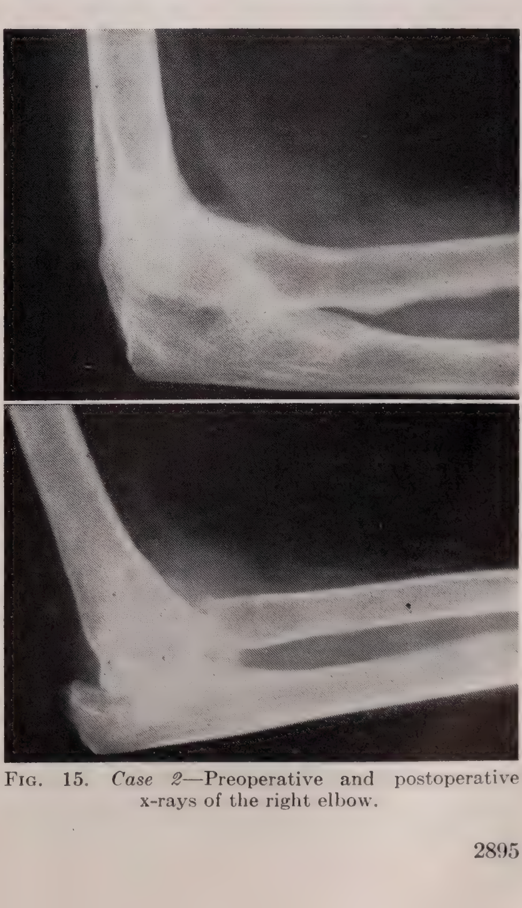


FIG. 15. *Case 2*—Preoperative and postoperative x-rays of the right elbow.

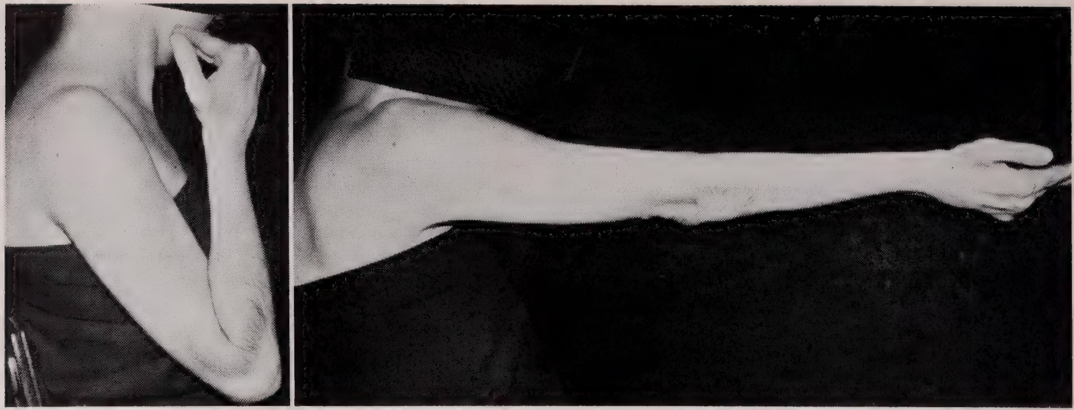


Fig. 16. *Case 2*—Range of active motion of right elbow one year after arthroplasty operation.

it was necessary to move the tubercle of the tibia distally a distance of $^3/_4$ of an inch to restore physiologic tension to the extensor motor apparatus.

After the rehabilitation of the right lower extremity, the flexion deformities of the left ankle, knee, and hip produced considerable inequality in the functional length of the lower extremities. Hence, it was necessary for the patient to wear a 3-inch elevation on the left shoe so that when she walked, the right hip, knee, and ankle could be brought into normal weight-bearing position.

Similar operations were done on the left ankle and knee eleven months later. It was necessary to reshape the condyles of the left femur because so much bony erosion had occurred that motion through a functionally useful range would have been impossible unless normal contour was restored to the articular surfaces of this joint. Since only the femur was reshaped and the opposing articular surfaces of the patella and tibia were not disturbed, there was no danger of ankylosis due to fusing of the bones, and it was not necessary to interpose any membrane.

In 1953 a Judet arthroplasty using an acrylic prosthesis was done on the left hip (Fig. 13).

Four months after the hip operation the patient discarded her crutches for the first time in seven years. The functional length of the lower extremities is now equal. Since a few months after the operations she has had 110 degrees of active and passive motion in the right knee, 80 degrees of active and passive motion in the left knee, and about 85 per cent of the normal range of active and passive motion in the left hip. There has been no change in the functional efficiency of the knees or the left hip since that time, and there have not been significant symptoms in any of these joints (Fig. 14).

After each operation the patient did corrective exercises four to six times a day, concentrating on the rehabilitation of the muscles which stabilize the joint in functional position. Within a few months after each of these operations sufficient muscular endurance developed to permit the exercise treatment to be reduced to one session a day. It has been necessary for the patient to continue the exercises for the knees and the left hip once a day up to the present.

As the last step in the surgical rehabilitation of this patient a fascia lata arthroplasty was done on the right elbow and the proximal radioulnar joint of the right forearm. The elbow was ankylosed at 100 degrees prior to this operation, and the forearm was ankylosed in neutral rotation. The corrective exercises could be discontinued entirely at two months after operation; an essentially normal range of active and passive motion of the elbow and rotation of the forearm had been developed by that time. This range of motion has been maintained during the year which has elapsed since this operation (Figs. 15 and 16).

Conclusions

The soft tissue changes in and around the joint are the principal cause of the deformities which occur in rheumatoid arthritis. In most instances the pathologic changes in the cartilaginous and bony elements of the joint are not an important cause of functional disability.

The deformities can be prevented or corrected in a high percentage of cases if:

1. Treatment is applied which is appropriate to the pathologic changes which are present.
2. The systemic therapy is effective.
3. The patient is willing and able to cooperate in the postoperative rehabilitation regimen.

30 East 60th Street

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Studies of the Physiology of the Dumping Syndrome

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THE metabolic defects which have been observed in the gastrectomized patient may be fundamentally related to several factors which include (1) severe dumping symptoms, (2) inadequate dietary intake, and (3) defective fat and nitrogen absorption. It is generally recognized that the dumping or postgastrectomy syndrome is the outstanding complication associated with substantial partial or total surgical removal of the stomach. Clinically this syndrome has its onset ten to fifteen minutes after the ingestion of a meal and is characterized by abdominal fullness and distention followed by tachycardia, pallor, tachypnea, weakness, sweating, and in severe instances syncope.[1-10]

The studies reported here are a continuation of previously reported work on gastrectomized patients[11] and were designed to define further the mechanism of dumping symptoms and to assess whether inadequate food intake and defective fat and nitrogen absorption were major factors contributing to the malnutrition which is frequently observed following gastrectomy. The results of these studies confirm previous reports[12,13] that the symptoms occurring during the dumping syndrome are associated with an acute decrease in circulating blood volume resulting from a shift of fluid into the jejunal lumen. The acute drop in blood volume occurs in conjunction with a decrease in blood pressure and electrocardiographic changes consisting of tachycardia, decrease in the height of the T wave, and occasionally the development of a U wave. Furthermore, it was apparent that carbohydrate substances or hypertonic solutions were more likely to trigger these changes than an equal moiety of ingested protein. A survey of the caloric intake in 60 gastrectomized patients revealed that a majority were on an inadequate dietary intake which in most instances was directly the result of the patient's attempt to avoid dumping symptoms. The defect in fat and nitrogen absorption was additive in contributing to the malnutrition which was observed in this group of patients.

Cardiovascular and Blood Volume Alterations During the Dumping Episode

The experiments carried out by us on patients were designed to study the alterations in blood volume, extracellular fluid, and blood pressure following the ingestion of various foodstuffs. Simultaneous electrocardiographic alterations were also measured. The changes in these components were then correlated with the clinical signs and symptoms in the patient. The meals utilized to precipitate these changes consisted of one of the following: (1) hypertonic glucose, (2) carbohydrate given in the form of corn starch or cooked potatoes, (3) protein given in the form of beefsteak or as a powdered commercial preparation, and (4) fat given in the form of vegetable oil or a commercial homogenized preparation. The blood volume was measured by Evans Blue dye or I^{131}-tagged albumin. The changes in blood volume during the dumping episode were calculated by the deviation in dye concentration or counts per minute of I^{131} as it deviated from the control disappearance slope.[14,15] All studies were done after a two-hour stabilization period during which control measurements were made. Chemical analysis and collection of the specimens were carried out according to methods previously described.[12,13]

Figure 1 shows the changes in plasma volume, blood pressure, and the electrocardiogram which occurred in a totally gastrectomized patient pre-

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* By invitation.

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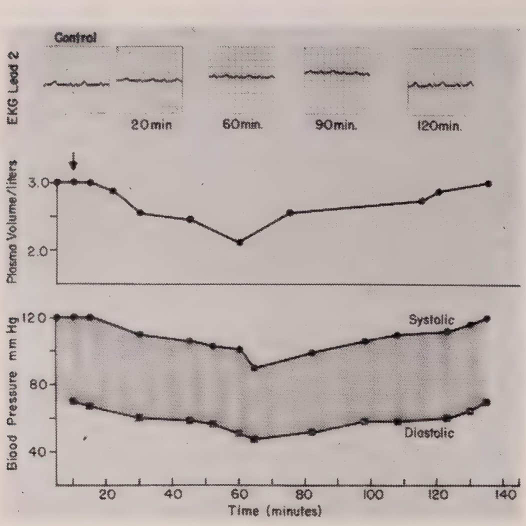

FIG. 1. Changes in blood pressure, plasma volume, and electrocardiogram during the control period and following the administration of 100 Gm. of starch. The time at which the starch was ingested is indicated by the arrow.

vious to and during a dumping episode produced by 100 Gm. of uncooked corn starch. In this patient the decrease in blood volume was evident initially within twenty minutes after the ingestion of the starch. Coincident to the decrease in plasma volume there was an elevation of the hematocrit, and it was noted that the patient had electrocardiographic changes which consisted mainly of a decrease in the height of the T wave and an increased cardiac rate. The coincident decrease in both systolic and diastolic blood pressure is also shown in this figure. The objective changes in plasma volume, electrocardiogram, and blood pressure correlated with the subjective symptoms of dumping experienced by this patient. Similar measurements relating blood volume and electrocardiographic changes with clinical symptomatology and blood pressure have been noted in 60 experiments on 33 patients.

An elevation of blood pressure during the interval of dumping symptoms has been reported and logically would be expected if the dumping syndrome were entirely sympathetic in origin. In the patients studied by us, however, we have more often observed a decrease in both systolic and diastolic blood pressure during the dumping interval. This is illustrated in Fig. 2, which shows the changes in systolic pressure during the dumping episode as it deviated from the control value. In the 20 patients shown here only one patient had an elevation of systolic blood pressure; one patient had an unchanged blood pressure, and 18 patients showed a decrease in systolic blood pressure ranging between 5 and 50 mm. of mercury. The measured decrease in blood pressures we have presumed to be the result of acute changes in circulating fluid volume. Conceivably this alteration may in turn result in sympathetic stimulation as a result of pressoreceptor mechanisms.

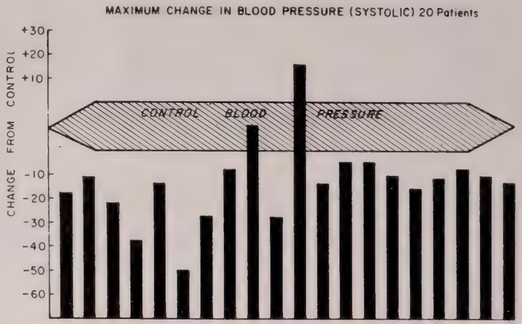

FIG. 2. Maximum decrease in systolic blood pressure (mm. Hg) during the dumping syndrome as measured in 20 patients. The cross-hatched area represents the control blood pressure, and the solid bars represent the maximum change in blood pressure during the dumping episode.

TABLE I.—COMPARISON OF CHANGE IN SUCROSE OR INULIN SPACE AND BLOOD VOLUME IN 3 PATIENTS ONE HOUR AFTER ADMINISTRATION OF GLUCOSE

	Control	After Glucose (100 Cc. of 50%)
Patient M.		
Sucrose space (L.)	16.2	15.3
Blood volume (L.)	5.3	4.8
Patient C.		
Inulin space (L.)	13.8	12.8
Blood volume (L.)	4.6	3.9
Patient F.		
Inulin space (L.)	11.9	10.7
Blood volume (L.)	5.3	4.6

Alteration in the Extracellular Fluid

Three patients have been studied by us to define whether the alterations in total extracellular fluid were equivalent to the changes measured in the plasma volume during the dumping episode. These experiments utilized inulin or sucrose as an index of a change in extracellular fluid. Since preliminary studies indicated that neither inulin nor sucrose diffused into the gastrointestinal fluids, it was possible to estimate the changes in that moiety of extracellular fluid into which these substances diffuse according to methods described elsewhere.[16] The changes in the inulin and sucrose space as compared to the alterations

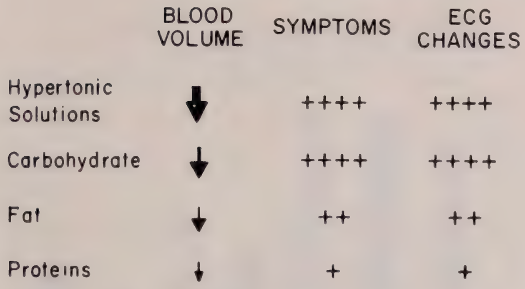

Fig. 3. The relative effectiveness of hypertonic solutions, carbohydrate, fat, and protein in precipitating acute alterations in the blood volume, electrocardiogram, and symptoms in gastrectomized patients.

in plasma volume during the dumping syndrome are illustrated in Table I. As shown in these three patients, one hour after the oral administration of minimal amounts of glucose (100 cc. of 50 per cent glucose), there was a greater decrease in the inulin or sucrose space than in the circulating blood volume per se. Quantitatively the decrease in the extracellular inulin or sucrose space in the three patients studied was 300 to 500 cc. greater than the simultaneously measured decrease in blood volume. The magnitude of the extracellular fluid change and the coincident decrease in blood pressure in gastrectomized patients following the ingestion of hypertonic solutions emphasize further that intrajejunal shifts of fluid may underlie the cardiovascular alterations associated with the dumping syndrome.

Effects of Protein and Fat

Although the initial studies carried out by us were performed with hypertonic solutions or starch, it is generally recognized that the usual ingested meal is not hypertonic to the plasma and is composed of fat and protein as well as carbohydrate. For this reason it was pertinent to study the alterations in blood volume and electrocardiograms occurring in gastrectomized patients following a routine hospital meal and to quantitate the observed changes following various types of foodstuffs such as carbohydrate, protein, and fat. The results of these studies, which have been published elsewhere,[17] are summarized in Fig. 3. Essentially, it was found that carbohydrate given in the form of uncooked corn starch or cooked potatoes resulted in a marked decrease in blood volume, whereas a protein meal given in the form of steak or chopped meat decreased the blood volume by only minimal amounts. Following the ingestion of a meal composed of starch or potatoes, the signs and symptoms of dumping and electrocardiographic changes were quantitatively similar to those observed following the ingestion of hypertonic solutions, whereas the administration of similar amounts of protein did not result in equivalent symptoms. In the patients studied by us the ingestion of fat has given inconstant results. When given in the form of vegetable oil, we have not observed objective or subjective changes; however, the administration of several commercial fat supplements frequently led to symptoms which were similar to but less severe than those noted following carbohydrate substances.

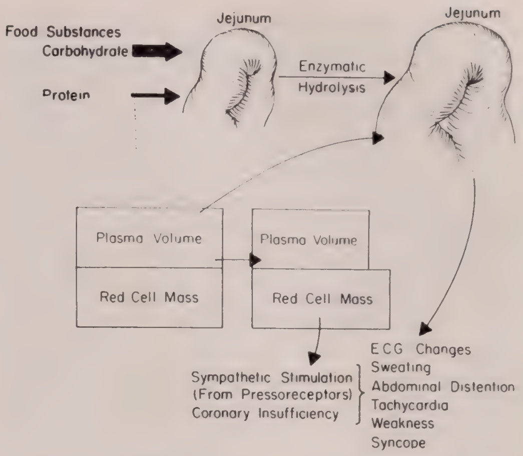

Fig. 4. Schematic illustration of the mechanisms contributing to the signs and symptoms of the dumping syndrome in gastrectomized patients.

The finding that starch produces alterations in gastrectomized patients which are similar to those produced by hypertonic glucose infers that the enzymatic hydrolysis of carbohydrate proceeds at a rapid rate in the jejunum. In an attempt to estimate this facet, measurements of the blood glucose were made following equal quantities of hypertonic glucose and starch given separately. In these experiments the blood glucose concentration curves following the ingestion of either substance could be superimposed. Although these measurements were only a rough index of the rate of hydrolysis of carbohydrate, they imply that the breakdown of carbohydrate substances proceeds at a very rapid rate in the jejunum and may, therefore, have the same effect as hypertonic glucose.

The observations outlined here form the basis for our current working hypothesis which attempts to explain the mechanisms whereby blood volume and blood pressure alterations, electrocardiographic changes, and the dumping symptoms may occur simultaneously. This is illustrated in Fig. 4. Following the entry of foodstuffs directly into the jejunum, there occurs a rapid hydrolysis of the food substance with a subsequent breakdown of larger molecular components exerting little osmotic force into smaller molecular particles with a corresponding increase in osmolarity. As a result of the increased osmolarity within the jejunum, there occurs a shift of fluid from the circulating blood volume and interstitial fluid in an attempt to maintain the jejunal contents isotonic with the plasma. Secondary to the resulting acute drop in circulating blood volume and decreased blood pressure, there is a compensatory sympathetic response emanating from pressoreceptors located mainly in the carotid sinus, aortic arch, and in juxtaposition to the mesenteric vessels.[18,19] The electrocardiographic alterations, although not specific, could be related to the release of adrenalin or conceivably to coronary insufficiency.[20] Although similar electrocardiographic changes have been noted with hypokalemia, it would appear from previously published data[12] that the changes associated with the dumping syndrome are not related to the changes in plasma potassium since they did not coincide in time, and similar electrocardiographic changes were noted following hypertonic saline administration, although no change in plasma potassium was noted. Further evidence that decreased potassium and electrocardiographic changes were not related was furnished by our observation that patients with intact stomachs given glucose showed no electrocardiographic changes although there was a drop in plasma potassium and phosphate within sixty to one hundred and twenty minutes of glucose administration. We have assumed, therefore, that the decrease in potassium and phosphate in the patients studied by us is secondary to deposition of glycogen and is not causally related to dumping symptoms.[11]

The finding that carbohydrate substances produced greater alterations in the blood volume than protein and that the effects of fat were dependent on the form in which it was given suggested to us that several factors should be given cognizance in the schematic outline illustrated in Fig. 4. The most important factor which we have considered is the rate at which enzymatic hydrolysis occurs and the subsequent increase in osmolarity which would determine the rate and magnitude of fluid shifting into the jejunum, thereby decreasing the extracellular fluid volume. It is possible that carbohydrate is digested faster than an equal amount of protein and thus is more effective in precipitating dumping symptoms. Conceivably the physical form of the food ingested may also play an important role. This consideration may explain the discrepancy we have found between fat given as vegetable oil and that given as a homogenized suspension. The total intake of food at a given interval must also be given special consideration since the amount of fluid pulled into the jejunum would be theoretically related to the total change in osmolarity regardless of the type of foodstuff ingested.

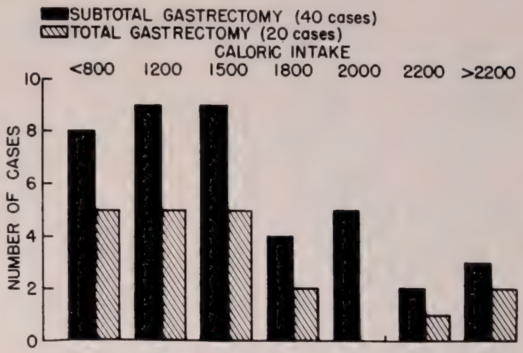

FIG. 5. A summary of average caloric intakes in 60 patients. The solid bars represent the average caloric intake in patients with subtotal gastrectomy. The cross-hatched bars represent the average caloric intake in patients with total gastrectomy.

Caloric Intake

One of the outstanding features in the postoperative course of the gastrectomized patient is his failure to ingest an adequate caloric intake. This finding is summarized in Fig. 5, which shows the average caloric intake in patients studied in the gastric clinic. As shown here, the majority of patients had a total intake of less than 1,800 calories per day; only eight patients had caloric intakes greater than 2,200 calories per day. Inquiries as to the reason for this failure to ingest adequate food revealed that it was primarily on the basis of the patient's attempt to avoid distressing dumping symptoms and hence a voluntary limit to the amount of food ingested. In many of the patients studied this resulted in a state of severe malnutrition.

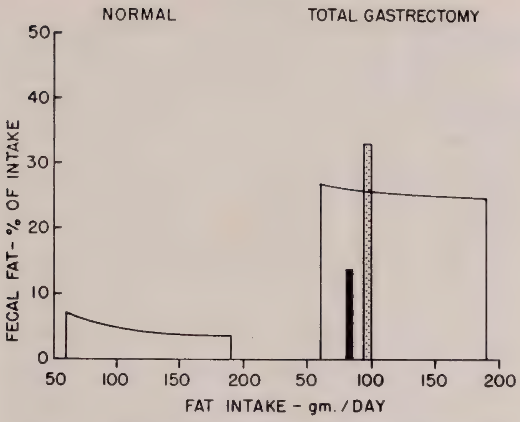

FIG. 6. Fecal fat excretion (per cent of ingested fat) in gastrectomized and normal patients. The enclosed areas represent the average fecal fat excretion in normal and gastrectomized patients. The solid bar represents the smallest percentage fat excretion which was measured in the gastrectomized group; the dotted bar represents the largest measured fat excretion.

Fat and Nitrogen Absorption

The defect in fat absorption which has been reported in the gastrectomized patient, although relatively small, becomes even more significant if total caloric intake is low. Figure 6 summarizes the data of Schwartz *et al.*[21] in a group of gastrectomized patients which confirm the observations of others that there is a definite defect in fat absorption. In this illustration the average fecal fat excretion is shown by the enclosed area and is plotted as the percentage of the fat intake which is excreted. The fecal excretion of fat is compared in gastrectomized patients and patients with intact stomachs given an equal amount of caloric fat. The solid bar and dotted bar represent the smallest and greatest fecal fat excretion in the gastrectomized patients. As shown here, the fat lost in the stool by the gastrectomized group ranges between 25 and 27 per cent of that ingested, whereas the excretion in normal patients ranges between 5 and 7 per cent of the ingested amount. Similar studies of nitrogen balance in the gastrectomized patient have also shown that there is a small but significant defect in nitrogen absorption. Although our studies do not clarify the mechanism of defective absorption, it is certain that this defect along with an inadequate caloric intake and distressing dumping symptoms may overwhelm the gastrectomized patient who is frequently left a severe "nutritional cripple."

Dietary Treatment

As a result of the studies outlined here, it occurred to us that dumping symptoms might be lessened if the patient were placed on a suitable diet. In planning this diet advantage was taken of our observation that carbohydrate substances were more likely to precipitate dumping symptoms than protein. Accordingly, the regimen currently in use is designed to consider the following factors: (1) type of foodstuffs ingested, (2) total quantity given at any time, (3) daily caloric requirements, and (4) the physical form of the food ingested. Carbohydrate substances have been limited, and the diet is essentially high in protein with a total caloric intake ranging between 2,000 and 3,500 calories. Feedings are given at two to three-hour intervals. For practical application dietary supplements have been liberally utilized.* Measurements of electrocardiographic changes and weight gain in these patients were used as objective criteria for evaluation. Preliminary results indicate that the patients who were given this diet gained weight and showed symptomatic improvement. In addition, it was noted that minimal electrocardiographic changes were seen when the patients were placed on the high-protein feeding regimen. It should be emphasized, however, that this dietary regimen affords only symptomatic improvement and an opportunity for the patient to gain weight; it does not completely alleviate the problems encountered by the gastrectomized patient.

Summary

The gastrectomized patients studied by us have shown at least three major metabolic defects: (1) severe dumping symptoms, (2) inadequate caloric intake, and (3) defective fat and nitrogen absorption. Experimental evidence has been presented which indicates that the dumping symptoms are associated with an acute decrease in circulating blood volume and extracellular fluid, a decrease in blood pressure, and electrocardiographic changes consistent with myocardial ischemia. It has been postulated that the acute alterations in blood volume and electrocardiographic changes are triggered by rapid enzymatic hydrolysis of foodstuffs within the jejunal lumen and a subsequent breakdown of larger molecular

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* The dietary supplements have included commercial protein preparations for which we are indebted to the Upjohn Company who have given us generous supplies.

particles into their smaller molecular components with a corresponding increase in osmolarity. As a result of the increased osmolarity, extracellular fluid is shifted into the jejunal lumen in an attempt to maintain the jejunal contents isotonic with the plasma. Carbohydrate substances were found to have a greater effect than protein in triggering this chain of reactions. A dietary regimen has been proposed which is based on these findings and consists essentially of a high-protein, low-carbohydrate diet given at frequent feeding intervals.

The patients studied were referred to us by Dr. George T. Pack and Dr. Gordon P. McNeer of the Gastric Service, Department of Surgery, Memorial Center. We wish to acknowledge their active cooperation in this study. In addition, Dr. John Madden, Dr. John Beal, and Dr. David Habif have also referred patients to us for study and have contributed greatly to this program. We are indebted to Dr. John M. Walker for his cooperation and helpful suggestions.

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ANNOUNCEMENT

SCIENTIFIC EXHIBITS

1956 ANNUAL CONVENTION
MEDICAL SOCIETY OF THE STATE OF NEW YORK

Applications for space for the scientific exhibits should be made directly to the Chairman of the Subcommittee on Scientific Exhibits of the Convention Committee:

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Group I: Awards in Group I are made for exhibits of individual investigation, which are judged on the basis of originality and excellence of presentation.

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Atypical Symptoms with Underlying Urologic Disease

MONROE E. GREENBERGER, M.D., MORRIS TURELL, M.D.,
AND ABRAHAM ORRON, M.D., NEW YORK CITY

(*From the Sea View and French Hospitals*)

IN THIS brief presentation no pretense is made of contributing anything new to the urologic literature. It is an attempt to re-emphasize to the general medical profession the paramount importance of a urologic survey as an integral component in the pattern of a general workup. The absence of symptoms obviously related to the genitourinary tract is by no means a contraindication to a urologic investigation, which in obscure cases has so often proved gratifying. The advent of new diagnostic means and the elaboration of technics in urology in recent years have no doubt made the nonurologist more prone to use them.

We feel, however, that further attempts to encourage this trend would be welcome. With that in mind this presentation has been prepared.

The literature is replete with reports of urologic disease in which the presenting symptoms were not directly related to the genitourinary tract. Gastrointestinal manifestations are a frequent cause of misdiagnosis. The physiologic interrelation of the urinary tract and the gastrointestinal tract by way of the celiac and hypogastric plexuses explains the gastrointestinal manifestations of renal and ureteral pathologic changes seen in some cases of urinary tract disease. Atkinson[1] reported a case of a sixty-four-year-old woman with longstanding abdominal pain believed to be chronic colitis and treated accordingly. Urologic examination at a later date disclosed the true nature of the illness to be calculous pyonephrosis. Nephrectomy and subsequent pathologic examination of the specimen revealed a squamous cell carcinoma of the renal pelvis. Patients with renal tumors may have gastric symptoms alone, consisting of nausea and vomiting of varying degrees and secondary weight loss, lassitude, and anemia. It is well known that the triad of pain, tumor, and hematuria is a late manifestation of parenchymal tumors of the kidney.

A number of papers have been written on obscure fever caused by carcinoma of the kidney. It is not possible to establish just how many have been observed and not reported. According to Alyea,[2] in acute prostatitis of hematogenous origin genitourinary symptoms may be scant or absent. The onset will be typical of any severe generalized infection: generalized body aching and debility, anorexia, vomiting, chills, and fever.

Metastatic lesions from genitourinary new growths are often responsible for the presenting symptoms. We recall a patient who consulted his physician for a small nodule on the scalp believed to represent a sebaceous cyst. Examination of the excised tissue disclosed metastatic prostatic cancer. Another who complained of persistent cough was found to have multiple pulmonary metastases from a left "hypernephroma," otherwise unsuspected.

Hypertension as a symptom of urinary tract disease must be borne in mind, and all available means of diagnosis should be employed to rule it out.

It must be stressed once more that gastrointestinal disturbances, fever, weight loss, anemia, and hypertension of obscure origin are potential manifestations of urologic disease, and appropriate means of diagnosis are mandatory. To illustrate some of the above, only pertinent data in the following cases will be presented.

Case Reports

CASE 1.—S. B., a thirty-two-year-old, rather obese, male, was seized with what looked like a typical biliary colic. The pain was localized to the right upper quadrant. A gallbladder series was negative; however, a preliminary roentgenogram of the abdomen revealed a large shadow suggestive of a calculus in the lower left ureter. An intravenous urogram revealed a nonfunctioning left kidney.

Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Urology, May 13, 1955.

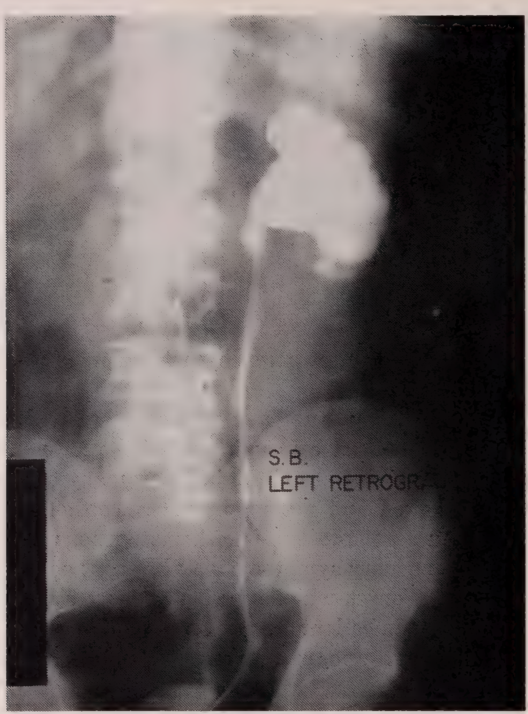

Fig. 1. *Case 1*—Left retrograde pyelogram following ureterolithotomy.

On cystoscopic examination no unusual changes were observed in the bladder. A catheter passed up the left ureter encountered obstruction at the level of the shadow noted previously. This could not be bypassed. The patient was unable to recall any episode of discomfort in the left flank or the left side of the abdomen. The status of the left kidney was unknown, and a left ureterolithotomy was performed with the hope that kidney function would return. This did not occur, and subsequent study revealed a giant hydronephrosis (Fig. 1).

This case illustrates the occurrence of ureteral obstruction manifested by upper quadrant pain on the contralateral side. A carefully observed plain film of the abdomen and a urinalysis led to the diagnosis.

Case 2.—J. M., age thirty-eight, a married female, experienced sharp lower left quadrant pain, three and one-half months before consultation, unaccompanied by lower urinary symptoms or flank pain. Two days prior to consultation the pain recurred, this time with gross hematuria. A plain film disclosed a large shadow in the region of the lower left ureter. Intravenous urogram revealed normal upper right tract. The left kidney showed moderate hydronephrosis and hydroureter with an obstructing calculus in the lower third of the ureter (Fig. 2 A and B). A left ureterolithotomy was performed; the calculus measured 3 cm. in length and 1.5 cm. in width. Recovery was uneventful. Follow-up six-minute intravenous urogram showed improvement in function (Fig. 2C).

The following case is presented to illustrate a point which has elicited dubious grimaces from some physicians, namely, the painless passage of a calculus.

Case 3.—A. E., a sixty-two-year-old, white male, was known to have passed small calculi periodically for a number of years. In February, 1952, he came to consultation with an extreme degree of abdominal distention. There was no pain. Urinalysis was normal.

The nature of the distention was not clear. On the basis of the history a plain film was taken which disclosed a calculus at the lower end of the left ureter. The distention gradually subsided, and the calculus was passed three months later. In the

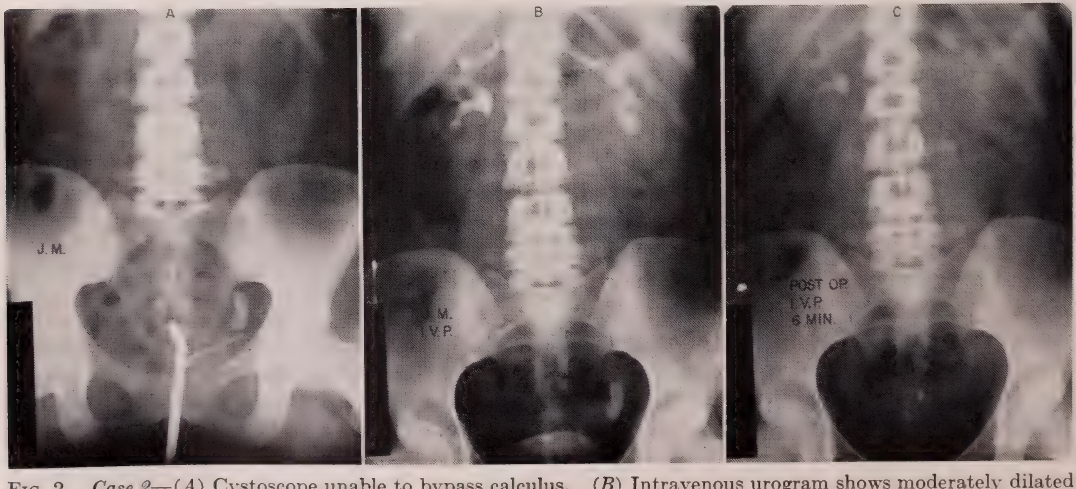

Fig. 2. *Case 2*—(*A*) Cystoscope unable to bypass calculus. (*B*) Intravenous urogram shows moderately dilated left kidney. (*C*) Postoperative intravenous urogram shows improvement.

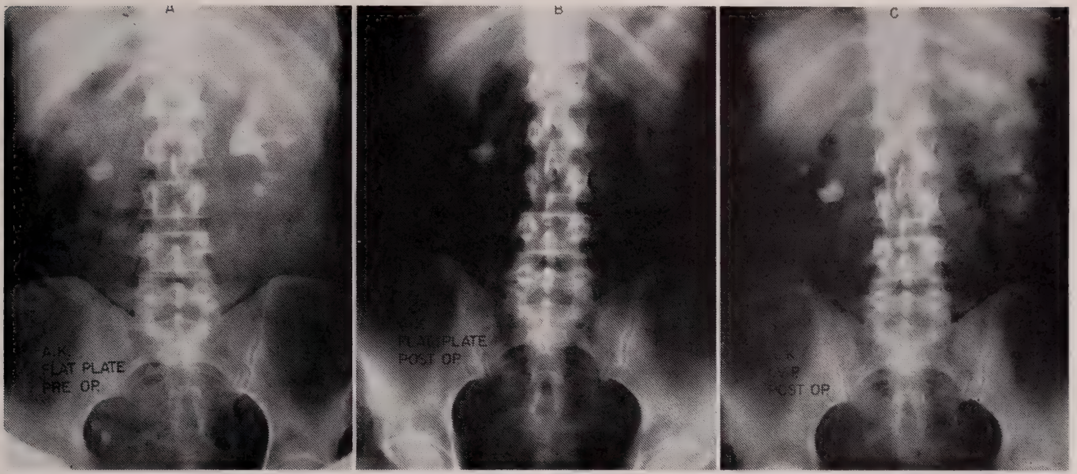

FIG. 3. *Case 4*—(*A*) Preliminary kidney-ureter-bladder film demonstrates bilateral renal calculi and right ureteral calculi. (*B*) Postoperative film with no recurrence of left renal calculi and right renal calculi. (*C*) Postoperative intravenous urogram.

absence of an x-ray the diagnosis might have been easily overlooked.

Case 4 is presented to illustrate the importance of advice by the attending physician and his insistence on urologic consultation in cases of gravel.

CASE 4.—A. K., a female, age forty-four, might have avoided her precarious plight by frequent follow-up x-rays of the kidneys. This patient was first examined by us on February 27, 1953, at which time she stated that fifteen years previously she passed "gravel." Investigation of the urinary system was never carried out. A few months prior to her visit she noticed painless hematuria which she attributed to menstruation. Preliminary roentgenogram taken by her physician revealed bilateral renal calculi and two shadows in the lower right ureter (Fig. 3A). The urine was rusty. On cystoscopic examination a moderate cystitis was noted. A ureteral catheter was passed up the right ureter and an obstruction encountered at the level of the shadow below the sacroiliac joint.

The patient was hospitalized, and a right ureterotomy and removal of the calculi were performed. A polyethylene catheter was passed to the kidney pelvis in the hope that function in the right kidney might return. This did not occur, and one week later a left nephrotomy was performed and a staghorn calculus removed. The convalescence was stormy, but at present she is in apparently good health in spite of an elevated nonprotein nitrogen and a turbid urine (Fig. 3B and C).

We are inclined "to leave well enough alone" with regard to the right kidney. This patient has been receiving 300 turbidity units of Wydase (a hyaluronidase preparation) daily, and recently this was reduced to every other day. We are fully aware of the contradictory reports in the literature regarding its value in the treatment of urolithiasis; however, her urine is kept clearer with hyaluronidase, and the most that can be said in its favor is that there is no recurrence of stones in the left kidney.

CASE 5.—W. K., a sixty-year-old male, passed gravel twelve years ago. Since then he had been symptom-free. Urologic survey was never performed. He consulted his physician for symptoms of hypertension. A preliminary roentgenogram revealed bilateral staghorn calculi (Fig. 4). He was admitted for workup. Split renal function test revealed the right kidney to be the better of the two, and a right renal bisection was carried out. A month later a similar procedure was performed on the left, and the patient is convalescing uneventfully.

CASE 6.—L. W., sixty-year-old male, had a three-month history of cough without significant past illness. Positive physical findings were limited to the chest where there were rales over both lower lobes with alteration of breath sounds. Chest x-ray disclosed bilateral pulmonary infiltrates. Sputum smear for acid-fast bacilli as well as culture and guinea-pig inoculation were negative. Urinalysis revealed only an occasional white blood cell and a few epithelial cells.

The nature of the pulmonary infiltrate suggested metastatic spread, and an intravenous pyelogram disclosed a tumor of the lower pole of the left kidney (Fig. 5). A smear of left ureteral washings revealed tumor cells in clumps. The illness led to the patient's demise several months later. This case is significant in that the presenting symptoms

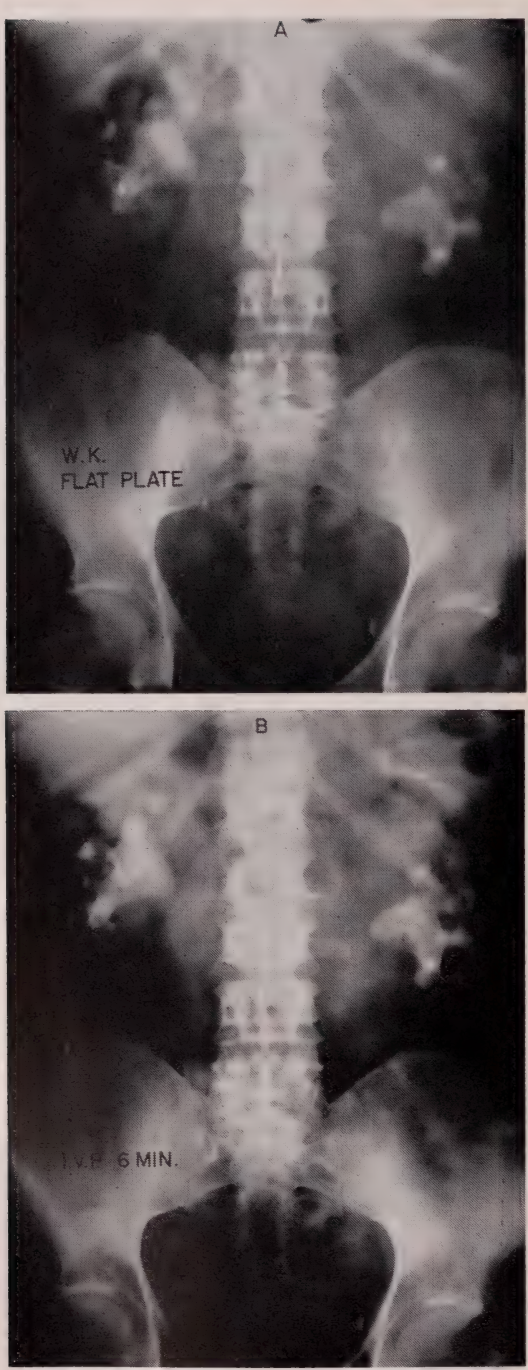

FIG. 4. *Case 5*—(*A*) Preliminary film shows bilateral staghorn calculi. (*B*) Intravenous urogram.

were not related to the renal tumor directly but rather to its pulmonary spread which simulated a nonurologic condition.

CASE 7.—M. J., a thirty-two-year-old male, was seen for the first time on March 17, 1953. There

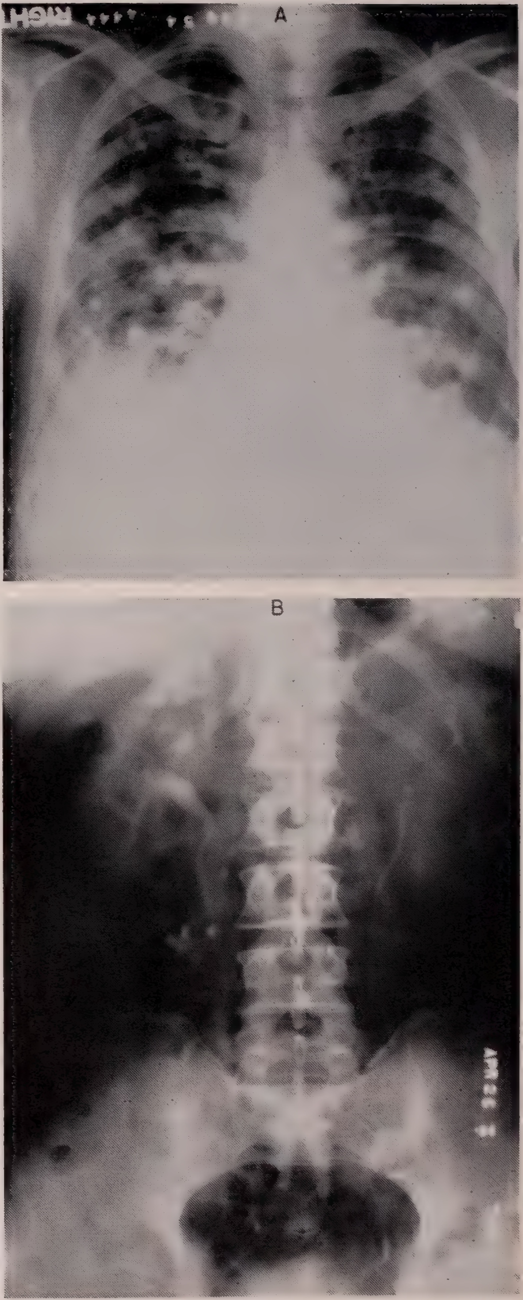

FIG. 5. *Case 6*—(*A*) Chest roentgenogram showing metastatic lesions in both lung fields. (*B*) Left renal tumor visualized on intravenous urogram.

were no urinary complaints. For years he had intermittent discomfort in the left upper quadrant of the abdomen. He had occasional nausea. Gallbladder and gastrointestinal x-ray series were within normal limits. Urinalysis revealed a pH of 5.0, a trace of albumin, no sugar, and an occasional red blood cell. An intravenous urogram on March 20,

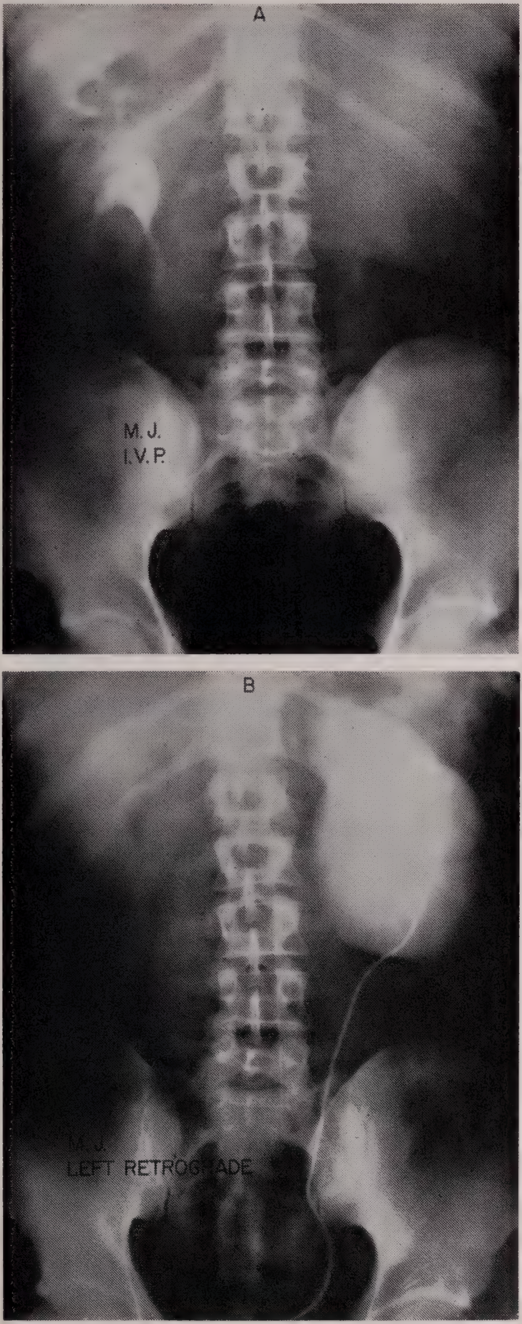

Fig. 6. *Case 7*—(*A*) Intravenous urogram reveals nonfunctioning left kidney. (*B*) Left retrograde pyelogram demonstrates advanced hydronephrosis.

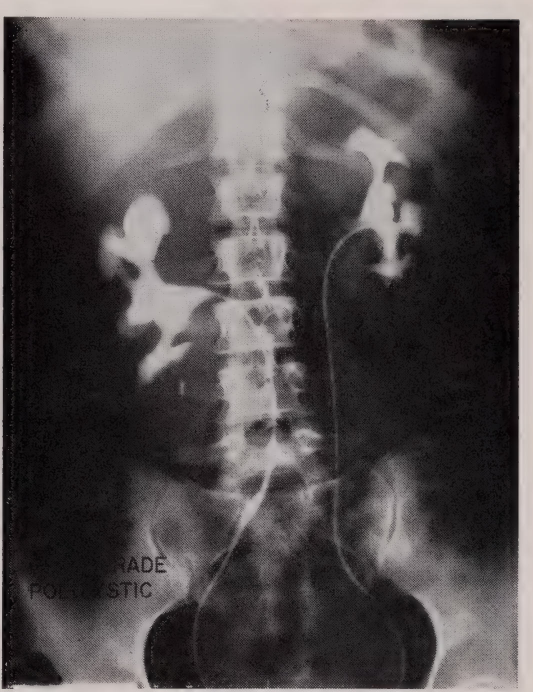

Fig. 7. *Case 8*—Polycystic kidney disease seen on bilateral retrograde pyelogram.

revealed a normal kidney on the right and a nonfunctioning kidney on the left (Fig. 6A). Cystoscopic examination and retrograde pyleogram revealed a huge hydronephrotic kidney with the appearance of obstruction at the ureteropelvic junction (Fig. 6B). Nephrectomy was performed during March, 1953, at which time the kidney consisted of an enormously dilated pelvis with the renal parenchyma reduced to a thin shell. A congenital stricture of the ureteropelvic junction was demonstrated.

Case 8.—J. L., a female, age forty-two, complained of attacks of pain in the right upper quadrant. She was a known hypertensive. There were no urinary complaints. Urinalysis revealed a pH of 6.0, a trace of albumin, no sugar, and an occasional red blood cell. On physical examination a mass was palpable in the right upper quadrant. Intravenous pyelogram showed decreased function of both kidneys. Cystoscopy and bilateral retrograde pyelogram revealed typical polycystic kidney disease (Fig. 7). The blood urea nitrogen and nonprotein nitrogen were within normal limits. No specific therapy was advised at this time.

The following case is presented to demonstrate the elusiveness of even a large calculus.

Case 9.—R. F., a female, age thirty-six, had a chief complaint of vague lower abdominal discomfort. She was studied at one of the large medical centers. No apparent cause for the discomfort was found. The patient was first observed in March, 1954, at which time there was painless hematuria. Physical examination was negative except for slight tenderness over the right iliac fossa. Urinalysis showed innumerable red blood cells. A preliminary

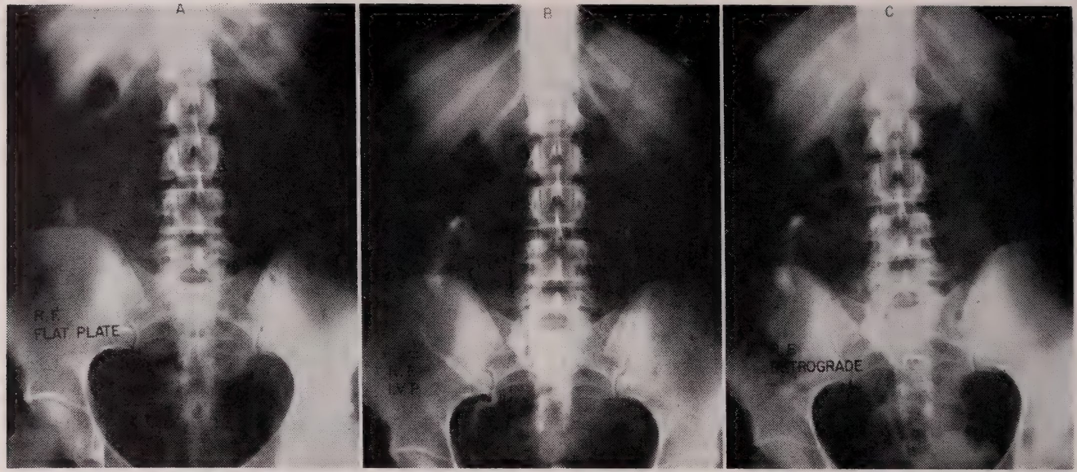

Fig. 8. *Case 9*—(*A*) Preliminary film shows atypical location of right renal calculus. (*B*) Crossed ectopia and calculus in pelvis of right ectopic kidney visualized on intravenous urogram. (*C*) Bilateral retrograde pyelography.

roentgenogram revealed a large comma-shaped opaque shadow above the right iliac crest (Fig. 8A). Intravenous urogram showed good function on the right with the kidney malrotated and ectopically placed. There was absence of a left kidney in the usual location, but a concentration of contrast media was noted overlying the sacrum on the right (Fig. 8B). On cystoscopic examination the bladder was normal, and both ureteral orifices were normal in appearance and location. Bilateral retrograde pyeloureterography revealed the true condition, a crossed ectopia with a calculus in the right kidney pelvis and possible fusion of both kidneys (Fig. 8C).

Case 10.—E. K., a male, age sixty, had pain in the right lower quadrant of the abdomen ten days prior to consultation. There was no bowel movement for five days. He was hospitalized by his physician, and pyuria was discovered. The intravenous urogram was reported as showing no function of the left kidney. A barium enema study of the colon was negative. On cystoscopic examination the bladder appeared normal. Both ureteral orifices were normal as to their location; however, the left appeared somewhat edematous. During the passage of a ureteral catheter a slight obstruction was encountered. Retrograde pyelogram revealed an ectopic left kidney. A nonopaque, small calculus was the cause of the pain, hematuria, and temporary suppression of left kidney function.

Case 11.—J. E., a male, age fifteen, had predominantly gastrointestinal symptoms. There was evidence of extrinsic pressure in the region of the duodenum. A mass was palpable on the right suggesting kidney. An intravenous urogram showed hydronephrosis of the right kidney. The left kidney function was excellent, but the pelvis appeared dilated (Fig. 9). At operation the right kidney pelvis was markedly dilated, reaching across the midline. An aberrant vessel was found crossing the ureteropelvic junction. The vessel was ligated and severed. On release of the pressure by the vessel no definite stricture of the ureter was observed. A segmental resection of the pelvis was performed without disturbing the ureteropelvic junction. There is progressive improvement in

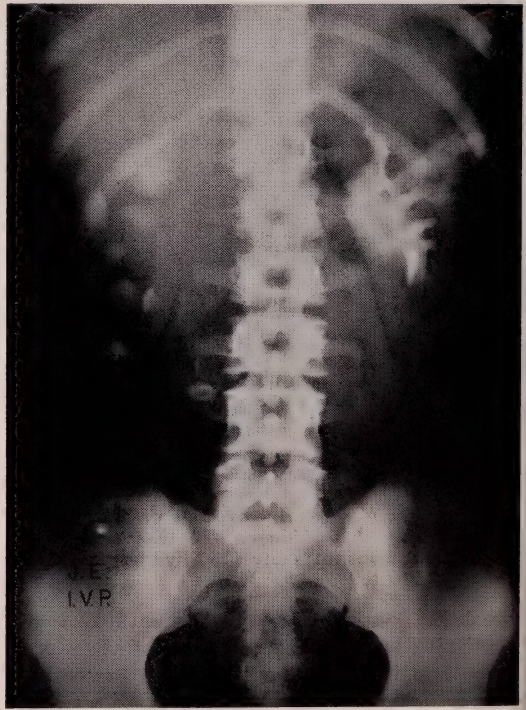

Fig. 9. *Case 11*—Right hydronephrosis and left early dilatation of pelvis visible on intravenous urogram.

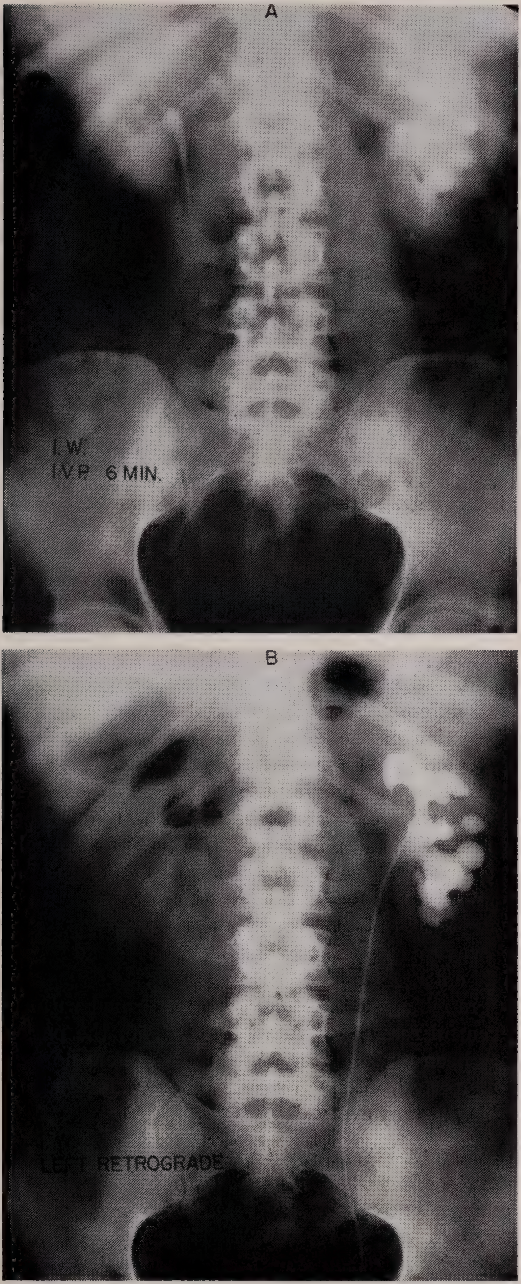

Fig. 10. *Case 12*—(*A*) Left hydronephrosis seen on intravenous urogram. (*B*) Left retrograde pyelogram reveals dilatation of calyceal system.

the pyelogram, and the patient is symptom-free. The opposite side warrants observation.

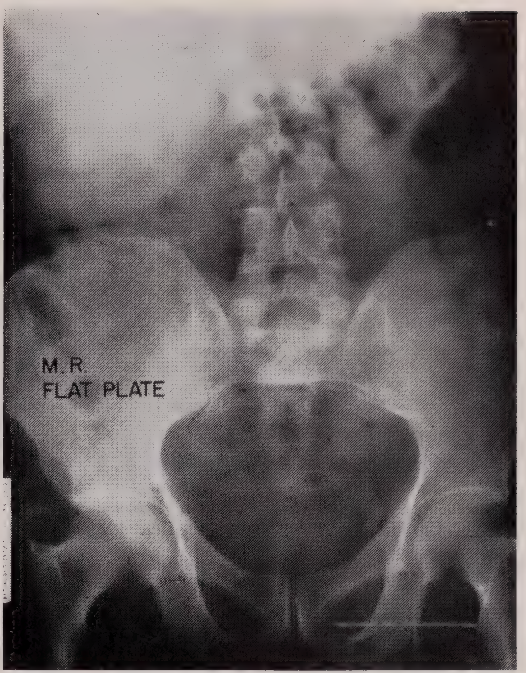

Fig. 11. *Case 13*—Preliminary film shows huge mass in right kidney region.

Case 12.—I. W., a male, age thirty-three, experienced pain in the left lower quadrant three weeks prior to consultation. He also had fever for several days. There were no urinary symptoms. Urinalysis was entirely negative. A preliminary roentgenogram and intravenous pyelogram were done, and the left kidney showed hydronephrosis with most of the dilatation in the calyceal system rather than the pelvis (Fig. 10). At operation a medium-sized, aberrant artery was found crossing the midpoint of the pelvis. The artery was ligated and severed. The lower pole of the kidney was observed for circulatory changes, but no areas of ischemia were noted. This patient travels a great deal, and the follow-up has been unsatisfactory. This case could easily have progressed to complete renal destruction had his physician not been keen on exhausting all means of diagnosis to elicit the cause of the relatively few and transitory symptoms.

Case 13.—M. R., a male, age sixty, complained of generalized malaise in January, 1947. He had an elevation of temperature to 101.0 F. His physician gave him penicillin, and the fever subsided. The fever recurred and fluctuated between 99 and 101 F. daily. Improvement again followed the use of penicillin and sulfa drugs. The patient was admitted to the hospital for study, and numerous roentgenograms taken of the chest, intestinal tract, and colon were all reported negative. The essential laboratory findings were a low-grade anemia and a sedimentation rate of 115 mm. Preliminary roentgenogram revealed a huge mass occupying region of right kidney (Fig. 11). An intravenous urogram was done, and a nonfunctioning right kidney was noted. The pyelogram suggested a huge cyst of

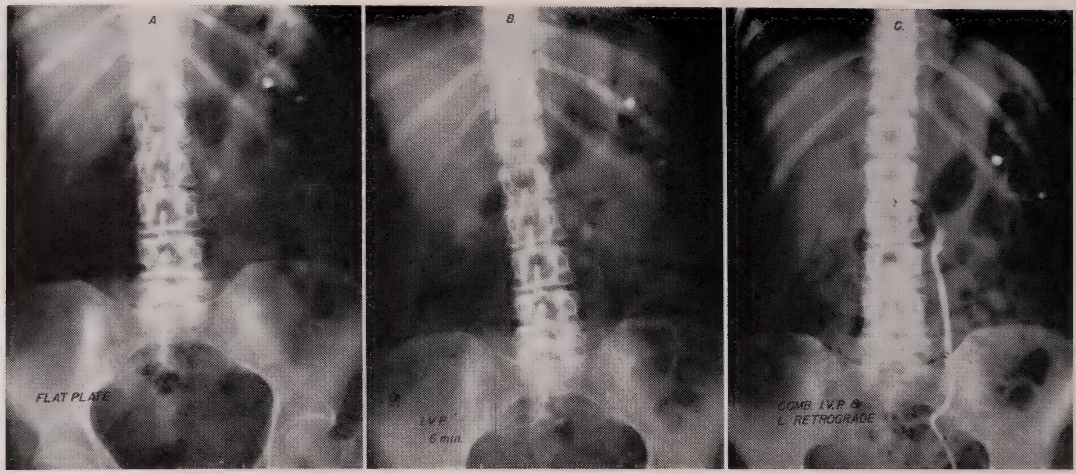

Fig. 12. *Case 17*—(*A*) Calculus of left kidney region visible on preliminary film. Note residual flecks of barium. (*B*) Intravenous urogram shows nonfunctioning left kidney. (*C*) Retrograde film shows catheter and contrast media obstructed at level of calculus.

the lower pole. Transperitoneal nephrectomy was performed, and a huge papillary cystadenocarcinoma was removed. This case emphasizes that the urinary tract is still the "forgotten system" when patients are studied for vague complaints.

Case 14.—B. K., a female, age fifty-five, on her first visit in November, 1949, stated that she had lost 20 pounds since the death of her husband six months previously. Her husband died of cancer, and she had a premonition that she also harbored a malignancy. Her physician, a gastroenterologist, did a complete examination including gallbladder, gastrointestinal series, and a barium enema. When these were normal, an intravenous urogram was done despite a negative urine and the absence of urinary complaints. This study pointed to pathology in the left retroperitoneal space. The kidney appeared displaced downwards. The nervous temperament of the patient precluded additional studies, such as presacral pneumography or arteriography. Three weeks later for the first time there was hematuria. At operation a large tumor of the upper pole of the kidney was removed. A node, the size of a walnut, was present just below the renal pedicle. The renal vein appeared grossly uninvolved. Metastatic lesions led to the patient's demise one year later. This case illustrates a condition we so often see, a lack of early signs of tumor of the renal parenchyma.

The following case is representative of a large group which may be designated as occult prostatism.

Case 15.—S. B., a male, age seventy-four, in June, 1950, complained of severe pain in the left upper quadrant of the abdomen following a cerebral accident. Study in a large medical center disclosed numerous diverticula of the descending colon, a filling defect in the distal portion of the sigmoid, and a possible polypoid growth. In September, 1950, and again in 1951 complete re-evaluation in two different hospitals revealed the same findings. Resection of the sigmoid was performed, and the polypoid growth proved nonmalignant. However, the left upper quadrant pain persisted postoperatively with exacerbations during the next three years. Follow-up barium enema study of the colon was normal. An intravenous urogram in 1954 showed a calculus in the left kidney which was not considered to be the cause of the pain. Cystoscopic survey revealed a large bladder calculus and a grade IV enlargement of the prostate. A one-stage suprapubic prostatectomy was performed with uneventful recovery. As of April, 1955, the patient has been entirely free of pain. He offers no complaints and, although seventy-four years of age, is able to work every day.

Case 16.—A. L., a sixty-seven-year-old physician, developed gradual loss of appetite, weight loss, and weakness. Although he was aware that his prostate was somewhat enlarged, he voided without difficulty. His complaints led to a complete gastrointestinal series and barium enema study. There arose the question of a gastric lesion. Repeat x-rays by another roentgenologist failed to confirm the previous findings. Intravenous urogram showed moderate bilateral hydronephrosis and hydroureters. Cystoscopic examination confirmed the presence of hypertrophy of the prostate. This patient's symptoms cleared entirely after a one-stage suprapubic prostatectomy. His strength and vigor have returned.

This next patient, more than the previous cases cited, highlights the important points we have been trying to make.

CASE 17.—S. M., a fifty-five-year-old, single, female, schoolteacher, had been treated for years for a so-called "sensitive stomach." During the eighteen months prior to consultation she complained of pain in the left lower quadrant. There were several episodes of chills and fever. A complete gastrointestinal series and barium enema study were done; diverticulosis of the colon was revealed. A renal calculus was missed because of failure to take a preliminary film as part of the gastrointestinal study. Gynecologic examination was negative. At this time a pyuria was discovered. A preliminary kidney-ureter-bladder roentgenogram showed a shadow suggesting a calculus in the region of the left kidney pelvis (Fig. 12A). Intravenous urogram showed a normal right and a nonfunctioning left kidney (Fig. 12B). Cystoscopic examination revealed a low-grade cystitis. A catheter was passed to the region of the shadow, and on injecting contrast media great resistance was encountered. The x-ray revealed failure of the dye to bypass the calculus firmly impacted at the ureteropelvic junction (Fig. 12C). A left nephrectomy and partial ureterectomy were performed. Pathologic diagnosis was acute and chronic pyelonephritis with multiple abscesses and nephrolithiasis.

Summary and Conclusions

A series of cases is presented to show the value of x-ray study of the urinary system in asymptomatic urinary tract disease. Recommendation for uncovering such disease is made.

The conclusion to be drawn from the series of cases presented and a very large unreported series in our files is that the most important urologic procedure to uncover asymptomatic renal disease or to reveal whether the problem is surgical or medical is an intravenous urogram. In our experience this supersedes the history, physical examination, and many times a urinalysis. It is our conviction that if more hidden renal disease is to be revealed, in the event a patient has vague abdominal complaints, the procedure is to do an intravenous urogram rather than repeated urinalyses.

We would strongly urge the adoption of a routine kidney-ureter-bladder roentgenogram, regardless of the patient's complaints, as part of a physical examination. The expense involved is certainly not great when one considers the information derived. This would uncover a large number of asymptomatic lesions (progressive asymptomatic hydronephrosis, calculi, cysts, and retroperitoneal tumors).

We have long been advocating intravenous urograms preceding surgery for large pelvic tumors and abdominoperineal surgery. In brief, every opportunity to x-ray the abdomen should be utilized as part of the larger program of preventive medicine.

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Physician's Prayer

Lord, who on earth did minister
To those who helpless lay
In pain and weakness, hear me now,
As unto Thee I pray.

Give to mine eyes the power to see,
The hidden source of ill
Give to my hand the healing touch
The throb of pain to still.

Grant that mine ears be swift to hear,
The cry of those in pain;
Give to my tongue the words that bring,
Comfort and strength again.

Fill Thy my heart with tenderness,
My brain with wisdom true,
And when in weariness I sink,
Strengthen Thou me anew.

So in thy footsteps may I tread,
Strong in the strength always,
So may I do Thy blessed work,
And praise Thee day by day.

—*Florida Journal of General Practice, July, 1955*

Lichen Sclerosus et Atrophicus in Children

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Lichen sclerosus et atrophicus was first described by Henri Hallopeau[1] in 1887. Both he and Darier, who first described the pathologic features and named the disease, regarded it as an atrophic variant of lichen planus. For some years there was a great deal of controversy over the exact nosologic position of the disease, but although the French school still adheres to its original idea, most others who have studied the problem in recent years feel that it is a disease *sui generis,* quite distinct from lichen planus and the several varieties of localized scleroderma which it may resemble.[2-5]

In the adult, lichen sclerosus et atrophicus begins insidiously with the appearance of whitish, "mother of pearl," somewhat shiny, flat-topped, firm, polygonal papules, many of which contain central horny plugs or depressions (dells) which indicate sites of former plugs. The lesions are sometimes surrounded early by a rosy halo and, as they increase in number, coalesce often to form plaques which, because of the numerous dells, have a distinctive, riddled or cribriform appearance. The distribution is symmetric and characteristically involves the anogenital, umbilical, anterior thoracic, scapular, and wrist areas. Depigmentation is a striking feature, and as the plaques mature, atrophy makes its appearance. Bullae occasionally are noted. There may be mild itching. The disease is chronic.

In 1945 Laymon[6] first called attention to the fact that the disease sometimes occurs in childhood and usually in a special form. He reported three cases in children, ages four, four and a half, and six, in whom the lesions were confined to the vulva, perineum, and perianal areas. The clinical picture consisted of depigmentation, atrophy, telangiectasia, and fissuring in the areas. The histologic picture showed a band of homogenization of collagen immediately beneath the epidermis with a bandlike zone of lymphocytic infiltration below this. Hyperkeratosis, keratotic plugging of the follicles, and atrophy of the remaining epidermis completed the features considered to be typical of the disease.

Two other cases in children were noted briefly by Ginsburg[7] and With.[8] In 1953 Kindler[9] again called attention to lichen sclerosus in childhood and reported eight cases in children from two to thirteen years of age. All were female; in all but one the lesions were confined to the anogenital area. Her review of previous reports is especially clear and succinct. In 1954 Svendsen[10] reported fully a case in a four-year-old girl with lesions identical to those described by Laymon and Kindler. This child showed lichen sclerosus lesions on the back as well as in the anogenital area.

The purpose of this paper is to report three new cases of lichen sclerosus et atrophicus in children.

In the time period covered by this study a total of 14 cases of lichen sclerosus was seen. The diagnosis was made only in women. However, we have seen 11 cases of balanitis xerotica obliterans during this period, and since this is probably a variant of lichen sclerosus,[11] the total number might read 25 as well. None of our balanitis cases showed other signs of lichen sclerosus, and none occurred before puberty. The ages of onset for the lichen sclerosus cases are grouped in the frequency polygon in Fig. 1. The polygon suggests that some type of parabolic function might serve to describe adequately the occurrence in the various age groups of the population. The number reported is too small to say with certainty. The average age onset was thirty-nine years, with a large standard deviation (21.8 years). The youngest patient was two, the oldest fifty-eight. Three cases appeared before puberty.

Case Reports

Case 1.—M. L. was a four and one-half-year-old, white girl. A pruritic eruption began in the pubic and anal areas in January, 1954. It progressed for six months, became stationary, and in the past three months has begun to improve slowly. Early in the disease pinworms were suspected. Potassium

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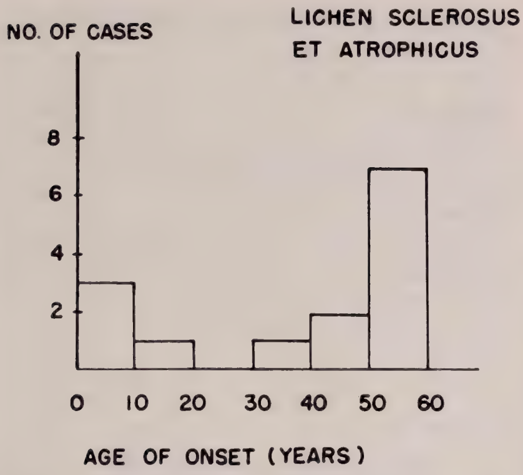

FIG. 1. Ages of onset of 14 cases of lichen sclerosus et atrophicus in the female.

permanganate soaks and brilliant green applications were without effect. Worms were never found. Methionine by mouth and hydrocortisone topically produced no change. In November, 1954, a small amount of bright red blood was seen in the stool. It arose apparently from a small anal fissure.

Physical examination showed nothing abnormal but the skin. Extending 1 cm. out from the rima pudendi in a perfectly symmetric manner, there was a zone of depigmented skin which extended posteriorly, narrowed a little at the perineum, and broadened again to encircle the anus. On closer inspection the skin appeared to be somewhat atrophic, crinkly, but retained at least a portion of its lanugo hairs. Superficial fissures and a number of excoriations were present, especially in the anal area and to some extent about the clitoris. The atrophy and depigmentation extended to the mucosal sides of the labia majora and to the labia minora. The anatomy of the vulva was within normal limits with perhaps a little atrophy of the labia minora. No stenosis vestibularis was present. A few dilated follicular orifices, "dells," were scattered over the areas (Fig. 2).

Biopsy showed epidermal atrophy, keratotic plugging, early homogenization of collagen beneath the epidermis, and an infiltrate of lymphocytes in the upper corium with a tendency in some areas to group about blood vessels. It was compatible with the diagnosis of lichen sclerosus et atrophicus.

CASE 2.—In this four-year-old, white girl the eruption began in the anal area one year prior to the first visit. In the next year it progressed gradually, soon involving the vulva, perineum, and perianal area to such an extent that examination on the first visit showed a sharply demarcated zone of depigmentation and atrophy extending 2 cm. out from the borders of the areas. Labia majora and minora were fused, and the clitoris was smaller than normal. There seemed to be no actual vestibular stenosis. Within the affected zone a few dilated follicular orifices were present. Despite a prolonged period of difficulty in defecation (constipation), no real sclerosus of the anal area was evident. The condition remained unchanged in a year of observation. Normal bowel habits returned.

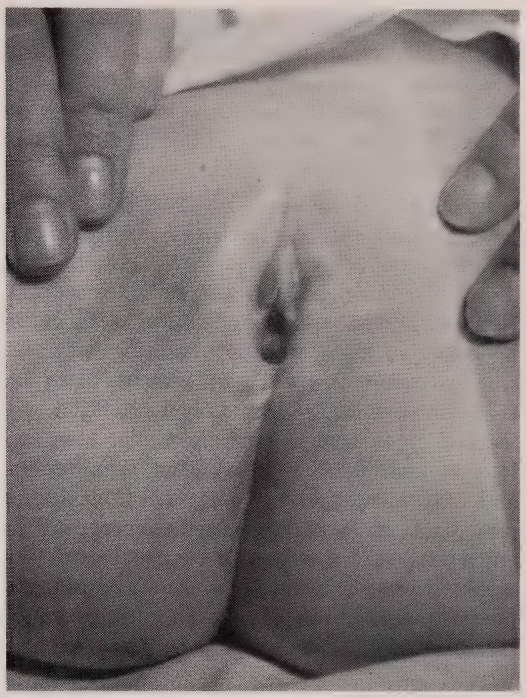

FIG. 2. *Case 1*—Anogenital lesions of lichen sclerosus et atrophicus in a four and one-half-year-old girl.

CASE 3.—This case, a nine-year-old, white girl, is especially interesting for the proponents of the theory that lichen sclerosus and lichen planus are one and the same, because a severe attack of lichen planus occurred in this child four years prior to the first visit. It appeared as "white patches" first on the knees and subsequently on the ankles, elbows, shoulders, popliteal areas, and the dorsum of the hands. The essential lesion was the typical flat, white, polygonal papule of lichen sclerosus. Many of the papules had coalesced, particularly over the knees, to form plaques with more isolated elements at the periphery. A number showed central depressions, and in the plaques the confluence of these produced the riddled appearance so well described by Hallopeau in his classic report.

Comment

In Cases 1 and 2 the lesions were confined to the anogenital area, as is usual in children. Case 3, an older child, showed involvement of this area only as a part of a more general eruption, a common form in the adult. All cases were female. We have been unable to find any case in the literature in a male child.

Burning and itching with excoriations were features in all cases and have been noted in a substantial number reported in the past. In Case 2 difficulty in defecation (constipation) occurred. One of Laymon's cases complained of difficulty in defecation, and it was the presenting complaint with encopresis in Svendsen's patient. In Case 2 it appeared after the family's attention was focused on this psychiatrically tender area and increased with each new physician, examination, and instrumentation encountered. Consider for a moment the specialties which converge on the anogenital region. Organic changes about the anus were insufficient to produce a stenosis, and normal bowel habits were resumed when a more sensible attitude was adopted by all concerned.

The course in our cases thus far has been one of slow improvement, uninfluenced apparently by any of the numerous topical and internal medications prescribed. This has been the experience of others who have written of this disease. Some cases reported have resolved so completely that no residual could be found.

No cause has ever been established, although, as in psoriasis and lichen planus, trauma may at times play a role in determining the site involved.

In the differential diagnosis one must consider several diseases. Morphea can be localized to the vulva and can resemble lichen sclerosus so completely that differentiation is possible only with the microscope. Kraurosis vulvae is sufficiently like lichen sclerosus both clinically and histologically that some physicians regard them as identical. At any rate classic kraurosis is a disease of adult women and usually menopausal women. Changes in blood vessels deep in the cutis present in kraurosis and not in lichen sclerosus are thought to be helpful in telling them apart. Chronic dermatitis venenata localized to the area with lichenification may be mistaken for lichen sclerosus. The absence of atrophy, the lack of involvement of the mucosal parts of the labia, and if necessary, the totally different microscopic picture will serve to separate the two. Leukoplakia, again a disease of adult life, is almost always confined to the inner aspects of the vulva, or is most prominent there. Its histologic appearance is distinct from that of lichen sclerosus et atrophicus.

Summary

1. The clinical and microscopic features of lichen sclerosus et atrophicus in adult and child are discussed.

2. Three cases of the disease occurring in children, four, four and a half, and nine years of age, are reported and discussed.

3. The differential diagnosis of the disease is outlined.

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Discussion

Francis J. Fagan, M.D., *Troy.*—As Dr. Crissey indicated, since its original description by Hallopeau in 1887, lichen sclerosus et atrophicus has been hard put to win a definite place in the dermatologic sun. Confusing terminology has been an obstacle as well as the conflicting clinical and histologic pictures provided by the simulation of some other diseases, notably lichen planus and the various forms of scleroderma. The terms "white-spot disease" and "card-like scleroderma," formerly used ambiguously to describe both localized scleroderma and this disease, have been largely abandoned.

The excellent work of Montgomery and Hill in 1940 did much to establish lichen sclerosus et atrophicus as a distinct entity on clinical and pathologic grounds, emphasis being placed on the latter. Their histologic descriptions and discussion are quite convincing differentiation of this disease from morphea guttata, acrodermatitis chronica atrophicans, lichen planus, lupus erythematosus, and pityriasis rubra pilaris. In kraurosis vulvae they concede a resemblance to lichen sclerosus in the pathologic changes, so close at times as to be indistinguishable, but in these two diseases they feel that the clinical pictures are entirely different. In Montgomery and Hill's publication 46 cases are reported, only one under the age of twenty-seven. That was a girl, age eleven, who had vulvar manifestations.

In connection with Laymon's paper in 1945, to which Dr. Crissey referred, it is interesting to note that Laymon polled the personal experience of a large group of dermatologists, and none could recall seeing a case in early childhood. In 1950 Brain in the *British Journal of Dermatology* reported two cases, one a girl aged seven and the other a girl of eleven, both of whom had lesions on neck, back, and abdomen; no mention was made of anogenital lesions.

To recapitulate briefly the unusual features which lichen sclerosus et atrophicus presents in childhood as reported in the literature: (1) its rarity, (2) no occurrence in a male child, (3) predominantly an affection of the anogenital region, and (4) no childhood case in which the anogenital area was not affected except Brain's report, which is not specific on this point.

The Duodenal Loop

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THERE are a great many laboratory tests that are used in an attempt to differentiate between so-called "medical" and "surgical" jaundice, but few of them give as much significant information as careful barium studies of the duodenal loop. The radiologist should approach this type of case as a real challenge rather than as a fruitless chore.

It is the purpose of this paper to outline a plan which should help establish the roentgen method of differentiating between obstructive and nonobstructive jaundice as a respected procedure similar to that now universally held by clinicians for barium studies of the esophagus and stomach. The roentgenologic findings of 43 patients with proved neoplastic disease of the biliary system and the pancreas were reviewed. It became evident from this study that the duodenal loop was altered to some degree in most of these patients. It is the belief of the author that it is possible to recognize most of these relatively minor deformities of the duodenum with the technics and signs that are already described in the literature.

A really critical, soul-searching evaluation of the thought, time, and effort spent by each radiologist in an attempt to examine precisely the portion of the bowel between the duodenal bulb and the jejunum would probably be embarrassing to many unless they have already selected the examination of this part of the bowel as a sort of hobby. Interest in studying this part of the bowel could be stimulated if each examiner would review the radiographs, which he already has in his possession, of the upper gastrointestinal tracts of patients who are known to have had neoplastic disease arising in either the biliary tracts or in the pancreas.

When one's index of suspicion is high, abnormalities can be detected in a case which he as an examiner has previously reported normal, and this realization is most stimulating. The awakening that results is more rewarding than reading thousands of words of the best of the many excellent papers that nicely describe the various signs

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of lesions in this region. It is true that these papers should be studied, but they cannot be fully appreciated until the reader has developed a real personal and somewhat embarrassed interest in the subject. It should be pointed out that following this experience an air of unjustified and dangerous overconfidence develops, but this can usually be restrained to fairly safe levels if one adopts the rule that the so-called significant defects in the duodenal loop are not really significant until they can be reproduced on several radiographs in more than one plane of projection.

Frequently a normal gallbladder will influence the outline of the barium-filled duodenum. A gallbladder which is unusually large or pathologically enlarged merely produces a defect which is somewhat more pronounced than the one frequently seen normally. It then becomes a matter of judgment based on experience as to how much the duodenum can be encroached upon by the gallbladder before a roentgenologic opinion of enlargement or distention of the gallbladder is justified.

Carcinoma of the gallbladder frequently attaches itself to the duodenum and in some instances actually invades it. Thus, whenever the portion of the duodenum that is usually close to the gallbladder becomes stiffened as if by extrinsic adhesions or irregularly narrowed, neoplasm of the gallbladder should be suspected. Cholecystographic studies that reveal a normal gallbladder justify exclusion of the diagnosis of significant gallbladder distention or neoplasm. However, nonfilling of the gallbladder in the presence of the duodenal changes described above should be considered as further suggestive evidence that the gallbladder is either distended or the possible site of a new growth.

A normal common hepatic or common bile duct usually does not make its presence evident from barium studies, but enlargement of these ducts will frequently show their impression on the barium-outlined duodenum as they pass behind either the first portion or the proximal one half of the descending loop of the duodenum. If the entire common duct is enlarged, it should suggest that the obstruction is either due to a stone or a neoplasm at the ampulla, while if only the proximal part of the common bile duct is enlarged, the cause of the obstruction is much more likely due to a carcinoma of the head of the pancreas actually obstructing the duct as it traverses the head of the pancreas several centimeters proximal to the ampulla. A primary neoplasm of the common hepatic or common bile duct may arise at any level and thus should always be suspected whenever the findings suggest that the ductal system enlargement is confined to areas higher than the level that could be encroached upon by a lesion in the pancreatic head. In addition to dilatation of the ducts proximal to a primary lesion, the ductal neoplasms often actually invade the adjoining surface of the duodenum in a manner similar to that described above in discussing invasion of the duodenum by gallbladder neoplasm. One must remember that the gallbladder is not enlarged when the obstruction is in the hepatic ducts.

The small defect produced by the presence of a normal ampulla should be looked for on all routine barium studies so that one will be in a better position to detect slight enlargement of the ampulla or distortion of the duodenal mucosa by a small ampullary neoplasm when one is encountered. It is believed that it is possible to identify the ampulla on most routine studies, and further it is felt that until an examiner has trained himself to do this, he has little chance of identifying a small, surgically curable ampullary neoplasm. The importance of obtaining many radiographs of the duodenal loop in studies of this type cannot be overemphasized.

Case Reports

Case 1.—A. S., a forty-nine-year-old male, was admitted to the hospital on July 14, 1949. He had been in good health until six weeks previously when he first noted the onset of fatigue and generalized weakness. He had no nausea at that time, but moderate anorexia was noted. He thought that at that time he was a little yellow, although he could not be certain of this. Two weeks prior to admission he noted marked jaundice, and at about the same time his stools became yellowish and loose with four to five bowel movements daily. His urine also became dark at that time, but no genitourinary symptoms developed. The jaundice increased somewhat in intensity for several days, but at the time of admission he stated that his skin was less jaundiced than previously. He had noted fleeting episodes of nausea but had not vomited. The appetite had remained rather poor since the present illness began, and there had been a 17-pound weight loss within a period of six to eight weeks. The only abdominal distress experienced was vague, mild, generalized cramping sensations at night which disappeared spontaneously. The patient had not noted indigestion or abdominal distention. Deep

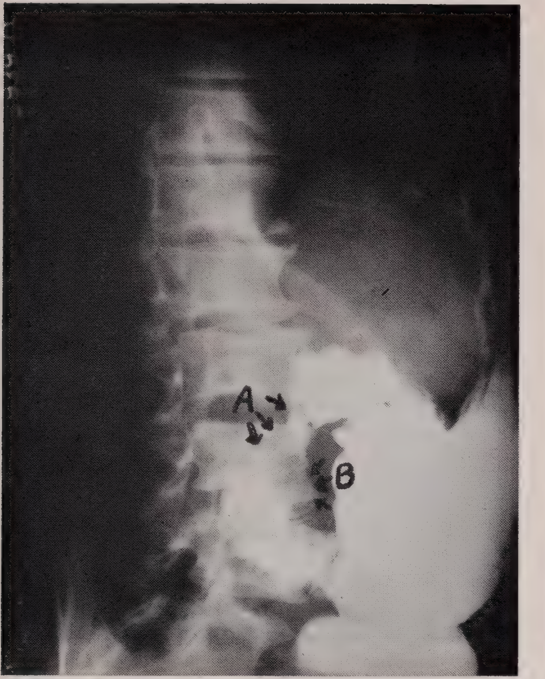

FIG. 1. *Case 1*—The defect which the large gallbladder produces in the duodenum is shown at (*A*). The ampullary carcinoma produced the defect at (*B*).

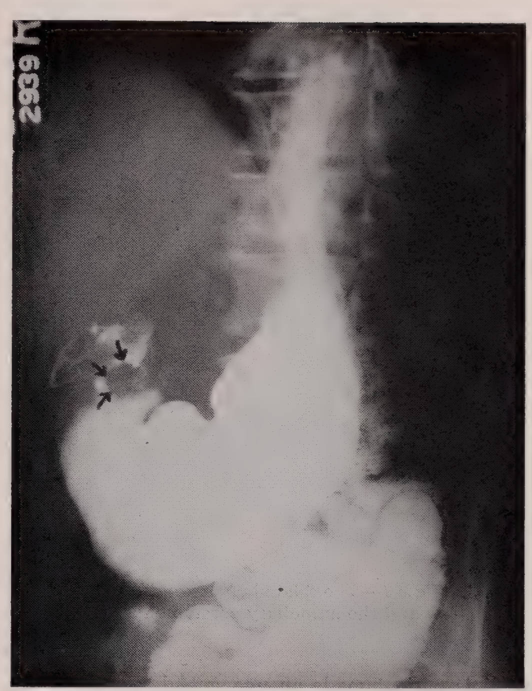

FIG. 2. *Case 1*—A right posterior oblique projection shows the encroachment of the large common hepatic duct on the posterior aspect of the first portion of the duodenum.

breathing or exercise did not result in unusual abdominal sensations.

This patient denied any previous episode such as the present one, and there was no past history of epigastric distress, bloating, or food intolerance. There had been no recent upper respiratory infection. He worked as a caretaker at a trailer camp where he lived (his job was the care of the toilets there). He stated that as far as he knew, no one else at the camp had had jaundice or had been recently ill.

Physical examination revealed that the skin was icteric. The abdomen was slightly distended. No tenderness and no masses could be elicited. The liver edge was sharp, nontender, and 3 cm. below the right costal margin. Peristalsis was active. The gallbladder could not be palpated. Temperature was 99 F., pulse 80 and regular, respirations 20, and blood pressure 125/68.

Laboratory studies on July 15 showed nonprotein nitrogen 25 mg. per cent, cholesterol 303 mg. per cent, total protein 7.2 Gm. per cent, albumin 4.8 Gm. per cent, globulin 2.4 Gm. per cent, and bilirubin 11.8 mg. per cent. Complete blood count showed hemoglobin 13.5 Gm., red blood cells 4,500,000, white blood cells 10,500 with polymorphonuclears 76 per cent and lymphocytes 19 per cent. Urine was slightly cloudy, brown, acid, and negative for sugar and albumin with a specific gravity of 1.015. The urine was faintly positive for urobilinogen at 1:30 dilution and negative at 1:40 dilution. The cephalin flocculation was 3 plus, and the prothrombin time was 85 to 95 per cent. The stool was negative for ova, parasites, occult blood, and bile. The alkaline phosphatase was 9.5 Bodansky units. Barium studies of the upper gastrointestinal tract on July 20 revealed evidence of enlargement of the gallbladder, entire common duct, and a 10 by 15-mm. defect in the region of the ampulla (Figs. 1 and 2).

On July 27 exploration of the abdomen revealed that the gallbladder was enlarged to 16 cm. in length but was free of stones. The common bile duct was 15 mm. in diameter. On opening the duodenum it was possible to see a 2.5-cm. polypoid mass surrounding the ampulla and papilla of Vater. The pyloric portion of the stomach, all but the distal 4 cm. of the duodenum, and the head, neck, and uncinate process of the pancreas were removed en bloc (Fig. 3). A side-to-side pancreatojejunostomy, an end-to-side choledochojejunostomy, and an end-to-side gastrojejunostomy were performed.

Pathologic study of the specimen revealed a polypoid, 2.5-cm. tumor mass surrounding the ampulla and papilla of Vater which was histologically an adenocarcinoma, grade II. All of the lymph nodes were negative. The tumor appeared to block completely the common duct and the duct of Wirsung, even though the latter seemed to enter the duodenum separately.

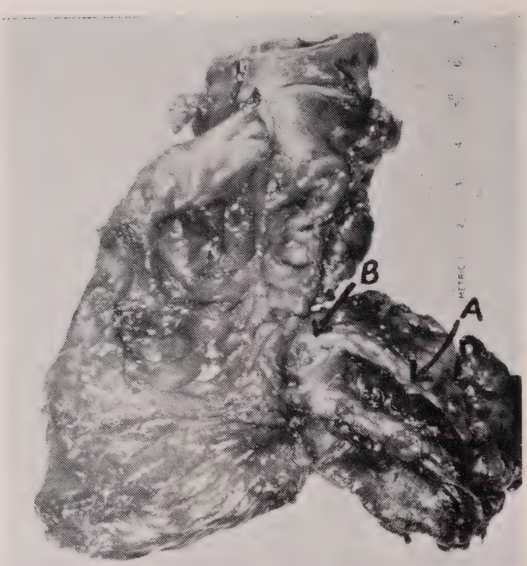

Fig. 3. *Case 1*—The dilated common duct is shown at (*A*) and the ampullary carcinoma at (*B*).

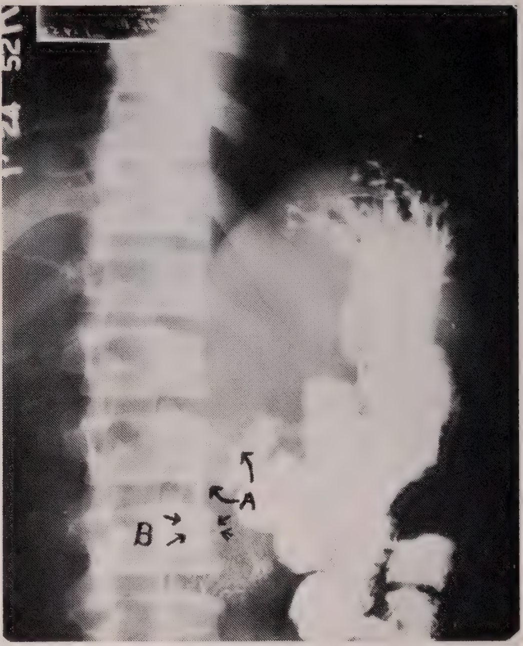

Fig. 4. *Case 2*—The encroachment of the large common hepatic and common bile ducts are shown at (*A*) and the ampullary carcinoma at (*B*).

This patient made an uneventful recovery. He became ambulatory on the third postoperative day. The jaundice cleared, and he was discharged on the fourteenth postoperative day. Within four months this patient gained 24 pounds in weight while on a high-carbohydrate, high-protein, low-fat diet. There was no diarrhea, and the patient stated that he was in excellent health and able to carry out his usual work without difficulty.

This patient was last seen on September 21, 1954, five years and two months after his operation, in good health and without any evidence of recurrent or residual carcinoma.

Case 2.—M. S., a forty-six-year-old, male meat cutter, entered the hospital on January 18, 1952, complaining of pruritus and jaundice of sixteen days duration. This man was apparently well until the last week of December, 1951, when he developed nausea with epigastric distress following consumption of some cold, fatty beef soup. This symptom persisted intermittently throughout the ensuing week, becoming worse after meals.

Early on the morning of January 1, he had difficulty sleeping because of the onset of severe, generalized pruritus. On arising later that morning, he noted that his skin was yellow for the first time. Stools were gray in color, and his urine was a deeper yellow than usual. The nausea and epigastric distress of the previous week persisted and were augmented by right upper quadrant discomfort. Pruritus was absent during the day but returned that night.

By January 4 his epigastric and right upper quadrant distress had diminished, his normal stool color had returned, his urine had lightened, and his pruritus had decreased. Nausea and jaundice, however, remained unchanged. On January 7 he suffered recurrence of nocturnal itching followed by loose gray stools and right upper quadrant distress. During the following week there was again remission of the pruritus and right upper quadrant discomfort. Stool form and color and urine color became more nearly normal, and for the first time since the onset of jaundice the skin color became notably lighter. The nausea persisted.

On January 11 he had his most severe exacerbation of nocturnal itching with deepening jaundice; the right upper quadrant distress became more pronounced, and the stools once again became loose and gray and the urine mahogany color. The patient denied fever, chills, malaise, or vomiting. There had been no blood in the stools, and there had been a 6-pound weight loss during the present illness.

The physical examination revealed a well-developed, well-nourished, white male in no acute distress with diffuse, generalized icterus. The sensorium was clear. Temperature was 99.4 F., pulse 62 and regular, respirations 20, and blood pressure 100/55. The abdomen was scaphoid and soft, but there was slight tenderness in the right upper quadrant without rebound. No masses could be felt. The remainder of the examination was negative except for slight clubbing of the fingers.

Laboratory data revealed hemoglobin 15.2 Gm.,

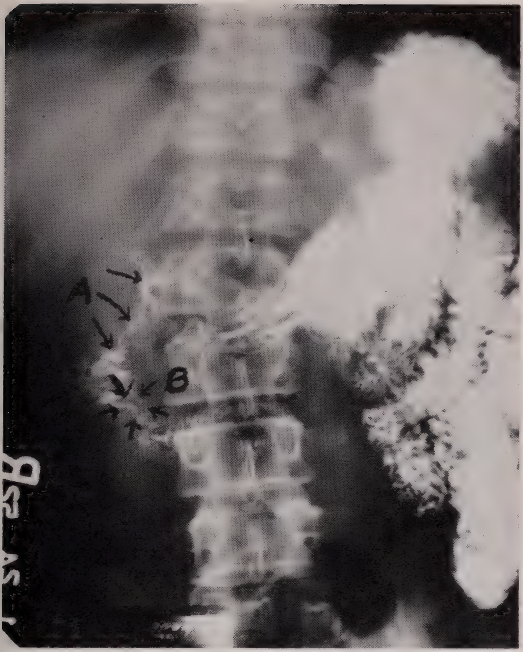

FIG. 5. *Case 2*—The gallbladder impression is shown at (*A*), and the ampullary tumor produced the defect at (*B*).

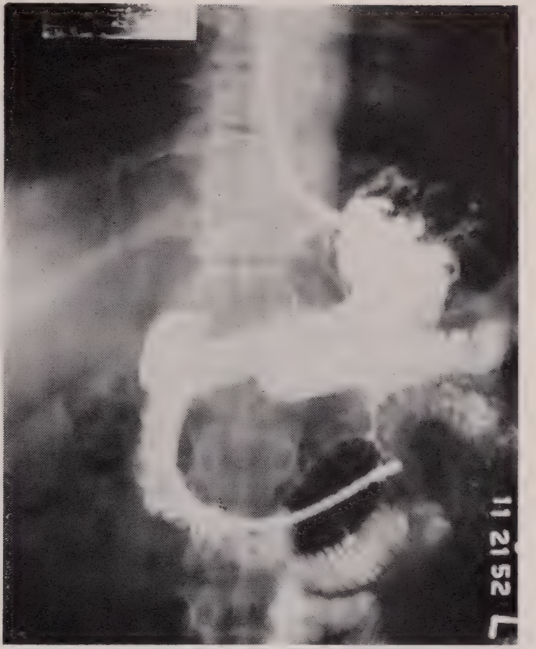

FIG. 6. The degree of distention of the balloon necessary to block the duodenum satisfactorily for study is shown.

hematocrit 45 per cent, white blood cells 4,700 with polymorphonuclears 64, lymphocytes 29, eosinophils 6, and monocytes 1. Urine was dark, amber, and acid with specific gravity 1.020, plus-minus albumin, 1 plus sugar, and a rare white blood cell. Prothrombin was 90 to 100 per cent, nonprotein nitrogen 38 mg. per cent, fasting blood sugar 79 mg. per cent, amylase 76 units, van den Bergh 3.8 mg. per cent direct and 3.9 mg. per cent indirect, alkaline phosphatase 6.9 Bodansky units, phosphorus 3.1 mg. per cent, total protein 7.6 Gm. per cent with 4.7 Gm. albumin and 2.9 Gm. globulin. The foam test on the urine was positive for bile, and the stool guaiac was faintly positive. The cephalin flocculation was 2 plus. Leptospira studies were negative.

After hospital admission he was placed on a high-carbohydrate, high-protein, low-fat diet with vitamins and sedation. He remained afebrile with several episodes of nocturnal pruritus. Icterus appeared to decrease somewhat. The stool remained gray and the urine mahogany colored. On January 24 barium studies revealed marked encroachment of the gallbladder on the duodenum, enlargement of the entire common bile duct, and enlargement of the ampulla to 15 mm. in diameter (Figs. 4 and 5).

On January 29 a cholecystojejunostomy was performed. At operation the gallbladder and common bile duct were found to be about three times normal size. On opening the duodenum it was seen that the ampulla and papilla had been replaced by a 15-mm., nonulcerated tumor mass, the biopsy of which revealed adenocarcinoma grade II. Following this first-stage procedure the jaundice became less intense; the stools became yellow and more normal looking, but the urine remained dark in color.

On February 21 the pylorus, the first, second, and third portions of the duodenum, and the head and neck of the pancreas were removed along with the distal one-half of the common bile duct. Jejunojejunostomy, pancreatojejunostomy, and gastrojejunostomy were performed.

Gross and microscopic studies of the surgical specimen showed that at the ampulla there was an elevation of the mucosa of the common bile duct which began 0.3 cm. from the ampullary opening and extended proximal for a distance of 1.5 cm. The tumor appeared to be almost completely extramucosal and completely surrounding the ampulla. Histologically the extramucosal thickening of the ampulla was adenocarcinoma grade II. A section of tissue from the duodenal wall just proximal to the ampulla also showed extramucosal adenocarcinoma grade II. In the proximal duodenum 2.5 cm. distal to the pylorus, an elevated papilloma, 1.5 cm. in diameter and 1 cm. in height, was found. The mucosa covering this papilloma was light pink but otherwise normal. Histologically this was a benign papilloma. All lymph nodes were free of carcinoma.

The postoperative course was without significant incident, and the patient was discharged considerably improved on the seventeenth postoperative day. This patient remained in good health for eighteen months, and then he began to deteriorate slowly. It became evident twenty-four months after operation that he had recurrent carcinoma, and he died thirty-one months after surgery.

Comment

Neoplasms of the pancreas produce invasion of the duodenum and the stomach more frequently than many examiners appreciate. Often the invaded region looks no different from a normal peristaltic wave. The significance of an area like this can be determined by multiple filming. If the narrowing or distortion is significant, it will be a persistent finding rather than a transient physiologic contraction.

The time-honored sign of enlargement of the duodenal loop is of no practical value if one is to identify pancreatic neoplasms at a time when there is even a remote possibility of successful surgical removal. A tumor mass 2 or 3 cm. in size, which in most instances is beyond surgical cure, will not significantly alter the size of the duodenal loop.

It is believed that some valuable information can be obtained beyond that usually gained from conventional studies if one makes full use of the possibilities of duodenal intubation with a multiple lumen tube. A regular Miller-Abbott tube can be easily adapted for this purpose by closing the suction holes distal to the balloon so that the opaque material injected through the suction lumen will be trapped proximal to the balloon. If desired, special tubes can be made up which will allow the opaque material to be injected and trapped between two balloons and thus prevent the occasional troublesome reflux of material back into the stomach. In most instances the Miller-Abbott tube with the distal suction holes plugged is satisfactory and allows precise distention and study of all portions of the duodenum. Tugging on a tube which has its balloon distended in the distal duodenum allows one to decrease considerably the size of the loop and thus reveal information about the consistency of the pancreas as it responds to compression and displacement. In the normal patient it is possible to pull the loop to the midline and actually at times to the left of the spine.

Controlled mucosal studies of the second and third portions of the duodenum are easy to obtain since the balloon will block the duodenum at any level desired, while the opaque material can be precisely introduced and usually removed, if desired, through the suction side of the tube. Figure 6 is an example of this type of study. Satisfactory blocking of the duodenum is easy to accomplish without discomfort to the patient. It is believed that testing the distensibility of all portions of the duodenum, and particularly the region of the ampulla, is a worth-while procedure both for excluding the possibility that a questionable defect might be significant and also to identify a defect that might otherwise not be found.

Summary

1. The roentgenologic signs that were found on the radiographs of 43 patients known to have had carcinoma of the gallbladder, bile ducts, and pancreas are discussed.

2. A plea is made for more careful studies of the duodenal loop on all routine gastrointestinal series. This should include at least four radiographs of the loop on all routine examinations and many additional radiographs on those cases which show any suspicion of an abnormality.

3. Two case reports, including the radiographs, are presented. These x-rays illustrate many of the signs that justify a roentgenologic diagnosis of obstructive jaundice.

4. Intubation studies of the duodenal loop are discussed.

120 East Washington Street

He is so narrow-minded that if he fell on a pin, it would blind him in both eyes.—Fred Allen *symposium*

HOSPITAL CARE OF THE ORTHOPEDICALLY HANDICAPPED CHILD

New York Society of Physical Medicine

MAY 5, 1954

Background, Pediatric and General Aspects

HELEN M. WALLACE, M.D., AND MIRIAM LENDING, M.D., NEW YORK CITY

(From the Bureau for Handicapped Children, New York City Department of Health)

SINCE 1935 with the enactment of the Federal Social Security Act, all of the 48 states and territories of the United States and some local communities have Crippled Children's Programs under official auspices. These programs, via the Social Security Act, are charged with the responsibility for such crippled children's services as case-finding, evaluation and diagnosis, treatment and aftercare, maintenance of a register, and consideration of the vocational aspects. While the programs vary from community to community, the basic areas of responsibility are the same, as enumerated above. In some programs the program itself has provided much of the direct patient care; in other programs the direct patient care is provided by other agencies, such as hospitals, with the Crippled Children's Program reimbursing for such care.

And then there are all degrees of variation between these two extremes. The New York City program is of the type where much of the care is provided by agencies other than the City Health Department, but with the agencies reimbursed for such care.

Large sums of money from both governmental and voluntary sources are being expended for the care of crippled children. Although the total amount is unknown, Congress appropriates annually 15 million dollars to the United States Children's Bureau for its grant-in-aid program for the states; most of this 15 million dollars of Federal funds has to be matched by the states. In New York City alone public funds in the Bureau for Handicapped Children of the Department of Health (derived equally from the city and State) expend annually $1,800,000 for payment for hospital, convalescent, and rehabilitation care for handicapped children up to twenty-one years of age and for adult poliomyelitis patients. In spite of the fact that large sums of money are being spent for the care of handicapped children, until very recently in New York City none of the Crippled Children's Programs really assumed responsibility for the assurance that handicapped children really received a reasonably good quality of service paid for by the programs and that public funds were really used wisely for the maximum benefit of the most handicapped children. During the past three years the Bureau for Handicapped Children of the New York City Department of Health has developed a Hospital Consultation Program which is attempting to perform this function.

Traditionally, the Crippled Children's Programs have primarily cared for the orthopedic group of handicapped children. Within recent years they have branched out to include many other types of handicapped children: rheumatic fever and cardiac, cleft palate, hearing, epilepsy, vision, orthodontia, drug addiction. The New York City payment program now includes all of the above-mentioned types of handicapped children except rheumatic fever. Of approximately 9,000 applications received in New York City for payment for care, 3,000 or one third are for children with orthopedic handicaps, the largest single group covered at present. It is for this reason that the Hospital Consultation Program of the Bureau began its initial activities three years ago in the orthopedic field.

Activities of the Hospital Consultation Program

Activities of the Hospital Consultation Program have followed certain logical steps.

1. Establishment of an Advisory Committee.—In our Orthopedic Program we have an Orthopedic Advisory Committee composed of 21 of the city's leaders in the fields of orthopedic surgery, physical medicine and rehabilitation, pediatrics, social service, nursing, vocational rehabilitation, and hospital administration. This committee meets about four times a year and has been of enormous help to us in guiding us in our Hospital Consultation Program.

2. Establishment of Standards of Care.—For our Orthopedic Program the Orthopedic Advisory Committee with the assistance of a technical subcommittee worked with us in 1952 to develop a statement of Standards of Hospital Care of the Orthopedically Handicapped Child. These standards attempt to describe some of the desirable kinds of personnel, services, policies, physical setup, and equipment which are necessary for good quality care for the othopedically handicapped child. These standards are used as a working basis and guide for surveys.

3. Surveys.—In our Orthopedic Program we have now performed surveys of 24 of the 28 hospitals with children's orthopedic services in the city. These surveys have been conducted by a team consisting of six of us: the Bureau director, Dr. Helen M. Wallace; the consultant in physical medicine and rehabilitation, Dr. Jerome S. Tobis; the senior orthopedic consultant, Dr. Robert S. Siffert; the pediatric consultant, Dr. Miriam Lending; the nursing consultant who also serves as coordinator of the program, Miss Margaret A. Losty; and the medical social work consultant, Miss Helen M. Gossett. Surveys are made on an appointment basis with the appointment usually made several months in advance. The hospital administrator is asked to have his directors of orthopedics, physical medicine and rehabilitation, pediatrics, nursing, and social service present. Usually the team survey consists of a discussion for about an hour, survey of the physical setup, rounds on all children up to twenty-one years of age with orthopedic problems, and a review of previous years' records. This activity takes from a half to a full day depending on the size of the service and its problems. Then Dr. Siffert and Miss Losty spend another half-day to return to the hospital to see the orthopedic outpatient department in operation. Following the survey the survey team writes a joint report and a letter of recommendations. The letter of recommendations is sent to the administrator and to the chiefs of orthopedics, physical medicine and rehabilitation, pediatrics, nursing, and social service. Shortly thereafter the survey team returns to the hospital to meet with the same key group to review the recommendations. Only those hospitals which are applying for approval for the first time or which constitute serious problems are being brought to the Orthopedic Advisory Committee at the present time.

Survey Findings

The other four members of the team will present survey findings in their respective fields of physical medicine and rehabilitation, orthopedics, nursing, and social service. Our remarks on survey findings will be made in two sections: pediatric and over-all general.

Pediatric.—Since this paper deals with the care of children with orthopedic handicaps, the degree of pediatric participation in the care of these children is important. At the outset, however, it must be emphasized that the pediatrician is merely one of a three-membered medical team, the other two essential members being the physiatrist and the orthopedist. However, it is the pediatrician who gives health supervision to children and who, therefore, can be one of our best sources of case-finding. Therefore, the more he knows of orthopedic and rehabilitation matters in childhood, the better case-finding and referral work he will be prepared to do. Furthermore, because many children with orthopedic handicaps require long-term supervision, problems relating to growth and development may arise where the pediatrician may be able to make a contribution to the care of the child. It is, therefore, of interest to present survey findings on the pediatric aspects in 24 hospital's orthopedic services for children. Of the 24 hospitals, 14 had full approval for pediatric residency training, two had six months approval, and seven had no approval. Twenty-one of the 24 hospitals had a qualified pediatrician as chief of pediatric service; of these 21, four were chiefs "on paper" only and rarely attended the institution. Fourteen of the 24 hospitals had one or more pediatric residents. In other words, the degree of potential pediatric supervision of orthopedically handicapped children on inpatient services of hospitals is relatively great. However, in only seven of the 24 hospitals did a pediatrician routinely see all orthopedically handicapped children on admission to the inpatient services. In three other hospitals there was some degree of pediatric participation but not routine coverage.

In six hospitals the pediatricians made rounds daily, in one hospital four times a week, in four hospitals once a week; in eight hospitals rounds were made irregularly or on a consultation basis only, and in three hospitals no pediatric rounds were ever made on these children. In two hospitals we have no data. In only two hospitals is there a plan for the pediatrician to make rounds with the orthopedist, social worker, and nurse together; in one additional hospital a pediatrician makes rounds with the physiatrist, the orthopedist, the social worker, the nurse, and the physical therapist. In all other instances the pediatrician's contribution is on a solo basis. In only three hospitals does the pediatrician attend staff conferences in the departments of orthopedic surgery or physical medicine and rehabilitation. In 14 of the 24 hospitals there were few or no pediatric notes on the children's inpatient records. Three orthopedic outpatient departments had a pediatrician in attendance. Thus, one must conclude from these facts that the potential pediatric resources in the city for orthopedically handicapped children are tremendous but that they really are not being used. It is hoped that one of the results of the Hospital Consultation Program will be that the pediatrician will be drawn into the care of these children more and more.

OVER-ALL GENERAL NEED FOR THE TEAM APPROACH.—Perhaps the most obvious and serious problem in the care of orthopedically handicapped children found at surveys is that of lack of the team or group approach to the care of the child. Certainly by this time it is well realized that the care of most kinds of handicapped children is no longer a "solo" affair where one professional person can do the total job for the patient. Rather, many kinds of professional personnel are needed, and if the child is to receive complete care and to be rehabilitated to the maximum degree as quickly as possible, all of the professional skills necessary must be used and must be used together. In other words, the three major medical specialties—orthopedic surgery, physical medicine and rehabilitation, and pediatrics—must work together for the common goal of improvement in the child. The process of working together should include evaluation on admission, daily rounds, and conferences; ideally of course this same pattern should be true not only in the inpatient services but also in the outpatient departments.

The process of working together must extend beyond the medical groups. Certainly in any program which includes the care of a patient with long-term illness or chronic disease, social service is of vital importance in evaluation of the family and social situation, in the economic aspects, in the interpretation to parents, and even in what should be a relatively simple matter like expediting the patient's discharge from the inpatient service when medically ready. And an equally strong case can be made for the nurse, the physical therapist, the occupational therapist, the speech therapist, the vocational counselor, the dietitian, and the psychologist. Each has his role to play and his contribution to make in patient care. Alone, each will probably have great difficulty of success; together, the chances of success are much greater. This, then, is a challenge to all of us to develop the team approach.

Problem of Overinstitutionalization

In the majority of hospitals surveyed there have been orthopedically handicapped children on the inpatient services who in the opinion of the survey team medically could be discharged. This problem of overinstitutionalization is one that has interested us greatly because of the fact that it may be a possible psychologic hazard to the child because of long separation from his parents, brothers, sisters, and normal activities in the community and because it represents wastage of public, voluntary, and private funds.

For this reason, in June, 1953, the Bureau for Handicapped Children established a Review Committee, composed of members of the survey team which meets weekly. Initially the Review Committee has the function of reviewing three types of handicapped children: (1) those children who have received inpatient care for a period of one year or longer under the State-aid Medical Rehabilitation Payment program; (2) those children in inpatient services which the survey team considered a "problem" from any point of view; (3) any child with a complicated problem which an individual member of the Bureau staff is unable to solve.

During the first six months of the Review Committee's activities a total of 210 children were reviewed at least once. A total of $883,000 had been paid out by the program for the care of these 210 children at the time of the first review by the committee. There were 20 children's orthopedic services involved, of which ten had cared for 180 (86 per cent) of the Review Committee patients. The longest length of inpatient stay was for a nine-year-old boy who had been in an inpatient service 2,010 days and for whom $12,422 had been paid. Six diagnostic groups (cerebral palsy, Perthe's disease, congenital dislocation of the hip, tuberculosis of bone and joint, poliomyelitis, and paraplegia) accounted for 158 patients (73 per cent).

Of the 210 patients reviewed, 48 (23 per cent) were recommended for discharge home, and 47 were actually discharged in a six-month period. In addition, 37 children (18 per cent) with cerebral palsy were recommended for screening for possible admission to the special cerebral palsy classes in public schools. Of this group, as of December, 1953, seven had been screened; of these seven, four were admitted, one was on the waiting list, and two were found to be so mildly handicapped that they were admitted to orthopedic classes in the public schools immediately. In addition, eight children in hospitals were recommended for convalescent care, two children were recommended for discharge and foster home placement, two children who were severely mentally retarded were recommended for admission to a State mental institution, two children in convalescent institutions were recommended for hospital care, and one blind child was recommended for possible admission to a residential school for the blind. Thus, a total of 15 children (7 per cent) were recommended for some other type of care. It is worthy of note that at the time of the first review the Review Committee felt it was unable to make any recommendation in 54 children (26 per cent) because of inadequate information.

It may be of interest to analyze the reasons behind the problem of overinstitutionalization, based on our surveys and our Review Committee activities. Some of the major reasons are as follows: (1) inadequate medical supervision of the patients; (2) infrequent periodic team evaluations of the patients; (3) too little and too late social service coverage of the patients and their families; (4) some unfamiliarity with other resources offered by the community; (5) gaps in resources in the community to meet the needs of orthopedically handicapped children; (6) the need to bring to the staffs of the institutions up-to-date information in the field of rehabilitation or to make further opportunity for training in this field available to them.

These reasons of course are of vital concern to the professional staffs and administrators of the institutions, to the Bureau staff, and to the many community voluntary health, social, and welfare organizations interested in the care of handicapped children. An organization such as the New York Society of Physical Medicine can be of great assistance in many of these areas.

The Next Steps in Care of These Children

It is reasonable to look beyond inpatient care to other kinds of community care essential to the rehabilitation of orthopedically handicapped children. In looking at these steps one must remember that many of these children have a chronic disease and require long-term supervision. A meeting held in Chicago in March, 1953, under the auspices of the Commission on Chronic Illness considered most of these needs. Briefly they may be summarized as follows:

Care of the Patient in His Own Home.—In conjunction with the Institute of Physical Medicine and Rehabilitation of the New York University-Bellevue Medical Center, the Bureau is currently doing a team evaluation (by a physiatrist, orthopedist, pediatrician, and medical social worker) of all 800 orthopedically handicapped children of school age who are homebound. Significant findings of the first group evaluated, representing one half of the case-load in Manhattan, are that about 50 per cent have been found ready to return to school immediately; another percentage, as yet unknown, could return to school if their families lived in a ground floor apartment or in an elevator building, and another percentage, as yet unknown, were receiving intermittent medical supervision.

Other problems have recurred such as the need for therapy, for recreation, for housekeeping and homemaker services, as well as for public health nursing supervision at home. The best solution to these needs is through a formal, well-organized home-care program connected with or affiliated with the larger inpatient and outpatient services with all of the necessary professional services provided.

OUTPATIENT DEPARTMENT CARE.—Directly related to the need for a home-care program is the need to strengthen and improve the outpatient services of hospitals so that long-term supervision of high quality can be provided for the ambulatory patient who is able to attend the clinic. Significant facts, which will be brought out in the other papers in this symposium, are the need to strengthen the medical supervision of the patient, the social service coverage, and the supervision of therapy services, to provide services to the patient on a team or group basis, and to promote continuity of care between the outpatient department and the home through liaison with the community public health nursing services. Since most orthopedically handicapped children are not in inpatient services but are attending outpatient departments on an ambulatory basis, it is the outpatient department which is the first line of defense, not the last. It is in this area particularly where there is great need for assistance.

It is true that some admissions to inpatient services could be prevented by better workup in outpatient departments. It is equally true that long-term necessary supervision of the patient could be maintained better if there were a time appointment system so that patients would not have to wait for hours on uncomfortable benches, if the patient and his family could be made to feel that the staff is taking more of an interest in his individual problem, and if there were provision for regular staff conferences in the outpatient services so that each patient would be carefully and frequently evaluated completely. Not only would this provide better patient care, but also it would prevent shopping around from clinic to clinic, and it might reduce the total number of outpatient department visits usually made.

FOSTER HOME PLACEMENT PROGRAM.—Although the total number of handicapped children who are in institutions, who no longer require inpatient care, and who come from broken or nonexistent homes is unknown, nevertheless, it is known that the number is large enough to constitute the need for a community foster home program for handicapped children. This problem is now being worked on by the Bureau, the Department of Welfare, and many voluntary agencies in the city. It is likely that a community-wide foster home program for handicapped children will be developed shortly through the cooperative efforts of the official and voluntary agencies concerned.

HOUSING.—Although housing constitutes a problem for most of us, it is a much more difficult one for those families having a handicapped member. It is known that there are some handicapped children in institutions who could return home if their families had a more suitable apartment. It is also known that some handicapped children who are homebound could attend school if they had a way of getting out of the apartment and onto the street. Housing then has become a barrier to the provision of a more normal life for handicapped children.

It is hoped that some progress may be made in this direction with the cooperation of the City Housing Authority.

SPECIAL CLASSES IN PUBLIC SCHOOLS.—Provision of equal educational opportunity for handicapped children is an accepted principle in any broad program for handicapped children. Following discharge of children from inpatient services of institutions, education within the community becomes an important link for the handicapped child. The public educational system of the city makes special provisions for some physically handicapped children: special classes for cerebral palsied children (run jointly with the Board of Education and supported partly by United Cerebral Palsy of New York City), a public school for deaf children, and special orthopedic, cardiac, sight conservation, and Braille classes.

However, special medical and health services have only been provided for children in the special cerebral palsy classes. Two problems have been encountered in these educational services which will be briefly mentioned:

1. *Appropriateness of placement:* Studies over the past two years of children in orthopedic, cardiac, sight conservation, and Braille classes indicated that about one third of the children medically could be in the regular classes. For this reason the Bureau is now sending specialists

into the special classes to do a personal on-the-spot evaluation of these children. Probable reasons accounting for the inappropriateness of placement of these children include (*a*) lack of understanding by physicians in the city concerning this special educational placement program and (*b*) lack of continuous medical supervision of these children so that they may be transferred to regular classes as promptly as their medical condition warrants.

Members of the New York Society of Physical Medicine are urged to assist us so that children may be more appropriately placed as promptly as possible.

2. Need for classes for moderately to severely disabled children: Special medical and health services are only provided for children in the special cerebral palsy classes. There are other children who could benefit from similar services, particularly children with poliomyelitis, muscular dystrophy, multiple congenital malformations, etc. It is recommended that these children be provided with medical and health services similar to those now being provided the cerebral palsied child, so that their rehabilitation may be accomplished as rapidly as possible.

VOCATIONAL ASPECTS OF REHABILITATION OF HANDICAPPED CHILDREN.—The ultimate purpose of any program for handicapped children should be to assist them in their rehabilitation in such a way that they may become independent, self-supporting, and productive members of society.

Dr. Tobis will present specific data on this aspect of the surveys. From his data it will be evident that there is a great need to strengthen the vocational services in hospitals. An ideal arrangement would be for each hospital to have one or more vocational counselors on its staff, either directly provided by the hospital or indirectly provided on an affiliation basis with one of the specialized vocational agencies in the community.

Counseling of Parents

It is normal and natural for any parents to be concerned about the health of their child. For parents who have a handicapped child, especially one requiring long-term supervision, the concern usually becomes proportionately greater. Many questions of vital concern to parents arise which should be handled reasonably adequately. Once a diagnosis has been established and a team plan made for the management of the child, there is great need for bringing the family into the picture and keeping them in the picture. Certainly if visiting hours were liberalized and the parents really encouraged to visit their children and if the visiting periods were used to some extent as opportunities for instruction of parents in the care of their children, they might feel more secure about taking their child home, they might be better prepared to care for him at home, and they might be more likely to continue with the long-term treatment plan.

This, then, is a challenge to all of us to make a more concerted effort on the part of all members of the team to stimulate better methods of counseling of parents.

Summary

This report has presented background information and reasons why the Hospital Consultation Program for handicapped children has been developed by the Bureau for Handicapped Children of the New York City Department of Health. Preliminary surveys of 24 of the 28 hospital children's orthopedic services in the city indicate that although the potential pediatric resources in the services surveyed are great, the pediatric staffs have participated very little in the hospital care of the orthopedically handicapped child. Some facts on the problem of overinstitutionalization and the reasons for it are presented. As inpatient services are improved and as children become rehabilitated and discharged more promptly, we must look ahead and be prepared to take some next steps in the community—strengthening of outpatient departments of hospitals, organized home care, strengthening of medical and health services for children at school, provision of foster homes for those handicapped children who need it, and provision of priority housing for families having a handicapped member.

The total care of handicapped children requires a multiplicity of professional skills, and the team approach is essential.

Orthopedic Aspects

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MOST institutions with organized orthopedic services are desirous of participating in the State aid program for two principal reasons: (1) to receive payment for the care of orthopedically handicapped children treated at the hospital and (2) to expand their orthopedic services by referrals from the various agencies throughout the city which are more likely to send patients to an approved institution where payment for care and appliances is assured.

This material represents a survey of 24 hospitals in the city who participate in or who have requested participation in the Orthopedic Program. It must be admitted that the standards represent ideal orthopedic and related care, and few institutions meet all of the requirements at present. A hospital, therefore, is usually approved if it *reasonably* meets the essential standards, provided that good general care is offered and that the hospital is interested and anxious to improve its services.

Only eight of the 24 hospitals had full three-year approval for resident training in orthopedics, four had two-year approval, three had one-year approval, and nine had no approval, indicating that only one third of the hospitals had full residency approval and over one third had no approval at all. Yet orthopedic patients were being seen regularly and cared for in all of these institutions.

In 17 of the 24 hospitals the orthopedic service was a separate department. In three hospitals it was part of the general surgical service, and in four there was no service at all. In 21 of the 24 services the chief was a qualified orthopedic surgeon, but only 15 of the 24 (62 per cent) had only orthopedists on the staff. Three hospitals had qualified orthopedists on a consultant basis only. In only half of the hospitals was there a separate orthopedic house staff.

In almost all instances routine attending orthopedic rounds were made at least once a week with 13 institutions having daily attending rounds. Usually grand rounds were considered as a function of the orthopedic service alone and were made only by the orthopedists and the nurses assigned to the particular wards. In five institutions social service workers accompanied the orthopedists, and in only three did the pediatrician come on children's orthopedic rounds. In only five was the department of physical medicine and rehabilitation represented. In staff conferences as well, orthopedists usually attended alone. It was the distinct impression that much better over-all and coordinated care was given when rounds and conferences represented a team effort on the part of all of the related services. Too often, social service, pediatric, nursing, or physical therapy problems may be overlooked and never properly followed through unless representatives of these services are there when the child is presented and discussed.

The relatively poor liaison between pediatrics and orthopedics has been emphasized in recommendations and at hospital conferences, using our own survey team as an example of how pediatrician and orthopedist can assist each other in the care of handicapped children. Although there is a universal desire to improve care along lines of better liaison between services, these conferences frequently seemed to be the first time both the hospital pediatrician and orthopedist have met to review possible means of cooperation. An important first step, therefore, is to bring the proper personnel together to discuss better liaison, demonstrate its practicality, and offer suggestions based on experiences of other institutions as to how they have overcome their obstacles and problems.

Because of generally poor liaison between orthopedics and physical medicine and frequently inadequate over-all medical supervision, there was almost a universal overuse of physical therapy. From the orthopedic viewpoint the nature of physical therapy given in a high proportion of institutions represented isolated therapy with application of heat in various forms and use of expensive, impressive machines. There was seemingly little understanding as to the basic concepts of rehabilitation itself and means whereby specific needs of orthopedically handicapped children could be met.

In reference to the large amount of overinstitutionalization in hospitals and convalescent homes it might be of interest to mention our experiences in another new approach to the problems of the orthopedically handicapped child during the last six months. In this period we have established a Review Committee meeting weekly and reviewing all cases that have had one year or more of institutionalization, either consecutively or intermittently, where requests have been made for further inpatient care. Of 210 children reviewed during a six-month period, recommendations were made that 48, or approximately one fourth, of the children should be discharged with or without recommendations as to social service assistance. Forty-seven of these 48 were discharged during that period, indicating that not only were one fourth of the patients overinstitutionalized, but with social service assistance in many cases discharges could be arranged. Of the 59 cerebral palsy children reviewed, it was recommended that 25, or almost half, be screened for a cerebral palsy school unit. Many of the cerebral palsy children had neven been tested psychologically for educability, and huge sums of money have been spent in years of expensive inpatient care on several children who on evaluation were of imbecile level and should have been at home or in custodial institutions.

This entire approach has been toward reducing overinstitutionalization and returning children to as normal a home life as possible without jeopardizing good medical care. Although in a few cases overinstitutionalization appeared to be a conscious effort to boost census, it usually reflected the unfamiliarity of the staffs with facilities available in the community to cope with the problems of the handicapped child. Incomplete and lack of continuous medical supervision and poor teamwork between the orthopedic and related services, particularly social service, may result in the "forgotten child," who just stays on and on.

In the light of a far greater number of beds available for the care of orthopedically handicapped children in the city as compared to the relatively smaller number of children requiring this attention, what should be the attitude of the public health agency which pays for this care? Should approval be limited to only those institutions affording the finest care within the limits of the needs of the community and efforts and finances devoted to still further improvement of these facilities? Or should approval be given to a large number of institutions, each with small orthopedic services and insufficient case material for resident training? We are unable to answer this question at present and depend on the advice and help of the Advisory Committee and the practicing physicians in the city for guidance. It is hoped that the problem will solve itself through a process of "natural selection" where institutions which offer good care and are anxious to grow will continue as the core of the Handicapped Children's Program and those who cannot or, in reality, do not care to develop outstanding departments may want to drop out of the program.

Following the hospital survey a revisit is made to the orthopedic outpatient department. Three institutions treating handicapped children had no orthopedic clinic. In only one third of the hospitals was a children's orthopedic clinic a separate division of the outpatient department. A pediatrician was in attendance at the orthopedic clinic in only two instances. It was surprising to note the relatively small effort made to develop good outpatient facilities for the handicapped child, compared to the relatively greater efforts directed towards the development of inpatient services. The need for strengthening outpatient departments will become more pressing as overinstitutionalization is reduced and more patients are treated at home. In all instances where separate children's orthopedic clinics have been developed, it was the general feeling that they were worth while from the point of view of better patient care and better staff teaching. In several overcrowded clinics the diagnostic facilities were poorly used, and institutions were prone to admit children for workups that could have been done in the clinic. A large number of clinics are seriously understaffed with more than *half* having an inadequate number of staff members in attendance. Two clinics had as few as one attending to 80 or 100 patients. None of the clinics had time appointment systems, meaning long periods of waiting for children, infants, and mothers on clinic benches. Physical facilities of many clinics were inadequate, particularly as far as plaster casts were concerned. Delaying cast changes until the end of the clinic, because of personnel shortage, often caused hours of waiting. In some instances patients were given other appointments to return on special cast days, entailing an extra visit for the mother and child.

Operating rooms were well equipped, although frequently the operating suite did not have good facilities for extensive plaster work. Only two thirds of the hospitals had qualified directors of anesthesia, and in only one third was anesthesia routinely administered by qualified physician anesthetists. In several of the hospitals with approved orthopedic residencies, anesthesia was given routinely by nurses. In general, x-ray and laboratory facilities were good. In only five hospitals was there a unit system of records where clinic and inpatient charts were kept together so that there might be a continuity of medical information between inpatient and outpatient services.

Two other programs have been developed by the Bureau, namely, the medical evaluation of children being taught by a home teacher and those in special classes because of orthopedic handicaps. In both groups about one third of the children were misplaced and belonged either in special classes or regular classes, respectively. This educational misplacement of one third of the orthopedically handicapped children reflects either lack of knowledge of the types of school facilities available in the city or an overprotective attitude towards handicapped youngsters, and it further represents another area where we are badly in need of the help of the practicing physician.

It can be concluded, therefore, that there are real problems associated with the care of orthopedically handicapped children throughout the city. Some institutions offer excellent over-all facilities, while others fall below the accepted standards of good care. The problem is posed as to the need for the further overextension of inpatient hospital facilities for orthopedically handicapped children in the light of the lack of demand for these facilities.

The more prominent areas requiring attention are in the development of better liaison between orthopedic and other related hospital services, particularly pediatric, physical medicine and rehabilitation, and social service. A separate children's orthopedic clinic with pediatrician in attendance, routine pediatric and social service coverage of all orthopedic cases admitted, joint orthopedic, pediatric, and physiatric rounds and conferences, and training of pediatric residents in orthopedic problems are suggested.

Overinstitutionalization can be reduced by improved general medical supervision, teamwork between the various services, and greater use of convalescent or, better still, social service and public health facilities to make interval home care more practical. Among other needs are integration and development of orthopedic residencies and their separation from general surgery, use of only qualified orthopedists on staffs, better planning and staffing of orthopedic clinics, and more careful attention to school placement recommendations.

The success of the over-all program to improve orthopedically handicapped children's care in New York City depends on the cooperation of all of us as practicing orthopedists and as hospital staff members of orthopedic services. It is our responsibility to demonstrate the leadership and to interest and coordinate the other members of the team—the pediatrician, the specialist in physical medicine and rehabilitation, the various therapists, the nurse, the social worker, and the hospital administrator—if the care given to the orthopedically handicapped children in this city is to be improved significantly in the near future.

Physical Medicine and Rehabilitation Aspects

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For the past nine years the Department of Health of the City of New York has participated in a medical rehabilitation program. This program provides financial support for the care of handicapped children up to the age of twenty-one who are inpatients in hospitals and convalescent homes. The cost of such support is shared equally by the City of New York and New York State.

This rehabilitation program is administered by the Bureau for Handicapped Children which works in close cooperation with the New York State Department of Health to establish and maintain standard program policies. By far the largest group of handicapped children which has been eligible for this support to date is the orthopedically handicapped. In 1953 close to 3,000 applications were made for orthopedically handicapped children to the bureau.

Approximately two years ago the Bureau for Handicapped Children developed a Hospital Consultation Program for the survey of hospital services providing care for the orthopedically handicapped child. The objective of this program is to assist the participating institutions to improve the quality of care provided this handicapped group. An Advisory Committee was appointed, consisting of 21 prominent specialists in orthopedics, pediatrics, physical medicine and rehabilitation, social service, nursing, and medical administration. This committee has established standards for the hospital care of such children.

Hospitals which participate or which are desirous of participating in this program are surveyed by a team consisting of a pediatrician, orthopedist, physiatrist, nurse, and social worker. This team meets with representatives of the hospital, surveys the facilities, and presents its findings to the Advisory Committee. The committee then evaluates the findings and either approves or disapproves the hospital for participation in the program. At a subsequent date the survey team plans a meeting with the hospital representatives to review the findings and recommendations for both the approved and nonapproved institutions.

The remainder of this paper is concerned with the standards and findings of the committee relative to physical medicine and rehabilitation. We feel that the support and guidance of the representatives of the field of physical medicine and rehabilitation will help to resolve some of the problems posed by this report.

The standards that have been established relative to the field of physical medicine and rehabilitation include the following:

1. The hospital should have a department of physical medicine and rehabilitation under the direction of a physician certified by the American Board of Physical Medicine and Rehabilitation. This department will include physical therapy and occupational therapy.

2. At least one qualified physical therapist should be provided for every 15 orthopedically handicapped children requiring physical therapy. The physical therapists should be graduates of schools of physical therapy approved by the Council on Medical Education and Hospitals of the American Medical Association and should meet requirements for licensure by the New York State Department of Education.

3. Adequate space should be provided for the various physical therapy modalities.

4. Adequate records of physical therapy should be kept, and a progress report should be included in the patient's unit record.

5. The hospital should have an occupational therapy department under the direction of a qualified occupational therapist. The occupational therapist should be a graduate of a school of occupational therapy approved by the Council on Medical Education and Hospitals of the American Medical Association.

6. There should be one occupational therapist for each 20 orthopedically handicapped children requiring occupational therapy.

7. Adequate records of occupational therapy should be kept, and a progress report should be included in the patient's unit record.

8. Space should be provided for the various occupational therapy activities.

In addition to these, general medical recommendations covering all services include the following:

1. The hospital should be approved by the Council on Medical Education and Hospitals of the American Medical Association for the training of residents in orthopedic surgery and pediatrics.

2. The hospital should be approved by the Joint Commission on Accreditation of Hospitals.

3. Consultation service from the fields of neurology, psychiatry, otology, and ophthalmology and other medical specialists when necessary should be readily available when indicated.

4. Physical examination on admission or shortly after admission should be performed and recorded by both the orthopedic and pediatric staffs. Daily rounds should be made by members of both staffs. At the discharge examination, arrangements should be made for adequate orthopedic and pediatric follow-up and care, including home nursing.

5. Periodic staff conference should be held, at least once monthly and preferably weekly, to review the course of the patients on the service.

TABLE I.—ANALYSIS OF DEPARTMENTS OF PHYSICAL MEDICINE AND REHABILITATION

	Number of Hospitals
Separate department	15
Under qualified director	11
Under orthopedist	1
Not provided	9
TOTAL	24
Organization and equipment of department	
Well organized and equipped	8
Reasonably well organized and equipped	1
Fairly well organized and equipped	2
Some physical therapy equipment	2
Just 1 physical therapy room	1
None	10
TOTAL	24
Separate rehabilitation ward	7
For postpolio patients only	2
With orthopedics	1
Rehabilitation service	4
Not provided	17
TOTAL	24
Outpatient department	8
Ratio of physicians to patients	
1 to 9	1
1 to 12	1
1 to 17	1
1 to 40	1
1 to 75	1
1 to 85	1
Unknown	2
Staff conference	
3 times a week	1
1 per week	5
1 per month	2
Routine	1
None	15
TOTAL	24

TABLE II.—PROFESSIONAL PERSONNEL PROVIDED IN DEPARTMENTS OF PHYSICAL MEDICINE AND REHABILITATION

	Number of Hospitals
Physical therapy staff	
Only qualified therapists	2
No qualified therapists	2
Both qualified and unqualified therapists	5
Qualifications unknown	13
TOTAL	22
Occupational therapy staff	
1 or more therapists	12
1 therapist shared with the service	1
1 therapist 1 day per week	1
None	10
TOTAL	21
Speech therapy staff	
1 or more therapists	10
1 therapist part time	1
1 therapist for clinic only	1
1 therapist for retarded clinic only	1
1 therapist in cerebral palsy clinic	1
None	10
TOTAL	24

TABLE III.—TEACHING SERVICES IN HOSPITALS

Service	Number of Hospitals
Nursing	9
Pediatrics	7
Physical medicine and rehabilitation	7
Orthopedics	6
Speech therapy	1
Application for physical therapists	1

The orthopedic, physical medicine, and pediatric staffs should be expected to attend and participate in conferences; nurses, medical social workers, therapists, and other professional workers where indicated should be invited to attend and participate.

Findings of Survey Team

Table I analyzes the departments of physical medicine and rehabilitation in the 24 hospitals surveyed. Ten of them had no facilities for physical medicine, and only seven of the hospitals had separate rehabilitation wards. Only eight of the hospitals had separate physical medicine and rehabilitation clinics. The ratio of patients to physician in these eight outpatient departments is of interest. In six hospitals the ratio of physician to patients was, respectively, one physician per nine patients, one per 12, one per 14, one per 40, one per 75, and one per 85 patients. In 15 hospitals no staff conferences in physical medicine and rehabilitation were held.

Professional personnel provided in the departments of physical medicine and rehabilitation are shown in Table II. Twenty-two hospitals had a physical therapy staff (at least one physical therapist); ten hospitals had no occupational therapy staff, and ten had no speech therapy staff. Sixteen hospitals had a psychologist (one had a sister who was not qualified), and one hospital had a psychologist for the cerebral palsy clinic. Sixteen of the 21 hospitals had a teacher in continuing education of the children, and three hospitals had a recreation worker.

Teaching services in the hospitals are shown in Table III. Seven of the institutions had departments of physical medicine and rehabilitation involved in teaching. In addition, one third or eight of the hospitals surveyed had residency approval in physical medicine and rehabilitation, and 16 were not approved.

The keynote of any effective program for the care of the handicapped child is teamwork. This is based on the cooperation and integration of medical and other professional disciplines. Only eight of the 24 or one third of the institutions had qualified chiefs of service in the three specialties of orthopedics, pediatrics, and physical medicine and rehabilitation, and only four hospitals had residents in all three specialties (Table IV). A study of the frequency of medical rounds made

TABLE IV.—RELATIONSHIP WITH OTHER SERVICES IN HOSPITALS

	Number of Hospitals
Qualified chiefs of services	
Orthopedics, pediatrics, and physical medicine and rehabilitation	8
Orthopedics, pediatrics, and physical medicine and rehabilitation on paper only	4
Orthopedics and pediatrics	7
Orthopedics and physical medicine and rehabilitation	2
Physical medicine and rehabilitation and pediatrics	1
Physical medicine and rehabilitation only	1
Pediatrics only	1
TOTAL	24
Resident staff	
Orthopedics, pediatrics, and physical medicine and rehabilitation	4
Orthopedics and pediatrics	4
Orthopedics and physical medicine and rehabilitation	1
Orthopedics only	3
Pediatrics only	6
Physical medicine and rehabilitation only	1
General surgery and pediatrics	2
General surgery only	2
None	1
TOTAL	24

TABLE V.—FREQUENCY OF MEDICAL ROUNDS

	Orthopedists	Pediatricians	Physical Medicine and Rehabilitation
Daily	11	6	2
4 times a week	. .	1	. .
2 times a week	1	. .	. .
1 per week	8	4	3
Consultation only	3	7	1
Irregular	. .	1	2
Rarely	. .	. .	1
None	1	3	15
Unknown	. .	2	. .
TOTALS	24	24	24

TABLE VI.—ARRANGEMENTS FOR CONVALESCENT CARE

	Number of Hospitals
No specific plan	5
Kept in hospital for convalescent care	3
Kept in hospital or sent to a city hospital	2
Home care used	1
Is a convalescent service also	1
None used for 5 years; kept in hospital	1
None ever needed	1
Plan with 1 convalescent home	5
Plan with 2 convalescent homes	2
Plan with 1 convalescent home and one hospital	1
No information	2
TOTAL	24

by members of the three departments showed that 15 of the 24 institutions had no medical rounds made by a physiatrist (Table V). In seven of the hospitals consultations from other services were not readily available.

In Table VI are listed the arrangements made for convalescent care of the children by the various hospitals.

TABLE VII.—SUMMARY COMMENTS ON FACILITIES

1. Modern and good.
2. No water in wards. Isolation on wards.
3. No water in wards. Bedpan flusher out of order.
4. Plaster room inadequate.
5. Terrible physical therapy setup. Poor clinic setup, overcrowded.
6. Orthopedic cases mixed up with surgery, dermatology, ear, nose, and throat, chest surgery. Poor outpatient department setup.
7. Cerebral palsy clinic small and crowded.
8. No water in rooms. No bedpan sterilizer. Physical therapy equipment inadequate.
9. Excellent.
10. Clinic overcrowded.
11. Wards and physical medicine and rehabilitation overcrowded.
12. Outpatient department meets in emergency room.
13. Adequate but old. Poor clinic setup. Poor physical therapy setup. No occupational or speech therapy.
14. Dreary.
15. Dirty, dreary, unattractive.
16. Wards have no water.
17. Good except for physical medicine and rehabilitation.
18. Fair except for physical medicine and rehabilitation.
19. Pediatrics jammed. Setup poor.
20. Good.
21. More space needed for exercise and ambulation program.
22. Crowded adult wards. Crowded and poor physical medicine and rehabilitation.

TABLE VIII.—SUMMARY COMMENTS ON RECORDS

1. Orthopedic and pediatric progress notes brief and infrequent.
2. Some had no physical examination or pediatric notes. Few progress notes. Physical therapy notes brief.
3. No notes by pediatrician. Discharge notes absent or brief.
4. No physical therapy records. Some had no operative notes. Progress notes sketchy and infrequent. No pediatric notes.
5. No pediatric admission notes. Progress notes brief. Brief operative notes. Hard to follow course.
6. Physical therapy records not in charts. Nursery records incomplete.
7. Few and infrequent pediatric notes and workup.
8. No physical therapy notes. Nursery notes separate. No pediatric notes.
9. Physical medicine records kept in physical medicine department. No physical therapy notes.
10. No pediatric notes.
11. No notes by physiatrist or pediatrician.
12. Few medical notes. No orthopedic notes.
13. No physical therapy notes on records. Problem of getting x-rays and x-ray reports for outpatient department patients.
14. No pediatric notes. Progress notes infrequent and incomplete. Very few notes by attending orthopedists. Sometimes no notes.
15. Adequate.
16. Fairly good medically.
17. Few pediatric notes.
18. Excellent.
19. No social service notes. Physical therapy notes not on patient's record. Physical medicine notes limited to prescription. Few pediatric notes.
20. Few physical therapy and pediatric notes.

Summary comments on the facilities and records of the institutions surveyed are given in Tables VII and VIII.

Summary

More than one third of the hospitals surveyed have no department in physical medicine and rehabilitation. Of the remaining two thirds the services vary in quality from poor to excellent.

In these days when physical medicine and rehabilitation is expanding rapidly in medical schools and hospitals, the field has a responsibility for the establishment of standards and for the fulfillment of those which already exist, such as residency training, public health service grants, Board qualifications, and programs of clinical care such as the Medical Rehabilitation Program of the Bureau of Handicapped Children.

It is apparent that on re-evaluation of the material presented here the field of physical medicine and rehabilitation should consider those areas of clinical care which need to be strengthened.

One of the problems which this survey committee has enountered is that of overinstitutionalization and a related problem of convalescent care of the handicapped child. In a paper presented to the Orthopedic Section of the New York Academy of Medicine by Dr. Siffert of this survey team, the problem was posed as follows: "It was generally noted that hospitals underuse convalescent facilities and keep patients in their own hospitals for extended periods of time. This accounted for the relatively high census of some children's orthopedic services in the light of a low surgical load."

If we in physical medicine and rehabilitation were to rephrase this proposition in the light of our experience, we might state that the problem of overinstitutionalization exists in part because the capacities and skills of our field have not been fully utilized or developed.

Further, if the hospitals were fully cognizant of the role that physical medicine and rehabilitation could play in such a program, not only would overinstitutionalization be diminished, but the quality of the total care of the patient would be enhanced.

Finally, it is the experience and recommendation of the survey team that the care of the handicapped child is not the sole responsibility of any one medical specialty, be it pediatrics, orthopedics, or physical medicine and rehabilitation. The responsibility for leadership is to be regarded rather as a cooperative effort of these services to guide all the related disciplines involved in the care of the child.

Nursing Care

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In 1940 the Commission for Study of Crippled Children published a report, "The Crippled Child in New York City." This study pointed out existing situations and made recommendations for improvement in programs concerned with the crippled child. Nursing was a part of this survey, and Miss Alice Brackett was the nurse on the survey team. The report indicates that of the 27 hospitals studied, nursing care of orthopedic patients was provided in 13 hospitals which maintained a professional school of nursing and in 14 with no organized school. In the 13 hospitals with schools of nursing, orthopedic nursing was provided largely by nurses in training.

In the majority of general hospitals orthopedic patients were cared for in either pediatric or adult surgical wards, indicating that the problem of providing quantitative nursing was one of adequate nursing care for all patients in those services.

The study also indicated that supervision of nursing care was the responsibility of nurses who had relatively little opportunity to enlarge their knowledge of orthopedic nursing. In only four of the hospitals did the survey find that the supervisors of wards for orthopedic patients had special training in orthopedic nursing. It was indicated that the situation obtained because comparatively little orthopedic nursing experience was available in schools of nursing, and it was difficult to find supervisors of surgical and pediatric wards who had had specialized orthopedic experience. Part of the problem was indicated by the fact that the number of orthopedic patients in general hospitals was small in comparison with the number of students who needed experience in the field.

In general, these findings of the 1940 report are applicable in 1954. The fundamental problem is undoubtedly the same today as it was in 1940. The greater number of services available compared with the small number of children who require hospital care makes it difficult to secure adequate experience for the student nurse so that she graduates with limited knowledge and experience in the care of the orthopedically handicapped patient.

The team approach in the Hospital Consultation Program now offered by the Bureau for Handicapped Children includes a survey of the nursing service and nursing care given to patients in the inpatient and outpatient services of the hospital and a review of policies regarding the coordination of care of the patient in the hospital and public health nursing care in the home.

This report covers an evaluation of nursing in 21 hospitals caring for orthopedically handicapped children. Of this group four are municipal hospitals, and 17 are voluntary hospitals. Of the 21, 11 are connected with professional schools of nursing, four with a practical nursing school, and one is used as an affiliating source for students from schools of nursing in New York, New Jersey, and Connecticut. Therefore, 15 of the 21 hospitals surveyed are responsible for providing some type of nursing education.

Facts obtained by these surveys indicate 16 hospitals or 76 per cent provide nursing supervisors. While supervisors in 11 of the hospitals where supervisors were provided either had had or were working toward advanced nursing education in university programs, in only five (about one fourth of the hospitals) had the supervisor had special preparation in orthopedic nursing; in five she was well trained in pediatric nursing. In three hospitals a nurse with some experience in rehabilitation nursing was provided. As in the 1940 study, the problem of providing supervisors specially trained in orthopedic nursing appears to lie in the fact that orthopedic patients are cared for in a variety of places within the hospital wards. For example, in one hospital small numbers of orthopedically handicapped children were spread over eight different hospital wards, and the supervising nurse spent one eighth to one ninth of her time on each ward.

Of the 21 hospitals studied, ten, or a little less than half, provided graduate nurse coverage at all times in the twenty-four hours; nine provided graduate nurse coverage during the day only, and two provided it day and evening. Thus, in 52 per cent of the hospitals there was no graduate nurse supervision of nursing care given by student nurses, practical nurses, attendants, and nurses aides from four o'clock in the afternoon until eight o'clock the following morning. The greatest amount of nursing staff is provided by hospitals on the day tours of duty, less on the evening, and least at night. Whether this is sound practice in caring for this type of patient needs to be determined by study.

Review of nursing service provided in the orthopedic outpatient department reveals that 14, more than half of the hospitals, assigned at least one graduate nurse; six did not, and on one we had no information. In none of the hospitals studied were professional nurses used in the clinic to their fullest advantage. There is serious need to review the activities and functions of all levels of nursing personnel—professional, practical, and nurses aides—in outpatient departments so that more productive use may be made of the various nursing skills. In none of the hospitals visited did the professional nurse have the time or the place to make use of her skills in counseling of patients and families or to plan with the physicians and medical social workers for referral of patients for public health nursing follow-up at home. Fourteen of the hospitals visited had established a policy for referral of public health nursing home follow-up. This figure of 66 per cent having such a policy would appear to indicate fairly adequate coordination between hospital and home. However, in all of these hospitals referral was on a limited basis and only when requested by the physician.

In reviewing the findings of this survey of 21 hospitals, the problems in general would appear to be:

1. Need for strengthening direct supervision of nursing care by professional nurses who are trained in orthopedic and rehabilitation nursing. Direct supervision implies that the nurse is on the spot, available to observe patients, and to supervise, assist, and teach members of the nursing staff—student nurses, practical nurses, attendants, and nurses aides.

2. Need to provide at least one graduate nurse at all times in the twenty-four hours to assure supervision of nursing care given to patients by less trained members of the nursing staff.

3. Need to integrate nursing care of patients on the hospital wards with activities of patients

in the physical therapy and occupational therapy departments. Study has indicated that where this integration does not take place, the patient is left in the middle. Activities taught in the physical therapy and occupational therapy departments in a minimal amount of time are not carried over to the patients' activities of daily living in the hospital wards and rooms. Where the physical therapist and occupational therapist may be carrying out these activities on a once- or twice-a-week basis, there is opportunity under nursing guidance to practice them the twenty-four hours, seven days a week of the hospital stay. For example, the simple procedure of teaching a patient to brush his teeth in the rehabilitation program of the physical medicine and rehabilitation department has been found to be carried out on a twice-a-week assignment of the patient to the department of occupational therapy. When this is integrated with the nursing department and nursing care, this procedure might very well be taught and supervised at least twice a day at morning and evening nursing care. To use the old cliche, "Practice makes perfect." It may not make perfect for the handicapped person, but it should improve his skill.

4. Need for more coordination and continuity of care between hospital and home. Joint planning of physicians, medical social workers, nurses, occupational therapists, physical therapists, and others concerned with the patient's care in the hospital and outpatient department should assist the patient and his family to carry over into the home what the hospital team feels is indicated for his care. When this is not done, it frequently happens that activities taught and time spent are lost in regression of the patient by his inability to carry them out in the home because no plan has been made.

For example, a public health nursing visit to a home sometime after the patient's discharge disclosed the following:

D. C., a fourteen-year-old child with cerebral palsy, was discharged from institution to his home. He continued under outpatient department care for exercise therapy, gait training, occupational therapy, and psychologic counseling for a fear complex and lack of independence. While the child was making considerable progress and the family seemed particularly pleased with his progress, there were obstacles in the home which undoubtedly contributed to this child's worries and lack of independence. The nurse found that one of the problems he was meeting was that the door space to the bathroom was not wide enough for the child to wheel his chair through. This meant, of course, that wheelchair activities in meeting his bathroom needs which had been so carefully worked out in the rehabilitation department and carried out by the child there could not be followed in his own home.

A public health nursing visit to the home before the child's discharge might have contributed to better planning and better opportunity to carry over activities of daily living. The importance of a good follow-up program must be stressed.

5. Need for studies to determine what kind and how much nursing service for inpatient and, particularly, outpatient services is required and a more definite allocation of functions commensurate with nursing skills.

6. Need for more active participation by nurses in ward rounds and conferences of all departments, orthopedic, physical medicine, and pediatrics. These conferences not only afford the nursing staff an opportunity to participate in and contribute to the total plan for the patient, but they also offer the nurses an excellent opportunity to enlarge their knowledge of orthopedics and rehabilitation.

These are some of the needs as we see them. When can we do? What are we doing to help meet these needs to improve nursing care to the orthopedically handicapped child? In the period of fifteen months in which nursing has been teamed with the hospital consultation service, with the cooperation and active assistance of the hospitals and many community voluntary agencies we have been able to take the following steps:

With the "Standards"* as a guide, recommendations have been sent to the individual hospitals surveyed, and conferences have been held in which nursing has participated.

2. Assistance has been given in planning for hospital supervisors and head nurses to secure supplemental experience in orthopedic nursing.

3. With the assistance of a Technical Subcommittee and the Orthopedic Advisory Committee, under the chairmanship of Dr. Philip Wilson, a guide for public health nursing follow-up has been prepared and distributed in an effort to extend coordination of hospital and home care.

4. With the cooperation of the nursing organizations, voluntary agencies, and the Hospital for Special Surgery, a three-day program for graduate nurses was held in December, 1953.

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* Standards Recommended for Hospital Care of the Orthopedically Handicapped Child.

Forty-four nurses from orthopedic services attended. In addition to discussions led by outstanding physicians, nurses, and others in the field, case demonstrations of actual patients were presented by Dr. Philip Wilson and Dr. Robert Siffert. Nurses' evaluation at the termination of the institute indicated general satisfaction with new knowledge acquired, request for future programs, and suggestions of topics for discussion. Some suggestions of what nurses would like to know from the medical specialists in orthopedics and physical medicine and rehabilitation are the following:

(*a*) What are the new trends in rehabilitation?

(*b*) What are rehabilitation technics?

(*c*) What are modern concepts in treatment and rehabilitation of cerebral palsy?

(*d*) What can be done about occupational therapy procedures in absence of an occupational therapist?

(*e*) What are the mechanical devices used in rehabilitation?

(*f*) How can we secure coordination and cooperation with department of physical medicine and rehabilitation and other services in promoting skills for daily living, recognizing that the nurse is not the physical therapist?

These are but a few of the suggestions given to us, but they point out that nurses are looking for help. The orthopedists and physiatrists can help us in the Bureau for Handicapped Children's Program. They can help the nurses in their hospitals by helping them to answer these questions.

Medical Social Work Aspects

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An advisory committee of the Children's Bureau has stated the following: "One of the most fundamental of human rights is the right of every individual to the maximum degree of physical and emotional health which it is possible for that individual to attain with the aid of the best scientific knowledge and technical services which are at the disposal of the nation."

These are also our aims in the Bureau for Handicapped Children and are the basis for our Hospital Consultation Program, our Review Committee, and whatever efforts we put into attempting to achieve, on a community-wide basis, the best care possible for handicapped children.

It is an accepted concept that all patients should be treated as individuals rather than disease entities. A patient's personality, his attitudes, his financial status, his home, and the attitudes within his home affect his response to treatment and the effectiveness of the treatment which is given to him. When one of these factors interferes with a patient's receiving treatment or benefiting by it, it is an indication that the patient or his family needs special help.

The trained medical social worker is equipped to give this help. She is able to use herself and her skills in understanding the patient and what is disturbing to him or to his family. She may be a liaison person between the hospital and the patient, giving an understanding of him to the staff who are not skilled in knowing a patient quickly, or she may interpret the fearful "unknown" of the hospital to the patient and to his family. All this is directed to the end of the patient and his family allowing the hospital to carry out the treatment plan effectively.

Sometimes there is no apparent problem, but an evaluation needs to be made of the social and emotional factors which can make a difference in long-term treatment plans for a child with a chronic condition. It is accepted that it is important for a child's emotional growth that he be treated in as normal an environment as possible. A social worker who has a child and his family referred to her early enough will be able to work with family attitudes which might have delayed discharge when the child is medically ready (such as parental attitudes of rejection or a working mother's inability to understand the importance to the child of her being at home). The social worker will be able to attempt to obtain adequate housing if this is necessary. Or if these fail, she will be able to make a planned transfer to a convalescent home. She may even find it sounder to recommend, when he is medically ready to leave the hospital, that a child be discharged to an inadequate home if the child is already feeling rejected and if the child could be harmed emotionally by further separation from his family. Your trained social worker can be the screen through which the hospital staff looks at the meaning which treatment and steps in treatment can have for the patient and for his family.

It is this individualization of the patient which makes for sound treatment planning, that is, for the treatment plan with which the patient will cooperate. Quality of care can only be assured by continuity of care, and this is as dependent on a patient's cooperation as it is on the excellence of the facility.

In view of the specialized service the trained social worker can offer in the medical care of a patient, it will be interesting to review what we have found in the 23 hospitals surveyed by the hospital consultation team. It should be noted that a social service department is available to all diagnostic groups in a hospital, and the orthopedic service is but one. We do not expect to find different services given to the orthopedically handicapped child, and we conclude that the services to the orthopedically handicapped can be no better than those given to the total patient population.

The 23 hospitals surveyed had a total of 16,665 beds. In these 23 hospitals there were 18 directors of social service, 27 case work supervisors, and 270 social workers. The number of hospital beds cannot give an indication of potential demands on the social service department since each hospital has outpatient clinics, and we have no statistics showing the number of clinic visits made each year.

At the time of the survey the bed capacity in these 23 hospitals varied from 44 to 3,200 beds per hospital. The social service staff varied from none to 60. Only 13 hospitals had completely trained social service departments, and five of these departments covered between 100 to 285 beds per social worker; 15 had departments with trained directors of social service; 12 had case work supervisors, but in three departments these supervisors were untrained.

The ratio of social workers to number of beds ranged from one social worker per 20 beds to one social worker per 285 beds. Seven departments had a ratio of one social worker to 50 beds; nine had a ratio of one social worker to between 50 and 100 beds; four had a ratio of one social worker to over 100 beds, and three were unknown.

Nine social service departments indicated that they had 100 per cent inpatient coverage; four of these indicated 100 per cent outpatient coverage. With the exception of three departments where the ratio is one social worker to less than 50 beds, this may be considered unrealistic unless there is only a superficial review of ward charts. Any more extensive attempt at 100 per cent coverage with inadequate staff could only mean a loss of quality services.

In 12 of the hospitals the social service notes were included in the medical charts. In 11 the social worker participated in ward conferences. In 11 the social worker attended ward rounds. In nine hospitals there was a positive correlation between the social worker's recording in medical charts and participation in ward conferences and rounds.

Summary

Of the 23 hospitals only eight had social service departments which were both fully trained and sufficiently staffed to allow for consistent high quality of case work service. In addition to these eight there were seven hospitals with fully trained and qualified directors of social service who could develop departments consistent with professional standards. At present two thirds of the hospitals have understaffed social service departments.

It is an established standard of the American Association of Medical Social Workers that medical social workers in a hospital setting must be graduates of an accredited school of social work and, in addition, have a two-year period under qualified supervision.

The services offered by a trained social worker are inherently qualitative and have to be offered in settings of sufficient staff personnel to fulfill the demands upon the social service department without loss of quality of service. Implicit also is a trained director of social service who, even in the absence of a sufficiently large staff, will provide qualified, trained case work supervision and who will encourage selective intake and controlled case-loads to maintain a high level of service.

Intraosseus Venography

Preliminary Report on Its Use in Skeletal and Soft Tissue Abnormalities

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UNDER normal circumstances the visualization of the deep organs and soft tissue structures in the body by roentgenography is dependent on the contrast between calcium, fat, soft tissue, and air. If an organ or soft tissue structure cannot be adequately outlined by virtue of these naturally occurring substances, then an opaque medium must be introduced. This can be accomplished in two ways: Either the lumen of the organ or structure is filled with a substance of higher or lower atomic number than the surrounding tissue, or the vascular system of this organ or structure may be visualized by introduction of a substance of sufficient density to set it aside from the surrounding tissues. Barium and air contrast examinations of the colon are examples of the former, while cerebral arteriography, lumbar aortography, etc., are examples of the latter. A knowledge of the normal arborization of the vascular tree in any given region of the body enables the examiner to deduce in many instances the probable cause or causes of alterations in this pattern. Any method that gives the examiner access to visualization of vessels that could hitherto not be injected because of their inaccessibility is bound to increase the diagnostic potentialities of this type of examination.

The injection of radiopaque material into the bone marrow, an idea first suggested by Ehrhardt and Kneipp[1] in 1943, does actually present to the examiner many new avenues for introduction of a contrast substance into the vascular system permitting visualization of venous channels that do not drain the commonly accessible surface veins.

Stimulated by several reports that have appeared in the foreign literature, wherein the normal venous drainage following intraosseous injection of opaque media in various regions of the body has been outlined, several months ago we began to determine to our own satisfaction the value of this procedure in the presence of abnormalities of the skeletal system and of the surrounding soft tissues. It was anticipated that any information obtained from this study would be dependent on either displacement or obstruction of the visualized venous system. By utilizing this indirect approach, it was hoped that soft tissue alterations not normally visible roentgenographically because of lack of surrounding contrast might be determined indirectly.

The technic of the procedure, which is relatively simple, is carried out in the following manner. An ordinary bone marrow set with a size 17 bone marrow needle and three syringes of 2, 10, and 20-cc. size is utilized. Before the procedure is undertaken, the usual precautions are observed in regard to possible allergy to iodine. The patient is sedated with Seconal about one-half hour prior to the examination and 30 to 50 mg. of Demerol given intravenously just before the examination. After local anesthesia of the selected site with 1 per cent procaine has been carried out, the bone marrow needle is introduced down to the periosteum. Then, with additional pressure and in some instances a rotary motion, the needle penetrates into the cortex of the bone and then down into the medullary cavity. When the needle is felt to be securely in place in the medullary cavity, an aspiration is carried out, and a small amount of bone marrow aspirate proves that the needle is in the correct position. To ensure adequate visualization of the needle, a scout film is then obtained after the injection of 1 to 2 cc. of the opaque medium.

Thus far in these studies, 70 per cent Urokon has been used. The position of the patient on the radiographic table will vary in accordance with the site selected for injection. Although

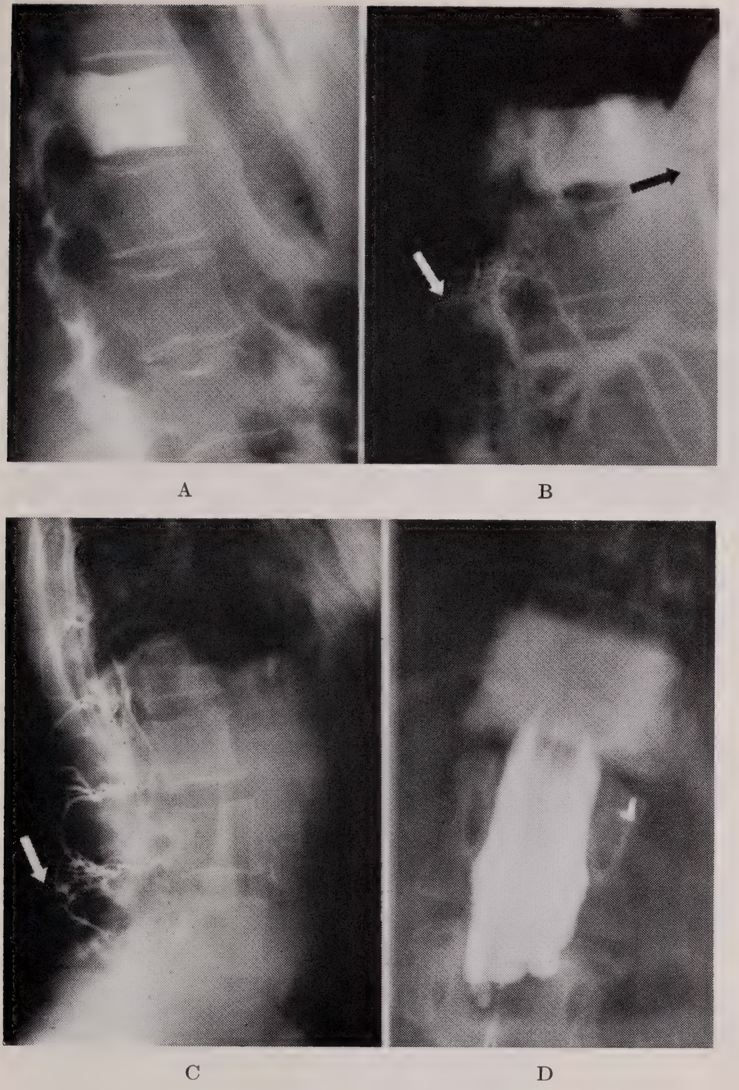

FIG. 1. (*A*) Osteoblastic metastases in twelfth dorsal vertebra from primary carcinoma of colon. (*B*) Injection into spinous process of first lumbar vertebra (*white arrow*). Note block of vertebral plexus above this level and collateral drainage from injection site into ascending lumbar veins and azygos vein. (*C*) Injection into spinous process of third lumbar vertebra. Note normal visualization of vertebral plexus for several segments above injection site. (*D*) Myelogram showing extradural obstruction at twelfth dorsal-first lumbar level.

the contrast medium is cleared rapidly from the site of injection, manual exchange of films will allow three to four films to be obtained. In this study an automatic, rapid cassette changer has been used principally when visualization of the venous system of the thorax was desired, and sequential inspiratory and expiratory maneuvers were practiced in an attempt to increase the venous flow.

In over 40 examinations carried out thus far in this Institute, no untoward incident has occurred. In some instances the patients complained of a feeling of compression at the site of injection, but to date there has been no evident need for utilizing general anesthesia in this procedure. Follow-up films made two to three hours later show no residual dye at the region of the injection site.

Case Reports

CASE 1.—A fifty-three-year-old female was examined in this Institute in August, 1954, for complaint of a dull aching pain originating in the region of the left ilium and radiating along the groin down to the medial aspect of the left thigh of two to three months duration. Four years earlier the patient had had a partial colonic resection for carcinoma of the colon.

X-ray examination of the spine showed an osteoblastic lesion involving the body and neural arch of the twelfth dorsal vertebra (Fig.1 A). Intraosseous venographic study was carried out by injection of 20 cc. of 70 per cent Urokon into the spinous process

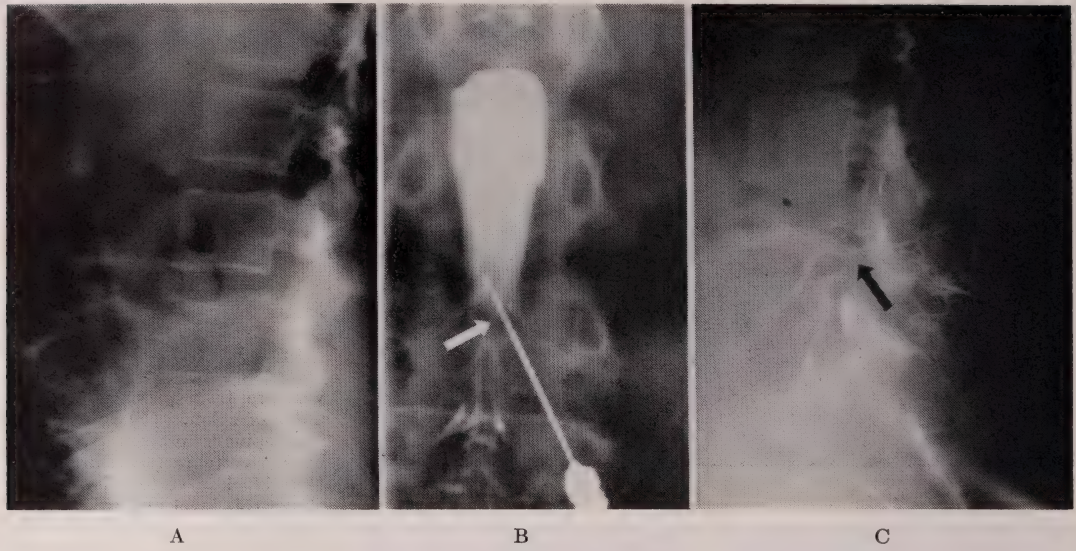

FIG. 2. (*A*) Metastatic deposit with partial collapse of fourth lumbar vertebra. Primary carcinoma of cervix. (*B*) Myelogram showing Pantopaque column which could not be made to pass below midportion of fourth lumbar. (*C*) Injection into spinous process of fourth lumbar vertebra. Note obstruction of internal vertebral plexus at level of injection with passage of the contrast material into ascending lumbar veins (*arrow*).

of the first lumbar vertebra. The resultant films showed what appeared to be a complete block in the region of the internal vertebral plexus at the twelfth dorsal level. The adjacent veins of the first and second lumbar appeared to show some distention and tortuosity, and a collateral system had developed. The ascending lumbar vein and the lower portion of the hemiazygos vein were likewise visualized on these films (Fig. 1B). In a normal individual both the internal and external vertebral plexus of the injected vertebra and of the vertebrae several levels above the site of injection should be visualized (Fig. 1C). Failure to visualize the internal vertebral plexus of the twelfth dorsal vertebra in this instance suggested the presence of a mass within the neural arch of the twelfth dorsal obstructing the normal plexus found in this area.

Subsequent to this procedure a myelogram was performed, and as is indicated by Fig. 1D, there was an extradural mass at the twelfth dorsal level. This was confirmed by surgical exploration.

CASE 2.—This forty-eight-year-old female was first seen in this hospital on September 27, 1954. She gave a history of squamous cell carcinoma of the cervix for which she had been given a course of external irradiation just prior to her examination here. Physical examination in this Institute revealed a stage II carcinoma of the cervix. On a subsequent examination the patient complained of some pain in the medial aspect of the right leg and also along the medial aspect of the left leg. Films of the lumbar spine showed a destructive lesion of the fourth lumbar vertebra. A lumbar myelogram was carried out to determine the extent of tumor compression of the cord in this region, and this showed an almost complete block to be present (Fig. 2A and B).

For further evaluation an intraosseous venogram was performed, inserting the needle at the fourth lumbar level. The external vertebral plexus was adequately visualized at the fifth and fourth lumbar levels, but the corresponding internal vertebral plexus was not visualized. Here again, there appeared to be obstruction of the internal vertebral plexus in the involved area secondary to extension of metastatic tumor into these areas (Fig. 2C).

CASE 3.—A thirty-year-old male was seen in the Institute for treatment of a squamous cell carcinoma of the right tonsillar pillar. This lesion was treated by x-ray therapy with good regression of the tumor and of the secondary cervical adenopathy. Shortly thereafter, however, the patient developed a lump over the anterior portion of the fifth rib on the right. X-ray examination of this area showed the presence of a destructive lesion of the fifth rib which apparently was metastatic in character (Fig. 3A). Previous chest x-rays had shown no abnormality. Intraosseous venography was carried out by injection of the contrast material into the medullary cavity of the involved rib in the anterior axillary line (Fig. 3B). The corresponding rib on the left side was injected in a comparable site for comparison (Fig. 3C). Review of these films showed apparent obstruction of the intercostal vein on the right side in comparison with its counterpart on the left side. In addition, the dispersion of the opaque medium in the medullary cavity on the right side terminated

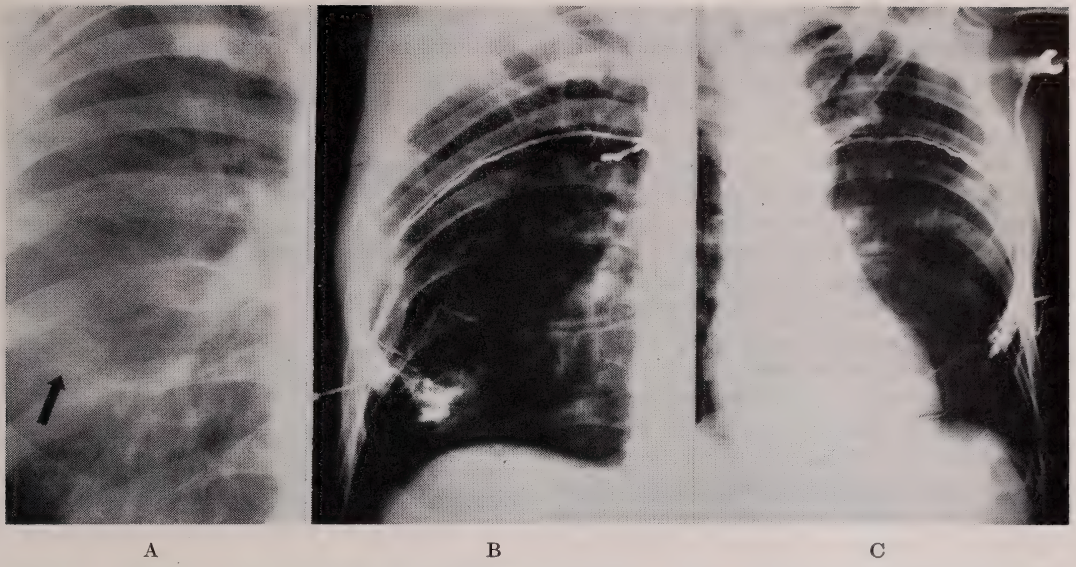

Fig. 3. (*A*) Arrow points to metastatic lesion involving anterior end of right fifth rib. Primary tumor was in right tonsil. (*B*) Injection into medullary cavity of rib just lateral to site of lesion. Note failure of intramedullary contrast material to spread into region of metastasis. Also note failure of Urokon to pass into anterior continuation of intercostal veins, as happens on the normal side. (*C*) Injection into medullary cavity of contralateral rib for comparison (normal).

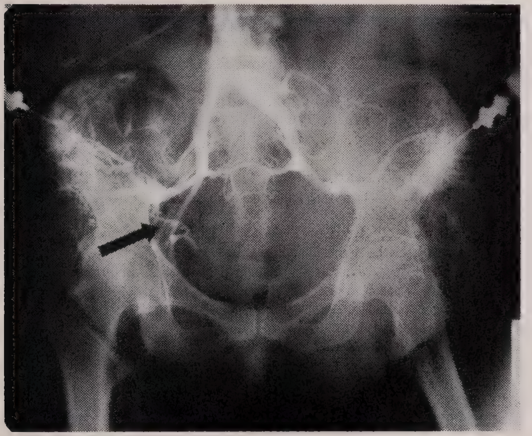

Fig. 4. Simultaneous injections into both iliac bones. There is obstruction of the left hypogastric vein. Arrow points to hypogastric vein on normal side.

abruptly at the site of the lesion in contradistinction to its dissemination into the comparable region of the medullary cavity on the left side. A collateral or a perforant vein crossing the intercostal space above the level of involvement was also visualized on the involved side.

Case 4.—This sixty-one-year-old patient was first seen at the Institute on November 15, 1954. She had a tumor removed from the cervix in 1945 and a hysterectomy done in August of that year. In July, 1954, she developed some soreness in the left groin. Biopsy was performed by her doctor in August, 1954, with a report of adenitis. At that time she was given "375 r of x-ray, all equal doses," for three days. On admission the physical examination was negative except that the left leg was 14 cm. larger than the right. A massive edema extended to the inguinal ligament. Rectal examination showed a mass of nodes filling the left side of the pelvis. X-ray examination of the lumbar spine, pelvis, and chest was negative at this time. Intraosseous venographic studies were performed by injecting 10 cc. of dye into both iliac crests simultaneously. The films showed no visualization of the left hypogastric vein and a slight upward displacement of the circumflex iliac vein. Some collateral veins were visualized surrounding the circumflex iliac vein. The right side showed normal visualization of the hypogastric vein and the adjoining veins of the pelvis (Fig. 4).

Comment

Ehrhardt and Kneipp[1] were the first investigators to suggest the possibility of injecting opaque media into the bone marrow. Subsequent investigations by Drasnar,[2] Jenny,[3] Mallet-Guy,[4] and Leger and Frileux[5] confirmed the practicability of utilizing the bone marrow for visualization of the regional vascular system. Baux,[6] Jammes,[7] and Ducuing *et al.*[8] showed that the venous system of the pelvis could be outlined fairly completely by utilizing multiple injection points such as the iliac crest, the ischium, the pubic bones, and the greater trochanter. Fischgold, Adam, Ecoiffier, and Piequet[9] in 1952 showed that injection of the opaque medium into the spinous process of a vertebra allowed visualization of the venous circulation of the intravertebral and extravertebral plexus. By injecting the material simultaneously into the sternum and the spinal process of a dorsal vertebra, the same investigators were able to visualize the mammary, azygos, hemiazygos, intercostal, spinal, and mediastinal veins. In 1954 Begg[10] published a study of the deep, superficial, and communicating veins of the lower extremity as visualized after intraosseous injection of the bones of the leg. Menegeaux, Lucien, Leger, and Détrie[11] studied the venous circulation of the extremities, utilizing this method in individuals with fractures, osteomyelitis, and Albright's syndrome. Tori,[12] as well as Suesse and Aurig,[13] studied the normal anatomy of the azygos and hemiazygos veins after intraosseous injection of the contrast medium either into the spinal process of a vertebra or into the ribs.

The investigations under way in this department are being carried out in an attempt to determine the diagnostic value of this type of examination with particular interest in the early detection of bone lesions. It is also hoped that this kind of examination may aid in the earlier diagnosis of space-occupying tumors of the spinal canal. The visualization of the azygos and hemiazygos systems which can be obtained with regularity by this procedure may possibly aid in the evaluation of tumors of the posterior mediastinum which lie in relation to these structures. In some instances the extension of a tumor into soft tissues might be recognized earlier by this method, by virtue of displacement or obstruction of neighboring veins, than by conventional methods of examination. It is hoped that visualization of the intercostal veins in individuals with questionable rib notching may help to confirm or deny the presence of tortuous intercostal arteries that lie in close relation to these veins. These and other possibilities will be evaluated as the case material presents itself and will be the subject of a subsequent report.

Conclusion

1. Intraosseous venography provides a new avenue for roentgen visualization of regional veins.
2. The possibilities of exploitation of venous visualization obtained in this manner have been discussed.
3. Several illustrative cases have been presented.

We wish to thank our colleagues for referring their cases for investigation. We also wish to thank Edmund Owczarzak, R.T., and Mr. William Payne, who assisted us in obtaining and reproducing these films, and Miss Helene Jusela for typing the manuscript.

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Supplement—Immunization Information for International Travel Available

A supplement to the booklet *Immunization Information for International Travel* has just been released by the Public Health Service of the Department of Health, Education, and Welfare. It carries changes made in immunization requirements from June, 1954, to June, 1955. Persons having a 1954 edition of the booklet may obtain copies of the supplement, free of charge, from the U.S. Public Health Service, Division of Foreign Quarantine, Washington 25, D.C.

The booklet, including the new supplement, may be purchased for 20 cents from the Superintendent of Documents, Government Printing Office, Washington 25, D.C. A 25 per cent discount is allowed on orders of 100 copies or more delivered to the same address.

The Human Bite

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The current incidence and treatment of injuries caused by human bite is deserving of notice and consideration. It can be stated that the incidence rate has not changed appreciably since the turn of the century with allowance for a slight increase.

Before the advent of antibiotics the problem was often feared by the medical profession, principally because of the complicating and crippling sequelae caused by resistant local infections, deforming scars, and osteomyelitis, the latter having been a rather common complicating factor and at times fatal. With the use of antibiotics this type of lesion has now resolved itself into just another injury to be repaired or revised by the conventional methods.

Human bites can and do occur anywhere on the body, of course, but the hand or fingers are most often the target since, when fighting, sudden contact is made between one man's knuckles and the other man's teeth. Angered, fighting people have been known to bite off one another's ears or noses. Too, biting is not always done in anger. Passionate lovers have been known to bite each other, using various parts of the body, especially the face and breasts, as their focus of attack.

An unusual series of cases was observed recently at Kings County Hospital in which parts of the lower lip were found to have been bitten off. It was of interest to note that human bites are found to be more prevalent among the Negroes than people of any other race.

Depending on the extent of the avulsed area, its location, and its depth, the methods of repair vary:

1. If the defect is not too extensive, a "V" excision is performed with primary closure; if the defect involves the lip, mucosa and skin below the vermilion border are included.
2. If defect is mucosal and rather long in extent, a mucosal flap is advanced from within outward (lip-shave type) along the vermilion border.
3. The defect can be allowed to scarify, and then secondary repair by one of the accepted methods is performed.
4. If only the skin part of the lip or skin and very little mucosa are involved, immediate or delayed skin graft (full thickness) is performed. This type of injury is considered as actually or potentially a cause of ectropion of the lip.
5. If wound is extensive, it can be covered by split skin immediately, and then later an Abbey-Estlander flap can be taken from the opposite lip.
6. If after healing, with or without repair, the lip is tight, causing a partial atresia, the size of the mouth can be increased by commissure operation.

Case Reports

CASE 1.—A twenty-six-year-old, white male was bitten in the lower lip, through and through but not completely severed. Two hours after the injury it was sutured in the outpatient department, and the patient was admitted to the hospital for one day. The result was complete healing without any complications.

CASE 2.—A thirteen-year-old, white female was bitten on the bridge of the nose, also not completely severed. Seven hours after the injury it was sutured primarily in the outpatient department. She was then admitted into the hospital for two days. The only complication was the development of an iodine burn, which had been applied by the mother.

CASE 3.—A thirty-year-old, Negro female was bitten in the nose (alar cartilage area) and on the dorsum of the hand. Twenty-four hours later the injuries were sutured primarily in the outpatient department, and she was admitted into the hospital for one day. No complications developed.

CASE 4.—A thirty-five-year-old, Negro female sustained a human bite of the right cheek 3 by 2 cm. in size. Three hours after the injury it was sutured primarily in the outpatient department. She was admitted to the hospital and discharged after one day with no complication.

CASE 5.—A sixteen-year-old, Negro female sustained a human bite of the ear in which the cartilage was cut through. Three hours later the injury, not including the cartilage, was sutured primarily in the outpatient department. She was admitted to the hospital and discharged after five days. There were no complications.

Case 6.—A twenty-six-year-old, Negro female was bitten on the lobule of the ear. It was almost completely severed except for a rim attachment. Four hours after the injury the ear was sutured primarily in the outpatient department. She was sent home and followed in the clinic. No complications developed, and the result was good.

Case 7.—A twenty-nine-year-old, white female was bitten on the forehead between the eyebrows; the avulsion was the size of a nickel. She was admitted to the hospital six hours after the injury, and on the sixth hospital day a full thickness skin graft was sutured into the defect. Total hospital stay was fourteen days. There were no complications, and a good result was obtained.

Case 8.—A forty-six-year-old, Negro female sustained a human bite of the lower lip measuring $3^1/_2$ by $1^1/_2$ cm. The lip was almost completely severed with skin and mucosa in almost equal amount involved. This patient came to the outpatient department three days after the injury and was hospitalized for seventeen days. The wound was allowed to granulate and heal. She was discharged and followed in the clinic until the fifty-sixth day. Then she was readmitted, and the wound was repaired by excision, mucosal flap to the vermilion border, and full thickness skin graft to the area where the skin was lacking. Second hospitalization lasted fourteen days. There were no complications, and the result was good cosmetically.

Case 9.—A thirty-two-year-old, Negro female had a 2 by 1-cm. injury of the lower lip mucosa down to the vermilion border causing a crater-like defect. She was admitted five and one-half hours after injury. On the sixth hospital day a débridement was done with closure, using an advancement flap of mucosa (lip-shave type). The result was good cosmetically, and no complications developed. Total hospital stay was twelve days.

Case 10.—An eighteen-year-old, white male sustained a quarter-sized bite of the nose dome involving the full thickness of skin. He was treated in the outpatient department about three and one-half hours after the injury where the free piece of skin was sutured into its original bed. He was discharged and followed in the clinic. His nose healed completely with no complications and good result.

All of these cases received 1,500 units of tetanus antitoxin and large doses of penicillin, usually 100,000 units every three hours.

Of the above cases those which closed primarily required an average of two days hospitalization, while those which were delayed or secondarily repaired required an average of fifteen days hospitalization.

Conclusion

In the treatment of human bites it has been observed that with the use of antibiotics in large doses, primary closure or immediate coverage by one of the above methods is possible without fear of complications. As a result it has been possible to shorten the hospital stay of these patients. Initial delay on the part of the patient was responsible for prolonged hospitalization in one case.

There were no complications except in the case which developed an iodine burn as a result of application of iodine by the parent before hospitalization. The end results were very good as a rule.

In none of the above cases was the use of cautery entertained, and it is our belief that it is not necessary to cauterize these wounds.

Catastrophic Accidents

Catastrophic accidents—those killing five or more persons—took nearly 550 lives during the first six months of this year in the United States, it has been reported by the statisticians of the Metropolitan Life Insurance Company.

The total is somewhat smaller than that for the first half of 1954, and is one of the lowest on record.

Deaths, in tornadoes increased appreciably since last year, reflecting the toll exacted by the tornadoes which swirled across five midwestern states on May 25, killing about 115 people, 80 of them in Udall, Kansas.

During the six-month period there was only one other disaster in which 25 or more lives were lost—the February 12 fire in a men's hotel in Chicago, in which 29 were killed.

Catastrophes involving dwelling and apartment house fires, military aviation, and motor vehicle accidents took substantially fewer lives so far this year than last.

The number of deaths in civilian aviation catastrophes is somewhat higher.

Incidence, Mortality, and Treatment of Breast Cancer in New York State

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THE two most frequently reported sites of cancer in New York State, exclusive of New York City (hereinafter referred to as upstate New York), are skin and breast (Table I). Approximately 5 per cent of all women may be expected to develop breast cancer.[1] In women it is almost twice as frequent as any other type of cancer.[2] As Haagensen[3] states, cancer of the breast is one of the great diseases with which physicians have struggled since time immemorial and in this country causes approximately 20,000 deaths annually in women.[4] It is impossible to determine the exact or even the approximate toll that this disease causes annually in the broader aspects of defect and disability, but the toll in death alone is certainly sufficient to justify more intensive studies of the subject. The purpose of this paper is to review the incidence and mortality of breast cancer in upstate New York and to present the findings of a study on the control and treatment of this disease.

Mortality records until recent years were our chief source of information regarding the occurrence of cancer in man. As Levin[5] points out, these are subject to numerous errors including (1) failure to state the exact diagnosis, (2) incorrect diagnosis, and (3) omission of cases successfully treated or in which death occurs from some other cause before recurrence or metastasis has developed. A more accurate picture of cancer incidence is probably found in morbidity records, provided that these are reasonably complete. However, since these have been collected for only a relatively short period of years and are available in only two states, mortality data must still be employed for studying trends in time. Connecticut has collected morbidity data since 1936,[6] and in upstate New York such data have been collected since 1940.

New York State, exclusive of New York City, is now in its sixteenth year of cancer reporting, it having become mandatory in upstate New York on January 1, 1940, by a legislative act in accordance with recommendations made by the State Legislative Cancer Survey Commission in its "Final Report" of February, 1939.[7] These recommendations had previously received the endorsement of the Medical Society of the State of New York through its Council. From its inception cancer morbidity reporting in New York State has had the active support of the medical profession. The New York State experience with cancer reporting indicates that reporting is practicable when the medical profession is informed about and is sympathetic with the aims of reporting and the cancer program in general. The completeness of cancer reporting compares favorably with that of other reportable diseases.

As would be expected in the reporting of any chronic disease, the largest number of reports was received during the first year of reporting but apparently stabilized in 1942 at approximately 14,000 new cancer cases of all sites. Since then the number of "new" cases, including those reported by death certificate only, increased rather steadily until in 1953 the total number of new cases reached 21,235, of which 2,387 were of the female breast. This represents a female breast cancer incidence rate of 64 per 100,000 female population.

Incidence and Mortality

Mortality statistics that are universally available in all states are usually employed to measure the cancer problem and to plan control activities. However, mortality data not only understate the total incidence of cancer but present a distorted picture of the relative incidence of cancer in different sites. In the New York State data for 1949–1951 (Table I), a comparison of mortality and incidence rates reveals, as would be expected, that not only is the reported incidence higher than mortality but that the relative site

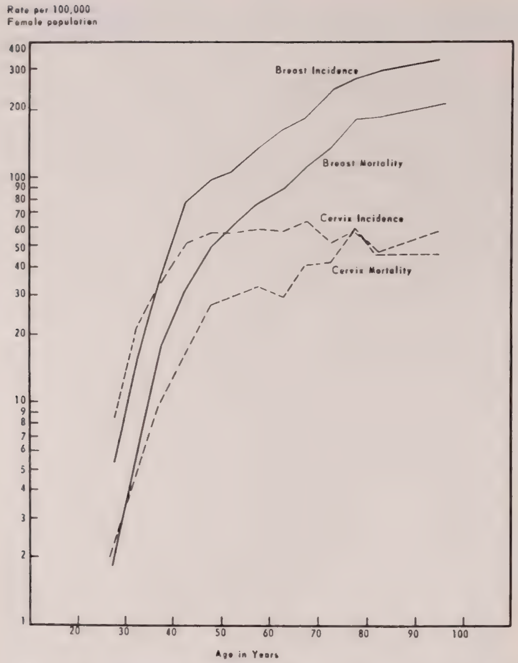

FIG. 1. Annual average age-specific incidence and mortality rates from female cancer of the breast and cervix for New York State, exclusive of New York City, 1949–1951.

TABLE I.—TEN MOST FREQUENTLY REPORTED SITES OF CANCER INCIDENCE* AND MORTALITY FOR NEW YORK STATE, EXCLUSIVE OF NEW YORK CITY, 1949–1951

Site	Rate Per 100,000 Population Incidence	Rate Per 100,000 Population Mortality	Rank Incidence	Rank Mortality
Skin	32.0	. . .	1	. . .
Breast	31.9	17.4	2	3
Large intestine	24.5	19.9	3	1
Stomach	18.3	17.5	4	2
Lung and bronchus	15.4	15.4	5	4
Prostate	14.0	8.6	6	6
Cervix uteri	14.0	6.9	7	8
Rectum	12.7	8.7	8	5
Bladder	9.2	5.8	9	10
Corpus uteri	8.6	. . .	10	. . .
Pancreas	. . .	7.1	. . .	7
Leukemia	. . .	6.7	. . .	9

* Newly reported cases including those reported by death certificate only.

TABLE II.—ANNUAL AVERAGE AGE-SPECIFIC INCIDENCE* AND MORTALITY RATES FOR FEMALE CANCER OF THE BREAST AND CERVIX FOR NEW YORK STATE, EXCLUSIVE OF NEW YORK CITY, 1949–1951

Age Group	Female Breast Cancer Annual Average Rates† Incidence	Female Breast Cancer Annual Average Rates† Mortality	Cervix Cancer Annual Average Rates† Incidence	Cervix Cancer Annual Average Rates† Mortality
All ages	62.2	33.8	27.5	13.7
Under 15	. . .**	. . .	. . .	. . .
15 to 19	0.2	. . .	. . .	. . .
20 to 24	1.1	0.4	2.2	0.4
25 to 29	5.3	1.9	8.5	2.1
30 to 34	15.5	5.3	21.2	5.0
35 to 39	38.4	17.5	36.2	10.0
40 to 44	77.3	32.0	50.3	16.2
45 to 49	96.8	48.2	56.6	26.9
50 to 54	108.4	62.5	56.6	29.4
55 to 59	135.3	77.1	58.8	32.9
60 to 64	161.2	88.5	57.9	29.8
65 to 69	188.5	110.1	62.9	40.5
70 to 74	245.5	137.3	50.5	42.0
75 to 79	278.7	181.6	57.5	58.5
80 to 84	299.0	184.7	46.9	45.9
85 and over	337.5	212.3	58.6	46.0

* Newly reported cases including those reported by death certificate only.

† Rates per 100,000 female population based on 1950 census.

** Less than 0.05.

incidence differs from site mortality. The most frequent sites of cancer according to deaths are as follows: large intestine, stomach, breast, lung, rectum, prostate, pancreas, and cervix uteri. The most frequent sites according to reported cases are skin, breast, large intestine, stomach, lung, prostate, cervix uteri, and rectum. As mentioned at the outset, the striking fact is that cancer of the breast is about equal with skin as the most frequently reported form of human cancer in upstate New York. This is all the more striking when one recalls that cancer of the breast in males is relatively rare. Further, the importance of the problem of breast cancer is emphasized by the fact that this site ranks high on the list of both incidence and mortality.

The effect of age in female breast cancer morbidity and mortality is clearly evident in Table II and Fig. 1 which depict the annual average age-specific incidence and mortality rates for the three-year period 1949–1951 in upstate New York. With increasing age both the morbidity and mortality rates for breast cancer continue to rise, although the rate of increase in succeeding ages beyond fifty years is somewhat less than before that age is reached. In contrast to the picture for breast cancer, the maximum rate in the incidence of cervical cancer appears to be attained by age seventy (after which the rate declines). The peak in the mortality rate from cancer of the cervix is apparently reached about ten years later.*

To evaluate properly the trends in breast cancer incidence and mortality, allowance must be made for the changing age distribution of the population. Age-adjusted mortality rates were calculated for each year 1930 through 1953, and

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* This partly explains why the mortality rate at age seventy-five to seventy-nine years slightly exceeds the incidence rate in that age group.

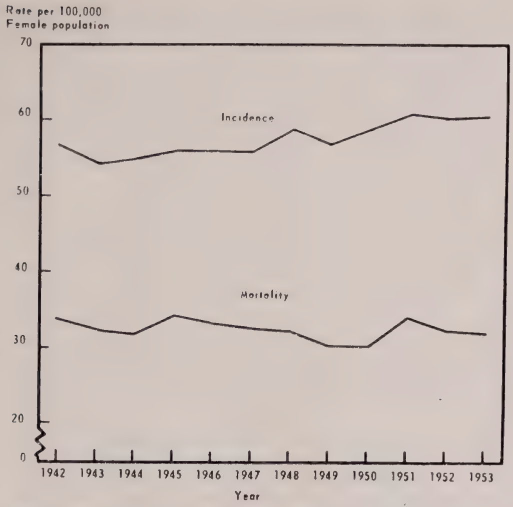

FIG. 2. Age-standardized female breast cancer incidence and mortality rates per 100,000 female population for New York State, exclusive of New York City, 1942–1953. ("Age-standardized" means adjusted to the 1940 census population of females in New York State, exclusive of New York City.)

TABLE III.—AGE-ADJUSTED* BREAST CANCER INCIDENCE AND MORTALITY RATES FOR NEW YORK STATE, EXCLUSIVE OF NEW YORK CITY, 1930–1953

	Rate* Per 100,000 Female Population	
Year	Incidence	Mortality
1930	Not Available	34.1
1931		32.9
1932		31.6
1933		31.6
1934		32.4
1935		34.9
1936		34.6
1937		33.0
1938		33.4
1939		32.7
1940		35.0
1941		32.9
1942	56.5	33.8
1943	54.3	32.6
1944	54.9	31.9
1945	55.9	34.3
1946	56.0	33.3
1947	55.9	32.7
1948	58.9	32.5
1949	57.0	30.6
1950	58.7	30.4
1951	60.9	34.1
1952	60.4	32.7
1953	60.6	32.4

* Adjusted to the 1940 census population of females in New York State, exclusive of New York City.

the incidence rates were similarly adjusted for each year since 1942 (the first year for which comparable data are available). These trends are depicted in Table III and Fig. 2.

Aside from annual fluctuations the mortality rate from breast cancer has virtually maintained a level over the twenty-four-year span 1930 to 1953. While the level in mortality might imply that the recent emphasis on early treatment of breast cancer has not proved to be effective, this conclusion is unwarranted without some consideration of the incidence of the disease. Certainly a rising incidence rate coupled with a level or fall in mortality suggests an increased survivorship.

The age-adjusted incidence rates for breast cancer showed a gradual rise from a three-year average rate of 55 per 100,000 females in 1942–1944 to a level of over 60 per 100,000 females for the period 1951–1953. It was pointed out earlier that the completeness of cancer reporting in upstate New York compares favorably with that of other reportable diseases. In a joint study by the United States Public Health Service and the New York State Department of Health, it was found that for cancer cases receiving service in 1945, approximately 80 per cent were reported to the Bureau of Cancer Control. Although morbidity reporting is generally subject to some limitations, it is to be noted that since its inception (in 1940) no special efforts were made over the years to stimulate the reporting of cancer cases to the New York State Health Department. It is not unreasonable, therefore, to assume that there has not been a growing tendency towards more complete reporting. Further, in the absence of any known methods or program directed towards the prevention of breast cancer, it is reasonable to assume that at least part of the observed rise in the incidence of the disease is real. If this is true, the conclusion is suggested that survivorship among breast cancer cases has increased. This conclusion based on age-adjusted rates (which reflect the trend of age-specific rates) is not altered on review of the age-specific rates themselves. For no age group was there any evidence of a declining incidence rate, nor was any rise manifest in the age-specific breast cancer mortality rates.

Treatment

Utilizing the reports of female breast cancer patients received in the Bureau of Cancer Control, a study was undertaken to ascertain: (1) the proportion of female breast cancer cases on whom mastectomy, simple or radical, was performed, (2) the proportion of mastectomies in which the axillary lymph nodes were found to be malignant, and (3) the change in the above over a period of years.

TABLE IV.—Distribution of Pathologically Confirmed Female Breast Cancer Cases According to Type of Operation Based on New Cases Reported in New York State, Exclusive of New York City, 1943 and 1949

Type of Operation	1943 Number	1943 Per Cent of Confirmed Cases	1949 Number	1949 Per Cent of Confirmed Cases
Total new cases	1,754	...	1,998	...
Pathologically confirmed cases	1,266	100	1,534	100
Radical mastectomy	896	70.8	1,216	79.3
Simple mastectomy	156	12.3	160	10.4
Mastectomy, type unknown	12	1.1	3	0.2
Tumor excision only	40	3.2	35	2.3
Operation, type unknown	14	1.1	7	0.5
Unknown if operated	59	4.7	59	3.8
No operation	89	7.0	54	3.5

TABLE V.—Distribution of Mastectomy Patients According to Type of Mastectomy by Age Based on Breast Cancer Cases Reported in New York State, Exclusive of New York City, 1943 and 1949

Age (Years)	1943 Total Cases with Mastectomy*	1943 Per Cent of Total in Age Group Radical Mastectomy	1943 Per Cent of Total in Age Group Simple Mastectomy	1949 Total Cases with Mastectomy†	1949 Per Cent of Total in Age Group Radial Mastectomy	1949 Per Cent of Total in Age Group Simple Mastectomy
All ages	1,052	85.2	14.8	1,376	88.4	11.6
Under 15	...	...	...	...	...	...
15 to 24	1	(100.0)	(0.0)	2	(100.0)	(0.0)
25 to 34	33	90.9	9.1	39	97.4	2.6
35 to 44	158	91.1	8.9	236	97.0	3.0
45 to 54	275	90.5	9.5	320	92.5	7.5
55 to 64	282	89.4	10.6	338	92.3	7.7
65 to 74	203	76.4	23.6	286	83.9	16.1
75 to 84	80	62.5	37.5	117	68.4	31.6
85 and over	8	50.0	50.0	26	30.8	69.2
Unknown	12	91.7	8.3	12	91.7	8.3
Median age (years)	...	55.7	65.9	...	56.2	69.7

* Excludes 12 cases with type of mastectomy unknown.
† Excludes 3 cases with type of mastectomy unknown.

Female breast cancer cases first reported to the New York State Department of Health in 1943 and those reported for the first time in 1949 were reviewed. Of these cases only those in which the diagnosis was confirmed by pathologic examination (as indicated on the case report or accompanying laboratory report) were included in the study. Where the available records in the central register did not contain all the information desired for the study, follow-up for the missing information was made by letter of inquiry to the physician, hospital, or laboratory reporting the case. Thus, the original reports and the returned questionnaires yielded partial or complete data for the study cases. A discussion of the major findings follows.

The data were reviewed for type of operative procedures, stage of disease at time of diagnosis, and condition of axillary lymph nodes at the time of radical mastectomy. Operative procedures were taken to include mastectomies and local tumor excisions when not followed by mastectomy. To investigate the existence of any significant relationships, these measures were summarized by age group and according to population size of resident areas with a separate classification for medical center cities.

In all, the reports received in 1943 provided 1,266 pathologically confirmed cases, and those received in 1949 gave 1,534 confirmed cases for study (Table IV). The records showed that the proportion of all patients known to have undergone a mastectomy increased from 84 per cent in 1943 to 90 per cent in 1949. Coupled with the rise in the relative number of mastectomies performed was a drop in proportion of cases where only the breast tumor was excised. Whatever the factors responsible for these differences, there does appear to have been a greater tendency in 1949 to favor mastectomy over other methods of treatment.

In 1943 of the total 1,266 pathologically confirmed cases, 896 (70.8 per cent) were known to have undergone radical mastectomy, while in 1949 of the 1,534 confirmed cases, 1,216 (79.3 per cent) were reported to have undergone this type of operation. This represents a 12 per cent increase in the relative proportion of pathologically confirmed cases reported to have had radical mastectomy. When based on the total cases reported (including the not confirmed cases), 1,754 and 1,998 cases in 1943 and 1949, respectively, the relative increase in the proportion of cases known to have undergone radical mastectomy was 19 per cent.

The growing preference for the radical operation rather than the simple mastectomy was manifest in our data. The proportion of mastectomies performed which were of the radical type increased from 85 per cent in 1943 to more than 88 per cent for 1949 cases. This rise cannot be attributed to any differences in the age composition of the study cases (the age distributions of the 1943 and 1949 pathologically confirmed cases were not significantly different statistically). Rather, the preference in 1949 over 1943 for the radical mastectomy was consistent for every age group up to eighty-five years (Table V). It was the much greater preference in 1949 for performing a simple mastectomy on patients eighty-five years of age or over which largely accounted for the rise (over 1943) of almost five years in the mean age of patients undergoing this type of operation. While there appears to be a growing preference for the radical mastectomy, age of the patient apparently plays a significant role in the final decision as to type of operation to be performed. Although more than 90 per cent of the patients in each age group to sixty-four years in 1949 underwent a radical operation, the ratio of simple to radical mastectomy increased with age of patient. This increase with age in the relative number of simple mastectomies was particularly marked in patients beyond sixty-four years, and for those who passed their eighty-fifth birthday this was the preferred type of operation. In general, then, radical mastectomies were performed at a younger age than were simple mastectomies. This is perhaps best summarized by the median age which for the entire group of 1949 study cases was 58.1 years, for those with radical operation 56.2 years, and finally for those undergoing a simple mastectomy 69.7 years.

The stage of disease at time of diagnosis was reported for 85 per cent of the confirmed cases in 1943 and for 94 per cent of the 1949 confirmed cases. In both years the reported stage of disease for about 45 per cent of the operated cases indicated the carcinoma had metastasized to the regional nodes or beyond. On the other hand, only 30 per cent of the operated cases were reported in the early local stage (the remainder being classified as "advanced local" stage). It was surprising to find that among the confirmed 1943 cases (with known type of operation) which were reported in the early stage, one-fourth were reported to have had only a complete local tumor excision or simple mastectomy performed. This dropped to about 19 per cent in 1949, which is still relatively high when one considers that the goal in the treatment of breast cancer is a radical mastectomy in the early stage before the lymph nodes might become involved. However, the growing preference mentioned earlier for radical over simple mastectomy was again manifest in the increase in 1949 over 1943 in the proportion of radical mastectomies performed on patients in each reported stage of disease.

There was a distinct relationship, in 1943 as well as in 1949, between the type of operation performed and the reported stage of disease. The proportion of cases in the early local stage varied inversely with the degree of operation. Thus, among the 1943 patients undergoing a radical mastectomy, only 28 per cent were reported in the early local stage, while 40 per cent of patients with simple mastectomy and 59 per cent of those from whom only the tumor was excised were reported to be in the early local stage. The corresponding percentages for 1949 were 27, 40, and 49 per cent, respectively. Also, among the 1949 cases for whom the type of operation was known, a radical mastectomy was performed on 81 per cent of those in the early local stage and on 95 per cent of those with metastases.

It should be borne in mind that the evaluation of the above data relating operation to reported stage of disease at time of diagnosis is limited to some degree. This is due primarily to the innate difficulty of accurate stage classification of cases clinically diagnosed. Further, the stage of disease may change between the time of diagnosis and the ultimate operation. While the clinical stage of disease provides a useful measure of malignancy at time of diagnosis, a more accurate measure of the degree of malignancy is the actual condition of the lymph nodes as found at the time of radical mastectomy.

The condition of the lymph nodes was obtained for those patients on whom a radical mastectomy was performed (Table VI). For approximately 95 per cent of the cases in either study year, this information was reported to us. However, for some cases the lymph nodes were reported as

TABLE VI.—CONDITION OF AXILLARY LYMPH NODES FOR CASES WITH RADICAL MASTECTOMY BASED ON NEW CASES REPORTED IN NEW YORK STATE, EXCLUSIVE OF NEW YORK CITY, 1943 AND 1949

	1943		1949	
Node Condition	Number	Per Cent of Total	Number	Per Cent of Total
Total cases with radical mastectomy	896	100.0	1,216	100.0
Nodes positive	514	57.4	643	52.9
Nodes negative	266	29.7	459	37.7
Nodes "not found"	69	7.7	68	5.6
Condition not reported	47	5.2	46	3.8

"not found" so that the actual node condition was stated for 87 per cent of the 1943 cases and 91 per cent of the 1949 cases. Thus, among those with condition of nodes stated, metastases were reported in 66 per cent of the 1943 cases and in only 58 per cent of the 1949 group of patients. This difference of 8 per cent would suggest that breast cancer was being both diagnosed and treated earlier than in 1943.

Although no consistent relationships were observed when the data were summarized according to population size of resident areas, some observations are noteworthy, particularly in the comparison of medical center cities with other areas of the State. It should be mentioned here that in either study year the age composition of the pathologically verified cases residing in the medical center cities of Albany, Buffalo, Rochester, and Syracuse was very similar to that for the rest of the confirmed upstate resident patients (Chi-square test yielded a P of 30 per cent for 1943 and 70 per cent for 1949). While the general rise from 1943 to 1949 in the proportion of cases known to have undergone mastectomy was most evident among residents of places with less than 25,000 population, the proportion of patients undergoing a mastectomy in both study years was slightly higher among those residing in medical center cities than in the rest of the upstate area. The increase, however, in the preference for the radical over the simple mastectomy was confined almost exclusively to the resident areas outside of the medical center cities. Thus, while in 1943 an appreciably greater proportion of patients underwent a radical mastectomy in the four medical center cities than in the rest of the upstate area (91.2 per cent as compared with 83.4 per cent), in 1949 the absolute difference was only 1.2 per cent. Among those radical mastectomy patients for whom the actual node condition was given, the proportion with metastases was less for residents of medical center cities than for residents of other areas, both in 1943 and in 1949. The decline from 1943 to 1949 in the proportion with metastatic lymph nodes, however, was similar for the two broad subdivisions of the State: from 63 to 55 per cent for residents of the four medical center cities and from 67 to 60 per cent for the other upstate residents.

Of no little importance in the treatment of breast carcinoma is the delay between the diagnosis of the malignancy and the eventual operation. The fact that the relative proportion of breast cancer cases which at operation were found to have axillary node metastasis had been reduced by nearly 12 per cent between 1943 and 1949 indicates that some progress is being made in breast cancer control. This is further borne out by what is perhaps the most significant control index in breast carcinoma, namely, that which indicates the proportion of all breast cases undergoing radical mastectomies while the axillary nodes are negative. In our data, distributing all the pathologically confirmed cases with unknown type of mastectomy and node condition according to the proportions observed for the stated group, we found that 24.4 per cent of the 1943 confirmed cases and 33.1 per cent of the 1949 confirmed cases had a radical mastectomy with the axilla free of metastases. This represents a 36 per cent increase in this important control index.* If the cases observed to have axilla free of lymph node involvement (266 in 1943 and 459 in 1949) are divided by the total cases reported (including the nonconfirmed), the relative increase in the proportion of cases without axillary involvement at time of radical mastectomy becomes 51 per cent.

Summary

The trends in breast cancer incidence and mortality in New York State, exclusive of New York City, are presented. Also discussed are the findings of a study undertaken to ascertain: (1) the proportion of female breast cancer cases on whom mastectomy, simple or radical, was performed, (2) the proportion of mastectomies in which the axillary lymph nodes were found to be malignant, and (3) the change in the above over a period of years.

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* If all pathologically confirmed cases with unknown type of mastectomy and unknown node condition are considered to have metastasis, the relative increase in this index becomes 42 per cent. Assuming the nodes among this unknown group to be negative lowers the relative increase in the index to 21 per cent.

The analysis of the data presented indicates that some progress is being made in breast cancer control in upstate New York. The mortality rate from breast cancer in New York State, exclusive of New York City, has virtually maintained a level between 1930 and 1953. On the other hand, the reported incidence of the disease from 1942 to 1953 showed a steady rise which suggests that the survivorship among breast cancer cases has increased.

There was an increase between 1943 and 1949 in the proportion of confirmed breast cancer cases known to have undergone mastectomy. Further, there was a growing preference for the radical over the simple type of mastectomy, and this was true for each reported stage of disease and for each age group to eighty-five years. However, the proportion of mastectomies which were of the simple type increased with advancing age. The proportion of patients undergoing mastectomy was higher among those cases residing in medical center cities than in the rest of the upstate area. However, the growing preference for the radical over the simple mastectomy was confined almost exclusively to resident areas outside of the medical center cities.

Among cases with radical mastectomy, metastases were reported in 66 per cent of the 1943 cases and in only 58 per cent of the 1949 group of patients, suggesting that breast cancer was being both diagnosed and treated earlier in 1949 than in 1943.

The measure which best reflects the progress of breast cancer control in New York State, exclusive of New York City, is that which indicates the proportion of all breast cases undergoing radical mastectomies while the axillary nodes are negative. In 1943 only 24.4 per cent of the confirmed cases had a radical mastectomy with the axilla free of metastases, as compared with 33.1 per cent of the 1949 cases. This represents a 36 per cent increase in this important control index.

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Homicide Level Reaches New All-Time Low

Despite reported increases in major crimes and juvenile delinquency recently, the homicide rate in the United States has fallen to an all-time low level, the Metropolitan Life Insurance Company's statisticians report.

Among that company's industrial policyholders, whose experience closely parallels that of the country's general population, the homicide death rate dropped from 5.8 per 100,000 in 1934 to 1.9 in 1954. This downward trend was interrupted only twice during the twenty-year period—immediately after World War II, and to a lesser extent during the Korean War.

The long-term reduction in the homicide rate has been especially large among white male policyholders, amounting to 70 per cent over the two decades. Among white females the corresponding reduction was 50 per cent, and among nonwhite persons it was about 55 per cent.

Despite the over-all improvement, homicide continues to be a major cause of death among nonwhite males. In the insurance experience homicide mortality among nonwhite males averaged 21.7 per 100,000 in 1952–1954, or more than 11 times the rate for white males.

In the general population of the United States, the relative frequency of homicide is highest in the South and lowest in New England. The majority of homicides in the country as a whole result from the use of firearms, the proportion killed by this means being generally highest in the agricultural sections and lowest in the highly industrialized areas.

Notwithstanding the new low level of the rate, homicide still accounts for the loss of more than 7,500 lives yearly in the United States, the statisticians report. The rate among our white population is more than twice the rate in Canada and Australia, about three times that in Scotland, and about six times that in England and Wales, and in Ireland.

Studies on the Hemagglutinating and Inflammatory Properties of Exudate from Nonhealing Wounds and Their Inhibition by Chlorophyll Derivatives

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SINCE Gruskin's original description[1] of their wound-healing properties, the water-soluble chlorophyll derivatives have been the subject of numerous clinical reports in this country. The bulk of these reports have confirmed Gruskin's observation of reinstitution of healing in chronic, indolent lesions following topical application of chlorophyll derivatives,[2-9] and this clinical appraisal is paralleled by results in experimentally produced wounds.[10-12] Tissue culture studies[13,14] on the growth of fibroblasts indicate that the introduction of chlorophyllin abolishes the "lag phase" ordinarily preceding proliferation. Despite the volume of data published, the *mechanism* of chlorophyllin's activity in wound healing has remained obscure. Early writers explained this activity on the basis of "cellular stimulation," but experiments on cellular respiration in the Warburg apparatus have so far failed to reveal evidence of such a mechanism. Recent findings on the chemical and pharmacologic nature of the chlorophyll derivatives have led us to an entirely different explanation, and one which is subject to clinical testing.

Barnard[15] has reported a series of experiments wherein the water-soluble chlorophyll derivatives inhibited the agglutination of red cells by various substances with demonstrable agglutinating properties. Among the diverse agglutinins tested were human plasma fractions, vaccinia virus, hog gastric mucin, carboxymethyl cellulose, Menkin's necrosin, and exudate from nonhealing ulcerations. The factor common to these substances and presumed by the authors to be responsible for their hemagglutinating properties is their mucoprotein character or content. Chlorophyllin inhibits their agglutinating activity, either by combining with the mucoprotein or by competitively occupying the cell receptor. Evidence is in favor of the latter possibility since hemagglutination can recur when the chlorophyllin is removed from the test system.

The in vitro effect of chlorophyll derivatives on two of these test agglutinins, wound exudate and necrosin, suggested a possible explanation of chlorophyllin's mode of action in vivo. Necrosin is a substance isolated by Menkin from inflammatory wounds in dogs. When injected subdermally in rabbits, it produces marked inflammation, sometimes proceeding to necrosis.[16] Similarly, we found that the ulceration exudate, which had demonstrated hemagglutinating properties, produced an inflammatory reaction when injected subdermally in rabbits. This observation suggested that hemagglutination and inflammation might be manifestations of a similar activity against different cells. In the one case, we postulate, the mucoprotein substance attacks the red cells, causing "clumping" or hemagglutination; in the other it attacks the tissue cell with resulting inflammation or necrosis. This concept was strengthened when we found that the other diverse hemagglutinins also produced inflammatory reactions when injected in the rabbit. In the case of all the tested hemagglutinins this inflammatory reaction was inhibited when chlorophyll derivatives were injected simultaneously.

The theory which develops from these preliminary data is that wound-healing failure may result from a combination of agglutination of red cells and necrosis of tissue cells caused by mucoproteins present in the wound exudate and that chlorophyll derivatives have an inhibitory effect on both these phenomena. The hemagglutination concept is in keeping with the familiar clinical observation that indolent ulcerations are characterized by poor local circulation and "plugging" of the capillaries and that chlorophyllin application frequently produces increased vascularization locally with subsequent granulation. The clinical significance of "plugged" capillaries and their resultant denial of nutrition to the local area are emphasized by the recent report of Taylor and Lehrfeld.[17] They demonstrated microphotographically that the sloughing of homografts, a specialized example of wound-healing failure, was preceded by hemagglutination in the capillaries.

The objective of this study was to compare the clinical effects of treatment of resistant ulcerations with Chloresium ointment with concurrent laboratory data on the hemagglutinating and inflammatory properties of exudate from the same lesions. Wound exudate was to be collected from all the ulcerations prior to institution of Chloresium therapy and at intervals until the ulcerations healed or this treatment was terminated. This series originally included 15 chronic, dermal ulcerations in 13 patients. All had been treated previously by standard antibacterial therapy, and while they were, relatively speaking, bacterially sterile, none showed evidence of an active healing process.

TABLE I.—Summary of 9 Cases Studied

Case	Diagnosis	Size of Ulcer (Inches)	Prior Duration	Age	Sex
1	Decubitus	4	2 months	57	F
2	Ischiorectal abscess	. .	3 weeks	37	F
3	Trophic ulcer, ankle	$1^{1}/_{2}$	1 year	55	F
4	Decubitus, sacrum	6	6 months	50	F
5	Varicose, legs			68	M
	A. Right	2	8 months		
	B. Left	$2^{1}/_{2}$	$6^{1}/_{2}$ months		
6	Varicose, leg	2	17 months	74	M
7	"Trophic," heel	$1^{1}/_{2}$	8 months	57	F
8	Decubitus, scapular	3	2 months	49	M
9	Decubitus, buttocks			67	M
	A. Right	2	4 months		
	B. Left	$2^{1}/_{2}$	4 months		

Technical Procedures

Collection of Exudates.—The wounds were swabbed with sterile saline to remove gross detritus and the exudate collected in a $1^{1}/_{2}$-mm. capillary tube. In most instances the swabbing had resulted in a sufficient diapedesis from adjacent granulation tissue to show grossly that the collected exudate contained erythrocytes; the latter was the source of autologous cells for the hemagglutinating system. In two instances, however, the character of the wound necessitated collection of autologous washed cells from blood collected from the patient by finger puncture. A 2 per cent suspension of these cells was then aspirated into the capillary containing the exudate.

A technical problem arose as the study proceeded in that it became increasingly difficult to obtain "true exudate" from the healing lesions. In most cases it was necessary to leave the wound uncovered for from one-half to three hours to give opportunity for accumulation of sufficient exudate to be picked up by the capillary pipet. Special care was taken to distinguish between true exudate and oozed blood, the distinction being based on the fact that the exudate does not clot or precipitate fibrinoid material. Four cases out of the original 15 were lost to the study because after the first application of Chloresium, there was almost total absence of secretion and only fresh blood plasma could be obtained from the granulating lesions.

Evaluation of Degree of Agglutination.—Exudates were examined microscopically within an hour after collection and at intervals thereafter of two to four days. Evaluation was on the basis of an average appraisal by three persons, the authors and a technologist with extensive experience in immunohematology. Degrees of agglutination were somewhat arbitrarily fixed by the circumstances of the study. A 4 plus agglutination was one in which (*a*) the phenomenon came on immediately or was fully developed within the first hour (high avidity), (*b*) the agglutination persisted after dilution with three volumes of buffered physiologic saline, and (*c*) was morphologically to be designated as hemagglutination (and not pseudoagglutination, rouleaux, or "clots") on subsequent examination of the capillary content under cover slip preparation. As a corollary, no exudate which contained free, unagglutinated cells was designated 4 plus.

Designations of lesser degree were on a relative basis. Lower orders of avidity, smaller, incomplete clumps, and the ratio of free, unagglutinated cells to agglutinated cells assisted in arriving at the number of "pluses" to be assigned.

Evaluation of Inflammatory Properties.—Inflammatory effects were determined by intracutaneous injection of 0.05 cc. of exudate through a 25-gauge needle into rabbit abdominal skin, shaved eight hours previously. Readings were made ninety-six and one-hundred and forty-four hours after injection. The ninety-six-hour reading was appropriate for first evaluation since the puncture wounds of control injections of saline were shown to have disappeared completely by that time. Degrees of inflammation or necrosis were assigned on the basis of persistence and spreading of the needle puncture wound associated with surrounding erythema. A total involved area, necrosis plus erythema, of 1 to 3 mm. was rated 1 plus, 3 to 5 mm. was rated 2

TABLE II.—HEMAGGLUTINATION OBSERVATIONS AND CLINICAL RESULTS

	First Observation*		Second Observation			Third Observation			Fourth Observation			Clinical Result	
Case	Hemagglutination	Free Cells	Hemagglutination	Free Cells	Days of Therapy	Hemagglutination	Free Cells	Days of Therapy	Hemagglutination	Free Cells	Days of Therapy	Healing	Days of Therapy
1	3+	0	0	+	11	...	...	...	...	...	...	Complete	14
2	4+	0	+	+	4	±	+	7	...	...	...	Complete	9
3	2+	+	+	+	16	+	+	37	...	...	...	Partial ($^{3}/_{4}$ inch diameter)	37
4	4+	0	±	+	13	0	+	33	0	+	41†	Complete	94
5A	4+	0	2+	+	16	0	0	33	...	...	...	Complete	37
B	4+	0	4+	0	16	4+	0	33	0	+	68	Complete	55 (88)††
6	2+	+	2+	+	20	+	+	47	0	+	69**	Partial ($^{1}/_{4}$ inch diameter)	111
7	3+	0	±	+	17	...	...	...	...	...	...	Partial ($^{1}/_{2}$ inch diameter)	17
8	3+	0	+	+	3	0	+	...	0	+	12	Complete	27
9A	4+	0	3+	+	5	2+	+	11	0	+	16	Complete	23
B	4+	0	3+	0	5	+	+	11	0	+	16	Complete	25

* Prior to therapy.

† Additional observation after 61 days of therapy showed no hemagglutination and presence of free cells.

** Additional observation after 111 days of therapy showed no hemagglutination and presence of free cells.

†† Chloresium therapy started 33 days after silver nitrate control.

plus, over 5 mm. without sloughing was rated 3 plus, and complete slough of a 5-mm. or larger area was rated 4 plus.

Experimental Results

HEMAGGLUTINATION REDUCTION AND CLINICAL PROGRESS.—Wound exudates were collected prior to Chloresium treatment from each of the 15 ulcerations. All exudates showed the presence of a hemagglutinin active against the patient's own erythrocytes. When chlorophyll derivatives were added to this same exudate in vitro, the hemagglutinating property was uniformly abolished.

It was possible to obtain subsequent exudate samples at appropriate intervals from only 11 ulcerations in nine patients (Table I). This constitutes the test group, and results are given in Table II. Exudate from all 11 ulcerations, which exhibited strong hemagglutinating properties prior to Chloresium treatment, diminished gradually in intensity as healing progressed until this property was no longer demonstrable. In three cases out of 11, the hemagglutinating property disappeared under Chloresium treatment, but complete healing was not obtained, indicating of course that elimination of this adverse factor is not the sole answer to all cases of retarded healing.

Of particular interest in this series is Case 5 where a varicose ulcer of the left leg was used as a control against a similar lesion on the right leg. The control lesion was treated for thirty-three days with silver nitrate and at the end of this period still showed strong hemagglutinating properties in the exudate and no healing progress. The treatment was changed to Chloresium at this point, and at the end of an additional thirty-five days abolition of hemagglutinating properties was observed with complete healing twenty days later. Under Chloresium treatment the right leg had healed in thirty-three days with hemagglutinating properties disappearing from the exudate in sixteen days.

One technicality requires clarification at this point. Exudate in the nonhealing lesions was much more viscous than that collected after treatment with Chloresium. Since hemagglutination avidity (one of the quantitative criteria used) might be influenced by the degree of viscosity of the menstruum, particular experiments were conducted to eliminate this possibly misleading variable. The initial exudate of Case 3 was titered and proved to be still actively agglutinative when diluted 1 : 32 in saline. Case 5 was actively agglutinative at 1 : 8 dilution. In both instances the viscosity of diluted initial exudate was less than the final exudate, which was free of agglutinative activity. As a further check the viscosity of the final exudate in these cases was raised by the addition of modified human globin to a final concentration of 4 per cent. Despite the high viscosity these exudates did not demonstrate hemagglutination activity.

INFLAMMATION PRODUCED BY WOUND EXUDATE.—Exudates taken from three representative cases (Cases 5 A and B, 6, and 8) prior to treatment with Chloresium were tested for inflammatory properties by intradermal injection in rabbits. Case 5A gave a 4 plus reaction at ninety-six and one hundred and forty-four hours; Case 5B gave a 2 plus reaction at ninety-six hours and 4 plus at one hundred and forty-four hours; Case 6 was 2 plus at ninety-six hours diminishing to 1 plus at one hundred and forty-four hours, and Case 8 was 3 plus at both reading intervals. These positive reactions parallel closely the degree of hemagglutination produced by the same wound exudates (Table II).

When 0.05 per cent chlorophyll derivative was injected simultaneously with exudates from the four cases cited above, the inflammatory reaction was completely inhibited with the exception of Case 5B in which there was a 2 plus reaction at ninety-six hours diminishing to an equivocal 1 plus reaction at one hundred and forty-four hours.

To test the effect of treatment on the inflammatory character of the exudate, a sample of exudate from Case 5A was obtained sixteen days after beginning treatment with Chloresium when the lesion was in the healing phase. No inflammatory reaction was produced at the ninety-six-hour reading, but a slight reaction was noted at one hundred and forty-four hours. This same sample of exudate had exhibited weak hemagglutinating properties (Table II). Similarly, exudate was taken from Case 8 after twelve days treatment with Chloresium, and in this case no inflammatory reaction was produced by the intradermal injection at either the ninety-six or one hundred and forty-four-hour readings. This sample of exudate had been shown to be free of hemagglutinating properties (Table II).

Within this very limited experiment, therefore, there was a parallel between reduction of inflammatory properties and reduction of hemagglutinating properties in exudates taken from healing lesions.

In order to relate the degrees of inflammation produced by wound exudates in this experiment to other published data, a sample of liquid necrosin kindly furnished by Dr. Menkin was subjected to the same test procedure. Necrosin produced 2 to 3 plus inflammatory reactions in the six-week-old rabbits at both the ninety-six and one hundred and forty-four-hour readings.

Comment

The limited amount of experimental and clinical data presented here does not justify final conclusions. Nevertheless, there emerges a correlation between the clinical benefits of chlorophyll derivatives in resistant ulcerations and the antiagglutinin and anti-inflammatory properties demonstrated experimentally. In this series the decrease in the hemagglutinating and inflammatory character of the wound exudate paralleled closely the clinically observed healing progress of the lesions. That the healing progress resulted directly from application of Chloresium ointment is indicated by the fact that all of the ulcerations had been previously resistant to other therapy and, while bacterially sterile prior to initiation of the study, had showed no evidence of an active healing process. That the healing progress resulted specifically from chlorophyllin's effect on the character of the wound exudate is suggested, if not proved, by the fact that the hemagglutinative and inflammatory properties of the exudates could be uniformly reduced by chlorophyllin in vitro. This argues against any conclusion that the change in the character of the wound exudate was the *result* rather than the *cause* of healing progress. It is interesting to note also that in the two cases where healing progress under Chloresium treatment was least pronounced (Cases 3 and 6), the initial exudates exhibited the smallest degree of hemagglutinating and inflammatory properties. The local retarding factors against which Chloresium seems to act were of less importance in the over-all healing problem in these two cases than in the remainder of the series. It is not surprising, therefore, that healing progress under Chloresium treatment was somewhat slower in these cases.

The elements in the exudate which we presume to be a major cause of the nonhealing condition of these ulcerations have been defined earlier as mucoproteins. More specifically, they are believed to be median molecule mucoproteins produced by the enzymatic breakdown of ground substance as a result of trauma. Tissue matrices are high molecular weight polymers of mucoprotein or mucopolysaccharide character. These matrices, although acellular, are by no means inert, their integrity being maintained by dynamic equilibrium between polymerizing and depolymerizing enzymes. Under trauma or other stress the depolymerization process predominates, producing partially depolymerized mucoproteins which have hemagglutinating and inflammatory properties. How the bodily processes of the healthy individual rather promptly overcome this disequilibrium in the case of acute wounds healing normally is a theoretic subject too complex for full discussion here, but it may be assumed that the normal "lag phase" of wound repair is the period of re-establishment of the local equilibrium. (The reports of Zechner[18] and of Cole, Shaw, and Froger[19] indicate that in the early phase of normal wound healing hyaluronidase inhibitors are mobilized to neutralize the breakdown of ground substance by the enzyme hyaluronidase. A marked increase locally of these inhibitors occurs one to two days after trauma and persists for five to seven days as healing progresses.) Slowly healing wounds or ulcerations appear to us to be, in part at least, the result of an inability of the host's tissues to overcome by natural processes the local effects of partially depolymerized mucoproteins.

The concept presented here attempts to explain local factors contributing to wound-healing failure and the effect of chlorophyll derivatives on those factors. It does not, of course, preclude the concurrent influence of other retarding factors, both systemic and local. This series, in fact, included three cases out of 11 in which healing progress was not completely satisfactory, even though the hemagglutinating and inflammatory properties present in the initial wound exudate had been eliminated under treatment with Chloresium ointment.

Summary

1. Experimental data are presented to show that exudates from nonhealing human lesions exhibit hemagglutinating properties against the patient's own erythrocytes and produce inflammatory reactions when injected intradermally into rabbit abdominal skin.

2. When chlorophyll derivatives are combined with the wound exudates, the hemagglutinating and inflammatory properties of the exudate are inhibited.

3. Based on these experimental data, the concept is presented that wound-healing failure often results from the presence in the exudate of median molecule size mucoproteins which agglutinate erythrocytes causing "plugging" of the capillaries and which may similarly attack tissue cells causing inflammation. It is further postulated that the beneficial healing effects of chlorophyll derivatives in chronic lesions result, in part at least, from their inhibition or reduction of the hemagglutinating and inflammatory properties of the wound exudate.

4. A limited clinical trial to test this concept, involving treatment of 15 previously resistant ulcerations with a chlorophyll derivative ointment (Chloresium), is described. The results indicate a correlation between the healing progress obtained and the reduction of hemagglutinating and inflammatory properties in exudates taken serially from the lesions.

5. These data expose local factors which appear to be a major cause of wound-healing failure and, in demonstrating the inhibition of these factors by chlorophyll derivatives, explain in part at least the "mechanism" of this little understood healing agent. More extensive trials are necessary to confirm this concept, and it is hoped that this report may stimulate the interest of others in such clinical research.

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Jaundice Associated with Thorazine Simulating Methyltestosterone Jaundice

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HEPATOGENOUS jaundice has been produced by numerous drugs including the chlorinated hydrocarbons (chloroform, carbon tetrachloride), alcohol, cincophen, yellow phosphorus, sulfonamides, coal tar derivatives, snake venoms, toxic mushrooms, and heavy metals.[1] Recently methyltestosterone,[2,3] parenteral aureomycin,[4] and isoniazid,[5] PAS,[6] and streptomycin[7] have been added to the list.

A new drug, Thorazine,* which is now receiving extensive clinical trial because of its wide range of indications is another chemical to be associated with the production of jaundice. In the descriptive circulars the manufacturer suggests caution in its use in cases of diseases of the biliary tract. This caution is based on four cases of jaundice suspected of having been induced by chlorpromazine. Only incidental references to jaundiced cases have been made in the few published reports on the general use of this drug.[8]

The purpose of this paper is to document the clinical details of two cases of jaundice associated with the use of Thorazine, to emphasize this complication in its use, and to focus attention on this etiology in the differential diagnosis of jaundice, particularly before surgery is contemplated for obstructive jaundice.

When in a single day, July 12, 1954, two patients presented themselves with jaundice after having taken Thorazine, the suspicion of causal relationship was aroused, and the patients were hospitalized for study. Upon consultation with the medical department of the manufacturer of the drug, an estimated incidence of about 1 per cent of jaundice cases associated with the use of Thorazine was reported.[9] The information thus obtained and the studies of the two patients here detailed indicated a pattern of liver function tests which simulated those cases of jaundice associated with the ingestion of methyltestosterone.

Case Reports

CASE 1.—B. Y., a sixty-two-year-old, white female, presented on July 12, 1954, with complaints of severe, generalized itching of three days duration. The patient had been in a disturbed mental state with depression, anxiety, and extreme nervousness for the past year. A similar episode of depression in 1950 required a course of eight electroshock treatments on an ambulatory basis. The first psychiatric relapse occurred in 1953, and after partial benefit was obtained with three additional treatments, the patient refused further electroshocks. Three weeks prior to the July 12 admission, Thorazine, 25 mg. three times a day, was prescribed for supportive symptomatic therapy. The patient complained of vertigo and nausea on taking the drug and, therefore, took only two tablets the first day and two the second day. Persistent reactions of vertigo and nausea then caused her to discontinue the drug and to return to the use of phenobarbital, $^1/_4$ grain three times a day. Two weeks later the patient developed symptoms suggesting an acute upper respiratory infection with running nose, sneezing, and sore throat. There was a shaking chill and temperature elevation up to 101 F. This improved in three days with Achromycin treatment (250 mg. by mouth three times a day for three days). At this time the patient noted that her stools were clay colored and that her urine was dark. She tried to take Thorazine again in half the dose but discontinued it after taking one-half tablet twice a day for two days because of the same reactions of vertigo and nausea. Severe pruritis developed July 9, 1954, and icterus was noted by the patient on July 11, 1954, and confirmed on admission to the hospital on July 12, 1954.

The past history included typhoid fever and pneumonia in 1902 in Russia simple mastectomies in 1931 and 1932, and hysterectomy and appendectomy in 1936. In the past ten years the patient had a mild labile hypertension. The patient had been hospitalized from May 24 to June 7, 1953, for severe rectal bleeding. She was given 1,000 cc. of whole blood transfusion. The diagnosis was diverticulitis of the colon as established by barium enema. X-ray of the entire gastrointestinal tract was otherwise negative. The gallbladder series was normal. Sigmoidoscopy was normal. From April 29 to May 5, 1954, the patient was again hospital-

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* Thorazine is a brand name of chlorpromazine, Smith, Kline & French 2601. Also known as Largactil in France, Canada, England, and Italy and as Megaphen in Germany. It is 10-(-dimethylaminopropyl)-2-chlorophenothiazine hydrochloride (Rhone-Poulenc 4560).

TABLE I.—Liver Function Tests

		Serum Bilirubin						Cholesterol					Urine	
		Total (0.1 to 0.8)*	Prompt (0.1 to 0.2)*	Delayed (0.1 to 0.6)*	Alkaline Phosphatase (1.5 to 4.0 Bodansky Units)*	Cephalin Flocculation	Thymol Turbidity (0 to 4)*	Total (180 to 250)*	Esters (70 Per Cent)*	Protein (6 to 8)*	Albumin (4.8 to 5.5)*	Globulin (1.5 to 3.0)*	Bile	Urobilinogen
							CASE 1							
July	13	4.0	+	...	22.4	0	1.5	300	150	7.35	5.35	1.62	+	+ (not increased)
	19	2.5	+	...	12.8	0	4.0	210	111	6.42	5.35	1.73	0	+
	24	1.2	+	...	8.3	...	3.5	190	100	...	5.7	1.2	0	+
	30	1.45	+	...	8.9	0	3.5	234	161	8.65	...	...	0	+
August	9	0.85	+	...	...	0	4.0	333	133	5.7	3.0	2.35	...	...
							CASE 2							
July	13	4.1	1.8	2.6	4.5	±	3.0	184	111	6.2	3.8	2.4	Trace	Negative
	15	...	...	...	...	...	4.5	...	...	...	...	...	...	...
	16	5.1	2.7	3.8	4.8	...	...	...	...	...	...	...	Moderate	Negative
	20	5.0	2.4	3.6	3.2	0	...	177	99	6.6	4.3	2.3	...	...
	23	4.4	1.6	2.6	...	0	2.5	181	112	6.7	4.6	2.1	...	...
	29	3.9	1.7	2.8	...	...	...	...	...	...	...	...	...	...
August	9	2.9	1.1	1.9	...	...	...	...	...	...	...	...	...	...
	17	1.9	0.7	1.2	...	...	...	...	...	...	...	...	...	...
	24	1.4	0.3	0.8	...	...	...	...	...	...	...	...	...	...
	27	0.6	0.3	0.4	...	...	1.0	...	...	...	...	...	...	...

* Figures in parentheses indicate normal values.

ized for rectal bleeding, but this subsided spontaneously without administration of blood or plasma. There was no contact with jaundiced patients, toxic chemicals, or rodents.

The physical examination revealed a well-developed and well-nourished white female of sixty-two years. The skin and sclerae were markedly icteric. Evidence of scratch marks was abundant on the skin. There was no evidence of spider nevi. No focus of infection was found in the ears, nose, or throat. There were no thyroid nodules or distended neck veins. There was no lymphadenopathy. The lungs were clear to percussion and auscultation. The heart was not enlarged and showed normal sinus rhythm, pulse rate and ventricular rate 84, blood pressure 140/80. The second aortic sound was greater than the second pulmonic sound. A grade I systolic murmur was heard at the apex. The abdominal viscera were not palpable. No masses were felt in the rectal or pelvic examinations. The stool was clay colored. Neurologic examination showed no abnormalities.

Laboratory Data.—Liver function studies are given in Table I.

Urine was acid and negative for albumin, sugar, acetone, red blood cells, white blood cells, and casts; specific gravity 1.008. Urobilinogen on admission was present in dilution of 1:8; on discharge it was present but not increased. Bile test was positive on admission and negative on discharge.

On July 12, 1954, hemoglobin was 90 per cent, red blood cells 4,250,000, and white blood cells 11,900 with polymorphonuclears 61, lymphocytes 38, and eosinophils 1. On August 10 hemoglobin was 72 per cent, red blood cells 3,630,000, and white blood cells 10,800 with polymorphonuclears 70, lymphocytes 20, monocytes 7, eosinophils 2, and basophils 1. Sedimentation rate varied from 61 to 30 mm. in one hour. Blood Wassermann was negative. Prothrombin time was eighteen seconds, control fourteen. Stool guaiac was positive on July 13 and negative on subsequent stool examinations.

Electrocardiograms were within normal limits. Complete x-ray studies of the chest, flat plate of the abdomen, barium enema, and gastrointestinal and gallbladder series failed to reveal any pathology capable of producing jaundice. Only diverticulosis of the descending colon and proximal sigmoid was found.

Clinical Course.—The patient suffered with severe pruritis which did not respond to antihistaminics or ergotamine. The surgical consultant believed the patient to be suffering from an obstructive form of jaundice and urgently advised an exploratory laparotomy. The decision to withhold surgery was given welcome support when in six days the alkaline phosphatase and the icteric index came down markedly, followed by a gradual relief from the pruritis. On supportive therapy with diet containing 370 Gm. of carbohydrate, 140 Gm. of protein, and 100 Gm. of fat and with parenteral crude liver and vitamins, the patient made an uneventful recovery in a period of four weeks. The temperature was occasionally elevated to 100.4 F. during the first twelve days but remained normal thereafter. The pulse ranged from 80 to 84. The patient gained from 104 pounds on admission to 107 pounds on discharge.

Case 2.—J. T., a thirty-four-year-old, white female, para 2, gravida 5, in her ninth week of pregnancy presented with vaginal bleeding on July 12, 1954, following an enema to relieve constipation. In this, as in the three preceding gestations, severe nausea and vomiting complicated the course. Thorazine was prescribed in the fourth week of this pregnancy. A 10-mg. dose was ineffective, but 25 mg. three times a day controlled the symptoms for the following three weeks. Then, during the week of July 5, 1954, nausea and anorexia were observed despite the continued use of the medication. The patient noted lighter colored stools and darker urine and suspected a yellow tint of her sclerae the day prior to admission to the hospital on July 12, 1954. In addition, she had heartburn, constipation, and vague abdominal pains. Four days before admission she noted a severe right upper quadrant distress, "like a numb feeling," lasting three hours and radiating to the epigastrium, with spontaneous remission. There was no history of food intolerance, blood transfusions, or contact with jaundiced patients, toxic chemicals, or rodents. The patient's general health had always been good. A dermoid cyst near the rectum was removed in 1941.

Physical examination revealed a well-developed and well-nourished white female in no acute distress. A mild icteric tint of the skin and sclerae was noted. No spider hemangiomas were present. There was no focus of infection found in the ears, nose, or throat. There were no thyroid nodules. No lymphadenopathy was present. The heart was not enlarged and showed regular sinus rhythm. The blood pressure varied from 114/70 to 90/60; pulse was 80. There were no murmurs, thrills, or friction rubs. The lungs were clear to percussion and auscultation. No masses were felt in the breasts. Examination of the abdomen revealed the uterus to be the size of a ten-week gestation. The liver edge was palpable one fingerbreadth below the right costal margin and tender. The spleen was not palpable. The extremities were normal with no evidence of thrombophlebitis. Neurologic examination was within physiologic limits. There was slight vaginal bleeding. The stool was light yellow in color.

Laboratory Data.—Liver function studies are given in Table I.

Urine was alkaline, cloudy, negative for albumin, sugar, and casts and showed occasional white blood cells; specific gravity was 1.017; moderate bile; urobilinogen negative.

On July 12, 1954, hemoglobin was 13 Gm., red blood cells 4,000,000, and white blood cells 6,550 with polymorphonuclears 64 (segmented 59, stab 5) and lymphocytes 36. On July 21 hemoglobin was 9.4 Gm., red blood cells 3,050,000, and white blood cells 4,550 with polymorphonuclears 67 (segmented 63, stab 4), lymphocytes 31, and eosinophils 2. Sedimentation rate was 55 mm. Blood Wassermann was negative. Prothrombin time was thirteen seconds; control was ten seconds. Coombs test was negative.

Flat plate of the abdomen was negative. Gallbladder series during the jaundice showed nonvisualization but, after jaundice subsided, showed normal function and no stones.

Clinical Course.—Vaginal bleeding was intermittent and slight in amount and ceased spontaneously within ten days. Jaundice gradually subsided in seven weeks with the onset of pruritis starting in the third week and lasting with moderate annoyance for five weeks despite the subsidence of the icterus. The temperature was never elevated; the pulse averaged 80. The patient was treated with diet containing 300 Gm. of carbohydrate, 100 Gm. of protein, and 40 Gm. of fat, an intravenous infusion of 5 per cent glucose and 2,000 cc. of normal saline, with sedatives and two tablets of Veracolate daily during the hospital stay for three weeks. Bed rest was continued at home for four weeks, and the patient gradually made an uneventful recovery with no further complication of her pregnancy.

Comment

A profile of liver function studies in cases of jaundice associated with Thorazine revealed a constant pattern similar to that described in jaundice caused by methyltestosterone:[3]

1. In the early stages the urine contained bile.
2. The stools were light colored.
3. Serum bilirubin was moderately elevated.
4. The cephalin flocculation was normal.
5. The thymol turbidity was normal.
6. The total protein and albumin-globulin ratio were normal.
7. The total cholesterol was not remarkable in one patient and somewhat elevated in the other, with a reduction of the esterified fractions in both (and corresponding elevation of the free fraction).
8. The alkaline phosphatase was slightly elevated in one but markedly elevated in the other.
9. There was spontaneous clearance of the jaundice in four to six weeks following cessation of Thorazine and with a regime of hepatic supportive therapy.
10. A fall in the hemoglobin and red count was noted in both patients. In Case 2 the effect of pregnancy and the vaginal bleeding may have contributed to the cause. In Case 1 no cause other than the hepatitis was apparent.

The range of the laboratory values of these two patients with jaundice due to Thorazine fell within the limits of the laboratory values of the 19 published cases of methyltestosterone jaundice. Whereas the alkaline phosphatase levels in these cases were only moderately elevated, in a case presented by Brick and Kyles[10] the alkaline phosphatase was 22.2 Bodansky units. The pressure for surgical intervention in such cases may be very great and should be evaluated with caution.

It is always difficult to prove that any given drug is fully responsible for the development of jaundice, especially since the incidence of infectious hepatitis has become so common. In the past, readministration of the suspected toxic drugs has not always reproduced the illness. However, when the clinical and laboratory findings fail to support the patterns of well-known diseases and a new pattern of liver function abnormalities results in association with a new drug, etiologic relationship may be inferred.

Nineteen cases of jaundice attributed to methyltestosterone[11] have been documented since Werner[2] first suggested the relation of cause and effect in 1947. Numerous references to unpublished observations of similar nature suggest an actually greater incidence of cases. In view of the widespread use of methyltestosterone, jaundice is still a rare complication.

So with Thorazine a similar picture of jaundice is reported with the expectation of numerous other such cases to be documented. Wood[12] claimed that the distinctive pattern of laboratory findings is of aid in the differentiation of methyltestosterone-induced icterus from other causes with which it may be confused clinically. This differential guide should not be limited only to methyltestosterone but should pertain to a broader category of drugs.

It is interesting to note that the chemical structure of chlorpromazine includes methyl radicals, although it has never been proved that it is the methyl radical in methyltestosterone that is causative of the jaundice.

Bateman[4] investigated the mechanism and type of jaundice produced by large doses of parenterally administered aureomycin in mice and in humans. Cerevero[5] reported five cases of icterus in tuberculous patients treated with isonicotinic acid hydrazide. PAS and streptomycin have also been described as causing toxic hepatitis. These are too few to categorize with finality but may belong in one related grouping.

Liver needle biopsies studied in a few of the reported cases of jaundice due to methyltestosterone showed minimal liver cell damage in the central zones, a bile stasis with plugging of bile canaliculi in the central zones of the liver lobules, and a very mild hepatic cell damage in these areas. No evidence of obstruction in the larger bile ducts was found.

Because the corresponding liver function studies and the clinical courses of the more widely analyzed methyltestosterone cases paralleled the Thorazine cases, they would be expected to show a related histopathology. Although such studies were not available in the two cases reported here, information supplied by the manufacturer indicated that this finding will obtain.

Summary

1. Two cases of jaundice associated with administration of chlorpromazine are reported.
2. Spontaneous recovery within four to six weeks resulted after general hepatic supportive measures and after discontinuance of the drug.
3. The pattern of liver function tests simulates those cases of jaundice caused by methyltestosterone. These include normal hepatocellular function, moderate elevation of the serum bilirubin including the prompt reacting and a reduction of the esterified cholesterol fraction.
4. The presence of jaundice with bile in the urine and an elevated alkaline phosphatase associated with pruritis and a vague history of abdominal pains may lead to the temptation of surgical intervention. But the knife must be tempered with caution, and the differential diagnosis of jaundice should always include drug-induced jaundice.

170 East 77th Street

Grateful appreciation is expressed to Dr. Harry A. Solomon and Dr. Emmanuel Appelbaum for the facilities of their medical service at the Beth David Hospital in the study of Case 1.

The studies of Case 2 were performed at the Lenox Hill Hospital.

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Results of the Heller Operation in the Treatment of Cardiospasm

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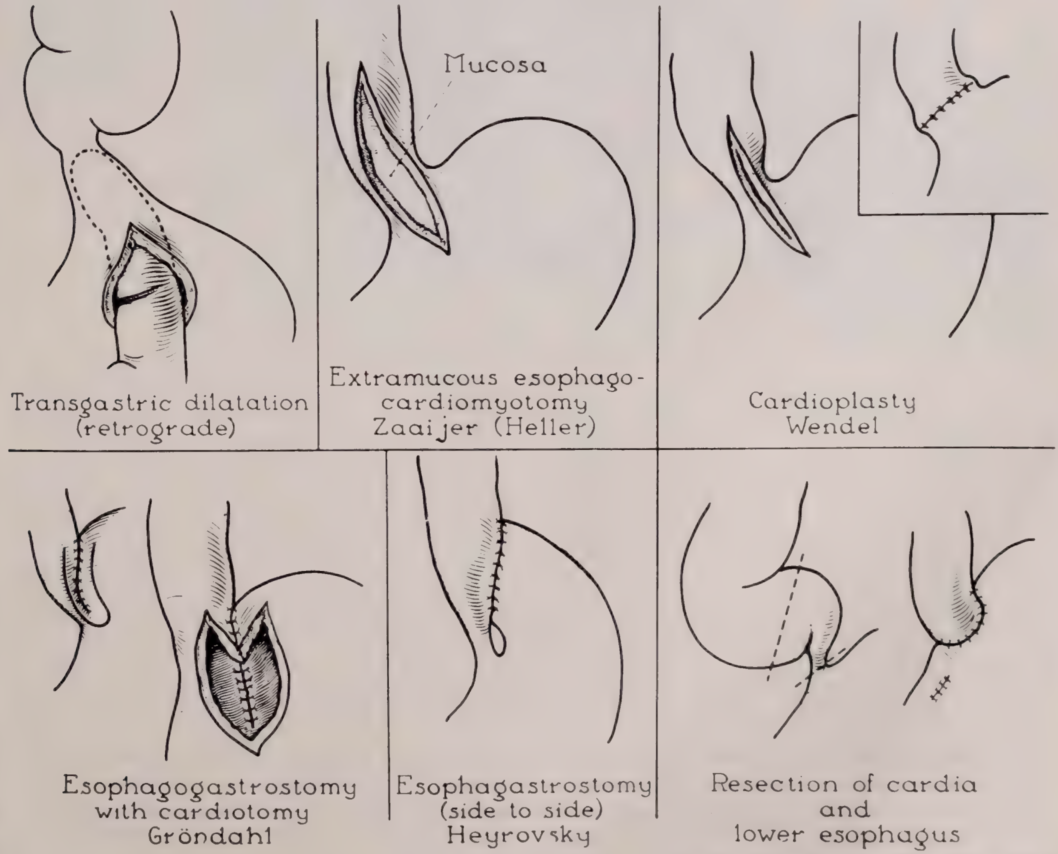
Operative procedures designed for the relief of cardiospasm (esophageal achalasia) range from conservative esophageal dilatation[1] to resection of the gastric cardia with esophagogastric anastomosis to various plastic rearrangements of the cardia. Our unsatisfactory experiences with the aforementioned procedures have led us to try the Heller esophagocardiomyotomy. Currently, our results with this operation are so gratifying that we believe it to be the procedure of choice.

Although instrumental dilatation often gives symptomatic relief of dysphagia, the results are usually transitory, and repeat performances do carry some danger of perforation of the esophagus as the segment becomes more redundant and/or sigmoid shaped.

During the past fifteen years American surgeons have directed their attack to the gastric cardia employing various plastic procedures purposing to enlarge the cardial orifice (Fig. 1).[1,2] Initially,


Mucosa
Transgastric dilatation (retrograde)
Extramucous esophago-cardiomyotomy Zaaijer (Heller)
Cardioplasty Wendel
Esophagogastrostomy with cardiotomy Gröndahl
Esophagastrostomy (side to side) Heyrovsky
Resection of cardia and lower esophagus

(*Courtesy of the Journal af Thoracic Surgery*[1])

FIG. 1. Diagrams illustrating various surgical maneuvers used to correct cardiospasm.

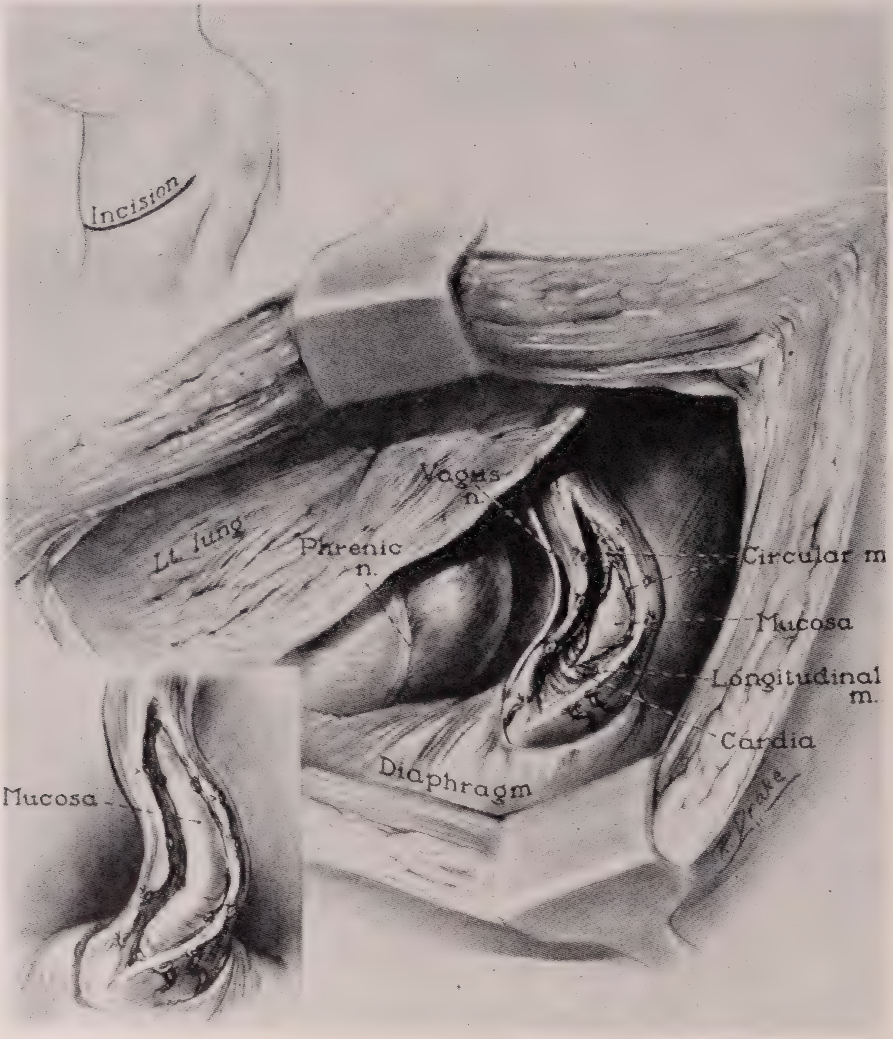


FIG. 2. Technic of extramucous esophagocardiomyotomy (Zaaijer modification of the Heller procedure). Transthoracic approach.

(Courtesy of the Journal of Thoracic Surgery[1])

both we and other surgeons believed our results to be fairly successful. However, the late results were disappointing and indicated the fallacy of such methods. We had failed to recognize that reflux peptic esophagitis would often follow cardioplastic procedures which disturb the integrity of the sphincter. Recent reports show that this complication is relatively commonplace.[3–5] Because of these unsatisfactory experiences, efforts were directed toward finding a procedure that would avoid this complication. The Heller operation had recently been introduced into this country with several early favorable reports.[2,3,6] Our results were at once so encouraging that we adopted this procedure to the exclusion of all others.

The technic of esophagocardiomyotomy is quite simple and offers very little risk to the patient. In our ten cases we have had no morbidity or mortality. The operation was first described by Heller in 1913 and was performed through a transabdominal incision.[7,8] We prefer the more direct transthoracic approach through a left posterolateral incision. An anterior longitudinal incision is made in the esophageal muscularis and deepened down to the mucosa. It is begun about 2 cm. above the constricted lower segment (on the dilated portion) and extended downward through the cardia onto the stomach (Fig. 2). The cardia and lower esophageal segment apparently can then relax and thus allow the bolus of ingested material to

TABLE I.—Results in 10 Cases

Patient	Age (Years)	Duration of Symptoms (Years)	Result	Post-operative Follow-up (Months)
M. L.	48	10	Excellent	32
H. C.	27	3	Excellent	20
I. G.	52	10	Good	17
E. F.	45	20	Fair	17
M. S.	23	5	Excellent	15
J. C.	67	20	Fair	13
M. O.	53	13	Good	12
M. B.	68	7	Excellent	11
S. B.	46	5	Excellent	9
M. LaV.	22	15	Excellent	4

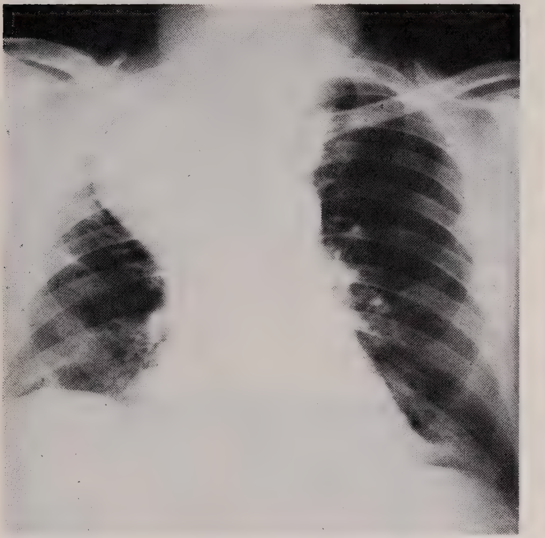


Fig. 3. *Case 1*—Routine chest x-ray showing huge esophagus simulating chest tumor.

pass freely into the stomach. In addition, the integrity of the cardial sphincter is apparently maintained in a high percentage of cases, thus avoiding the serious complication of reflux esophagitis which is common with resection or extensive plastic procedures.

Ten patients have been subjected to the Heller operation (Table I). Eight are classed as excellent results, and two are classed as fair. The former are apparently cured. They eat a full diet and have no dysphagia, regurgitation, or indigestion. The latter two cases are about 75 per cent better but occasionally do have some of their preoperative symptoms.

We do not profess to understand the basic physiopathology of the disease, nor do we propose any clear-cut explanation of why or how this operation works. Furthermore, it is not within the scope of this report to rediscuss these issues.

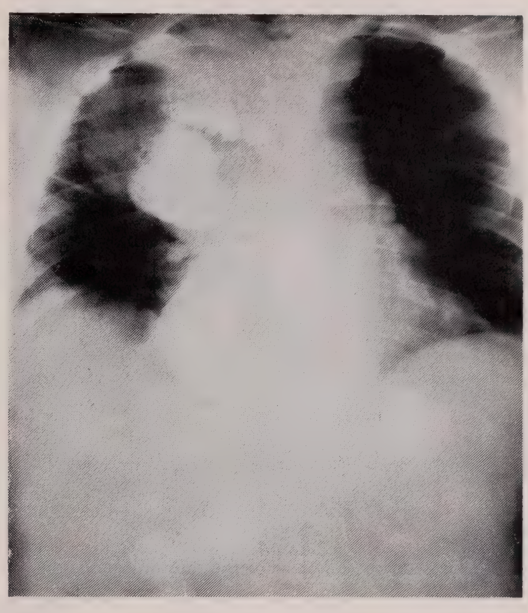


Fig. 4. *Case 1*—Barium swallow demonstrating mega-esophagus due to achalasia.

There are excellent reports by Hawthorne,[2,9] Kay,[4] Puppel,[10] and Butin.[11] We merely wish to present a very satisfactory experience with this operation in a small series of ten cases.

The following three brief case reports are illustrative of the typical history and x-ray findings in achalasia.

Case Reports

Case 1.—J. E. C., male, age sixty-seven, entered University Hospital on January 2, 1954, with the chief complaint of dysphagia of twenty years duration. He had had repeated esophageal dilatations during the past ten years with only temporary relief. During the past three months he had lost 55 pounds and had noted progressive dyspnea in the past two months.

Preoperative roentgenograms revealed a markedly dilated, tortuous, S-shaped proximal esophagus occupying more than half of the right chest and compressing the adjacent lung tissue with a narrowed distal segment (Figs. 3 and 4).

On January 17, 1954, the Heller procedure was carried out without incident. Postoperatively the dyspnea and dysphagia disappeared, and even at an early date there was x-ray evidence of decreased diameter of the esophagus (Fig. 5).

As of August, 1954, this patient had gained 20 pounds and showed marked clinical improvement.

Case 2.—M. S., female, age twenty-three, entered

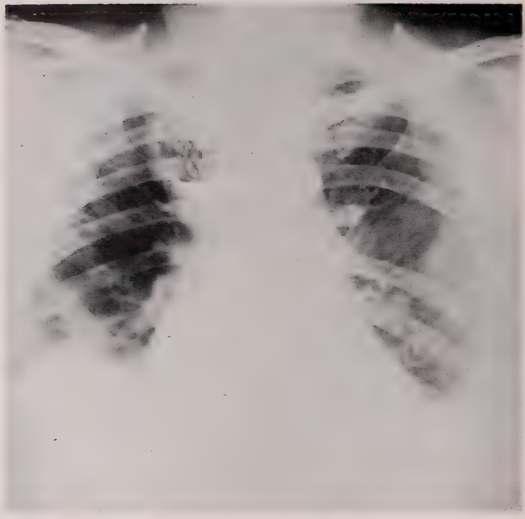


FIG. 5. *Case 1*—Postoperative barium swallow showing some decrease in size of the dilated esophagus.

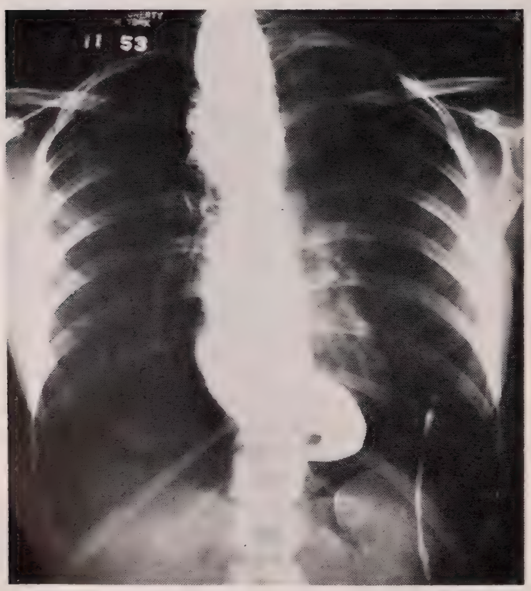


FIG. 6. *Case 2*—Esophagogram demonstrating "sigmoid" type of megaesophagus with delayed emptying into stomach.

St. Joseph's Hospital on October 18, 1953, with the chief complaint of dysphagia of five years duration. In the past year she developed frequent episodes of vomiting with an associated 20-pound weight loss. Three esophageal dilatations were done with only transitory relief. Roentgenograms revealed a moderate fusiform dilation of the proximal esophagus and a narrowed distal segment (Fig. 6).

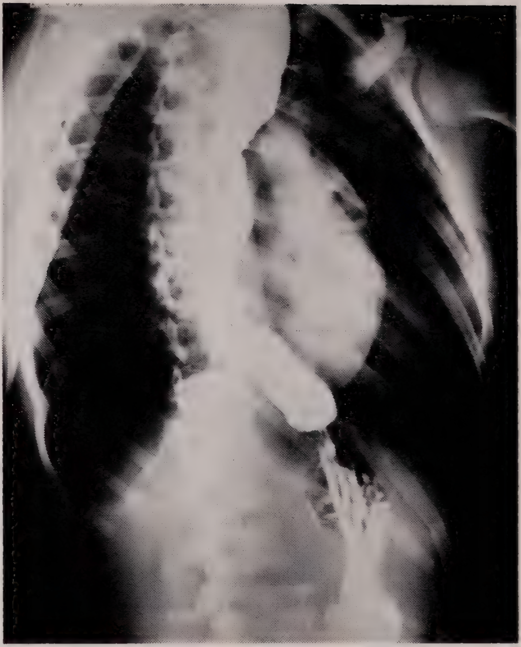


FIG. 7. *Case 2*—Barium swallow showing postoperative decrease in size of esophagus and more rapid emptying into stomach.

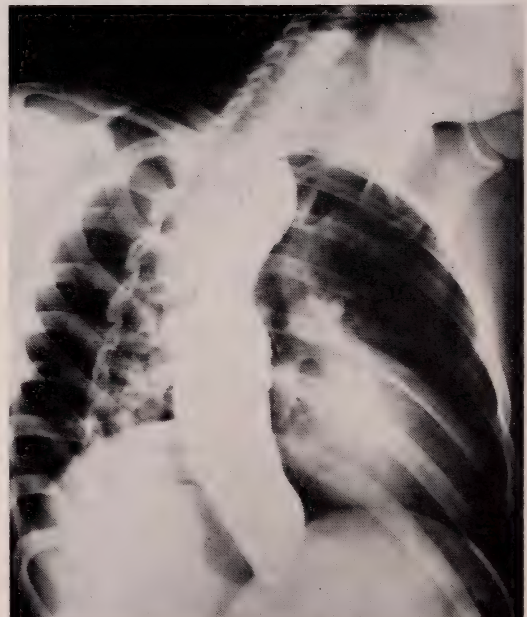


FIG. 8. *Case 3*—Typical megaesophagus of cardiospasm with delayed emptying.

Following the Heller procedure on October 26, 1953, this patient gained 30 pounds and is now completely free from symptoms (Fig. 7).

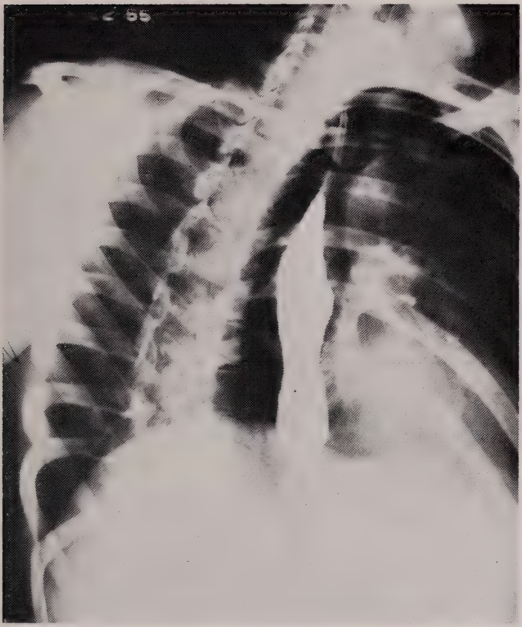


FIG. 9. *Case 3*—Postoperative x-rays showing less dilatation of esophagus and improved emptying through cardia.

CASE 3.—H. J. C., male, age thirty, entered St. Joseph's Hospital on January 22, 1953, with a three-year history of progressive dysphagia responding only temporarily to three attempts at esophageal dilatation. During the past three months he developed substernal pain and frequent emesis. Roentgenograms revealed moderate fusiform type of cardiospasm (Fig. 8).

Following the Heller operation on June 27, 1953, he became completely asymptomatic and gained 15 pounds (Fig. 9).

Comment

We have recommended preoperative esophagoscopy on all patients to rule out tumor or ulcer or other visible pathology. A dilation is done at the same time. Subsequently, a minimum of two more dilations with the pneumatic dilator are performed. If the benefit therefrom is not salutary, we recommend surgery at that time. At operation we have encountered in all cases a distal esophageal segment about 4 to 7 cm. in length (coming off the dilated proximal esophagus) in which the muscle layers are markedly hypertrophic and spastic. The myotomy is readily accomplished on the esophagus, but the delineation is not so clear when passing over the cardia and onto the stomach. The postoperative improvement symptomatically is usually prompt. Some of these patients have had a normally swallowed meal for the first time in as long as twenty years.

Postoperative barium studies produce a variety of results. In some patients the esophagus has returned almost to normal in size. In others there is no apparent improvement in the size of the esophagus or in the passage of barium, although the patients are cured symptomatically. We have had no serious postoperative complaints or complications.

Summary

We have performed the Heller esophagocardiomyotomy operation on ten patients with very satisfactory results. Three typical cases are presented.

Addendum

We have had five additional cases since submitting this manuscript. Each is doing well.

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Let's not be too quick to blame the human race for everything: A great many species of animals became extinct before man ever appeared on earth.—WILL CUPPY, *How to Become Extinct*

SURGICAL CONFERENCE

St. Mary's Hospital

Rochester, New York

FEBRUARY 15, 1955

Emergency Surgery in the Aged

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This group of people who are aged is an important one. The average span of life today is somewhere in the vicinity of sixty-eight years, as contrasted to fifty years in 1900. Also about 5 per cent of our population are seventy or over. Medicine has contributed considerably to this increased longevity; therefore, it is incumbent upon us as physicians to continue the progress that has been made.

These aged individuals are very worth-while people and an interesting group. They are frequently beset by conditions which are serious but which we can alleviate or influence favorably. There are a few general considerations to be made. They have lived for seventy or seventy-five years or longer, and while they are amiable, as a rule they are somewhat easily irritated by things that are inconsequential to the younger person. Particularly is this true when they are faced with an acute illness which creates a disturbance in their life, for they are likely to become irritable and, to our way of thinking, unreasonable. They are intelligent people as a rule, and one cannot pass over their ailments as being trivial. They have fixed ideas and are not very susceptible to change. Often it is difficult to convince them, for instance, of the need for hospitalization and surgery. So, to start with, we have to spend more time with these patients and explain things in greater detail; otherwise good medical or surgical treatment may be wasted. A fundamental thing to keep in mind is that psychologically, but particularly physiologically, these people are what we might term "brittle." Because of the senescent changes in their systems, they do not react in an elastic sort of way to change of any kind. If we consider them as brittle, we will handle them more carefully.

Consider a few of the physiologic changes which are normal to these individuals and which we cannot do much, if anything, to alter. We can, however, do a great deal to prevent some of the complications consequent on these changes. With regard to the cardiovascular system they are brittle in the sense that arteriosclerosis and the wear and tear of seventy or more years of life exert their effects on the heart and blood vessels. Many of these patients have heart disease; others are just on the borderline where an acute illness or a surgical operation will tip the balance and result in a very serious situation. They are particularly susceptible to marked fluctuations in blood pressure. They usually have some hypertension, and this may be of severe degree. Regardless of their baseline blood pressure they do not tolerate sudden drops in blood pressure or prolonged hypotension. They react unfavorably to marked shifts in their blood volume, that is, either too much fluid or blood given or the sudden loss of a considerable amount of blood.

As far as the respiratory system is concerned, there is a golden opportunity to prevent complications. These aged individuals often have chronic emphysema and/or certain bony deformities of the thoracic cage brought about by arthritis or other changes, so that their normal breathing capacity is limited as compared to a younger individual. Some are victims of chronic bronchitis or other low-grade infection which they may tolerate quite well under normal circumstances, but when faced with anesthesia or a surgical procedure which may further alter respiratory function, they do not do well. One must insure a clear airway and provide the maximum amount of oxygen at all times. Also, they tend not to be able to cough effectively, so that after surgery or at any time during their hospitalization, when they accumulate secretions in abnormal amounts, they have to get rid of them. If they cannot cough, then repeated tracheal suction is indicated to evacuate secretions. If this is unsuccessful, bronchoscopy should be used.

The renal system is often the site of either primary disease which may have existed for many years or impairment of renal function due to hypertension or some other cause. Here again one cannot do much about the underlying situation. Providing the right kind of fluids and electrolytes and not overloading the kidneys or depriving them of sufficient water to take care of their needs are essential to successful management.

Nutritionally these patients are not good candidates for emergency surgical procedures. At that age they are inclined to eat what they want when they want; if they do not like certain foods, they will not eat them. Thus their ordinary dietary habits may be harmful to them if they are faced with some emergency situation for they will often be hypoproteinemic and/or anemic. These conditions are significant impediments to their course. There are other systemic diseases, such as diabetes, which may first become manifest in patients who are old and when they are confronted with an acute illness. Fortunately it is very often a mild type of diabetes, but it must be recognized in order to avoid serious trouble.

Thus, from a strictly physiologic standpoint these people have undergone certain changes which we cannot do a great deal about, but if one is aware of the fact that these changes occur, much can be done to help the situation and to prevent complications.

In general, there are certain things one should consider in evaluating these patients, wholly apart from their immediate surgical situation. It is necessary to take more time with them. Often when an emergency arises, the physician or the surgeon who sees them may not have had any contact with the patient for a month, a year, or perhaps several years. Thus, one must go into their history and find out about a possible cardiac disability, pulmonary dysfunction, and other physiologic changes already mentioned. The history and physical examination become extremely important. All of these patients should have a chest x-ray and an electrocardiogram when they are confronted with a potential surgical problem, even though they may have had these studies recently. Because they are brittle, conditions may change within a few days or weeks. As far as laboratory data not pertaining to the immediate situation, the urinalysis is probably the most important study and the easiest to accomplish. It will provide some estimate of their kidney function, knowledge of which is essential before undertaking surgery.

In preparing these patients for emergency surgery there are a few considerations which apply regardless of the particular condition with which one is dealing. If they have obvious congestive heart failure, certainly one does not want to operate on them, but it is sometimes necessary to do so. The use of digitalis and other measures preoperatively is clearly indicated. There is some discussion as to the value of prophylactic digitalization in each case, but when such a patient is faced with an acute surgical situation, and considering that they are brittle as far as their cardiac status is concerned, there seems to be some merit in digitalizing them if one has the time to do it effectively. These people are prone to cardiac arrythmias, notably auricular fibrillation, which may develop at any time. If it exists, the use of quinidine preoperatively is indicated. One must be ever watchful in the event an arrythmia develops to insure prompt diagnosis and treatment.

All of these people should have an indwelling catheter in the bladder before going to surgery. The measurement of their intake and output is a very important part of their care and will be facilitated by the use of an indwelling catheter. In addition, they often become incontinent of urine for one reason or another, and in male patients particularly it is not unusual for some obstruction to exist. These situations may be aggravated by the emergency, and serious difficulties ensue postoperatively. Space does not permit a consideration of the problems of fluid and electrolyte balance which are common in this group. They are not greatly different from those of younger patients, but one must manage them somewhat differently, again because of the brittle nature of these patients. As a fundamental consideration in the correction of dehydration, which is a frequent accompaniment of these emergency situations, one should not give them too much fluid nor give it too fast. If one adheres to this policy, much trouble can be avoided. Fluid given too fast or in too large quantity can rather easily put such a patient into pulmonary edema or congestive failure.

Blood should be available for use during surgery since it is often necessary. Again, one must exercise caution to avoid abrupt expansion of their circulating blood volume.

The anesthesiologist plays a major role in the care of these patients, particularly because they are often sensitive to various drugs used for premedication or to the various anesthetic agents, certain of which are conducive to cardiac arrythmias. The agents used should enable them to get a maximum amount of oxygen. This is the main thing they need, and it is often a delicate problem for the anesthetist. He should see the patient soon after admission and make his own evaluation of the particular patient and decide what anesthetic is best suited to the patient and to the condition to be treated. In regard to premedication, smaller doses of the drugs generally used are much better tolerated than the conventional doses because sometimes these people become unusually depressed with relatively small doses of morphine or Demerol. Any of these patients who are to have emergency surgery should have a Levin tube in the stomach. They are often weak, perhaps not too alert to their situation, particularly in the early postoperative period, and may not be able to call for assistance. If they have an episode of vomiting and aspirate some of this material, it is indeed tragic. The foregoing, in general, applies to all patients who are going to have emergency surgery. Sometimes our approach to these patients is clouded by the immediate problem, whereas it may not be so significant as some of these basic considerations.

Certain specific emergency surgical conditions which are common to this group may be discussed. Among the most common conditions with which these people are confronted are diseases of the biliary tract, notably acute cholecystitis. It is appropriate to make a plea for elective operation on younger patients who are shown to have gallbladder disease, particularly those in whom stones are demonstrated. Elective surgery at a younger age when they are a much better risk may obviate an emergency surgical procedure at the age of seventy. In reviewing some of these problems in the aged, Welch studied a series of patients and found that over half of those who had had gallstones demonstrated earlier encountered trouble at an older age. Of course, the morbidity and mortality were progressively greater. It is also important to realize that acute cholecystitis as well as some of the other situations occurring in the older individuals may not present the classic picture which we associate with these conditions. Hippocrates observed that "older people do not complain as much as younger people," and it is true. They may have much pain but attach no significance to it. They may have digestive disturbance for several days and think nothing of it. Finally, when they are really ill, febrile and toxic, they again may not present an alarmingly acute picture. They may complain only mildly, have mild or moderate abdominal tenderness, yet when one operates an acute gangrenous appendix or gallbladder may be present. Thus, the clinical picture may not reflect accurately the seriousness of the situation.

The occurrence of jaundice in association with biliary tract disease is mentioned only to bring attention to the fact that all jaundice developing in the patient at seventy or seventy-five is not due to malignancy. We often think in these terms, but these people are prone to involvement of the biliary tract by stones, occasionally a silent stone, and develop obstructive jaundice on that basis rather than from a malignant tumor. Hence, one should have an optimistic point of view regarding the older patient who develops jaundice. Statistically, more will have malignancy than will have calculous obstruction, but this does not exclude the latter possibility.

Appendicitis is fairly common in this group. A recent review of a large series of cases revealed that 5 per cent of all patients who were operated for acute appendicitis were sixty years or over. The clinical picture may be different from that usually associated with appendicitis. It is often milder as far as symptoms and signs, and one can be deceived as to the seriousness of the condition. Once the diagnosis is made, as in younger individuals, early operation is the procedure of choice. Not infrequently one will have to compromise and drain an appendiceal abscess if removal of the appendix is technically hazardous.

Complications of peptic ulcer are frequent in this age group. Obstruction is probably the most common complication of peptic ulcer but is less often an urgent emergency. These patients may have vomiting for several days and become serious fluid-electrolyte problems, but as far as surgical intervention is concerned, they are not an acute emergency. The other two complications, hemorrhage and perforation, also occur fairly frequently and demand early attention. When these patients bleed, it is less likely to stop spontaneously because the arteriosclerotic changes in their vessels make it less likely that the vessels will retract and the hemorrhage cease. If one cannot keep up with the blood loss by replacing about 500 cc. per eight-hour period for twenty-four hours, one should operate. It is not safe to assume that bleeding will stop in forty-eight hours or a few days because they do not tolerate blood loss as well and may continue to bleed and die without giving one an opportunity to operate. The surgery for bleeding peptic ulcer ideally is gastric resection. It is important, however, to be sure the bleeding is stopped. Very often in the patient who is bleeding, one may do a gastric resection and perhaps never visualize the area from which the bleeding is taking place. Such a patient can bleed postoperatively and have a fatal outcome. It is important to open the duodenum and, if at all possible, identify the bleeding point and control the bleeding. Usually if one can stop the bleeding, gastric resection can be performed without greatly increasing the risk, but if the patient is still bleeding and resection is attempted, trouble may be anticipated. As far as perforation is concerned, in this age group it more often occurs as a result of gastric ulcer, but perforation of duodenal ulcers also occurs. In any event closure of the perforation is indicated, and these people should not be denied operation because of their age.

Intestinal obstruction is a frequent occurrence in older individuals and has many possible causes. Various types of hernia occur—inguinal, femoral umbilical, and incisional. This strengthens the argument favoring elective repair of hernias at an early age, that is, at the time or soon after they become manifest, because the possibility of developing intestinal obstruction as a result of incarceration or strangulation of a hernia is indeed significant. The patient who has a hernia should have surgery at a convenient time to avoid the complications of obstruction at an age when he is not so able to tolerate surgery. Adhesions from previous surgery frequently cause intestinal obstruction in this age group. While one may temporize in cases where the obstruction appears to be partial, early surgical intervention is indicated whenever it is felt that the obstruction is complete, when response to nonoperative methods is poor, or when the patient becomes progressively sicker while under conservative management.

Tumors of various sorts, notably malignancy of the colon, as a cause of intestinal obstruction is common in this group. While the other two common causes, hernias and adhesions, usually produce small bowel obstruction, obstructions due to tumor more often involve the large bowel. The situation which is of particular concern in large bowel obstructions is the lesion of the left colon which produces a "closed-loop" type of obstruction with extreme dilation of the cecum and, not infrequently, rupture of the cecum as a consequence. One can do a great deal in the way of decompressing the gastrointestinal tract by the introduction of a Levin tube or one of the longer intestinal tubes. This should not be considered a substitute for surgery but a preparation for surgery in most instances. Occasionally with a partial obstruction one can effectively decompress the tract and relieve the obstruction by intubation and suction alone. Two things that are fundamental in the management of intestinal obstruction are prompt and efficient decompression of the gastrointestinal tract, whether by tube or by surgical intervention, and correction of fluid-electrolyte imbalance. The latter is often a difficult problem, for a patient who has been sick several days with protracted vomiting often enters the hospital in serious fluid-electrolyte imbalance. It is necessary to take a certain amount of time to correct this and simultaneously endeavor to decompress the gastrointestinal tract. Most often, less than the optimum time is available before one is obliged to operate on these patients, but as much corrective therapy as possible should be achieved.

Aside from peptic ulcer there are other important causes of hemorrhage from the gastrointestinal tract in this group, notably, gastric and colon carcinoma. Massive bleeding from large bowel cancer is somewhat less common, but hemorrhage from gastric neoplasms is often one of the first manifestations and may be fatal. Esophageal varices, regardless of the age of the patient, are a common cause of bleeding. In all of these incidents of massive bleeding from the gastrointestinal tract, early diagnosis is essential. All of one's diagnostic armamentarium must be utilized to achieve this. In general, once a diagnosis has been established and a reasonable amount of replacement therapy carried out, surgery should not be delayed. As already mentioned, these older people do not tolerate blood loss; hence delay in definitive control of hemorrhage is hazardous.

Conditions involving the peripheral vascular system frequently present an acute emergency problem in this age group. Peripheral vascular emboli demand prompt attention. Patients with underlying heart disease, particularly with arrythmias, are prone to emboli, and the arteriosclerotic is prone to thrombosis or embolization as a result of the breaking off of plaques from some part of the vascular system. Their peripheral circulation often is impaired, with diminished or absent peripheral pulses. Any abrupt change in this situation should alert one to the possibility of an acute insufficiency, and early intervention may result in preservation of a limb.

Although much can be done to minimize the occurrence of phlebothrombosis or thrombophlebitis postoperatively, our best efforts apparently are not enough in a significant percentage of cases. These people are often not too active, and at home they spend much time sitting or at bed rest. Hence, when they are faced with an acute surgical problem or an illness which confines them to bed, they are quite likely to develop peripheral venous thrombosis. It is wise, unless there is some specific contraindication, to get these people out of bed early, that is, to encourage resumption of their usual degree of activity as soon as practical. Some of them are going to be crippled by arthritis or some other condition and require help; either the nurses, interns, or attendants must actually help them out of bed and walk with them. It is not enough to tell these patients, "You must get out of bed today," because they are comfortable and may have some difficulty getting out of bed, and if no one helps them, they will stay there. If they cannot get out of bed because of some infirmity, then active and/or passive leg exercises should be carried out while they are in bed. The main thing to avoid is stasis of blood in the veins of the lower extremities, which will occur if they do not move. Exercises which they can do alone or with assistance, such as moving their legs several times a day, may be helpful. Wrapping the legs with elastic bandages is a good procedure inasmuch as their muscle tone is decreased, and inactivity enhances this loss of tone. These bandages must be rewrapped each day, and sometimes more often, for two reasons. First, they become loose and thus ineffective, and second, the person wrapping the leg can observe the skin color and temperature or the patient may complain of pain as the rewrapping is done. In this way a developing thrombophlebitis may be detected early.

The routine use of anticoagulants prophylactically is not practical, is expensive, and requires much attention. These patients are brittle and are more likely to bleed abnormally than those whose systems are more elastic. If they develop any signs of thrombosis or if they have a previous history of phlebitis or pulmonary emboli, anticoagulant therapy is indicated. There seems to be a trend away from venous ligation because it is apparently no more effective. From the therapeutic standpoint these patients are poor surgical risks for any procedure, and if one can treat them with anticoagulants, this is to be preferred.

There are certain other complications which may develop during any surgical procedure regardless of the age of the patient but which are particularly important to this age group. Shock occurring during or after an operation is frequent, and there is only a certain amount that can be done to prevent it. Avoiding excessive blood loss and maintaining good blood pressure during surgery are important factors in preventing postoperative shock. Frequently these patients become hypotensive after they are returned to the ward, and one must be alert to this possibility and not allow them to continue in this state. Fluid-electrolyte imbalance requires adjustment, and the rule of not giving too much fluid and not giving it too fast is clearly applicable. The normal individual responds to surgery in a characteristic pattern, which is featured by diminished urine output for two to four days and retention of sodium for an equal length of time. These individuals who are more brittle do not need large amounts of fluid or salt during this period. Pulmonary complications are frequent for reasons already mentioned. In the presence of some impairment of respiratory function and even though they may be given an anesthetic which is quite satisfactory and not a tremendous jolt to their system, postoperatively they are going to have some tracheobronchial secretions. They may not be able to cough effectively, and much difficulty may result if they do not get rid of these secretions. They should be encouraged to breathe deeply and to cough often. One cannot merely tell them to cough but must make sure they do cough. If they do not, then the use of tracheal suction is indicated. Repeated tracheal suction to remove secretions and/or stimulate cough will help greatly to minimize pulmonary complications. Renal complications are very often the sequel of underlying disease, and one must treat the kidneys with appropriate respect and not give the patient either too much or too little fluid and/or electrolytes. Usually these patients need about 1,500 to 2,000 cc. of water as their daily requirement. The amount of electrolytes in these solutions should be governed by their daily needs and loss of electrolytes. It is better to err on the low side as far as their intake of salt, in particular, is concerned. One has to be aware, however, of the fact that impairment of renal function, particularly of the tubules, may result in abnormal salt loss. Normally we retain salt quite well, but in these people that function may be disturbed, and they may rather readily develop a low-salt syndrome.

Thus far, no attention has been accorded the wound, not because it is unimportant, but considering the actual and potential problems these people have, it is among the less important considerations. Poor wound healing is common in these people for they are often hypoproteinemic and/or anemic, and when faced with a surgical situation, their healing powers are inhibited.

The closure of abdominal wounds is frequently a problem of some magnitude. The use of through-and-through sutures, including all layers of the abdominal wall, is a very useful procedure. While not so cosmetically satisfactory, stitches placed at $^{1}/_{2}$ to $^{3}/_{4}$-inch intervals can be placed rapidly, and this affords a very secure wound. These patients do get wound infections, wound dehiscence, and/or evisceration more often than younger people, and one must be aware of this and detect such complications as early as possible.

From these considerations there are a few interesting features upon which we can focus our attention and which will be of great help to these aged people. It must be realized that they have undergone physiologic changes as a normal part of senescence, but they may also be the victims of some pathologic situation involving any one of their major systems. Not much can be done to revert the kidneys, heart, or lungs to normal, but by giving more than usual attention to details of general care, much can be done to prevent complications in the several systems. The morbidity and mortality in this group, as far as emergencies are concerned, will be two or three times greater than in the younger group. In elective surgery it need not be any greater. If these people are given additional thought and attention, they will often provide some of our most gratifying results. It is particularly important to emphasize that they are "brittle" and must be handled carefully in all aspects of their care.

The physician of today, armed with modern facilities and a keen appreciation of the special problems associated with the care of the older patient, can accomplish much which will enable these people to enjoy the autumn of life.

Discussion

INTERN: Would you discuss the management of acute cholecystitis in the aged?

DR. MADIGAN: Regarding acute cholecystitis occurring in these people, one would prefer not to operate on them if possible, but if they continue to have fever, rapid pulse, elevated white cell counts, persistence of symptoms, and particularly if the gallbladder becomes palpable, one should consider early surgical intervention. With regard to what is done at surgery in these older people with acute cholecystitis, one should not forget cholecystotomy, which is a very useful procedure and very often lifesaving. Removal of the gallbladder in the presence of marked edema and inflammatory reaction is technically hazardous, and the patient may not tolerate a prolonged operation. In the extremely poor risk patient cholecystotomy can be done under local anesthesia and is relatively easy and safer.

RESIDENT: Could you say a few words about your method of handling acute diverticulitis?

DR. MADIGAN: Acute diverticulitis is very common in older people. A significant percentage of the population over forty-five have diverticula of the colon, but fortunately a small percentage have trouble at an older age. Acute inflammation is the usual situation, and these people are usually sicker than those with acute appendicitis. They have fever and often are quite toxic. If one is confronted with this situation and it does not respond to the administration of antibiotics and other supportive measures, early proximal colostomy is a worth-while procedure. By diverting the fecal stream, one puts the bowel at rest, and dramatic improvement often ensues. If there are signs of intraperitoneal abscess, this should be drained. Ideally one likes to defer surgical intervention in patients with diverticulitis because relatively little can be done as far as the local situation is concerned, but if symptoms progress and the patient is extremely toxic, colostomy is indicated.

TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

with the cooperation of

Bureau of Cancer Control
New York State Department of Health

Surgical Therapy of Gastric Cancer

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To date all efforts to associate gastric cancer with an etiologic agent have been futile. Perhaps the only significant association uncovered is the high incidence of gastric malignancy in patients with pernicious anemia.

The higher incidence of cancer of the stomach among males is well known and merits no further comment except to note that a direct association of this disease and "maleness" awaits isolation of this general factor in men and women by proper epidemiologic studies.

Diagnosis

The growth of the tumor and the associated minimal symptoms and signs of disease vary considerably, and unfortunately the progressive diagnostic steps leading to active therapy also result in further delay. Thus, most studies reveal an average interval between the onset of definite symptoms and surgery of about six months.

It should be emphasized that at present the *major* determinant of long-term survival is not the surgeon's skill but rather the inherent biologic character of the tumor. Nevertheless, early diagnosis is important, and a nihilistic attitude is unwarranted. If an adequate gastric resection can be performed before regional lymph nodes are involved with tumor, the five-year survival rate will approximate 65 per cent in contrast to a survival rate of 15 per cent in those patients with positive nodes.

The early signs of gastric cancer are not impressive to either the patient or physician. Only a high degree of suspicion tempered by experience leads a physician to interpret correctly the minimal symptoms associated with the onset of this disease. The complaints of vague epigastric distress, a sense of an increased heaviness or fullness after meals, "ulcer pain," a distaste for meat and dairy products, and increased fatigue are most common.

It is of interest that at least four physicians renowned for their studies of gastric cancer were inoperable when their own tumors were diagnosed. Despite this chilling circumstance it is my impression that each year a greater proportion of gastric cancer victims are being referred for surgery before they are inoperable.

Diagnostic Technics

The single most important diagnostic method for gastric cancer is fluoroscopic examination by a competent roentgenologist utilizing special technics to demonstrate filling defects, aberrant peristalsis, an irregular mucosal pattern, and tumefactions in the fundus and cardia.

Of lesser value from a practical viewpoint are the technics of gastroscopy and exfoliative cytology.

Laboratory tests are of little value in directly establishing a definitive diagnosis. However, any middle-aged man with the following symptoms must be thoroughly studied; unexplained weight loss, hemoglobin below 12 per cent, occult blood in stool, and achlorhydria. All patients with a diagnosis of pernicious anemia should have x-ray studies at least once a year and preferably every six months.

Similarly patients with gastric polyps should be followed closely. The presence of malignancy in such polyps cannot be ruled out by x-ray and gastroscopic studies. In my opinion these are premalignant lesions and should be removed if there are no major clinical contraindications. Many authors disagree with this view and suggest a continuous follow-up with x-ray studies and/or gastroscopy.

Gastric Ulcers

The diagnosis of gastric ulcers deserves special mention. At the present time the controversy as to the accuracy of the diagnosis "benign gastric ulcer" by a competent roentgenologist is continuing. Briefly, many roentgenologists indicate that they can separate benign and malignant gastric ulcers with an accuracy approaching 100 per cent. Further, our nonsurgical colleagues have suggested an adjunctive diagnostic-therapeutic regime consisting of a six-week period of strict medical management followed by a second x-ray examination. If this examination reveals *complete* healing, the patient is continued on proper medical management. A residual defect is considered indication for operative therapy. As surgeons we have followed these suggestions with some reservations since the error of the roentgenologist in identifying a malignant ulcer approximates the mortality rate for uncomplicated gastric resection, and these tumors have a good prognosis. Second, even malignant ulcers tend to heal when the patient is given good medical treatment, and finally, the morbidity and serious complications associated with benign gastric ulcers occurring in older patients cannot be overlooked.

In any event it must be remembered that procrastination by continuing medical treatment beyond a definite period of time is more deadly than immediate gastric resection.

No attempt has been made to quote the voluminous literature upon this subject since it is contradictory, confusing, and of little aid in the consideration of an individual patient.

Treatment

The only effective treatment of cancer of the stomach is wide removal of the primary tumor, all extensions to adjacent organs, and the regional lymph node-bearing areas.

No patient suspected of having gastric cancer should be refused surgical exploration except for definitive evidence of a rectal shelf, distant metastases proved by histopathologic examination, lung metastases, jaundice, ascites, or general debility, both mental and physical, which cannot be corrected by vigorous medical care, preferably while hospitalized.

The size of a palpable mass, apparent enlargement of the liver, severe anemia, complete obstruction, and age—none of these findings alone is a contraindication to surgical exploration. Physiologic age is of much more importance than the chronologic age in this age group.

The distribution of patients into the various treatment categories as reported by several large medical centers is as follows:

All patients referred	100%
Operability	90%
Resectability	75%
Resectability for cure	40%

Several clinics have reported over-all five-year survival rates of 10 to 15 per cent in contrast to the most generally accepted figure of 2 to 3 per cent reported by the same clinics a decade ago. Recent unreported survival figures for patients subjected to gastric resection are more impressive:*

	3 Years	5 Years
All resected patients	30%	23%
Without lymph node involvement	70%	64%
With lymph node involvement	22%	20%

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* University of Minnesota.

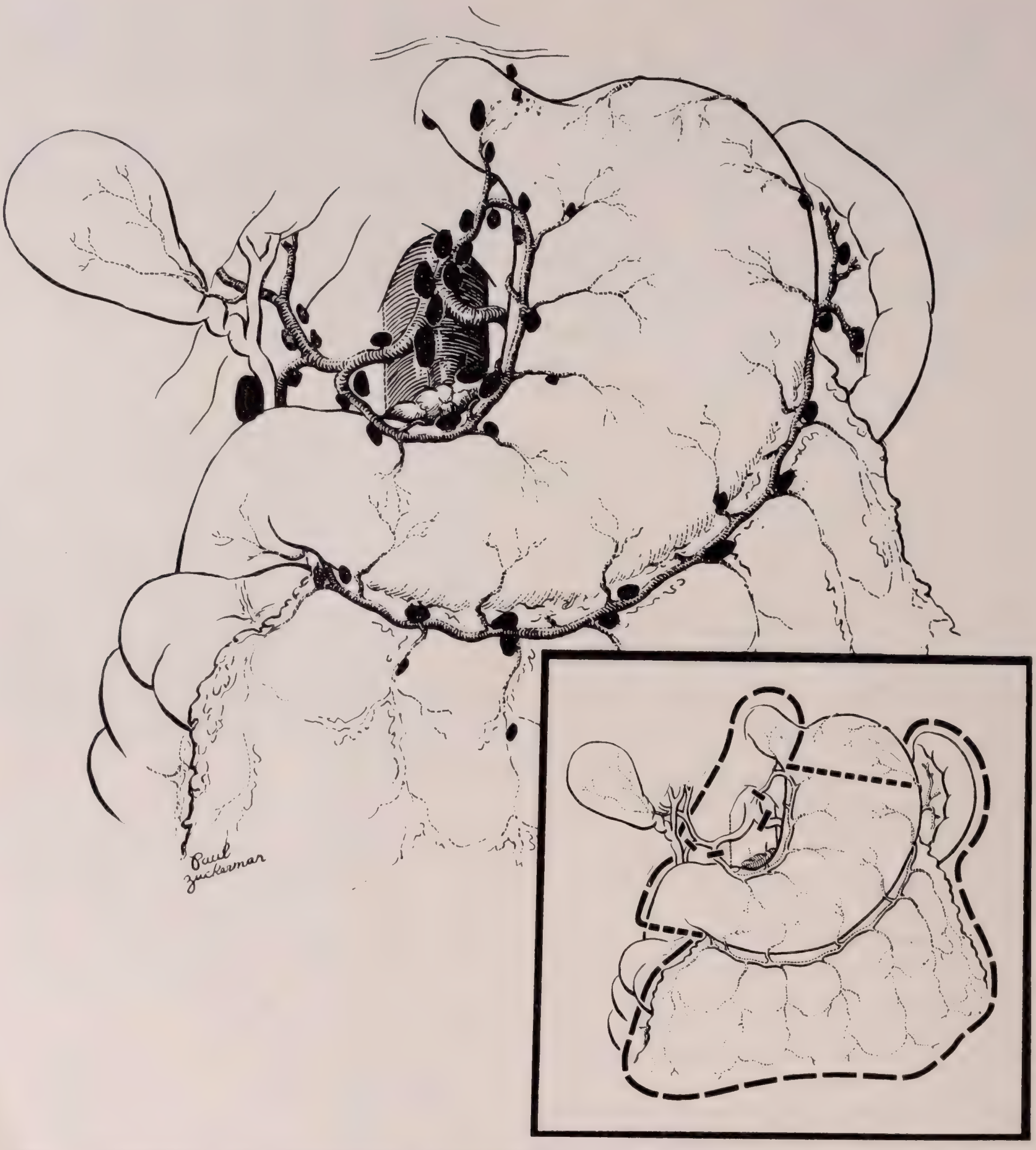


FIG. 1. The regional lymph nodes commonly involved by gastric cancer. The insert shows the extent of subtotal gastrectomy as performed at Roswell Park Memorial Institute. Note ligation of the left gastric and splenic arteries at their origin so that a complete dissection of the celiac axis can be accomplished.

The importance of lymph node involvement is readily apparent.

The accompanying Figs. 1, 2, 3, and 4 demonstrate the extent of resection necessary to remove the optimal number of lymph nodes most likely to contain metastatic cancer.

Exploration

At this institute a curved bilateral subcostal incision is commonly employed. It has the advantage of excellent exposure if adjacent organs must be resected, yet allows the patient to be ambulated early without danger of wound disruption.

If from x-ray studies it is concluded that a total gastrectomy may be necessary, exploration is carried out through the right and central components of the proposed incision. When indicated, this incision can be extended directly across the left costal margin and along either the

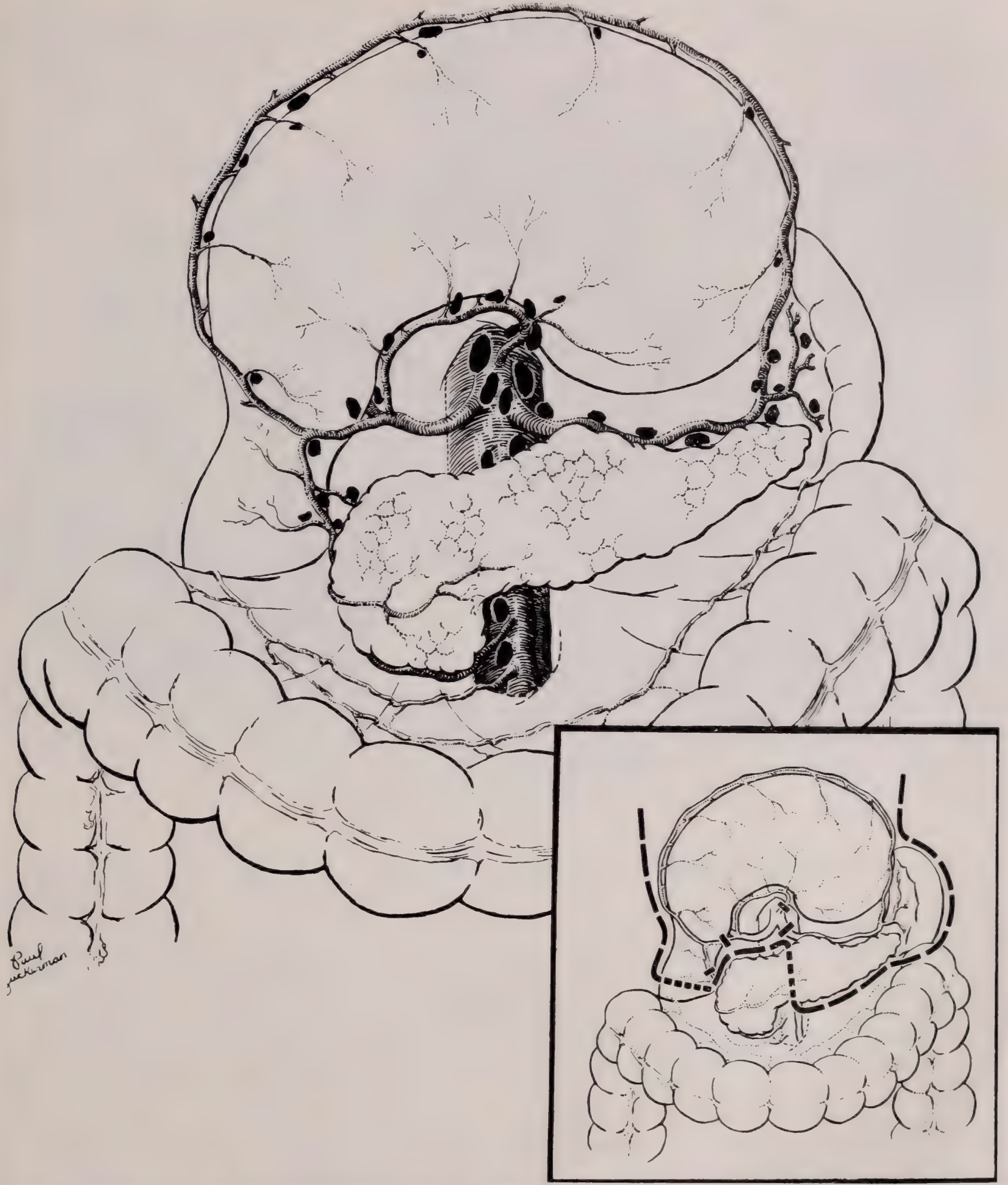


FIG. 2. The stomach bed with the stomach reflected upwards. The duodenum is divided about 4 cm. from the pylorus and the pancreas transected directly over the superior mesenteric vessels.

sixth or seventh rib. A complete dissection and adequate exposure for total resection of the stomach can be performed without using a combined incision in about 50 per cent of the cases. If the tumor is in juxtaposition to the esophagus, a thoracoabdominal incision is used without hesitation and the esophagus amputated at the level of the inferior pulmonary vein.

The lower abdomen, small bowel, radia of the mesentery, and the liver should be carefully examined *before* disturbing the tumor site in order to minimize dissemination of tumor cells.

The presence of ascites and peritoneal implants on opening the abdomen is a grave finding. Nearly all such patients fail to survive over three months, and any palliative operation except one

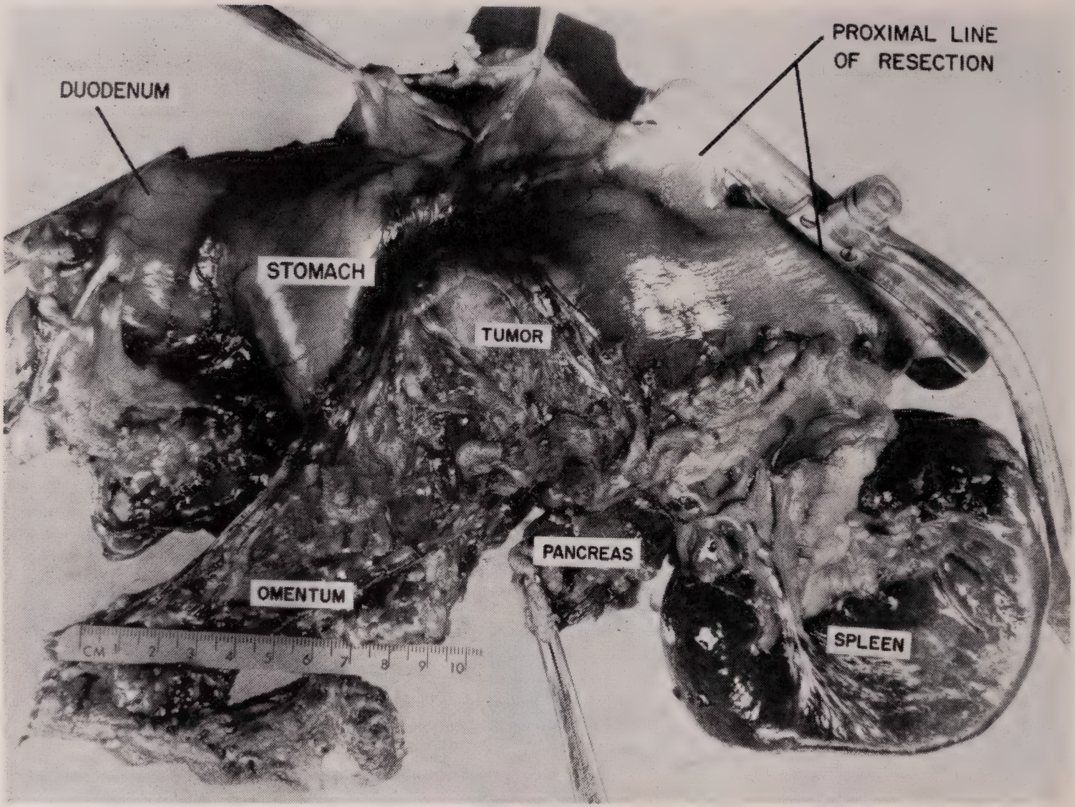


Fig. 3. Recent operative specimen, subtotal gastrectomy, removed by technic described in text and illustrated in Figs. 1 and 2.

to relieve complete obstruction is not worth while.

Nodules along the bowel and on the liver surface are not necessarily metastases and should be removed and examined by frozen section technics.

If there are a few metastatic nodules in the liver but no evidence of peritoneal implants, the patient may enjoy reasonable health for as long as fifteen months if his tumor can be easily resected. We do not feel that a total gastrectomy for palliation alone is appropriate often.

Some lesions will have extended directly into the mesocolon or colon, into the left lobe of the liver, or into the pancreas. If no metastatic spread is found, such patients have a better prognosis than patients with a small lesion but with lymph node involvement.

Subtotal Gastrectomy

In this institute every attempt is made to remove the lymph node-containing areas en bloc with the resected stomach (Fig. 1). Separate "plucking out" of enlarged nodes is futile. For all tumors of the body which are circumscribed, an adequate resection and lymph node dissection can be accomplished by a subtotal resection. The tremendous physiologic advantages of leaving even a small gastric pouch has been evident to most surgeons. If there is any doubt as to the extent of the infiltration along the lesser curvature, a total gastrectomy is performed.

As soon as it is decided that the lesion is resectable, the dissection is begun by freeing the greater omentum from the colon and removing the tissues accompanying the origin of the right gastroepiploic vessels. The head of the pancreas is bared and the duodenum transected about 4 cm. distal to the pylorus (Fig. 2). The dissection is then carried cephalad along the common duct and hepatic artery, close to the left lobe of the liver, and up to the diaphragm. The left lobe is detached from the diaphragm and reflected to the right to give better exposure.

The left gastric artery and the splenic artery are divided at their origin, and the entire celiac

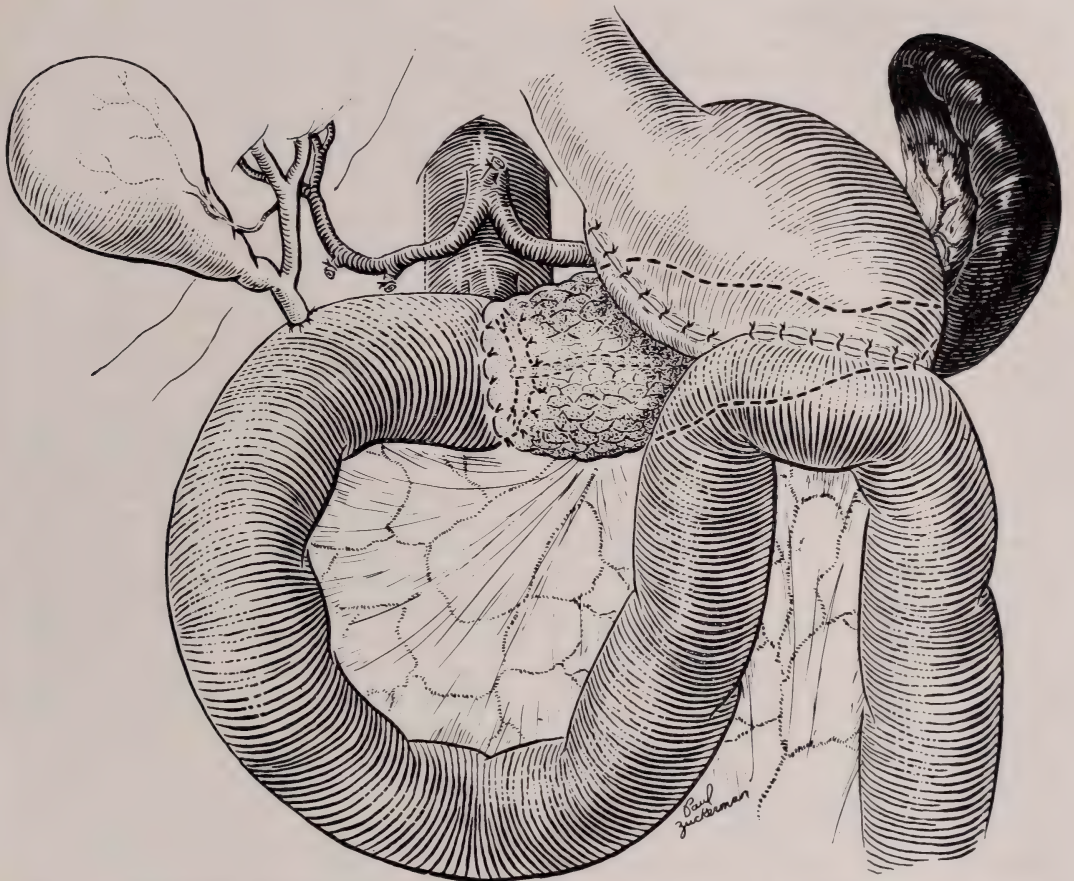


FIG. 4 Completion of radical gastropancreatoduodenectomy for carcinoma of the gastric antrum. The lower 60 per cent of the stomach, head of the pancreas, duodenum, common duct, and the associated omenta have been removed.

axis, and the accompanying lymph nodes are dissected free with the specimen.

The pancreas is transected directly over the superior mesenteric vessels and the splenic vein ligated. The cut edge of the pancreas is carefully closed with mattress sutures supplemented with individual ligation of the pancreatic duct and large vessels. The body and tail of the pancreas are easily and bloodlessly lifted from its bed. Since this dissection plane is carried to the left, the left adrenal is exposed, and the entire splenic pedicle is detached from the dorsal body wall. To date no complications have resulted from this dissection of the pancreas.

After ligation of the long gastric vessels is completed, the entire greater curvature of the stomach is free. Usually only two or three vessels are left to supply the gastric pouch.

On the lesser curvature the stomach is transected at the esophageal hiatus after first carefully dissecting out the loose alveolar lymph node-containing tissue about the abdominal esophagus (Fig. 1). This dissection is made easier by first sectioning the vagi as high as possible, which allows the esophagus to be retracted downward an additional 3 to 5 cm. (Fig. 3).

In this clinic Wangensteen gastric clamps are used to provide a crushed edge and a convenient support for performing a Hoffmeister type closure along two thirds of the gastric pouch leaving a 5-cm. opening for anastomosis on the greater curvature side. The ligament of Treitz is freed and a loop of jejunum brought through the mesocolon for anastomosis. A closed type of anastomosis is performed with a single row of interrupted 4-0 silk sutures.

We do not recommend the use of Billroth I procedures in the presence of malignancy. An inlying Wangensteen tube is placed in the proximal loop at operation and suction maintained for two or three days until active peristalsis has returned. Penicillin and streptomycin are usually given the patients for the first postoperative days. The patients are encouraged to get up each day, and ordinarily they are discharged seven to ten days after surgery.

Tumors of the Antrum

Cancers of the antrum and juxtapyloric area deserve special mention. They are readily accessible, but because of their anatomic position and lymph drainage they are seldom completely removed. Unfortunately, as a result of their accessibility, the occasional surgeon will elect to operate on such a lesion in contrast to a tumor in the upper stomach, which might demand a total gastrectomy. The pylorus is no barrier to intramural infiltration, and these tumors may extend throughout the first and second portions of the duodenum.

Reference to Figs. 1 and 2 makes it apparent that if there is lymphatic spread, no operation less than a radical gastropancreatoduodenectomy will suffice. The operation recommended for curable lesions is similar to that described by Whipple for removal of tumors of the ampulla and head of the pancreas. A 60 per cent gastric resection is done, and a complete dissection of the hepatic artery and common duct is performed. The common duct is cut close to the cystic duct orifice or, in some instances, above it. The pancreas is divided above the superior mesenteric vessels and the entire stomach, duodenum, and proximal one half of the pancreas removed en bloc.

The cut end of the pancreas is anastomosed into the proximal end of a jejunal limb prepared as a Roux Y since in most instances the duct is too small to anastomose directly to the bowel without danger. The common duct is anastomosed end-to-side to the jejunum about 10 cm. distally and a gastrojejunostomy performed an additional 20 cm. distally (Fig. 4).

Such an operation is tedious, time consuming, and should not be undertaken lightly since it has a higher mortality rate. Although we believe the increased number of cures effected will more than offset the increased mortality rate, too few cases have been performed to allow judgment of it.

Total Gastrectomy

It has been previously mentioned that we do not consider routine total gastrectomy advisable for palliation or for circumscribed cancers of the body or antrum. Total resection is necessary, however, for adequate removal of lesions of the lesser curvature extending to the esophagus and lesions of the fundus, cardia, and all infiltrating tumors (Borrmann III and IV). Most surgeons agree that total resection should be performed for lymphosarcomas of the stomach followed by x-ray therapy.

A dissection similar to that described for subtotal resections is carried out. A cuff of diaphragm is included with the specimen, and the esophagus is amputated as high as possible. In about half the cases a thoracoabdominal incision is necessary to perform a safe, adequate dissection.

At present we are re-establishing continuity of the gastrointestinal tract in alternate patients by interposing a section of transverse colon between the esophagus and duodenum or by a Roux Y procedure utilizing a limb of jejunum. These anastomoses are accomplished with a reinforced double row of interrupted sutures placed with great care, so as to bring the mucosal edges in apposition.

The use of a loop of jejunum with an entero-enterostomy is a conventional and acceptable alternative technic. "Gastric pouches" can be fashioned from a jejunal loop by various technics. In a few patients a direct anastomosis can be made between the esophagus and duodenum.

Each of these methods has advantages and disadvantages, and the continual search for new technics indicates their relative unsatisfactoriness.

Patients with total or near total gastrectomy have difficulty maintaining their weight, may develop a pronounced dumping syndrome, fatigue quickly, and later develop anemia. The latter can be controlled by vitamin B_{12} therapy in most instances. They must be encouraged to eat frequently and to take smaller amounts with a minimum of liquids. The habit of snacks at bedtime, midnight, and immediately upon arising should be encouraged. Fibrous and irritating vegetables, such as corn, onions, and cabbage, spices, very hot or cold liquids, and a high-fat diet should be avoided.

The patient should be warned about the dumping syndrome so that he will not be frightened, and he should also be advised to lie down for fifteen minutes after eating. In order to obviate the tendency to regurgitate food or biliary juices up into the esophagus, some patients with total resections may have to sleep with the head of the bed slightly elevated.

Palliation

The number of palliative procedures performed, such as gastroenterostomy and jejunostomy, is decreasing each year since their lack of effectiveness is recognized. Probably the only worth-while palliative procedure, when full consideration is given to surgical risk, comfort, and prolongation of life, is a partial resection of the stomach to remove the primary lesion.

The use of x-ray therapy is not justified since unless high dosages are used, the tumor is unaffected, and the attendant miseries of irradiation sickness are real. X-ray therapy is indicated for lymphosarcoma of the stomach after resection.

Unfortunately, none of the known chemotherapeutic agents has proved effective. Cortisone may temporarily increase the patient's appetite and sense of well-being, but this is merely a "side-effect" of the drug.

Present and Future Research on the Gastric Cancer Problem

Clinical Research.—It is readily apparent that the small improvement in the over-all survival of gastric cancer patients has resulted from the improvement of such practical technics as diagnostic x-ray studies and the performance of better gastric surgery with less mortality. Our clinical impression is that there is a slightly greater number of patients seeking surgical attention earlier, but this has not been confirmed by statistical studies. Even if every person reported to his doctor as soon as the first indefinite symptom occurred, the over-all salvage would probably not exceed 30 per cent.

Theoretically, x-ray screening studies, if completely accurate, would uncover one gastric cancer out of each thousand men examined over fifty-five years of age, but the practical difficulties are enormous. Attempts have been made to set up preliminary screens such as hypochlorhydria, anemia, occult blood in the stool, family history, and the presence of pernicious anemia. The task is difficult.

Basic Research.—Despite the size of the gastric cancer problem the circumstance that only a handful of medical scientists are actively working in basic research relating to it is deplorable. The social, academic, and economic recognition of basic scientists is insignificant in contrast to that we clinicians enjoy, and thus there is little incentive to spend a lifetime attacking the enigma of gastric malignancy. Ironically, the practical results of basic research in terms of future prevention, early diagnosis, and/or therapy of gastric cancer are certain to be of greater importance than further technical improvements of present-day technics.

Conclusions

1. The symptoms and signs associated with the development of gastric malignancy do not result in early diagnosis.
2. Although approximately 75 per cent of patients hospitalized can be treated by gastric resection, only about 40 per cent are attempts to effect a cure.
3. The importance of the presence or absence of lymph node metastases is paramount; without involvement there are 64 per cent five year survivors, with involvement 20 per cent.
4. A subtotal gastrectomy with wide removal of the regional lymph nodes and the distal one half of the pancreas and splenic pedicle is recommended for circumscribed lesions of the body. A modified radical gastropancreatoduodenectomy is used for tumors of the antrum. Total gastrectomy is reserved for lymphosarcomas, infiltrating lesions, and those of the cardia and fundus.
5. The only effective palliative operation is a partial or total gastric resection.
6. The importance of basic research, in contrast to technical improvements of present surgical technics, should be recognized as the most logical attack on the gastric cancer problem.

(*Number ten of a series on Treatment of Cancer*)

Those who hope for no other life are dead even in this.—J. W. Von Goethe

SPECIAL ARTICLE

The Status of the Negro Physician in New York State

PETER MARSHALL MURRAY, M.D., NEW YORK CITY

The historic action of the House of Delegates of the American Medical Association at San Francisco in 1950 stated:[1]

> WHEREAS, this House of Delegates recognizes that certain constituent and component societies of the American Medical Association have had or now have restrictive provisions as to qualification of membership based on race and that this question is of deep concern to many interested parties; and
>
> WHEREAS, it is desirable that the attitude of not only the entire membership of the American Medical Association but of the whole medical profession be accurately reflected on this issue; and
>
> WHEREAS, it is the policy of the American Medical Association to broaden the scope of educational facilities and raise the ethical levels of practice of all physicians in order to improve the quality of medical care for the American people; therefore be it
>
> *Resolved*, that these facts be brought to the attention of all component and constituent societies appreciating that membership is a component and constituent society responsibility; and be it further
>
> *Resolved*, that constituent and component societies having restrictive membership provisions based on race study this question in the light of prevailing conditions with a view to taking such steps as they may elect to eliminate such restrictive provisions.

This action undeniably has given great impetus to the admission of Negro physicians to the county and state medical societies in many southern states. Negro physicians are now admitted to membership in some county societies in every state with the exception of two or three.

The question naturally arises in many minds: What of the Negro physician in the North? What of the Negro physician in New York State? There have been no restrictions to membership based solely on race or color in New York and many other nonsouthern states. To what extent does the Negro physician avail himself of affiliation with organized medicine in these areas?

The NEW YORK STATE JOURNAL OF MEDICINE in the September 15, 1952, issue carried an article which stated in general terms some of the problems facing that segment of our profession.[2]

This communication attempts to draw a picture of the conditions in New York State relative to (1) the number of Negro physicians, (2) their location, (3) their opportunities for hospital affiliation, and (4) to what extent they are taking advantage of membership in the county medical societies, the Medical Society of the State of New York, and the American Medical Association.

According to the 1950 United States census of population,[3] the total population of New York State as reported is 14,830,192 (Table I). The Negro population of New York State as reported is 918,191. The total number of physicians in New York State is 29,750, and the total number of Negro physicians in New York State is 326. Thus, Negroes constitute approximately 6 per cent of the total population of New York State, while the Negro medical profession constitutes slightly over 1 per cent of the total number of physicians (Table II).

Let me make it clear that there is no presumption that Negro physicians serve or should serve only the Negro patient. In any study of minority groups, however, it is helpful to record to what extent they contribute to the total pool of professionally trained personnel. This is important, desirable, and true for all facets of community life—workers, skilled or unskilled, engineers, architects, nurses, chemists, technicians, etc. We will thus have a yardstick by which to measure whether or not the resources of such groups are fully utilized or whether our society is permitting underutilization of skilled abilities of which we stand in sore need.

Location by Counties

A questionnaire sent to each of the 62 county medical societies of the Medical Society of the State of New York revealed the following: In 46 of the 62 counties of New York State there are no Negro physicians. In this area there are few localities with a considerable density of Negroes. It is therefore understandable that no Negro physicians have chosen to locate there.

In the remaining 16 counties there are 326 Negro physicians, 278 of these located in the five counties comprising New York City. In the remaining 11 counties of the State there are 48 Negro physicians with the following distribution: Erie 12, Nassau 7, Suffolk 5, Westchester 13, Schenectady 2, Tompkins 1, Dutchess 1, Monroe 3, Niagara 2, Onondaga 1, and Rockland 1. The five counties of New York City reported: New York 181, Bronx 10, Kings 61, Queens 25, and Richmond 1.

County Society Membership

Of the 48 Negro physicians in New York State outside of New York City, 37 or 77 per cent are members of their respective county medical societies (Table III). Of the 278 Negro physicians in the five

TABLE I.—POPULATION STATISTICS OF NEW YORK STATE BY COUNTIES

County	Total Population	Negro Population	Number of Physicians	Number of Negro Physicians
Albany	239,386	6,124	511	0
Allegany	43,784	142	41	0
Bronx	1,451,277	97,752	1,984	10
Broome	184,698	849	297	0
Cattaraugus	77,901	323	107	0
Cayuga	70,136	1,007	81	0
Chautauvua	135,189	755	132	0
Chemung	86,827	1,846	120	0
Chenango	39,138	178	42	0
Clinton	53,622	825	61	0
Columbia	43,182	1,064	56	0
Cortland	37,158	66	47	0
Delaware	44,420	93	56	0
Dutchess	136,781	5,521	282	1
Erie	899,238	40,352	1,445	12
Essex	35,086	115	51	0
Franklin	44,830	110	84	0
Fulton	51,021	304	67	0
Genesee	47,584	436	57	0
Greene	28,745	876	22	0
Hamilton	4,105	1	6	0
Herkimer	61,407	37	66	0
Jefferson	85,521	124	101	0
Kings	2,738,175	208,478	4,341	61
Lewis	22,521	12	16	0
Livingston	40,257	628	52	0
Madison	46,214	229	56	0
Monroe	487,632	7,937	891	3
Montgomery	59,594	260	63	0
Nassau	672,765	16,955	1,651	7
New York	1,960,101	384,482	8,681	181
Niagara	189,992	3,917	209	2
Oneida	22,855	2,417	324	0
Onondaga	341,719	4,896	614	1
Ontario	60,172	467	114	0
Orange	152,255	5,228	231	0
Orleans	29,832	319	21	0
Oswego	77,181	125	64	0
Otsego	50,763	129	75	0
Putnam	20,307	84	38	0
Queens	1,550,849	51,524	2,632	25
Rensselaer	132,607	1,179	168	0
Richmond	191,555	5,372	262	1
Rockland	89,276	4,483	173	1
St. Lawrence	98,897	42	99	0
Saratoga	74,869	694	73	0
Schenectady	142,497	1,479	225	2
Schoharie	22,703	94	24	0
Schuyler	14,182	63	12	0
Seneca	29,253	208	32	0
Steuben	91,439	455	120	0
Suffolk	276,129	13,120	594	5
Sullivan	40,731	714	54	0
Tioga	30,166	167	28	0
Tompkins	59,122	999	99	1
Ulster	92,621	2,371	127	0
Warren	39,205	116	90	0
Washington	47,144	479	38	0
Wayne	57,323	428	67	0
Westchester	625,816	38,061	1,617	13
Wyoming	32,822	581	33	0
Yates	17,615	89	26	0
TOTALS	14,830,192	918,191	29,750	326

TABLE II.—PERCENTAGE OF NEGROES TO TOTAL POPULATION IN NEW YORK STATE

	Number	Per Cent
Total population	14,830,192	. .
Negro population	918,191	6
Total physician population	29,750	. .
Total negro physicians	326	1

TABLE III.—COUNTY SOCIETY MEMBERSHIP OF NEGRO PHYSICIANS IN NEW YORK STATE

County	Number of Negro Physicians	Number Who Are Members of County Medical Society
UPSTATE NEW YORK		
Dutchess	1	1
Erie	12	11
Monroe	3	2
Nassau	7	5
Niagara	2	2
Onondaga	1	1
Rockland	1	1
Schenectady	2	0
Suffolk	5	3
Tompkins	1	1
Westchester	13	10
NEW YORK CITY		
Bronx	10	5
Kings	61	40
New York	181	100
Queens	25	8
Richmond	1	1
TOTALS	326	191

counties of New York City, 154 or 55 per cent are members of their respective county societies.

Hospital Affiliation

Accurate information as to the number of Negro physicians having hospital staff membership is difficult to secure. Generally, outside of New York City hospital affiliation for Negro physicians is not difficult to obtain. County society membership is usually a prerequisite for hospital staff affiliation. A study of the answers to the questionnaire sent to all county societies gives the impression that any well-qualified Negro physician outside of New York City has or can have hospital staff affiliation.

The problem of hospital affiliation for Negro physicians is not acute except in New York City, mainly New York County and Kings County. Kings County, with 61 Negro physicians, shows the following: 20 have no appointments, 22 have one appointment, 12 have two appointments, and three hold three appointments each. Twenty-seven appointments are held in four voluntary hospitals by 19 physicians and 22 appointments are held in municipal institutions by 19 physicians. Thus only 47 per cent of Brooklyn Negro physicians have access to institutions permitting private patient care.

Of the 181 Negro physicians in New York County, 57 have no hospital affiliation. The remaining 124 hold 194 appointments, 66 in 11 voluntary hospitals and 128 in eight city hospitals. Fifty-five hold one appointment, 43 two appointments, 23 three appointments, and one holds four appointments. The vast majority of the appointments in voluntary hospitals are to be found at Mount Morris Park Hospital with 50 and Sydenham

Hospital with 37. In city hospital appointments Harlem Hospital accounts for 84 and Sydenham 37. Aside from Mount Morris Park, Harlem, and Sydenham Hospitals, all in the Harlem area, 17 appointments are held in 11 voluntary and nine appointments in six city hospitals. These 26 appointments in 17 hospitals outside of the Harlem area represent an improvement over previous figures but fall far short of what should be acceptable in a real democracy.

The *Bulletin* of the Hospital Council of Greater New York for September, 1949, has this to say:[4] "The practical solution to the problem of hospital staff appointments for the Negro doctors is not to be found in the concentration of opportunities in one or two hospitals, but rather in the widest possible distribution of these opportunities in hospitals throughout the city.

"The fact that there are many more hospitals in this city which could extend staff appointments to Negro physicians offers an excellent opportunity to attain this solution. . . .

"The appointment of Negro physicians to hospital staffs has increased with the improvement in the educational background and training of the individual physician. Evidence of this is found in the fact that over 90 per cent of the Negro physicians under forty years of age had some type of hospital staff appointment in the hospitals throughout the city. We believe that a program which assures the community that future graduates of approved medical schools will receive hospital staff appointments upon completion of their training is not only necessary but will be most effective."

Summary

The historic resolution adopted by the A.M.A. House of Delegates at San Francisco in 1950 has given great impetus to the admission of Negro physicians to the various county and state societies, mainly in the South, from which they have been excluded.

At present Negro physicians have been admitted in constant and increasing numbers to county and state societies in the South. They are now members in some county societies in all southern states with the exception of two or three.

The Negro population of New York State is 918,191 or 6 per cent of the total population. Negro physicians in New York State number 326 or 1 per cent of all physicians.

In 46 of the 62 counties of New York State there are no Negro physicians. In 11 counties outside of New York City, there are 48 Negro physicians; 37 or 77 per cent are members of county and state societies.

In the five counties comprising New York City, there are 278 Negro physicians; 154 or 55 per cent are members of the county and state societies.

Outside of New York City, hospital facilities are generally available to ethical Negro physicians where 77 per cent hold county society memberships, a prerequisite.

In Kings County while 20 Negro physicians have no hospital appointments, 47 per cent of Negro physicians have access to hospitals permitting private patient care.

In New York County 57 have no hospital affiliation while 104 or 57 per cent hold appointments in hospitals permitting private patient care.

Negro physicians in New York City use proprietary institutions to a considerable extent.

In Kings County approximately 66 2/3 per cent hold hospital appointments in municipal hospitals.

In New York County approximately 65 per cent hold appointments in municipal hospitals.

As stated by the *Bulletin* of the Hospital Council of Greater New York, ". . . we believe that a program which assures the community that future graduates of approved medical schools will receive hospital staff appointments upon completion of their training is not only necessary but will be most effective."

While real progress is being made, New York City still has a long way to go in providing adequate affiliation to Negro physicians in accredited hospitals permitting private patient care.

The Negro physician of New York State is making good use of his opportunities for county and state Society membership. Hospital affiliation of Negro physicians tends to run parallel with county society membership.

References

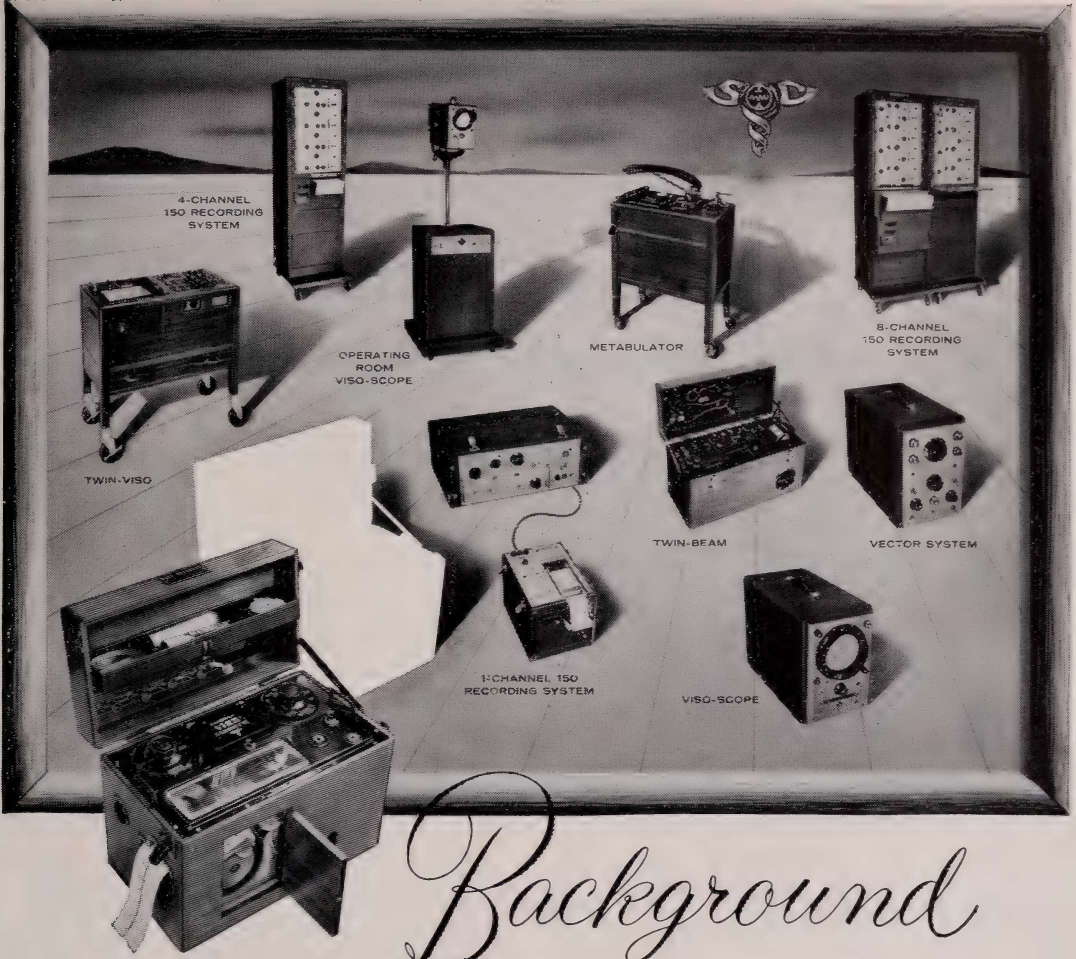
1. American Medical Association: House of Delegates Minutes, San Francisco, June 26–30, 1950, p. 41.

2. Murray, P. M.: New York State J. Med. **52**: 2295 (Sept. 15) 1952.

3. U.S. Bureau of the Census: U.S. Census of Population, 1950, Vol. II, Characteristic of the Population, Part 32, New York, Chapter B, Washington, D. C., U.S. Government Printing Office, 1952.

4. Bulletin of the Hospital Council of Greater New York **5**: 1 (Sept.) 1949.

When you're through changing, you're through.—Bruce Barton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DISTRICT BRANCH MEETINGS

Medical Society of the State of New York

FIFTH DISTRICT BRANCH

Thursday, October 27, 1955
Hotel Utica, Utica

Afternoon

5:00 P.M.—Business Meeting (Courtesy of the Medical Society of the County of Oneida and the Oneida Tuberculosis and Health Association)
Election of Officers

Officers—Fifth District Branch

President	Richard B. Cuthbert, Jr., M.D., Canastota
First Vice-President	Donald C. Tulloch, M.D., Ogdensburg
Second Vice-President	Olin J. Mowry, M.D., Oswego
Secretary	Charles A. Gwynn, M.D., Syracuse
Treasurer	John F. Kelley, M.D., Utica

Presidents—Component County Medical Societies

Herkimer	Timothy J. Howard, M.D., Newport
Jefferson	W. Webber Young, M.D., Watertown
Lewis	Louis A. Avallone, M.D., Lowville
Madison	Marvin Brown, M.D., Cleveland
Oneida	Frank H. Valone, M.D., Rome
Onondaga	Donald E. Moore, M.D., Syracuse
Oswego	William E. Merrill, M.D., Parish
St. Lawrence	Harry L. Mills, M.D., Gouverneur

SIXTH DISTRICT BRANCH

Wednesday, October 26, 1955
Arnot-Ogden Memorial Hospital, Elmira

Afternoon

3:00 P.M.—Registration

3:30 P.M.—Panel Discussions

1. "Legislation"
   Moderator: Harold B. Smith, M.D., Albany, Executive Officer
   C. Stewart Wallace, M.D., Tompkins; and others
2. "Malpractice Insurance and Defense"
   Moderator: Joseph A. Lane, M.D., Monroe, chairman, Malpractice Insurance and Defense Board
   Mr. H. F. Wanvig, Indemnity Representative; B. L. Matthews, M.D., Broome; and others
3. "Medical Care Insurance"
   Moderator: Mr. George P. Farrell, director, Bureau of Medical Care Insurance
   Henry B. Marshall, M.D., Chemung; C. Franklin Sornberger, M.D., Cortland; William F. Tague, M.D., Schuyler; Leo P. Larkin, M.D., Tompkins
4. "Public Relations"
   Moderator: Mr. Frederick W. Miebach, director, Public and Professional Relations Bureau
   Hugh S. Gregory, M.D., Broome; William T. Boland, M.D., Chemung; William A.

[Continued on page 2986]

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[Continued from page 2984]

WALL, M.D., Cortland; JOHN F. DIXON, JR., M.D., Tompkins

5. "Workmen's Compensation"
   Moderator: DAVID J. KALISKI, M.D., director, Bureau of Workmen's Compensation
   RALPH J. MCMAHON, M.D., Broome; J. HERBERT DIETZ, JR., M.D., Otsego; GEORGE G. MCCAULEY, M.D., Tompkins

Evening

5:30 P.M.—Business Meeting
Election of Officers

6:00 P.M.—Dinner—at the hospital
Introduction of Officers
Address: RENATO J. AZZARI, M.D., Bronx, president, Medical Society of the State of New York
Remarks: MRS. ISADORE ZADEK, New Rochelle, president, Woman's Auxiliary to the Medical Society of the State of New York
"Polio in New York State up to Date"—ROBERT F. KORNS, M.D., Assistant Commissioner, New York State Department of Health

9:30 P.M.—Adjournment

Officers—Sixth District Branch

President.............Gilbert M. Palen, M.D., Margaretville
First Vice-President....James Greenough, M.D., Oneonta
Second Vice-President...William T. Boland, M.D., Elmira
Secretary.............James L. Palmer, M.D., Binghamton
Treasurer.............C. Stewart Wallace, M.D., Ithaca

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Chemung..Robert V. Larkin, M.D., Elmira
Chenango..Charles L. Dubuar, M.D., Sherburne
Cortland...John E. Eckel, M.D., Cortland
Delaware..Scott L. Bennett, M.D., Hancock
Otsego.....Cornelius F. Ryan, M.D., Oneonta
Schuyler...William F. Tague, M.D., Montour Falls
Tioga.....Welton D. Brown, M.D., Nichols
Tompkins..George G. McCauley, M.D., Ithaca

MEDICAL MEETINGS

Binghamton Academy of Medicine

"Some Aspects of Pneumonoconiosis" will be discussed by Dr. G. W. H. Schepers, Saranac Laboratories, Saranac Lake, at a meeting of the Binghamton Academy of Medicine on October 18 in the Doctors' Auditorium of the Binghamton City Hospital.

First Annual Medical Symposium

Clinical aspects of the aging process with special reference to neurology, psychiatry, nutrition, and cardiology will be the subject of the First Annual Medical Symposium to be held at the Home for the Jewish Aged, Philadelphia, Pennsylvania, on October 23. Among the doctors from New York State taking part in the program will be Dr. Abraham Rabiner, professor of neurology, State University of New York College of Medicine at New York City, and director of neurology, Jewish Chronic Disease Hospital, Brooklyn; Dr. Raymond Harris, attending cardiologist and assistant medical director, Ann Lee Home, Albany, and assistant attending car-

[Continued on page 2988]

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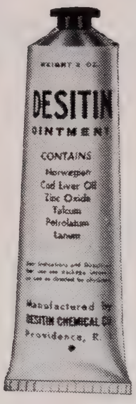
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[Continued from page 2986]

diologist, Albany Hospital, and Dr. Simon Dack, assistant attending cardiologist and chief, cardiac clinic, Mount Sinai Hospital, New York City, and lecturer in cardiology, Columbia University.

Pediatric Section—Kings County Medical Society and Academy of Medicine of Brooklyn

The Pediatric Section of the Kings County Medical Society and the Academy of Medicine of Brooklyn will meet on October 24 at the Kings County Medical Society Auditorium. Dr. Sydney S. Gellis, assistant professor of pediatrics, Harvard Medical School, physician, Children's Medical Center, and pediatrician-in-chief, Beth Israel Hospital, Boston, will lecture on "Pediatric Syndromes" and present illustrations.

New York Diabetes Association, Inc.

The New York Diabetes Association is presenting a symposium day on diabetes in the auditorium of the Memorial Center for Cancer and Allied Diseases on October 27, on "The Pituitary-Adrenal System and Diabetes Mellitus." The morning session will begin at 9:30 A.M. and advance registration must be made. Both morning and afternoon sessions are open to all interested physicians and requests for registration should be made to New York Diabetes Association, 270 Park Avenue, New York 17, New York.

Augustus B. Wadsworth Lecture

The sixth Augustus B. Wadsworth lecture will be given at the Division of Laboratories and Research, New York State Department of Health in Albany, on October 27. Dr. John G. Kidd, professor of pathology at Cornell University Medical College, will speak on "Immunological Approaches to the Problems of Cancer."

Rensselaer County Medical Society

A meeting of the Rensselaer County Medical Society will be held in Troy at the Seton Nursing Home of St. Mary's Hospital on November 8 at 8:30 P.M. Dr. Robert Blum, instructor in medicine, University of Buffalo School of Medicine, will speak on "The Management of Diabetes with the Newer Forms of Insulin."

Nassau County Chapter, American Academy of General Practice

The sixth annual scientific session of the Nassau County Chapter of the American Academy of General Practice will be held at the Garden City Hotel, Garden City, on November 9 at 10 A.M. Those attending will hear discussions on recent advances in medicine in the fields of cardiovascular diseases, nutrition, pharmacology, infectious diseases, endocrinology, and rheumatoid arthritis.

Speakers during the morning meeting will be Dr. Arthur M. Master, cardiologist of Mount Sinai Hospital, New York City, on "Recent Advances in the Treatment of Acute Coronary Occlusion"; Dr. Samuel Karelitz, pediatrician, Mount Sinai Hospital, New York City, on "Recent Advances in Infectious Diseases"; Dr. John C. Krantz, Jr., professor of pharmacology at the University of Maryland, School of Medicine, "Recent Advances in Pharmacology in Medicine." Speakers during the afternoon meeting will be Dr. Robert B. Greenblatt, professor of endocrinology at the Medical College of Georgia, on "Recent Advances in Endocrinology"; Dr. W. H. Sebrell, Jr., recent director of the National Institutes of Health at Bethesda, Maryland, who received the 1953 Joseph P. Goldberg Award for his work in the field of nutrition, who will speak on "Recent Advances in Nutrition"; Dr. Joseph J. Bunim, clinical director of the National Institute of Arthritis and Metabolic Diseases, who will speak on "Recent Advances in Therapy and Rheumatoid Arthritis."

American Geriatrics Society

A graduate symposium on geriatric medicine will be held at the Hotel Roosevelt, New York City, November 30 and December 1, under the auspices of the American Geriatrics Society. Distinguished specialists from leading medical schools and teaching hospitals will conduct the symposium and all interested physicians are cordially invited to attend. There will be no registration fee.

Postgraduate Course in Dermatology

The University of Buffalo School of Medicine began a course in dermatology on October 12 which will continue on the five successive Wednesday afternoons through November 16. Each session will consist of a dermatologic clinic and discussion of cases and special lectures and demonstrations on the principal phases of dermatology as applied to conditions seen in general practice.

Faculty for the course includes: Dr. John T. Crissey, assistant clinical professor of dermatology and syphilology; Dr. Frank A. Dolce and Dr. Frank C. Hoak, associates in dermatology and syphilology; Dr. James W. Jordon, associate professor of dermatology and syphilology; Dr. Earl D. Osborne, professor of dermatology and syphilology; Dr. Norbert G. Rausch, assistant in dermatology and syphilology; Dr. Herbert L. Traenkle, assistant clinical professor of dermatology and syphilology, and Dr. Marvin Winer, instructor in dermatology and syphilology.

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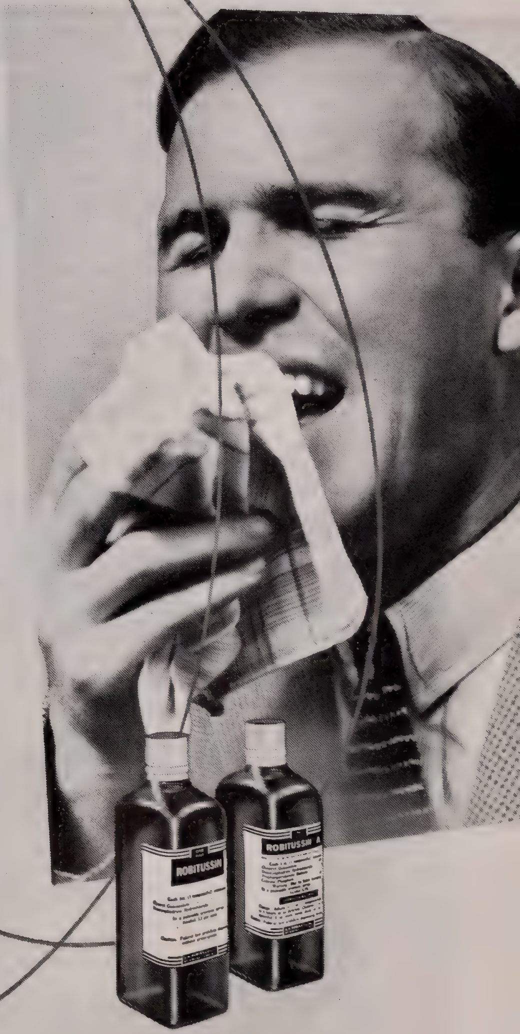

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MEDICAL NEWS

1956 Prize Essay Contest—The Council on Undergraduate Medical Education of the American College of Chest Physicians has announced that undergraduate medical students wishing to enter the 1956 Prize Essay Contest may write on any phase in the diagnosis and treatment of chest diseases (heart and/or lungs) and submit five typewritten manuscripts in English no later than April 10, 1956 to the College offices in Chicago. Application forms may be obtained by writing to the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois. Identification of the author shall be a motto or other device on the title page and a sealed envelope bearing the same motto on the outside, enclosing the name and address of the author.

New Ward—A special ward for the treatment of children with acute poliomyelitis was opened at the New York University-Bellevue Medical Center on September 21. Dr. L. Emmett Holt, Jr., professor and chairman, Department of Pediatrics of New York University College of Medicine, will direct the new ward. This unit was made possible through the interest of the Sister Elizabeth Kenny Foundation and a special gift of $60,000 from the Charles A. Dana Foundation of New York. A grant-in-aid from the Sister Kenny Foundation will provide funds for special care and study in collaboration with the New York University Postgraduate Medical School Department of Orthopedic Surgery, under the chairmanship of Professor Walter A. L. Thompson, and Dr. Marvin A. Stevens, assistant clinical professor of the Department of Neurosurgery, under the chairmanship of Professor Thomas I. Hoen.

American Medical Education Foundation—New York State contributors to the American Medical Education Foundation for the month of August were: *Akron*—Dr. R. G. Stanbury; *Alden*—Dr. R. F. May; *Angola*—Drs. A. J. Cooper and L. R. Sanborn; *Bronx*—Drs. Paul W. Casson and Harry H. Kaufman; *Brooklyn*—Drs. Albert F. Andresen, Max Guttman, Harry S. Lichtman, Alois Schwarz, and Morris Shlansky; *Buffalo*—Drs. C. H. Addington, I. Adler, T. Alexander, K. M. Alford, R. W. Baetz, C. F. Banas, H. L. Battaglia, H. H. Bauckus, C. A. Bauda, C. L. Benjamin, A. L. Bennett, W. F. Beswick, M. A. Block, V. H. Boeck, J. C. Brady, E. L. Brodie, Baxter Brown, F. J. Brylski, R. G. Buchheit, R. J. Buckley, and T. S. Bumbalo.

Buffalo (*continued*): Drs. R. A. Caputi, J. V. Carr, S. V. Cavaretta, M. Cheplove, A. V. Cherry, H. A. Chernoff, John Clarke, G. A. Cohn, V. S. Cotroneo, F. R. Coyle, J. E. Cryst, H. W. Culbertson, E. H. DeKleine, B. J. Dolan, L. J. Doll, Jr., R. S. Donley, P. I. Dooley, W. D. Dugan, H. D. Duryea, J. F. Eagle, G. L. Eckhert, E. G. Eschner, J. A. Fahey, P. A. Fernbach, W. G. Fischer, Willard G. Fisher, T. C. Flemming, E. Friede, J. T. Gabbey, M. C. Gian, G. W. Grace, N. F. Graser, C. W. Greene, J. G. Grotz, H. W. Hale, Jr., D. W. Hall, J. G. Harrity, E. G. Healy, B. E. Heckmann, H. H. Higgs, F. W. Hoffman, H. Hosmer, I. Hyman, C. B. Ireland, C. G. Jenczeski, H. B. Johnson, J. W. Jordon, H. E. Joyce, P. A. Kennedy, S. Kimball, W. F. King, J. J. Kaliber, N. C. Klendshoj, and N. Kutzman.

Buffalo (*continued*): Drs. E. C. Lasser, A. Lechner, W. F. Lipp, E. J. Lyons, C. A. March, G. H. Marcy, G. J. Matusak, Charles E. May, H. J. McGee, E. T. McGroder, D. R. McKay, R. H. Mehnert, S. Militello, G. P. Milkey, A. Mogerman, F. J. Montrose, F. D. Mooney, J. D. Naples, S. R. Narins, F. K. Neuburger, R. W. O'Connor, F. W. O'Donnell, G. O'Grady, B. E. Obletz, E. D. Osborne, H. Osgood, H. K. Palanker, J. D. Persse, J. Phillips, L. M. Privitera, C. L. Randall, A. C. Rekati, J. T. Roberts, H. M. Robins, C. E. Rung, N. G. Russell, Sr., P. J. Rutecki, J. C. Scanio, G. N. Scatchard, C. J. Schuder, R. L. Scott, R. W. Sendker, A. W. Siegner, Ralph E. Smith, H. Smolev, H. E. Stadlinger, W. F. Stafford, R. J. Striegel, G. Swarthout, T. J. Syracuse, J. H. Talbott, S. A. Tarlowski, W. G. Taylor, L. A. Trovato, S. T. Urban, S. L. Vaughan, C. E. Wills, H. K. Wittig, H. Yellen, S. Yochelson, J. W. Zerkowski, and J. G. Zoll.

Also: *Cheektowaga*—Drs. W. A. Potts and V. J. Rizzo; *Clarence*—Drs. J. S. Stern and A. V. Tramont; *Depew*—Drs. A. V. Kwak and M. E. Tyrrell; *East Aurora*—Dr. E. S. Brown; *Elma*—Dr. R. C. Shaver; *Eggertsville*—Dr. R. Osgood; *Garden City*—Dr. Thomas V. Miles; *Glen Cove*—Dr. John M. Galbraith; *Great Neck*—Dr. S. R. Sherman; *Hamburg*—Drs. G. M. Cooper, A. L. Lord, A. J. Minkel, Jr., and D. J. Riordan; *Hammondsport*—Dr. Eldred J. Stevens; *Helmuth*—Dr. I. M. Rossman; *Hempstead*—Dr. Eugene Bifulco; *Jackson Heights*—Dr. Maurice A. Golden; *Jamestown*—Dr. R. F. Wettingfeld; *Kenmore*—Drs. J. Hewett, J. P. Murphy, V. J. Riegler, and M. C. Ryan.

Also: *Lackawanna*—Drs. L. A. Chojnacki, J. D. O'Connor, J. Saab, E. M. Sullivan, E. M. Tracy, and H. E. Wells; *Lancaster*—Drs. A. J. Addesa, C. G. Irish, and W. H. Merrilees; *Lima*—Dr. Ernest A. Sanders; *Livingston Manor*—Dr. L. G. Denman; *Medina*—Dr. A. P. Clark; *New York City*—Drs. Thomas P. Almy, Harold Altman, George G. Arato, Phebe DuBois, Joseph L. Frey, S. Goldschmitt,

[Continued on page 2992]

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[Continued from page 2990]

Loren P. Guy, I. S. Klemes, F. Kojis, L. S. Kubie, George M. Lewis, T. R. Miller, M. P. Sykes, and William G. von Stein; *Oneonta*—Dr. Fisk Brooks; *Orchard Park*—Dr. H. C. Mann; *Rochester*—Dr. L. E. Young; *Rockville Centre*—Dr. William L. Donnelly; *Schenectady*—Drs. F. A. Groff, Jr. and Frank L. Marting; *Springville*—Dr. M. N. O'Connor; *Swan Lake*—Dr. M. A. Baker; *Tonawanda*—Dr. Richard W. Britt; *White Plains*—Dr. Raymond Sobel, and *Williamsville*—Drs. S. J. Anthony, W. C. Baker, and J. J. Brandl.

Three-Year Fellowship Program—The American Psychiatric Association and the Smith, Kline & French Foundation of Philadelphia have announced the start of a three-year fellowship program designed to arm staff psychiatrists in public mental hospitals and schools for the retarded with new knowledge of therapies, technics, and practices for application where most needed in the United States. Dr. Kenneth Appel, chairman, Department of Psychiatry, University of Pennsylvania School of Medicine, Philadelphia, is the committee chairman. Dr. Henry Brill, assistant commissioner, New York State Department of Mental Hygiene, Albany, is a member of the committee.

Applicants are expected to submit a "fellowship project" entailing education, training, and experience in any of the following specialties: hospital administration, biochemistry, physiology, group psychotherapy, chemotherapy, family care programs, rehabilitation technics, treatment of emotionally disturbed children, the operation of mental hospital outpatient clinics, and others. Physicians interested in applying for these fellowships should write to Smith, Kline & French Foundation Fellowship Committee, American Psychiatric Association, Washington 6, D.C. Applications should be in the hands of the fellowship committee by November 1.

Nassau Ophthalmological Society—The Nassau Ophthalmological Society held a scientific meeting on September 26 at the Swan Club in Roslyn. Dr. Thomas M. D'Angelo and Mr. William Richardson discussed "The Rising Cost of Malpractice." The next meeting will be held on November 28.

Nassau Pediatric Society—A scientific meeting of the Nassau Pediatric Society was held on October 10 in Westbury. Dr. Frances Pascher, associate professor in clinical dermatology, New York University-Bellevue Medical Center, spoke on "Fundamental Principles in Pediatric Dermatological Therapy."

Personalities

Honored

Dr. Howard A. Rusk, New York City, with an honorary fellowship at a meeting of the International College of Surgeons held in Philadelphia in September . . . Dr. Franz Altmann, New York City, with the Dr. Charles Bramman Meding Award for an important contribution to the advancement of otolaryngology, at a meeting at the Harlem Eye and Ear Hospital on October 28, when Dr. Altmann's film, "Embryology of the Ear," will be shown.

Appointed

Dr. Edward M. Cohart, associate professor, Department of Health, Yale University School of Medicine, as deputy commissioner of the New York City Department of Health. . . Dr. Charles S. Livingston, formerly of Butler, Pennsylvania, as manager of the Veterans Administration Hospital, Batavia . . . Dr. Rutherford B. Stevens, as consulting psychiatrist at the Children's Village, Dobbs Ferry. . . Dr. Frank Reynolds, a permanent appointment as director of the State Health Department's Bureau of Chronic Disease and Geriatrics . . . Dr. Henry DeVoe Crane, Jr., as attending surgeon at the Mary McClellan Hospital in Cambridge.

Speakers

Dr. Harry A. Feldman, associate professor of medicine, State University of New York College of Medicine at Syracuse, on "Current Aspects of the Diagnosis and Management of the Rheumatic Diseases," at the annual meeting of the Columbia County Medical Society in Hudson on October 5. . . Dr. Paul Hoch, commissioner, Department of Mental Hygiene of the State of New York, at the Mid-West American Psychiatric Association, Galesburg, Illinois, in September . . . Dr. Ira I. Kaplan, New York City, at a meeting of the Canadian Society for the Study of Fertility, Toronto, Canada, on "Treatment of Female Sterility," on October 6 . . . Dr. George T. Pack, New York City, on October 3 before the Tennessee Valley Medical Assembly in Chattanooga on "Cancer of the Breast."

New Offices

Dr. Julius Lehman, general practice in Scarsdale . . . Dr. Jack R. Muth, general practice in association with Dr. Kenneth B. Wright in Southampton.

Retires

Dr. John J. Young, as chief surgeon of the Police Department of the City of New York.

Representative

Dr. James A. Brussel, assistant commissioner, New York State Department of Mental Hygiene, as New York State's representative at the semiannual meeting of the Northeast State Governments Council on Mental Health at Burlington, Vermont.

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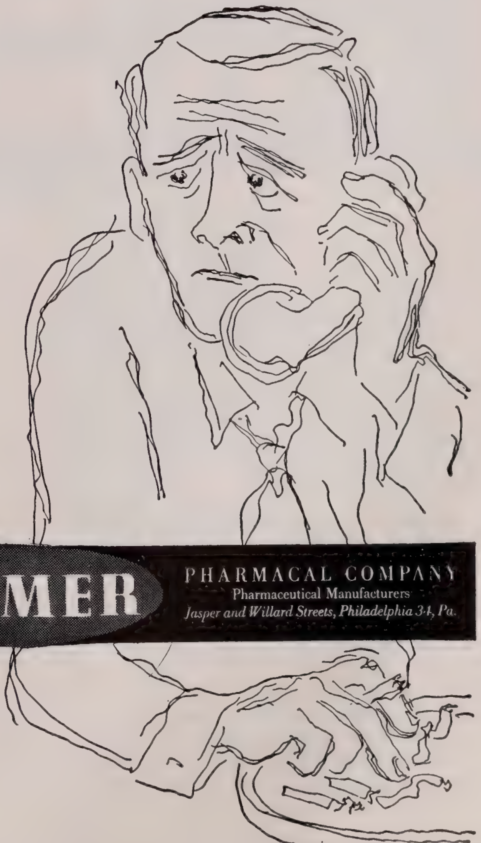

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NECROLOGY

Thomas Francis Bridgman, M.D., of New York City, died on September 17 at his home at the age of seventy-seven. Dr. Bridgman graduated from the University of Pennsylvania School of Medicine in 1903. He served in France with the U.S. Army Medical Corps as a major during World War I and later helped to establish a medical research laboratory at the then Hazelhurst Field, Mineola, Long Island. Dr. Bridgman was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Martin Edwin Bry, M.D., of New York City and Deal, New Jersey, died at Monmouth Memorial Hospital, Long Branch, New Jersey, on September 12 at the age of sixty-four. Dr. Bry graduated from Yale University School of Medicine in 1912. During World War I he served as a medical officer in the 77th Infantry Division and was cited for bravery in action under fire.

Dorothy Lang Bulger, M.D., of White Plains, died on September 19 at the Greenwich Hospital at the age of sixty-five. Dr. Bulger graduated in 1924 from the University of Vermont School of Medicine and was the first woman to earn a medical degree there. Dr. Bulger interned at New York Hospital. She was attending pediatrician at Grasslands and White Plains Hospitals and consulting pediatrician at Phelps Memorial Hospital, Tarrytown. A Licentiate of the American Board of Pediatrics in Allergy, she was a member of the American Academy of Pediatrics, the American Academy of Allergy, the Westchester County Medical Society, and the Medical Society of the State of New York.

Benjamin Herman Ceytlin, M.D., of New York City, died on September 19 at the Flower and Fifth Avenue Hospitals after a long illness at the age of fifty-four. Dr. Ceytlin received his medical degree from the University of Warsaw in 1927. He was a clinical assistant in otolaryngology at New York University-Bellevue Medical Center. Dr. Ceytlin practiced in Warsaw until the German invasion in 1939, then served with the Polish forces under British command as a captain in World War II. He was a member of the New York County Medical Society and the Medical Society of the State of New York.

John Bennett Burke, M.D., of Troy, died on September 8 at his home after a long illness at the age of seventy. Dr. Burke graduated from Albany Medical College in 1910. He was a staff surgeon on the ENT Service at St. Mary's Hospital, Troy, and in ENT at the Veterans Administration Hospital, Watervliet. Dr. Burke was a member of the Eastern New York Eye, Ear, Nose and Throat Association, the Rensselaer County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Murray Cogen, M.D., of Lawrence, died on September 20 at the age of forty-three. Dr. Cogen received his medical degree from the Royal College of Physicians and Surgeons, Edinburgh, in 1940 and interned at St. Peter's and Sea View Hospitals. He was an assistant attending physician at St. Joseph's Hospital, Far Rockaway, Long Island, and a member of the American Academy of Tuberculosis Physicians, the American Geriatrics Society, the American Trudeau Society, the Clinical Society of New York Diabetes Association, the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Frank Beeby Conterman, M.D., of Ilion, died in the Ilion Hospital after a long illness on September 1 at the age of sixty-six. Dr. Conterman graduated from Syracuse University College of Medicine in 1910. From 1916 until 1951 he served as health officer for Ilion and from 1932 to 1951 for the Town of German Flatts and the Town of Columbia. For the past ten years he had been a member of the board of managers of Herkimer County Pine Crest Sanitorium and was a member of the Herkimer County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Joseph H. Cornell, M.D., of Schenectady, died of a heart attack at his home on August 26 at the age of fifty-nine. Dr. Cornell graduated in 1920 from Albany Medical College. He was chief gynecologist at Ellis Hospital, a consulting gynecologist at Eastern New York Orthopedic Hospital-School and St. Clare's Hospital, and an honorary consultant in gynecology at Schenectady City Hospital. Dr. Cornell was a Diplomate of the American Board of Obstetrics and Gynecology, a Fellow of the American College of Surgeons, and a member of the Central New York Association of Obstetricians and Gynecologists, the Schenectady County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

In 1942 Dr. Cornell served as president of the Schenectady County Medical Society, and since

[Continued on page 2996]

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[Continued from page 2994]

1937 he had been a delegate to the State Medical Society and on several State Society committees.

John C. Dessloch, M.D., of Rochester, died on September 7 at Genesee Hospital at the age of seventy-three. Dr. Dessloch was a graduate of the New York Homeopathic Medical College and Flower Hospital in 1913. For twenty-five years he had been chief anesthesiologist at Genesee Hospital and from 1932 to 1933 he was president of the Eastern Society of Anesthetists and president of the Associated Anesthetists of the United States and Canada from 1939 to 1941. He was consultant in anesthesia at the Monroe County Infirmary and Genesee Hospital. Dr. Dessloch was a Diplomate of the American Board of Anesthesiology and a member of the American Society of Anesthesiologists, the International Anesthesia Research Society, the Rochester Academy of Medicine, the New York State Society of Anesthesiologists, the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Jacob Highley Dewees, M.D., of New York City, died on April 5, at the age of eighty-six. Dr. Dewees graduated from the University of Pennsylvania School of Medicine in 1894.

William Lewis Fodder, M.D., of Schenectady, died on September 6 at his home after a long illness at the age of seventy-nine. Dr. Fodder graduated from Albany Medical College in 1897. He celebrated his fiftieth year as a physician in 1947, served two terms as coroner's physician from 1919 to 1924, was plant surgeon at the American Locomotive Company, and was instrumental in establishing Schnectady's first child care clinic as well as instituting the system of physical examinations for public school pupils in Schenectady. Dr. Fodder was an honorary member of the staff at Ellis Hospital, a Fellow of the American College of Surgeons, and a member of the Schenectady County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Emil Gaster, M.D., of Brooklyn, died on September 8 at his home at the age of sixty-nine. Dr. Gaster received his medical degree from the University of Vienna in 1920. A director of the Glory of Israel Hebrew Institute in Brooklyn, Dr. Gaster was also a clinical assistant attending physician in endocrinology at the Jewish Hospital of Brooklyn. He was a member of the Kings County Medical Society and the Medical Society of the State of New York.

Robert Hurtin Halsey, M.D., of New York City, died on September 15 of a heart attack while visiting in Stanstead, Quebec, at the age of eighty-two. Dr. Halsey graduated in 1900 from Columbia University College of Physicians and Surgeons. He was one of the founders of the New York and American Heart Associations. From 1903 to 1906 he was an instructor in medicine at the Columbia University Postgraduate Medical School and for eleven years was adjunct professor of medicine there. From 1917 to 1939 he was a full professor and since 1939 had served as a consultant at Goldwater Memorial Hospital. During World War I he served as a lieutenant colonel in the Army Medical Corps, and from 1932 to 1933 he was president of the American Heart Association. He was a consulting physician at the University Hospital. Dr. Halsey was a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Louis Arthur Held, M.D., of Brooklyn, died on September 20 of a heart attack in his office at the age of sixty-two. Dr. Held graduated from New York University and Bellevue Hospital Medical College in 1914. He was attending radiologist at Maimonides Hospital, Brooklyn. A Diplomate of the American Board of Radiology, Dr. Held was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Charles Vincent Keating, M.D., of Beacon, died on September 5 at his home of a coronary attack at the age of seventy-one. Dr. Keating graduated from Jefferson Medical College, Philadelphia, in 1909. For the past five years he had been chief of the medical staff at Highland Hospital. He was a member of the Dutchess County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Henry Frederick Kramer, M.D., of Brooklyn, died on September 13 in the New Milford Hospital, Connecticut, at the age of sixty-nine. Dr. Kramer graduated from Columbia University College of Physicians and Surgeons in 1907. He was attending physician and chief of gastroenterology at the Brooklyn Hospital and consulting physician in gastroenterology at the Norwegian Lutheran Deaconesses' Home and Hospital, Brooklyn. Dr. Kramer was a member of the New York Gastroenterological Society, the Associated Physicians of Long Island, the Brooklyn Society of Internal Medicine, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Peter Joseph Lucas, M.D., of Amsterdam, died on September 2 in St. Mary's Hospital after a brief illness at the age of forty-five. Dr. Lucas was graduated from Georgetown University School of Medicine in 1936. He was an attending physician at St. Mary's and Amsterdam City Hospitals. In 1946 Dr. Lucas was appointed Montgomery County coroner. He was a member of the American Academy of General Practice, the Montgomery

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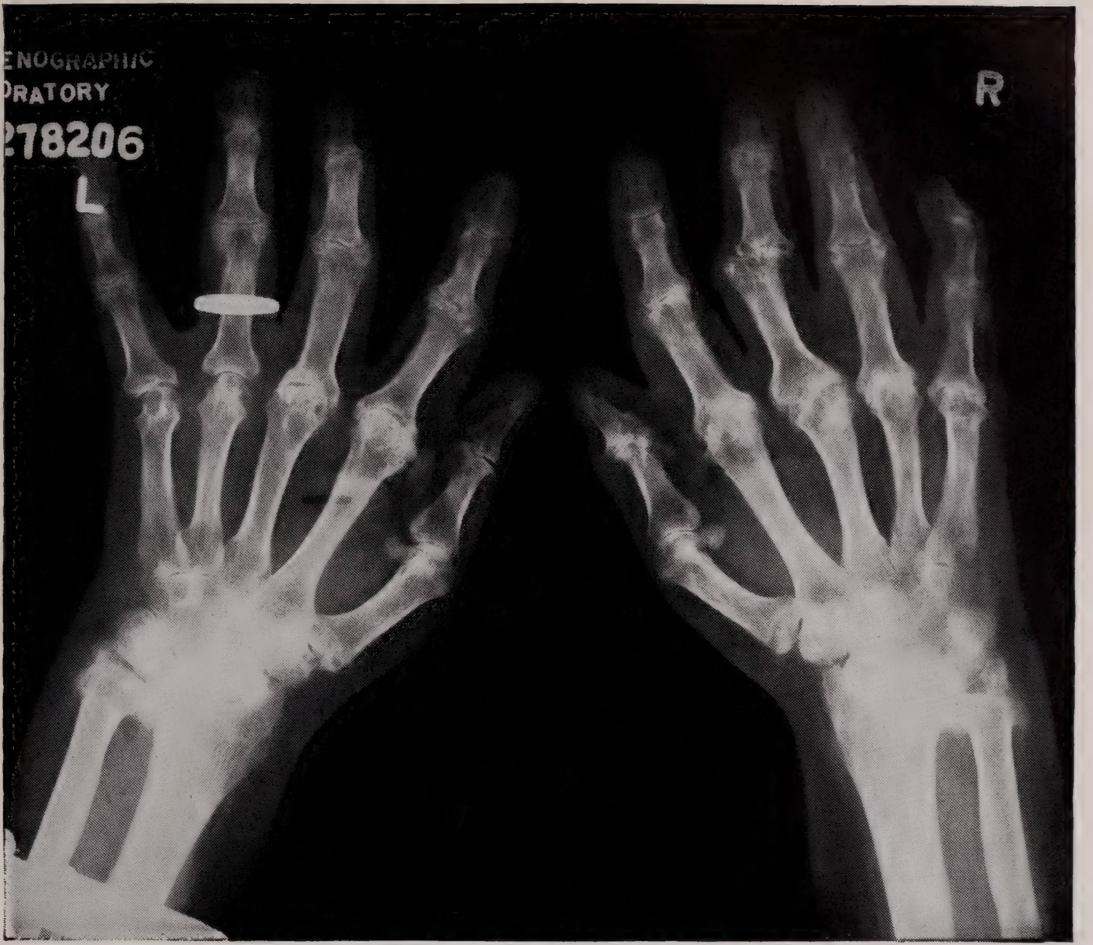

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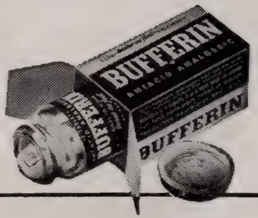

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[Continued from page 2996]

County Medical Society, and the Medical Society of the State of New York.

Walter Austin McLaren, M.D., formerly of Brooklyn, died in Norwalk, Connecticut on August 20 at the age of seventy-two. Dr. McLaren was graduated from Cornell University Medical College in 1906 and interned at Bellevue Hospital. He was an associate attending physician at Caledonian Hospital, Brooklyn. Dr. McLaren was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Jerome Meyers, M.D., of New York City, died on September 11 in the Doctors Hospital at the age of seventy-two. Dr. Meyers graduated from the Albany Medical College in 1907. He retired in 1952 as senior health district officer in charge of the Mott Haven Health Center. For a brief time he was assistant professor at the Albany Medical College, and from 1917 to 1919 he was in charge of the medical clinic at Mount Sinai Hospital. For the last three years he had served with the Red Cross.

Edward Miltimore, M.D., of New York City, died on September 19 at the age of seventy-four. Dr. Miltimore was graduated from Albany Medical College in 1905.

Hudson J. Oliver, M.D., of New York City, died on September 20 at the Kingsbridge Veterans Hospital at the age of sixty-six. Dr. Oliver graduated from Howard University College of Medicine in 1913. During World War I he served as a first lieutenant with the Army Medical Corps.

Jacob Pearlstein, M.D., of Brooklyn, died on September 3 following a long illness in Beth-El Hospital, Brooklyn, at the age of fifty-four. Dr. Pearlstein graduated in 1927 from Tulane University of Louisiana School of Medicine. He served in the Selective Service System during World War II.

Byron Sprague Price, M.D., of Port Chester, died on September 17 at the age of eighty-three. Dr. Price received his medical degree from McGill University Faculty of Medicine, Montreal, Canada, in 1895. He was a member of the Radiological Society of North America, the American Academy of Physical Medicine, the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Norman Roth, M.D., of the Bronx, died on August 9 at the age of seventy-four. Dr. Roth was graduated from the Long Island College Hospital School of Medicine in 1906 and was a member of the Bronx County Medical Society and the Medical Society of the State of New York.

Kegham Seropian, M.D., of New York City, died on September 9 at his home at the age of sixty-eight. A native of Turkey, Dr. Seropian received his medical degree from the American Medical College in Beirut, Syria, in 1911.

Charles Solomon, M.D., of Brooklyn, died on September 15 at his home at the age of fifty-nine. Dr. Solomon was graduated from the New York University and Bellevue Hospital Medical College in 1918 and interned at Montefiore and Jewish Hospitals. An authority on drugs, he was on the advisory commission for the *United States Pharmacopoeia* and supervised publication of the *Hospital Formulary* and the *Hospital Dietary Manual.* A Fellow of the American College of Physicians, Dr. Solomon was attending physician at the Jewish Hospital and at the Jewish Hospital for Chronic Diseases. He was a member of the Brooklyn Society of Internal Medicine, the Kings County Medical Society, and the Medical Society of the State of New York.

John Anthony Theobalds, M.D., of New York City, died on September 14 at the age of fifty-six. Dr. Theobalds received his medical degree from the University of Lyons, France, in 1932. He was associate attending gynecologist at Mount Morris Park Hospital. An Associate of the International College of Surgeons, Dr. Theobalds was a member of the Harlem Surgical Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Felix L. Verdeschi, M.D., of Ozone Park, died on September 10 at the age of fifty-three. Dr. Verdeschi was graduated from the New York Homeopathic Medical College and Flower Hospital in 1928. He was a member of the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Mathilda K. Wallin, M.D., of Elmsford, died on September 19 in Dobbs Ferry Hospital at the age of ninety-seven. A native of Sweden, Dr. Wallin came to the United States in 1888 and was graduated from the Women's Medical College of New York Infirmary in 1893. She became a member of the American Women's Hospitals in 1919, was treasurer from 1924 through 1941, and was an executive board member at her death. Dr. Wallin was a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

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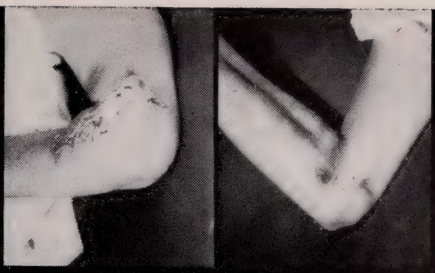
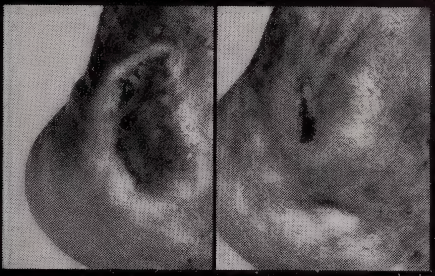


left
Traumatic ulceration with edema in a paralyzed arm

right
Almost complete healing with Panthoderm Cream applied twice daily for three weeks



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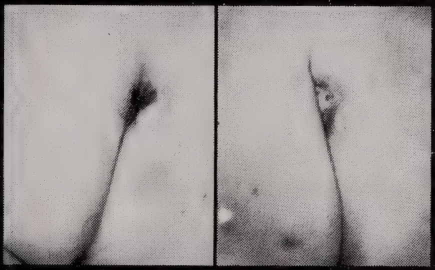
Varicose ulcer of ankle, large, deep, profuse foul-smelling discharge

right
Healing of ulcer after treatment with Panthoderm Cream for ten weeks



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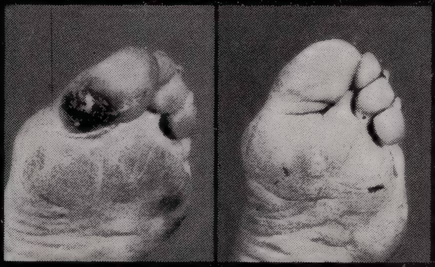
Gangrenous ulcer of the buttocks

right
Healing after twice daily application of Panthoderm Cream for four weeks



left
Diabetic ulceration of great toe of two months' duration; unresponsive to previous therapy

right
Complete healing after two weeks therapy with Panthoderm Cream

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WORKMEN'S COMPENSATION

DAVID J. KALISKI, M.D., *Director, Bureau of Workmen's Compensation*

GERALD D. DORMAN, M.D., *Chairman, Council Committee on Workmen's Compensation*

Medical Society of the State of New York

Rules and Procedure of the Workmen's Compensation Law

The introduction of workmen's compensation legislation in the United States lagged far behind the institution of such social laws on the continent of Europe.

The first workmen's compensation laws in the United States were passed in 1911, and the last state in the Union to enact such legislation did so only a year ago. New York State enacted a law in 1913 which was declared unconstitutional, but a new law was enacted in 1914 and has been in operation, with numerous modifications and amendments, since that time. This new law nullified the employers' liability laws under which the employes' only redress for injury sustained during employment was under the common law. Negligence on the part of the employer had to be proved in court.

Compensation for injury or disability was a new social concept, placing the onus for disability resulting from the hazards of employment, regardless of negligence, upon the employer. The cost of indemnifying the employe for disability as a result of an accident or occupational disease, and the cost of medical care, while borne directly by the employer if a self-insurer or through coverage by an insurance carrier, became a part of the cost of production and actually was indirectly borne by the consuming public.

Workmen's compensation laws are administered by special boards or commissions created under the various statutes, but in some states the adjudication of claims still rests with the courts. *In this State the Workmen's Compensation Board has jurisdiction. It is headed by a chairman appointed by the governor.*

In addition to the legal aspects of a worker's claim, many medical questions and problems are bound up in the administration of the workmen's compensation laws. Without the proper and sympathetic cooperation of the medical profession in the administration of these laws, all parties in interest would suffer. Indeed, almost every claim for time lost or disability resulting from industrial accidents and diseases presents a medical problem, not only in the determination of the nature and extent of disability, but in the adjudication of the claim for disability, thus posing additional problems of an economic nature flowing out of the cost of medical care, hospitalization, and the like.

Payment for time lost and for certain disabilities in accordance with a definite schedule of payments is assured for the duration of disability; for life, in the event of complete and total permanent disability. Payments are also made for fatal accidents and for the care of dependents. Loss of earning power as the result of disability is also compensated, as where an individual, because of an accident and disability resulting therefrom, is not able to perform his customary work and earns less than before the accident.

Except in rare and specific instances, contributory negligence on the part of an employe is no bar to the benefits assured under the law. Before the institution of workmen's compensation laws, the employers were under no obligation to provide medical care or compensation for time lost unless the individual was able to prove negligence against the employer in court. Injured workers frequently were unable to meet the cost of prolonged medical care and became the charges of philanthropic organizations or the humanitarian impulses of physicians and hospitals, or they became public charges.

Every injured worker in this State is entitled to all necessary medical care by a physician of his own choice, who is paid for his services in accordance with a fee schedule which is set up by the State authorities after consultation with the president of the State Medical Society and other interested parties. Aside from the large sums of money paid out annually for time lost and for disabilities, the cost of medical care and hospitalization amounts to over 30 million dollars annually in this State. Public hospitals may not treat workmen's compensation claimants except in an emergency and only for the

[Continued on page 3002]

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*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. *22*:67 (Mar.) 1955.

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[Continued from page 3000]

duration of the emergency, but even in these institutions the law provides that only physicians may collect fees for medical services.

It is essential that physicians be informed as to the provisions of the Workmen's Compensation Law in this State, so that they may properly cooperate in the administration of the law and, at the same time, protect their own interests in view of the multiplicity of legal and quasilegal questions arising in the adjudication of claims.

The subject of *rehabilitation* is one assuming greater importance each year. Physicians are urged to acquaint themselves with the advantages of complete rehabilitation, especially of severely disabled patients, and to refer for rehabilitation such patients as may be benefited thereby as soon as consistent with good medical and surgical practice. Cooperation with employers and carriers to this end is necessary and feasible in the interest of the patient. By these means many cases may be restored to some useful occupation and a happier life.

The responsibility imposed by the government on the medical profession through the State and county medical societies places an obligation on every physician to provide the highest quality of medical care at a cost no higher than that which prevails in private practice for similar medical care to persons of a like standard of living.

Medical Testimony

The law provides that a physician may be invited or subpoenaed to testify before a referee in connection with medical issues raised by the employer or carrier or by the claimant. A physician testifies either as a general practitioner or as a specialist. In the case of the latter his code letters signify his qualifications.

A general practitioner need not and, under most conditions, should not attempt to answer a medical question requiring the experience and judgment of an expert. Many prolonged controversies over questions of causal relationship, degree of disability, etc., would be avoided if general practitioners restricted their testimony to the facts they have ascertained in the course of examination and the treatment rendered, and not attempt to answer questions requiring the judgment of experts. A specialist is presumed to be qualified in his particular field and may answer such questions with authority. Under the law a physician is entitled to a fee for testimony in accordance with his status as a general practitioner or specialist and, in addition, to mileage under certain conditions. All this is in addition to any subpoena fee to which he may be entitled.

*The necessity of appearing before a referee may be avoided in many instances by prompt, careful, and detailed reporting. The keeping of complete records is as essential, if not more so, in compensation practice as in private practice. This will greatly facilitate the processing of claim and payment of compensation for the time lost by injured workers by the Workmen's Compensation Board. It will also greatly reduce the number of disputes over medical bills by the employers or insurance carriers.**

The Injured Worker

The covered worker is required immediately to notify his foreman, or first-aid man, or his employer, of an injury or illness caused by and in the course of his employment and to file a claim with the chairman of the Workmen's Compensation Board.

He is instructed by his union to get the names and addresses of all persons witnessing the accident with a brief statement of facts in writing. If the injured worker cannot get this, a fellow worker or his union steward may do it for him.

A physician should know the class of workers who are covered under the law.

1. All workers engaged in "hazardous" employment.
2. In addition, workers in a business or occupation, whether hazardous or not, if four or more "workers" or "operatives" are regularly employed.

An employer who is not required by law to cover his employes may elect to be covered and thus cover his employes, as if coverage were obligatory.

If the employer is covered either by a carrier, or by self-insurance, there must be a sign conspicuously posted on the premises, telling the worker of this fact.

If the employer is subject to the law, the employe is also subject to the provisions of the law.

Provided the employer is covered by workmen's compensation insurance or is a self-insurer, an employe may not sue the employer under the negligence law.

However, if the employer is required to be covered and is not insured, the injured worker may elect to sue or claim compensation as though the employer were covered.

No employe can claim workmen's compensation benefits or obtain medical care in the event that the law does not require the employer to be covered. But in this case the worker may sue under the negligence law.

Certain large employers of labor are known as self-insurers and are not covered by an insurance carrier. The employer pays for both time lost and medical care as though insured.

Third Party Cases

If the employe is injured due to the negligence of a third party, not in the same employ, he may elect to sue the third party, but at the same time may take compensation benefits, including medical care, and in such event the employer is responsible for the cost of medical care; bills for medical care should be directed to him or his carrier. A third party suit must be brought by the employe within six months after receiving a compensation award and before the expiration of one year from the date the action against the third party accrues. If the suit results in an award or verdict less than the amount that would have been payable for the specific injury under the Workmen's Compensation Law, the deficiency is payable by the employer or his insurance carrier.

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* The chairman has instituted new hearing rules which should greatly speed up hearings and avoid unnecessary delays and waste of time of physicians called to testify.

[Continued on page 3004]

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[Continued from page 3002]

In the event of an award, compensation benefits having been paid, these are deducted from the award. If the judgment is uncollectable against the third party, the employer or insurance carrier is responsible for the benefits the claimant would have been entitled to under the Workmen's Compensation Law.

If an employe sustains an injury while working, as the result of a quarrel with another employe over personal matters, compensation is not awarded. However, if the quarrel concerned the work in which the employes were engaged, then the injury would be covered.

There are certain circumstances under which an employe would be entitled to compensation and medical care, even though the injury was sustained off the premises; as, for example, when an employe was on an errand for his employer or was engaged in some activity contracted by or under the control of the employer. Ordinary carelessness on the part of an employe does not prevent him from obtaining benefits. However, willful intent to injure himself, or another, or where the injury is occasioned by intoxication, may bar the collection of benefits.

The illegal employment of a minor is no bar to the collection of benefits, which under the law may be doubled.

Occupational diseases linked with an occupation known to induce these diseases and all occupational diseases contracted in employments covered by the Workmen's Compensation Law are compensable.

The same benefits are paid for all occupational diseases with the exception of silicosis and other dust diseases. In silicosis, benefits are paid only where the employe is completely disabled, and the amount of medical care to be rendered is limited.

Reports

When a physician undertakes to treat an injured employe, he should be careful to obtain from the employe a full record of the accident or, in the event that the employe is unconscious, from someone who witnessed the accident. The physician should obtain sufficient data to be able to fill out the necessary compensation forms completely. He should also get the name of the insurance carrier from the employe, and if the employe does not know the name of his employer's insurance carrier, the physician should obtain this information by telephoning, or by mail, at the earliest possible moment, so that the necessary forms can be mailed to the insurance carrier or employer and to the Workmen's Compensation Board within the time specified in the law. A preliminary notice (C-104) should be sent in within forty-eight hours and a more complete report (C-4) within fifteen days.

Then, if the patient is under protracted treatment, a C-14 report form or progress report should be sent at regular intervals of every three or four weeks to the employer or insurance carrier and to the Workmen's Compensation Board. The physician should retain a copy of all reports for his files.*

All *specialists* to whom compensation cases are referred by practitioners for consultation should send a complete report on their letterhead to (1) the referring physician, (2) the employer or carrier, and (3) the Workmen's Compensation Board, promptly.

If the specialist undertakes to treat the patient, he should also make out the usual forms enumerated above, and in the case of eye injuries, the C-5 form should be substituted for the C-4 form. Where a claimant who had previously been treated applies for treatment and the case is closed, the physician is required to file a notarized C-27 report to reopen the case and submit same to the parties of interest in the event the patient is in need of further treatment as a result of the accident. If no treatment was rendered for three years or where the injury was sustained seven years before and the case closed, benefits would be payable under Section 25-A; the carrier or employer is no longer liable and claims are paid out of a *special fund*. Under these circumstances authorization for any treatment or examination must be obtained in advance.

Transfers

A physician should always ascertain whether the patient has been under the care of another physician and promptly communicate with such physician to ascertain the history of the case, together with any laboratory or x-ray reports, and advise the prior physician as to the reasons for the transfer. Care should be taken before rendering further treatment in cases which have been discharged by other physicians. If in doubt, the insurance carrier or self-insured employer may be consulted for further information as to prior treatment and its sufficiency.

Where a physician is in doubt as to the compensability of the claim, he should render medical care, especially in an emergent case, and ascertain the facts concerning the injury from the employer or carrier as soon as possible.

If the employer denies that the injury was received during employment, or as the result of same, the physician should file the necessary forms, if the patient persists in his story of a compensable injury, but may request the claimant to pay his (the doctor's) fee with the understanding that if subsequently the case is declared compensable, it will be returned. In this circumstance he may use his judgment as to whether he should collect a fee. Physicians should not fail to report every case, even though the employer or employe importunes him not to do so. In view of the social nature of workmen's compensation legislation, the physician should be cooperative in rendering medical care, even though an occasional case may ultimately be de-

[Continued on page 3006]

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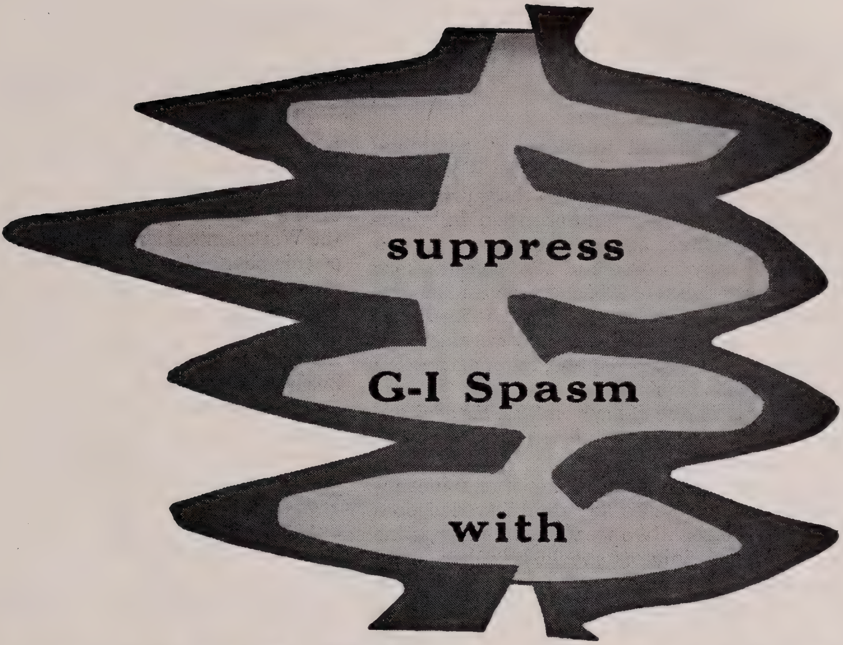
* Where an employer or insurance carrier objects to treatment for any reason or the physician is notified to stop treatment, the employer or carrier must file a new form known as C-8.1. This must be accompanied by medical evidence to substantiate the request. A prompt hearing before a referee is then arranged at which the physician's and other testimony is given. The referee may call upon an especially qualified physician to examine the patient and report on the issue. The referee will then make a decision on the question of medical care. Physicians receiving requests to stop or alter treatment or to refer patients for rehabilitation may request the insurance carrier to file form C-8.1 if there is any dispute involved.



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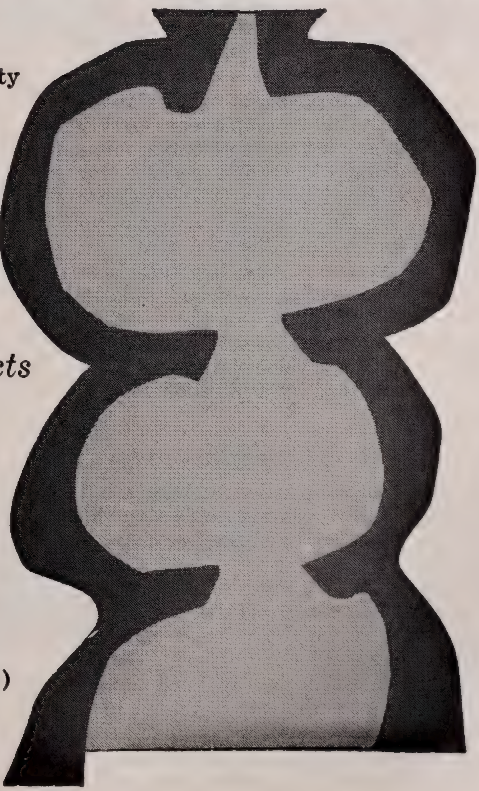

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[Continued from page 3004]

clared not compensable and collection of a fee from the patient difficult.

Authorization for Treatment

Physicians are advised to acquaint themselves with the provisions of Section 13 of the Workmen's Compensation Law, especially with those provisions requiring the obtaining of authorization from employer or carrier for certain stipulated services, such as physical therapy in excess of $25, consultations and operations in excess of $25, and x-ray and laboratory examinations in excess of $10. The insurance carrier or employer is entitled to five working days in which to act upon such request; in an emergency no authorization is required.

When in doubt in any of these matters, the advice of the director of the Bureau may be sought and will be promptly available.

Employers are not required to report a minor injury which does not cause any disability and does not require more than two treatments. In routine practice even such injuries should be reported by the doctor so that there may be no difficulty later on in the collection of a bill for services if the case should require further treatment or if complications arise.

A physician is required to look to the employer or insurance carrier for the payment of all medical bills in compensation cases. He may not accept a fee from the claimant. If under unusual circumstances a fee is paid or accepted, and the case is declared compensable subsequently, the physician required to reimburse the claimant and bill the employer or carrier.

A *fee schedule* has been set up representing minimum fees for general practitioners and specialists for services rendered to injured workers. No employer or carrier may pay less than the minimum, and no physician may bill for less than the minimum. An employer or carrier may, on request, pay more than the minimum if in the attending physician's opinion the services warrant a higher fee or the patient's social or economic status justifies such greater fee. If such request is refused, the value of the physician's services may be determined by arbitration as provided in the law.

Arbitration and Settlement of Medical Bills

An employer or insurance carrier receiving a bill for medical care has thirty days to object to the value of the services rendered and the fees charged in compensable cases.

Issues not directly medical may be raised which require the decision of a referee or of the Workmen's Compensation Board before the value of the disputed medical services can be determined. Unless such objection is made within the stipulated period, the bill rendered by an authorized physician in a compensable case is deemed to be the fair and reasonable value of services rendered. Occasionally a bill is objected to on technical grounds, pending the determination of compensability, and the objection withdrawn subsequently. Attempts at settlement are permitted, but if the parties in interest fail to agree on the value of the services rendered, then the bill is submitted for arbitration. The form known as A-1 is the official form for objecting to medical bills and must be filed with the physician and the Workmen's Compensation Board.

The arbitration of medical bills takes place if agreement is not reached. In counties having a population of one million or more the *determination* of the value of the services rendered is in the hands of the Medical Practice Committee appointed by the Workmen's Compensation Board. One member of this committee may hear the parties to the dispute and submit his findings to one or both members of the committee for decision. In all other counties bills are subject to *arbitration* by five arbitrators, all physicians and members of the Medical Society of the State of New York. Two are appointed by the county medical society, two by the insurance carriers organization, and a fifth, a member of the Medical Practice Committee or other physician, is designated by the chairman of the Workmen's Compensation Board. The majority decision settles the issue. The findings and award of either the Medical Practice Committee or the Arbitration Committee are conclusive on both parties and without appeal. A minimal fee of $2.00 or 5 per cent of the award, whichever is greater, is paid by each party for the above service.

While arbitration proceedings are initiated by the employer or insurance carrier, a physician whose bill remains unpaid where objection has been timely made is entitled to ask for the determination of the value of his service either by the Medical Practice Committee or by the Arbitration Committee, depending on the place of residence of the employe.

Hospital bills objected to are arbitrated by four arbitrators, two of whom, appointed by the insurance carriers, must be physicians. Physicians who serve as arbitrators receive a fee of $10 for each session.

In perusing the *fee schedule*, one will notice certain references to A & A, meaning authorization and arrangement between the physician and the insurance carrier or employer. This procedure is used where a fee for a particular type of medical service, usually some unusual procedure, is hard to fix at a given rate. In such instances, unless in an emergency, physicians are advised to consult the insurance carrier or employer, indicated to them the nature of service to be rendered, and arrange for the fee to be charged. If such arrangement, in advance, is impossible because of the nature of the emergency, or if an agreement on fee could not be reached, then if the bill submitted is objected to, the above arbitration procedure would be brought into being in the event that the employer or carrier objected to the bill within the statutory period of thirty days after its submission.

Where a particular injury calls for a scheduled fee and a number of weeks after-care and more than one physician treats the patient during the period of after-care, the physicians rendering treatment are required to prorate the fixed fee for all services each rendered. For example, if the first physician reduced and splinted a fracture and the patient then was treated by another physician for the after-care,

[Continued on page 3008]

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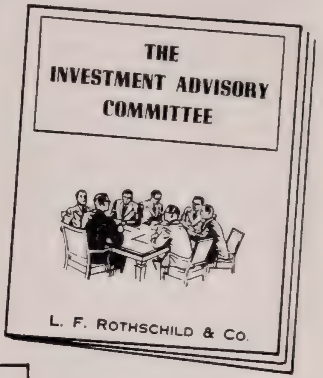

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[Continued from page 3006]

these two physicians would each render a bill within the fixed amount payable in accordance with the value which each puts upon the services rendered. If they cannot agree, then the compensation committee of the county medical society may be called upon to settle the dispute, failing which the dispute may be arbitrated. It should be noted that the fixed fee does not include the services rendered by a consultant or other physician treating complications which may arise requiring extraordinary treatment and does not include calls or visits after the termination of the fixed period. Additional fees may be charged for extensive surgical dressings and, in multiple injuries involving more than one part, the physician may charge a fee totaling the greatest item plus one half of each lesser item, but not more than twice the greater item, except under unusual circumstances where it can be shown that the value of the services rendered exceeded double the fee allowed for the greatest item.

In certain instances the cost of materials may be added to the fee for the visit and for injections, infusions, and the application of strapping and casts. All of these items are enumerated in the fee schedule.

One of the greatest elements of dispute is the failure of physicians to obtain *authorization for physical therapy treatments in excess of $25*. Where physical therapy is the chief treatment rendered before the patient has received the maximum of ten treatments, written request for the continuation of such treatments should be filed and may be included in the C-14 or Progress Report, which the physician should file in all protracted cases, or by letter.

Physicians should avoid protracted and unnecessary physical therapy treatments wherever possible unless the patient's condition warrants such continuation. After reasonable period of treatment, consultation should be held to determine advisability of necessity of continuation and to determine the type of physical therapy to be rendered and the duration of same.

Longshoremen, harbor workers, and Federal employes are usually covered by laws not permitting free choice as under the New York State Compensation Law. In such cases, as well as in the cases of certain employes of interstate carriers, authorization to render medical care should be requested.

A physician is required to be authorized by the chairman of the Workmen's Compensation Board to treat compensation claimants and to be paid therefor, although any physician may render emergency treatment. The Workmen's Compensation Law provides that any interference by any person with the selection by an injured employe of an authorized physician to treat him and the improper influencing or attempt by any person improperly to influence the medical opinion of any physician who has treated or examined an injured employe shall be a misdemeanor. *Solicitation of patients by physicians or others is strictly forbidden* on the penalty of revocation of authorization to treat and is a misdemeanor. Under regulations prescribed by the chairman of the Workmen's Compensation Board, an employer may recommend to an injured employe the name of an enrolled physician competent to treat him. Insurance carriers are not permitted to participate in the treatment of injured workmen. They may, however, employ medical inspectors to examine compensation cases periodically, while under treatment, and report upon the adequacy of medical care and other matters relative to the conduct of the case. A copy of the examiner's report must be filed with the chairman of the Workmen's Compensation Board. Employers and carriers are also entitled to maintain rehabilitation bureaus operated by qualified physicians if so authorized by the chairman. An employer may maintain a compensation medical bureau at the place or places of employment if such medical bureau is required because of the nature of the industrial hazards and the frequency of injuries to employe arising out of industry. Such bureaus must, of course, be operated by an authorized physician under rules and regulations prescribed by the chairman. The inspection of medical bureaus outside a county having one million or more population is made by committees of the county medical societies who either approve or disapprove the employer's application for such bureau, depending on the need of the bureau, the availability of medical care in the vicinity, the facilities and space available for the setting up of a bureau, and other factors included in the regulations. Injured employes may be treated in such bureau but have the right, either initially or subsequently to being treated in the medical bureau, to select their own physician for treatment. The patient electing to be treated in such bureau must sign a statement to that effect, but an employer may not obtain such written consent in advance of an injury. The patient is free to select his own physician at any time thereafter.

Examinations by Carriers

Although an employer has the right to an examination of the patient by an authorized physician employed by him, the patient's attending physician and the patient may designate the place of such examination, and the attending physician may be present at such examination if he deems it necessary or the employe desires his presence. The right to such examination does not confer upon the employer or insurance carrier the right, under the guise of making an examination, to perform a service, particularly a major examination for which the attending physician or specialist has requested authorization. For example, if a physician has requested authorization for a cystoscopic examination or for an encephalogram and the employer or carrier asked for examination to determine the necessity of such treatment, the performing of such major examination by the employer or carrier would be tantamount to lifting of the case, for which the attending physician might seek redress by arbitration. Indeed it might prevent the duplication of a painful procedure by the patient's doctor and thus deprive the patient of valuable medical evidence in a disputed case. Under these circumstances the employer or carrier should be content to have their examiner present at such major procedure if they so desire. The examining

[Continued on page 3010]

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[Continued from page 3008]

physicians of insurance carriers may not, under any circumstances, take over the treatment of a patient whom they have examined, and their consultants may not take over the treatment of such patient without full consent of both the patient and his own physician under penalty of a charge of improper transfer. A physician who believes that a patient has been improperly transferred from his care may ask arbitration of the issue, and the arbitrators may award to him an amount equal to what the insurance carrier or employer paid for medical care after the transfer or such part thereof as they may deem equitable.

Penalties

Physicians are urged to read carefully the provisions of the Workmen's Compensation Law and especially of section 13-d of the law, which space prevents our citing in full. This section gives the circumstances under which the physician may be removed from the list of those authorized to render medical care. In particular, attention is drawn to the right of the chairman of the Workmen's Compensation Board after investigation, charges, and trial, either by a county medical society or the Medical Practice Committee, to discipline a physician for failure to submit full and truthful medical reports within the stipulated time period; for rendering medical service for a fee *less* than those fixed in the fee schedule; for solicitation; for failure to appear at necessary hearings before referees, etc., and for transference, assignments, rebating, splitting, or refunding a fee paid for medical care and for related services. Particular stress is laid upon professional or other misconduct, or incompetency, and for exceeding the limits of professional competence in the providing of medical care. Under the Workmen's Compensation Law, *any person* who aids or abets a physician in violating the fee-splitting section is guilty of a misdemeanor as also is the guilty physician.

The following Rules and Procedure relative to medical care under the Workmen's Compensation Law have been promulgated by the Workmen's Compensation Board as a guide to physicians who treat workmen's compensation patients. When in doubt, consult the Workmen's Compensation Bureau of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

Extracts from Workmen's Compensation Law

All specialists, consultants, etc., shall submit a report of their findings in triplicate, one copy to the chairman, one to the attending physician, and one to the employer or insurance carrier. If the specialist acts as attending physician he shall file C-104, C-4, and C-14 reports with the insurance carrier (or with the employer when the carrier is unknown) and with the chairman.

All medical reports must contain the authorization certificate number and code letters.

Each physician shall file directly with the chairman and the employer the following reports:

Within forty-eight hours following first treatment, a notice on form C-104, giving all information required by such notice.

Within fifteen days after filing form C-104 and in no event later than fifteen days after first treatment a complete report of injury and treatment on form C-4 giving all information required by form.

During continuing treatment, a progress report on form C-14 at intervals of not less than three weeks.

A final report on form C-14 immediately upon termination of treatment regardless of the last previous report C-14.

If the patient is discharged from treatment within forty-eight hours after first treatment, only the C-4 report shall be filed, and such C-4 report shall be marked "FINAL."

Additional or more frequent reports may be required by the chairman.

Whenever a report is filed with the chairman by a physician after the time period for filing has elapsed, the physician shall attach thereto a signed and verified statement giving the true reason for which he requests excuse for late filing.

Authorization for Special Services

When it is necessary for the attending physician to engage the services of a specialist, consultant, or a surgeon or to provide for physiotherapeutic procedures costing more than $25 or to provide for x-ray examinations or special diagnostic laboratory tests costing more than $10, he must secure authorization from the employer or insurance carrier or the chairman.

This rule also applies to hospitals, specialists, consultants, and surgeons, who are actually engaged to perform such services.

If telephone request for such authorization is made, it should be confirmed by letter. If such authorization is not forthcoming or is not denied within five working days, or if such denial is not justified medically or otherwise, the special services required for the patient's welfare should be proceeded with on the ground that authorization has been unreasonably withheld. Such authorization is not required in an emergency under the provisions of Section 13-a (5).

The authority of an employer for the services of a specialist in excess of a $25 fee applies only to the necessity for such services, but the choice of such specialist is entirely within the jurisdiction of the injured worker.

A physician authorized to treat workmen's compensation cases, when requested to *supersede* another physician, must, before beginning treatment of such patient, make reasonable effort to communicate with the attending physician to ascertain the patient's condition. The superseding physician must also advise the attending physician of the name of the person who has requested him to assume care of the case and state the reason therefor. If the second physician cannot contact the attending physician and the claimant's condition requires immediate treatment, the said physician should advise the doctor previously in attendance within forty-

[Continued on page 3012]

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[Continued from page 3010]

eight hours that he now has the patient in his care. The preceding physician shall supply the succeeding physician with a complete history of the case.

In the event of a serious accident requiring immediate emergency medical aid, an ambulance or any physician may be called to give first aid treatment.

A *registered physiotherapist* may treat workmen's compensation cases at his own office or bureau when the case is referred to him by an authorized physician. The authorized physician should, however, give written directions to the physiotherapist as to the kind of treatment to be rendered and the number of treatments to be given. These directions must be given in writing by the physician and shall constitute a part of the record of the case.

Bills for x-ray and consultation rendered by a specialist and bills for x-ray examination, diagnosis, or treatment rendered by an x-ray laboratory or bureau of a voluntary hospital licensed by the chairman shall be submitted for payment directly to the employer or carrier. These services must be authorized in writing by the physician in attendance.

Physicians treating claimants in hospitals may secure the signature of claimant for authorization to obtain copies of any necessary hospital records.

The physician in attendance in public hospitals must be the judge as to when the "emergency status" of the case has terminated. In case of a dispute the matter shall be referred to the compensation board of the medical society of the county in which the hospital is located for decision.

Medical inspectors of insurance companies shall be admitted to hospitals or other institutions where injured employes are confined, upon proper identification, to comply with Section 13-j.

Hospitals and dispensaries shall not operate a medical bureau or clinic for the purpose of rendering medical care and treatment in workmen's compensation cases, except that voluntary hospitals may be licensed by the chairman to operate an x-ray laboratory or bureau for x-ray examination, diagnosis, or treatment in workmen's compensation cases.

No license is required for an employer to operate a first-aid station for emergency treatment, but no subsequent treatments are to be rendered by any one, other than a qualified physician, on the minimum fee schedule basis.

No *advertising* matter of any nature on compensation work, by or on behalf of authorized physicians medical bureaus, or laboratories shall be permitted.

No insurance company or self-insurer may reduce the size of NOTICE TO EMPLOYEES (form C-105) which is to be posted in all places of employment covered by the Act, unless such permission is granted on application to the chairman.

A physician who testifies at hearings, or examines claimants, or participates in examinations for evidential material for compensation case hearing purposes only may accept fees for such services from claimants, employers, or carriers.

Hospitals may render bills for board and room accommodations, medical and surgical supplies, and nursing facilities. Voluntary hospitals may bill for x-ray services when rendered by an x-ray laboratory or bureau of such hospital duly licensed.

Recommending of Authorized Physicians by Insurance Carriers and Employers and the Procedure to Be Followed by Medical Inspectors and Consultants

The supplying of names of authorized physicians by insurance carriers to their policyholders is in contravention to Section 13.

Any physician who acts in the capacity of medical inspector for an insurance carrier or employer in the case of an injured employe under the care of another physician shall not participate in the treatment of said injured employe except in the operation of a rehabilitation clinic or bureau under Section 13-j of the law. Nothing herein contained affects the right of transfer as provided in Section 13-a(3).

When a medical examination is had under Section 13-a(4), it shall be by a qualified physician at a place reasonably convenient to the claimant and in the presence of the claimant's physician, if in the latter's opinion his presence is necessary. A duplicate copy of all notices of request for examinations must be sent to the attending physician.

No physician designated by an insurance carrier or an employer as a consultant in the case of an injured employe shall subsequently participate in the medical or surgical care of said injured employe, except with the written consent of the injured employe and his attending physician. Nothing herein contained affects the right of transfer.

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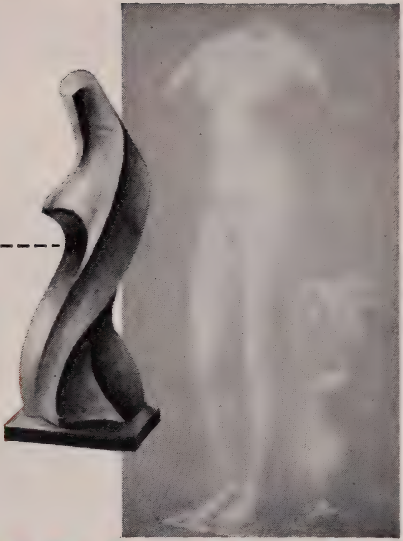

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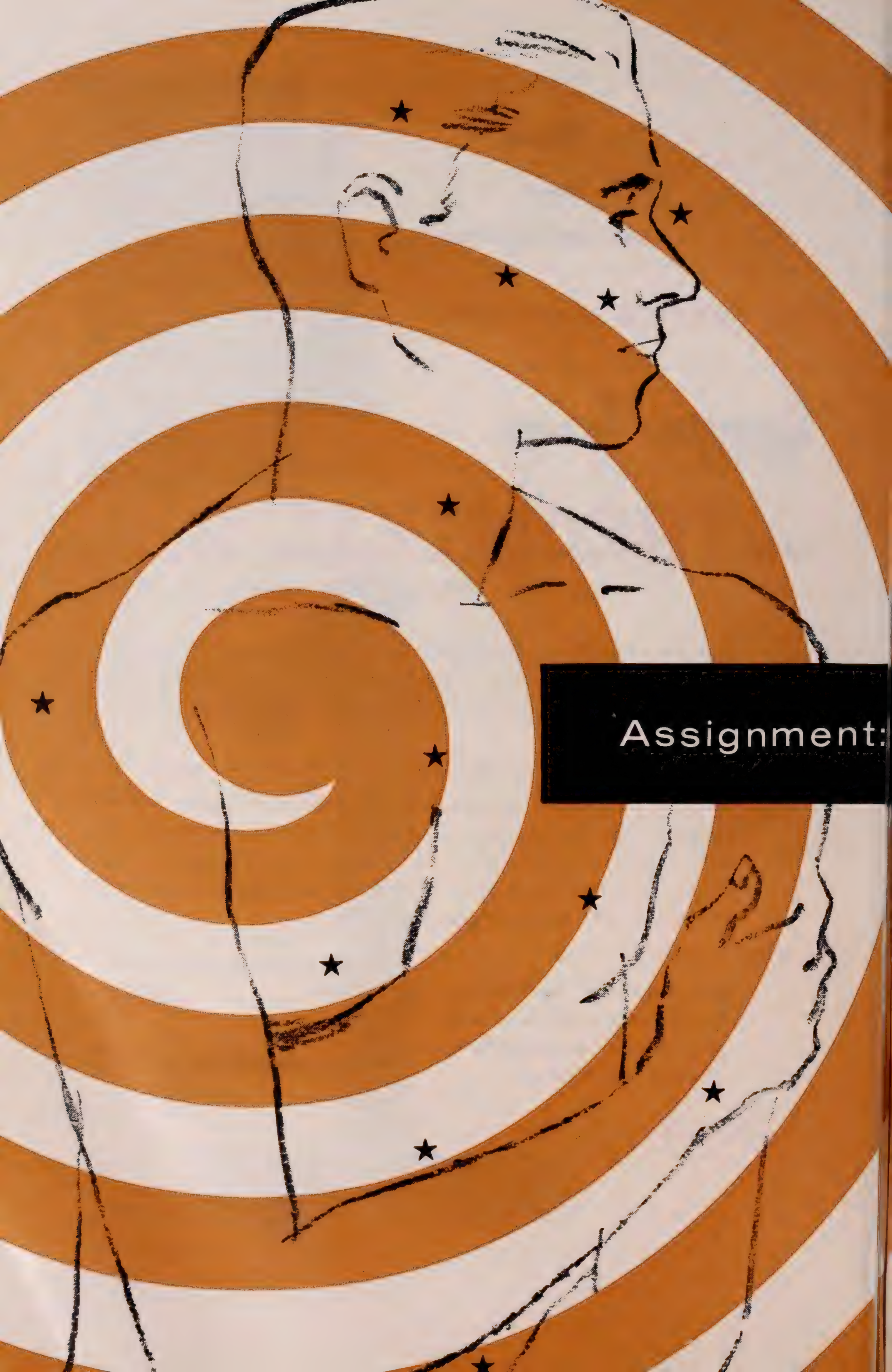
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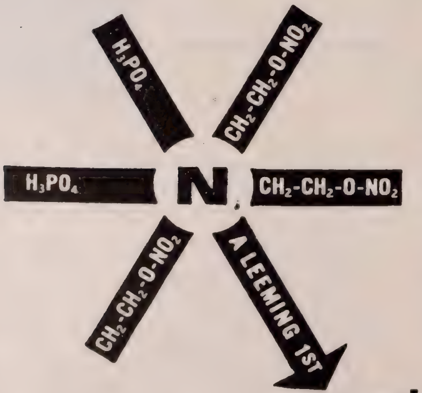

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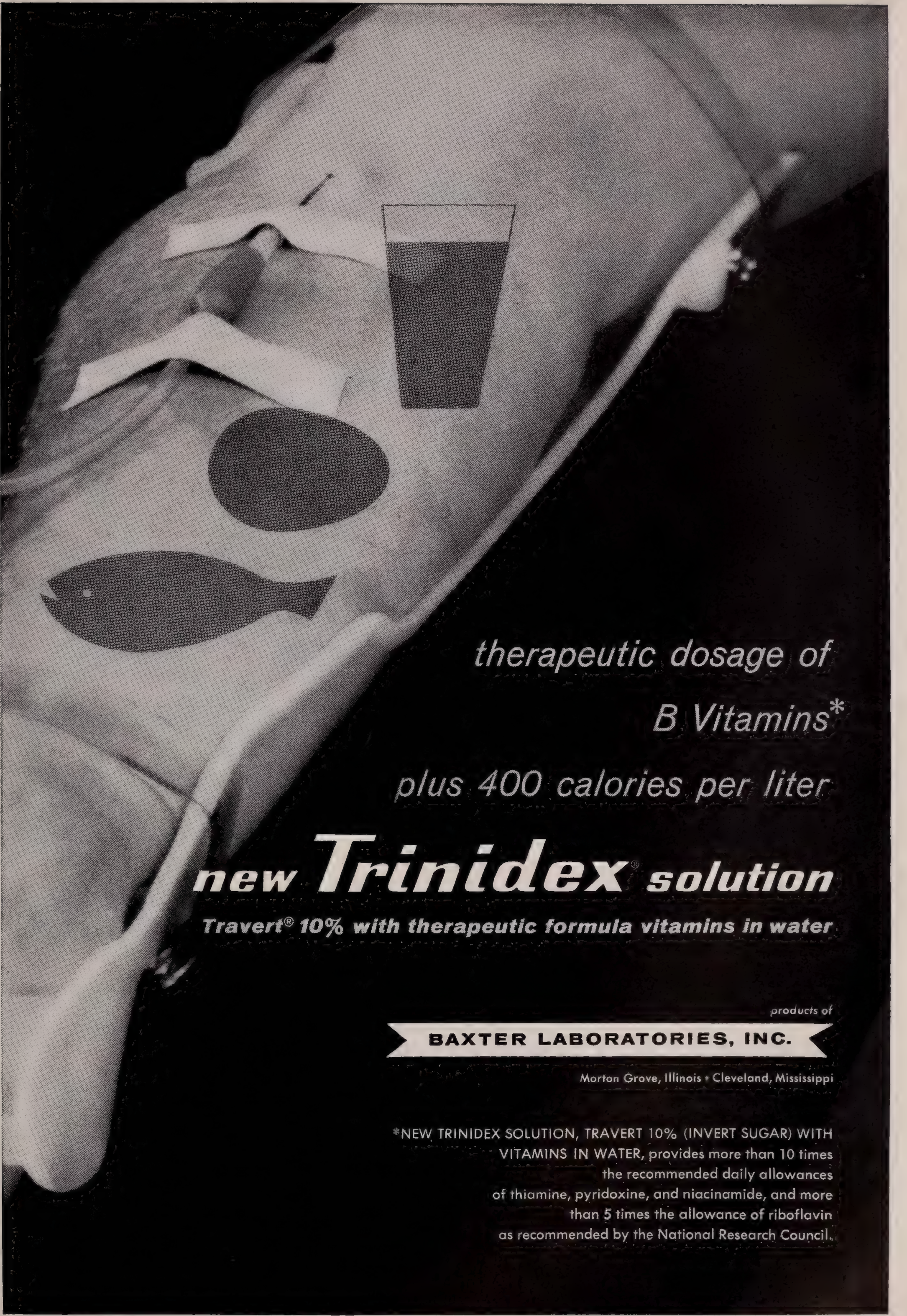

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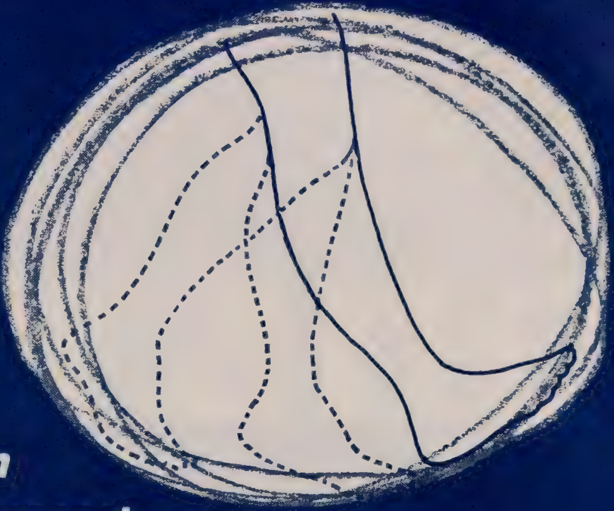

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short-acting NEMBUTAL quickly induces drowsiness at bedtime, followed by restful sleep. Yet dosage is small, so patients awake refreshed and alert.

longer-acting reserpine calms patients all through the following days. They forget worries, have a sense of well-being, keep their drive and energy.

Small dosage makes side effects rare . . . medication economical . . . dosage schedules simple. NEMBU-SERPIN is also recommended for treatment of mild essential hypertension.
In bottles of 100
and 500 Filmtabs.

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® Filmtab—Film-sealed tablets; pat. applied for. 511225

most potent
anti-allergic
hormone

Sterane*

in Bronchial Asthma

for rapid increase of vital capacity

3 to 5 times more potent than hydrocortisone or cortisone

notably free of major hormonal side effects such as edema due to sodium and water retention, hypopotassemia, and hypertension

seldom requires low-sodium diets or potassium supplements in patients without cardiac complications when given in usual therapeutic dosage

preliminary findings,[1] based on the measuring of pituitary ACTH suppression potency of various corticoids, appear to indicate that STERANE is 20% more potent than the cortisone analog, prednisone

supplied: in white, scored 5 mg. tablets in the familiar Pfizer oval shape. Bottles of 20 and 100.

[1] Forsham, P. H., et al.: Paper presented at First Internat. Conf. on Prednisone and Prednisolone, New York, N. Y., May 31-June 1, 1955.

*brand of prednisolone

PFIZER LABORATORIES *Division, Chas. Pfizer & Co., Inc. Brooklyn 6, New York*

1950 Cortone® | 1952 Hydrocortone®
1954 'Alflorone' | 1955 Deltra®

'Hydeltra' tablets
(PREDNISOLONE, MERCK)

5 mg.—2.5 mg.—1 mg. (scored)

the delta-1 analogue of hydrocortisone

SHARP & DOHME
Philadelphia 1, Pa.
Division of Merck & Co., Inc.

Indications: *Rheumatoid arthritis*
Bronchial asthma
Inflammatory skin conditions

Did you know that your MEDICAL DIRECTORY OF NEW YORK STATE contains a list of pharmaceutical laboratories and supply houses throughout the country with the names of their local representatives included? If you have questions concerning new drugs and other items used in your practice you may contact firm representatives by going to this list for their names, addresses, and telephone numbers.

reduces **swelling and inflammation in**

Allergic

and other

Dermatoses

the most potent anti-inflammatory hormone

Sterane*

3 to 5 times more potent than hydrocortisone or cortisone

notably free of major hormonal side effects such as edema due to sodium and water retention, hypopotassemia, and hypertension

seldom requires low-sodium diets or potassium supplements in patients without cardiac complications when given in usual therapeutic dosage

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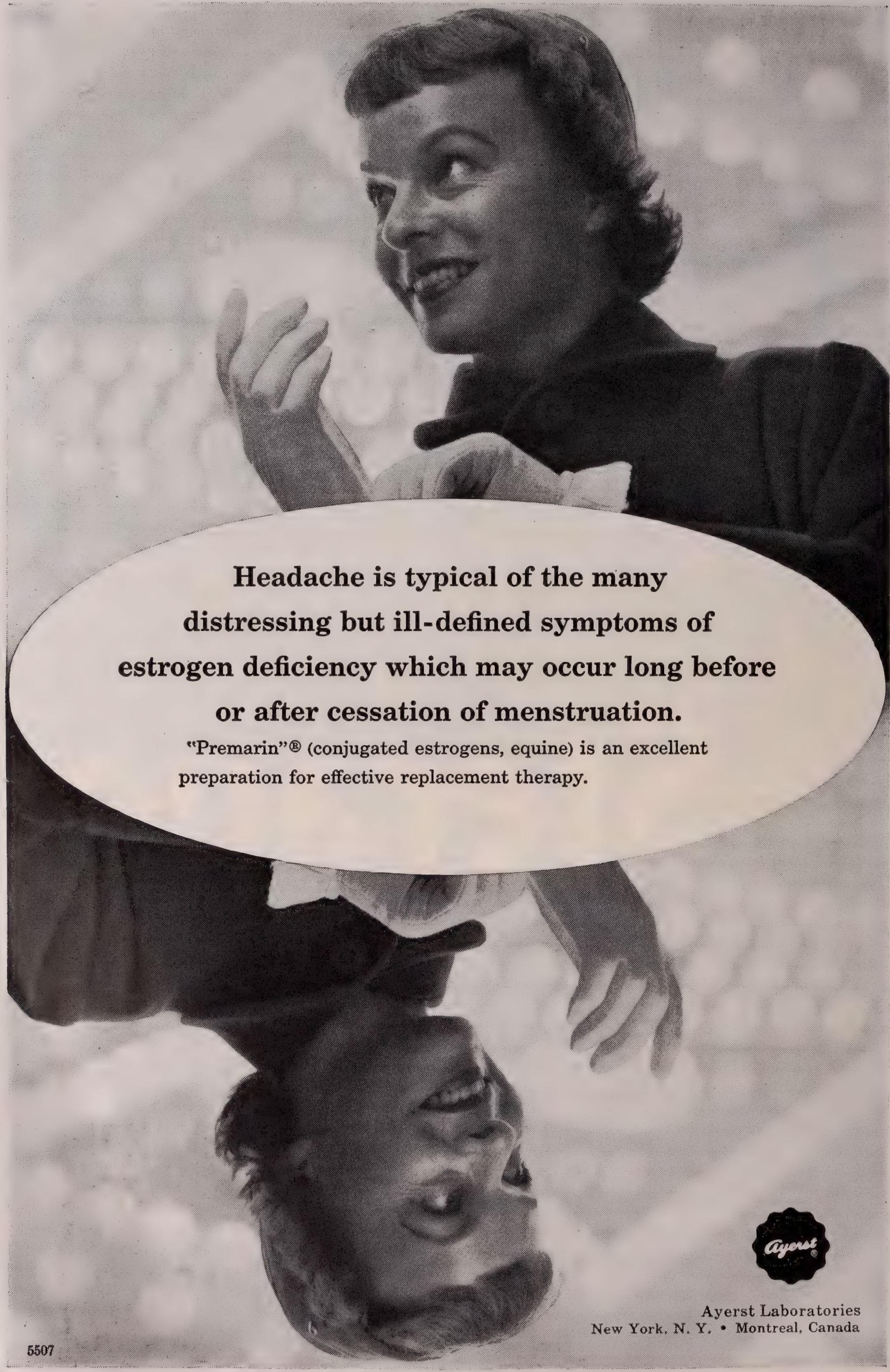
*brand of prednisolone

PFIZER LABORATORIES *Division, Chas. Pfizer & Co., Inc. Brooklyn 6, New York*



Headache is typical of the many distressing but ill-defined symptoms of estrogen deficiency which may occur long before or after cessation of menstruation.

"Premarin"® (conjugated estrogens, equine) is an excellent preparation for effective replacement therapy.

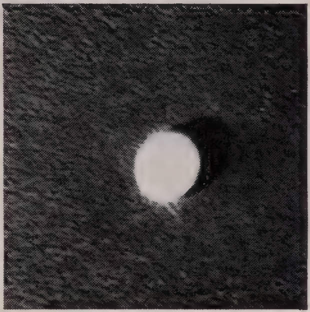
Ayerst Laboratories
New York, N. Y. • Montreal, Canada

5507

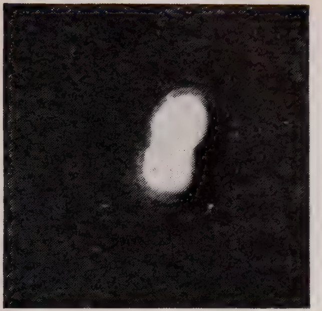
The organisms commonly involved in

Tracheobronchitis

Str. pyogenes (8,500 X)



Staph. aureus (9,000 X)



D. pneumoniae (10,000 X)

K. pneumoniae (13,000 X)

H. influenzae (16,000 X)

H. pertussis (7,500 X)

Upjohn

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MICROGRAPHS

***All* of them are included in the more than 30 organisms susceptible to broad-spectrum**

PANMYCIN*

HYDROCHLORIDE

100 mg. and 250 mg. capsules • 125 mg. and 250 mg./tsp.
oral suspension (PANMYCIN Readimixed)
100 mg./cc. drops • 100 mg./2 cc. injection, intramuscular
100 mg., 250 mg., and 500 mg. vials, intravenous

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ROCKET TO THE MOON
SECRIT PROJEC
THE BERENSTAINS

he's heard the call for . . .

Each 5-cc. teaspoonful of

VI-DAYLIN

contains:

Vitamin A	3000 U.S.P. Units (0.9 mg.)
Vitamin D	800 U.S.P. Units (20 mcg.)
Thiamine Hydrochloride	1.5 mg.
Riboflavin	1.2 mg.
Pyridoxine Hydrochloride	0.5 mg.
Ascorbic Acid	40 mg.
Vitamin B_{12}	3 mcg.
Nicotinamide	10 mg.

VI-DAYLIN®

(Homogenized Mixture of Vitamins A, D, B_1, B_2, B_6, B_{12}, C and Nicotinamide, Abbott)

Naturally. It's like golden honey, citrus fruit and lemon candy. And in every teaspoonful, he's getting a full day's supply of *eight* essential vitamins (including 3 mcg. of body-building B_{12}). There's no refrigeration, no pre-mixing with VI-DAYLIN. Mom just pours it in the spoon—or serves it in milk, cereals or juices. At all pharmacies in 90-cc., 8-fluidounce and thrifty pint bottles.

Abbott

and for infants... VI-DAYLIN DROPS

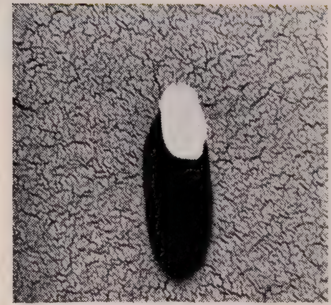
511227

The organisms commonly involved in

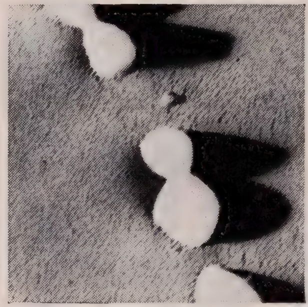
Pyelitis

E. coli (8,000X)

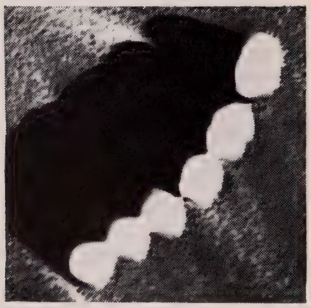
Aerobacter aerogenes (12,500X)


Salmonella paratyphi A (8,000X)

Salmonella paratyphi B (6,500X)


Strep. pyogenes (8,500X)

Strep. faecalis (10,000X)


Strep. viridans (9,000X)

Staph. aureus (9,000X)

Upjohn

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All **of them are included in the more than 30 organisms susceptible to broad-spectrum**

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100 mg. and 250 mg. capsules ◆ 125 mg. and 250 mg./tsp. oral suspension (PANMYCIN Readimixed)
100 mg./cc. drops ◆ 100 mg./2 cc. injection, intramuscular
100 mg., 250 mg., and 500 mg. vials, intravenous

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Diamox*

Acetazolamide *Lederle*

This remarkable and versatile oral diuretic has proved its ability to control the body's fluid balance—in cardiac edema, in glaucoma, in epilepsy. Now Diamox has been approved in still other conditions:

new use!

PREMENSTRUAL TENSION

Where fluid retention is a problem, a single daily dose beginning 5-10 days before menstruation markedly alleviates symptoms.

new use!

OBESITY

Without affecting appetite, Diamox helps control the weight of the obese patient who tends to retain water.

new use!

TOXEMIA and EDEMA of PREGNANCY

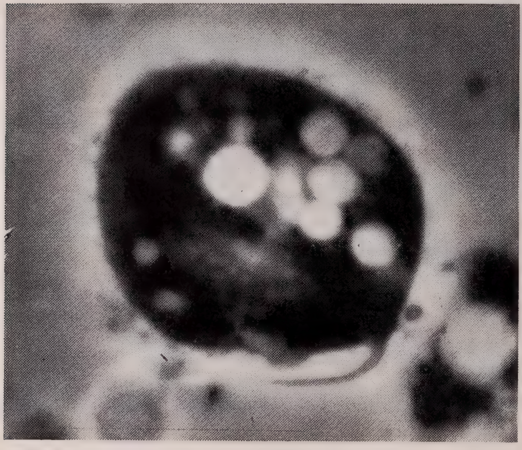
Diamox serves as adjunctive therapy in the treatment of gross or occult edema in toxemia of pregnancy.

DIAMOX in tablets of 250 mg.
in vials of 500 mg.

LEDERLE LABORATORIES DIVISION *AMERICAN Cyanamid COMPANY* PEARL RIVER, NEW YORK *Lederle*

*REG. U.S. PAT. OFF.

DAVIS TECHNIC USING VAGISEC* JELLY AND LIQUID EXPOSES AND EXPLODES TRICHOMONADS HIDDEN AWAY IN RUGAE



Phase-contrast microscope shows a trichomonad in a mucinous vaginal smear.

MANY trichomonacides failed in years past largely because they reached only the parasites swimming freely in the vaginal canal—not those hiding under epithelial cells deep among the vaginal rugae. In fact, some agents actually coagulated the albuminous material lining the surface and protected the trichomonads![1]

Success at last. Today, however, you can overcome this problem because VAGISEC jelly and liquid quickly penetrate to trichomonads' hideaways. You can now treat vaginal trichomoniasis successfully, using the Davis technic. Carl Henry Davis, M.D., eminent gynecologist and author, and C. G. Grand, research physiologist, introduced VAGISEC liquid as "Carlendacide" and had it tested by over 100 well-known obstetricians and gynecologists. Dr. Davis states, ". . . over 90% of apparent cures have been obtained. . . ."[2]

Overpowering action. Three surface-acting chemicals in VAGISEC liquid, acting synergistically, not only reach trichomonads but explode them![3] A chelating agent complexes and removes the calcium of the calcium proteinate. A wetting agent removes lipid materials. A detergent denatures the protein. The parasites imbibe water, swell and explode.

The Davis technic.† Dr. Davis recommends a combination of office treatments and home treatments, using both VAGISEC jelly and liquid in home treatments. "A few women have infected cervical, vestibular or urethral glands and require other types of treatment. . . ."[2] It is well to remember the role of the male as carrier of the organism and prescribe protection against re-infection from the husband.[2]

Office treatment. Expose vagina with speculum. Wipe walls dry with cotton sponges and wash thoroughly for about three minutes with a 1:250 dilution of VAGISEC liquid. Remove excess fluid with cotton sponges. Dr. Davis recommends six office treatments, three the first week, two the second, and one the third.

Home treatment. Patient inserts VAGISEC jelly each night and douches with VAGISEC liquid (2 teaspoonfuls in 2 quarts of warm water) each morning except on office treatment days, through two menstrual periods. Continued douching two or three times a week helps to prevent re-infection. Pregnant women should have office treatments only.

Summary. The unique synergistic action of three agents comprising VAGISEC liquid reaches and explodes hidden as well as surface trichomonads. This therapy has a high rate of success and results in fewer flare-ups. VAGISEC jelly and liquid are non-toxic and non-irritating, and leave no messy discharge or stain.

*VAGISEC is the trade-mark of Julius Schmid, Inc. †Pat. App. for

JULIUS SCHMID, INC.

gynecological division

423 West 55th Street New York 19, N. Y.

Active ingredients: Polyoxyethylene nonyl phenol, Sodium ethylene diamine tetra-acetate, Sodium dioctyl sulfosuccinate. In addition, VAGISEC jelly contains Boric acid, Alcohol 5% by weight.

1. Davis, C. H.: Am. Jour. Obst. & Gynec. *68*:559 (Aug.) 1954.
2. Davis, C. H.: West. J. Surg. *63*:53 (Feb.) 1955.
3. Davis, C. H.: J.A.M.A. *157*:126 (Jan. 8) 1955.

Advertisement

now . . . for the febrile patient

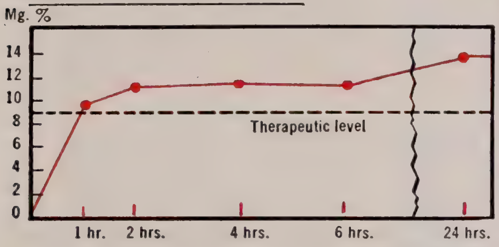
within an hour

therapeutic blood levels

DELTAMIDE®

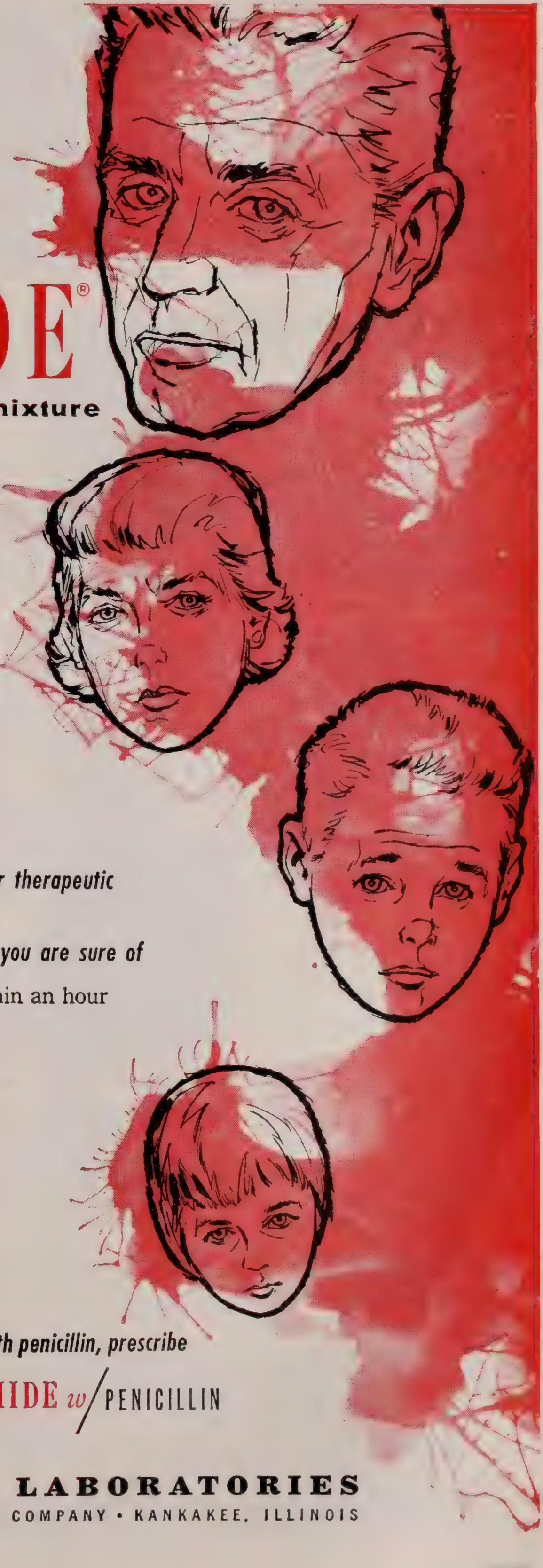
the preferred quadri-sulfa mixture

The initial dose of Deltamide provides your patients with effective blood levels within 1 hour



Average sulfonamide blood levels obtained with Deltamide in 7 patients given an initial dose of 4 Gm. followed by 1 Gm. every 6 hours.

Meyer, R. J.: Personal communication to the Medical Department, The Armour Laboratories, 1954.



Deltamide combines four sulfas for a better therapeutic effect and a remarkable freedom from toxicity.

When your patient takes Deltamide, you are sure of

- effective blood levels in most patients within an hour
- increased solubility in the urine
- low incidence of sensitization
- broad spectrum of activity

Each Deltamide tablet or teaspoonful of good-tasting suspension provides:

Sulfadiazine	0.167 Gm.
Sulfamerazine	0.167 Gm.
Sulfamethazine	0.056 Gm.
Sulfacetamide	0.111 Gm.

Tablets: bottles of 100 and 1000.
Suspension: 4 and 16 oz. bottles

. . . and when you want to combine sulfonamides with penicillin, prescribe

Each tablet—or 5 cc. of the suspension—also contains 250,000 units of potassium penicillin G.

DELTAMIDE *w*/PENICILLIN

THE ARMOUR LABORATORIES
A DIVISION OF ARMOUR AND COMPANY • KANKAKEE, ILLINOIS

Latest data on **effectiveness**

of Furadantin®

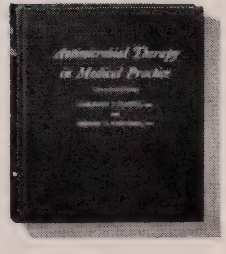
brand of nitrofurantoin, Eaton

in urinary tract infections

Investigators:

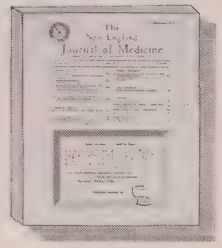
Latest data on effectiveness of Furadantin

Flippin, H. F., and Eisenberg, G. M.: Antimicrobial Therapy in Medical Practice, Philadelphia, F. A. Davis Co., 1955, p. 40.



Clinical studies have demonstrated rapid clinical response in cases of cystitis and pyelonephritis, including infections caused by refractory organisms.

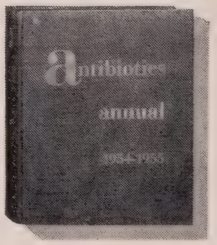
Trafton, H. M., et al.: New England J. Med. **252:** 383, 1955.



13 acute cases . . . 6 appeared cured . . . 6 markedly improved with no relapses.

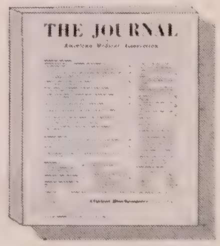
36 chronic infections: 30 showed symptomatic improvement, frequently within 24 hours.

Beutner, E. H., et al.: Antibiotics Annual, 1954-1955, New York, Medical Encyclopedia, Inc., 1955, p. 988.



30 chronic urinary tract infections: Of 47 strains of bacteria isolated from these patients, 29 strains (62%) were eradicated by Furadantin.

Hasen, H. B., and Moore, T. D.: J.A.M.A. **155:** 1470, 1954.



Of patients with acute urinary tract infections, 95.7% were benefited. Patients with chronic infections and those with organic or obstructive lesions were benefited in 82% of cases.

Dosage — average adult: four 100 mg. tablets daily, 1 tablet with each meal and 1 tablet on retiring, with food or milk.

Furadantin tablets, 50 and 100 mg. in bottles of 25 and 100. Furadantin Oral Suspension (5 mg. per cc.), bottle of 4 fl.oz. (118 cc.).

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NORWICH • NEW YORK

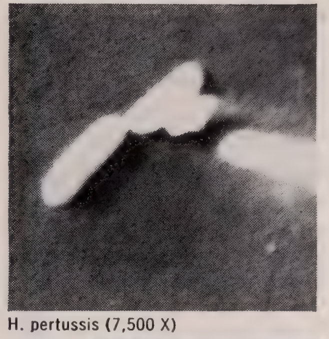
THE **NITROFURANS**—A UNIQUE CLASS OF ANTIMICROBIALS O_2N PRODUCTS OF EATON RESEARCH

The organisms commonly involved in

Bronchopneumonia

D. pneumoniae (10,000 X)

K. pneumoniae (13,000 X)


H. pertussis (7,500 X)

Staph. aureus (9,000 X)

Str. pyogenes (8,500 X)

H. influenzae (16,000 X)

Upjohn

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All **of them are included in the more than 30 organisms susceptible to broad-spectrum**

PANMYCIN*

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oral suspension (PANMYCIN Readimixed)
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No single

provides
advantages
of the

REMEMBER: ALL SULFAS ARE NOT TRIPLE SULFAS!

sulfa

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- highest potency
- wide spectrum
- minimal side effects
- highest blood, plasma, and tissue levels
- safety
- economy

In every important way, judged by any test, the Council-accepted Triple Sulfas are still unexcelled among sulfa drugs. Constant use for many years has thoroughly proved their great worth. It is not surprising, then, that most leading pharmaceutical manufacturers offer the Triple Sulfas under their own brand names in a variety of forms, both alone and combined with other therapeutic agents.

These preparations are drugs of choice in many systemic, gastrointestinal, and urinary infections. Next time you find a sulfa drug is indicated, prescribe one of these effective preparations. For details, *ask any medical representative about the Triple Sulfa products his company offers.*

Triple Sulfas

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AMERICAN Cyanamid COMPANY

FINE CHEMICALS DIVISION

30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

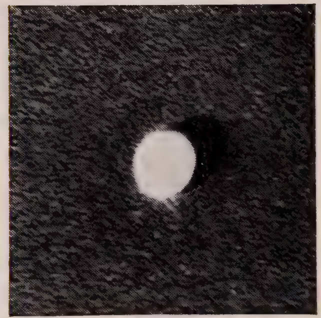
The organisms commonly involved in

Pneumonia

D. pneumoniae (10,000X)

K. pneumoniae (6,500X)

Strep. pyogenes (8,500X)



Staph. aureus (9,000X)

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oral suspension (PANMYCIN Readimixed)
100 mg./cc. drops • 100 mg./2 cc. injection, intramuscular
100 mg., 250 mg., and 500 mg. vials, intravenous

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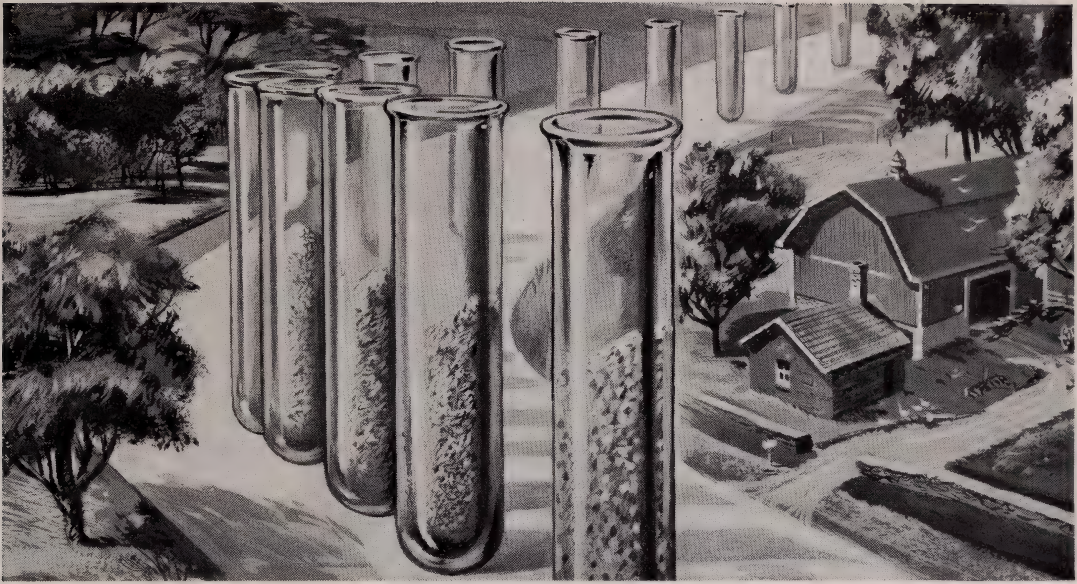
SECOND REPORT



LECITHIN RESEARCH—AT THE BEND OF THE ROAD

The Therapeutic Usefulness of Lecithin – a natural phospholipid

Because lecithin, a natural, edible food constituent, is an excellent emulsifying agent its application in diseases characterized by disturbed fat absorption and metabolism is logical. Research has proved its value in facilitating intestinal absorption of fats and fat-soluble substances such as Vitamin A.[1-5] For this reason it suggests itself as worthy of trial in treating underweight and steatorrheal diseases (sprue, celiac disease, etc.).

Encouraging results were also achieved in the management of psoriasis, together with dietary and topical measures,[6] and in fatty livers.[7] In the treatment of diabetes, lecithin together with vitamin E has reduced insulin requirements in certain patients.[8] Research on its potentially useful role in the management of the more complicated forms of deranged lipid and cholesterol metabolism – as encountered in essential hyperlipemia, idiopathic familial hypercholesteremia, xanthomatosis, diabetes, etc. – is now being actively conducted.

An excellent source of lecithin is Glidden's "RG" Oil-free Soya Lecithin, a highly purified extract containing a minimum of 95% phospholipids. It is packed in a specially designed 8 oz container to maintain its purity and freshness and is available at your drugstore.

Dosage: Investigators of lecithin have used quantities from 7.5 to 30 grams daily in divided doses. (3 teaspoonfuls equal 7.5 grams.)

Administration: "RG" Lecithin is presented in palatable granules which may be taken plain, in milk, in orange juice or other citrus juices, or sprinkled on cereal.

Literature available on request.

Bibliography: 1. Adlersberg, D., and Sobotka, H.: J. Nutrition *25*:255 (March) 1943. • 2. Adlersberg, D., and others: Gastroenterology *10*:822 (May) 1948. • 3. Adlersberg, D.: New York J. Med. *44*:606 (March 15) 1944. • 4. Adlersberg, D., and others: Am. J. Digest. Dis. *16*:333 (Sept.) 1949. • 5. Augur, V.; Rollman, H. S., and Deuel, H. J., Jr.: J. Nutrition *33*:177 (Feb.) 1947. • 6. Gross, P., and Kesten, M. B.: New York J. Med. *50*:2683 (Nov. 15) 1950. • 7. Schettler, G.: Klin. Wchnschr. *30*:627 (July) 1952. • 8. Dietrich, H. W.: South. M. J. *43*:743 (Aug.) 1950.

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NOW! 2 *new* taste-tempting dosage forms of Pfizer-discovered tetracycline

TET

TET

New standards for tetracycline therapy
in new ready-mixed liquid form . . .

NEW palatability
NEW convenience
NEW versatility

. . . the same unexcelled efficacy and toleration

RABON*

rand of tetracycline

The outstanding modern broad-spectrum antibiotic, tetracycline, in a palate-pleasing, raspberry-flavored homogenized mixture, standardized and ready-mixed at Pfizer Laboratories.

SUPPLIED: Bottles of 2 ounces and 1 pint. Each 5 cc. teaspoonful contains 125 mg. of tetracycline.

RABON SF†

rand of tetracycline hydrochloride with vitamins

A fruit-mint flavored sugar-free homogenized mixture of tetracycline ready-mixed at Pfizer Laboratories and fortified with adequate quantities of B complex and vitamins C and K for nutritional support during stress. TETRABON SF provides therapy on two levels:

1. anti-infective, against the pathogen
2. metabolic, assisting the patient physiologically.

SUPPLIED: Bottles of 2 ounces. Each 5 cc. teaspoonful contains 125 mg. of tetracycline plus the following formula:

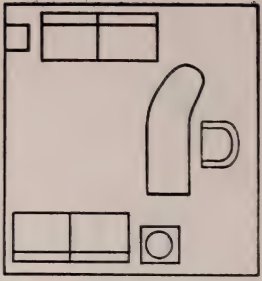
Vitamin C as palmitate	*37.5 mg.*
Thiamine hydrochloride	*1.25 mg.*
Riboflavin	*1.25 mg.*
Niacinamide	*12.5 mg.*
Pyridoxine hydrochloride	*0.25 mg.*
Calcium pantothenate	*2.5 mg.*
Folic acid	*0.188 mg.*
Menadione (vitamin K analog)	*0.25 mg.*
Vitamin B_{12}	*0.5 mcg.*

*Trademark

†Trademark for Pfizer-originated, vitamin-fortified antibiotics

Pfizer

PFIZER LABORATORIES, *Division, Chas. Pfizer & Co., Inc.,* Brooklyn 6, N. Y.



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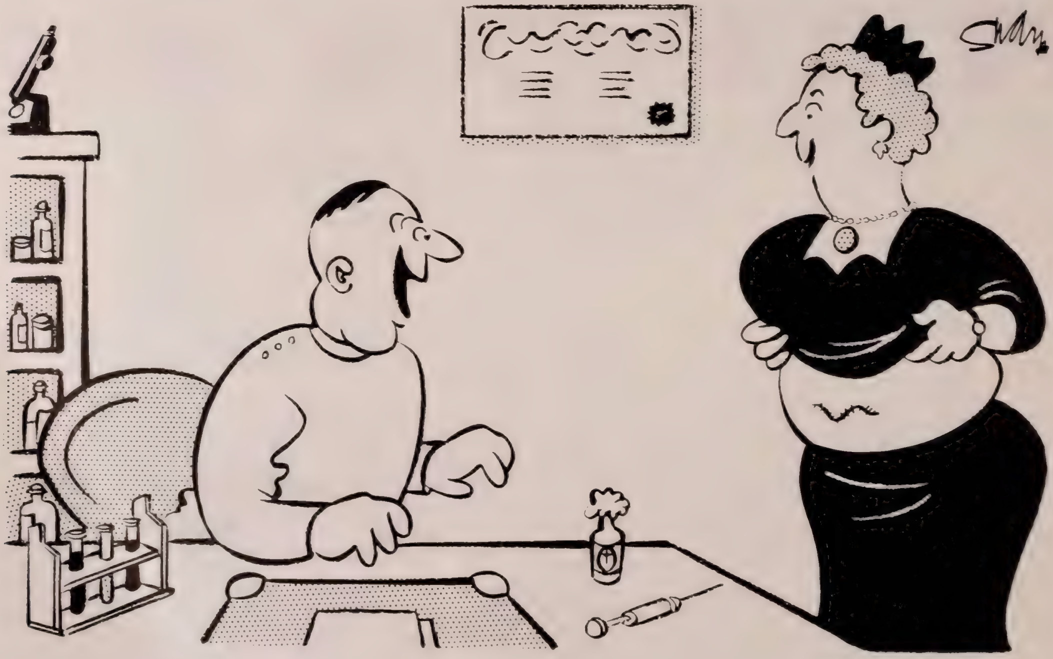

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non-narcotic
cough
specific

Romilar

Avoids habit formation, addiction; does not cause drowsiness, nausea, or constipation; yet 10 mg is equal to 15 mg codeine in cough suppressant effect. Tablets, 10 mg; syrup, 10 mg/4 cc.

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Provides 15 mg Romilar, 90 mg of ammonium chloride per teaspoonful, in a pleasing citrus flavored vehicle which effectively masks the taste of NH_4Cl.

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ROCHE Original Research in Medicine and Chemistry

1950 Cortone® | 1952 Hydrocortone®
1954 'Alflorone' | 1955 Deltra®

'Hydeltra' tablets

(PREDNISOLONE, MERCK)

5 mg.—2.5 mg.—1 mg. (scored)

the delta-1 analogue of hydrocortisone

SHARP & DOHME
Philadelphia 1, Pa.
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Indications: *Rheumatoid arthritis*
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Inflammatory skin conditions

Prescribed by physicians throughout the world

Have YOU ever used **FELSOL** provides *safe* and *effective* relief in *Asthma, Hay Fever* and related bronchial affections.

FELSOL

FELSOL also relieves *pain* and *fever* in *Arthritis, Headache,* and other painful conditions.

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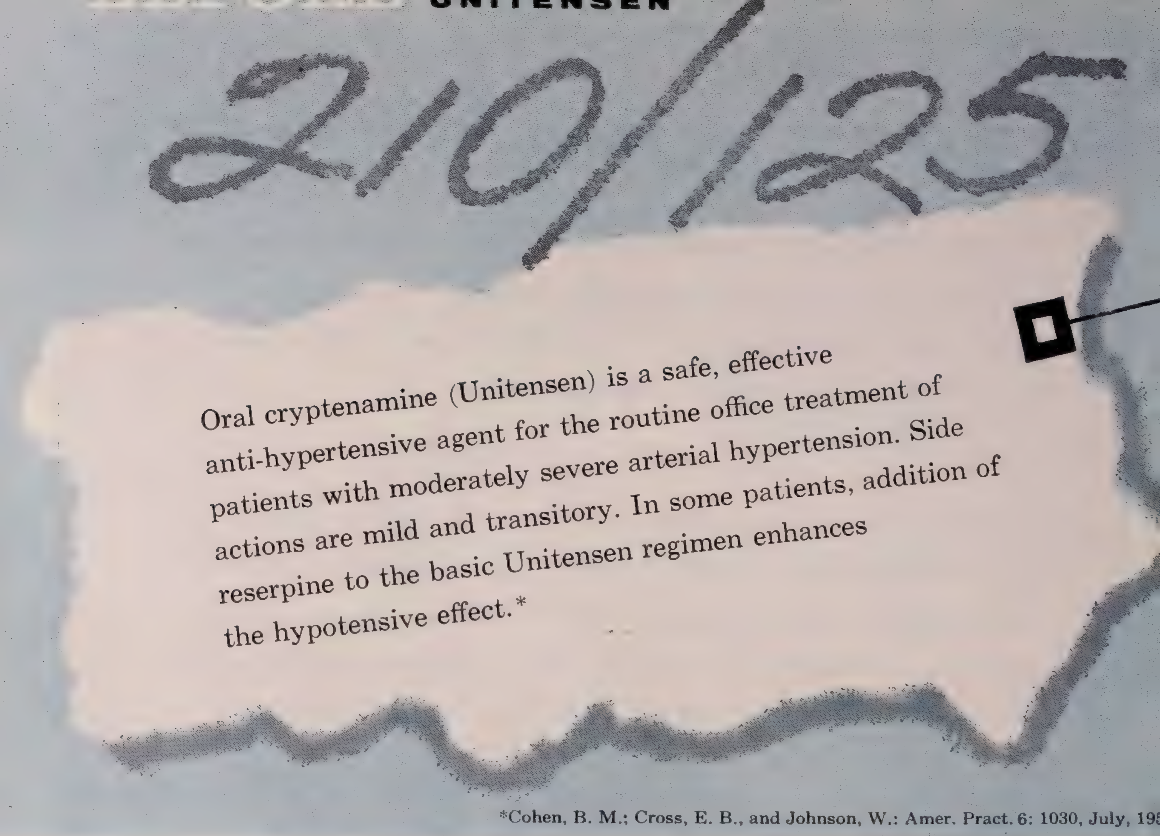

Oral cryptenamine (Unitensen) is a safe, effective anti-hypertensive agent for the routine office treatment of patients with moderately severe arterial hypertension. Side actions are mild and transitory. In some patients, addition of reserpine to the basic Unitensen regimen enhances the hypotensive effect.*

*Cohen, B. M.; Cross, E. B., and Johnson, W.: Amer. Pract. 6: 1030, July, 19

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GRAVIDOX*

Pyridoxine-Thiamine *Lederle*

For preventing and treating nausea and vomiting of pregnancy

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Each GRAVIDOX tablet contains: Thiamine HCl—20 mg., Pyridoxine HCl—20 mg. Each cc. of GRAVIDOX parenteral solution contains: Thiamine HCl—50 mg., Pyridoxine HCl—50 mg.

Average dose: 5 to 12 tablets daily, in divided doses, at times when vomiting is less likely to occur; or 1 cc. parenteral solution 2 or 3 times weekly.

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160/100

→ **RESULTS** with Unitensen therapy in patients with arterial hypertension

Patient	Age	Daily dose Unitensen	B.P. BEFORE	B.P. AFTER	Months of treatment
A.N.	63	8 mg.	190/115	140/90	9
J.R.	55	10 mg.	205/130	170/120	4
V.E.	53	14 mg.	200/135	155/100	7½
W.B.	65	12 mg.	200/120	160/90	9
C.L.	50	8 mg.	200/130	160/100	4
R.A.	48	12 mg.	210/125	160/100	3
J.J.	57	10 mg.	210/120	170/100	7½
A.W.	66	14 mg.	200/110	170/100	3
A.H.	58	12 mg.	210/100	175/110	4½
S.P.	55	12 mg.	230/140	140/90	3

Each tablet contains cryptenamine (as the tannate salt) 2 mg. Bottles of 50, 100, 500, 1000

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Each tablet contains: Extract of Rhubarb, Senna, Precipitated Sulfur, Peppermint Oil and Fennel Oil, in a high activated willow charcoal base.

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AGENT YET DEVELOPED
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Topical Lotion

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(FLUDROCORTISONE ACETATE, MERCK) 9 ALPHA-FLUOROHYDROCORTISONE ACETATE

MOST EFFECTIVE
Therapeutically active in 1/10th the concentration of hydrocortisone (Compound F).

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Superior spreading qualities—a small quantity covers a wide area.

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Most patients prefer the cosmetic advantages of this easy-to-apply, smooth spreading lotion.

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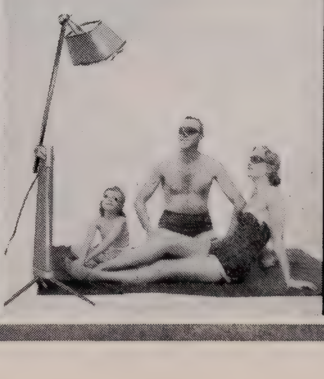

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C I B A *Summit, N. J.*

2/2061M

The organisms commonly involved in

Bronchiectasis

Staph. aureus (9,000X)

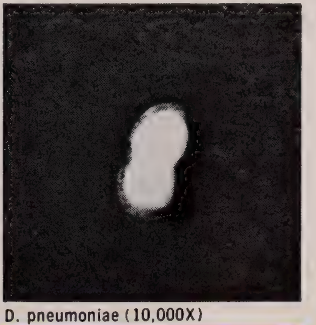
Strep. pyogenes (8,500X)

Strep. viridans (9,000X)

Strep. faecalis (10,000X)

E. coli (8,000X)

K. pneumoniae (6,500X)


D. pneumoniae (10,000X)

Upjohn

ELECTRON
MICROGRAPHS

H. influenzae (16,000X)

Aerobacter aerogenes (12,500X)

***All* of them are
included in
the more than
30 organisms
susceptible to
broad-spectrum**

PANMYCIN*

HYDROCHLORIDE

100 mg. and 250 mg. capsules • 125 mg. and 250 mg./tsp.
oral suspension (PANMYCIN Readimixed)
100 mg./cc. drops • 100 mg./2 cc. injection, intramuscular
100 mg., 250 mg., and 500 mg. vials, intravenous

*TRADEMARK, REG. U. S. PAT. OFF.—THE UPJOHN BRAND OF TETRACYCLINE

Pork in the Dietary During Pregnancy and Lactation

CERTAIN NUTRIENTS are required in greater than normal amounts during pregnancy and lactation. Pork meat, though its cost is low, supplies a remarkably high quantity of the nutrients required by the maternal organism in these periods of physiologic need.

During pregnancy the maternal organism may store 3.3 to 5.5 pounds of protein in excess of that contributed to fetal tissue.[1] Enough iron is stored to approximate the entire amount secreted in the milk during 9 months of lactation, in addition to the iron supplied to the fetus.[2]

The body of the newborn infant contains approximately 500 grams of protein, 14 grams of phosphorus, and 0.5 gram of iron.[3] It is estimated that the lactating mother, through breast milk, provides a 26 week old infant with about 12 grams of protein, 76 grams of lactose, and 1.2 mg. of iron each day.[2]

Pork meat, an excellent source of high quality protein, thiamine, niacin, and iron,[4] also supplies valuable amounts of other B vitamins, as well as phosphorus, magnesium, and potassium. The thiamine content of pork is particularly important, since there are few more valuable food sources of this vitamin.[4]

Pork and pork sausage—economical, good tasting—are valuable components of the dietary of the pregnant or lactating woman. Just how valuable, is shown in the table below.

---

[1] Toverud, K.U.; Stearns, G., and Macy, I.G.: Maternal Nutrition and Child Health, an Interpretative Review, Washington, D.C., National Research Council, Bull. 123, 1950.

[2] McLester, J.S., and Darby, W.J.: Nutrition and Diet in Health and Disease, ed. 6, Philadelphia, W.B. Saunders Company, 1952, p. 241.

[3] Marrack, J.R.: Food and Planning, London, Victor Gollancz, Ltd., 1943, p. 67.

[4] Wolgamot, I.H., and Fincher, L.J.: Pork Facts for Consumer Education, Washington, D.C., United States Department of Agriculture, AIB No. 109, 1954.

[5] Watt, B.K., and Merrill, A.L.: Composition of Foods—Raw, Processed, Prepared, Washington, D.C., United States Department of Agriculture, Agricultural Handbook No. 8, 1950.

[6] Bowes, A. deP., and Church, C.F.: Food Values of Portions Commonly Used, ed. 7, Philadelphia, Anna dePlanter Bowes, 1951.

Percentages of Recommended Daily Dietary Allowances* for Pregnant (3rd Trimester) and Lactating Women Provided by 3-Ounce Portions of Cooked Pork Meats and Pork Sausage

	Protein	Iron	Phosphorus	Thiamine	Riboflavin	Niacin	Calories
PREGNANCY (3rd trimester)							
Ham, without bone, 3 oz., cooked[5]	25.0%	17.3%	13.5%	30.0%	10.0%	26.7%	12.5%
Pork Chops, without bone, 3 oz., cooked[5]	25.0%	17.3%	13.3%	47.3%	10.0%	28.7%	10.5%
Pork Sausage, 3 oz., cooked[6]	17.3%	14.0%	9.2%	27.7%	10.1%	18.5%	14.7%
LACTATION							
Ham, without bone, 3 oz., cooked[5]	20.0%	17.3%	10.1%	30.0%	8.0%	26.7%	10.2%
Pork Chops, without bone, 3 oz., cooked[5]	20.0%	17.3%	10.0%	47.3%	8.0%	28.7%	8.6%
Pork Sausage, 3 oz., cooked[6]	13.8%	14.0%	6.9%	27.7%	8.1%	18.5%	12.0%

*Recommended Dietary Allowances, Washington, D. C., National Academy of Sciences—National Research Council, Publication 302, 1953

The nutritional statements made in this advertisement have been reviewed and found consistent with current medical opinion by the Council on Foods and Nutrition of the American Medical Association.

American Meat Institute
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in rheumatoid arthritis

"...free of significant metabolic, water or electrolyte disturbances."[1]

The higher therapeutic ratio of METICORTEN permits marked clinical benefits unaccompanied by many of the major undesirable actions characteristic of cortisone and hydrocortisone.[1-4]

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PREDNISONE (metacortandracin)

Schering

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- better relief of pain, swelling, tenderness; diminishes joint stiffness
- lowers sedimentation rate even where cortisone or hydrocortisone ceases to be effective—"cortisone escape"
- most effective in smallest dosage

Bibliography

(1) Dordick, J. R., and Gluck, E. J.: Preliminary clinical trials with metacortandracin in rheumatic diseases. Comparative antirheumatic potency, metabolic activity and hormonal properties, J.A.M.A., in press. (2) Bunim, J. J.; Pechet, M. M., and Bollet, A. J.: J.A.M.A. *157*:311, 1955. (3) Barach, A. L.; Bickerman, H. A., and Beck, G. J.: Clinical and physiological studies on the use of metacortandracin in respiratory disease. I. Bronchial asthma, Dis. Chest, in press. (4) Schwartz, E.: Personal communication.

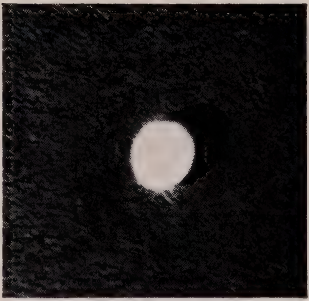
METICORTEN,* brand of prednisone (metacortandracin).
*T.M.

SCHERING CORPORATION · BLOOMFIELD, NEW JERSEY

The organisms commonly involved in

Acute Pharyngitis

Strep. pyogenes (8,500X)



Staph. aureus (9,000X)

D. pneumoniae (10,000X)

N. intracellularis (5,000X)

H. influenzae (16,000X)

C. diphtheriae (6,000X)

K. pneumoniae (13,000X)

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MICROGRAPHS

All **of them are included in the more than 30 organisms susceptible to broad-spectrum**

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100 mg. and 250 mg. capsules • 125 mg. and 250 mg./tsp.
oral suspension (PANMYCIN Readimixed)
100 mg./cc. drops • 100 mg./2 cc. injectable, intramuscular
100, 250, and 500 mg./injection, intravenous

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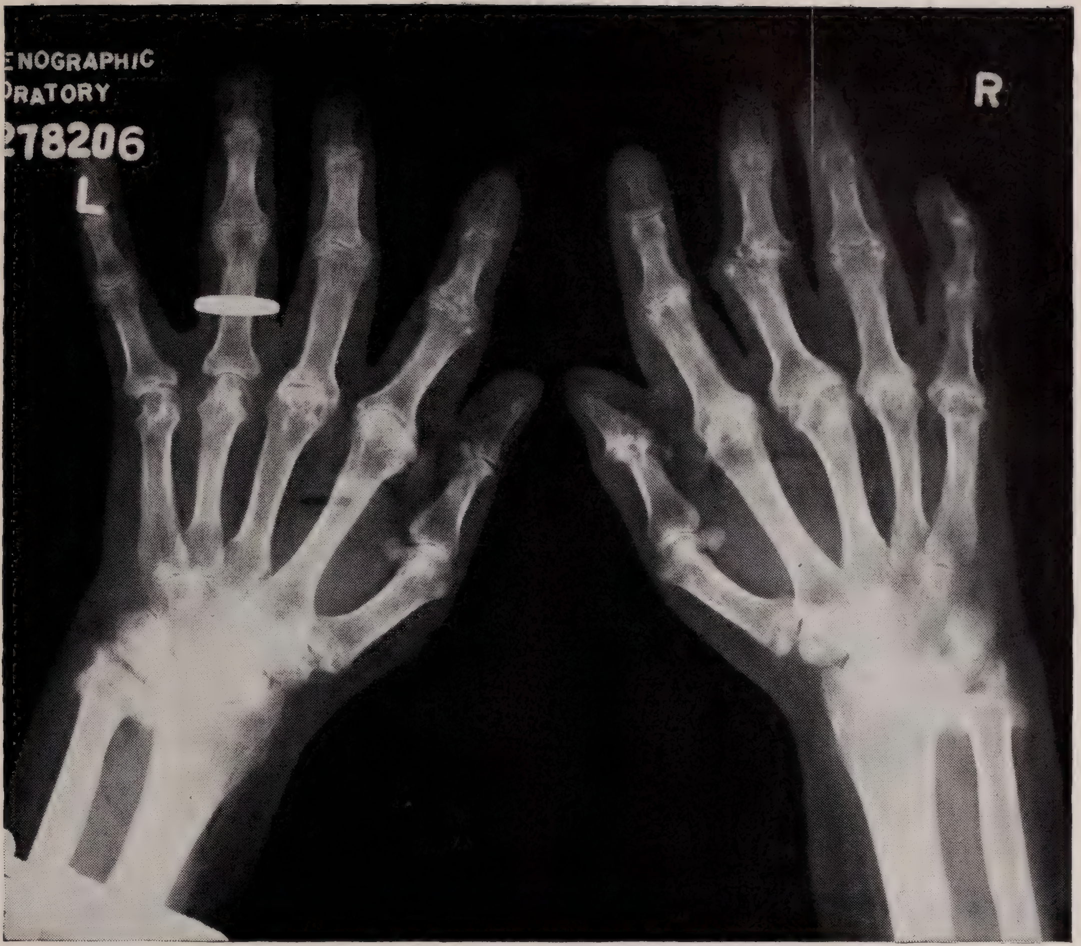

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Gastric upsets from aspirin are 3 to 9 times as frequent among arthritics as they are among the general population.[1] However, BUFFERIN is well tolerated by arthritics. At the Robert Breck Brigham Hospital of Boston 70 per cent of arthritics with a proved intolerance to aspirin could take BUFFERIN without gastric distress.[1]

Although patients often use sodium bicarbonate with aspirin to alleviate gastric symptoms, clinicians know that this causes a lowering of the salicylate level of the blood serum.[2] Moreover, this practice may cause retention of the sodium ion.[3] Pre-existing symptoms of cardiorenal disease have been aggravated.[1]

IN ARTHRITIS—WHEN LARGE AND PROLONGED SALICYLATE DOSAGE IS INDICATED, GIVE BETTER-TOLERATED BUFFERIN.

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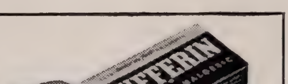

References: 1. Fremont-Smith, P.: J.A.M.A. 158:386, 1955. 2. J.A.M.A. 141:124, 1949. 3. M.Times 81:41, 1953.

BUFFERIN ACTS TWICE AS FAST AS ASPIRIN
DOES NOT UPSET THE STOMACH

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Eosinophil Count . . .

Common Denominator?

NON-TOXIC

Ray-Formosil

BUFFERED FORMIC ACID AND
COLLOIDAL SILICIC ACID INJECTION

now found to be a potent

ALARM AGENT

"Alarm Agent"

Recent clinical studies reveal that Ray-Formosil parallels ACTH and Cortisone as an "alarm agent" in its effect on circulating eosinophils. Intramuscular injections of the usual therapeutic dose of Ray-Formosil (2 cc.) produced an average drop of 67% in both normals and arthritic patients.

Hypothesis:

Eosinopenia characteristically follows administration of compounds established as effective anti-arthritic agents (including gold and salicylates, in addition to ACTH and Cortisone). Ray-Formosil also causes eosinopenia. Such action may be a common denominator of agents which affect adrenal cortex activity.

Safe, Effective:

An estimated 5 million injections of Ray-Formosil have been given during the past 20 years without a single report of toxic reactions. An analysis of nearly 4000 recent case histories from the files of 36 clinicians revealed that 85% were effectively relieved of pain, swelling and joint inflammation.

Inexpensive:

Only 37½c a treatment ampul, Ray-Formosil therapy is inexpensive—an additional and important advantage to both the physician and the patient.

Dosage:

2 cc. injected intramuscularly *in the region of the affected parts* at 2-to-5-day intervals for several weeks, then 2 cc. once weekly.

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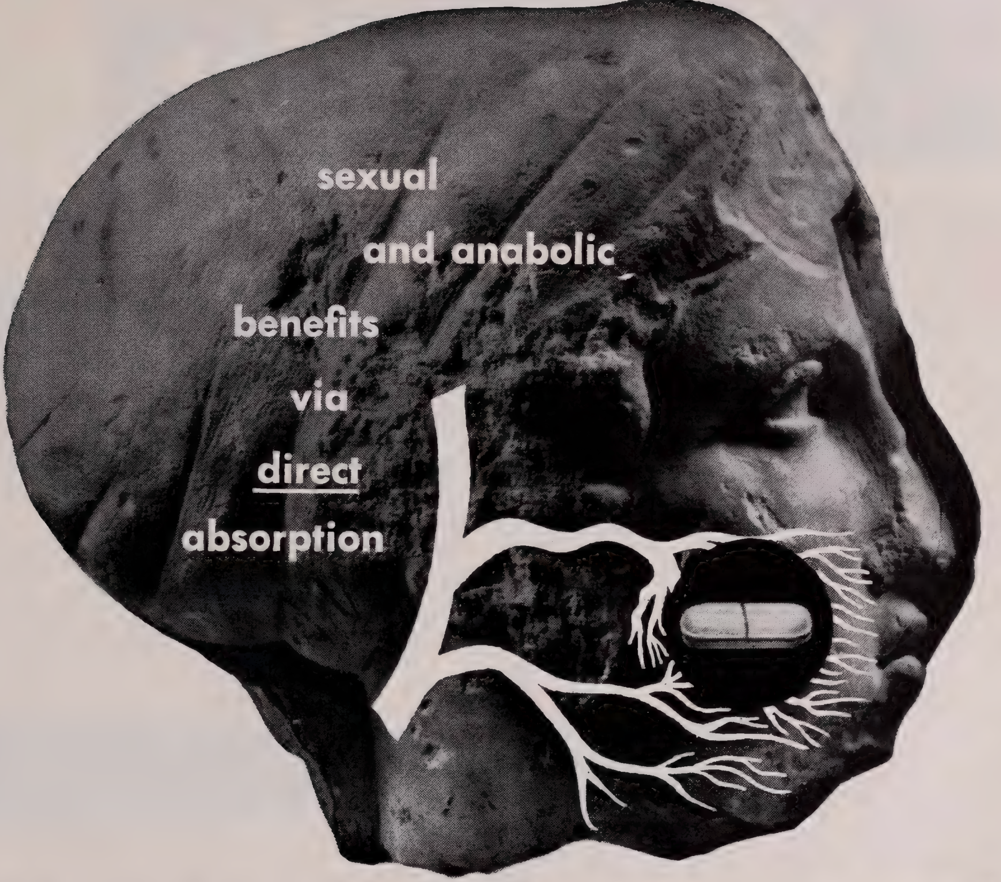

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Supply: Metandren Linguets, 5 mg. (white, scored) and 10 mg. (yellow, scored). Femandren Linguets (green, scored), each containing 0.02 mg. ethinyl estradiol and 5 mg. methyltestosterone.

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Mysteclin

STECLIN-MYCOSTATIN
(SQUIBB TETRACYCLINE-NYSTATIN)

WELL TOLERATED BROAD SPECTRUM ANTIBACTERIAL THERAPY PLUS ANTIFUNGAL PROPHYLAXIS

BROAD SPECTRUM ANTIBIOTIC THERAPY, EFFECTIVE IN MANY COMMON INFECTIONS

Because it contains Steclin (Squibb Tetracycline), MYSTECLIN is an effective therapeutic agent for most bacterial infections. When caused by tetracycline-susceptible organisms, the following infections are a few of those which can be expected to respond to MYSTECLIN therapy:

bronchitis
colitis
furunculosis
gonorrhea
lymphadenitis
meningitis
osteomyelitis
otitis media
pneumonia
pyelonephritis
sinusitis
tonsillitis

MYSTECLIN is also indicated in certain viral infections and in amebic dysentery.

BROAD SPECTRUM ANTIBIOTIC THERAPY, WITH A MINIMUM OF SIDE EFFECTS

In clinical use, Steclin has produced an extremely low incidence of the gastrointestinal distress sometimes observed with other broad spectrum antibiotics. Mycostatin (Squibb Nystatin), as contained in MYSTECLIN, is also a particularly well tolerated antibiotic and has produced no allergic reactions, even after prolonged administration.

BROAD SPECTRUM ANTIBIOTIC THERAPY, WITHOUT THE DANGER OF MONILIAL OVERGROWTH

Because it contains Mycostatin, the first safe antifungal antibiotic, MYSTECLIN effectively prevents the overgrowth of Candida albicans (monilia) frequently associated with the administration of ordinary broad spectrum antibiotics. This overgrowth may sometimes cause gastrointestinal distress, anal pruritus, vaginitis, and thrush; on occasion, it may have serious and even fatal consequences.

SQUIBB

Each MYSTECLIN capsule contains 250 mg. Steclin Hydrochloride and 250,000 units Mycostatin.

Minimum adult dose: 1 capsule q.i.d.

Supply: Bottles of 12 and 100.

'MYSTECLIN', 'STECLIN' AND 'MYCOSTATIN'® ARE SQUIBB TRADEMARKS

PEN·VEE·*Oral**

Penicillin V, Crystalline (Phenoxymethyl Penicillin)

the totally new penicillin for decisive oral dependability

Supplied: Tablets, 125 mg. (200,000 units), bottles of 36. Also available: Tablets BICILLIN®-VEE, 100 mg. (100,000 units) of benzathine penicillin G and 62.5 mg. (100,000 units) of penicillin V, bottles of 36.

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FAIR
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Most of your gallstone cases come from this group, particularly women who have borne many children.

CHOLOGESTIN and TABLOGESTIN aid prophylaxis and treatment by correcting biliary stasis. These salicylated bile salts compounds greatly increase the flow and secretion of healthy bile.

CHOLOGESTIN contains bile salts 4 gr., sodium salicylate 5 gr., pancreatin 10 gr. and sodium bicarbonate 10 gr. per fluid ounce; alcohol 15%.

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The recommended dose of CHOLOGESTIN is 1 tablespoonful in cold water after meals. Three tablets of TABLOGESTIN are equivalent to 1 tablespoonful of CHOLOGESTIN.

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CHOLOGESTIN
LIQUID

CHOLERETIC AND CHOLAGOGUE
TABLOGESTIN
TABLETS

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Please send me free sample of TABLOGESTIN together with literature on CHOLOGESTIN.

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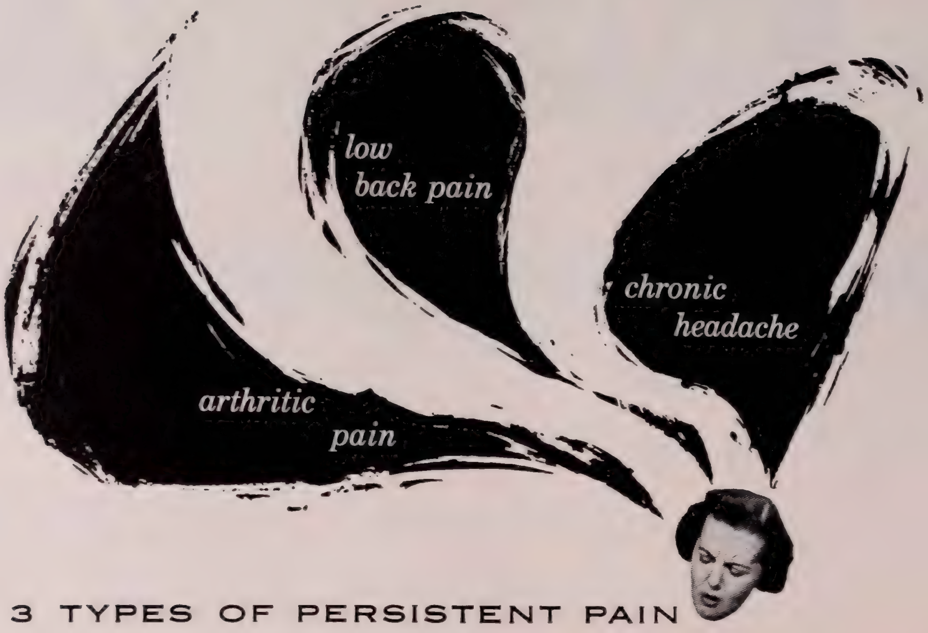

3 TYPES OF PERSISTENT PAIN

with psychic side effects

As the conditions that cause these types of pain persist, the patient becomes more and more preoccupied with his pain. The depression, nervous tension and anxiety that nearly always accompany such pain combine to intensify and prolong it.

'Daprisal' relieves these psychic aspects of pain because it provides the mood-ameliorating effect of Dexamyl* (Dexedrine† and amobarbital). It brings about a feeling of energy and well-being, and restores optimism.

'Daprisal' works to relieve the pain itself because it provides the combined analgesic effect of acetylsalicylic acid and phenacetin, *potentiated* by amobarbital.

DAPRISAL*

for the relief of pain and psychic side effects of pain

Smith, Kline & French Laboratories, Philadelphia 1

FORMULA: Each 'Daprisal' tablet contains 'Dexedrine' Sulfate (dextro-amphetamine sulfate, S.K.F.), 5 mg.; amobarbital, ½ gr. (32 mg.); acetylsalicylic acid, 2½ gr. (0.16 Gm.); phenacetin, 2½ gr. (0.16 Gm.).

*T.M. Reg. U.S. Pat. Off.
†T.M. Reg. U.S. Pat. Off. for dextro-amphetamine sulfate, S.K.F.

ORAL PENICILLIN: A CHALLENGE ANSWERED

Through the years, the paradox of penicillin has been this—that while injectable forms have become the sheet anchor of antibiotic therapy, oral forms have all too often posed perplexing problems.

How to ensure survival in gastric acid? How to get maximal absorption? How to increase the antibacterial effect? How, indeed, to realize the hope at the dawn of the penicillin era that the oral route might even merit selective preference?

These have been the challenges. Out of them has come PEN•VEE•*Oral*—a remarkable innovation among oral penicillins. For PEN•VEE•*Oral* is penicillin V, the unique penicillin stable as a free acid—a penicillin with such special characteristics that it opens new horizons in oral penicillin therapy.

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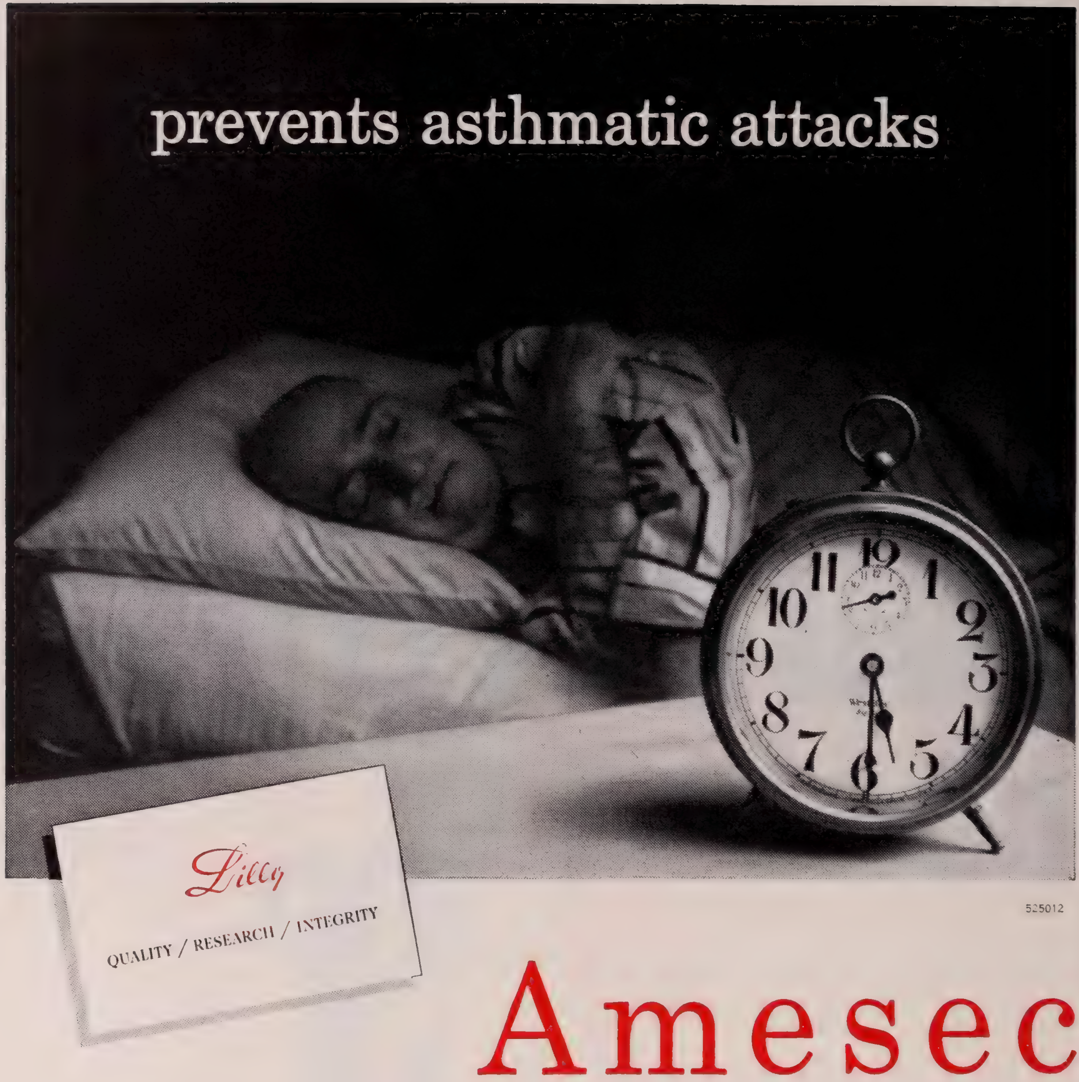
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EDITORIALS

Fundamentals of Allergy

The editors of the JOURNAL are gratified to announce the commencement of a new series of articles on the subject of allergy. Under the title, "Fundamentals of Allergy," the series will consist of some 30 papers prepared by the members of the New York Allergy Society under the editorial supervision of Dr. Samuel Prigal, with Dr. Murray Albert, Dr. Joseph Fries, and Dr. William B. Sherman as associate editors. The series starts in this issue on page 3139.

In the series special emphasis will be placed on diagnosis and treatment of allergy. According to the editors, "most allergic problems can be treated readily by the family physician, provided he is adequately prepared."

It is hoped that these papers will prove to be of interest and practical assistance to the membership in the diagnosis and treatment of their patients in this increasingly important field of medicine.

Blue Shield Benefits Increased

Increased allowances, broadened coverages, and liberalized benefits have been made by Blue Shield due to improvements in contracts as a result of recommendations from county societies, specialty societies, individual physicians, and the Medical Societies

Reference Committee to United Medical Service. A summary of these improvements follows:

1. A total of 163 allowances in the present $4,000 schedule will be increased. A few procedures will be decreased slightly.
2. Radiation therapy for malignancies.
3. In-hospital consultation will be provided on the Surgical-Medical Contract.
4. Electroshock therapy for nervous and mental disorders.
5. In-hospital medical care will be extended from one hundred and twelve to two hundred and one days.
6. Surgical and in-hospital medical care will be provided for children under ninety days except for prematurity, circumcision, and routine medical care.
7. Elimination of prior notification on Service Benefits cases.
8. Elimination of direct payment to nonparticipating physicians.

In regard to the seventh point, Blue Shield has always believed that the patient should introduce the question of fees and services on his first visit. This gives the physician his opportunity to speak and is in accord with the advice of the A.M.A. that doctors and patients discuss fees before care has been rendered. Early discussion of fees is the best solution to this old problem, and it is what Blue Shield recommends to its subscribers. It has even been required that subscribers who are entitled to Service Benefits inform their physicians of their eligibility on the first visit. However, this requirement has caused a difficulty much greater than its usefulness warrants. Some subscribers forget to notify their physicians of their eligibility or are too embarrassed or under too much stress to do so. On occasion some physicians take advantage of the technicality in the contract and deny such patients Service Benefits. If several subscribers in a group receive supplementary bills in these circumstances, it is often enough to turn the whole group against Blue Shield—and to make both management and labor doubt the sincerity of the medical profession toward Service Benefits.

Medical societies have themselves become concerned about this situation; the Grievance Committee of the New York County Medical Society stated earlier this year, "the practice of some physicians to ask for higher fees from a patient legitimately entitled to Service Benefits, when the doctor is a participating physician in Blue Shield, endangers the whole concept of voluntary health insurance and low cost medical care for low income patients." U.M.S. has decided, therefore, with the approval of the Medical Societies Reference Committee and the Medical Policy Committee of U.M.S., to eliminate the requirement that subscribers entitled to Service Benefits notify their physicians of their eligibility before they have received care. Blue Shield will, of course, continue to urge its subscribers, through its literature and through its advertising, to discuss fees and services on their first visits to their physicians.

The second change is to give you, the participating physicians, an advantage. It is you who make it possible for Blue Shield to exist, yet you derive no more benefits from Blue Shield than do nonparticipating physicians. In order to remedy this situation, U.M.S., with the approval of the Medical Societies Reference Committee and the Medical Policy Committee of U.M.S., has decided that in the future only participating physicians will be paid directly. When care has been rendered by a nonparticipating physician, the check will be sent to the subscriber.

In brief, these changes illustrate the constant effort of the Blue Shield to maintain fluidity in the light of the recommendations of the medical profession and the suggestions and requests of subscribers.

PRESIDENT'S PAGE*

RENATO J. AZZARI, M.D.

As active members of your State Society, you are well aware that it exists for the specific purpose of serving you and the people of this State. Are you conscious of the fact, however, that in order to achieve this purpose your State Society maintains a large headquarters staff of about 60 employes? It is my intention to present to you very briefly here some of the practical aspects of your Society, in the hope that I may be able to inspire you to more active participation in the services it has to offer.

Under the general management of our genial secretary, Dr. W. P. Anderton, there are several important departments in addition to those responsible for the publication of the NEW YORK STATE JOURNAL OF MEDICINE and the *Medical Directory of New York State.* Allow me to give you a bird's-eye view of what your State Society actually does. Included among the various activities are the Legislation Bureau, which keeps a close eye on medical legislation introduced in Albany, and the Workmen's Compensation Bureau, which assists individual physicians and medical societies in various phases of workmen's compensation administration.

There is also the Bureau of Medical Care Insurance, which acts as a liaison between you and the medical care insurance plans. In addition, there are the Committee on Public Health and Education, which sponsors postgraduate medical education courses, gladly furnished to county medical societies upon request, and the Public and Professional Relations Bureau, which guides physicians in developing better relations between the medical profession and the public.

Complementing this setup, there are approximately 50 active committees manned by over 300 of your own fellow practitioners who sacrifice their practices, without remuneration, to promote your welfare. These committees spend countless hours each year discussing a wide variety of subjects, too numerous to mention but ranging from alcoholism through malpractice insurance to the War Memorial. In spite of the existence of this machinery for helping county medical societies and individual members, I would like to call to your attention the fact that our members and our county medical societies do not fully utilize these excellent facilities for promoting the welfare of the medical profession.

I have emphasized what the State Society has to offer. May I point out, however, that you, the individual physicians, are the State Medical Society in a very basic sense. Unless we have your cooperation in our activities—unless you tell us how you feel about various matters of concern to you and the State Society—we cannot truly perform our function of serving you and your county medical society.

I urge you, therefore, to become as well acquainted as possible with the activities of your State Society and to utilize our facilities in any problems in which we can be of service to you.

Among the principal activities in which the State Medical Society needs your personal help is in the field of legislation, both on the State and national scene. One of the obstacles we encounter in gaining the cooperation of our members in supporting our legislative endeavors is their lack of knowledge of proposed legislation. As citizens, we should be aware of all proposed laws that would vitally affect us. As physicians, we should pay particular attention to bills concerning the medical profession.

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* Excerpts from an address delivered at the 49th Annual Meeting of the Third District Branch, Hudson, September 15, 1955.

In this connection I should like to call your attention to a proposed law that has attracted the interest not only of many of our citizens, but especially the medical profession. The bill I refer to was introduced in Congress by Representative Cooper and is known as H.R. 7225. This legislation is in the national spotlight because it proposes extension of the Social Security Law. In brief, the bill would (1) make women eligible for benefits at sixty-two instead of sixty-five, (2) continue benefits to children beyond eighteen if they are totally and permanently disabled, and (3) permit persons at the age of fifty who become totally and permanently disabled to collect cash benefits they normally would not receive until they had reached sixty-five.

The medical profession is particularly concerned with the disability phase of the proposed legislation. Physicians are directly involved because they would have to give the examinations and determine who are totally and permanently disabled. In addition, they would also participate in the rehabilitation program which is part of the proposed new law. Physicians would be paid for their services on a fee or salary basis through funds provided by the Federal government and the State.

The principal argument advanced against this proposal is that it is another step down the road to government domination of medicine. Only last year in 1954, Congress amended the Society Security Law to provide that any person who became totally and permanently disabled was entitled to a waiver of contribution. In other words, if a man became totally and permanently disabled at fifty, he would receive his benefits at sixty-five without contributing for the period between fifty and sixty-five. Today, one year later, Congress proposes to go a step further and give such a person cash benefits at age fifty instead of having him wait until he reaches sixty-five. Opponents of this measure fear that several developments will inevitably follow. The first may be a liberal interpretation of what is total and permanent disability; the second, lowering of the age from fifty to say forty-five; the third, adding temporary disability and, finally, government health insurance to supplement the cash benefits or to aid in rehabilitation.

One of the necessary foundation stones of a strong medical society is unity of action. Therefore, I have been sketching for you the facilities of your State Society in the hope that through better knowledge of them, you and your Society can become more closely united. In the past you have united under the aegis of your State and county society when called upon to fight a sudden-death threat to medicine, such as compulsory health insurance.

Important as unity is, there is still a more important factor—continuity of action. The time has long since vanished when a medical society could survive by merely calling its members to arms in time of an emergency. If we are to meet the challenges of our times, we must work together continuously day by day and not crisis by crisis. Such continuity can and will be achieved if you make not sporadic, but continuing use of your State Society's resources and cooperate with it in all activities. The end result, I am certain, will be that the Medical Society of the State of New York, the world's third largest medical society, will become a more potent force as the voice of the medical profession and as the guardian of the health of the people of the Empire State.

Renato J Azzari

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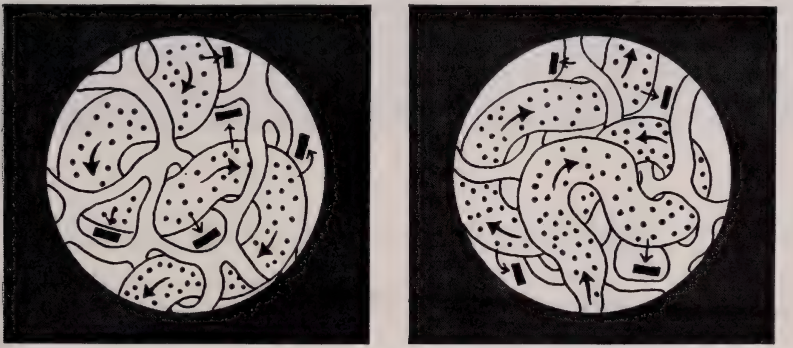

Mictine is believed to act by the selective inhibition of the reabsorption of sodium ions. Thus, the resulting diuresis is characterized by increased quantities of sodium ions and water.

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Administration: The usual dosage for the average patient is one to four tablets daily with meals, in divided doses on an interrupted schedule. An interrupted dosage schedule may be accomplished by giving the drug on alternate days or for three consecutive days and then omitting it for four days.

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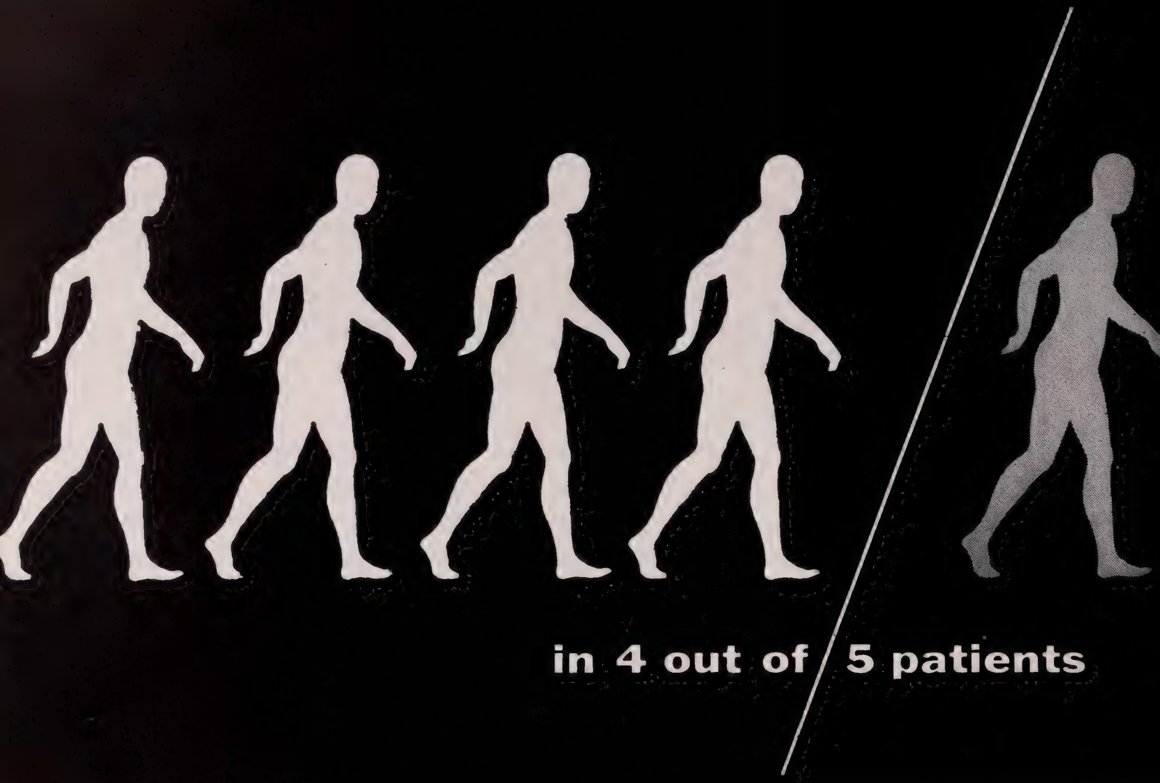

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1. Winsor, T., Humphreys, P.: Angiology *3*:1 (Feb.) 1952.
2. Plotz, M.: N. Y. State J. Med. *52*:2012 (Aug. 15) 1952.
3. Dailheu-Geoffroy, P.: L'Ouest-Médical, vol. 3 (July) 1950.
4. **Russek, H. I., *et al.*: Am. J. M. Sc. *229*:46 (Jan.) 1955.**

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SCIENTIFIC ARTICLES

Acute Respiratory Infections

The Problem of Control

CLAYTON G. LOOSLI, M.D., CHICAGO, ILLINOIS

(*From the Section of Preventive Medicine, Department of Medicine, University of Chicago School of Medicine*)

Acute upper respiratory tract infections commonly considered to be minor diseases account for approximately 50 per cent of all cases of total and disabling illness.[1] In spite of the recent advances in our knowledge of these diseases they continue to be the principal cause of absenteeism from work, school, military training, and play.

Although considered to be nonoccupational, the marked extent to which they occur in industry with their excessive economic cost is graphically presented in the reports of Baetjer,[2] Wilkins,[3] and Ehrlich.[4] Acute respiratory infections likewise are equally prevalent in and costly to military[5] and family groups.[6] Effective means of control of acute respiratory infections in the industrial plant, office, school, barracks, or home is limited among other factors by insufficient knowledge concerning their etiology, clinical manifestations, epidemiology, and host resistance.

Etiology and Clinical Manifestations

The majority of respiratory tract infections are nonbacterial in origin. In studying the incidence of respiratory illnesses in Cleveland families, Dingle and associates[6] found that only 3 per cent could be assigned a definite etiology. Likewise, only one half of the febrile respiratory infections during a six-year study at the Great Lakes Naval Training Center could be identified etiologically.[5] The frequency and kinds of respiratory diseases which plague industrial groups are the same as those which occur in family and military populations.[2,4]

The clinical characteristics of the common respiratory "virus" infections are not well defined and vary from the simple afebrile "common cold," on the one hand, to severe debilitating bronchitis and pneumonia, on the other. Of those shown in Table I, the common cold, nonstreptococcal pharyngitis and tonsillitis, acute respiratory disease (pharyngitis, laryngitis, and bronchitis), and epidemic influenza are principally responsible for absenteeism. Dingle[7] in 1948 and, more recently, Jordan and Dingle[8] and Stuart-Harris[9] have described the clinical aspects and differential features of the acute upper respiratory infections.

During the past few years much progress has been made in the development of methods for isolation and identification of respiratory disease agents. However, the virus of the common cold has not been isolated, nor are there as yet laboratory procedures by which one can establish the diagnosis of a cold. Propagation of the "cold virus" still requires the use of man as the experimental animal.[10] Recently Huebner and associates[11-15] have isolated a number of viral agents "in tissue culture from adenoid and tonsillar tissue removed at surgery and from nasopharyngeal and conjunctival secretions and feces of persons with respiratory illnesses." They refer to these viruses as adenoidal-pharyngeal-conjunctival agents (APC viruses). These disease agents thus far have been divided into six immunologically distinct types on the basis of cross neutralization tests. The complement-

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Presented, by invitation, at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Industrial Medicine and Surgery, May 11, 1955.

TABLE I.—Acute Nonbacterial Infections of the Respiratory Tract

Disease	Etiology	Diagnostic Procedures Virus Isolation	Diagnostic Procedures Serologic	Seasonal Incidence	Epidemiology
Common cold	Not isolated	None	None	Fall, winter, spring	Close contact (?), airborne (?)
Nonstreptococcal pharyngitis	APC III, IV	Tissue culture HeLa cell and kidney	Complement fixation test	Fall, winter, spring	Close contact (?), airborne (?)
Pharyngoconjunctival fever	APC III	Tissue culture HeLa cell and kidney	Complement fixation test	Summer, fall	Close contact (?), airborne (?)
Acute respiratory disease	RI-67 (APC IV)	Tissue culture HeLa cell and kidney	Complement fixation test	Fall, winter, spring	Close contact (?), airborne (?)
Influenza	Influenza virus Type A, B, and C	Tissue culture kidney cells, fertile egg	Complement fixation, H-I	Fall, winter, spring	Close contact (?), airborne (?)
Primary atypical pneumonia	Not isolated	None	Cold agglutinin test	Late summer, fall	Close contact (?), airborne (?)
Psittacosis	Psittacosis virus	Fertile egg	Complement fixation test	Sporadic	Airborne inhalation of infected excretions
Q fever	Rickettsia, Coxella burneti	Fertile egg yolk sac inoculation	Complement fixation test	Sporadic	Airborne inhalation of infected excretions
Infectious mononucleosis	Not isolated	None	Heterophil agglutination	Sporadic	Not known
Herpangina	Coxsackie virus Group A	Tissue culture (?), newborn mice	Complement fixation test	Spring, summer, fall	Oral-oral, fecal-oral via hands (?)
Poliomyelitis	Poliomyelitis virus Type I, II, III	Tissue culture kidney and HeLa cells	Complement fixation test, neutralization test	Spring, summer, fall	Oral-oral, fecal-oral via hands (?)

fixing antigens and antibodies appear to be group specific. Serologic studies by Huebner and associates[12] for the presence of antibodies to these agents indicate that 50 per cent of infants six months to one year of age have been infected with at least one type. Progressively older age groups show antibodies to one or several types. Type 4 APC virus appears to be identical with the RI-67 agent isolated by Hilleman and associates[16-18] in tissue culture of HeLa cells from nasal secretions of military personnel during an epidemic of acute respiratory illness at Fort Leonard Wood during the winter of 1952–1953.

Thus far Types 3 and 4 APC agents have been associated with reasonably well-defined clinical illnesses. RI-67 (Type 4 APC) virus has been shown by Hilleman,[16] Huebner,[12] Dingle,[19-21] and their respective associates to be in all probability the principal etiologic agent causing acute febrile respiratory disease in military personnel. Huebner and colleagues also found neutralizing antibodies against this virus in 70 per cent of nonmilitary personnel over fifteen years of age. On the other hand, Jordon and associates[22] on the basis of serologic studies concluded that the RI-67 virus had produced very few infections in the Cleveland families. None of 73 children and only 17 per cent of the mothers and 53 per cent of the fathers had neutralizing antibodies to this virus. The extent to which this agent causes acute respiratory disease in industrial populations and in other civilian groups is not yet known.

Type 3 APC virus on the basis of studies by Huebner and associates[12,13] and Jordan and colleagues[22] may also be responsible for acute febrile respiratory disease indistinguishable from that caused by Type 4 virus. Type 3 APC virus has also been associated with illnesses referred to as nonstreptococcal pharyngitis.[21] Parrott[14] and Bell[15] and associates have recently described epidemic outbreaks of an acute respiratory disease designated as pharyngoconjunctival fever. It resembles nonstreptococcal pharyngitis clinically except that conjunctivitis appears to be a prominent finding in the former. Further study of this new group of respiratory disease agents in industrial groups is necessary before their etiologic significance can be evaluated. Thus far there is no evidence that these agents have an etiologic relationship to the common cold or to primary atypical pneumonia associated with cold agglutinins.[20,21]

Epidemic influenza occurs both in military and civilian personnel and varies from year to year

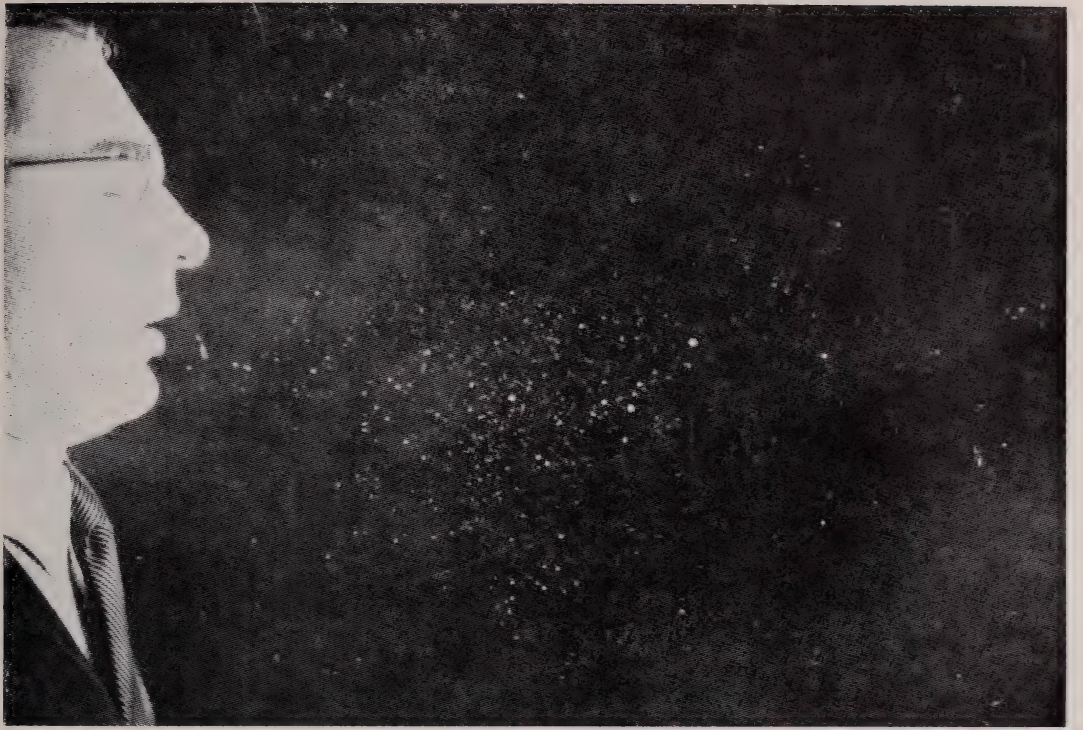


FIG. 1. Droplets resulting from a cough. Only a few hundred droplets are produced in a cough compared with thousands in a sneeze. (*Published through the courtesy of Dr. M. W. Jennison*[31] *and the American Association for the Advancement of Science*)

in prevalence and severity.[9,23,24] Three immunologically distinct types of influenza virus (A, B, and C) have been isolated.[9,23] Type C has not been associated clearly with clinical respiratory disease, whereas Types A and B often produce illnesses indistinguishable from that caused by Type 4 APC virus in military personnel. The extent to which influenza virus causes acute respiratory disease in industrial groups is not known. This can be determined only by virus isolation and serologic study for the presence of antibody rise to the specific types.

On the basis of recent observations it would be expected that Coxsackie virus Group A[25] and poliomyelitis virus Types I, II, and III may be responsible for a certain number of upper respiratory infections during the summer and fall months. Infectious mononucleosis, presumably a virus disease, is frequently seen in student population groups in colleges. Again the extent to which this disease occurs in industrial groups is not known.

Nonbacterial pneumonias have been associated with the influenza[9] and RI-67 (Type 4 APC) viruses.[18] Psittacosis and Q fever are primarily pulmonary infections and occur in individuals associated with certain occupations.[26–29]

Epidemiology

The acute respiratory tract infections are most prevalent in all age groups during the fall, winter, or spring months.[1,2,6,30] In the Cleveland family study the incidence was 6.5 per person year with the highest rate among children under six years. Among the adults the annual per person rate was 4.1 for the fathers and 5.4 among the mothers. The high incidence of minor respiratory illness in children under five years was also noted by Collins in the sickness experience study in other selected areas of the United States.[1] He also observed, however, that sinusitis and laryngitis were most prevalent in the forty-year age group. The high frequency of these infections during the respiratory disease season suggests that they may be caused by several immunologically distinct viruses or by a single agent which stimulates immunity of only short duration.[30] The family study further suggests many of these infections among adults are acquired from their children and that the children in turn acquire their infec-

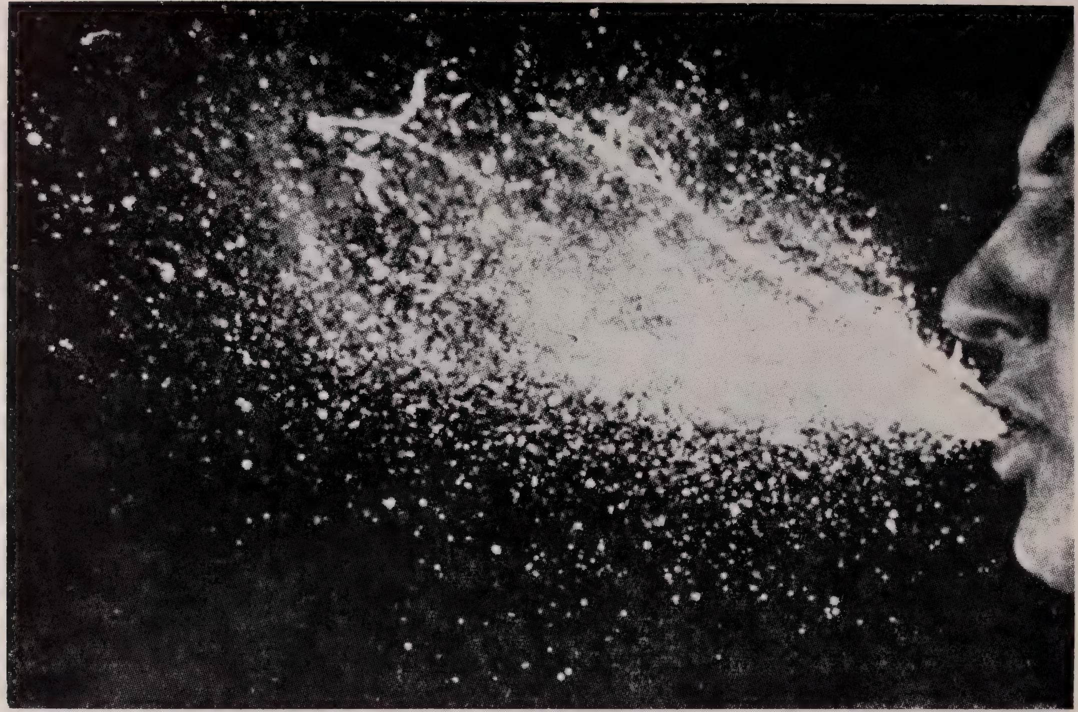


FIG. 2. Sneeze from subject with a head cold. The strings of mucus are clearly evident. The large droplets result in part from less effective atomization of these viscous secretions. (*Published through the courtesy of Dr. M. W. Jennison*[31] *and the American Association for the Advancement of Science*)

tions from intimate contact with others in school, at play, etc. It is reassuring to note that as one grows older, natural resistance to respiratory tract infections increases.[30]

The respiratory disease viruses are found in the nose and throat secretions of the ill and asymptomatic carriers and presumably are dispersed during the course of coughing, sneezing, laughing, talking, blowing the nose, and hand-to-mouth activities. The exact mechanism by which they are passed from person to person is not known.[30] Because of lack of methods for identifying virus in the environment, it has been necessary, in studies of the transmission of respiratory diseases, to employ pathogenic or commensal bacteria dispersed from the upper air passages as an index of contamination. Jennison[31] has demonstrated dramatically the expulsion of bacteria-carrying droplets during some of the above activities, as shown in Figs. 1 and 2. It is noted that the droplets vary greatly in size. The large ones fall quickly to contaminate the immediate environment, while the smaller ones evaporate and remain suspended in the air as "droplet nuclei" for longer periods of time.[32–34]

Hamburger and associates[34,35] have shown graphically the potentially important role of the hands in the spread of streptococcal infections (Figs. 3 and 4). It needs little imagination to visualize the marked degree with which the hands become contaminated during the acute phase of colds and other respiratory diseases of virus origin. An individual with an acute respiratory disease then not only contaminates himself but the immediate area about him such as the floor, desks, table tops, and air.[32,36,37] Thus, in intramural environments, such as the home, classroom, factory, office, and hospital, where individuals spend several hours a day in close contact, the possibilities for spread of respiratory diseases are many.[38] However, Baetjer[2] rightly points out that employes spend only about one third of their time at work and that their chances of acquiring infections outside industry are equally high.

There is great diversity of opinion concerning the mode of transmission of respiratory disease.[9,30,39] Stuart-Harris[9] considers that the viruses causing acute respiratory infections are spread by means of the air. Hodges,[30] on the other hand, considers the opportunities for spread by contact to be more important. Chapin[39] in

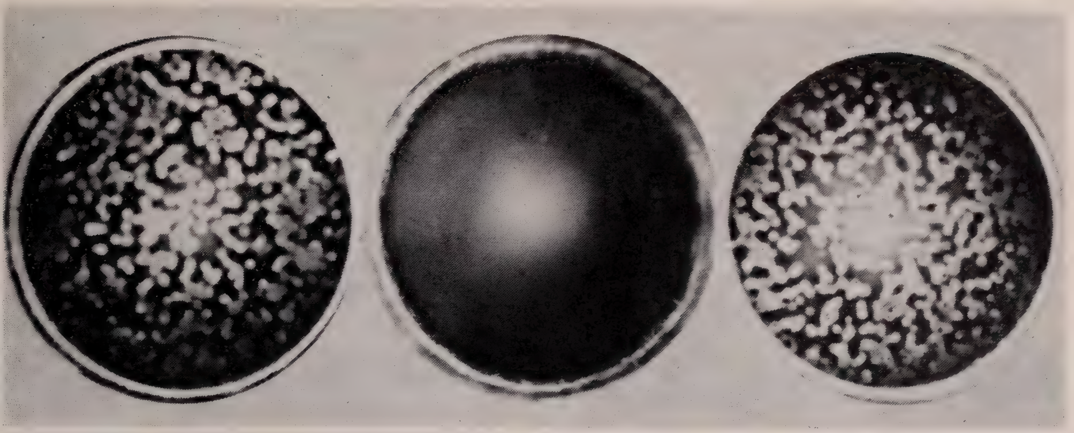
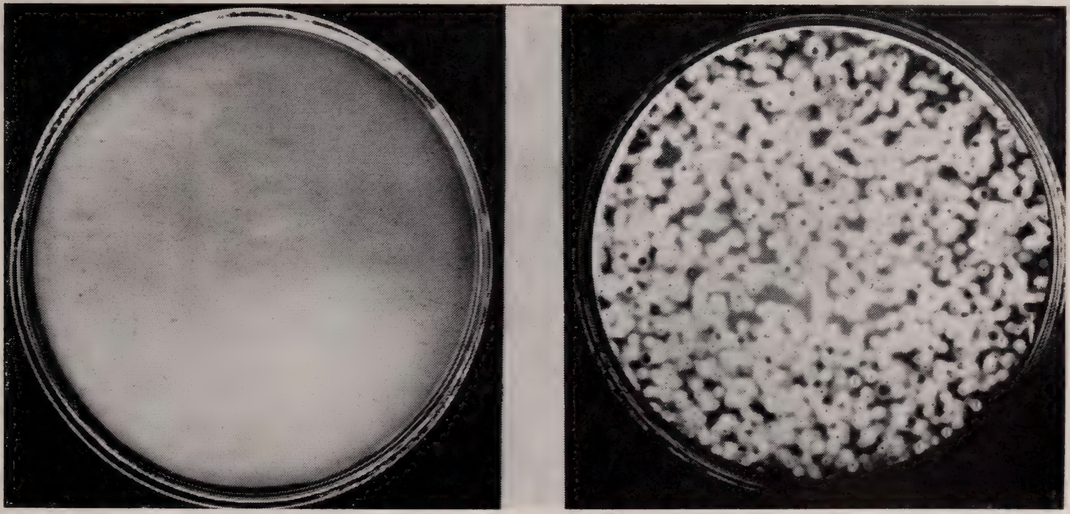


FIG. 3. Photographs of the blood agar plates made by inoculating aliquots of nutrient broth in which the nasal carrier washed his hands: (1) culture before washing; (2) culture immediately after scrubbing hands thoroughly with soap and water and rinsing in alcohol; (3) culture after blowing nose. (*Published through the courtesy of Dr. Morton Hamburger, Jr.,*[34] *and the Journal of Infectious Diseases*)


Before Shaking Hands

Immediately After Shaking Hands

FIG. 4. Photographs of blood agar plates made by inoculating aliquots of nutrient broth in which recipient washed hands before and after shaking soiled hands of "nasal disperser" of hemolytic streptococci. (*Published through the courtesy of Dr. Morton Hamburger, Jr.,*[35] *and the American Journal of Medicine*)

his monograph published in 1911, "The Sources and Modes of Infection," strongly favors direct contact with the infectious person as the chief mode of spread. At the same time he emphasizes the importance of contaminated hands in conveyance of nasal and oral secretions from one person to another. It would seem, however, that the implantation of viral agents on the nasal and throat mucous membranes by the inhalation of contaminated dust or droplet nuclei, the direct implantation of infectious droplets on the conjunctivae or mucous membranes of the nose and throat, indirect contact with contaminated objects, such as clothes, pencils, desk surfaces, or with soiled hands, all operate in the transmission of respiratory infections but vary in importance with different age groups, diseases, environments, and seasons of the year.[38]

Methods of Control and Prevention

Numerous methods have been recommended for the control of respiratory tract infections. These have been based on knowledge of the activities of individuals in relation to possible modes of spread in different environments.

Air Disinfection and Dust Suppression.—On the assumption that many of the respiratory tract infections are "airborne," a variety of methods used alone or in combination for keeping environmental air free of infectious agents have been developed. These include ultraviolet irradiation, chemical disinfection with triethylene glycol vapor, and dust suppression. These procedures reduce the bacterial content of the air from 60 to 85 per cent. In carefully controlled studies, however, ultraviolet light,[40–42] glycol vapor,[42–44] and dust-suppressive procedures[45–47] have been disappointingly ineffective in preventing respiratory infections and contagious diseases in schools, hospitals, and military barracks. In certain environments, such as hospitals, dust-suppressive procedures[48] or the application of residual surface-acting compounds could be employed as measures of good housekeeping.[49] On the basis of available evidence, however, none of these methods can be recommended for the control of respiratory disease in industry.[50]

Clean Surroundings and Personal Hygiene.—Other factors being equal, the bacterial content of the air in enclosed spaces is roughly proportional to the number of individuals present. Overcrowding and poor ventilation, therefore, increases the opportunity for spread of respiratory infection by direct contact and possibly indirectly by droplet nuclei and dustborne agents. Chapin[39] has emphasized that a clean environment in which to live and work promotes personal cleanliness. Clean toilet facilities with ample soap and disposable towels should be readily available. In the light of our knowledge of the possible modes of transmission of respiratory disease agents, the promotion of good health habits by employes is as important today as they were in 1911[39] for protecting against disease. Of first importance are those of cleanliness, such as (1) the avoidance of spitting, (2) avoidance of coughing, sneezing, and blowing the nose without protecting the face with a handkerchief or disposable tissue, (3) regular washing of the hands and face with ample soap and water, particularly after coughing, sneezing, or blowing the nose, (4) regular bathing and wearing of clean under as well as outer garments, and (5) self-isolation at the onset of acute respiratory illnesses (see Chapin,[39] pages 206 to 211).

Preventing Physical and Emotional Stress.—The immensity of the problem of the "common cold" is set forth in the reviews of Bloomfeld[51] and Kerr.[52] The latter presents arguments and data which attempt to show that the "common cold does not have a specific etiology." He maintains that the symptoms of a cold are due to the altered response between the nasal mucosa and the peripheral neurovascular mechanisms. One of the major factors is considered to be the inability of the body to respond to cooling. Kerr also suggests that these altered responses "may be the most significant etiologic factors in setting off attacks, even if infectious agents play some part in the disease." This would suggest that in addition to providing comfort of the individual, good lighting and ventilation with appropriate temperature and humidity of the environment may minimize the physical stress which helps to set off the symptoms of a "cold."

Recently Hinkle and Plummer[53,54] have made a detailed study of absenteeism in industry. They found among telephone company employes that bodily illnesses and psychologic disturbances, absenteeism, etc., were related and found in only a small proportion of the group. Minor respiratory illnesses were 12 times more frequent in the poor attendance group than in the good attendance group. There was also much more chronic and serious respiratory disease illness among the high absent group. These same individuals with low attendance records were found as a group to be discontented, unhappy, and difficult to get along with. In the study of absenteeism they emphasize the importance of recognizing that it is usually concentrated in a small section of the population and that accurate attendance records and careful interview are necessary in order to identify these cases. Solution of the problem lies in recognizing that these respiratory and other illnesses are "part of a chronic and repetitive disease having to do with reactions of the particular person to situations and stresses of life."[54]

Special Diets and Vitamins and Resistance to Infection.—Natural resistance to infection increases with age. Within a given age group resistance to a specific infection varies widely, depending on previous experience with the causal agent.[30] Some individuals "never get colds," while others are repeatedly afflicted. The factors operating to bring this about are many. One of the most important is frequency of exposure. Although metabolic disturbances occur during and following infections, the mass of evidence indicates that nutritional factors rarely, if ever, play a specific role in resistance to infections or aggravation of disease.[55]

The use of supplementary vitamins, particularly A and C, to increase resistance to infection has been widely exploited. Dubos[55] points out that the metabolic determinants of resistance to infection are independent of those which control the biologic activity of cells. In spite of many studies, both in animals and man, on the relationship of nutrition to resistance and infection, there is no evidence that a supplementary intake of vitamins or other food substances over and above those obtained in a normal diet, as recommended by the Food and Nutrition Board of the National Research Council, increases one's nonspecific immunity.[56–58]

Chemotherapy, Antibiotics, and Antihistamines.—Psittacosis and Q fever are the only nonbacterial infections associated with the respiratory tract which respond to treatment with antibiotics and other drugs.[59] The use of sulfonamides and antibiotics for the treatment of the other nonbacterial infections listed in Table I are of no value. Likewise the prophylactic use of these drugs to prevent bacterial complications is not warranted. Complications seldom occur and are best treated when they arise. Some authorities, however, attribute the present low prevalence of bacterial infections of the respiratory tract to the so-called indiscriminate use of antibiotics in the treatment of the minor respiratory illnesses. Mass prophylaxis of penicillin, sulfonamides, or other drugs for the prevention of streptococcal, pneumococcal or meningococcal, or diphtherial infections is not warranted because of their low incidence in industrial populations.[8,60] On the other hand, these infections respond readily to treatment with appropriate antibiotics and sulfonamides.[8]

On the basis of well-controlled studies it is now clear that antihistamines are of no value in the prevention or treatment of the common cold or other acute respiratory tract infections.[61–63]

Vaccination.—Of the diseases listed in Table I vaccines are available only for immunization against epidemic influenza. Poliomyelitis virus vaccines need further evaluation as to safety and effectiveness. However, the incidence of paralytic poliomyelitis in industrial populations is so low that mass vaccination is not warranted. Experimental Q fever vaccines have been prepared which provoke good antibody response. These are not available for commercial use. Their value would be limited to those in certain occupations.[64,65]

Epidemic influenza strikes periodically with high prevalence and virulence all age groups of both civilian and military populations. When it occurs as a major epidemic, influenza is considered either the primary or secondary cause of excess deaths due to pneumonia, heart disease, etc.[23,24] Polyvalent influenza virus A and B vaccine is effective providing the strains in the vaccine are closely related antigenically to those causing the disease. Influenza virus vaccine cannot be expected to protect against clinically similar respiratory illness or the common cold, which are caused by other viruses. Since January, 1953, epidemic influenza has constituted only a small fraction of acute respiratory illnesses in this country. Thus one can reasonably expect an outbreak of this disease some time this fall and winter against which employes should be vaccinated.

One milliliter of vaccine given subcutaneously provokes an antibody response within ten days. The duration of immunity varies. Yearly vaccination at the beginning of the respiratory disease season would seem wise.

"Cold vaccines" composed of bacterial pathogens and common flora of the nose and throat are of no value in protecting against acute respiratory tract infections or their complications and, therefore, cannot be recommended. Likewise, many other rational and irrational methods have been employed without effect in treatment of these diseases.[8,51,63,66]

Comment and Conclusions

On the basis of what has been said concerning the prevention of respiratory tract infections, it seems entirely appropriate for me to state, as did Dr. Wilkins[3] in closing his discussion of this subject in 1948, that "to date, no effective methods of control have been achieved."

In spite of the advances which have been made recently in elucidating the etiology of some of these infections, more precise knowledge concerning the etiology and modes of transmission are needed to bring about effective programs of control. Protection by vaccination is dependent on the further isolation and characterization of other etiologic agents which cause respiratory illnesses.*

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* In relation to the gigantic economic cost of acute respiratory tract infections to industry, the military, and the public, relatively little support has been given for research in this field. Recognizing the difficulties in doing basic investigation on this problem by industry itself, medical directors and others in industry can make important contributions by urging their respective institutions to contribute financially to the research program of the Common Cold Foundation. This organization, with which you are familiar, is supported entirely by industry. The entire research effort of this organization is directed toward solving the problem of acute respiratory disease which contributes most to absenteeism and ill health.

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Nothing is so firmly believed as what we least know.—MICHEL DE MONTAIGNE

Delirium, Cation-Exchange Resins, and Liver Disease

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EXTENSIVE, severe liver disease has been associated with disturbed functioning of the central nervous system for many centuries. Mental derangements as well as apoplexy and convulsions were at one time attributed to an accumulation of "black bile." In fact, from the time of Galen to the middle of the seventeenth century the liver was looked upon as the seat of the mind itself. However, with the passage of time the brain took its rightful place as the organ of the mind, and its susceptibility to far-advanced liver disease was clearly shown by Frerichs about one hundred years ago. In his *Clinical Treatise on Diseases of the Liver*,[1] he described delirious reactions and coma as consequences of acute yellow atrophy in a series of 31 cases. Furthermore, under the title of "Acholia from Cirrhosis," he reported his observations on individuals who had longstanding cirrhosis of the liver and who were "seized with noisy delirium from which they passed to deep coma, and in this state have died. In one case, there was spasmodic contractions of the muscles of the left side of the face. In most cases, slight jaundice made its appearance at the same time, and in one instance there were petechiae. Upon postmortem examination, not the slightest lesion could be detected in the brain; neither were there indications of any acute disease which could account for the derangement of the cerebral functions."

The psychiatric disturbance that was observed was not proportional to the intensity of the jaundice. Furthermore, Frerichs showed by his experiments described in the appendix to his treatise[1] that the injection of large amounts of bile intravenously in dogs did not have any demonstrable effect on the central nervous system.

More recently, Walshe[2] reviewed the modern literature on the relationship between liver disease and neuropsychiatric symptomatology and formulated a definitive clinical picture of hepatic coma. This consisted of personality changes—"truculence, violence and dirty habits"—mania, loss of consciousness, and coma. Neurologically, signs of pyramidal tract involvement with absent abdominal reflexes, increased knee jerks, ankle clonus, and extensor plantar responses were most common. Signs suggestive of involvement of the basal ganglia were observed, such as choreiform movements, lead-pipe and cog-wheel rigidity, and tremors. Adams and Foley[3] elucidated the clinical nature of the motor disturbances. The tremor, they pointed out, is usually absent at rest and on movement but develops on the active maintenance of a posture such as outstretched hands and fingers. The repetitious flexion and extension movements of the metacarpophalangeal joints and wrists with alternating pronation and supination at the wrists led to the subsequent designation of "flapping tremor." Similar flexion-extension movements may occur at the knee and ankle joints. Forcible closure of the eyes and strong retraction of the corners of the mouth may bring on facial tremors.

While delirium is mentioned and the reversible nature of hepatic coma has been described, its relationship to other psychopathologic manifestations of chronic alcoholism, especially delirium tremens, is not sufficiently stressed. This is surprising in view of the fact that clinically so many of our chronic alcoholic patients who have recurrent episodes of delirium tremens or whiskey fits with postictal confusion do show evidence of impaired function or cirrhosis of the liver. The noisy excitement, disorientation, tremors, and electroencephalographic changes, while they are nonspecific, are seen in the early phases of hepatic coma as well as delirium tremens.

Reversible, toxic manifestations may be induced in patients with advanced liver disease by

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* By invitation.

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giving certain nitrogenous substances.[4-7] The symptoms produced are very similar to those seen in impending hepatic coma and may be relieved by stopping these substances. Among the nitrogenous substances used were ammonium chloride, diammonium citrate, an ammonium cation-exchange resin, urea, and a high-protein diet. In every instance the material contained or could be transformed into ammonia by the action of bacteria in the intestine or bladder and then be absorbed into the bloodstream. In view of the well-known central neurotoxic effect of ammonium ion or compounds containing a quaternary ammonium group, it was logical to implicate ammonium as the causative toxic agent.[8] However, the correlation between blood ammonium concentrations and the severity of the abnormal signs observed was not consistent.[7]

The following case report is presented to illustrate the deleterious effect of using an ammonium potassium cation-exchange resin to decrease edema in a chronic alcoholic with advanced cirrhosis of the liver and a well-established portal-systemic venous collateral system. The acute mental derangement which psychopathologically resembled a toxic psychosis was temporarily believed to be another attack of delirium tremens since he did not show muscle rigidity or the characteristic "flapping tremor."[9,10] However, the rapid progression toward stupor implicated the medication, which was stopped as soon as he was transferred to the psychiatric service.

Case Report

M. J., a forty-eight-year-old, Indian male, was admitted to the Edward J. Meyer Memorial Hospital on September 14, 1954, with the complaint of gradually increasing abdominal distention over a period of four weeks, causing anorexia and a sense of abdominal pressure and distress. He denied having clay-colored or tarry stools and had no gross blood in his feces. There was no nausea, vomiting, or hematemesis. Swelling of the ankles was noticed just prior to admission.

The patient was in the hospital on two previous occasions. The first time was from October 31 to November 15, 1952, for acute alcoholism. At that time he gave a history of heavy drinking since the age of fifteen. His food intake was not well balanced, containing a preponderance of meat and potatoes and an absence of vegetables, fresh fruits, and liver. Additional information obtained at that time concerned an accident in 1939, in which he suffered a fracture of the skull and injury to the left shoulder resulting in slight atrophy of the left arm. Following the head injury he was in another mental hospital for observation and, from the description given, most likely had an episode of delirium tremens. On physical examination his deep tendon reflexes were generally hypoactive with no pathologic reflexes. He had a 2 plus ankle edema which extended up to his knees.

His liver was slightly enlarged, and a needle biopsy of the liver was performed during his hospital stay. Tissue examination showed slight to moderate fatty changes. There was a tendency to nodularity with infiltration of round cells and neutrophils. The bile ducts appeared slightly increased in numbers, but fibrosis was only minimal. The pathologist felt that this indicated an early portal cirrhosis. A bromsulfalein test after forty-five minutes showed 40 per cent retention. Serum bilirubin was 0.6 mg. per cent, alkaline phosphatase 14.2 Bodansky units, serum albumin 4.1 per cent, serum globulin 3.3 per cent, and cephalin flocculation test 1 plus. Blood urea nitrogen was 10 mg. per cent and blood sugar 66 mg. per cent.

All through 1953, the patient received vitamin B_{12}, 100 micrograms three times a week, and thiamin chloride, 10 mg. orally three times a day, supplemented by Brewer's yeast. However, he continued to drink large amounts of beer daily and refused to join Alcoholics Anonymous, rationalizing that a friend of his committed suicide shortly after doing so.

His second admission to the hospital was from December 10 to December 28, 1953. At that time the presenting condition was a superficial phlebitis of the left leg. The patient complained of pain in the left popliteal area of five days duration which was aggravated by flexion of the knee. He did not have any chills or fever and denied prior infection of the leg. Physical examination showed the liver to be enlarged four fingerbreadths below the costal margin in the midclavicular line with a hard edge which was nodular on palpation. Enlarged abdominal wall veins were also observed. He was placed on a high-protein, high-vitamin diet, but two days after admission he became quite tremulous, started to have visual hallucinations, and was disoriented. He was noisy, singing loudly at times, and expressed the belief that patients in the next room were after him. In order to escape he threatened to jump out of the window. With symptomatic treatment and penicillin for his phlebitis, his delirium cleared up within a period of one week, at which time various liver function tests were performed.

Cephalin flocculation after twenty-four hours was 3 plus. Thymol turbidity was 4 plus, and the bromsulfalein test showed 44 per cent retention. Alkaline phosphatase was 13.5 Bodansky units and inorganic phosphorus 3.9 mg. per cent. Fluoroscopy of the chest revealed the lung fields to be essentially clear. There was some left ventricular enlargement, but the cardiac silhouette was not otherwise remarkable. Both diaphragms moved well. Examination of the esophagus with thin and thick barium revealed it to be normal in course, contour, and distensibility. Several areas of suggestive scalloping were seen, but no definite varices were noted at the lower end of the esophagus.

The patient's final admission was on September 14, 1954, because of marked ascites. He denied partaking of any alcoholic beverages for the previous six months. A review of his medical history indicated that the patient had gained approximately 30 pounds in the past year. Jaundice of the skin had been present since December, 1953. In addition to being nearsighted, he complained of difficulty with vision at night. He gave no history of memory difficulties, fainting spells, fits, unsteady gait, dizziness, or headaches.

He was born in a small town in New York State and, as a child, had had measles, mumps, chickenpox, and whooping cough without complications. He previously worked as a prison guard in a number of different institutions but had been unemployed for the past three years. His father died of unknown causes many years ago, and his mother is still alive and in good health except for varicose veins. Two brothers both died of typhoid fever, and a sister died before the patient was born. He was married in 1930 and separated from his wife shortly thereafter. They had no children. He served in the Army for three years until 1928 but never left the continental United States. There had been no exposure to industrial health hazards except possibly occasional exposure to lead paint when he did odd jobs. He had been on welfare relief for the past three years, and while his history was being taken, he frequently contradicted himself and showed some difficulty in remembering dates.

On physical examination his pulse was 84, respirations 16, height 5 feet, 11 inches, weight 234 pounds. He appeared chronically ill with an abnormally large abdomen. Hair distribution was normal except for sparsity of hair on the sides of the face. His face was rough and reddened and laced with small, red, branching, and anastomosing capillaries. The sclerae were icteric, and his complexion was jaundiced. The pupils were round, regular, equal, and reacted to light and accommodation. A well-formed spider angioma was noticed on his upper chest. His abdomen was very large and protuberant with the umbilicus everted. Liver and spleen could not be palpated because of the large amount of abdominal fluid. There was a mild, reddish, papular rash over the lower abdomen. The palms were reddened over the thenar and hypothenar eminences. He had nonpitting edema of the ankles. The posterior tibial and dorsalis pedis pulses were palpable. Reflexes could not be elicited, and plantar stimulation gave an extensor reaction bilaterally. His fundi showed arteriolar attenuation and "wiring." Extraocular movements were normal.

On the second hospital day the patient was started on an ammonium potassium cation-exchange resin (Resodec), 30 Gm. three times daily. It was noticed that the patient began passing more urine and after four days had lost 5 pounds. On the sixth hospital day an abdominal paracentesis was performed, and 15 L. of clear yellow fluid were obtained. He tolerated the procedure well. On the afternoon of the following day, after having been on the resin for five days, the patient became more restless and irritable. He began scratching all over his body, sat up in bed, rocked to and fro, but would lie down again when told to do so by his fellow patients. That same evening he became more excited, got out of bed without any clothes, and walked around his room in the nude. This necessitated his transfer to the psychiatric service.

On psychiatric examination he was uncooperative, obviously disoriented for time, place, and person, and would not answer questions, acting in a negative fashion. It appeared as though he was staring at things in the room, suggesting visual hallucinations. At times he acted as though he was suspicious and frightened. He did not show any gross tremors characteristic of delirium tremens, nor did he show a "flapping" type of tremor as seen in hepatic coma when his hands were held outstretched. Since it was suspected that he might be suffering from ammonium ion intoxication, the cation-exchange resin was stopped immediately, and the following morning, September 22, a blood sample was taken which showed 3.5 mg. per cent of ammonia nitrogen.* That morning the patient was able to partake of breakfast but would not communicate with anyone. In the afternoon he became more stuporous and did not respond when spoken to. However, he reacted to painful stimuli by tossing and cursing. On occasion he would sit up and thrash around. The physical examination was essentially the same as that described above except that the extensor plantar responses were much more definitely pathologic.

On September 23 the patient could be awakened, and he would be responsive and cooperative for a few minutes at a time. Although he was afebrile, his pulse varied between 90 and 100 per minute with increases during periods of mild excitation. His condition remained the same on September 24,

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* The Conway microdiffusion technic was used with no corrections made for nitrogenous substances in the blood capable of liberating ammonia (e.g., adenosine, glutamine) or for time elapsed between the shedding of blood and the determination.

TABLE I.—Laboratory Data

Date (September)	Weight (Pounds)	Renal Output Catheterized	Prothrombin		Other Tests
			Time	Control	
15	234	...	30	13	Blood urea nitrogen 4 mg. per cent Total protein 7.4 per cent Serum bilirubin 10 mg. per cent
16		*RESODEC, 30 Gm. three times daily*			
17	230.5	...	20	11	...
18	229.5	...	20	12	...
20	227	Paracentesis, 15 L.	26	14	...
21	197	*RESODEC stopped*			
22	...	Paracentesis, 1.5 L.	..	..	Blood ammonia nitrogen 3.5 mg. per cent
23	...	...	20	12	Blood urea nitrogen 20 mg. per cent Carbon dioxide content 20 mM. per L. Chloride 110 mEq. per L. Potassium 3.8 mEq. per L. Serum bilirubin 10 mg. per cent
24	...	...	23	13	...
25	176	...	..	..	...
26	...	...	..	..	Carbon dioxide content 21 mM. per L. Chloride 109 mEq. per L.
27	173	Paracentesis, 4.25 L.	24	13	Blood urea nitrogen 76 mg. per cent Blood ammonia nitrogen 1.2 mg. per cent Carbon dioxide content 20 mM. per L. Chloride 103 mEq. per L.
28	...	Foley catheter, 150 cc.	28	13	Sodium 137 mEq. per L. Potassium 5.3 mEq. per L.
29	...	675 cc.	24	13	...
30	...	8 hours, 270 cc.	22	14	...

and on September 25 psychiatric examination revealed the patient to be friendly, cooperative, coherent in his talk, and well-oriented in all spheres. He did not express any delusions or hallucinations and again insisted that he had not been drinking for a period of six months prior to his coming into the hospital. However, his diet had been poor. His affective responses were good, and he did not recall the unusual behavior which led to his transfer to the psychiatric service. Neurologically, his tendon reflexes were sluggish but equal on both sides, and the plantar responses were now equivocal. He complained of mild dyspnea when he tried to sit up because of his distended abdomen. His improvement was so marked that consideration was being given to his transfer back to the medical service. Later in the day he again became drowsy and by evening was slightly confused and refused to eat. He continued this way for the next few days, and because his extremities were so flaccid, it was thought he might be suffering from electrolyte depletion. However, blood studies of sodium and potassium were within normal limits (Table I). A blood ammonium determination performed on September 27 indicated a marked decrease, from the extremely high concentration previously noted, to 1.2 mg. per cent of ammonia nitrogen.

Associated with a developing oliguria, his blood urea nitrogen, which on admission was 4 mg. per cent, started to climb quite rapidly so that on September 27 it was 76 mg. per cent. He continued to be drowsy, lethargic, and responded to questions very slowly. On September 30 he began having large amounts of hematemesis, and evidently aspirated a small amount of blood. An esophageal balloon tube was inserted in an attempt to control the hemorrhages, but the patient expired late that evening.

On postmortem examination the diagnoses were as follows: (1) Laennec's cirrhosis of the hypertrophic type with fatty change and jaundice, (2) rupture of esophageal varices, (3) hemorrhage into the stomach, (4) ascites 2,000 cc., (5) slight enlargement of the spleen, (6) hyperemia and edema of the lungs with early bronchopneumonic changes in the right lower lobe and left upper lobe, (7) dilation of the left ventricle, and (8) areas of fat necroses in the pancreas.

Comment

This patient is noteworthy because he showed features of a delirium progressing into a semicomatose state without the characteristic tremor or stiffness of the extremities typical of hepatic coma. The low blood urea of 4 mg. per 100 cc. suggested that perhaps the liver would be incapable of detoxifying ammonium by conversion to urea. However, this was apparently not the case, as indicated by the subsequent marked rise in blood urea to 76 mg. per 100 cc. when oliguria developed. Nevertheless, the course of events was very suggestive of ammonium toxicity with temporary reversibility when the ammonium resin was stopped.

The value of a negative sodium balance in effecting dehydration has been shown repeatedly, and low-sodium diets have been used to control edema in patients with hepatic cirrhosis, nephrosis, or cardiac disease. However, the monotony of the same type of food and difficulty in preparing such diets led to the search for other means of depleting sodium. This was successfully accomplished by William Dock[11] less than a decade ago by using insoluble ion-exchange substances, some of which were synthetic resins. Since then, cation-exchange resins have been used extensively to remove sodium ions from the body. Ammonium resins were substituted for hydrogen ion resins because they were less unpleasant to take, and in some products about one fourth of the ammonium salts were replaced by potassium to decrease the possibility of hypokalemia and acidosis. In the stomach ammonium ion is given off, and sodium or potassium takes its place. Ordinarily, the ammonium is absorbed into the body and promptly converted to urea by the liver.[12] While the danger of resins in patients with poor renal excretory function has been stressed, the adverse results of its continued use in individuals with hepatic cirrhosis was not sufficiently appreciated until quite recently.[6]

The syndrome observed in patients with advanced cirrhosis of the liver who were given an ammonium cation-exchange resin typically consisted of drowsiness, confusion, disorientation, inappropriate behavior, "flapping tremor," and an electroencephalographic abnormality of bursts of high amplitude and synchronous slow waves of 2 to 3 per second activity in the frontal regions. Psychiatrically the clinical picture resembled an acute organic brain syndrome also known as a toxic psychosis. Coma was not always an inevitable consequence of giving such resins. The precipitation of untoward reactions did not correlate with serial measurements of serum pH, sodium, potassium, carbon dioxide content, or with nonprotein nitrogen levels.[7]

It has already been mentioned previously that the correlation between blood ammonium levels and the severity of clinical symptoms was not consistent. This is not surprising since the measurement of blood ammonium is notoriously unreliable and may more than triple its value within three minutes of shedding blood.[13] By constructing a graph expressing the increasing concentrations of blood ammonium on a time scale showing time elapsed from the shedding of the blood and extrapolating back to zero time, it has been concluded that there is no measurable ammonium in the circulating blood of normal individuals.[14,15] It is also known that in the alkaline medium which is used in the determination, various substances in blood, such as glutamine, adenosine, or adenylic acid, may readily liberate ammonia. No doubt, the unusually high figures for blood ammonia in our case was in a measure occasioned by the long delay in the determination. However, by taking the technical difficulties into consideration, White *et al.*[13] have been able to obtain meaningful estimations of blood ammonium by keeping the time factor constant at three minutes from the shedding of blood.

If the production of a delirium or the supervention of hepatic coma is related to an increase in blood ammonium or toxic nitrogenous substances dependent on ammonium as a precursor (as seems to be the case), then the degree of portal-systemic collateral circulation established becomes of crucial significance. The greater the collateral circulation, the more blood bypasses the liver. Should the blood contain considerable amounts of ammonia or nitrogenous substances absorbed from the intestines, this may then proceed directly to the vulnerable central nervous system and initiate symptoms. Obviously advanced liver disease, even without an extensive portal-systemic collateral circulation, could lead to the same situation through its failure to metabolize the nitrogenous substances. Thus, the danger of high-protein diets or giving large amounts of amino acids parenterally in the presence of advanced cirrhosis with extensive portal-systemic venous collaterals is obvious.

On the basis of experimental work which showed that acute necrosis of the liver can be produced by low-protein diets and prevented by cystine with choline or methionine, the tendency has been to feed protein-rich diets often supplemented with amino acids, especially methionine, to patients with cirrhosis of the liver.[17–22] This therapeutic approach now requires modification in advanced cases with significant collateral venous circulation. It has been shown that such individuals may show toxic reactions to the sustained administration of over 60 Gm. of dietary protein daily or if given 10 Gm. of methionine daily for as little as two to three days.[16] This occurs despite relatively normal urea synthesis when the patients are fed ammonium chloride.

The complaint of difficulty with night vision preceding his final admission suggested a vitamin A deficiency. It is known that rats fed a diet adequate in vitamin A may develop signs of vitamin A deficiency if tocopherol (vitamin E) is withheld. This phenomenon has been explained by the destructive oxidation of unsaturated lipids (including vitamin A) which proceeds readily in the absence of the antioxidant effect of tocopherol. In addition, tocopherol increases hepatic storage of vitamin A in animals on diets containing marginal amounts of this vitamin.[23]

With this in mind, it is noteworthy that tocopherol may compensate for the absence of the sulfur-containing amino acids, cystine and methionine, in avoiding the development of massive hepatic injury in animals fed protein-deficient diets.[22] Thus, if we are going to feed low-protein diets and avoid methionine supplements for fear of inducing a toxic delirium or hepatic coma in patients with advanced cirrhosis of the liver, protection may be afforded by tocopherol. The latter does not contain nitrogen or sulfur, yet it prevents hepatic injury where a low-protein, high-fat diet is given.

Studies on the ammonia content of cerebrospinal fluid were performed by Riebeling[24] and independently by Brühl.[24] Both investigators reported that the cerebrospinal fluid contained appreciable amounts of free ammonia which they believe diffused out of the brain. The concentration of ammonia increased after epileptic fits, and Brühl suggests that it might serve as an indicator of cerebral irritation. However, further work by Richter, Dawson, and Ries[24] using special technics to avoid contamination by blood showed that the spinal fluid ammonia content was generally less than 0.01 mg. per cent and that there was no significant rise following convulsions induced by electric means or following spontaneous grand mal attacks. The apparent rise in cerebrospinal fluid ammonia came from the breakdown of glutamine facilitated by glutaminase which was liberated into the fluid by local tissue damage attendant upon the use of a large-bore lumbar puncture needle. Regardless of the origin of the ammonia in the cerebrospinal fluid, no biochemical or serologic abnormality was detected in the fluid of seven patients with advanced liver disease *except* for elevated ammonia levels.[16]

It is intriguing to speculate on the possibility of a similar metabolic factor being involved in the onset of alcoholic delirium tremens and incipient hepatic coma or portal-systemic encephalopathy. In December, 1953, at a time when he had advanced liver disease, our patient was admitted for a phlebitis. He had no chills or fever and was placed on a high-protein diet. Two days later he became disoriented, excited, tremulous, delusional, and had visual hallucinations. The likelihood that acute withdrawal of alcohol was the etiologic factor is quite strong.[25] However, the fundamental question concerning the nature of the electrochemical changes in the brain cells which leads to neuropsychiatric symptoms remains unanswered.

Summary

A chronic alcoholic patient who had experienced previous episodes of delirium tremens subsequently developed cirrhosis of the liver with extensive portal-systemic venous collateral circulation. To control his ascites he was given an ammonium-containing cation-exchange resin which precipitated a delirious reaction (toxic psychosis) most likely related to the toxic effect of ammonium or other poisonous nitrogenous substances derived from it. This patient did not show the typical picture of hepatic coma, and the diagnosis was temporarily confused with delirium tremens. A relationship between the latter and classic examples of hepatic coma may ultimately be found in the central nervous system metabolism of ammonium. The therapeutic implications in terms of diet and medications to be used with advanced cases of cirrhosis of the liver are discussed.

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Lung Biopsy as a Diagnostic Aid

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In a majority of patients suffering from diseases of the lungs, the diagnosis will be made by history, x-ray, physical examination, or more specialized tests. Bronchoscopy has become increasingly more fruitful; specialized x-rays such as bronchography and planography each have their place. Examination of body fluids and sputum and the use of skin tests, in general, are overdone. A definite diagnosis will many times be made by the removal of localized pulmonary lesions, a therapeutic as well as diagnostic exercise.

In patients with generalized pulmonary disease there will remain a considerable number of patients in whom the diagnosis eludes the physician despite laboratory help and in whom bronchoscopy, bronchography, planography, and a scalene node biopsy have not yielded a firm diagnosis.

The procedure of planned pulmonary biopsy as a diagnostic procedure was suggested by Klassen *et al.*[1] of the Ohio State University, who wrote a paper in 1947 on the subject. As of April, 1955, the procedure has been used by them approximately 120 times; this includes approximately 30 cases of pulmonary tuberculosis, diagnosed microscopically and bacteriologically, in which no complications resulted from the surgical procedure. There have been no deaths in this series. Klassen's *et al.* indication, as is ours, is the existence in a symptomatic or asymptomatic patient of bilateral generalized pulmonary disease otherwise undiagnosable.

The technic of a planned lung biopsy consists in a surgical exploration of the chosen hemithorax under the usual surgical conditions. The patient is placed on an operating table, and an intravenous infusion is started by an anesthetist so that general anesthesia may be induced quickly, using Pentothal, if necessary. The anesthetist

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has at hand his anesthetic machine and intratracheal intubation material. The anterior right or left third or fourth interspaces are usually chosen, the fourth in women because the inframammary incision yields a better cosmetic result. The skin is prepared, and the patient is draped as for the anterior thoracotomy. As soon as the drapes are applied, the anesthetist applies a mask containing oxygen to the patient's face to accustom the patient to the feel of the mask and to the sensation of breathing against mild positive pressure. The inhalation of oxygen under positive pressure from the mask is continued at intervals during the first portion of the procedure. The proposed line of incision is infiltrated with 0.5 per cent procaine, and an intercostal block is done at the lateral extent of the planned incision. The incision is carried through the skin, subcutaneous tissues, and the pectoral muscle group to the chest wall. Occasionally biopsies of the skin, fat, and muscles are taken if there seems to be any reason for doing so. When the intercostal space is exposed, infiltration again is carried out with procaine, and the chest is entered by an intercostal incision. The anesthetist now gives positive pressure oxygen so as to prevent collapse of the lung, and this is continued as long as the pleural space is opened. A small retractor is placed in the incision and the ribs spread about a centimeter. At this point the patient usually has discomfort from the spreading of the ribs, but this is not severe.

The hilum of the lung is examined and inspected by palpation, and if desired, nodes which are not firmly adherent can be removed. A portion of lung is chosen after palpation and inspection, and a clamp is placed across the proposed site of extirpation. When the wedge of lung has been removed, the cut edge is oversewn with a fine chromic catgut suture, making a two-layer closure by reversing the stitch.

Two catheters are then placed in the pleural space, and the wound is closed in layers in the usual manner. Removal of the catheters while applying suction as they are withdrawn is to remove the air remaining in the pleural space. An obliterated pleural space makes the operation somewhat more tedious, but a good biopsy has been obtained in patients with this complication. The rest of the wound is then closed, and the patients ordinarily can sit up on the table after completion of the procedure and be removed to the surgical recovery room. The surgical recovery room stay is for about one hour, during which time the patient is repeatedly examined for evidences of pneumothorax on the operated side.

The biopsy specimen is usually cut in half by the surgeon, and half is sent to bacteriology to be minced and cultured, the other half being sent to the pathologist for ordinary and for special examinations. Illustrative cases follow.

Case Reports

CASE 1.—E. M., age sixty-three, had cough and raised thin, bloody sputum. The x-rays showed bilateral pulmonary "infiltrates." Bronchoscopy was negative. Sputum and aspirates disclosed pus cells, blood cells, heart failure cells, and desquamated mucosal cells. Biopsy which removed a portion of the right middle lobe and a regional hilar node disclosed metastatic epidermoid carcinoma to the lymph node and carcinoma cells lying in the lymphatics surrounding the small bronchi in the pulmonary section. No primary carcinoma was found.

CASE 2.—E. S., fifty-seven-year-old man, had shortness of breath increasing for the previous two years. X-rays showed multiple small calcific nodules throughout both lungs and some increase in size of the right ventricular component of the cardiac shadow. Bronchoscopy was negative, and sputum studies revealed only heart failure cells. Tests of pulmonary function revealed a maximum breathing capacity of 55 per cent of that predicted with a vital capacity of 95 per cent of predicted capacity. A one-second vital capacity was 25 per cent of the patient's vital capacity, and the two-second was 55 per cent. Removal of a portion of the left lung revealed the small nodules to lie subpleurally, and the pathologist's report was "nodular pulmonary fibrosis with secondary emphysema and bronchiectasis." The calcific nodules proved to be black, amorphous, carbon-like material rather than calcium.

CASE 3.—V. O., thirty-one-year-old man, had recurrent hemoptysis and fever which had occurred approximately twice per year for the preceding three years. Development of a right heart strain pattern was seen on serial electrocardiographs, and bilateral pulmonary infiltrates were visible on x-ray. Bronchoscopy was entirely negative; scalene node biopsy showed only hyperplasia. A removal of a portion of the right middle lobe revealed pleural fluid in excessive amounts with increase in pericardial fluid. The lung was solid, and when the biopsy was done, there was no bleeding from the cut surface. Diagnosis was multiple pulmonary emboli and parenchymal changes of the lungs consistent with severe chronic cardiac failure.

Case 4.—M. S., thirty-eight-year-old woman, had dyspnea, cough, and intermittent fever. Bronchoscopy was entirely negative. Bilateral pulmonary infiltrates were present. Right axillary nodes were normal in appearance. Removal of a portion of the anterior segment of the right upper lobe revealed a chronic granuloma diagnosed as Boeck's sarcoid.

Case 5.—F. K., thirty-eight-year-old woman, had cough and increase in dyspnea for the previous six years with bilateral pulmonary infiltrates. Exhaustive pulmonary studies, including all the laboratory work that could be thought of, had been done in this patient, but no diagnosis could be made. A portion of the right middle lobe was removed and was reported as "pulmonary adenomatosis" with disagreement between pathologists, another report being profound pulmonary fibrosis.

Case 6.—B. P., a fifty-year-old man with a low-grade fever, had sputum which on numerous occasions yielded a fungus. Bilateral pulmonary infiltrates with bilateral scarring were present. There was no response to the use of the fungus as a vaccine and no response to antibiotic. Removal of a portion of the right lung with a completely free pleural space, in which lay a moderate amount of yellow fluid, revealed a multinodular mucoid-producing carcinomatous lesion, thought by the examining pathologist to be metastatic adenomatous carcinoma of lung.

Case 7.—W. B., a fifty-year-old coke oven worker, had increase in dyspnea for two years and bilateral pulmonary shadows, not nodular in distribution. Bronchoscopy was not remarkable; pulmonary function studies showed good flow, and cardiac catheterization showed remarkably high pressures in the pulmonary artery and right heart. Removal of a portion of the left upper lobe revealed a normal lung. Autopsy in this patient five months later revealed a myxoma of the left atrium, undiagnosed until the autopsy.

Conclusion

In conclusion, it is to be hoped that with the development of modern thoracic surgery, exploration of the thorax under local anesthesia may be regarded as producing little morbidity and minimum mortality. The procedure must be done under proper conditions, and the postoperative care should be as careful as in any other surgery. Diagnostic lung biopsy is not a substitute for the removal of a localized lesion and should not be regarded as a therapeutic attempt.

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Survey of Ophthalmology

In February, 1956, the first issue of *Survey of Ophthalmology* will appear. It will be a bimonthly one volume of 600 pages a year.

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The Role of Infection in Asthma

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It is generally agreed that bronchial asthma is an expression of the allergic individual's reaction to foreign substances to which he has become sensitive. Pollens, dusts, animal danders by inhalation, foods, and some drugs by ingestion can be shown to be the causative agents. This is accomplished by means of intensive questioning of the patient, often by skin test with extracts of the suspected agent, and finally by verification, using clinical trial and error procedures to produce an attack by exposing the patient when symptom-free to the allergen which is suspected. In addition, the allergic antibody, closely linked with the positive skin test and with the exacerbation of asthma, can often be demonstrated in the blood as well as in the cutaneous tissues of the patient.[1] These criteria can be successfully applied in the asthmatic whose symptoms develop from exposure to airborne excitants and foods; unfortunately, however, they are largely lacking in the case of the individual whose asthmatic distress is thought to be due to sensitization to bacteria. In such individuals suspected of having a bacterial cause for the asthma, the clinical history often is obscure, the skin test is negative to bacterial excitants, the clinical trial and error procedure is usually impossible, and the allergic antibody cannot be demonstrated.

The absence of these important criteria has prevented the general acceptance of the idea that infective processes with absorption of bacterial products by the individual is a major cause of bronchial asthma. Indeed many observers remain uncertain as to the actual occurrence of bronchial asthma due to bacterial products and attempt to classify all asthmatic cases as being caused by inhalants, foods, or drugs. Where infection is present, such observers consider it as simply a concomitant nonetiologic feature. The areas of bacterial activity suspected of causing bronchial asthma are usually located in the upper respiratory tract. In the child the tissues of the nasopharynx are commonly involved[2] with hyperplastic changes in the lymphoid tissue and with hypertrophy of the faucial and lingual tonsils. In longstanding cases of nasopharyngitis the paranasal sinuses, especially the ethmoids and antra, become involved as a result, it is believed, of an extension of the inflammation from the site of the original invasion in the nasopharynx to these areas. In the adult the paranasal sinuses are the sites chiefly involved with similar hyperplastic changes.[3] Infection, which may have been previously present in the nasopharynx, often is not manifested due to the natural involution of the adenoid tissue, even when saddled with bacteria. The teeth may provide an additional area of infection and the bronchial tissue also, but except in rare instances neither are found to be primarily involved. Other areas of the body seldom provide the source of bacterial activity linked with asthma; the appendix, gallbladder, intestine, or prostate is rarely involved as a suspected focus.

Everyone is exposed to an almost equal degree to those foreign substances of extraneous origin which are notorious in causing bronchial asthma. The proteins of pollens, dusts, lints, animal dander particles normally pass through the respiratory mucosa while maintaining their antigenic characteristics. In like manner food proteins penetrate the intestinal mucosae. By experimental methods such inhalant and food proteins, largely unchanged, can be demonstrated in the circulating blood of the normal as well as of the allergic individual. Even the skin provides no barrier to such transmission. Only in the allergic person, however, does the presence of such foreign proteins in the tissues lead to symptoms of sensitization. Severe, even disabling effects characteristic of coryza, asthma, or skin and intestinal hypersensitivity may thus result.

The scavenging and clearing process of the body, phagocytosis, usually deals with such foreign particles without disturbing or damaging after-effects. In a small segment of the population, however, the activities of the phagocytic

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cells, apparently influenced by hereditary capacities,[4,5] are thought to be extended and exaggerated.[6] In the process the globulin of many of the involved cells is changed to antibody globulin to such an extent that hypersensitive or allergic reactions may occur on any subsequent exposure of the individual to the identical foreign protein. It has been shown experimentally in the lower animal that airborne allergens such as pollens and animal danders, ingested allergens such as foods, and invading bacterial agents can cause this altered and expanded phagocytic response, which is termed the immune or hypersensitive reaction. It may be that by constant or repeated exposure to minute as well as to excessive amounts of such allergens, the individual who has been shown to possess hereditary capacities for sensitization[4] becomes allergic to foreign protein, inhaled or ingested. Frequently there can be demonstrated in the skin and in the blood of such individuals the typical allergic antibody specific for inhalants or foods.

It is but rational to assume that such an allergic individual so readily responsive to inhalant or food proteins can become sensitive also to the protein or products of bacteria, particularly if they are being continuously and increasingly evolved in his tissues. Such an assumption does not lend itself so readily to proof. There is lacking the positive skin test with the bacterial products suspected of being the causative allergen; neither has the allergic antibody as yet been demonstrated.

There are several features which are characteristic of asthma which we consider due to infection. There is often a family history positive for clinical allergic conditions in the antecedent or collateral members; hay fever, bronchial asthma, dermatoses are frequently present, caused by inhalants such as pollens, dusts, animal danders, or foods. Acute or chronic respiratory infections are frequently found, such as rhinitis, otitis, tonsillitis, sinusitis, and bronchitis. In the personal history of the asthmatic with an infective element, the symptoms are usually nonseasonal although worse in winter, eventually continuous, and influenced but little by change in environment unless there is a complicating inhalant cause. The asthmatic attacks are often severe and may lead easily to the intractable condition known as "status asthmaticus." Such patients have a history of frequent hospitalization and repeated need for oxygen therapy, antibiotics, and steroid medication. Their severe episodes occur first as a rule after the age of thirty-five years and may follow months or years of suffering from sinusitis or bronchitis. In the child, otitis media, nasal obstruction, and tonsillitis are frequent precursors. Pertussis, measles, or a tonsillectomy may be linked with the onset of the asthmatic condition.

A distinction should be made between the persistent chronic asthma due to continuous infection of the upper respiratory tract and the occasional exacerbation of asthma which may occur in the inhalant or food type of asthmatic patient who is suddenly involved with an acute upper respiratory infection. In the latter instance the acute infection may be considered to be a secondary factor, to be grouped with other secondary, nonspecific excitants which lower the individual's resistance to the point of permitting asthma. Among such secondary factors are fatigue, tensions, emotional distresses, weather excesses, and chemical odors.

On physical examination the chronic infective asthmatic is usually found to be undernourished with loss of weight and energy from lack of appetite, interrupted sleep, and continual combat with bacterial activity. There is often a low-grade anemia and poor posture. The hunched and barrel chest with the exaggerated prominence of the projecting wings of the scapulae and, especially in the child, the pigeon breast are the results of continual, unrelieved bouts with asthma. There is tenseness, querulousness, and easily developed fatigue, all evidences of lack of physical endurance due to infection. The asthmatic whose symptoms are due only to allergy to pollens, dusts, and foods rarely exhibits these signs and symptoms.

In the allergic individual the membranes of the nose and throat have an appearance so characteristic that it is used as evidence of respiratory sensitization. They are usually pale, bluish, and boggy. This appearance, however, is not typical of inhalant or food sensitization only but is found also in the infective case. There may be nasal polyps in the adult and hypertrophy of infected lymphoid and tonsillar tissue in the child. Purulent secretions are found but rarely except in cases with a secondary acute or chronic infection superimposed on the chronic allergic infection. On transillumination the frontal and maxillary sinuses may be cloudy. In the chronic infective asthmatic the chest is rarely clear of rales. Even when the breathing seems normal, cough followed by deep inspiration will demonstrate rales in the bases posteriorly or in the apices. Of significance among the laboratory findings there is present in the circulating blood, especially during the asthmatic attack, a high eosinophil count, which is generally accepted as a major characteristic sensitization phenomenon. The nasal and sinus secretions may also contain many eosinophils. There may be a leukocytosis, an increased sedimentation rate, and very recently we have found a positive C-reactive protein test, an additional evidence of active infection superimposed on acute infection. Fever also is an evidence of superimposed acute infection. It appears rarely, usually causing a disappearance of asthma during its stay.

By chest x-ray the enlargement of the hilar glands reveals the task placed upon them as a clearing mechanism, while the sinus films show one or more areas involved, often with hyperplastic polypoid tissue which may fill the cavities, especially where the antra are involved. In the child the soft tissue film exposed laterally may indicate the presence of nasopharyngeal shadows indicative of hypertrophied adenoid tissue.

The sinusitis associated with bronchial asthma may be the usual type, the result of infection superimposed on membranes irritated and low in resistance from continued exposure to inhaled or, occasionally, ingested substances. Such sinus infections usually are associated with an abrupt, well-recognized onset accompanied, as stated, by fever, congestion of the tissues, pain, serous and purulent nasal discharge, leukocytosis, elevated sedimentation rate, and a positive C-reactive protein test. In such cases the infection is a secondary concomitant condition which may aggravate but not produce the asthma.

The sinusitis which is the primary etiologic factor in infective asthma presents quite different characteristics. It is often asymptomatic and insidious in its onset which may have occurred many months or years previous to the appearance of the asthma. Its presence may be first revealed by x-ray which reveals hyperplastic, greatly thickened sinus membranes which may completely fill the sinus cavities. No pain or discomfort referable to the sinuses is experienced by the patient, who frequently, therefore, finds it difficult to accept the idea that he has sinusitis. The usual points by which the diagnosis is made are lacking. There is no pain, no temperature, rarely a purulent discharge, and in the absence of nasal polyps no nasal obstruction. There is no leukocytosis, increased sedimentation rate, or C-reactive protein. It is this type of bacterial invasion—primary in nature, insidious, asymptomatic, often low in activity, not arousing the tissues to active vigorous combat—which provides the continuously present and slowly increasing infection to whose products, by constant exposure, the patient with a capacity for sensitization may become allergic.

Such hyperplastic sinusitis may be found in both child and adult. In addition, in the child the adenoid tissue, present primarily or by regrowth following surgery, may become hypertrophied and infected, thus providing the bacterial exposure to which the patient may become sensitive. Such hypertrophy frequently occurs in children found sensitive, clinically and by test, to inhalants such as pollens, dusts, and animal danders. By the age of sixteen years such adenoid tissue usually regresses, even though infected, and thus this source of bacterial asthma may disappear. Before that time, however, the infection may have extended to the neighboring sinus mucosa from which it continues to be the causative factor for many years.

The only truly successful measure for relief from bronchial asthma regardless of type is the separation of the patient from his specific etiologic factors, as expressed in the phrase, "Remove the cause." In cases of asthma due to dusts, pollens, animal danders, and foods, complete freedom from discomfort can be obtained only by disposing of the recognized allergens or by removing the patient to an environment which lacks them. Immunizing injection therapy will bring only partial relief. For the asthmatic whose symptoms are due to continual exposure to bacterial activity, this same policy holds true. For the infective asthmatic a satisfactory degree of relief can be obtained only by identifying the tissue depots of the infection and by removing them surgically as far as possible.

In the adult but not in the child, the physical removal of the infected hyperplastic tissue of the maxillary sinuses should be attempted by a modified Caldwell-Luc technic.[7] This may be carried out under local anesthesia and in the hands of a skilled operator leads to little trauma, edema, or ecchymosis, the patient being able to leave the hospital on the second or third day, barring complications, with little evidence of tissue injury of the face.[7] Satisfactory results are rarely obtained in hyperplastic sinusitis by the more simple procedure of creating only a permanent opening between involved antrum and the nasal cavity. The administration of an oral antibiotic for two days before and three days after the operative procedure may insure against spread of the infection during the surgery, while to control the asthma during this period cortisone or ACTH may be used if conditions demand and the patient's system permits. It may be necessary to remove nasal polyps and to eradicate the ethmoid cells. Following such a procedure the hyperplastic membrane is replaced by scar tissue covered by squamous epithelium.

It is essential that as much of the infected hyperplastic tissue be removed as is physically possible since the rate and degree of improvement will depend upon the amount of remaining infected tissue with which the patient must cope. Cases with longstanding sinusitis with extensive hyperplastic involvement of the sinuses can be expected to show the least satisfactory results. In such cases secondary pathologic complications in the lower respiratory tract, such as bronchitis and bronchiectasis, may render the asthmatic condition irreversible, regardless of the successful and comprehensive removal of infection by sinus surgery. It is in the more recent cases, with the hyperplastic changes not yet so extensive and with secondary features not yet acquired, that a greater part of the infected tissue may be removed and better results expected. Such improvement may be prompt but usually develops slowly over a period of many months required by the tissues to conquer the residual infection. The full benefit of surgery may not be evident for two to three years. It is essential to emphasize to the patient contemplating a sinus operation that surgery is promptly and completely successful in eradicating infection only where a pathologic appendage is removed, such as the appendix, gallbladder, tooth, or pelvic organs. In other situations, following surgery, time is required for the body to dominate and subdue the residual infection present in the adjacent tissues which are impossible to remove. Any associated skin-sensitive allergy, as to pollen, dust, or food, must be recognized and treated concurrently. Neglect of this facet of the patient's problem may lead to disappointing results.

Vaccine therapy is usually disappointing unless corrective surgery has been completed. Stock catarrhal vaccine may prove successful, but the most helpful, since truly specific, is the autogenous prepared from culture of tissue sections of the infected sinus membranes removed at the time of the operation. Cultures of tonsil or adenoid tissue sections removed during the operation also afford extremely potent and effective vaccines. Such preparations must be employed with extreme caution and in high dilutions since it is usually quite possible to throw the patient into a severe, prolonged, and prostrating asthmatic condition or status asthmaticus with the injection of as minute an amount as $^1/_{20}$ ml. of a 1:100,000 dilution of a 1 per cent heat-killed autogenous bacterial suspension. Such experiences and observations provide convincing evidence that the specific exciting factor is a bacterial antigen and that the asthmatic condition is truly infective in origin. When introduced intradermally, such highly diluted autogenous vaccines produce in the patient, not the immediate wheal and flare, the positive reaction typical of the skin-sensitive patient allergic to pollens, dusts, and foods, but a twenty-four to forty-eight-hour delayed reaction with erythema, itching, and induration. This reaction also is specific and evidence of the presence of a bacterial allergy. These vaccine preparations are truly antigenic. Their systemic and local effects indicate that the bacteria recovered from deep in the sinus, tonsil, or adenoid tissues are the specific exciting causes of the asthma. In contrast, vaccines prepared from cultures of the surface bacteria of the nasal, sinus, and nasopharyngeal membranes are rarely potent since they do not usually contain the specific exciting organisms.

In the child of eighteen years or younger[8] and in the elderly patient or in cardiac or hypertensive cases, little can be done surgically to the sinuses, even though they may be considerably involved.

Removal of infected tonsils is but rarely followed by prompt improvement in the asthma; the lessening of symptoms parallels the lessening of the sinusitis, which the tonsillectomy may permit in the child but only occasionally in the adult. The decision to remove the tonsils should not be made lightly. If they are definitely infected, the surgical manipulation of the tissue may spread the infection, consequently aggravating or even primarily inducing bronchitic or asthmatic symptoms. Oral antibiotic therapy two days before and three days after the operation may lessen this hazard.

At times removal of the adenoid tissue only is indicated. This should be done surgically if there is a sufficient amount or by irradiation with x-ray or with radon by the method of Crowe and Ward[9] if, as in cases who have had previous adenoidectomies, the infected tissue is diffused and difficult to grasp. In a series of asthmatic children with hypertrophied and infected lymphoid tissue excellent results have been obtained in such procedures.[10] Such asthmatic children with infected adenoid tissue usually have a concomitant allergy to airborne inhalants or foods. This infected adenoid tissue is often overlooked, although it occurs frequently in skin-sensitive children allergic to inhaled or ingested excitants. It becomes a formidable obstacle to improvement when allergic measures alone, such as injection therapy, diets, or environmental changes, are employed.

Removal of the infected tissue, then, is the most important phase of treatment of the bacterial infective asthmatic. The intention is to remove to the fullest extent possible the involved tissues of the paranasal sinuses and nasopharynx. Autogenous vaccines prepared from such tissues would seem to be true antigens, and their administration would seem to be a specific immunizing procedure. The demonstration of an antibody-antigen mechanism as confirmatory evidence is lacking as yet.

The specific measures useful in the treatment of cases of bacterial asthma, then, may be said to be identical with those employed in other types of asthma: (1) to remove the cause as far as possible and (2) to give immunizing injections of the specific allergic excitant. The nonspecific measures employed in such cases also are largely those useful in inhalant and food types of asthma but are found to be less successful because of the stubborn, continuous patterns of symptoms in the infective asthmatic in contrast to their temporary and self-limiting nature in the noninfective. Furthermore, in the bacterial asthmatic the unyielding, persistent character of the symptoms encourage the early development of secondary pathologic conditions such as emphysema, bronchitis, and bronchiectasis, which demand therapeutic measures for their control.

The antibiotic drugs have proved most helpful in controlling the acute exacerbations of the bacterial asthmatic. They must be used with caution in the allergic patient since there is always present the hazard, especially with penicillin, of causing the allergic patient to become sensitized to them. Such sensitization, occasionally most severe, usually occurs in individuals previously exposed to the drug in spray, troche, aerosol, ointment, or by injection. Interrupted rather than continuous use seems to favor the development of such an allergy. Quite safe, however, are most of the antibiotics if given in oral doses over a period of five to ten days three to four times daily. Such doses usually control acute upper respiratory infections in both child and adult which might lead to asthmatic exacerbations. The antibiotics, however, have been completely disappointing in controlling the continuous, stubborn, basic bacterial activity in the hyperplastic tissue which is responsible for the chronic infective asthma. This is probably due to the fact that the antibiotic cannot prevent the antibody-antigen mechanism, considered as present in such cases and responsible for the symptoms.

The steroid hormones, cortisone and ACTH, have proved highly useful in controlling even the most severe exacerbations of asthma in properly selected cases. They have a dramatic, remedial effect on cases of intractable asthma and are far superior to any other therapeutic agent in the control of status asthmaticus. They are most useful in such self-limited episodes of severe asthma but are not to be considered curative since they only suppress the aroused allergic mechanism and do not alter it. They do not replace specific therapy in the infective asthmatic, nor do they possess antibacterial properties. Indeed, they may mask the spread of uncontrolled infection. For this reason an antibiotic should be combined with the steroid.

For the present, treatment with the steroids is reserved for the severe intractable asthmatic who has failed to respond to the usual remedies. They should be used only in those patients who have asthma which is so severe as to endanger life or in whom it is of unbearable duration despite usual remedies employed adequately and judiciously. These hormones have proved less beneficial to patients who have chronic lung pathology such as emphysema and pulmonary fibrosis. In fact, some of the patients in this group have been made decidedly worse during this type of therapy. Patients with pre-existing diabetes, tuberculosis, peptic ulcer, or cardiac, renal, or mental disease of course should not be treated with the steroid hormones.

Among the expectorants, potassium iodide is the most useful and at the same time the most neglected of antiasthmatic remedies. Its continued use over extended periods in doses three times daily of 5 to 20 minims insures the liquefaction of bronchial mucus in the infective asthmatic. Where poorly tolerated, the use of potassium iodide may be interrupted one to two days a week, or ammonium chloride, a poor second, may be given in 5 to 10-grain doses twice daily.

The antihistaminic drugs are contraindicated in these infective cases since they have a drying effect on the bronchial mucosa, just opposite to that for which potassium iodide is given. Ephedrine, aminophylline, and epinephrine in their several compounds and several forms are of greatest importance as antiasthmatic agents but are so well known that we need not consider them here.

A radical change in climate to that of the Southwest, as in New Mexico and Arizona, will prove helpful in many cases of infective asthma, especially in the more recent cases where secondary pathologic features have not as yet occurred. The asthmatic child of ten years or less, too young for surgical treatment of the sinuses, may show pronounced, even permanent improvement by a stay of four consecutive school years there. Also the adult patient in whom sinus surgery is contraindicated due to advanced age or complicating physical conditions should, if possible, attempt a stay in the Southwest. Wherever feasible, however, corrective sinus surgery should be completed before a change in climate.

Conclusion

In conclusion, there may be restated the reasons why the role of infection in bronchial asthma is often considered etiologic and antigenic:

1. There is the presence frequently of a family history positive for clinical allergic conditions in the antecedent and collateral members.
2. A high eosinophil count, characteristic of sensitization phenomena, is often found.
3. A pronounced, specific, local but delayed reaction on skin test may be obtained with an autogenous vaccine.
4. Prompt, overwhelming asthmatic symptoms may be produced by the hypodermic administration of minute amounts of such vaccine.
5. Appreciable permanent relief of asthmatic symptoms can be obtained by surgical removal of the infected tissues, especially in the more recent, uncomplicated cases.

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Discussion

Murray M. Albert, M.D., *Brooklyn.*—The role of infection in asthma is probably the most controversial issue in the entire field of allergy. The diagnosis of infectious asthma is usually arrived at by exclusion. When a patient shows negative skin reactions, when it is impossible to incriminate any specific allergen clinically, when the attacks are preceded by upper respiratory infections, and especially when there is some suspicious focus of infection, such as enlarged tonsils or clouding of the sinuses, a diagnosis of infectious asthma is made.

Most investigators feel that while theoretically the existence of bacterial atopy is conceivable, yet from an immunologic and clinical viewpoint its occurrence is far from proved. With few exceptions all are of the opinion that skin tests with vaccines, either stock or autogenous, are practically useless. The specific immediate wheal type of reaction cannot be elicited, and the delayed type of reaction is not necessarily specific or diagnostic. Immediate constitutional reactions following vaccine therapy, although they occur, are not common.

It is generally agreed the most common precipitating factors in the causation of asthmatic attacks are acute and chronic infections of the upper respiratory tract. There is little doubt of the existence of a strong etiologic relationship between certain pathologic conditions in the nose and paranasal sinuses and bronchial asthma. There is, however, considerable doubt and controversy as to whether the nasal pathology is the primary factor and the asthma the secondary resultant condition or whether the asthma is primary and the nasal condition a concomitant factor. The consensus at present appears to be that while hyperplastic sinus disease is frequently encountered among asthmatics, it is more often the result than the cause of the asthmatic condition.

In addition to the bacterial atopy theory a number of other theories have been suggested to explain the mechanism by which infections of the upper respiratory tract may provoke asthma:

1. One theory is that infections act purely as nonspecific factors in individuals who are sensitive to nonbacterial allergens (extrinsic). They lower the threshold of allergic tolerance so that attacks of asthma are now caused by allergens to which the patient was only slightly sensitive and from which formerly he had no clinical symptoms. Many allergists subscribe to the theory that foods constitute an important latent factor which becomes activated only during periods of acute upper respiratory distress.

2. A second theory is that reflex irritation of the sensitive nasal area (trigger area of Hazeltine) from polyps, obstruction, irritating discharges from infected sinuses, etc., can induce asthmatic paroxysms.

3. A third theory is that mechanical obstruction from marked swelling or hypertrophy of the turbinates causes mouth breathing with the result that the dry cold air which is inhaled produces irritation of the trachea or bronchi.

4. A fourth theory is that the absorption of toxic products of infection from the nasal passages or accessory sinuses into the blood or lymph channels may cause asthma through irritation of the susceptible bronchial tissues. Feinberg[a] states that it is not mandatory to suppose that an allergic mechanism is required to produce all types of asthma. It is possible that chemical substances of a cholinergic nature can be manufactured by bacteria and may be responsible for the production of this disease.

5. A fifth theory presumes that the constant drainage of pus from infected nasal tissues may directly produce irritation of the bronchi and result in asthmatic attacks.

A review of the voluminous literature on the rhinologic treatment of bronchial asthma reveals a wide divergence of opinion among competent investigators as to the relative value of sinus surgery. Reports of studies made on carefully selected groups of patients with asthma and sinus pathology reveal that those patients subjected to radical sinus surgery rarely fare any better than those treated conservatively when observations are made over a long period of time.

The consensus appears to be that nasal and sinus disease are not the primary etiologic factors in the causation of asthma but are concomitant manifestations of the same condition. It would appear, therefore, that the treatment of the nose and paranasal sinuses in the asthmatic should be conservative at the onset. Allergic investigation and treatment should be carried out for long periods of time before rhinologic treatment is instituted. Radical sinus surgery should not be made the routine treatment for all asthmatics who have sinus pathology. It should be reserved for those serious cases where other measures fail to afford relief. Even in these cases it is hazardous to offer much hope for relief.

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[a] Feinberg, S. M.: Allergy in Practice, Chicago, Year Book Publishers, 1944.

Reduction in Cancer Mortality

Encouragement is seen by the statisticians of the Metropolitan Life Insurance Company in the measure of progress made during the past decade in reducing cancer mortality among adults prior to midlife.

In the experience of the insurance company's industrial policyholders, mortality from malignancies among white females showed a decrease during the past decade for each age group of the range from fifteen through forty-four, the reductions varying from 9 per cent at ages twenty-five to thirty-four to 18 per cent at ages thirty-five to forty-four. Among white males in this experience the mortality improved appreciably at ages fifteen to twenty-four, and was virtually unchanged at ages thirty-five to forty-four; in the age group twenty-five to thirty-four, however, the trend was upward.

The relatively favorable trend for women is accounted for by a considerable decline in the mortality from cancer of the genital organs, and by a downward trend in malignancies of the digestive system.

"The progress made in the control of cancer among adults prior to midlife reflects both the increased tendency to seek medical care earlier in the progress of the disease and the advances in methods of diagnosis and treatment," the statisticians comment. "Many lives could be saved in our country, as the American Cancer Society points out, if more cancers were detected early and treated promptly."

Contrary to popular opinion that cancer is almost exclusively a disease of middle and later life, there were more than 20,000 cancer deaths in the general population of the United States last year where the patient was in the ages from fifteen through forty-four years, according to the statisticians. These deaths accounted for approximately one-twelfth of the mortality from cancer at all ages combined in 1954.

The greatest promise of eventually controlling cancer, the statisticians point out, lies in further research.

Newer Knowledge of Melanin Pigmentation and the Treatment of Melanin Disturbances in the Skin

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NEW treatments which have been described for melanin disturbances of the skin have brightened, to a small extent at least, the hopeless outlook which existed for patients afflicted with such disorders. Any discussion of these treatments is inseparable from a consideration of the mechanism of melanin formation, and our knowledge of each of the two aspects of this subject benefits from a greater understanding of the other.

Tyrosine-Tyrosinase Reaction

Melanin is an insoluble brown or black pigment that is formed in the melanocytes of the skin. The formed pigment seems bound to a pseudoglobulin,[1] and studies with the electron microscope indicate that melanin granules are not merely unshaped deposits but have a specific structure.[2]

The chemical elaboration of melanin from the colorless amino acid tyrosine by a tyrosinase enzyme system was demonstrated in plants and lower animals many years ago, and recent studies[3-5] have demonstrated such a tyrosinase system in a partially inhibited state in normal human skin. Fitzpatrick, Becker, Lerner, and Montgomery[3] were able to activate this tyrosinase by repeated ultraviolet irradiations. In the presence of molecular oxygen, tyrosinase converts tyrosine to dopa (l-3,4 dihydroxyphenylalanine), slowly at first and then more rapidly. The enzyme then oxidizes dopa into several quinone compounds which are polymerized into melanin.

Our understanding of the physiologic regulation of melanin formation in the skin is incomplete. To a great extent, this regulation may depend on the inhibition of tyrosinase by naturally occurring sulfhydril compounds. Van Scott, Rothman, and Greene[6] showed that postinflammatory hyperpigmented skin has half the sulfhydril content of nearby unaffected skin and that the sulfhydril content of vitiliginous skin, on the other hand, is distinctly elevated. They postulate that sulfhydril groups may prevent the functioning of tyrosinase by combining with copper, which is essential for the enzyme's activity, or that the sulfhydril groups may be used up in the course of melanin polymerization. The sulfur-containing compounds which can be identified in the epidermis and may play a part in this inhibition are cysteine, methionine, and glutathione.

A wide variety of extraneous sulfhydril compounds can be shown to affect melanin formation in vivo and in vitro.[7]

The tyrosine-tyrosinase reaction is an extremely sensitive one. It works best within a pH range of 6.7 to 7.2 and is distinctly slowed above or below this range[4] Redox potentials above plus 0.3 or below minus 0.3 volts inhibit the reaction completely.[8]

Ascorbic acid may also exert a regulatory effect on the melanin synthesis. It aids the conversion of tyrosine to dopa but by its reducing action interferes with further oxidation of dopa and its polymerization to melanin. It may also prevent melanin formation by maintaining high sulfhydril levels in the tissues. Furthermore, ascorbic acid can change dark, oxidized melanin to a lighter, reduced form.

Various amino acids are necessary for proper melanin formation. In addition to tyrosine, which of course is necessary as the melanin precursor, others may be necessary for the proper formation of the tyrosinase enzyme itself. The graying hair that has been described with certain severe nutritional states can be reversed by proper protein intake.[7]

Endocrine Factors in Melanin Pigmentation

It has long been known that pituitary gland extracts of cold-blooded vertebrates and of many

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mammals can alter melanin coloration of the skin. The recent studies of Lerner, Fitzpatrick, and their coworkers[9-11] have focused attention on this aspect of pigment control in humans. The melanin-stimulating hormone (MSH) has been shown to be a polypeptid formed in the intermediate lobe of the pituitary gland. Injections of this hormone can darken normal skin, darken pigmented nevi, and cause the appearance of previously unnoticed nevi. Repigmentation of vitiliginous skin has not resulted from treatment with MSH; on the contrary, the patches of vitiligo contrast more sharply with the excessively darkened surrounding skin. The hyperpigmentation which occasionally results from ACTH therapy is thought to be due to contamination of the preparation with MSH.

The melanosis which is characteristic of Addison's disease is evidence of the profound effect that adrenal hormones exert on melanin pigmentation. In addition to a possible direct effect on the melanocyte,[7] the adrenocortical hormones exert an inhibitory "brake" on MSH secretion by the pituitary. If this "brake" is diminished, MSH stimulation of the melanocyte is intensified. The adrenalin elaborated by the medulla of the gland may also interfere with the action of MSH on the melanocyte.

Male and female gonadal hormones contribute to melanin pigmentation. Eunuchs do not tan well. The hyperpigmentation so characteristic of pregnancy probably results primarily from the high levels of estrogen,[7] but Lerner *et al.*[11] feel that increased progesterone and MSH may also be in play here.

The effect of thyroid hormone on melanin pigmentation is well established but difficult to correlate, for either hyperpigmentation or vitiligo may occur in hyperthyroidism. Myxedematous patients usually show hypopigmentation.

Therapeutic Reduction of Skin Melanin

The ability of parahydroxyphenyl compounds to inhibit melanin formation in the skin has been studied with increasing interest in recent years. Several French investigators[12,13] have reported depigmentation in cases of chloasma and Riehl's melanosis with the oral administration of 1 to 2 Gm. daily of para-hydroxypropiophenone. Denton *et al.*[14] failed to produce depigmentation with local applications of 10 or 30 per cent of this material in petrolatum, and we observed no improvement in a small group of patients with hyperpigmentation treated with this drug, both by local applications and by oral administration. In this country interest has centered on the therapeutic usefulness of the monobenzyl ether of hydroquinone since it was first reported[15] that rubber articles processed with an antioxidant (Agerite Alba) containing this compound could produce depigmentation. The monobenzyl ether of hydroquinone can effect depigmentation when applied locally in various ointment bases and has been used therapeutically[*,†] in concentrations ranging from 2 to 33 per cent.[14,16,17] The medication is applied once or twice daily for weeks or months. The exact duration of therapy will be determined by the appearance of depigmentation. Allergic eczematous contact type dermatitis and primary irritative dermatitis are occasionally produced by this compound and may require cessation of treatment, although the irritative effects can frequently be avoided by using weaker concentrations of the drug. Acceptable clinical improvement can be achieved with this medication in a majority of patients with chloasma, severe freckling, hyperpigmentation of the so-called Riehl's melanosis type about the face, neck, and upper chest, and postinflammatory hyperpigmentation. It has also been used to reduce the disfigurement of an occasionally persistent pigmented area in an otherwise generalized vitiligo.[18] Depigmentation of adjacent "normally pigmented" skin is not a problem in white patients, but in Negroes blotchy depigmentation may result. Repigmentation after cessation of therapy is variable but usually occurs unless the medication is continued. The mechanism of action of the monobenzyl ether of hydroquinone is obscure. It does not affect the tyrosine-tyrosinase system in vitro, but it may be converted into hydroquinone in the skin at the proper place and time to inhibit melanin formation.[14]

Mercury compounds and ascorbic acid are unreliable depigmenting agents but may be used to augment the effect of the monobenzyl ether of hydroquinone. Mercury has been used for many years in "freckle creams" and probably acts by replacing the copper necessary for proper tyrosinase function. It is most effectively used as a 0.1 per cent solution of the bichloride or as a 10

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[*] This material is available as Benoquin cream from the Paul B. Elder Co., Bryan, Ohio.

[†] We have also used a soap containing 0.5 per cent monobenzyl ether of hydroquinone as an adjunct to the therapy of these hyperpigmentations. It was supplied by the Stiefel Medicinal Soap Co. through the courtesy of Dr. Herman Sharlit.

per cent ointment of ammoniated mercury. Ascorbic acid may help by reducing dark melanin to its light form and by interfering with some of the steps in the oxidation of dopa to melanin. It should be given in doses of 1 to 2 Gm. a day.

Localized hyperpigmentation may also be removed mechanically by various "peeling" methods. We have successfully used 20 per cent trichloracetic acid for this purpose, and the technic of dermabrasion has also been adapted to this use.[19]

Therapeutic Stimulation of Melanin Formation

Recent reports from Egypt[20–22] of the treatment of leukoderma and vitiligo with certain plant extracts in conjunction with sunlight or ultraviolet irradiation have aroused considerable interest among dermatologists. The compounds most thoroughly studied are 8-methoxypsoralen* and 5-isoamyleneoxypsoralen.[23–27] These compounds fluoresce in ultraviolet light of 3,660 Å, are active photosensitizers, and absorb wavelengths throughout the ultraviolet spectrum from 2,200 to almost 4,000 Å. The drugs may be administered orally and/or applied to the affected areas in a lotion or cream vehicle.

Ten to twenty milligrams are taken by mouth one to two hours before solar or artificial ultraviolet irradiation. The dose may be repeated twice daily. Local irritant reactions are rare following oral therapy. Exposure to sunlight or artificial ultraviolet irradiation following administration of the medication is essential for the therapeutic effect. Natural sunlight is most effective by far. Systemic toxicity from these compounds is rare. Gastrointestinal intolerance is sometimes encountered, and changes in the cephalin flocculation liver function test have been reported. Treatment should be continued for many months before hope for improvement is abandoned.

Local treatment with the psoralens must be closely supervised since severe reactions, consisting of erythema and bulla formation, can occur. The lotion or cream is applied to the areas to be treated and allowed to remain there for thirty to sixty minutes. Prior to irradiation it may be advisable to remove any psoralen remaining on the skin surface since in this location the compound may interfere with the efficacy of the treatments by absorbing the effective rays[26] before they can exert their photodynamic effect on the drug that has been absorbed into the skin. Exposure to the solar or ultraviolet rays is limited to thirty to sixty seconds at first and then is gradually extended as the patient's tolerance is determined. For technical reasons most of our patients were treated once a week, but more frequent therapy, two or three or even five times a week, is more effective. Originally, a 1:100 concentration of the drugs was used locally, but recently weaker concentrations (1:1,000 to 1:25,000) have been introduced in an attempt to reduce the inflammatory effects. In our experience[26] pigmentation is usually preceded by some degree of inflammatory reaction, but there is apparently no direct correlation between the two effects, which often differ widely in intensity.

We feel that combined oral and local treatment or local treatment alone is preferable to oral medication alone. We observed new pigment in 35 per cent of more than 100 patients treated with these drugs and considered our results cosmetically acceptable in 10 per cent. Other authors[22,24,25,27] who were able to treat their patients more frequently than once a week have reported larger percentages of satisfactory results. While the method of therapy leaves much to be desired, we feel it offers a greater chance of success than other modalities we have employed. The mechanism by which these treatments produce their effects is poorly understood. It may be the combined effect of sulfhydril oxidation by the psoralens and of ultraviolet stimulation of the melanocytes which results in melanin formation.[25]

Grinspan[28] has recently reported the successful treatment of more than 50 per cent of his cases of vitiligo by a method consisting of multiple superficial punctures of the affected areas with a tattooing apparatus. He obtained his best results when the skin surface was covered with a thin film of a gold suspension in oil prior to the tattooing. We have had no personal experience with this method of treatment.

Summary

Melanin is formed in the melanocytes of the skin by the action of tyrosinase on the amino acid tyrosine.

The quality and intensity of this reaction may vary with the number of sulfhydril-containing compounds in the skin and is influenced by the secretions of the various endocrine glands, by vitamins, and other factors.

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* This material is available as Oxsoralen from the Paul B. Elder Co., Bryan, Ohio.

Melanin formation in the skin can be inhibited by the application of para-hydroxyphenyl derivatives.

Melanin formation in the skin can be stimulated by solar or ultraviolet irradiation following the ingestion and/or local application of certain psoralen compounds.

131 East 70th Street

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Discussion

Robert D. Hubbard, M.D., *Utica.*—Dr. Kanof has given us an excellent summary of the physiology and pathology of pigmentation and the forms of treatment presently available for pigmentary diseases. I believe he has made it evident in his discussion that the present treatments of pigmentary diseases are promising but still leave much to be desired.

In the treatment of vitiligo with the psoralens, the results are unpredictable. In my experience and from what I can glean from the literature, only about 35 to 40 per cent of the patients with vitiligo treated with the psoralens showed any response, even with combined parenteral and local treatments, and only about 10 per cent had good, acceptable cosmetic results. I have found that vitiligo of the hands and fingers is very resistent to repigmentation, and most observers have noted that longstanding cases of vitiligo in the older age group do not respond well, if at all. The adverse reactions from local treatment with the psoralens are frequent and occasionally severe. Severe bullous reactions accompanied by transient nephritis and prostration have occurred. This aspect of possible severe reactions certainly deserves emphasis. It should also be remembered that the regained pigment from treatment is not always permanent and may be lost on the cessation of treatment. New vitiliginous areas may also appear, and such areas have appeared even while the treated lesions are in the process of repigmentation. Although the psoralens are certainly not a cure for vitiligo, at least the results with these drugs have given us hope in what formerly was a hopeless disease. It is my belief, however, that at the present time it would be best if the drugs were confined to an experimental or research use.

In the treatment of hyperpigmentation, monobenzyl ether of hydroquinone is probably the best medication we have generally available at the present time. Here again the results are unpredictable and often disappointing. The percentage of satisfactory results is sufficiently good, however, to warrant its further use and, of course, further investigation.

It has been my experience that 20 to 25 per cent concentration of the medication must be used in order to gain a satisfactory clinical result in most cases. Unfortunately, at this level primary irritations are rather common, and allergic sensitizations occasionally do occur. I have seen no toxic systemic effects due to this drug, however, nor could I find any reported in the literature.

Once successful clinical improvement has been obtained with this medication, occasional applications of the drug are necessary in many cases to maintain the improvement. It is important to protect the areas from exposure to sunlight, or excessive repigmentation is very likely to recur.

It is evident that further work with these new drugs is indicated, but it can be hoped that other extracts will be obtained which will give us better results with fewer reactions. It is good to know, however, that there is at least something now available which is of some use in the treatment of these previously unmanageable dermatoses.

Tobacco as a Contributing Cause of Degenerative Coronary Disease

LOUIS H. SIGLER, M.D., BROOKLYN, NEW YORK

It has been well established that tobacco smoke induces certain immediate effects on the cardiovascular system. These may consist of an acceleration of the heart rate, a rise in blood pressure, a decrease in skin temperature of the fingers and toes, a diminution in the blood flow to the extremities, and minor electrocardiographic changes, such as diminished amplitude of the T wave. The reaction to tobacco smoke varies in different individuals, some reacting very markedly, others very little.

Although the immediate manifestations are expressions of physiologic disturbances, it is conceivable that the cumulative effects of tobacco intoxication over years may result also in structural changes. To prove or disprove such an assumption, we must rely mainly on statistical studies of many cases observed over a period of years. Animal experimentation is inadequate because of the relatively short period of time in which even so-called "chronic experiments" can be carried out, as compared to the years in which the average smoker is exposed to tobacco smoke. There are few statistical studies reported in the literature of the comparative longevity or time of onset of clinical manifestations of cardiovascular disease among smokers and nonsmokers, and the available studies are not conclusive.

In the investigation of 90 men who lived ninety to one hundred years, Lickint[1] found that only 19 had never smoked; 39 had previously smoked but gave it up for some time, while 32 were still smoking. Of ten other men over one hundred years of age, only three had never smoked; three gave up smoking, and four were still smoking. Thus, longevity in this group was apparently not affected by tobacco. He stated, however, that none of the smokers had inhaled the smoke, and he believed that the recent habit of inhaling smoke will lower the longevity.

In a comparison of 750 consecutive cases of angina and 750 without angina, White and Sharber[2] found that 46.1 per cent of the angina and 37.2 per cent of the control cases were abstainers from tobacco. They concluded that tobacco plays no important role in the genesis of angina pectoris. On the other hand, English and coworkers[3] found that the percentage of smokers in 1,000 cases of coronary disease was about 3.5 per cent greater than in a similar number of noncoronary disease cases. They also selected 1,000 records of tobacco smokers and found that the incidence of coronary disease in this group among individuals forty to forty-nine years of age was 4.8 per cent, while in corresponding nonsmokers it was only 1 per cent. Between fifty and fifty-nine years of age the incidence was 6.2 and 2.6 per cent, respectively. Pearl[4] studied the general longevity of 2,094 nonsmokers, 2,814 moderate smokers, and 1,905 heavy smokers. He observed that nonsmokers lived longer than smokers and that the greater the degree of smoking, the shorter the life. Hadley[5] examined the records of 8,000 deaths in insured men and women. He found that after forty years of age, the mean longevity was definitely less in smokers than in nonsmokers.

Because of the relative scarcity of statistical studies of coronary disease among smokers and nonsmokers, I considered it advisable to study the records of 1,520 cases of angina pectoris and coronary thrombosis where smoking habits were recorded.

Material and Methods of Study

The material for this study is part of a series of 1,700 cases previously reported[6] dealing with the prognosis of angina pectoris and coronary thrombosis; 180 were eliminated because no records were kept of their smoking habits.

All of the 1,520 cases had demonstrable coronary disease with the anginal syndrome, and over two thirds of them had had at least one attack of coronary occlusion. There were 1,186 males and 334 females. A total of 519 males and 292 females were nonsmokers, while 667 males and 42 females were habitual smokers from early youth up to the ages designated in this report. The individual nonsmokers and smokers were separately

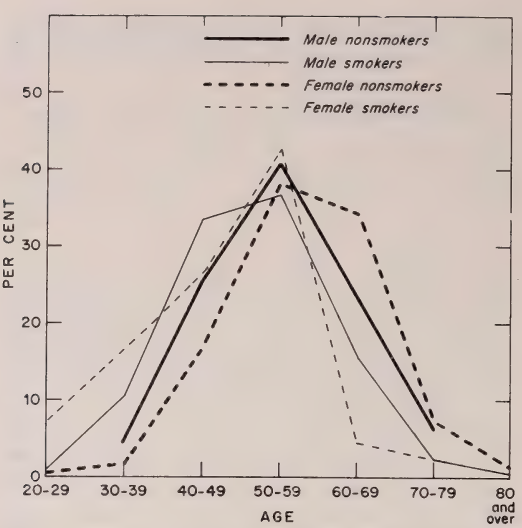

Fig. 1. Age at onset of clinical manifestations of coronary disease.

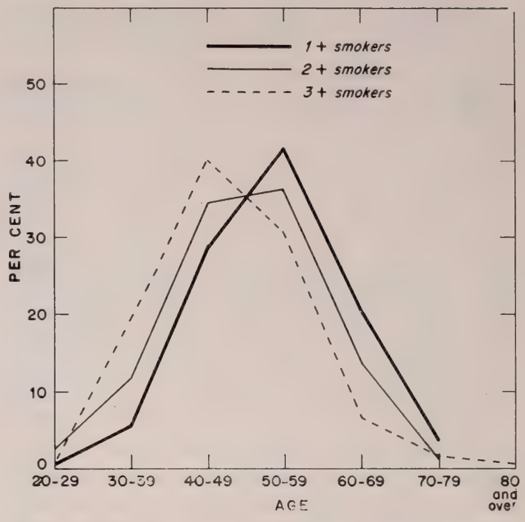

Fig. 2. Age at onset of clinical manifestations of coronary disease in relation to the degree of smoking in 790 male and female smokers.

analyzed as to age at onset of the clinical manifestations of coronary disease, age at onset of the first attack of coronary occlusion, and age at death of those cases which died.

The group of smokers was again subdivided into subgroups as follows:

1 plus—individuals who smoked only two to ten cigarets or one to two cigars or pipes a day.

2 plus—individuals who smoked up to one and one-half packages of cigarets or up to six cigars or eight to ten pipes daily.

3 plus—those who smoked much above those limits.

Although this subdivision is rather rough, it serves fairly well to describe the approximate degree of smoking.

Of all the cases 985 were alive at the time of this report, and 535 were dead. Of the 985 living cases, 791 were males and 194 females. Of the 535 dead, 395 were males and 140 females.

Observations

Age at Onset of Clinical Manifestations of Coronary Disease in Nonsmokers and Smokers.—It will be observed from Table I and Fig. 1 that a greater percentage of smokers than nonsmokers developed clinical manifestations of coronary disease before fifty years of age in males and before sixty years of age in females. In males only 29.2 per cent of nonsmokers developed evidence of coronary disease before fifty years of age and 70.8 per cent after fifty. On the other hand, in smokers as many as 44.8 per cent developed evidence of the disease before fifty years of age and 55.2 per cent after. In females the discrepancy is still greater.

It also is interesting to find that seven males developed the disease before thirty years of age, and all of them were smokers. In females five patients developed the disease before thirty years of age. Three of these were smokers, representing 7.1 per cent of all female smokers, while two were nonsmokers, representing only 0.7 per cent of the female nonsmokers.

Comparing the age at onset of the disease

TABLE I.—Age at Onset of Clinical Manifestations of Coronary Disease

Age (Years)	Males				Females			
	Nonsmokers		Smokers		Nonsmokers		Smokers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
20 to 29	0	0	7	1.0	2	0.7	3	7.1
30 to 39	22	4.2	69	10.3	5	1.7	7	16.8
40 to 49	130	25.0	223	33.5	49	16.7	11	26.3
50 to 59	212	40.8	246	36.7	111	38.0	18	42.9
60 to 69	122	23.6	105	15.8	100	34.3	2	4.6
70 to 79	33	6.4	16	2.4	22	7.5	1	2.3
80 and over	0	0	1	0.3	3	1.1	0	0
Totals	519		667		292		42	

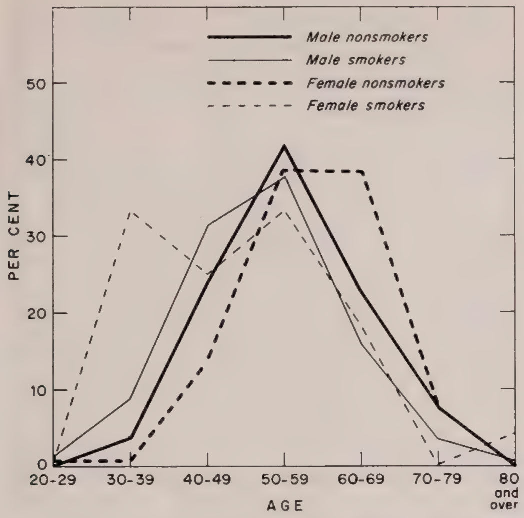

Fig. 3. Age at first attack of coronary occlusion.

among individuals in the three grades of smoking, we find that the higher the grade of smoking, the earlier the onset of the disease (Table II and Fig. 2). Thus, in 3 plus smokers 60.4 per cent of cases developed the disease before fifty years of age, whereas in 1 plus smokers only 34.6 per cent developed it before that age. In 2 plus smokers the figure is intermediary between the two, 48.6 per cent. There is thus almost an arithmetic progression of the relation between the age of onset of clinical manifestation of coronary disease and the degree of smoking.

Age at Onset of First Attack of Coronary Occlusion in Smokers and Nonsmokers.—Of the 1,520 cases 1,132 had at least one attack of coronary occlusion—916 males and 216 females. These consisted of 397 male nonsmokers, 519 male smokers, 192 female nonsmokers, and 24 female smokers.

It will be observed from Table III and Fig. 3 that in males only 27.7 per cent of nonsmokers while as many as 42.9 per cent of smokers developed the first attack of occlusion before fifty years. In females the discrepancy is much more marked. Here only 14.7 per cent of nonsmokers while 58.3 per cent of smokers developed the disease before fifty years of age.

The relationship between age of the first attack of coronary occlusion and the degree of smoking was about the same as that of the age of onset of clinical manifestations of coronary disease and the degree of smoking.

Age at Death from Coronary Disease in Nonsmokers and Smokers.—Of the 535 cases that died in this series, there were 156 male nonsmokers, 239 male smokers, 125 female nonsmokers, and 15 female smokers.

The comparative age at death in smokers and nonsmokers is illustrated in Table IV and Fig. 4. It will be observed that in male smokers as many

TABLE II.—Age at Onset of Clinical Manifestations of Coronary Disease in Relation to Degree of Smoking*

Age (Years)	Degrees of Smoking					
	1+		2+		3+	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
20 to 29	2	0.7	7	2.4	1	0.7
30 to 39	16	5.6	34	11.8	26	19.4
40 to 49	81	28.3	99	34.4	54	40.3
50 to 59	119	41.4	104	36.1	41	30.6
60 to 69	58	20.4	40	13.8	9	6.7
70 to 79	11	3.9	4	1.4	2	1.5
80 and over	0	0	0	0	1	0.8
Totals	287	40.0	288	40.1	134	19.9

* Degrees of smoking: 1+, 2 to 10 cigarets or 1 to 2 cigars per day; 2+, up to 1½ packages of cigarets or up to 6 cigars per day; 3+, above these limits.

TABLE III.—Age at First Attack of Coronary Occlusion

Age (Years)	Males				Females			
	Nonsmokers		Smokers		Nonsmokers		Smokers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
20 to 29	0	0	6	1.2	1	0.6	0	0
30 to 39	15	3.8	45	8.6	1	0.6	8	33.3
40 to 49	95	23.9	172	33.1	26	13.5	6	25.0
50 to 59	166	41.8	195	37.6	74	38.5	8	33.3
60 to 69	91	22.9	82	15.8	74	38.5	2	8.3
70 to 79	30	7.6	18	3.5	15	7.7	0	0
80 and over	0	0	1	0.2	1	0.6	1	4.1
Totals	397		519		192		24	

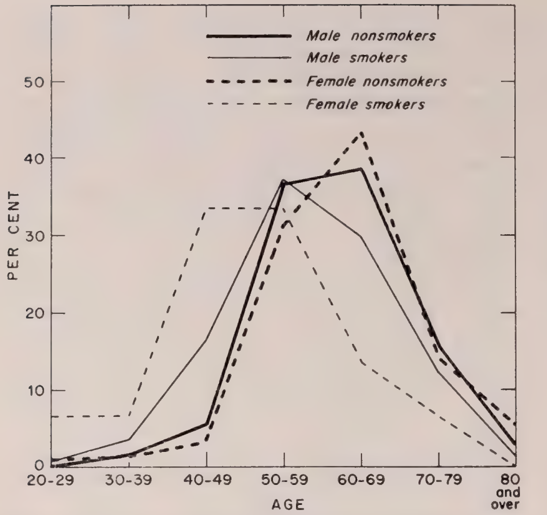

Fig. 4. Age at death among nonsmokers and smokers.

as 3.9 per cent died before forty years of age and 20.2 per cent before fifty years. In nonsmokers only 1.3 per cent died before forty and 6.4 per cent before fifty. Also 57.1 per cent nonsmokers and only 43.0 per cent smokers lived sixty years or longer. The degree of smoking likewise appears to have influenced the longevity (Table V and Fig. 5). Thus, 14.9 per cent of 1 plus smokers, 24.3 per cent of 2 plus smokers, and 35.1 per cent of 3 plus smokers died before fifty years of age.

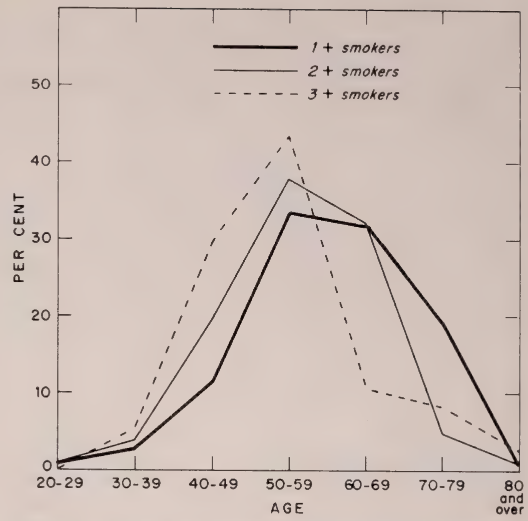

Fig. 5. Age at death from coronary disease in relation to the degree of smoking in 254 male and female smokers.

In the female group the difference in longevity between the nonsmokers and smokers is still more marked. Here, however, the number of smokers in relation to nonsmokers is small, and its statistical significance is questionable. The factor of chance may play a part.

Comment

From our observations in this series of 1,520

TABLE IV.—Mortality Rate According to Age Groups

Age (Years)	Males				Females			
	Nonsmokers		Smokers		Nonsmokers		Smokers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
20 to 29	0	0	1	0.6	1	0.8	1	6.6
30 to 39	2	1.3	8	3.3	2	1.6	1	6.6
40 to 49	8	5.1	39	16.3	4	3.2	5	33.3
50 to 59	57	36.5	88	36.8	39	31.2	5	33.3
60 to 69	60	38.5	71	29.7	54	43.2	2	13.6
70 to 79	25	16.0	29	12.1	18	14.4	1	6.6
80 and over	4	2.6	3	1.2	7	5.6	0	0
Totals	156		239		125		15	

TABLE V.—Age at Death from Coronary Disease in Relation to Degree of Smoking*

Age (Years)	Degrees of Smoking					
	1+		2+		3+	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
20 to 29	1	0.9	1	0.9	0	0
30 to 39	3	2.6	4	3.9	2	5.4
40 to 49	13	11.4	20	19.5	11	29.7
50 to 59	38	33.3	39	37.9	16	43.3
60 to 69	36	31.6	33	32.0	4	10.8
70 to 79	22	19.3	5	4.9	3	8.1
80 and over	1	0.9	1	0.9	1	2.7
Totals	114	44.9	103	40.6	37	14.5

* Degrees of smoking: 1+, 2 to 10 cigarets or 1 to 2 cigars per day; 2+, up to $1^1/_2$ packages of cigarets or up to 6 cigars per day; 3+, above these limits.

cases of degenerative coronary disease it appears that tobacco may expedite the development of such disease in some individuals. The possible mechanism of expediting the disease processes is of course a matter of speculation, as is all our present knowledge of the etiology and pathogenesis of coronary disease.

Several possible factors may be considered. The most important is the effect of nicotine. As long ago as 1890 Langley and Dickinson[7] demonstrated that this substance in small amounts stimulates and in large amounts paralyzes the sympathetic ganglia. It is the stimulating effect which is experienced in most smokers since the amount absorbed even in heaviest smoking may not be sufficient to block or paralyze these ganglia.

Repeated stimulation of the sympathetic ganglia produces vasospastic phenomena mentioned in the early part of this paper. Such vasospasm recurring over many years may conceivably produce not only interference with the general nutrition of tissues in the affected areas but may also result in anoxemia of the vessel wall itself by the accompanying spasm of the vasovasorum.

Nicotine may also affect the adrenal gland through sympathetic stimulation. Cannon[8] has demonstrated that the injection of nicotine in small amounts augments adrenal secretion through the stimulation of the thoracolumbar sympathetic nerves. Stewart and Rogoff[9] could not demonstrate such an effect, but more recently Tainter,[10] Short and Johnson,[11] and several other investigators have corroborated Cannon's findings. Repeated increase in adrenalin secretion may thus increase the basal metabolic rate observed by Roth and coworkers[12] and by Goddard and Voss,[13] thus accelerating the heart and further increasing vasospastic phenomena. All these factors burden the circulatory system and tend to accelerate degenerative processes.

Another possible toxic factor is the carbon monoxide radical of tobacco smoke. Baumberger[14] estimated that there are 7.2 to 25 parts of carbon monoxide in 10,000 parts of inhaled air during smoking. The actual determination of the carbon monoxide content of the blood in city dwellers in nonsmokers and smokers was done by Gettler and Mattice[15] and by Hanson and Hastings.[16] They found that in nonsmokers about 1 to 1$^1/_2$ per cent of hemoglobin is combined with carbon monoxide, whereas in smokers it ran occasionally as high as 3 to 4 per cent. Inasmuch as carbon monoxide replaces oxygen from hemoglobin, we can readily see how some degree of chronic general anoxemia may occur which may promote the development of degenerative changes.

Besides nicotine and carbon monoxide, tobacco smoke contains other noxious products such as pyridine, aldehydes, methyl alcohol, etc. Although the quantities of these products are very small, their prolonged absorption may conceivably produce some pathologic changes.

Degenerative vascular disease may in some smokers perhaps be linked also with general constitutional disturbances caused by tobacco. Strauss and Scheer[17] and Gutzeit and Parade[18] observed changes in the blood iodine level in tobacco smokers. Gastrointestinal disturbances and gastroduodenal ulcers have been attributed in some cases to tobacco smoke by Rolleston,[19] Jamison and coworkers,[20] and several other authors. Leukoplakia of the palate has been reported by Cummer[21] to be caused by tobacco. Local irritation of the mucous membrane of the mouth, nose, larynx, and bronchi are frequent observations in smokers. Even bronchogenic malignancy recently has been suspected to be linked with smoking. All these disturbances may have effects in upsetting the normal metabolic processes and help predispose to degenerative vascular changes.

Another element that may perhaps be operative in occasional cases is allergy to tobacco. Sulzberger[22] and Harkavy[23] observed that allergy to tobacco smoke is more frequent in thromboangiitis obliterans and in coronary disease than in normal controls. Silbert[24] reported a case of thromboangiitis obliterans which developed angioneurotic edema due to tobacco sensitivity.

All these may be possible factors in expediting the development of degenerative coronary disease by tobacco smoke. Although the anginal syndrome may at times be observed as an immediate effect of tobacco smoke, as reported by Moschcowitz,[25] Pickering and Sanderson,[26] Birk and Huber,[27] and Bryant and Wood[28] and as observed by every clinician who has much experience with cases of coronary disease, the absence of such immediate effects does not rule out tobacco as a possible predisposing cause of degenerative coronary disease in some cases. If such immediate effects do occur, they are presumably caused by coronary angiospasm inducing transient myocardial ischemia. This undoubtedly occurs when a marked degree of degenerative coronary changes had already developed.

It must be understood, however, that although the earlier appearance of clinical manifestations of coronary disease and of coronary occlusion as well as the earlier death from such disease in smokers, observed in this series, would appear to suggest that tobacco expedites the development of coronary disease, it is possible that in many cases it is not the tobacco itself but the temperament of the individual who takes to tobacco which is the contributing factor. We must also consider the fact that the differences in the number of smokers and nonsmokers who developed coronary disease are not marked. Therefore, all we may conclude from our figures is that in a small proportion of individuals tobacco appears to have some influence in expediting the development of coronary disease. We must still consider the real underlying causes of coronary disease as unsolved. The important factors most likely are heredity, metabolic disturbances, abnormalities in the chemical composition of the blood, physical and mechanical factors, and other conditions causing fluctuations in the hemodynamics of the coronary vessels, discussed elsewhere.[29] Tobacco smoke may be merely an additional contributing factor in a small proportion of the population.

Summary

The possible effect of tobacco in expediting the development of degenerative coronary disease was studied by a comparison of the age at onset of the clinical manifestations of the disease, the age at onset of coronary occlusion, and the age at death from coronary disease in nonsmokers and smokers. A total of 1,520 cases was investigated, consisting of 1,186 males and 334 females. Among the males 519 were nonsmokers, and 667 were smokers; among the females 292 were nonsmokers and 42 smokers. Of the entire series 985 were living, and 535 were dead.

The age at onset of the clinical manifestations of coronary disease in this series occurred earlier in smokers than in nonsmokers. Among the males only 29.2 per cent of nonsmokers and as many as 44.8 per cent of smokers developed clinical manifestations of coronary disease before fifty years of age. Among females only 19.1 per cent of nonsmokers and as many as 50.2 per cent of smokers developed the disease before fifty years of age. The higher the degree of smoking, the earlier was the onset of the clinical manifestations of coronary disease.

The age at onset of the first attack of coronary occlusion also occurred earlier in smokers than in nonsmokers in both males and females. In males only 27.7 per cent of nonsmokers and as many as 42.9 per cent of smokers developed the first attack of coronary occlusion before fifty years of age. In females the discrepancy was much higher, with 14.7 per cent of nonsmokers and as many as 58.3 per cent smokers developing the first attack of coronary occlusion before fifty years of age. The higher the grade of smoking in both males and females, the earlier the occurrence of the first attack of coronary occlusion.

The age at death was also younger in smokers than in nonsmokers. In male smokers as many as 20.2 per cent died before fifty years of age, while in nonsmokers only 6.4 per cent died before that age.

In females as many as 46.5 per cent smokers and only 5.6 per cent nonsmokers died before fifty years of age. In both males and females the higher the degree of smoking, the earlier the death.

Several possible mechanisms may be the underlying factors in the earlier degeneration of the coronary vessels in smokers. One is the effect of nicotine on the sympathetic nerve ganglia inducing recurring angiospasm of various vascular beds of the body, including the coronary vessels. Nutritional interference in the vessel wall itself may thus occur, resulting in degeneration. The condition may be aggravated by the effect of nicotine on sympathetic nerve stimulation of the adrenal glands resulting in an increase of adrenalin secretion. Another possible cause may be a metabolic upset resulting from the effect of nicotine on various other parts of the body. A third factor might be a very low-grade prolonged anoxemia resulting from the carbon monoxide of tobacco smoke. A fourth factor may be allergy to tobacco in occasional cases.

Because differences in the number of smokers from nonsmokers in relation to the age of onset of detectable coronary disease and the ages at death are not great, it is felt that tobacco merely may have some influence in expediting the development of coronary disease in a small proportion of the population and certainly is not the sole cause of coronary disease, even in those cases where it appears to be operative.

The main underlying causes in all cases are probably heredity, metabolic disturbances, abnormalities in the chemical composition of the blood,

and physical, mechanical, and other unknown factors.

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Morphine and Nalline in Obstetric Analgesia

Observations in 150 Patients

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A DAILY problem of obstetricians is to produce effective pain relief during normal labor and not endanger fetal life. In the past morphine was used extensively but is used less so now because newer narcotics are available which do not produce such marked respiratory depression. Recently a specific narcotic antagonist, N-allynormorphine (Nalline*), has been introduced which combats the respiratory depression produced by morphine.[1-5] Pharmacologic data suggest that it acts centrally by displacing morphine from the respiratory center.[4,6] This specific property has been utilized clinically in medicine,[7-10] surgery,[11] anesthesia,[6] and obstetrics[12-14] with gratifying results.

This present study was undertaken to determine whether a patient in labor could safely receive the superior analgesia of morphine, while eliminating its respiratory depression by Nalline, with subsequent delivery of a healthy baby. The results were judged on the basis of objective observations of the patients during labor and the presence or absence of fetal anoxia. All patients were at or near term at the time of delivery.

When labor was established, 10 mg. of morphine and Nalline were given intramuscularly in combination to 150 patients delivered in the A. N. Brady Maternity Hospital. The usual precautions were carried out, the duration of contractions, maternal blood pressure, and fetal heart tones being recorded at frequent intervals. Scopolamine was not used in this study. In the majority one injection of morphine and Nalline was sufficient for labor; however, in four patients additional medication was administered. No ill effects were observed in these patients.

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* Nalline was generously supplied by Dr. J. R. Beem of the Sharp & Dohme Division of Merck & Co. Inc., Philadelphia.

To evaluate the maternal effect, the patient's comfort was the guiding principle. The degree of hypnosis and analgesia was recorded as excellent, good, or poor. A slight effect was rated as poor, a moderate effect as good, and a maximum response as excellent. The objective observations were made by the authors and members of the resident and nursing staff of the A. N. Brady Maternity Hospital.

Results

Excellent analgesia was present in 93 patients, good in 54 patients, and poor in 3 patients. This effect was considered to be superior to the pain relief obtained by the customary barbiturate, Demerol, and scopolamine combination. There was no prolongation of labor, the interval between injection and delivery averaging three to four hours. The most impressive and gratifying effect was noted in the young, tense, and fearful primigravidas.

Delivery was completed with regional anesthesia in 26 patients with the remaining patients receiving inhalation anesthetics. In the latter group it was apparent that induction of general anesthesia was easier and not so hazardous because there was a decreased incidence of excitement and vomiting. Likewise, the quantity and depth of anesthesia necessary for effective delivery was thought to be reduced.

Effect on the Infant

Two infants or 1 per cent of the total 150 babies delivered were apneic, i.e., they did not breathe voluntarily for two minutes or more. These required oxygen and the usual resuscitative measures to stimulate and maintain adequate respiratory exchange. All other babies cried soon after birth. There were no neonatal deaths in the series. In 29 patients sedation was given less than one hour prior to delivery without demonstrable effect on the initiation of respirations in the baby.

Summary and Conclusions

1. The effect of morphine and Nalline, given in a combination of 10 mg. each, was observed in 150 women in labor. Analgesia superior to the usual Demerol-scopolamine combination was provided for 62 per cent of the patients and was as good or better in 90 per cent.

2. Only two of 150 babies were apneic, and these responded well to routine resuscitation.

3. Since 124 of the 150 patients observed received general anesthesia for delivery, it was felt that inhalation agents coexistent with morphine and Nalline did not seriously jeopardize the infant.

4. In this small series morphine and Nalline appear to be suitable agents for use during labor because of the greater analgesia afforded the mother, especially the emotional primigravida, without significantly increasing the hazards to the infant, regardless of the choice of anesthesia.

Addendum

Since this paper was written, 25 more patients have been given morphine and Nalline while in labor with good results in the mothers and no apneic babies.

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Man is born free, and everywhere he is in irons.—JEAN JACQUES ROUSSEAU

Toothpick Injuries of the Intestinal Tract

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RADIOLOGISTS are often consulted during acute abdominal emergencies. Although the surgical literature contains considerable about toothpick perforations in the intestinal tract, there is very little in the available radiologic literature.

McManus[1] analyzed 93 cases, collected from the literature, of intestinal perforation by ingested sharp point bodies and reported two of his own. One of these was a perforation due to a piece of wire 3 cm. long which had perforated a loop of small intestine and which had become incarcerated in a left inguinal hernia. He also reported a toothpick perforation in a sixty-five-year-old, white farmer who had complained of generalized abdominal pain for forty-eight hours. At surgery a walled-off perforation of the lateral wall of the cecum was found. A toothpick was protruding through this portion of the cecum. Of the total 93 cases 45 were due to metallic bodies, 39 were due to animal bone, and nine were due to wooden splinters, principally toothpicks. Thus, toothpick perforations occur in approximately 10 per cent of cases of ingested foreign body. He stated that 73 per cent of the investigated perforations were in and around the ileocecal region, the remainder being distributed generally from stomach to rectum.

Weintrob and Granet[2] reported two cases of perforation, one of the appendix by a common pin and another of the cecum by a toothpick. These authors point out that meat rolls are often cooked with toothpicks inside them. The cooking partially softens the wood and makes detection difficult, particularly when an upper dental plate is being worn. Their case of perforation by toothpick occurred through the anterior wall of the cecum.

Landers[3] reported a toothpick in a perinephric abscess. The actual site of perforation was not found, but it was thought that the perforation had occurred through the posterior wall of the descending colon.

Persky and Frank[4] reported six cases of foreign body perforations of the gastrointestinal tract. Three of these were due to toothpicks or toothpick-like spicules of wood. One case presented a perforation of a loop of small bowel with the toothpick lying in a matted mass of intestinal loops. Another toothpick was found in an abscess in the perianal region. The connection with the intestine was not demonstrated in this case, but there was a fistulous tract extending into the left retroperitoneal area about the left kidney and under the left hemidiaphragm. It was thought that the perforation was in or near the rectosigmoid because of the situation of the fistulous tract which extended toward this region. Another case presented a 4-cm. spicule of wood in the sinus tract within a perirectal mass. A previous barium enema in this case revealed an obstructive lesion of the rectosigmoid. The roentgenologic interpretation here was probable carcinoma of the upper rectum. During the excision of the rectal lesion only diffuse fibrosis was found, probably caused by the foreign body. No carcinoma was found microscopically.

Goehring[5] reported a case of perforation of the intestine by a toothpick. This was treated conservatively for four days after which a grapefruit-sized mass fixed to the abdominal wall developed in the midabdomen. Roentgen examination by barium enema showed a ptosed transverse colon adherent to the anterior abdominal wall at the site of the palpable mass. Incision and drainage were performed twelve days after admission, and several ounces of thin material were removed. The mass gradually decreased in size, while a small amount of drainage persisted. Intermittently the patient gave evidence of partial small bowel obstruction. At operation thirty-six days after admission the abdominal wall sinus was found to communicate with an inflammatory mass the size of a hen's egg, one end of which was connected to the midportion of the transverse colon, while the other end was connected to a loop of ileum adherent to the anterior abdominal wall just above the bladder, resulting in marked angulation of the bowel. This mass proved to be a foreign body granuloma containing a toothpick. It was felt that the toothpick had at first penetrated the transverse colon and that the ileum had later been impaled on the toothpick.

Wilson[6] reported a toothpick perforation on the mesenteric border of the ileum. On the antimesenteric side was an incomplete perforation with the serosa still intact. There was no free fluid in the abdomen. The perforation was pinhead size and surrounded by an area of chronic inflammation. No leak of intestinal contents had occurred. This toothpick was 2 inches in length, half of which protruded through the bowel.

McClintic[7] stated that if a foreign body becomes arrested in the intestinal tract, it is apt to perforate. On review of the literature, although finding innumerable reports of foreign objects in the appendix, he was able to find only six cases of perforation of the cecum by foreign bodies.

Vestal[8] reported a case which was operated on for appendiceal abscess. A wooden toothpick was found on the floor of the abscess cavity which had perforated the cecum on its anterolateral aspect. It had passed only partly through, half remaining in the bowel lumen. The opening in the intestinal wall measured 6 cm. and showed necrosis around the margins. The appendix appeared normal except for periappendicitis.

McLanahan[9] and also Wallis[10] both reported toothpick perforations of the cecum.

Gaither,[11] writing in 1933, stated that only four cases of perforation of the ileum by foreign bodies had been reported. Occasional cases of perforation of the sigmoid and rectum had been reported.

McClintic's case was operated on.[7] The appendix was found lateral to the cecum, to which it was attached in its full length by thick, friable adhesions. A common wooden toothpick was found in the plastic exudate between the appendix and the cecum. No perforation was found, but the lateral wall of the cecum was raw and inflamed. The Army Medical Museum gave the following impression from their examination of the appendix and related tissues: "Localized peritonitis, chronic, secondary to toothpick which perforated the intestine."

A case was reported during a clinicopathologic conference at the Massachusetts General Hospital[12] of a fifty-one-year-old man who had a left renal cell carcinoma removed five and one-half years before an acute abdominal episode. At autopsy, "recurrent hypernephroma was found in the bed of the nephrectomy site but a portion of which had invaded the wall of the descending colon, producing several polypoid masses within the lumen. These were not large enough to have caused as yet any degree of obstruction. However, they may well have been responsible for the arrest in this portion of the bowel of a foreign body, approximately half of a broken toothpick. This had eroded the bowel wall and penetrated the tumor, producing a false diverticulum, with abscess formation. This abscess in time had ruptured into the peritoneal cavity, with the production of general peritonitis, which subsequently localized to produce multiple peritoneal abscesses."

Culver and Concannon[13] point out that in the diagnosis of retroperitoneal emphysema demonstrated radiographically, we must no longer consider only perforations of those portions of the gastrointestinal tract which are free of peritoneum posteriorly, but we should also remember that a lesion of the large or small bowel may rarely perforate into its mesentery and thus give rise to air into the retroperitoneal tissues by dissection of the air along the leaves of the mesentery.

√ Saletta and Rukstinat[14] reported a single case of a toothpick perforation of the ileum. Their patient had had a laparotomy and drainage for a ruptured appendix with peritonitis eight years previously. This was followed by an appendectomy later. After several incisions and drainages for recurrent abdominal abscesses she developed a fistula. A mass containing 30 cm. of the ileum was excised followed by end-to-end anastomosis. In the center of the mass a slightly bent toothpick projected into the fistulous tract from the lumen of the ileum. These authors state that where bowel motility is altered by adhesions between the coils or to the abdominal wall, lodgment of a foreign body in the lumen with possible perforation is facilitated.

Several cases were reported by Crossen and Crossen[15] in their search through the literature. These have been reported by Nagy, Vestal,[8] Ginzburg and Beller,[16] Maxeiner,[17] Rivers and Davison,[18] McClintic,[7] McLanahan,[9] and Durman and Belz.[19] Of these, five were in the cecum, one was in the small intestine, one was in the sigmoid, and one in the duodenum.

Crossen and Crossen[15] state that Ross,[20] remarking on swallowing foreign bodies in general, was impressed with the fact that in so many cases the swallowing of the foreign body was unnoticed or caused so little disturbance that the incident was soon forgotten. He mentioned that in only six of 40 case histories did the patient remember swallowing the article.

Carp[21] described the points of arrest in dogs and cats as (1) the junction of the second and third parts of the duodenum, (2) the ileocecal region, (3) the lumina of the appendix, (4) the junction at the cecum and the ascending colon, and (5) the flexures and haustra of the large intestine. He reported a series of 48 proved cases of foreign body in the intestine occurring in the Presbyterian Hospital in New York between 1915 and 1926.

Snodgrass[22] reported 20 cases of toothpick or splinters of wood similar to a toothpick as the cause of perforation or other complication in the intestinal tract. All these recovered following surgery. Of these cases the toothpick caused pathology in the cecum in ten cases, in Meckel's diverticula in three, in the intestine and abdominal wall in one, through a duodenal ulcer in one case, in a sigmoid diverticulum in one case, in the first portion of the duodenum in one case, in the ileum in two places in one case, in the ileum in one case, and in the transverse colon in one case. In ten of these cases an abscess was formed.

Müller[23] states that contact with the mucosa by a sharp foreign body causes contraction of the mucosa tending to propel the foreign body forward. He calls this the needle reflex of Exner.

Henderson and Gaston[24] submitted 69 cases of ingested foreign body to critical analysis in reference to the time of passage through the natural route. Various factors played a part. They found that the average time required for the passage of all types of foreign bodies was 5.1 days, with extremes of one day in a ten-month-old infant who had swallowed a common pin to thirty-seven days in a two and one-half-year-old child who had swallowed a nail. There is no correlation between the age of the patient and the time required for a foreign body to traverse the gastrointestinal tract. Their only toothpick case was in a three-year-old, but they did not report the time required to pass. They believe that objects pointed at one end only are considerably less likely to cause complications, during the passage through the gastrointestinal tract, which will necessitate surgical intervention, than objects pointed at both ends, such as toothpicks. These authors believe that foreign bodies swallowed by infants and young children are usually the result of carelessness on the part of parents, while dentures, covering a large portion of the sensitive area of the mouth, are frequently responsible for an adult unwittingly swallowing a foreign body. They have determined that an ingested foreign body usually passes within seven days regardless of the age of the patient or the type of the foreign body.

Durman and Belz[19] reported a case in which a toothpick 4 cm. long was found in the center of a mass 12 cm. in diameter deep in the anterior abdominal wall of the left lower quadrant. It was assumed that the patient had swallowed the toothpick, that it had traveled as far as the sigmoid and had become lodged in a sacculation. It had gradually perforated, was walled off by a protective fibrinous dam and omentum, and slowly penetrated the structures of the abdominal wall to form an abscess in the fatty tissue.

Davis[25] reported a case of a sixteen-year-old male with the signs and symptoms of an acute appendicitis. He was explored. A very long, somewhat swollen appendix with a few adhesions and engorgement of the adjacent mesenteric vessels was found. An appendectomy was done. Further exploration showed the presence of a Meckel's diverticulum about 30 cm. from the ileocecal valve. It was 5 cm. long and 1.8 cm. broad at its base with a wooden toothpick lying parallel to its long axis and perforating its apex; 1.2 cm. of the toothpick extended outside the perforation and impinged on an adjacent coil of intestine, through the serous and muscular coats of which it had cut. The patient made an uneventful recovery and left the hospital in eight days.

Ginzburg and Beller[16] reported 12 cases of nonmetallic, perforating intestinal foreign bodies. Fish bones were found in six cases, fragments of chicken bone in five, and a toothpick once. In their opinion the clinical manifestations of perforating intestinal foreign bodies may manifest themselves in a variety of ways as follows: (1) symptoms of acute peritonitis, (2) localized intra-abdominal abscesses, (3) intra-abdominal, usually pericolonic, inflammatory tumors, (4) tumor of the abdominal wall, (5) abscess of the abdominal wall, or (6) inflammation and obstruction in a hernial sac.

Case Report

This forty-eight-year-old, white male was admitted to Binghamton City Hospital because of sudden onset of severe right upper quadrant pain of approximately thirty hours duration. He vomited once

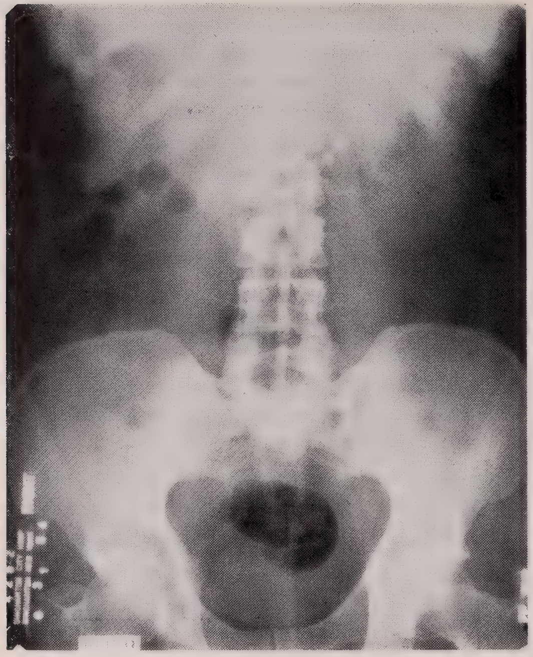

FIG. 1. A single plain supine film of the abdomen shows the presence of rounded densities, measuring 8 mm. in diameter, in the left upper quadrant. They represent medication. Considerable localized small and large intestinal dilatation is present in the right upper quadrant along with considerable mottling. This was interpreted as possibly representing localized inflammatory disease with possible free feces in the peritoneal cavity in this area. Unfortunately, no erect or lateral decubital films were taken.

but presented no other symptoms. The physical examination was essentially normal except for some tenderness and rebound tenderness in the right upper quadrant. The temperature, pulse, and respirations were normal. The white blood count was 18,350 with 77 per cent granulocytes. The diagnosis of probable acute cholecystitis with possible cholelithiasis or possible retrocecal appendicitis was made (Fig. 1). He was explored approximately two hours after admission. Perforation of the ascending colon with a localized abscess in the right upper quadrant containing the toothpick was found.

The pertinent portions of the operative note are as follows: "Exploration within the abdominal cavity disclosed a perforation in the anterolateral aspect of the ascending colon near its junction with the cecum. There was no apparent thickening of neoplasm in the region of the perforation. After packing off the bowel it was opened through one of the tinea. Intraluminal exploration disclosed a common wooden toothpick with one end still lodged in the perforation. This toothpick was removed and the hole in the colon closed by a zero chromic Atraumatic suture."

The patient had a fairly stormy convalescence but was discharged as cured two weeks after admission.

Comment

The swallowed wooden toothpick may be a lethal weapon. It is commonly used to hold together the club sandwich, in the canape, in cocktails, and is sometimes cooked in the insides of meatballs to hold them together. The frequent and unfortunate combination of alcohol, an upper denture, and a club sandwich can be serious. Although all sorts of foreign bodies have been ingested and expelled without serious consequence, we believe the toothpick is particularly dangerous. It is sharp at both ends, long, indigestible, and invisible to the x-ray.

Although it is known that as little as 1 cc. of free air in the peritoneal cavity can be detected by proper technic, it is highly improbable that even small amounts of air will leak through the minute perforation made by a toothpick. In many of the reported cases a toothpick was found to protrude through the intestinal wall, further tending to seal it. It may be that the roughness of the wooden toothpick makes complete extrusion into the peritoneal cavity improbable. Even if it were completely extruded, it would be a slow process, and inflammatory exudate with organization would tend to seal off any incipient perforation before a detectable amount of air had escaped into the peritoneal cavity.

Hodges[26] quotes as follows: "S. W. Nelson using Roscoe Miller as the subject injected air into the peritoneal cavity at McBurney's point. When the amount was 1 cc., gravitation of air from injection site to the subphrenic space occurred slowly so that it was necessary to have the subject assume the erect position for about thirty minutes before the films became diagnostic, but with 3-cc. injections gravitation was prompt. The nitrogen fraction of the peritoneal air was absorbed so slowly that for injections as small as 2 cc. a gas shadow could still be seen forty-two hours later."

The radiologist must depend, therefore, on indirect signs of intestinal perforation. These are actually the signs of peritoneal irritation and inflammation. Often contiguous, localized dilatation of intestinal loops is present. The peritoneal fat layer may be edematous or absent. There may be splinting of the overlying musculature so that the involved side is shorter than its fellow, while scoliosis may be present with its concavity to the side of the lesion. If a large abscess forms, there may be bulging into the peritoneal fat. The valvulae conniventes of the small intestine or the haustral pattern of the large intestine may surround the point of perforation like the spokes of a wheel. If the perforation is near the diaphragm, there may be inhibition of movement of the involved side of the diaphragm. Free feces may be discernible on the film.

Bauer[27] states that perforations due to a fish bone, toothpick, or porcupine quill are difficult to diagnose preoperatively.

In general, ingested foreign bodies cause very little trouble. They may become arrested, however, and when they do, they may perforate. The angles of the intestinal tract, particularly the ileocecal region, are by far the most common sites of perforation. Because the ileocecal region is most commonly involved, the patient is usually suspected of having an acute appendicitis or an appendiceal abscess.

Summary

Among foreign body perforations of the intestinal tract, the toothpick is unique. It is invisible to the x-ray in its usual situation in the soft tissues of the abdomen and is long, rough, indigestible, and sharp at both ends.

The literature is reviewed, and an additional case is presented.

25 Park Avenue

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Registration of X-Ray Equipment

A new chapter concerned with ionizing radiation has been added to the New York State Sanitary Code effective September 1, 1955. It was designed to insure all possible protection to persons exposed to ionizing radiation from radiation equipment or materials. These are certain exempted amounts or types. These factors are included in considerable technical detail.

Of primary interest to the practicing physician or dentist is the requirement that prior to March 1, 1956, he must register every radiation installation (x-ray and fluoroscopic equipment, etc.) with the full-time health officer of the area. All new installations made on or after September 1, 1955, shall be registered before the installation is placed in operation.

As copies become available, the chapter will be mailed to institutions or members of the professions concerned.

In this field of radiologic health, plans have been made to eventually provide trained persons on the staff of the health departments with the equipment necessary to monitor any installation.—*Evelyn F. H. Rogers, M.D., The Bulletin, August, 1955, The Utica Academy of Medicine and The Medical Societies of the Counties of Oneida, Herkimer, and Madison*

Effects of Football Playing on the Composition of the Urine

DAVID SELMAN, M.D., AND CLIFFORD GUALANO, SPRING VALLEY, NEW YORK

INTEREST in the alteration of the composition of urine produced by body contact athletics has been stimulated by the recent report of Amelar and Solomon[1] who studied a series of boxers before and after fights. These authors logically attributed the changes observed partly to the vigorous exercise per se and partly to repeated trauma of the kidneys.

It was thought desirable to extend these observations to other sports involving body contact. As part of a school health program, adolescent football players were selected for this study. Thus a different type of sport was selected in younger subjects. It was felt that since the sport is likely to change through the years, both in the manner of play and in the type of protective equipment employed, information obtained might be of value for future comparison.

Material and Methods

The football players were high school boys aged fourteen to seventeen. Physical examinations revealed no abnormalities. There was no history of renal disease, and the subjects were all normotensive. Since the number was small, the urine samples were studied before and after two games, and the results were pooled. That this was justified was indicated by the fact that results in a single subject differed between the two games to about the same degree as results differed among different individuals in the same game.

After excluding two or three subjects from whom both pregame and postgame specimens could not be obtained, a total of 27 pairs of specimens remained.

Urine was collected from each player immediately before and within a few minutes after each game.

Examination of the specimens was begun within twenty minutes of collection. Color, turbidity, reaction, specific gravity, albumin, sugar, and acetone were recorded by standard methods, and a centrifuged sediment was examined microscopically in each case.

TABLE I.—SUMMARY OF PHYSICAL PROPERTIES OF URINE SAMPLES

A. APPEARANCE

	Number of Subjects
Clear before game	23
Remained clear	7
Became cloudy or turbid	16
Cloudy or turbid before game	4
Remained cloudy or turbid	4
Became clear	0

B. SPECIFIC GRAVITY

	Number of Subjects	Highest	Lowest	Mean
Before game	26	1.038	1.010	1.0285
After game	25	1.039	1.022	1.0302
Increase	24	...	...	0.0018

Results

PHYSICAL PROPERTIES (TABLE I*).—Of 23 samples that were clear beforehand, 16 exhibited some degree of turbidity after the game. None of the four players whose urines were not clear before the game had clear urine afterward. The specific gravity of 26 samples before the game ranged from 1.010 to 1.038 with a mean of 1.0285. The specific gravity of 25 postgame specimens ranged from 1.022 to 1.039 with a mean of 1.0302. Of 24 paired specimens 13 exhibited a rise in specific gravity, and eight showed a reduction, while three were unchanged. The mean change in specific gravity was a rise of 0.0018. This change is not statistically significant.

CHEMICAL PROPERTIES (TABLE II*).—Before the game 13 samples had an alkaline reaction, 12 were acid, and two were neutral; after the game these 27 subjects all had acid urines. One of the pregame samples had albuminuria, and after the game albumin was still present; the other 26 specimens were free from albumin before the game, and all but two of these subjects (92 per cent) manifested a postgame albuminuria which varied from a faint trace to 4 plus. All 27 sub-

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* Data on individual subjects will appear in additional tables to be included in the authors' reprints.

TABLE II.—SUMMARY OF CHEMICAL PROPERTIES OF URINE SAMPLES*

	Number of Subjects
Reaction	
Acid before game	12
Remained acid	12
Alkaline before game	13
Became acid	13
Neutral before game	2
Became acid	2
Albumin	
Present before game	1
Present after game	1
Absent before game	26
Present after game	24
Absent after game	2

* One of the 27 specimens exhibited sugar after the game only; all 27 were negative for acetone before and after the game.

TABLE III.—SUMMARY OF MICROSCOPIC FINDINGS OF CENTRIFUGED URINE SEDIMENT IN 27 SUBJECTS

	Number
Hyaline and/or granular casts	
Present before game	0
Present after game	22
Few red cells	
Present before game	4
Present after game	2
Absent before game	23
Present after game	7
10 to 15 red cells per high-power field	
Present before game	0
Present after game	1

jects were aglycosuric before the game, but only one of these gave a positive reaction for sugar in the postgame specimen. Acetonuria was absent in all the players before and after the game.

MICROSCOPIC FINDINGS (TABLE III*).—Normal urines frequently contain small numbers of cells and a variety of crystals, but casts are found only exceptionally. While none of the pregame samples was found to contain casts, 22 of 27 postgame specimens (81 per cent) contained hyaline and/or granular casts in varying numbers. Again it is not unusual to find up to a few red cells in the centrifuged sediment of a normal person, and little importance has been attached to their presence in four pregame and nine postgame samples. Parenthetically it may be noted that a small number of blood cells are easier to detect in an acid solution. Only one player (Subject 12) had more than a few red cells present in the postgame sample. Subsequently his urine became free from red cells on repeated examinations.

Comment

Exercise has a complex effect on urine formation. While renal plasma flow and glomerular filtration rate are both usually diminished,[2-6] the effect on the volume of urine excreted is quite variable.[2] After exercise renal plasma flow does not return to normal levels within forty minutes.[4] An increase in urinary acidity and ammonia and phosphate excretion and a diminution in chloride excretion are other features which have been noted.[3,7,8] The action is not believed to be typical of an epinephrine response.

Amelar and Solomon[1] noted a reduction in pH in 39 per cent of 103 boxers following a fight. In our series all the postgame urines were acid, as compared with less than half of the pregame specimens. Forty-six per cent of the boxers' urines changed from a clear to a turbid appearance,[1] compared with 70 per cent of the football players. Eighty per cent of the boxers' urines exhibited a rise in specific gravity.[1] A trend in this direction was noted among the football players, but the increase was not significant ($p > 0.05$).

Proteinuria has been known for many years to follow vigorous exercise.[7,9] Since it occurs after, rather than during exercise,[6] it has been suggested that some nephrons are completely blocked out by extreme vasoconstriction during exercise; following release of the vasoconstriction after termination of the exercise, there is a temporary dysfunction of these renal units.

Sixty-eight per cent of the boxers exhibited proteinuria, especially after a long bout.[1] Ninety-two per cent of the football players developed proteinuria. An earlier report[7] also correlated the incidence of albuminuria with the extent and type of exercise.

Very strenuous exercise may result in acetonuria.[7] It was present to a small extent in 14 per cent of the boxers[1] but in none of the football players after the contests. Furthermore, while 9 per cent of the boxers had some glycosuria after their bout,[1] this was noted in only one of the 27 football players after the game.

That exercise might cause cylindruria has been known for many years.[7,9] Twenty-six per cent of the boxers[1] and 81 per cent of the football players exhibited hyaline and/or granular casts in the urine after their respective physical activity.

Perhaps the most impressive finding in the study of boxers was the presence of red cells in the urine after a fight "in significant pathologic amount" in 73 per cent.[1] The authors believed this could not be due to exercise alone but must have resulted from renal trauma. Barach,[7] however, had noted hematuria consistently in runners after a marathon race; less strenuous track activity had resulted in passage of "a small percentage of red blood cells." The discrepancy may depend on what each author considered significant. Only one of the 27 football players had red cells in the postgame specimen in what was considered a significant amount. Even the importance of this is lessened by the finding of many red cells in the urine of a player, not included in this series, who never got into the ball game; subsequently all his samples were negative for red cells.

In brief, then, the football players manifested (1) a higher incidence of clouding of the urine, albuminuria, and cylindruria and (2) an insignificant incidence of hematuria as compared with the boxers. The latter may be explained by the nature of the sport, the fact that no boy played more than forty-eight minutes, and the heavy protective hip pads in use. The explanation for the high incidence of albuminuria and cylindruria among the football players must be speculative; perhaps these younger individuals have a different response of the renal vasculature to physical and emotional stress. At any rate this study does not indicate that football playing is likely to be any more injurious to the kidneys than other comparable exercise which does not involve body contact.

It would be desirable for similar studies to be extended to football playing in other age groups and to other sports, both with and without body contact. If at all possible, such studies should include measurement of urinary acidity by means of a pH meter and examination of the formed elements by means of the Addis count.

Summary and Conclusions

1. Urine samples of high school football players were examined immediately before and after football games.

2. After the game the urine tended to become turbid and acid and perhaps to have an increased specific gravity. Proteinuria became evident in 92 per cent of the players and cylindruria in 81 per cent, but a moderate number of red cells in the sediment appeared in only one of 27 players.

3. In comparison with a series of boxers studied before and after a fight the football players manifested a high incidence of proteinuria and cylindruria and a very low incidence of hematuria.

4. The significance and possible explanation of these disparities are discussed.

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Addendum

Since the preparation of this paper, Boone *et al.*[10] have reported a high incidence of hematuria in college football players.

Mr. George Silberzahn rendered valuable assistance.

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AMA Sponsors 2nd Mental Health Meeting for State Societies

Methods for integrating effectively the technics of psychiatry with general medical practice will be one of the discussion topics at the second Conference of Mental Health Representatives of State Medical Associations. Sponsored by the AMA Council on Mental Health, the meeting will be held November 18 and 19 at AMA Headquarters, Chicago. One of the primary purposes of the meeting will be to exchange ideas on ways in which medical societies can implement and expand their mental health programs.

—*AMA News Notes, October, 1955*

CLINICOPATHOLOGIC CONFERENCE

STATE UNIVERSITY OF NEW YORK COLLEGE OF MEDICINE AT
NEW YORK CITY AND THE UNIVERSITY DIVISION-MEDICAL
SERVICE, KINGS COUNTY HOSPITAL, BROOKLYN, NEW YORK

Conducted by PERRIN H. LONG, M.D.

MARCH 4, 1954

Case History

Mrs. A. L., a forty-six-year-old, white housewife, was admitted to Kings County Hospital for the second time on September 27, 1953, with chief complaint of fever, pain, swelling, and stiffness of the knees and back.

In May, 1952, patient began to notice stiffness of the fingers with slight joint swelling and fever. Patient was treated by her physician with "large red pills" which afforded little relief.

Symptoms became more acute in October, 1952, when she was hospitalized for twelve days at another institution where the diagnoses of rheumatoid arthritis and anemia were made. Patient was treated with cortisone and blood transfusion and discharged on cortisone. After three weeks she was again hospitalized with some decrease in stiffness and swelling but persistence of joint pain. Patient continued on cortisone and received another unit of blood. She was discharged after one week. Cortisone was reduced slowly from 100 to 50 mg. daily with gradual relief of pain. However, patient suffered another exacerbation of her symptoms in March, 1953, was again hospitalized, treated with cortisone, and given another unit of blood for her anemia (70 per cent). During the following months she was comfortable on cortisone therapy. However, in August, 1953, the patient had a recurrence of symptoms and was rehospitalized. At this time, in addition to "arthritis," she was noted to have red blood cells in her urine, and a diagnosis of acute nephritis was made. After her discharge patient was placed on ACTH (60 mg. every other day). A transcript of her hospital record reveals no evidence of joint involvement.

About three months prior to admission the patient began to notice the loss of hair and developed anorexia. About two weeks prior to admission the patient had an exacerbation of joint pain and fever and was admitted to Kings County Hospital.

Past History.—The patient had been hospitalized at Kings County Hospital in 1948 for fever of unknown etiology and was discharged afebrile after four days. No arthralgia had been noted. The patient had had anemia for ten years; prior to admission was treated with iron, and shortly prior to admission she was treated with vitamin B_{12}.

Family history was noncontributory. The patient had had three full-term pregnancies. Review of systems elicited urticarial reaction to citrus fruits.

Physical Examination.—On admission physical examination revealed a pale, thin, well-developed, white female in no acute distress. Blood pressure was 130/80, pulse 92, respirations 14, and temperature 100 F. There was a patch of thinning hair on the head but no gross baldness. Heart showed regular sinus rhythm at 92 beats per minute. There were no thrills or murmurs and no gallop rhythm; the heart was not enlarged; the first mitral sound was accentuated. Lungs were clear to percussion and auscultation. The abdomen showed no significant abnormality. The extremities showed some minimal limitation of motion of the fingers at all joints; there was slight limitation of flexion of the knees. No swelling, redness, or heat was observed at any joint. Neurologic examination showed reflexes to be normal.

Laboratory Data.—Urine was amber, clear, and acid, with specific gravity 1.015, trace of albumin, negative for sugar and acetone, and 1 to 2

TABLE I.—Summary of Laboratory Data on Urine Tests for Both Admissions

Date	Specific Gravity	pH	Albumin	Sugar	Acetone	Red Blood Cells	White Blood Cells	Casts
Sept. 27	1.010	Acid	Trace	0	0	0	1 to 2	0
Oct. 20	1.015	Acid	2+	0	0	0	2 to 30	Granular
Nov. 16	...	...	2+	...	...	Many	Few	...
26	...	Acid	2+	...	...	3 to 5	15 to 20	Few granular
Dec. 11	1.012	Alkaline	2+	...	...	0	0	Occasional granular
14	1.012	Alkaline	2+	...	...	Occasional	4 to 6	...

TABLE II.—Summary of Laboratory Data on Blood Tests for Both Admissions*

Date	Hemoglobin (Gm.)	Red Blood Cells (Millions)	White Blood Cells	Erythrocyte Sedimentation Rate	Polymorpho-nuclears	Immature Forms	Lympho-cytes	Eosino-phils	Mono-cytes
Sept. 30	7.5	2.6	3,500	...	68	5	25	1	1
				BLOOD TRANSFUSION					
Oct. 20	13.2	4.2	4,800	16 in 60 minutes	...	...	...	...	...
26	13.5	...	4,800	...	72	3	24	1	0
Nov. 4	10.6	3.8	4,800	...	...	...	...	...	...
12	9.0	3.0	3,000	24 in 15 minutes	...	...	...	...	...
23	7.4	2.3	11,150	...	82	8	8	0	2
Dec. 11	5.2	...	14,000	...	...	...	...	...	...

* Also: 6 "L.E." preparations negative and Sickle cell preparation and fetal hemoglobin negative.

white blood cells, no red blood cells, and no casts on microscopic examination. Hemoglobin was 8.0 Gm. with 2,600,000 red blood cells, hematocrit 23 per cent, mean corpuscular volume 88, mean corpuscular hemoglobin 31, mean corpuscular hemoglobin concentration 34. White blood cells numbered 4,800 with polymorphonuclears 81, immature forms 4, lymphocytes 15, eosinophils 0, monocytes 0. Erythrocyte sedimentation rate was 20 in sixty minutes (corrected Wintrobe). Summaries of laboratory data for the patient's two admissions are given in Tables I, II, and III.

Clinical Course.—Patient was slowly weaned from steroids and suffered several episodes of joint pain, fever, and weakness with no joint swelling, heat, or tenderness. These attacks lasted twenty-four to forty-eight hours, and symptomatic relief could be obtained with aspirin. There was persistent leukopenia.

Hematologic study revealed refractory iron deficiency anemia with ovalocytosis. (Her daughter was found to have an anemia of similar morphology which responded well to iron treatment.) Patient was transfused to 12.5 Gm. of hemoglobin.

About twenty-four hours prior to discharge the patient slipped while getting out of bed, sustaining injuries to the nose and face with no lapse of consciousness. X-rays of the skull were normal, and she was permitted to leave the hospital because of pressing personal reasons on October 21, 1953.

On October 26 the patient was readmitted with a history of increasing lethargy which began forty-eight hours before admission and progressed so that on admission she was semistuporous and could be roused only with difficulty. The rest of the physical examination showed no positive findings except for questionable inequality of deep tendon reflexes.

A spinal tap was done with the following results: initial pressure 250 mm., 4 plus Pandy, questionable xanthochromic fluid, and 1,400 crenated red blood cells.

The patient was transferred to the neurosurgical service. She exhibited confusion and altered states of consciousness but no localizing neurologic signs. Skull films showed no evidence of fracture. On October 28 burr holes and ventriculograms were done, and no abnormality was found. Postoperatively patient was again febrile (as high as 105 F.) and on the third postoperative day developed a right "supranuclear" facial paralysis right upper hemiplegia right lower hemiparesis, conjugate deviation of eyes to the left, and mixed aphasic speech. No sensory changes were demonstrated.

By November 8 the only residua were the mixed aphasia and some weakness of the right upper extremity. Patient was still confused but did respond to simple commands. She continued to run a spiking febrile course despite penicillin and streptomycin. Hydration was poor with tube feeding, and intravenous fluids had to be used frequently.

TABLE III.—Summary of Laboratory Data on Blood Chemistries for Both Admissions*

Date	Mazzini	Creatinine	Blood Urea Nitrogen	Fasting Blood Sugar	Carbon Dioxide (mEq. per L.)	Total Protein	Albumin-Globulin Ratio	Sodium	Potassium	Chlorides	Calcium	Phosphorus	Alkaline Phosphatase
Sept. 28	Negative	...	10	76	...	6.3	....	143	3.0	105	...	...	...
Oct. 27	Negative	...	8	80	...	6.2	2.9/3.3	...	...	...	8.7	...	8.7
Nov. 23	...	1.9	60	...	...	7.4	3.4/4.0	...	...	...	...	...	...
25	...	1.9	55	...	11.3	...	....	138	5.2	127	8.2	4.4	...
27	...	...	...	...	16.9	...	....	138	6.2	114	...	...	...
Dec. 1	...	...	37	...	23.3	...	....	132	5.2	116	...	...	...

* Also: four blood cultures negative, nose and throat negative, and urine culture grew out Aerobacter aerogenes.

The patient was transferred to the medical service on November 16. The opinion of the neurosurgical service was that the patient had a diffuse brain lesion rather than a localized lesion. On examination after transfer patient was found to be febrile and to have hemorrhagic cystitis and bleeding from the gums and buccal mucosa. Hematologic study failed to reveal the cause of bleeding which did improve on vitamin therapy.

The last month was one of gradual decline. The patient remained febrile with alternating stupor and confusion. Nutrition and hydration were difficult to maintain. Patient also had bouts of flutter, fibrillation, and congestive heart failure controlled with digitalis. Decubiti, recurrent bronchopneumonia, and cystitis became problems. A course of cortisone was given two weeks before death with no change in clinical course, and the patient expired on December 18, 1953.

Discussion

Chairman Perrin H. Long: The case will be discussed by Dr. J. D. Myers, who is visiting us for two weeks from Duke University, and Dr. Fitzgerald will conclude the discussion of this case. Those of you who speak from the floor should identify yourselves so we can keep the records straight.

I think, Dr. Myers, we can turn this over to you now.

Dr. J. D. Myers: In order to review this quite long but very thorough abstract, at the outset let us mention briefly the cardinal points in the illness of this middle-aged lady.

The illness began about a year and a half before her fatal ending with stiffness of the fingers and fever. She was treated with "large red pills" which, I presume, were enteric-coated sodium salicylate. For the next six months she had ups and downs of fever and joint discomfort. The diagnosis of rheumatoid arthritis was made, but it is pointed out repeatedly in the abstract that the joints never showed very much objectively The abstract also mentions very early in the course of this illness that she was anemic, and from the very beginning she began to have a series of blood transfusions for the anemia which, we gather, was somewhere in the neighborhood of 70 per cent hemoglobin.

The next development was that of red blood cells in urine which suggested to some outside observer that she had acute nephritis. She was treated off and on with ACTH and cortisone, and when these agents were discontinued, generally there was an exacerbation of the fever and arthralgia. The next developments were loss of some hair, which I take as nonspecific evidence of illness, and some anorexia. At this point she came to Kings County Hospital.

The past history shows she had been here with a brief fever of unknown etiology, and I am afraid we are not going to be able to do very much with that point. She had been anemic for ten years before and had taken iron for this. It is also noted that she developed urticaria from citrus fruits.

On examination one found a pale, thin woman with a temperature of 100 F. There was patchy thinning of the hair. The heart was not remarkable. The accentuated first sound would certainly go with her anemia and low-grade fever. The joints again showed minimal limitation of motion of the fingers but nothing more.

On the urinalysis there was a trace of proteinuria. She had a hemoglobin of 8, a red blood count of 2,600,000, a hematocrit of 23, and calculated indices on these measurements were all within normal limits. She had quite a striking leukopenia, 4,800. She had some immature white cells, and these were found repeatedly. A more careful hematologic study, if anything, I think confuses the issue by demonstrating that the patient had ovalocytosis. The daughter was also found to have these queer elliptic red cells.

She was weaned from steroids, and, as expected, episodes of joint pain, fever, etc., recurred. Then she was about ready to go home from the first admission and slipped and sustained some facial injury. This was not thought to be serious after re-examination and x-ray, and she went home. Within a week, however, she became lethargic and was readmitted. Spinal puncture showed a moderately elevated pressure at 250, a 4 plus Pandy, questionable xanthochromia, and a good many crenated red blood cells. She was properly seen by the neurosurgeon. She was confused and had altered states of consciousness but no localizing neurologic signs. There was no skull fracture by x-ray. The neurosurgeons did burr holes, I presume looking for subdural hematoma but found none. The ventriculograms were normal also.

Postoperatively she developed an extensive weakness of the right side of the body with aphasia and conjugate deviation of the eyes to the left, that is, to the side of the lesion. So she apparently had a very sizable lesion in the brain at that time. However, surprisingly, within a few days most of this disappeared. She continued her spiking febrile course. It was difficult to keep her hydrated, and she was tube fed. We want to notice these last points because we will come back to them. The neurosurgeons concluded that in view of her improvement from this right hemiplegia, etc., and the development of no other localizing neurologic signs, she had no focal lesion in their domain. She was transferred back to medicine, and then it was noted that she was bleeding from the oral mucous membranes and had also a hemorrhagic cystitis. Hematologic study failed to reveal any cause for the bleeding; I take it this means there was no abnormality in the blood clotting. She seemed to improve on vitamin therapy. I suspect this is *post hoc,* however, and the vitamin therapy was really not instrumental.

She then goes into the last month of her illness with gradual decline, remaining febrile with stupor and confusion. Nutrition and hydration failed, and then she developed something else of interest. She developed cardiac failure with bouts of arrhythmia, flutter, and fibrillation. This was apparently improved with digitalis and then, as is so frequent with a debilitating illness, she had decubitus ulcer, recurrent bronchopneumonia, and cystitis and finally succumbed.

In the laboratory summary there are a few points to emphasize. The urine showed a fixed specific gravity on the various measurements, and at most times there was a 2 plus proteinuria. The sediment, however, was not very remarkable. Intermittent hematuria was found, but no red blood cell casts or other specific casts were observed. She was anemic, and when the anemia was corrected by transfusion, she failed to hold the hemoglobin well. This, however, is difficult to interpret because she was bleeding. We cannot say then that she was destroying red cells at a rate faster than normal. If she had not been bleeding, I would so interpret these data. The leukopenia persisted until terminally when, with superimposed infection and finally cortisone, she got a leukocytosis through one or both of those factors. The platelets were always thought to be adequate, and one platelet count in the middle of her course showed 375,000 platelets. We don't have observations on her platelets during the final few days of her illness. I have commented that immature white cells were found on all occasions, but I gather these were not very exciting because no great comment is made on them in the abstract. Six "L.E." preparations were all negative. As the illness progressed, she did get some azotemia. At one point with this she had acidosis. The albumin-globulin ratio of the plasma proteins was reversed. She had an alkaline phosphatase of 8.7 on one determination, and then terminally we find that she had hypernatremia and hyperchloremia. The bacteriologic data are not helpful.

I was very pleased when I saw the program for this exercise this morning which listed a case of lupus erythematosus just ahead of this one. I was happy about this for two reasons. First, it gave me a good springboard from which to start this discussion, because as a person first reads over this protocol it is inescapable that lupus erythematosus must be considered in this middle-aged woman, who had joint troubles without any very spectacular changes in the joints, exactly what one expects to find in lupus. It is true that now and then one finds quite typical rheumatoid deformities appearing in the course of chronic lupus, but this is unusual, and one is not sure then that he is not dealing with a case of "in-between" collagen disease that bridges the gap between rheumatoid arthritis and lupus. In our case today, though, the constitutional reaction greatly outstripped any objective evidence of arthritis. Fine for lupus! She had fever; she had a relapsing course which was influenced favorably by cortisone; she had anemia; she had hematuria, proteinuria, and leukopenia. The late leukocytosis with secondary infection and particularly cortisone certainly does not militate against lupus erythematosus. The alopecia I have already commented on as fitting with lupus but also with any other severe illness. She had a reversal of the albumin-globulin ratio which again is very frequent in lupus, and she had bronchopneumonia and urinary tract infection, two complications which are common in that disease.

However, as one looks at the case more carefully, I think one can raise three objections to the diagnosis of lupus erythematosus. The first is that on six careful searchings no "L.E." cells were found. This does not rule out lupus. It is not too infrequent that one sees a very typical case, and no "L.E." cells can be demonstrated. However, statistically it is unlikely in a full-blown case as this would be, if it is lupus erythematosus, that six careful searchings would not come forth with some "L.E." cells.

The second point is that at no time in the course of her illness did she have any serositis. There was no pleurisy, no pericarditis, and no peritonitis. We know that involvement of these serous membranes is statistically one of the most frequent manifestations of disseminated lupus erythematosus. These occur much more frequently than the skin rash or renal lesion, etc., and one is worried by the absence of serositis.

Then the third point, and I personally find this the strongest one, is that the major part of her illness turned out to be in the central nervous system. Lupus usually gives minimal involvement of the central nervous system. As I was thinking about this problem last night, I could recall no striking central nervous system changes in lupus prior to the institution of ACTH and cortisone therapy. Since we have been treating lupus with these agents, we have seen a fair number of patients with central nervous system changes much like this lady's, provided one leaves out the evidence for hemorrhage. These central nervous system alterations represent a combination of the effects of drugs which are known to affect the brain, together with the effects of a very diffuse connective tissue disease. Certainly in the average case of lupus we would not expect to find so much emphasis on disturbance in the central nervous system.

Therefore, we should look for some disease which in many aspects is like lupus erythematosus but does have the attribute of involving heavily the central nervous system and, you might add, does not so regularly give serositis and in which "L.E." cells are not to be found. Here I take a very abrupt departure but one that seems rational to me; instead of going over a long list of differential diagnostic possibilities, I might as well pitch into this case and essentially put all my eggs in one basket. A disease that behaves like lupus but which gives striking involvement of the central nervous system certainly suggests the rare disorder which is called thrombotic thrombocytopenic purpura. In fact, in reading about this disease there is frequently discussion about whether this disease is actually a variation of lupus erythematosus in view of the many similarities between these two disorders. Thrombotic thrombocytopenic purpura affects predominantly middle-aged women, just as does lupus. In general, it can have two forms. One is an acute fulminating one, which this was not, or a subacute relapsing one which can last over months or years, which I would prefer to make this.

There are usually three cardinal features listed as characteristic of so-called thrombotic thrombocytopenia purpura. One is the presence of extensive thromboses in arterioles and other small vessels, capillaries let us say. Only occasionally are large arteries occluded, but this is seen from time to time. Mesenteric arterial occlusions, for example, have been described in thrombotic thrombocytopenic purpura. As I have already intimated, these vascular lesions are very frequently found in the central nervous system. I shall leave the discussion of the pathogenesis of this disorder, if my guess is right, to the pathologist of course. But I think there are a few points about the pathogenesis that have clinical import and must be related to our protocol.

The first is the point I have made, that this is an acroangiitis, an involvement of peripheral little vessels, presumably with some inflammatory process in the wall, which attracts platelets and perhaps red cells too and causes a complete, thrombotic occlusion of the vessel. This leads to one of the other cardinal features of this affair, as is implied in its name, that there should be thrombocytopenia. Most people would have us think that the platelets are excessively used up in the formation of these thrombi. Other people question this point, however. Sometimes a marrow study gives one evidence of quite heavy platelet production, but sometimes platelet production seems to be subnormal. I, like others, cannot quite accept the evidence for subnormal production. This evidence is based on the fact that when you study the marrow in this disorder, you find usually numerous megakaryocytes, but there does not seem to be very much platelet production from many of them. But this is like looking at a warehouse and seeing the number of radios in the warehouse and trying to judge from this how many radios are turned over through this warehouse each week. Can you look at megakaryocytes and, because you don't see platelets attached to them, say that they are not very actively making platelets and discharging them as rapidly as they are being manufactured? The point I am getting to is this: Although the name of this disease implies that thrombocytopenia should be found because platelets are heavily used up, the platelet count in the blood would obviously be a balance between assimilation and production, and therefore, one would not necessarily always expect thrombocytopenia. Experience bears this out, particularly in the subacute relapsing forms of this illness. There have been a good many cases where the platelet counts were essentially within normal limits as are the counts on this particular patient.

The other point about the pathogenesis that I wanted to mention is that there is some evidence that this is a hypersensitivity form of disease, particularly along the line that certain individuals who have had drug hypersensitivity have developed this disorder. Sensitivity to penicillin, sulfonamides, and iodides have been listed in the literature. In our case we don't have good evidence for hypersensitivity. The only drug that is mentioned to any degree is what I take to be salicylate. Salicylate hypersensitivity occurs, but we have no support for that view here. I certainly cannot make anything specific out of the allergy, if you will, to citrus fruits.

Let us spend a moment or two seeing how we can tie in the clinical manifestations that this patient showed us with the diagnosis of thrombotic thrombocytopenic purpura. First, the central nervous system. My first remark here is a question. Was this accident a true accident? Often thrombotic thrombocytopenic purpura affects the brain in a very insidious way, and it may have been that in getting out of bed she had vertigo or something and slipped and fell. This actually could have been the first evidence that this disorder had affected the central nervous system. Then she got lethargy going on to stupor, as you remember, with fluctuating consciousness and without localizing signs. This is very characteristic of the central nervous system involvement. With thrombotic thrombocytopenic purpura there are very small lesions—remember, seldom lesions in large vessels—and neurologic events do occur in a very atypical sort of fashion. But then you say, "Oh, she developed a right hemiplegia with right lower hemiparesis, conjugate deviation of eyes to the left, and aphasia." The lesion cleared well, as is very characteristic of central nervous system involvement by thrombotic thrombocytopenic purpura. This was not necessarily a large vascular lesion but perhaps a collection of small vascular lesions in the flareup of this disorder. The spinal fluid findings are entirely compatible. Increased pressure is fairly commonplace. In fact, some of these individuals have had papilledema with the cerebral involvement. With the thrombotic purpura you find an increase in spinal fluid protein, and an increase in red cells is again quite all right. Usually the hemorrhages are small and scattered. I know of one report in which a frank subdural hematoma, apparently nontraumatic, developed in this disorder so even if the surgeons had found a subdural hematoma in our patient, it would have been problematic whether this was related to what sounds like an innocuous fall or whether this was spontaneous from the disease under consideration.

The name implies that these individuals have purpura. This patient had purpura of the mucous membranes, I gather, and probably of the bladder had one looked at it, but she did not have any described purpura in the skin. This again is all right. Only about half the cases show typical purpuric lesions in the skin, and the bleeding may all be visceral.

The kidneys were involved. There was hematuria and proteinuria, and terminally there was moderate azotemia. These are perfectly compatible because renal lesions are quite frequent. In fact, sometimes there is actually a glomerulitis, and this illness will simulate nephritis. I find it hard in this case, though, to know whether the kidney was more involved by just purpura and bleeding or whether there was glomerulitis. In the latter instance we would have expected careful searching to have disclosed red cell casts, and none were described. However, red blood cell casts are quite easy things to overlook.

The heart was involved. Hemorrhagic lesions in the myocardium are to be expected, and such lesions could well promote the arrhythmia and could also promote the congestive heart failure. One might even have expected this lady to have had a mild murmur since endocardial lesions grossly like those of the Libman-Sachs lesion of "L.E." are described.

Arthralgia without frank arthritis is quite expected. Splenomegaly is sometimes found but is not described here. But splenomegaly in this disorder is like splenomegaly in lupus; it is an inconstant finding. We need say little about the various constitutional symptoms and signs. They are all in keeping.

I started listing cardinal manifestations of thrombotic thrombocytopenic purpura. I talked about the thromboses and how they explain many of the clinical manifestations. I talked about the thrombocytopenia and how that is not necessarily constant in the more chronic relapsing form. The third cardinal feature of this illness is anemia, and here we are reminded that from the very beginning anemia was quite prominent in this lady, more prominent I think than one would have expected in, say, rheumatoid arthritis or even the average case of lupus erythematosus. She had transfusions very early. The anemia in thrombotic purpura is said to be hemolytic. We don't have evidence for that here. However, we don't have much evidence against it either. I have commented that the hemoglobin was poorly maintained after transfusion, but the hemorrhage gets in the way of reasoning from this point. She was never described as icteric. This is not disturbing. The two viscera which are least involved in thrombotic purpura are the liver and the lungs. Liver function usually goes on quite well, and if the individual did not have a real hemolytic crisis, the relatively intact liver would be expected to clear the extra bilirubin without the development of visible icterus. We might comment at this point that these individuals do not have a typical acquired hemolytic anemia with positive Coombs test, etc., and in general, they do not have abrupt hemolytic crises. We would of course like to know if there was recticulocytosis during the course of the illness, and then we would like to know whether there was an increase in the fecal output of urobilinogen. Those data would settle the question one way or another as to whether this anemia was hemolytic, but in the absence of such information, I think it is just as reasonable to say that it was as that it was not.

Dr. R. Janet Watson: We did numerous reticulocyte counts which were all normal or on the low side, and all our indices were normal. There were about a dozen.

Dr. Myers: We can say there was no brisk hemolytic process here.

The other thing that one would want to know about—and I suppose we know this and it may have been left out of the protocol on purpose—are the findings in bone marrow. If the anemia were hemolytic, you would expect to find some hyperplasia of the red cell series. I suspect one reason the bone marrow was left out may have been that sometimes one can make a diagnosis of thrombotic purpura by bone marrow aspiration. One accidentally drags out a few thrombosed arterioles from which the pathologist can make the diagnosis.

The anemia here is further confused by the oval red cells. However, to my meager knowledge about oval red cells, anemia is not to be expected with this hereditary disorder (I take it this is hereditary because the daughter had it) unless these red cells are broken down unduly readily. Some oval cells are more susceptible to destruction than normal-shaped ones. So I think the ovalcytosis is thrown in to make life hard and probably is not pertinent to the case. I don't know what to do with the question of iron deficiency. Certainly the indices given us here would have us think that that factor was not particularly strong. So I would say that although we cannot establish this anemia as being hemolytic, the degree of anemia, etc., agrees all right with the diagnosis of thrombotic thrombocytopenia purpura.

As to the other elements in the blood count, we have already commented about the platelets. There are no clotting abnormalities as far as the circulating clotting elements like prothrombin are concerned. The white cell count may be low, and immature white cells, as described throughout this illness, are very commonplace. I gather most students of this disease have thought that these early neutrophils were indicative of the hemolytic process, but whether it is as simple as that I don't know. Perhaps Dr. Watson later will comment more about the various questions raised about the blood.

Cortisone treatment helped at first but did not help later on. This again is compatible with thrombotic purpura. I am reminded, in the late part of her illness, of the effects of cortisone on periarteritis nodosa where the cortisone in that thrombosing illness does not have any ameliorating effect on the disease—in fact, it progresses under one's eyes. Here I think we have much the same phenomenon, except that we happen to be dealing with smaller vessels. I would not expect cortisone to be particularly effective when she gets into her extensive thrombotic episodes, as she did with the brain in the last month or two of her illness.

Well, as I said, I put all my eggs in one basket, but a disease like lupus that affects the brain as strongly as this and then has other attributes compatible with thrombotic thrombocytopenia makes it hard for me to make any other diagnosis.

Last, there are a couple of miscellaneous points that I want to mention. The first of these is the terminal electrolyte status. She had some increase in potassium. I would think this goes with the renal lesion and the azotemia. She had some acidosis, which might in part be related to that. There is one thing though in connection with the acidosis that I cannot readily explain, and that is the serum chloride of 127 on November 25. However, the latter elevation of chloride to 116 and the sodium to 152 I think we can explain. This goes back to some observations made several years ago by Dr. Louis Welt of Yale, now of Chapel Hill, on the effects of central nervous system lesions on salt and water metabolism. We have found, in the last year and a half since we knew about these observations, that this is a matter of considerable clinical import. Patients like this who are stuporous or confused have, of course, no effective way to satisfy their thirst reflex. They are probably not aware of the thirst in the first place. If they are aware, they are usually so sick they cannot drink water unless somebody gives it to them. The common medical practice under these circumstances, where the patient will not take food or water spontaneously, is to give what we think are average amounts of water, a couple of liters a day, and tube feedings.

The tube feeding in most hospitals, when one inspects it carefully, is a very queer sort of diet. It is made up largely of milk and eggs, and it is popular these days to add protein supplements, so most hospital tube feedings turn out to have protein contents from 150 to as high as 250 Gm. per day. I suspect that the tube feedings in Kings County Hospital are of this nature. So what we are doing then is giving an extremely high protein intake with only a moderate water intake. Sometimes as well, a fair amount of sodium chloride is given at the same time. What happens under these circumstances when the kidney is limited in the amount of water it has available for excretion? The kidney gives preferential excretion to nitrogen, urea, creatinine, etc., which are excreted moderately well, and electrolytes, particularly sodium and chloride, are held back in the absence of enough water for all purposes. Expect a patient who has a problem with hydration and who is on a high protein intake, which provides plenty of nitrogen for excretion, particularly when there is a protein catabolic illness like this, to have retention of sodium and chloride. This sometimes goes to very serious levels. In recent months we have seen patients with serium sodiums of 175 mEq. and chlorides of correspondingly high levels.

I think we were getting into something of that general nature here in the terminal rise of sodium and chloride. I would interpret these as evidence of dehydration, at least relative dehydration in a patient who was on a high-protein diet with a limited amount of water and who, of course, also had a renal lesion. I think she needed more carbohydrate and more water. I would make a plea for changing all our tube feedings to include a protein intake of not over something like 80 Gm. a day. In fact, I don't know of any particular reason to give more protein than this to people who require tube feedings because they first catabolize the excessive protein anyhow, which helps precipitate the phenomenon I have just described.

The last miscellaneous point I cannot do anything with. This is alkaline phosphatase of 8.7. I have already commented that I think this patient had pretty good hepatic function, and I cannot explain the phosphatase on that basis. In thrombocytopenic purpura and in lupus for that matter, bone lesions of an osteogenic sort are not to be expected, and therefore, I cannot explain the phosphatase on that basis. I don't know what caused it. My first reflection would be to repeat it before I worried about it.

My last remark goes back to my first one in this discussion. I had two reasons, I said, for being happy that a case of disseminated lupus preceded this case. One was that it gave me the springboard for this discussion. The other is that I think that it would be unlikely that you would present here a case of disseminated lupus and then have me get up and give a clinicopathologic conference on disseminated lupus. This sort of thing sometimes helps people who are discussing clinicopathologic conference cases. So this just fortifies my stand and makes me again put all my eggs in this one basket labeled ***thrombotic thrombocytopenic purpura.***

Dr. William Dock: Dr. Myers, I went over the protocol one evening because it was handed to me as a case I was to discuss. After hearing you discuss it, I feel about the way the old club professional does who is used to getting around the course in about 78 when Mr. Hogan comes in and goes around in 64. It has been a most stimulating discussion.

The names used for this disease, which Dr. Myers and I both thought the patient had, vary. Dr. Fitzgerald, I believe, added one to the test. It is always well to make up a new name for an obscure disease. His new name is telangeitis thrombopoetica, a very poetic name.

Unless someone in the audience has a diagnosis different from the one that Dr. Myers has made, we can go right ahead and see what was actually found. Dr. Watson, you have another diagnosis?

Dr. Watson: The thing that bothered me most in this case during life was the normal platelets. Also, the anemia was not of the hemolytic type. I have seen one case of thrombotic purpura lasting three years but only showing hemolytic anemia in the last weeks of the illness.

I don't know of a case in the literature without low platelet counts or hemolytic anemia. This may well be the first one.

I don't know a good alternative diagnosis.

Dr. Dock: What was the ward diagnosis? I think we should know this.

Dr. Watson: Our main suspicion during life was lupus.

Dr. Dock: Only the final anatomic diagnosis was lupus? Does the resident know what the diagnosis was at the time of death?

Dr. Jacques Squillace: The house staff diagnosis was lupus.

Dr. Dock: The possibility of metastatic neoplasm was not discussed since this would not account for the arthritis.

Student: I was wondering when the patient's illness actually began and whether the joint symptoms with the past history related to another disease.

Dr. Dock: The illness began in 1952 when she got stiff fingers. She had no signs of scleroderma, which also turns up in some of these people with Moskowitz's disease.

Pathologic Report and Comment

Dr. P. Fitzgerald: I think it is rather unfair of Dr. Dock to bring up one's past. At one time, under the influence of a classical scholar in Boston, I suggested the name thrombocytic acroangiothrombosis.[1,2] I am afraid I will never live it down. However, there have been worse names proposed, and you have just heard one of them, so I don't feel so bad about it.

As far as the central nervous signs and symptoms were concerned, the neuropathologists had a few problems, chiefly because there was no lesion in the brain to explain anything except the needle track with the adjacent hemorrhagic necrosis. The microscopic findings bore that out, and re-examination of the protocol showed that the specific findings developed subsequent to operation.

The findings are rather simple. I am not going to spend any great time on them because the case is a clear-cut and classic one. I will only mention the findings in the heart and kidney.

The heart weighed 380 Gm. The myocardium was flabby, pale, and bright brown. The left ventricle measured 60 mm. and the right ventricle 16 mm. in thickness. No signs of infarction were demonstrated. The endocardium was smooth and glistening, save for the mitral valve on which a large, bright, fungating vegetation was seen, involving the entire length of the valve margin. The remainder of the leaflet was pliable and freely movable.

In the kidney the only significant findings were the diffuse, finely scattered, minute petechiae. The findings are very clear cut and simple—***subacute bacterial endocarditis with the "focal embolic" glomerular nephritis.***

The only mention of subacute bacterial endocarditis in the entire protocol is that of the admitting intern who suggested that it must be ruled out.

Dr. Robert Austrian: What was the etiology of the heart disease?

Dr. Fitzgerald: Streptococcus viridans was isolated by culture, and there was no pre-existing rheumatic heart disease.

Dr. Dock: What do you think was the cause of her three-year illness? Do you think she had a low-grade subacute endocarditis with focal joint symptoms? That occasionally happens.

Dr. Fitzgerald: I doubt that she had an endocarditis for three years, and it is rather hard to postulate even an eighteen-month course. One would either have to do that or suggest a rheumatoid arthritis with an incidentally developing subacute bacterial endocarditis.

Dr. Dock: There was no evidence she had rheumatic heart disease along with the joint symptoms?

Dr. Fitzgerald: None. We have no evidence for rheumatic heart disease.*

Dr. Dock: This brings up a very common problem we have on the ward—the patient in the bacteria-free stages of subacute bacterial endocarditis where all the cultures are negative during life on the same media on which the vegetations grow out very well after death. In the preantibiotic period Dr. Keefer studied this problem at the Thorndike Memorial Laboratory, and now it is a more serious problem than it was then because intermittent treatment with the antibiotics leads more often to negative blood cultures.

This lady's pencillin and Gantrisin, etc., may have converted what originally was subacute bacterial endocarditis with positive cultures to negative. Dr. Myers, I wish you would discuss that problem. How often in your hospital do you see the problem of negative cultures in subacute bacterial endocarditis, particularly as it occurs in middle-aged and older people who at autopsy turn out not to have pre-existing congenital or acquired heart disease?

Dr. Myers: As you pointed out, we see an alarming number of cases of subacute bacterial endocarditis these days in which we cannot make the diagnosis bacteriologically. Most of them, however, do turn out to have a pre-existing cardiac lesion. We have thought that the main trouble in isolating the organisms is that all of our patients are referred, and they have all gone through at least one doctor's hands before seeing us. It is extremely difficult these days to go through most doctor's hands without getting pencillin, sulfonamide, or some other antibacterial agent if you have fever. So our view is that it has been inadvertent therapy that has obscured the situation tremendously and has made this diagnosis much more treacherous than it used to be.

However, from preantibiotic days I can recall patients with subacute bacterial endocarditis who had what Dr. Libman described many years ago as the bacteria-free form of subacute endocarditis, in which one gets a lot of renal lesions and may have actually arterial lesions as well. You may get a typical diffuse, not focal, glomerulonephritis. We used to see mycotic aneurysms, etc., in individuals from whom we could not, with careful bacteriology, isolate any organism by blood culture.

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* The group at the Mollery Institute of Pathology have recently found that 50 per cent of 141 cases of fatal endocarditis occurred on normal valves.[3]

As I said, my experience would not agree with the fact that this illness occurs with any frequency on previously undamaged heart valves. This brings me back, since I have a somewhat old-fashioned clinician's viewpoint, to the point which led me away from the subacute bacterial endocarditis. There were no thrills or murmurs. This was on the early admission. I would still be astounded if the lesions that you described, Dr. Fitzgerald, had not given us a decent systolic murmur, and I think had a systolic murmur appeared in the course of the protocol, one would have taken this diagnosis more seriously. However, there could have been many other reasons, including Dr. Dock's and my diagnosis, for a systolic murmur.

Dr. Dock: The anemia alone.

Dr. Myers: The anemia, fever, and so forth. I really would be astounded if a quite striking murmur was not part of the course of this patient's illness, and I would emphasize that for the students' standpoint. Although one does see very rarely cases of subacute bacterial endocarditis in the absence of murmur, I think it is still a good clinical rule: "No murmur, no subacute bacterial endocarditis."

Dr. Dock: There are all sorts of clinical problems which this case brings out beautifully. One of them is whether a patient seen with this sort of syndrome should not always be started on salicylate, which often produces remissions in lupus. I think it does in thrombotic patients with fever and arthritis, as well as in acute rheumatic heart disease. Salicylate rarely produces remissions in the fever of subacute bacterial endocarditis. Dr. Austrian, what do you think about getting a normal temperature chart in subacute bacterial endocarditis when the patient is febrile by putting the patient on salicylates? How often have you seen that happen?

Dr. Austrian: The problem is what would the effect of salicylate be in the bacteria-free state? I have no idea whether the systemic manifestations of intoxication are those of infection or of the tissue changes which are going on in the kidney and elsewhere. This is a question which I cannot answer. These patients seem to die either of renal failure or of cardiac failure rather than of any manifestations due to the presence of large numbers of bacteria in the body, and, sometimes even at autopsy, one obtains sterile cultures despite histologic evidence that an infectious process has been present on the heart valves.

Dr. Dock: In this case Dr. Fitzgerald is caught in an awkward position: a body and no cause of death. The patient did not die in heart failure. She may have died with bronchopneumonia, but the course does not suggest this. The last case of this sort that I completely missed was a patient who had a palpable liver and spleen and anemia requiring transfusions over a four-year period. No murmur had been heard. This patient also had leukopenia. I made the diagnosis of cirrhosis, probably with bleeding which had been missed, but perhaps a purely hemolytic anemia. At autopsy the findings were a good deal like those in this case. There were no renal lesions or joint symptoms. The man died of a transfusion reaction, and the only reason that case was ended after a four-year course was this fatal reaction.

In our case it is quite mysterious what the downhill course to death means when the patient is not uremic and has no serious lesion in the central nervous system.

Dr. Fitzgerald: May I amplify on that, in regard to Dr. Myers' question? It was apparently omitted from the protocol. On admission the same intern who did a glorious job with his suggested diagnosis found a short, harsh presystolic rumble.

Dr. Dock: You found no mitral stenosis?

Dr. Fitzgerald: No stenosis as such, but vegetations were present on the mitral valve. The patient did have pulmonary congestion and edema, chronic passive congestion of the liver, and 1,000 ml. of fluid in the right pleural cavity and 1,500 ml. on the left, so I would assume that that is good evidence for cardiac failure.

Dr. Dock: There is no question about that.

Dr. Myers: Did you find any evidence of cerebral embolus? Her major cerebral episode came and cleared quickly. It would fit best with cerebral embolism now that we know she had subacute bacterial endocarditis.

Dr. Fitzgerald: None was described grossly or microscopically.

Dr. Myers: Unless you did an injection study, what we find at this late date would be very little. Late findings would depend on whether she had infarcted her brain or not.

Dr. Fitzgerald: There was no evidence of infarction grossly. The neuropathologist spent considerable time with this case because he felt he was obligated to explain these focal signs and symptoms, but the needle track and the adjacent hemorrhage and necrosis, which was bland, not infected, not inflamed, nor with any evidence of mycotic aneurysm or abscesses, were, presumably, post-traumatic.

Dr. Myers: I will be prefectly willing to accept the fact the patient had an embolus. Being a relatively young person with good vessels, this did not cause infarction. Unless one did a very careful injection study, as Dr. Dock used to do some years ago, you would not locate anything in the cerebral vasculature.

Nobody took the bait about this matter of the tube feeding and the hypernatremia and hyperchloremia. This is a condition in which people die, and the pathologists would not be able to demonstrate anything by the usual technics. There were no electrolytic measurements later than December 1. Had the sodium gone up say to 170 or 180—and it can be sometimes higher—the dehydration and hyperosmolarity per se can be fatal.

Dr. Dock: I want to bring out the point that this patient was not treated for congestive heart failure, had no paracentesis done, and developed very high sodium levels. Anatomically the main problem was congestive failure, not bronchopneumonia secondary to tube feeding, which it sometimes is in a case like this. Because this patient was not orthopneic, the presence of serious congestive heart failure was completely overlooked.

Dr. Antonio V. Mascatello: There is one question I would like to ask. What is the pathogenesis of subacute bacterial endocarditis without acquired or congenital heart disease? What is the percentage of subacute bacterial endocarditis occurring in such a case?

Dr. Fitzgerald: In the old days it used to be said that at least 10 to 15 per cent of the subacute bacterial endocarditis showed consistently negative cultures throughout life. I don't know what the figure is today with the antibiotics.

Dr. Mascatello: How does the organism invade the normal endocardium?

Dr. Fitzgerald: I wish I knew how it gets started on damaged valves. There is voluminous speculation but relatively little sound evidence on this phenomenon.

Dr. Dock: There is a study from Bellevue some years ago which showed that in older patients subacute bacterial endocarditis with embolic accidents occurred in cases with no murmurs. At autopsy there was no stenosis and no insufficiency of any kind. In this case I gather there was no stenosis and no insufficiency.

Dr. Fitzgerald: Possibly a considerable insufficiency from the erosion of the valve.

Dr. Dock: As a sequel of the disease?

Dr. Fitzgerald: Superficial erosion along the edges where these vegetations were produced, as there usually is, but there was no major gross defect, and we would presume, from the vegetations alone, that there should be a physiologic insufficiency.

Dr. Dock: No chordae tendineae were ruptured?

Dr. Fitzgerald: No.

Dr. Dock: Insufficiency would be relatively small as long as the line of apposition still existed, don't you think, with heart failure due to myocarditis?

Dr. Fitzgerald: A minimal infiltration in the interstitial tissue was present but nothing significant. At one time such a lesion was thought to accompany the administration of sulfonamides, but we know it is relatively common in any kind of septicemia. Presumably there is a toxic myocarditis with none of the usual abscesses that one sees in subacute bacterial endocarditis. The changes in the heart sections that we examined are minimal.

Dr. Dock: I think cortisone therapy always hastens congestive failure unless the patient is specifically treated with diet very low in sodium. This may have modified the electrolytes and the amount of water retained in the body.

Dr. Myers: The heart failure intensified before she got the last cortisone. I thought of blaming the cortisone, but it did not seem to fit. Temporarily I am going to be very orthodox. I would suspect the lady did not have a normal heart valve before the subacute bacterial endocarditis. Her early illness could have been acute rheumatic fever. She could have acquired a rheumatic valvulitis at that time, or she could have experienced unknown rheumatic fever even before, but I bet this valve was not normal before the Str. viridans set up housekeeping.

Dr. Fitzgerald: I would be happy to have you demonstrate any evidence of rheumatic infection in the sections.

Dr. Myers: How good is the valve to study for this purpose?

DR. FITZGERALD: The valve is quite sufficient.

DR. MYERS: Not so damaged or eroded by the subacute bacterial endocarditis?

DR. DOCK: The opposing leaflet is normal, I gather from your description?

DR. FITZGERALD: Yes. There is no involvement of the chordae tendineae, no thickening of valves, no auricular thickening, none of the usual findings. She may have had some change. We can only confine ourselves to our objective findings. From our findings there is no evidence of a previous involvement of the myocardium, as far as I am concerned, that could possibly be called rheumatic, nor in the description of the heart, nor is there any suggestion that there had been any previous damage. The base of one valve involved by vegetations is present in a section and is completely normal.

About the possibilities of electrolyte disturbance, of course that is completely outside of our ken. I must point out, however, that pathologists, unfortunately, do see many patients who do die in electrolyte equilibrium.

DR. DOCK: Thank you very much, Dr. Fitzgerald!

I think most of the cases that have been reported with endocarditis supposedly on normal valves were older than this lady. The corpora Arantii on the aortic valves get thickened as one ages, and they often look like thickened rheumatic nodules.

DR. MARTIN PERLMUTTER: We have been interested in the electrolyte disturbance. We had one patient on the ward who came in unconscious and had an exceedingly high sodium, I think about 160 mEq. With Mercuhydrin there was a marked diuresis, and very shortly the sodium came down to normal. I was wondering whether the group at Duke used Mercuhydrin in treating some of their patients with high sodium.

DR. MYERS: I have not seen that used. The patients we have treated have not happened to have any cardiac disease so we felt quite free to give them large volumes of 5 per cent glucose in water. The last one I recall was an old gentleman with a cerebrovascular accident who over a period of three days received in excess of 3 gallons of 5 per cent glucose in water intravenously. This caused no undue fluid retention in the lungs or anywhere. This replaced his water deficit, and the sodium came down to normal in this period of time. Our general approach has been to replace the water. If you have some reason to be worried about giving large volumes of fluids, then perhaps to seek a sodium diuresis is more reasonable. If one studies these people carefully, by doing extracellular fluid volumes, etc., you would find they are all absolutely dehydrated, and they really need water. So my plea would be for water first, putting in the glucose for caloric and tonicity purposes.

DP. DOCK: Thank you very much! I think that will conclude the morning's exercise.

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Debility

Debility, debility, she's only got debility;
An unrewarding patient for a doctor whose ability
Deserves a better outlet for his diagnostic skill
Than a peevish panel patient who's just vaguely feeling ill.
In vain to hope biopsy will reveal upon completion
Some deeply haematoxophyl calcareous concretion.
If she'd picked up kala-azar in the wilds of Timbuctoo,
Or contracted psittacosis while fire-watching at the Zoo,
Or developed empyeme, sprue, or Addison's disease,
There might have been some fun in treating any one of these.
She might have chosen typhoid or glomerulonephritis,
Aphasia, acromegaly, acute encephalitis,
Her deficiency of platelets might conveniently nurture a
Suspicion of a thrilling thrombocytopenic purpura.
She might have brought off triplets after treatment for sterility
But no—insufferably dull—she's only got debility.

—*In England Now, The Lancet, August 6, 1955*

TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

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The Treatment of Rectal and Colon Cancer

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With our present knowledge the treatment of large bowel cancer is operative removal of the tumor and its pathways of spread. No other form of treatment has been of substantial or comparable value. The outlook for long survival after operation is good and has been improved in latter years by better surgical technics.

The principles on which a degree of optimism and hopefulness are based are the following:

1. Whereas the tumors are located in important functional structures which are in constant overt use, these structures can be sacrificed with no great disability.
2. Early and striking evidences of the presence of such a tumor are common: bleeding, changes in the rhythm of evacuation, and obstruction.
3. The anatomy of blood supply is well defined; the method and pathways of lymph node spread have been studied and clarified; adequate and encompassing operative technics have been developed.

This latter principle is the important one in a discussion of treatment.

When the tumor is in an area which drains into removable contiguous lymph channels and nodes, the prognosis is best. The two sites most favorable from this standpoint are proximal right colon and sigmoid colon.

In the case of cecum and lower ascending colon tumors a section of small bowel on the near side, hepatic flexure, and part of the transverse colon on the far side can be removed. Thus the requirement that generous segments above and below tumor be resected is met. More important the arterial blood supply can be secured at its origin from the superior mesenteric artery. And most important, intervening veins, lymphatics, and lymph nodes can be resected en bloc in a comparatively easy, complete operation. Ileum can then be anastomosed to distal transverse colon providing primary restoration of bowel continuity. In spite of the fact that such tumors may exist with few symptoms for long periods of time, the prognosis is among the best of all colon tumors. This fact is eloquent testimony that the more the operation meets the requirements of adequacy for cancer, the better the results.

Similarly in sigmoid colon tumors the arterial blood supply can be secured at its origin. Bowel above and below can be removed. The large intervening area of lymphatic drainage in the mesentery can then be resected and the tube restored by end-to-end anastomosis. Here, too, is an adequate operation, and the results are good. This operation has been extended by some surgeons to include descending colon, splenic flexure, and part of transverse colon, all without much greater risk or disability. Whether or not such extension will add measurably to survival will be known at some later date.

As the area of disease and spread becomes less suitable for complete primary operative removal, the prognosis becomes less favorable. In the rectosigmoid and rectum, the main area of lymphatic spread is upwards. In this unperitonealized segment, however, there is also early spread through the wall to neighboring tissues. Adequate encompassing removal requires division of arterial supply high in the inferior mesenteric artery, wide in the hemorrhoidals, and extensive lateral excision of pelvic tissues. The latter is difficult. Not only is an abdominal colostomy enforced, but wide dissection in a noncollapsible region leaves a large wound. Unfortunately, a major number of all colon tumors occur in this segment. The results are intermediate between right and left colon which are better and other areas which are worse. Extension of the operation to include lymphatic drainage higher on the aorta has been proposed. It would seem that the greater likelihood of improvement will follow more extensive lateral excision in the lower pelvis. The results of wide dissection more than justify the risk of the procedure and the disability created by abdominal colostomy. Less extensive and sphincter-saving operations have been demonstrated to be less satisfactory for long survival.

Other areas of the colon with relatively poorer prognosis are less commonly the site of tumors.

The splenic flexure cancer, as one would expect, is most difficult. The lymph-draining area is into the transverse mesocolon which carries directly posterior to great vessels and under peritoneal folds to superiorly placed extensive lymph structures. Tumor may grow directly into the retroperitoneal area at the hilum of the spleen, the tail of the pancreas, and large collecting lymph channels which are forming the cysterna chyli. Extension of the operation above and below on the colon, while feasible, does not seem to offer much. The proposed en bloc removal of a long segment of colon, the spleen and its blood supply well over into the pancreas, the tail of the pancreas, and the lymphatics about the celiac artery is an operation of some magnitude. The number of patients so treated and time lapse since operation are insufficient to evaluate the procedure.

The hepatic flexure and its area of spread are similarly difficult to surround in an effective way. As in the splenic flexure, bowel above and below the tumor can be amply excised, but lymphatic and local retroperitoneal direct spread are into organs which cannot be removed. This area has not been attacked as boldly as the left side flexure because duodenum and retroduodenal nodes, the liver, main bile ducts, and important vessels are involved. This tumor is the most discouraging from a surgical standpoint.

Transverse colon tumors would seem to be favorably situated for a good cancer operation. Bowel to either side of the tumor may be easily removed, the blood supply at the origin of the middle colic artery is conveniently accessible, and the intervening transverse mesocolon can be removed en bloc. Results of comprehensive operations here are better than at the flexures but not so good as might be expected. Lymph flow from transverse mesocolon is directly into the large collecting channels which surround the pancreas and, as in splenic flexure, are gathering from all the lower body to form the cysterna chyli. In a distressingly great number of cases involvement of these lymph ducts is present at the primary operation.

These remarks have been concerned with the treatment of cancer of the colon for cure or, at least, long-time survival. Such an objective has been steadily advanced. Two factors are in large measure responsible for the advance. First, surgeons have been freed of many technical restrictions designed to prevent contamination of peritoneum or infection. Perhaps antibiotics have aided in this freedom. It is interesting, however, that some surgeons in pre-antibiotic days recognized that complete mobility of bowel segments and wide dissection were achievable if careful technic was used, critical blood supply preserved, and anastomoses done without tension. The need for so-called aseptic methods to prevent the slightest peritoneal contamination was not real. Second, revealing studies of the method of transplant of tumor cells to lymph nodes have helped. Adenocarcinoma does not invade lymphatics in the relentless, progressive, creeping manner of epidermoid carcinoma. Colon tumors may skip large groups of nodes and grow in one which is high and isolated. Therefore, it is necessary to know the draining area and to remove it entirely. An attitude of completeness has been created.

The treatment problem is regretfully not always with long-time survival in view. When the tumor has advanced beyond the possibility of removal, different circumstances prevail. Experience has been accumulated with this situation, and there are some hopeful aspects.

An ulcerating tumor in the colon opens branches of the portal venous system. Then with motion of the adjacent bowel wall, activity within the lumen, and the relatively negative pressure within the venous system it is understandable that tumor cells can be swept into the portal vein and filtered out in the liver. Transplantation is successful in a number of instances and establishes a distant liver metastasis. Heretofore, the finding of a liver nodule was an absolute criterion of inoperability. With increasing experience and established safety of resecting procedures, it is now agreed that in the presence of liver deposits, a resectable tumor should be removed. In a small number of patients the liver deposits are resectable. If so, the question of whether or not the primary tumor should be removed by an encompassing complete operation arises. There is evidence which indicates that removal of the primary tumor inhibits growth of the liver deposit or in some isolated instances seems to bring about disappearance of the metastasis. These are interesting features of a challenging problem.

When nonoperability is created by extensive involvement of fixed lymph nodes, the decision is easier. The tumor should be removed, whenever possible, to correct or forestall intestinal obstruction. In such instances the simplest operation which will meet the objective is the best. Anterior resection and primary anastomosis of rectosigmoid and rectal tumors is applicable in such cases. The safety and feasibility of such operations has been demonstrated, and an intact and useful sphincter can be preserved.

In any case obstruction or the possibility of future obstruction should be obviated by some type of short-circuiting operation where possible. Occasionally a simple loop proximal colostomy, particularly in irremovable rectal lesions, is necessary. The pain and distress produced by an unremoved rectal cancer are so severe that almost any measure is justified for relief.

Cancer of the colon can give rise to obstruction which becomes a matter of emergency treatment. The incidence of such a complication is related to the solid character of colonic contents and occurs with greatest frequency in the sigmoid. The obstruction comes on slowly and is generally preceded by constipation or alternating constipation and diarrhea. Cramps and distention signal the final plugging of the small lumen. There are several important features of this obstruction which influence the treatment. In spite of the fact that the patient does not vomit, the loss of small intestinal fluid into the lumen of the distended bowel is great and must be replaced by intravenous infusions. Also, when the ileocecal valve is competent and permits only one way access to the colon, the wall of the cecum is the most common site of leakage and rupture.

Decompressing colostomy is performed proximal to the obstruction at a selected point. If there is evidence that the cecal wall is damaged, the cecum should be used. The operation is best done in a mobile segment, such as transverse colon, in which a diverting type colostomy can be performed. Also, the stoma should be so placed that it will not interfere with later resection.

In brief, treatment of cancer of the colon is entirely surgical. Radiation, hormonal, or other types of management are ineffectual. In these tumors the most satisfying and well-designed operations, when performed carefully, can be rewarding. The outlook for survival is good and is dependent on the extent to which the surgeon is enabled to remove tumor and the area of spread. In some cases, such as proximal right colon and sigmoid, he is well able to do so, in rectosigmoid and rectum less able, and in splenic and hepatic flexures only with great difficulty. Results have been improved by better and more comprehensive operations, and there is promise of further improvement.

(*Number eleven of a series on Treatment of Cancer*)

FUNDAMENTALS OF MODERN ALLERGY

A series of special articles sponsored by the New York Allergy Society and written by its members.

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Introduction

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ALLERGY, one of the newest disciplines in medicine, is still in need of explanation to the average physician. Many have had no didactic instruction in this subject since formal instruction in this field was introduced in medical schools only recently. Only about one third of medical schools at present give any formal instruction in allergy despite the high incidence of allergic diseases in general practice. For these reasons the New York Allergy Society has initiated a series of articles of special interest to the general practitioner to be published in this JOURNAL.

As the title indicates, the articles will consider briefly fundamentals of allergy with special emphasis on diagnosis and treatment. Most allergic problems can readily be treated by the family physician, provided he is adequately prepared, and it is hoped that this series will be useful for this purpose.

There are certain aspects of allergy which may puzzle the physician. Unlike most diseases allergy it concerned primarily with a highly kinetic and reversible phenomenon (there are exceptions, as will be indicated in the paper on the "Scope of Allergy" by Dr. Cooke). Most of us, however, have grown accustomed to think of disease in terms of pathology, and when we are confronted with disorders of pathophysiology it puzzles us. There is nothing tangible to demonstrate. Furthermore, allergic diseases may be initiated by inherently nontoxic substances. Even essential foods and drugs become toxic and at times lethal (as in the case of penicillin) when allergy has developed to these substances. At times this sensitivity is long lasting and at other times is evanescent; both types of reactions may occur with the same food or drug in different individuals under the same circumstances without any apparent explanation. Some allergens may produce different kinds of reactions; penicillin, for example, may produce urticarial and angioedema type of reactions when used for the first time and then may be subsequently tolerated. On the other hand, some individuals develop asthma or anaphylaxis with repeated use of this antibiotic, particularly after the resumption of therapy following a period of no treatment.

Allergy has been closely linked to immunity since both are mediated through antigen-antibody reactions. Unlike immunity which is protective, allergy may be not only deleterious but highly destructive. No wonder then that Coca, a pioneer in allergy, coined the word aopy (strange disease) for those allergic individuals who have a hereditary background and demonstrate reagins in their blood or by skin testing.

To complicate matters further, sensitivities may disappear spontaneously or, on the other hand, may spread to encompass more allergens or may manifest themselves in new forms involving new shock organs.

Also difficult to comprehend is the intimate relationship between allergy, infection, and the psyche. Allergy may be modified by either infection or psychodynamics singly or in combination. At times severe allergy may induce psychologic disorder (somatopsychic reaction), just as the emotions may aggravate latent or mild allergic disease (psychosomatic reaction). There are times when symptoms originating on an allergic mechanism are perpetuated, either by infection or by psychodynamics, long after the allergen has been removed. Also little is known of the role of conditioning (Pavlovian conditioned reflex) in relation to allergy.

No attempt will be made to answer all of these questions since they are not all answerable even by the expert. There are certain *misconceptions* commonly encountered, however, which need to be dissipated. These include such notions as the following:

1. *Children outgrow their allergy.* Some do, but most do not and develop complications (sinusitis, bronchitis, emphysema, etc.) which could be avoided by proper allergic management and which, if untreated, may plague them for a lifetime. Asthma can be crippling, and the doctor should not wait for miracles to happen.

2. *Skin testing is dangerous and should be avoided, particularly in children.* Although there is an element of danger, this should not be a deterrent if skin testing is understood and adequate precautions are taken.

3. *No allergic investigation or treatment is indicated if the patient's symptoms are controllable by medication.* This is not true if the medication is cortisone and related drugs. Nor does this hold for persistent allergy since it is undesirable for the patient to take medication for a lifetime. It is far better to search for the cause and to remove it or to modify the allergy where possible by specific injections. In the case of hay fever, symptomatic treatment with the antihistamines may relieve the hay fever but may result in something worse and usually preventable by injections —asthma.

4. *Positive skin tests indicate specific allergy.* This is only partly true and must be correlated with the clinical picture.

5. *Patients with symptoms caused by pollens should not be treated during the pollen season.* This is only partly true. They should not be given the injections usually given in preseasonal therapy, but they can be given effective coseasonal therapy with small doses frequently administered. (See the forthcoming articles on hay fever.)

It is the hope of the editors that this series will dispel these false notions and, more concretely, will initiate procedures of genuine value to the practitioner and his patient.

Special thanks go to the members of the New York Allergy Society who have contributed to this series. These outstanding clinicians have been selected to summarize their knowledge and experience in special aspects of the broad field encompassed by allergy. The authors and titles in their relative order of appearance on these pages are as follows:

The Scope of Allergy
Robert A. Cooke, M.D., New York City

Diagnostic Procedures in Allergy
Matthew Walzer, M.D., Brooklyn

Extrinsic Factors in Bronchial Asthma
Will Cook Spain, M.D., New York City

Infectious Factors in Asthma
Horace S. Baldwin, M.D., New York City

Differential Diagnosis of Bronchial Asthma
Paul F. DeGara, M.D., New York City

Occupational Factors in Asthma
Harry Shilkret, M.D., New York City

Symptomatic Treatment of Asthma
Lawrence Farmer, M.D., New York City

Use of Hormones in the Treatment of Allergic Diseases
Emanuel Schwartz, M.D., Brooklyn

Surgical Treatment of Sinusitis Associated with Asthma
R. Clark Grove, M.D., New York City

Aerosol Treatment of Asthma
Samuel J. Prigal, M.D., New York City

Specific Injection Treatment of Asthma and Hay Fever
Selian Hebald, M.D., New York City

Allergic Factors in Infantile Eczema
Bret Ratner, M.D., New York City

Current Views of Atopic Dermatitis
Rudolf L. Baer, M.D., New York City

The Adrenal Cortical Steroids in Relation to Allergic Dermatoses
Marion B. Sulzberger, M.D., New York City

Occupational Contact Dermatitis
Max Grolnick, M.D., Brooklyn

Modern Treatment of Poison Ivy Dermatitis
G. Everett Gaillard, M.D., White Plains

Vasomotor Rhinitis and Nasal Polyps
Robert A. Chait, M.D., Brooklyn

Tonsillectomy in the Allergic Child
Gertrude Sobel, M.D., Rockville Centre

Hay Fever
Murray Albert, M.D., Brooklyn

Antihistamine Drugs in the Treatment of Allergic Diseases
Frederick R. Brown, M.D., New York City

Allergy to Drugs
William B. Sherman, M.D., New York City

Allergy to Penicillin
Sheppard Siegal, M.D., New York City

Food Allergy
Harry Markow, M.D., Brooklyn

Psychic Factors in Allergic Disease and Their Treatment
Harold A. Abramson, M.D., New York City

Allergic Factors in Cardiovascular Disease
Joseph Harkavy, M.D., New York City

Allergic Reactions to Insect Bites and Stings
James H. Barnard, M.D., New York City

Hematologic Allergy
Moses L. Furman, M.D., Bronx

Infectious Aspects of Asthma in Children
Robert Chobot, M.D., New York City

Gastrointestinal Allergy
Joseph H. Fries, M.D., Brooklyn

Problems in Pediatric Allergy
M. Murray Peshkin, M.D., New York City

Mold Allergy
David Merksamer, M.D., Brooklyn

(*The first article in the Fundamentals of Allergy series appears below. The series will continue in each succeeding issue during the next year.*)

The Scope of Allergy

ROBERT A. COOKE, M.D., NEW YORK CITY

(*From the Institute of Allergy, Roosevelt Hospital*)

It is impossible even in this day to define allergy in a way that is completely satisfactory or generally acceptable, and the reason is the existing ignorance of many basic phenomena. To be sure there is a certain group of diseases which are admittedly allergic, such as seasonal and perennial rhinitis, some of the asthma cases, certain dermatoses spoken of as intrinsic dermatitis (eczema) and those of extrinsic origin, the various forms of contact dermatitis, and some of the urticaria-angioedema group. The reason for acceptance of these diseases as allergic is the fact that in many but not all of them there is a demonstrable mechanism, the so-called *skin sensitizing* antibody. This antibody is demonstrable by giving rise to the immediate wheal reaction when the specific allergen is introduced into the skin as a test. It also circulates in the blood plasma of the sensitized (allergic) individual whose serum or plasma injected into a normal nonsensitized person conveys the same sensitization for varying but relatively short periods of time. This test is known as the Prausnitz-Küstner phenomenon of passive transfer.

The type of allergy thus conveyed is spoken of as the "immediate" edema-wheal reaction because of the promptness (five to fifteen minutes) with which the reaction begins when the sensitized person comes in contact with the proper antigen. Diseases such as those mentioned above, due to this kind of sensitization, are accepted as allergic in origin because of the known mechanism and the nature of the resulting lesion. In addition to the immediate edema reaction, this group is characterized by certain other features: There is an antecedent history of allergy of one sort or another in a large percentage of cases; the patients themselves are apt to have or to have had other forms of allergy; they are frequently sensitive to several or many different substances known as allergens. These sensitizations develop, as we say, spontaneously; that is, there has been no unusual or purposeful contact by artificial measures, and although there may have been some natural contact, it is only of a degree to which mankind is normally exposed without becoming sensitized.

Another feature is that the allergies as a rule are long lasting, even throughout an entire life span. One might refer to them as apparently self-perpetuating and very different from an induced sensitization such as serum disease following the injection of antiserum. The lesions, for the most part edematous, are reversible, and once the reaction is past, the tissues return to an essentially normal state. A tissue or blood eosinophilia is a common accompaniment.

Enough now for the "immediate reactions." Let us discuss a second group of allergies in which the reaction is "delayed" for it is largely due to their recognition that the scope of allergy has been broadened. The tuberculin test response, which, when positive, appears in twelve to twenty-four hours, is the prototype of these "delayed" reactions. One important point is that it is highly specific. For years a positive Mantoux was postulated as an allergic reaction, largely on the basis of its specificity, but a technic akin to the Prausnitz-Küstner passive transfer was needed to establish proof that the reaction was due to something in the nature of a sensitizing antibody which could be passed from a sensitive to a nonsensitive individual. This method was forthcoming a few years ago when Chase transferred a specific delayed tuberculin reaction from a tuberculin-positive animal to a normal one by means of the lymphoid cells of a peritoneal exudate and spleen but not by serum.

Now we are in a position to go back and describe a little more accurately what we mean to convey by the word allergy and the allergic state. The tissue reaction, the lesions responsible for the symptoms, are based on a mechanism which is spoken of as antibody, which in its turn is the basis of a sensitization. As a result of this, the sensitized cell in contact with antigen reacts in a way that the normal cell cannot, and this happens irrespective of whether the antibody is responsible for an immediate or a delayed reaction. This is what distinguishes an allergic from toxic or pharmacologic responses, for these latter are common to all members of a species and do not require the conditioning of the cells by antibody.

As was intimated above, it is essentially in the realm of these delayed reactions and largely due to our recognition of them that the field of allergy has been broadened and the horizon extended. Let us discuss this a little further.

There are still many diseases of unknown origin, and some of them are being explored for their basic mechanism, because the search for mechanisms responsible for cellular changes of disease is today the dominating, the impelling factor in medical research, not the study of the lesions themselves.

It is natural then that investigation should turn to the hypothesis that sensitization may be the key to the lesions of certain diseases, if not as the total explanation, at least as a factor in certain phases of the pathology. This is exactly what has taken place in regard to the caseating and granulomatous lesions in tuberculosis, for example. No one would pretend to claim that tuberculosis is an allergic disease per se, but it is a progressive step to appreciate that certain of the lesions have an allergic component apart from the toxic factors of the infection.

If one reads the more recent literature dealing with histopathology from most reliable and authoritative sources, one cannot help but be impressed with the types of lesions and diseases that are discussed and being explored from the point of view that allergy is an element in the total picture. There are several methods that may be used in such studies. One is through the production of lesions as a result of immunologic procedures.

For example, as a result of the injection of massive doses of a foreign serum in rabbits, Rich produced lesions after an incubation period which closely resembled those found in periarteritis of man.

It is also possible by some special technics to make an animal sensitive even to its own tissues by the production of what are known as autoantibodies or isoantibodies. These are specific for the tissue used to stimulate the antibody. In this way an animal may be sensitized to its own organs as brain, nerve, or kidney. These studies of lesions and symptoms experimentally produced have as their aim the understanding of such diseases as multiple sclerosis, glomerulonephritis, and others.

In other words, it is the similarity of pathologies and symptomatologies induced in animals to those of various diseases of man that forms the basis for a concept of allergy as a factor, because the experimental animal, by the immunologic procedures used, has developed on occasion one evidence of a sensitization to the injected antigens—precipitins.

In order to give a general idea of the scope of allergy, let me state that practically every organ and tissue of the body may respond with a reaction if its cells are sensitized, that is, contains antibody if or when contact with the antigen is established. The substances to which sensitization may exist comprise almost every absorbable material that reaches the body cells through inhalation, ingestion, infection, injection, and external contact. Thus all inhaled airborne dusts, such as pollens, danders, and molds, all ingested foods and drugs, the products of bacterial and viral infections, the injected drugs and biologics, as well as the many and various substances externally contacted, such as cosmetics, fabrics, and dyes, are included. In addition and to be more specific, an allergy may be shown to be an important contributing although not the whole factor in those infectious diseases which give a specific delayed reaction such as tuberculosis, syphilis, typhoid fever, brucellosis, tularemia, glanders, lymphogranuloma, and the dermatophytoses.

Among diseases in which allergy is reasonably considered a component, although not evidenced by an immediate wheal reaction, we may mention as examples rheumatic fever, rheumatoid arthritis, periarteritis, glomerulonephritis, urticaria and angioedema, the purpura group including thrombocytopenia, agranulocytosis, and the erythema group.

In addition, we may properly include many diseases of the eye such as scleritis and episcleritis, iritis and uveitis, and conjunctivitis and also diseases of brain, spinal cord, and peripheral nerves. Less likely but still under study are acute lupus erythematosus, thromboangiitis obliterans, scleroderma, dermatomyositis, and nephrosclerosis.

This is truly a formidable list, but it reflects the breadth of present-day thinking and probing for explanations in many diseases and lesions of disease of unknown or uncertain pathogenesis. It is important, even though to some extent it is still in the realm of hypothesis. It also indicates the importance of a knowledge of the principles of allergy and of a familiarity with the many common allergic diseases themselves on account of the frequency with which they are encountered in general practice.

(*Number one of a series on Fundamentals of Allergy*)

Where there is no free agency, there can be no morality. Where there is no temptation, there can be little claim to virtue. Where the routine is rigorously proscribed by law, the law, and not the man, must have the credit of the conduct.—WILLIAM H. PRESCOTT

CASE REPORTS

Jaundice in Tuberculosis

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(*From the Departments of Medicine and Pathology of Harlem Hospital*)

THE association of jaundice and tuberculosis is extremely uncommon. A perusal of the literature reveals very few references to icterus in individuals afflicted with tuberculosis. During a period of more than twenty years' contact with tuberculous patients, both in private and hospital practice, the senior author does not recall a single case of jaundice in patients with tuberculosis. Auerbach,[1] who has had a wide experience with tuberculosis, informs us in a personal communication that jaundice is very uncommon in this disease. He states that he has seen many cases of extensive tuberculosis, extensive fatty metamorphosis, and extensive amyloidosis in tuberculosis, yet jaundice has been a very infrequent occurrence.

The following case merits report, not only because of the rare association of jaundice and tuberculosis, but also to draw attention to tuberculosis as an etiologic factor in obscure cases of jaundice. Although our patient presented indisputable evidence of mediastinal adenopathy which was considered as likely tuberculous in origin, the appearance of jaundice made the diagnosis of tuberculosis dubious until necropsy. It is also of interest to point out that our patient did not develop icterus until one week prior to death. During this short time the icterus increased in severity, and cholemia was undoubtedly a contributory factor in her death.

Case Report

A twenty-eight-year-old female was admitted for the first time to the medical service of Harlem Hospital on May 17, 1954. She apparently had been well until three days prior to admission to the hospital when she became acutely ill with chills, fever, and cough productive of mucoid sputum free from blood. Her past history was noncontributory.

Physical examination revealed an acutely ill, adult female with evidence of weight loss. She was found to have a temperature of 101 F. rectally, pulse 90, and blood pressure 115/80. Cardiovascular examination was negative. The lungs were clear to auscultation, and on percussion an area of impaired resonance was noted at the level of the second interspace and to the left of the parasternal line. The breath and voice sounds appeared normal. There was no adenopathy. The remainder of the examination was completely negative. A tentative diagnosis of pulmonary tuberculosis was made pending further investigation of the patient.

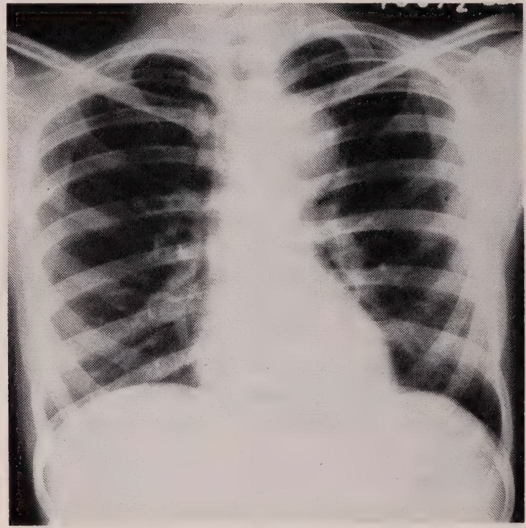

FIG. 1. Mediastinal mass in periaortic area.

Laboratory examinations revealed the following: The initial urinalysis showed a moderate amount of albumin, a specific gravity of 1.015, and a few white blood cells per high-power field. The serum proteins showed a total of 4.8 Gm. per cent with the albumin fraction measuring 1.8 Gm. per cent and the serum globulin 3 Gm. per cent. Blood studies revealed a hemoglobin of 11.2 Gm. per cent, a red blood cell count of 3,350,000, and a white blood cell count of 5,750 per cu. mm. with 72 per cent segmented forms and 28 per cent lymphocytes. The icterus index was 45 and the cephalin flocculation test 3 plus with an indirect van den Bergh reaction. The alkaline phosphatase was reported as 10.9 Bodansky units. Sputum smears and cultures were negative for tubercle bacilli. Urine and blood cultures revealed no growth after seventy-two hours. The blood urea nitrogen was 35 mg. per cent, creatinine 1.5 mg. per cent, and blood sugar 95 mg. per cent. X-ray of the chest revealed a mass in the periaortic area which was considered to be due to a mediastinal adenopathy of possible tuberculous origin (Fig. 1).

On June 4, 1954, approximately seventeen days after admission to the hospital, scleral icterus became apparent for the first time. At that time the patient complained of pain in the right upper abdomen, and moderate tenderness was elicited in the region of the liver, but it could not be definitely felt. Following the appearance of jaundice, which progressively grew in intensity, she complained of generalized abdominal pains, and three days prior to death vaginal bleeding of moderate degree appeared. Examination at that time revealed generalized abdominal tenderness and rebound tenderness suggesting peritoneal irritation. Pelvic examination revealed no abnormalities to explain the vaginal bleeding. From then on, the course was progressively downhill with high temperature, rapid wasting, and clouding of the sensorium.

POSTMORTEM EXAMINATION (Dr. Vera B. Dolgopol).—The body was that of a poorly nourished, adult female, presenting evidence of jaundice of the skin and the sclera. The liver edge was felt two fingers below the costal margin in the midclavicular line. The peritoneal cavity contained a small amount of jaundiced fluid. The lungs were firm, enlarged, and heavier than normal. The surface of both lungs revealed nodules of a grayish appearance. The cut surface showed a finely granular appearance. The cardiovascular system revealed the heart to weigh 250 Gm. The aorta showed a dissecting aneurysm at the arch. The spleen was firm and enlarged and appeared adherent to the diaphragm and the stomach. The adrenals showed congestion of the medulla. The liver, gallbladder, gastrointestinal tract, and kidneys showed no remarkable gross changes.

Microscopy.—The heart showed marked interstitial edema and numerous small foci of mononuclear infiltration between the muscle bundles. They did not form definite nodules. Groups of lymphocytes were also present beneath the epicardium and around the epicardial blood vessels, the aorta, and the periaortal saccular structure. The intima of the aorta was somewhat thickened, especially in one place where a small, necrotic nodule resembling a caseating tubercle was present. The media was continuous with the wall of the sac which was described in the gross examination as an aneurysm. The contents of this sac consisted of caseous material with some admixture of blood.

The lungs showed congestion, and the alveoli were matted with caseous necrotic material containing lymphocytes, polymorphonuclear cells, and nuclear fragments. Some of the alveolar walls were broken down, and the picture became that of caseous tubercles. A number of caseous pneumonic areas were quite large.

The spleen showed congestion of the pulp, and the lymphoid tissue was diminished in amount. Innumerable tubercles in various stages of development up to partial fibrotic scarring were scattered throughout the splenic pulp and within the lymphoid follicles. Most tubercles were quite young.

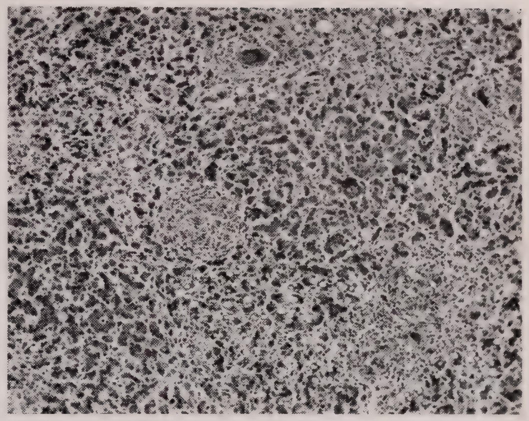

FIG. 2. Medium-power field shows innumerable tubercles replacing approximately one half of liver parenchyma with fatty changes in the remaining parenchyma.

The liver could barely be identified from the microscopic appearance of most sections, and the distortion was due to innumerable miliary tubercles scattered throughout the organ (Fig. 2). As many as six tubercles were seen in one microscopic field. The interposed liver parenchyma showed extensive fatty changes in the cells and occasional discoloration of the cytoplasm. Numerous tubercles were also seen within the portal triangles.

The gallbladder showed advanced postmortem autolysis of the mucosa with small tubercles between the bundles of the muscle layers. The pancreas and the adrenals were studded with lymphocytes in the septa and showed necrotic areas. Most tubercles could easily be identified. The adrenals showed a few tubercles in the cortex and medullary region.

In the kidneys a calyx of one pyramid showed the presence of a tubercle in the wall and contained a large, caseous focus surrounded by tuberculous granulation tissue. Scattered tubercles were also seen in all sections from the kidneys involving the cortices and the pyramids. Casts were present in some of the collecting tubules.

The gastrointestinal tract presented a normal histologic picture.

Anatomic Diagnosis.—(1) Acute miliary tuberculosis with an unusual involvement of the liver, lungs, spleen, and adrenals; (2) caseous tuberculosis of one kidney (pyramid) with miliary tuberculosis of both kidneys; (3) caseous tuberculosis of the periaortic mediastinal lymph nodes.

Comment

Most competent writers on tuberculosis either omit reference to jaundice in tuberculosis or else dismiss the subject with a statement as to its rare association. The literature dealing with hepatic diseases likewise makes only a casual reference to tuberculosis as a causative factor of icterus. Christian,[2] in *Osler's Principles and Practice of Medicine,* makes a fleeting reference to the subject and simply states that icterus is a rare occurrence in tuberculosis. Geraghty[3] states that the association of jaundice and tuberculosis is an infrequent occurrence and, when it occurs, is due to intrahepatic or extrahepatic obstruction. Extrahepatic obstruction may be due to tuberculous nodes in the portal fissure pressing on the bile ducts and is usually secondary to infection of the gastrointestinal tract, the infecting agent (tubercle bacillus) reaching the liver by way of the portal circulation. The intrahepatic type may be caused by solitary tubercles, miliary tubercles, or tuberculous cirrhosis.

In discussing bile duct tuberculosis, Rolleston[4] states that jaundice is constantly absent, even though there is definite obstruction in some of the bile ducts. He further adds that although tuberculosis of the liver is common, jaundice is rare. Bristowe[5] reports 12 cases of solitary tubercles with cavity formation in the liver but does not mention jaundice as a manifestation of the disease. In a series of 570 necropsies performed on individuals with tuberculosis at the Henry Phipps Institute,[6] there was only one case of jaundice caused by miliary tuberculosis. Thayer[7] reported a case of tuberculous cavities in the liver which showed jaundice for one week, but which disappeared before death. Warthin[8] observed a case of bile duct tuberculosis which had intense jaundice for three months preceding death. He also reports a higher incidence of jaundice in cases of acute general miliary tuberculosis. However, his findings are at variance with those of other observers. It is the opinion of most observers that the occurrence of jaundice bears no relationship to the degree of hepatic involvement with tuberculosis.

Pathologically, tuberculosis of the liver has been classified into miliary and focal forms. Miliary tuberculosis of the liver is very common and occurs as part of generalized miliary tuberculosis. According to Morris,[9] it occurs in from 50 to 80 per cent of all cases dying from pulmonary tuberculosis. Focal lesions consisting of single or multiple, conglomerate tubercles occur infrequently and are rarely diagnosed antemortem. The pathways by which tuberculosis may reach the liver include the hepatic artery, portal vein, the lymphatics, and the common bile duct. In tuberculous enteritis tubercle bacilli may be carried by the portal vein and give rise to acute miliary tuberculosis of the liver. Under such circumstances the liver becomes studded with tubercles without causing a generalized spread to other organs. In generalized tuberculosis the pathway of spread to the liver is by way of the hepatic artery.

It is well recognized that jaundice may result from any one of three factors: (1) injury to the polygonal cells of the liver interfering with the excretory function of bilirubin, (2) obstruction to the bile ducts, or (3) hemolysis of blood. In tuberculosis of the liver, evidence of hepatocellular damage or intrahepatic obstruction to the bile channels is often encountered, yet jaundice is a rare occurrence. Nowhere in the literature have we been able to find any explanation for the rare occurrence of jaundice in tuberculosis of the liver, and we are loath to offer any.

Summary

1. A case of nonobstructive jaundice in an adult female with miliary tuberculosis is reported. The case is of unusual interest because of the rare association of jaundice and tuberculosis. It also draws attention to the consideration of tuberculosis as an etiologic factor in obscure cases of jaundice.

2. Histologically, acute miliary tuberculosis was found with an unusual diffuse involvement of the liver, lungs, spleen, and adrenals. A caseous reservoir was present in a large periaortic mediastinal lymph node which was probably the focus of dissemination throughout the body.

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The Authors wish to express their appreciation to Mr. E. Entin for the photomicrographs appearing in this article.

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Consistency is a paste jewel that only cheap men cherish.—William Allen White

Case of Sucessfully Treated Cardiac Arrest Occurring During Pelvic Operation

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(*From the Manhattan State Hospital*)

Many lives have been saved that previously would have been lost now that surgeons and operating room staffs have become educated to the immediate recognition and resuscitative measures required in cases of cardiac arrest. Cardiac arrest is an operating room hazard which has occurred in the hands of the experienced and the inexperienced surgeon, in patients with or without heart impairment, in patients of all age periods, and with any anesthetic agent or combination of agents, including spinal anesthesia.[1]

The following case report exemplifies prompt recognition of a case of true cardiac arrest which was successfully treated at the termination of a relatively simple operative procedure.

Case Report

A fifty-three-year-old, Negro female had been hospitalized at the Manhattan State Hospital since February 28, 1952, with the diagnosis of dementia precox, paranoid. Three plastic operations had been previously performed under local novocaine anesthesia on December 1, 8, and 15, 1953, without mishap for sacral decubitus.

Her past medical history revealed a diabetic status that was being irregularly controlled with 40 units of protamine zinc insulin daily. Blood sugar figures ranged as low as 62 mg. per cent and as high as 372 mg. per cent in the few months prior to surgery. Preoperative electrocardiograms on September 15, 1951, showed sinus tachycardia and on July 25, 1952, were reported as normal. Preoperative blood pressure on September 7, 1951, was 160/90 and, on February 8, 1952, 140/72. Her present admission to surgery was for relief of persistent urinary incontinence. Operation was performed on June 10, 1954.

Preoperative medication consisted of 10 mg. morphine sulfate and 0.4 mg. scopolamine given hypodermically at 8 : 15 A.M. Anesthesia was started at 9 : 20 A.M. and consisted of 0.25 Gm. of Sodium Pentothal intravenously and nitrous oxide-oxygen (2 : 1) on a semiclosed system. Relaxation was procured with 0.8 mg. of d-tubocurarine in divided doses. The induction and continuation of the anesthesia was carried out faultlessly. Vital signs remained normal throughout until the sudden occurrence of cardiac arrest as described below.

Following examination in the lithotomy position it was decided to do a Marshall-Marchetti procedure because of technical factors, such as unusually narrow pubic area and fixed retroversion of uterus.

The patient was accordingly placed in a supine position with moderate Trendelenburg. An intravenous drip of Levugen (10 per cent fructose) solution with 20 units of regular insulin was initiated. The operation proceeded without difficulty. Several sutures were taken to plicate the periurethral tissues over the indwelling Foley catheter, and several additional sutures were placed between the neck of the bladder and periurethral tissues to the periosteum of the pubis on either side of the urethra. A latex drain was inserted into the retropubic area. As the fascia was being closed at 10 : 20 A. M., it was noticed that the radial and carotid pulses were absent and that the blood pressure could not be obtained. The respirations had also simultaneously stopped.

On recognition of cardiac arrest, the time was noted, and artificial respiration by means of an endotracheal tube was instituted with 100 per cent oxygen and a rebreathing bag. The patient was placed in slight Trendelenburg position. One and one-half minutes after cardiac arrest was first noted, when the patient had not yet responded, cardiac massage was instituted. An incision through the fourth left intercostal space was immediately performed, and the adjacent costal cartilages were severed. The operative field was relatively bloodless; no spurting vessels were encountered. The heart was palpated extrapericardially; there was no discernible beat. It was massaged vigorously (50 to 70 compressions per minute) from the apex of the heart towards the great vessels. After one dozen such motions a faint heart beat was palpated. Cardiac massage was maintained for six minutes. During that time, at two-minute intervals, massage was discontinued for several seconds in order to elicit the quality and rate of the returning heart beat. The rate increased from 40 to 60 to 90 per minute at the termination of cardiac massage. Concurrent with the massage 0.5 mg. epinephrine and 0.6 mg. atropine sulfate were administered into a systemic vein followed by a transfusion of 500 cc. of blood.

As the heart beat resumed at a rate of 90 per minute, it was noted to be regular and of fair quality. Shortly thereafter the respirations were resumed at 6 to 8 per minute. They were shallow and regular. Assisted respirations were continued via the endotracheal tube, and in fifteen minutes the respiratory rate increased to 12 to 14 per minute. Coincidentally with the resumption of a normal heart rate and a recorded blood pressure of 84/52, the vessels in the intercostal wound began to bleed actively. The intercostal incision was closed rapidly with two layers of chromic catgut and silk for the skin after inserting a tube drain in the seventh intercostal space at the level of the anterior axillary line. This tube was immediately attached to an underwater drainage system. Following this, the patient began to buck on the endotracheal tube, and the cough, lash, lid, and corneal reflexes appeared intact. The patient extubated and was returned to the ward where she was placed in an oxygen tent. Dextran, 500 cc., was infused. At 12 NOON (ninety minutes after arrest) the patient was moaning and responded to her name. The blood pressure was 124/84.

The subsequent surgical course was uneventful. The intercostal tube was removed in twenty-four hours. On the second postoperative day a chest x-ray showed a minimal left pleural effusion. An electrocardiogram on the fourth day revealed a sinus tachycardia but no other abnormalities. A record two months later appeared normal. Unfortunately, electrocardiographic tracings were not made during or shortly after the period of arrest. An abnormal finding observed was an elevated blood urea nitrogen during the first and second postoperative weeks from a preoperative level of 16 mg. per cent to a maximum of 56 mg. per cent; it gradually returned to normal. In spite of her preoperative mental status, further mental deterioration was not observed. Her speech, emotional stability, and cerebration were unchanged.

Comment

Cardiac arrest has been described as resulting from anoxia and reflex inhibition of the heart. In either event one would have to postulate a cessation of activity of the pacemaker of the heart and the sudden occurrence of a block in the transmission of the electrical impulse from its origin in the sinoauricular node. Reid *et al.*[2] have stressed the importance of trigger areas producing abnormal vagus stimulation over several vagal reflex pathways to the heart. They have stated that "a heart under anesthesia is as vulnerable to vagal stimulation as a heart with diffuse organic lesions would be without anesthesia." They concluded that atropine is an excellent agent for minimizing vagal effects. Dale[3] enumerates contributing causes for anoxia and cardiac arrest as (1) excessive sedation, (2) rapid induction and maintenance of deep anesthesia, (3) interference with airway, and (4) previous cardiac disease.

Cardiac arrest is recognized by the absence of blood pressure and pulse (carotid and radial) and confirmed by electrocardiographic tracings and the absence of active bleeding from wounds. Apnea is usually an accompanying feature.

Immediate treatment must be instituted since the time interval that spells life and death for the patient is measured from the asystole of the heart to the resumption of circulation. Weinberger and Gibbon[4] showed that treatment must begin within three and one-half minutes of cessation of circulation of blood since a longer period of delay resulted in changes of psychic behavior. Negovski[5] stated that the most sensitive portions of the central nervous system do not survive more than five to seven minutes of anoxia, and after ten minutes there is irreversible necrosis of cortical cells. He stated that the heart is more resistant to anoxia and can be started if the attempt is made within a few minutes. Touroff and Adelman[6] reported a case of complete recovery after forty minutes of cardiac arrest which was immediately recognized and treated during a thoracic procedure.

Treatment should be instituted in the following sequence:

1. *Artificial respiration* with 100 per cent oxygen via endotracheal tube. Oxygen via nasal catheters for several hours or longer following cardiac resuscitation is a useful adjunct.

2. *Cardiac massage* should be instituted through a wide incision in the left fourth intercostal space with sectioning of adjacent costal cartilages to permit the entrance into the thorax of the entire hand. Johnson and Kirby[7] found in dog experimentation that cardiac massage through the intact diaphragm was inefficient as compared to transthoracic massage. Massage rate of 50 to 70 beats per minute with intervals of brief rests to allow observation for spontaneous resumption of cardiac beat has been recommended. It may be necessary to suture ligate the inadvertently sectioned internal mammary or intercostal vessels when closing the chest.

Return of normal cardiac activity does not always signify immediate return of respiratory activity. This point was demonstrated in the case reported. Cardiac massage and oxygen inhalation per closed system should be maintained until normal respiratory activity is achieved.

3. *Drugs* which have received most attention are procaine and epinephrine, administered either intravenously or intracardially. Procaine has been condemned by some because it diminishes the irritability of the heart. Bailey[8] deplored the time wasted in giving intracardiac epinephrine. He cited 40 cases receiving intracardiac epinephrine in which no cardiac beat was resumed. Lahey,[1] however, stated that the real value of epinephrine with procaine is to intensify the effect of cardiac massage. He described a heart beating under direct vision without pulse or blood pressure in which intracardiac epinephrine with procaine restored the heart beat.

4. *Intravenous fluids* to restore blood volume. Cardiac massage would be of no avail where extreme and rapid blood loss could not be adequately replaced.

5. *Position of patient* in 10 or more degrees Trendelenburg position of operating room table is important. Heart volume and beat have been restored by expelling blood from the limbs of the patient by the use of Esmarch bandages to the entire limbs and holding the patient in a vertical position, according to the case report of Woodward and Sydney.[9]

It is advisable for the patient to remain in the operating room or recovery room for a few hours after the operation under close observation by the staff.

Summary

A case of cardiac arrest, occurring during a pelvic operative procedure, which was successfully treated is presented. The value of prompt recognition of cardiac arrest is stressed, and the importance of the proper sequence of therapeutic measures is discussed.

133 East 58th Street

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Pregnancy Following Implantation of Oviducts with Polyethylene Tubing

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(*From the Woman's Hospital*)

The patient was a married woman, age thirty-four, whose fallopian tubes had been ligated in 1952 at the time of a second cesarean section. The Pomeroy type of operation had been done. After the death of her infant at the age of four months, she wanted her fertility restored.

Tubal insufflation in April, 1953, proved the tubes to be occluded. No gas passed with a pressure of over 200 mm. of mercury. On June 2, 1953, the patient was admitted to the hospital and prepared for operation the next day.

A uterine sound was inserted through the cervix into the uterine cavity and the handle taped to the vulva with adhesive tape. The abdomen was then opened through a Pfannenstiel incision and the uterus exposed. There was a short stump of fallopian tube at each cornu. The distal part of each tube was separated from the proximal stump by about 2 cm. The uterus was incised transversely on the anterior surface at the level of the round ligaments.[1] The incision extended across the entire width of the uterus and into the uterine cavity (Fig. 1). The uterine sound in the cavity was grasped and a long silk suture tied snugly below the bulbous tip. The sound was then permitted to slip back.

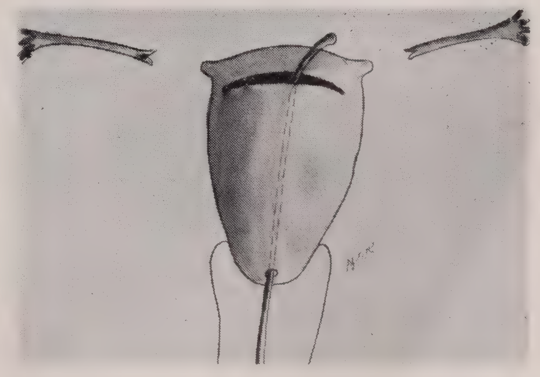

Fig. 1. Incision across entire width of uterus and into uterine cavity.

A piece of polyethylene tubing, 1.5 mm. in diameter and about 10 inches long, was passed through the left oviduct from the fimbriated extremity to the occlusion.[1] This end of the oviduct was then cut across and split for a short distance. The tubing was placed in the uterine cavity, and one flap of the cut oviduct was sutured to the endometrium

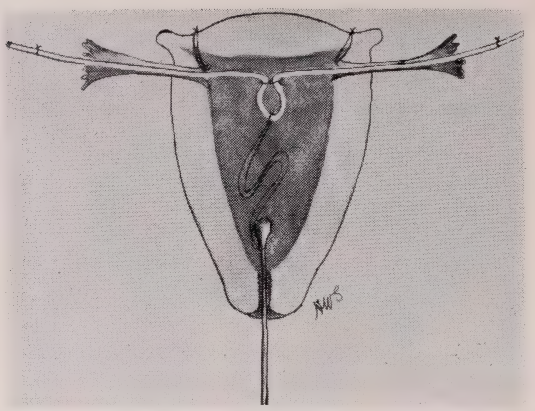

FIG. 2. Suture tied around tubing to form loop and attached by long suture to uterine sound.

with fine catgut. The ends of the suture were passed through the myometrium and tied on the peritoneal surface of the uterus. The right oviduct was then cut and split at the proximal end and the tubing inserted and pushed through the oviduct and the fimbriated end. One flap of the split end was then sutured to the endometrium as on the opposite side. The silk suture on the uterine sound was then tied to the tubing in the uterine cavity leaving a loop of suture long enough to be drawn through the cervix into the vagina. The tubing was doubled at this point and the suture tied around it again to form a loop (Fig. 2). The uterine incision was then closed with two layers of chromic sutures. The distal ends of the plastic tubing were then sutured to the round ligaments with fine catgut and the excess cut off, leaving 2 or 3 cm. of tubing beyond the suture. The abdomen was closed in layers and the uterine sound drawn through the cervix until the silk suture was in the vagina where it was cut off. The patient was given antibiotics postoperatively and made an uneventful convalescence.

After her next menstrual period the tubing was removed through the cervix by traction on the silk suture. It came out so easily I was surprised that it had not been expelled. She complained of mild uterine cramps for the two weeks the tubing was in the uterus. After the second menstrual period in July, 1953, I insufflated the fallopian tubes. The gas went through at a maximum pressure of 110 mm. of mercury, dropping to a minimum of 50 mm. A second insufflation two or three months later showed a maximum of 60 mm., minimum 40 mm.

Her last menstrual period was December 21, 1953. Pelvic examination in February disclosed a uterine pregnancy, and the date of expectancy was September 28, 1954. The pregnancy progressed normally. She was scheduled for section September 21, a week before her date of expectancy. On September 2 she complained of intermittent abdominal pain, mostly in the epigastrium as well as in the back. From her description I thought her pain gastrointestinal and ordered an enema. She had no relief, and the pain became increasingly severe and more constant.

She was admitted to the hospital that evening in very evident pain. She described the pain as constant throughout the abdomen but more severe at times. She was having mild uterine contractions, but her complaint of increased pain did not coincide with the contractions. There was some doubt about the fetal heart.

Although it was three and one-half weeks before term, a low-flap cesarean section was done at once because of the possibility of rupture of the fundal scar. A midline incision was made to save time. The stomach and intestines were greatly distended and protruded into the incision. The uterus showed no evidence of abnormality. The baby weighed 7 pounds and breathed spontaneously.

After closure of the low-flap incision, the uterus and tubes were inspected. The fundal scar was firm. It appeared as a shallow transverse sulcus. The stump of the ligated tube on each side was visible posterior to the apparently normal fallopian tube. The length of the tubes seemed almost normal, but they seemed more convoluted than usual. There were some peritoneal adhesions around the cornual ends and the fundal scar. The distended stomach and intestines were troublesome in spite of passage of a stomach tube by the anesthetist, but the postoperative course was uneventful.

The baby lost a great deal of weight, fed poorly, and had some jaundice but has done well since discharge from the hospital.

Comment

Polyethylene is biologically inert and causes no tissue reaction. It is, therefore, an ideal material to use to prevent adhesions before the endometrium or endosalpinx is regenerated after surgery.[1]

121 EAST 60TH STREET

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What thought can think, another thought can mend.—ROBERT SOUTHWELL

Aneurysm of the Coronary Artery

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THERE have been 49 cases of aneurysm of the coronary artery reported since Bougon[1] described the first case in 1812. The excellent reviews of the literature on this subject by Packard and Wechsler,[2] Scott,[3] and Harris[4] confirm the rarity of this anomaly and also discuss its etiology. The following report adds still another to this small series of coronary artery aneurysms.

Case Report

A forty-six-year-old, white male accountant was admitted to the Mount Vernon Hospital on January 29, 1954, in profound pulmonary edema and collapse. His history revealed that a month prior to admission he had complained of severe substernal pain radiating to both upper extremities. Prior to this, he had had no complaints of exertional angina or dyspnea and had been in good health. An electrocardiogram at this time showed left heart strain pattern with intraventricular conduction disturbance. Five days later cough, expectoration of purulent sputum, and low-grade fever developed. A roentgenogram revealed a density in the left hilar region with some fluid in the left costophrenic angle. He was treated at home for the next two weeks with antibiotics until the day of admission when he developed severe pain in the right upper quadrant and epigastrium with increasing dyspnea and rapid onset of pulmonary edema. The past history revealed no evidence of rheumatic fever, lues, hypertension, or diabetes mellitus.

On admission the patient was in severe shock, and pulmonary edema was present. The temperature was 100 F., pulse 56, respirations 38 and very labored. The blood pressure was unobtainable. There was profound diaphoresis and considerable cyanosis. The heart sounds were faint and barely audible. No murmurs could be heard. The lungs were extensively congested, and there were coarse, moist, and bubbling rales heard over the entire chest. The abdomen was distended and soft, and no organs were felt. Liver dullness was increased, and there was tenderness over this area. There was no edema of the lower extremities and no evidence of thrombophlebitis.

The laboratory findings revealed the following: hemoglobin 14.7 Gm., white blood cells 32,500 per cu. mm., polymorphonuclear cells 68 per cent, lymphocytes 31 per cent, eosinophils 1 per cent. Urine showed 2 plus albuminuria with an occasional red and white blood cell per high-power field. Nonprotein nitrogen was 40 mg. per cent, blood glucose 117 mg. per cent, cholesterol 252 mg. per cent, prothrombin time seventeen seconds, 90 per cent of normal.

The electrocardiogram showed a right bundle branch block pattern. Radiographic examination of the chest revealed cardiac enlargement with markedly increased vascular markings extending outward from both hila and some pleural effusion in the right base.

It was believed that the patient had suffered an attack of coronary occlusion and myocardial infarction some time prior to admission and that his pulmonary symptoms were due to pulmonary embolization and infarction, possibly from an intracardiac mural thrombus. The sudden onset of right upper quadrant pain and pulmonary edema was considered to be the result of acute right and left heart failure.

Treatment consisted of rapid digitalization, oxygen, mercurial diuretic, antibiotics, and prompt institution of anticoagulant therapy with Dicumarol.

The patient rallied for several days but then developed progressive dyspnea, cough, and hypotension and, despite all efforts of support, expired on the twelfth hospital day.

PATHOLOGIC REPORT.—Anatomic diagnosis included the following: (1) massive acute myocardial infarction, (2) thrombosis of descending branch of left coronary artery, (3) two aneurysms of the descending branch of the left coronary artery, (4) acute fibrinous pericarditis, (5) massive pulmonary edema, (6) right pleural fibrosis, and (7) chronic passive congestion of liver, spleen, kidneys, and gastrointestinal tract.

The most interesting findings were confined to the heart, which weighed 470 Gm. The pericardial sac contained a moderate amount of fluid. The heart was enlarged in all diameters. The cardiac surface of the anterior aspect and apex of the left ventricle had a mottled appearance and was covered by coarse, fibrinous exudate. On section nothing remarkable was noted in the various ostia. The myocardium was markedly friable, having a hemorrhagic yellow color involving the anterior wall, including the apex and inferior portion of the lateral and posterior walls. The apex was markedly rounded and somewhat dilated. No thrombi were seen in the ventricles and atrial appendages. The coronary arteries were of extremely small caliber, especially the right coronary artery. The anterior descending branch of the left coronary artery was of larger caliber (Figs. 1 and 2). Approximately 1.5 cm. from its ostium the lumen contained a fresh thrombus extending for 2 cm. In the same segment two small aneurysmal pouches were seen, the proximal one being smaller and measuring 0.6 cm. The larger aneurysm was 1.0 cm. distal to the smaller and measured 1.0 cm. in its greatest diameter. The coronary arteries all revealed moderate arteriosclerosis. In the ascending aorta the intima was of normal appearance.

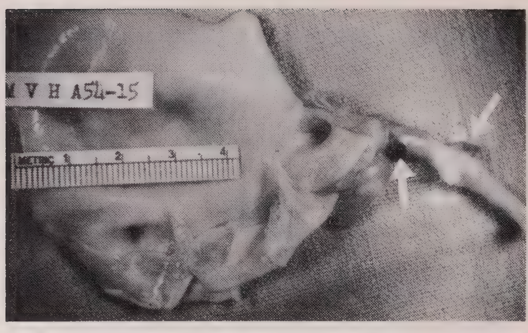

FIG. 1. Gross specimen showing ostium of left coronary artery and aneurysmal pouches of the artery.

Microscopic examination of the anterior descending branch of the left coronary artery revealed marked fibrosis of the intimal coat in some areas. The walls in the latter areas were further thickened by deposits of cholesterol crystals. In the region of the aneurysms there was marked loss of smooth musculature with a perivascular infiltration by a few lymphocytes. The adventitia appeared normal. Fresh coagulated blood was adherent to the intima in some areas.

Comment

The unusual finding at autopsy of an aneurysm of a coronary artery in an otherwise ordinary case of coronary thrombosis and myocardial infarction is of noteworthy interest. In view of the high incidence of atherosclerosis and arteriosclerosis of the coronary vessels, it is tempting to speculate on the reason why aneurysms of these arteries do not occur more often. According to Scott's[3] classification of his survey of the literature, 15 cases were congenital, 12 mycotic-embolic, six syphilitic, six arteriosclerotic, four of other types, and four were unclassified. The present case was designated as due to atherosclerosis.

The age group ranged between five and eighty-four with an average of forty-seven years. Males were significantly more prone to this anomaly than females in a ratio of 14 : 1, especially in the congenital group.

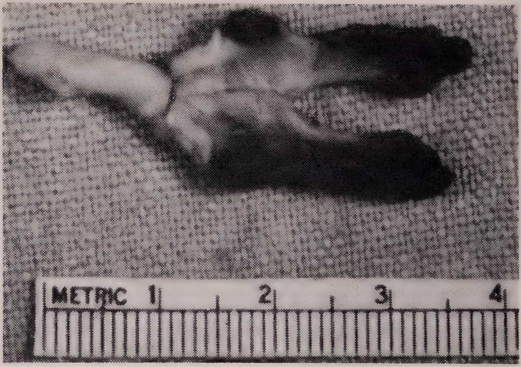

FIG. 2. Gross specimen demonstrating longitudinal section through coronary artery and both aneurysms and showing thrombosis.

Although death was caused by aneurysmal rupture in some, the majority of patients died of associated coronary thrombosis and myocardial infarction. That a congenital type of aneurysm of a coronary artery may be compatible with longevity was demonstrated by the extraordinary case reported by Scott[3] of an eighty-four-year-old patient who died of carcinoma of the prostate and in whom at autopsy an incidental finding of a huge coronary artery with 17 saccular aneurysms was encountered.

Summary

1. A rare case of double aneurysm of the left coronary artery is presented.

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The sense of humour is the just balance of all the faculties of man, the best security against the pride of knowledge and the conceits of the imagination, the strongest inducement to submit with a wise and pious patience to the vicissitudes of human existence.—RICHARD MONCKTON MILNE

Fracture of the Humerus in Spontaneous Convulsion

JOHN L. SIMON, M.D., NANUET, NEW YORK

IN THESE days when physicians administering electric shock treatment are increasingly conscious of malpractice suits, it is well to remember that therapeutic convulsions rarely if ever cause complications that do not occur in the course of spontaneous convulsions. The following case is significant in this regard. The case also has interest in respect to the diagnostic problems presented, both as to the underlying cerebral disorder and the orthopedic lesion.

Case Report

W. R., forty-two years old, in good health, had engaged in football, track, basketball, and wrestling earlier in life. Four years before the period of observation he had suffered a coronary occlusion. He then reduced his excessive weight and had a number of teeth removed. Apart from anxiety over the state of his heart, he continued well. He was a social drinker and at times overindulged.

In March, 1954, two days after a binge, the patient went to bed apparently well. During the night his stertorous breathing awakened his wife from sleep. He foamed at the mouth. His wife attempted to rouse him but without success. She believed that he was dying from a second heart attack. However, he gradually regained consciousness.

Immediately after this episode the patient complained of severe pain in the right shoulder. He sought medical assistance, and the diagnosis of bursitis was made. Nevertheless, the shoulder continued to swell, and the patient consulted an orthopedic surgeon who found that there was a fracture through the anatomic neck of the right humerus and greater tuberosity with subcoracoid dislocation of the head of the humerus.

The mechanism of the production of the fracture remained a complete mystery. Pre-existing bone disease was suspected, including a metastatic lesion, but studies failed to reveal any evidence to support this conjecture. Operative fixation was employed, and the patient was discharged from the hospital.

For a time the patient took hypnotics for sleeplessness. His condition in this regard improved, and in middle or late May he discontinued these drugs.

On the night of June 4 the patient drank heavily. Early in the morning of June 6, he again awakened his wife with stertorous breathing and foaming at the mouth. A physician who was called found him in a clouded state; he was able to answer some questions but then lapsed again into unresponsiveness. By morning he had recovered consciousness.

It was then concluded by the medical advisors that the patient must have had a convulsive seizure in the former as well as the latter episode. The cause of the shoulder fracture became clear. The patient had broken his arm in the course of the convulsive movements during the first fit. The diagnostic problem thus shifted from the cause of the fracture to the cause of the convulsions.

Neurologic examination was negative. The electroencephalogram was consistent with and suggestive of a convulsive disorder, although unequivocal bursts were not in evidence. There was nothing to suggest focal disease.

Comment

This case brings up a number of interesting questions. The perennial riddle of the relationship of alcohol to convulsive seizures is pointed up by the characteristic delay between the spree and the fit. There is also the problem as to whether the hypnotics prevented an earlier repetition of the convulsion.

The final question, presented by the seizure itself, is that of the still unresolved etiologic factor.

The fracture of the humerus reminds us that otherwise inexplicable fractures may result from convulsive episodes. If our patient had been single, he might have waked in the morning to find a humeral fracture as the only residuum of a convulsive seizure of which neither he nor the medical profession could have had any awareness. Not all fractures of unknown causation are pathologic fractures. Nor is every pain in the shoulder without history of injury bursitis!

Finally, a plea for indulgence toward the practitioner who gives electroshock treatments. Sometimes harsh Nature without therapeutic intent deals the osseous system just as hard a jolt.

Patience is the best remedy for every trouble.—PLAUTUS

SPECIAL ARTICLE

Is the District Branch Obsolete?

SYDNEY L. McLOUTH, M.D., CORFU, NEW YORK

(*President, Eighth District Branch, Medical Society of the State of New York*)

At the last regular meeting of the House of Delegates a resolution was offered which would, if adopted, eliminate the district branches of the Medical Society of the State of New York. The reason given for this was that the attendance at the district branch annual meetings was very poor. That the attendance at the annual scientific meetings has been poor for the past several years is a well-known fact. One district branch has already canceled its annual scientific session because of the plethora of scientific meetings in its area and because of the poor attendance.

In spite of this record, I believe there are many compelling reasons why the district branch organization should be continued. As stated in their reports, the State medical officers find the district branch meeting a marvelous opportunity for meeting men in the various county societies in a practical and worth-while manner. Also it gives an opportunity for all of the State Society members to meet their State president and other officers at their local branch level if they so desire.

However, to present the value of the district branch best, I would like to outline briefly what has been going on in the Eighth District for the past nine years.

About nine years ago the branch officers and the leaders of the Erie County Medical Society established the Advisory Council of Presidents and Secretaries of the Eighth District Branch. As the title implies, this council was to be advisory, also purely voluntary and educational in nature. The idea was enthusiastically received by the eight component counties, and meetings were immediately held to further the idea and to become organized on a sound basis. Since that time about four meetings have been held each year. This advisory group soon expanded so that it included a Central Conference Committee on Workmen's Compensation Problems and also a Planning Committee for Medical Policies of the Eighth District Branch. Also attending our regular meetings are the heads of important committees of the county societies: legislation, compensation, and public relations. Also invited, and usually attending, are the doctors of the Eighth District Branch who happen to be State officers or medical leaders in one field or another.

The facilities of the Erie County Medical Society office have been placed at the disposal of the branch. In other words, the branch organization has the part-time services of the executive director and the compensation attorney of the Erie County Medical Society. Also we have space in the monthly *Erie County Bulletin* which all branch members receive. These activities are financed by a $2.00 levy per branch member, $1.00 of which is the cost of the magazine. The meetings of the advisory council are primarily of a business nature, concerned with the political and economic aspects of the practice of medicine. But we do have a social hour at each of these meetings which leads to good fellowship and cooperation on the part of the doctors attending. At each meeting we have an agenda chock full of items of prime importance to the county society. At various times we have invited speakers from the State Society and from governmental agencies.

At least one meeting a year is devoted to study of proposed legislation in Albany. The advisory council tries to sift out the important bills and attempts to get agreement on the action each local county will take. Likewise the advisory council discusses resolutions offered at the annual meeting of the State Society, seeking to give the delegates of the various counties a better understanding before the voting begins. At almost every meeting each county society has an opportunity to present its problems for consideration by the group. During the past nine years many questions which beset organized medicine have been discussed with benefit to all concerned.

It is the general consensus that these meetings have been highly educational and informative to all the county officers and chairmen of committees. In confirmation of this is the fact that attendance at these meetings has been very good down through the past nine years. Also I feel that the advisory council setup has aided the attendance of and interest in our annual meetings.

There is much in the way of detail of operation and agendas and the like, which I could state, but I believe that the above is a fairly concise outline of what we are doing here in the Eighth District. Perhaps the best endorsement of this plan is the fact that a few years ago the Seventh District set up a similar type of organization and has been operating very successfully. As a matter of fact, before the annual meeting in Buffalo (May, 1955), we held a joint meeting of the advisory councils of the Seventh and Eighth Districts, which was well attended and apparently very well received.

Now, in answer to the question that is the title of this little paper, "Is the district branch obsolete?" Yes, the district branch is obsolete if it limits its activities to the staging of one scientific meeting a year. However, I believe I have shown that the district branch can be a live organization and of great help to the component county societies, especially in the smaller counties upstate. I believe that in the long run this is the function that a district branch should have.

20 West Main Street

ANNOUNCEMENT

PRIZE ESSAYS

The Lucien Howe Prize and the Merrit H. Cash Prize will be open for competition at the next Annual Convention of the Medical Society of the State of New York, May 7 to 11, 1956, in New York City.

The *Lucien Howe Prize* of $100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The *Merrit H. Cash Prize* of $100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win a prize automatically becomes the property of the Medical Society of the State of New York, "to be published as it may direct."

All essays must be presented not later than *February 1, 1956*, and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

R. Townley Paton, M.D., *Chairman*
Committee on Prize Essays

HISTORY OF MEDICINE in New York State

Editor
FREDERIC D. ZEMAN, M.D.

Early Medical Education in Western New York, Geneva and Rochester Areas, 1827 to 1872

I. Early Medical Education Undertaken by Geneva College

II. Early Medicine in Rochester; Rochester's Eclectic Medical College; the Apprentice System as Developed in New York State

BETSY C. CORNER, BALTIMORE, MARYLAND

Part I. Early Medical Education Undertaken by Geneva College

It is a curious story how medical educators in New York City established connection in western New York State with Geneva College as early as 1827. No medical faculty and no medical students were resident in Geneva, New York, at the time; yet, on the 24th of April, 1828, newspapers reported the Board of Trustees of Geneva College had granted medical degrees to a class of 17 members and had conferred four honorary degrees of M.D. at exercises of the "Annual Commencement of the Rutgers Medical Faculty of Geneva College," held in the hall of the new college on Duane Street in the City of New York.

Behind this tangle of colleges and localities lay a protracted quarrel between certain eminent New York City doctors who were professors in the College of Physicians and Surgeons and some of their professional colleagues who were influential members of the county and State medical societies. The management of the College of Physicians and Surgeons had been under fire. The medical societies of the counties and State had worked untiringly for the creation of a single medical college in New York City which should combine in one institution the city's "splendid collection of medical and surgical talents." This purpose had been accomplished in 1813. The Regents of the University of the State of New York had announced the merger of the Faculty of Physic of Columbia with the College of Physicians and Surgeons, and the appointment of an exceptionally strong faculty had made the outlook promising. As time went on, the faculty was accused of being too strong, of running the school autocratically, and, most seriously, of improvident management.

It was said that the school had been saddled with debt while the professors collected their private fees from favorite office-assistant pupils to whom diplomas were awarded uncritically. To counteract this reputedly scandalous condition, the Regents at first ruled that there should be "an entire change of the general character of the trustees of the college in the appointment of gentlemen who are *not practitioners of medicine.*" Thirteen nonmedical trustees were to manage the affairs of the medical college. As ex officio trustees, the president and the vice-president would "preserve to the college that professional character which is essential to its prosperity and its fame." Under pressure of faculty objection this harsh decision was altered within a year, but the measures substituted by the Regents were equally hateful to the faculty. When vacancies in the board of trustees occurred, they would henceforth be filled by nonmedical men until their number should equal that of the physicians. Jealousies continued. Charges were reiterated against the professors. Investigation by the Regents brought satisfaction. The stories were based upon rumor, extravagant, unwarranted. Senator John Canfield Spencer, an able lawyer, rose in the State Legislature in defense of the faculty of the College of Physicians and Surgeons, introducing a bill which demanded complete reorganization of the framework of the institution. He denounced the trustees as the root

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Presented, by invitation, at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Session on History of Medicine, May 10, 1955.

of all the evils.

"Trustees are placed there," he declared, "for no earthly purpose but to superintend funds to which they in no way contribute, and to recommend for degrees pupils whom they do not instruct." It was the trustees, he claimed, who had wasted the funds until the college was $21,000 in debt, who had circulated reports that discouraged students from attendance, who had disregarded and defied ordinances of the Regents, who had created cabals among physicians. Legal methods could be employed against some of them. He recommended that "Prompt and efficient means should be taken to abolish the trustees." It was revolutionary, but Spencer went even further. A more effectual remedy for the cure of existing evils would be to repeal the charter of this college and start a new institution.

Meantime a plan of reorganization was introduced by the Regents with cautious concern "to preserve the funds of the College." They advised a distributed responsibility. Professors should have full charge of the care and education of their students; a board of governors should direct and administer all "pecuniary concerns; a board of visitors should make annual investigations, inquire and report upon all concerns" and attend examinations. This plan was too heavily weighted with appeasement to please anybody. The senators were not impressed. Spencer's eloquence had won their support. His bill of February, 1826, successfully passed the Senate but, having been long delayed by previous outside wrangling, was approved too late in the session to be presented to the "house of assembly." The professors were out on a limb. It was impossible, they said, to continue honorably to themselves and beneficially to the State. Every professor in the College of Physicians and Surgeons at once resigned his teaching post. In a school already weakened by dissension there were only five of these professors, but the five were David Hosack, John W. Francis, William T. Macneven, and Valentine Mott, respected for character and public spirit in their city and known throughout the country as distinguished leaders in medicine.

Drs. Hosack, Macneven, Francis, and Valentine Mott at once made overtures to the authorities of Rutgers College in New Brunswick, New Jersey, where there had already been attempts to start a medical department. The four self-deposed professors, eager for a new deal but without legislative sanction in New York, were gladly accepted at the Rutgers Faculty of Medicine. Adding to their number a chemist, John Griscom, and also the brilliant John D. Godman, formerly of Philadelphia, as their professor of anatomy, the newly constituted Rutgers Faculty of Medicine began instructing students on November 6, 1826, in a new building erected at their own expense on Duane Street, New York City.

Their opponents, too, continued activity, immediately raising "the question of legality of degrees to be conferred by an institution located in New York but functioning under a New Jersey charter." Brought to court, a verdict sustained the objection and ruled (1827) that such action was indeed an infringement of state's rights.

This decision did not daunt the professors. Without delay they allied themselves with the trustees of a college at Geneva in western New York. Geneva College, the outgrowth of an early academy, was already favored for support and expansion by Bishop John Henry Hobart of the Diocese of Western New York and by prominent Episcopalian leaders, particularly by the Bishop's friends of the parish of Trinity Church, New York City, where he had previously been rector. In 1825–1826 Geneva College—later to be named Hobart to commemorate the Bishop's interest—had come into possession of a charter containing a provision which seemed singularly favorable to the enterprise the Rutgers Medical Faculty were proposing, since it stated:

> The said Trustees may by the President of the said College, or any other person by them authorized and appointed, give and grant any such degree or degrees, to all persons thought by them worthy thereof, as known to and usually granted by any University or College in Europe.

At a meeting held October 30, 1827, the trustees of Geneva College voted to establish a Medical Institute, a department of their college which should function both in New York City and in Geneva. A dean, a registrar, and 12 professors were to be chosen. Six professors were to be appointed in New York, six in Geneva; the New York branch of the Institute was to be known as the Rutgers Medical Faculty of Geneva College. The New York professors would elect the dean and registrar from their own ranks.

It is interesting to note what safeguards the Rutgers Faculty of Medicine had urged to preserve their autonomy. Their influence is clearly indicated in the minutes of the October, 1827, trustees meeting which carefully stipulate:

> . . . no person shall be appointed professor or member of the faculty at New York without the recommendation of 5/6 of the professors there; nor shall any person be removed from such office without a similar recommendation of 5/6. The said faculty at New York shall also make such rules and regulations respecting the admission of pupils, the terms and times of their attendance upon lectures and examinations and conduct, and respecting the courses of instruction, the numbers and terms of the lectures, and generally respecting all matters connected with . . . the prosperity of the Institution as . . . judged proper.

As to degree granting, here too a liberal policy is implicit:

> Whenever any pupil shall have pursued a course of regular medical studies and attended the number of courses prescribed by law, and shall upon examination by the faculty be found by them to be duly qualified to practice Physic and Surgery, of good moral character and habits and entitled to the degree of M.D., the professors shall certify the same to this Board.
>
> The Executive Committee of this Board is hereby authorized during the recess of the Board to confer the degree of doctoring in medicine upon every pupil to whom such certificate shall be granted, and also upon such practitioners of medicine as shall be recommended by the Faculty.
>
> Upon such degree being conferred, the Secretary of this Board shall affix the seal of the College to a proper diploma which shall be subscribed by the President of the College and also by the Professors and officers of the Faculty in the City of New York.
>
> Degrees may in like manner be conferred on pupils who shall be recommended for that purpose by the medical faculty of Geneva.

That the new school on Duane Street prospered under able management is shown by the Rutgers catalog of 1829 which lists 109 matriculated medical students representing all sections of the country. Meantime in Geneva things were at a standstill as far as formation of a duplicate branch of the proposed Medical Institute was concerned. The College had no funds for a medical school; naturally enough no professors were elected to hold six imaginary professorships. In New York City the College of Physicians and Surgeons, functioning with a hastily gathered, new faculty, continued its opposition to the Duane Street school and carried its grievances to the Supreme Court of New York State. In 1830, by decision of the Attorney General, the attempt of the Duane Street doctors to use the charter of Geneva College as the basis of a degree-conferring school of medicine in New York City was declared illegal; henceforth the trustees of Geneva College must confine their degree-giving powers to Geneva alone.

Geneva's early experiment in medical education thus came to an uneasy end. The doors of the institution on Duane Street were closed; no attempt, however, was made to deprive the 17 medical graduates and the four honorands of the degrees they had illegally acquired in 1828 from the now defunct Rutgers Medical Faculty of Geneva College. The idea of the value of a medical department at Geneva lived on. The trustees of the College were favorable; medical practitioners in the western counties were agreed that their rapidly growing section of the country now favored by the opening of the Erie Canal was inadequately supplied with doctors. Geneva College was in financial straits; nevertheless, in 1834 the trustees, among whom John Canfield Spencer was numbered, appointed a committee to confer with members of the medical associations as to how a medical faculty might be established in Geneva. As outcome, a set of statutes was prepared for the organization of a medical school, persons named as possible professors were consulted and assented to appointment "as willing to act with each other." Since the committee and its medical advisers had agreed that it was necessary to view the school "as a private enterprise conducted at the expense and risk of the professors, it seemed proper that they should nominate their own associates."

The medical faculty was to consist of not less than four, nor more than eight professorships, representing anatomy and physiology, institutes and practice of medicine, principles and practice of surgery, chemistry, obstetrics and materia medica, and medical jurisprudence and botany. As at Duane Street the professors would themselves elect a dean and a registrar.

Geneva's first medical professors who began instruction of 39 medical students in 1835 were well chosen. Except for the dean the faculty were all young men—only one of them had passed his fortieth birthday—doctors with a fair amount of experience who were full of enthusiasm and enterprise, resembling in many ways the group Dr. Whipple brought together thirty years ago when the University of Rochester opened its medical school. Geneva's medical dean, Edward Cutbush, was a man in his early sixties who was also professor of chemistry, his merits having been well established by holding a similar chair for four years in the college before the medical school was started. Dr. Cutbush, who had actually served under Washington as acting Surgeon-General of the Pennsylvania troops in the Whisky Rebellion, was best known as author of a useful book on preserving the health of soldiers and sailors, which he had prepared during years of service in the medical corps of the United States Navy. Thomas Spencer, professor of medicine, who would later become dean, and John G. Morgan, professor of surgery, were "prime movers in starting the school" in Geneva. Willard Parker, destined for greater things later as teacher and surgeon in New York City, was for two years Geneva's first professor of anatomy. Charles B. Coventry remained nineteen years in the school as professor of obstetrics and materia medica. Anson Colman taught medical jurisprudence and botany for two years.

Teachers often changed locations quickly in these early days of medical teaching in America. A doctor was often a part-time teacher in a medical school while residing in another town where he engaged in practice. Becoming known for his ability as a teacher, he would be in great demand. He might even arrange his schedule so that he could teach for a few weeks at more than one school during the course of a year. A man's popularity might be gauged by the number of catalogs in which his name appeared as teacher. During his career he might go from Fairfield to Geneva, for instance, thence to Buffalo or to Western Reserve in Cleveland, or to the Medical School of Maine at Bowdoin College, to the Berkshire school in Pittsfield, Massachusetts, or to Albany, New York, to Castleton or to Woodstock, Vermont, emptying his barrel of medical lectures perhaps in a couple of years, even as a peripatetic preacher of the Methodist church did with his sermons.

Medical schools were springing up like mushrooms at this period of American expansion, for in pioneer settlements doctors were as urgently demanded as preachers and lawyers, desperately and quickly needed in emergency. Before 1840, 32 medical schools had been established; in 1838–1839 T. Romeyn Beck's statistics show that 2,387 students were enrolled in 29 of these schools—the number had been 300 or so greater a few years earlier, and it would increase.

In Geneva, as elsewhere, the course of study was fragmentary. Lectures were absorbed, demonstrations were observed; anatomy was perhaps the only medical discipline which offered the student a chance to work with his own hands, although opportunities for dissection were meager, cadavers being scarce, the problems of their supply, proper storage, and preservation as yet unsolved. Instruction occupied sixteen weeks in two eight-week terms separated by a stretch of winter holiday during the period of the worst weather. The student, who must have been recommended as prepared for medical studies by the physician who had been his preceptor for three years, remained in the school for two years, apparently being exposed to much the same material twice so that it would sink in! In Geneva there was opportunity to watch occasional operations on indigent patients; real hospital experience was impossible there. In a house near the medical school an ambitious attempt to establish a hospital to serve all the counties in the western area had been destined from its start to fail. Funds, facilities for transportation, equipment, nurses were simply nonexistent. In the school the apparatus of the chemical professor was called "extensive," and he "extended the application of his science to the Arts, Manufactures and to Philosophical Chemistry." The Anatomical Museum was advertised as "superior to many in medical schools long in successful operation." The Obstetrical Museum, described as "particularly rich," contained "the valuable collection of Professor Francis." In the Cabinet of Materia Medica "specimens embracing the most ample illustrations of this department of medicine" were treasured; mineralogic specimens belonging to Dr. Hosack had also been placed in the museum of the medical college. The Rutgers Medical Faculty, now defunct, had retained its old loyalties to Geneva supporters.

In 1847 Geneva College startled the medical profession of the country by admitting a woman to study medicine on equal terms with men. This woman, Elizabeth Blackwell, graduating at the head of her class in 1849 when twenty-eight years old, was a pioneer in opening the medical profession to women. It was a life work, a difficult task at every step of the way. "In 1845," she wrote later, "when I resolved to become a physician, six eminent physicians were written to for advice. They all united in dissuading me, stating 'That it was an utter impossibility for a woman to obtain a medical education; that the idea though good in itself was eccentric and utopian, utterly impracticable.' It was only by long-continued searching through all the colleges of the country that one was at last found willing to grant me admission. When I entered college in 1847 the ladies of the town pronounced the undertaking crazy or worse and declared they would rather die than employ a woman physician."

Dr. Charles Alfred Lee, the medical dean at the time of Miss Blackwell's admission to Geneva College, admitted that the medical students themselves had decided her fate. In his letter reporting her acceptance as a student he enclosed a "high-sounding resolution" signed by Francis Joel Stratton, chairman of the medical class, which reads:

> 1. Resolved—That one of the radical principles of a Republican government is the universal education of both sexes; that to every branch of scientific education the door should be open equally to all; that the application of Elizabeth Blackwell to become a member of our class meets with our complete approbation; and in extending our unanimous invitation we pledge ourselves that no conduct of ours shall cause her to regret her attendance at this institution.
> 2. Resolved—That a copy of these proceedings be signed by the chairman and transmitted to Elizabeth Blackwell.

Student participation in forming the policies of a college was certainly an unheard of thing when young Stratton composed his resolutions. We must conclude that the officials of Geneva College stood for something larger in education than the goose-stepping of students through required courses and their show of outward respect for the forms of authority and tradition. There had been, indeed, a break with tradition at the very start of the college in the 1820's when a shorter so-called *English Course* of practical studies, doing away with Latin and Greek, substituting French as a language requirement—the first experiment of this kind ever made in an American college—had been planned and introduced into the curriculum for the benefit of country boys who would become farmers, engineers, mechanics, or storekeepers, finding little use for the classical learning of the customary collegiate course which had been designed originally to fit students for the ministry. Through the counsels of Bishop Hobart, moreover, Geneva College, although backed by the Episcopal Church, was from the start nonsectarian in principle, admitting students regardless of religious affiliation and making no attempt to proselytize.

When Elizabeth Blackwell began the study of medicine in 1847, Geneva College had been considerably strengthened by eleven years of activity on the part of its third president, Benjamin Hale, a great pioneer educator "of that Baconian type which took all knowledge for its province." He was "...not only a chemist and physicist, mineralogist and mathematician, but a skillful draughtsman, even an architect" who as occasion demanded could officiate "not only as President but as Secretary, Treasurer, and at one time almost as the entire faculty," standing by the college through all its vicissitudes, even waiting months for his salary when the academic treasury ran low. These are not the flattering words of a mere enthusiast but the considered judgment of the late Andrew D. White, former president of Cornell University, who had been briefly a student in Geneva while "little Benjamin" was controlling the destinies of the college. It seems true that Benjamin Hale's progressive spirit permeated the whole institution during the twenty-two years of his presidency, raising Geneva College above the commonplace by his devotion, his readiness to accept burdens, his ability to break new paths.

The always enterprising medical faculty in Geneva was recruited largely from neighboring centers. Dr. Anson Colman, Dr. Frank H. Hamilton, and Dr. James B. Webster had homes in Rochester. The anatomist, Dr. Webster, English-born, Philadelphia-trained by John D. Godman, editor for a time of the *American Medical Recorder*, chosen to organize the anatomy department in Buffalo, was Elizabeth Blackwell's first medical teacher in Geneva. His "agreeable voice, ready flow of language, inexhaustible fund of humor," described by an associate, made him a favorite with his pupils. His demonstrator, Corydon La Ford, had supported himself while studying medicine in Geneva by acting as librarian and as museum curator until the award of his degree in 1842 when he immediately received his appointment to the faculty. With Corydon La Ford and four of his most able students Elizabeth Blackwell spent long winter evenings in detailed dissection, exploring "the wonderful arrangements of the human body," finding as she worked that "interest and admiration...obliterated the more superficial feelings of repugnance" which the cadaver might create in the sensitive. These first medical steps were to lead her far away, eventually to study in La Maternité in Paris, also in London in St. Bartholomew's Hospital, and to a career of distinction both in England and in America where she founded the New York Infirmary for Women and Children.

As medical science advanced, Geneva, New York, proved too small a town to maintain a medical school backed by a teaching hospital, an essential for the study of disease. Financial struggles had been constant; recurring squabbles between faculty and trustees over broken promises are unedifying to read and today unimportant to consider. It is not surprising that Geneva College, or Hobart as it became known after 1858, was forced to abandon medical teaching in 1872. Her more progressive teachers, loyal in their day to the early school, had become excellent leaders elsewhere, notably in Buffalo, and the last handful of them, having purchased among themselves the languishing Geneva school's medical library, its museum specimens, and whatever part of the laboratory equipment deserved salvage, made a dicker with the trustees of Syracuse University in 1872 to transfer themselves there with the tools of their profession for a fresh start in its medical school rising to meet the problem of modern times in a progressive city. Syracuse, the second school in the country to expand its program to a course of three full years of study, occupying nine months of each year, offered opportunity unknown in Geneva for clinical study with the necessary hospital and fully equipped laboratories required for investigation as the various disciplines of science were applied to the study of disease.

Part II. Early Medicine in Rochester

Medical progress in Rochester, 40 miles from Geneva, was complicated by the fact that Rochester had undergone phenomenal growth since 1803 when Colonel Nathaniel Rochester, Colonel William Fitzhugh, and Major Charles Carroll had ridden over the mountains from Hagerstown, Maryland, finding this locality watered by the Genesee River worthy of settlement. This clearing in the wilderness with 15 settlers and their families in 1812 had changed into a prosperous flour-milling center with approximately 13,000 inhabitants by 1834 when Rochester was incorporated as a city by the New York State Legislature. The city was swarming with a heterogeneous population, adventurers mixing with gentlefolk. Manufacturers and investors as well as the working class were alike attracted by the industrial opportunities which the falls of the Genesee provided with abundant water power.

Genesee Fever had been an early scourge throughout Western New York's lake country, "mortal to most heads of families in 1798," a virus infection perhaps, alarming and baffling as to origin, spread, and high death rate. Rochester had been terrified by an outbreak of cholera in 1832. Four hundred cases were reported that summer with 118 deaths. A cholera hospital was hastily opened in a building described as "spacious and commodious," the whereabouts of which was never then nor afterwards disclosed in print. Dread and fear surrounded a disease which completely mystified the doctors in a prebacteriologic age. An uninformed public regarded hospitals with distrust and suspicion as places where people went to die. A quarter century would indeed elapse before Rochester's first hospital, St. Mary's, established by the Catholics in 1857, would open for general medical and surgical care of the sick. Looking backward again to the year 1834, we find that cholera made a second appearance that summer. Supportable theories as to its cause, constructive ideas as to its cure were lacking. Illness, however manifested, continued as a problem of acute concern to the community's well-trained physicians whose ratio in the general population had been calculated as one doctor to 320 people in 1827. Twenty-five doctors resided in Rochester at this time; the population had slipped over the 8,000 mark.

Rochester's physicians had a struggle to keep their profession unsullied. Botanic physicians early worried men of the "regular" school. A popular revival of interest in herbal remedies, used through the ages by ancient scholars and by ignorant "yarb" women alike, had taken place partly because drugs were hard to get in the wilds of new settlements, partly because during the War for Independence an embargo act closing American ports had forced pharmacists to compound remedies from materials readily obtainable at home. Among the medical botanists Samuel Thomson of New Hampshire was popularizing "vegetable" remedies, unconsciously emphasizing the vitamin principle. His books—*Guide to Health or Botanic Family Physician*, issued in 1812, followed the very next year by his *New Materia Medica*—were purchased by scores of men who at once started botanic doctoring without other qualifications than ability to read current Thomsonian books, enthusiasm for their new ideas, and a desire to take money away from the gullible and credulous. No wonder Thomson's botanic followers were despised by the "regulars."

The Rochester directory of 1845 displayed an advertisement of the New York State Thomsonian Society which claimed a membership of 200 practitioners. Rochester had its own Botanic Medical Society, T. Hamilton, secretary. Among its members Louis Durand, advertising his services as botanic physician in the Rochester newspapers of 1832, was superficially at least superior to many of this sect since he stressed his training in chemistry and physic and his years of experience as a doctor in the armies of France. If botanic medicines were needed, G. P. Bartolick dispensed them "At the Sign of the Flowerpot," a botanic store "in Buffalo Street under the new Methodist Church." His advertisement reads:

> The subscriber will keep all remedies used by Botanic Physicians. He has on hand a large assortment of Botanic medicines pulverized in the best manner. Among them are 70 lbs. Golden Seal; 60 lbs. mandrake; 50 lbs. White Root; 300 lbs. Ground Poplar Bark; 35 lbs. Bloodroot; 20 lbs. Gentian; 10 lbs. Wild Turnip; 15 lbs. Sassafras; 10 lbs. Sarsaparilla; 2 lbs. Liverwort; 12 lbs. Black Cohosh; 20 lbs. Winter's Bark; 15 lbs. Queen of the Meadow; 2 lbs. Gold Thread; 10 lbs. each Alder Bark, Meadow Cabbage, Blue Cohosh, Elecampane, Blue-flag, Crane's Bill, Hen's Claw, Bayberry, Masterwort Seed, Stramonic, Indian Hemp, Boxwood Blows.
>
> He has a mill which grinds all roots.

In 1844 a botanic news sheet, which is now a rare curiosity of medical Americana, appeared as a Rochester publication. *The Rochester Truth-teller and Monthly Family Journal of Health* was edited by Dr. Justin Gates, who later became a convert at the "Rochester Rappings" of the engaging Fox sisters, pioneers of spiritualism. The so-styled "Dr. Gates" had an office and a "medicine store," as he called it, at 77 Exchange Street opposite the Rochester House and had opened an infirmary at 33 Edinburgh Street, Cornhill, "where he receives and cures patients strictly upon Thomsonian principles." He sold Thomsonian books at his "medicine store" where students would be received for instruction "by the proprietor." His *Truth-teller* sold for 25 cents a copy. It contained a melange of extracts borrowed from more ambitious journals of the Thomsonian fraternity, reports of Thomsonian meetings, reflections by J. Gates himself, with the addition of an occasional outburst into verse by the editor, such as an original "Tee-totalers Song" condemning rum, tea, coffee, and calomel, to be sung to the tune of Auld Lang Syne.

Thus had the teachings of Samuel Thomson degenerated into doggerel propaganda and downright quackery. The Botanics were followed in favor by the Eclectics, a much more serious group, and one intellectually pretentious, who insisted that their practitioners should be graduates of eclectic medical colleges. Eclecticism was an outgrowth of active protest against excessive blood-letting (which they insisted had killed General Washington) and heavy purging, both of which practices even the illustrious Dr. Benjamin Rush had customarily followed. Perhaps these Eclectics did some good by calling attention to certain abuses which had lingered too long by force of tradition in the practice of certain members of the regular school. Eclectic leaders sought, so they said, to include within their teachings whatever was best as revealed in other systems of medical practice. The "regulars" knew that medicine did not advance by dependence on borrowings.

In 1849 some of these Eclectic leaders in western New York decided it was strategic to transfer their Central Medical College from Syracuse to Rochester. Sessions of this college started August 1, 1849, offering a twelve-week course at a fee of 30 dollars. Five dollars was charged for matriculation, five dollars for graduation, "some trifling additional expense" would be settled by the anatomic department. Rochester's directory of 1851 carried an announcement of Central Medical College Eclectic, listing its faculty, all of them M.D.'s by Eclectic standards, and claiming financial resources of $10,000. Fifty-three students were enrolled for medical study; ten of them were "ladies," two months after Elizabeth Blackwell's hard-earned struggle to graduate as a doctor of medicine from Geneva's "regular" school. Sarah R. Adamson, who later practiced medicine many years in Rochester as Sarah Adamson Dolley, received an M.D. from Central Medical College Eclectic in 1851, always claiming to be the second woman in the United States to receive a medical diploma. The animating personality in this proprietary school was the dean, William Warriner Hadley, graduate of the Eclectic Medical College of Cincinnati and the editor at this time of the *Eclectic Medical Journal,* published in Rochester and, like the *Truth-teller*, now a piece of rare Americana. Although Hadley was an earnest man and a hard worker, being also a druggist of the firm of Hadley and Kellogg, he was a prophet without honor in Rochester, and his school, weakened by lack of professional support and without enough funds for continuation, collapsed after three years of operation, its faculty scattering variously to Cincinnati, Syracuse, and New York City.

Other sects arose and had their day; the hydropaths with their water cure; the homeopaths with their slogan *Similia similibus curantur* and their emphasis upon light dosage. How thoroughly bitterness of feeling between different schools of thought could divide the doctors of early America Benjamin Rush, America's foremost physician during colonial days, well knew when he wrote:

> A Mohametan and a Jew might as well attempt to worship the Supreme Being in the same temple and through the medium of the same ceremonies as for two physicians of opposite principles and practice to confer about the life of the same patient.

Throughout New York State the medical societies accomplished remarkable work for the professional education of their doctors. The Medical Society of the State of New York was from its very start untiring in its efforts to elevate professional standards, to root out ignorant practitioners, to abolish fake "medicines," to stiffen the training of students, to foster research, and to stimulate publication of investigations. Following this lead the county medical societies as branches of the State Society made early declaration of their aim "to reclaim their profession from the degradation and contempt to which it has been reduced by ignorance, professional broils and the grossest empiricism." Primarily county medical societies were to act as examining and licensing boards. While medical schools of the first rank were scarce and transportation systems yet undeveloped, many young Americans would stay at home and learn medicine by acting as apprentices in the offices of physicians.

In the office of such a man as Dr. Edward Mott Moore of Rochester, for instance, this would have been a valuable experience. Dr. Moore had taught in several of the smaller medical schools, he had the teacher's approach to his profession and the human approach to the young men who became his assistants and for whom he wisely provided opportunities to gain experience and shoulder responsibility. One young man who had been Dr. Edward Mott Moore's valued apprentice—and who was destined for a long career in Michigan and Illinois—achieved reputation in Henry M. Lyman's *Artificial Anaesthesia and Anaesthetics*, published in 1881, where it is recorded but without documentation (which seems after research to be lacking) that in January, 1842, Dr. William E. Clarke of Rochester saturated a towel with ether by means of which a patient named Hobbie was "put to sleep," whereupon a diseased tooth was extracted painlessly from the patient's mouth by Dr. Elijah Pope, a dentist. Clarke, sad to say, missed a chance when after this early success he did no follow-up work. As reported, the Hobbie extraction under etherization was made two months before Crawford Long's use of ether in his Georgia practice and four years before W. T. G. Morton's impressive demonstration of what ether could do for surgery when he acted as anesthetist on October 16, 1846, during an operation performed by Dr. John Collins Warren at Massachusetts General Hospital in Boston. Clarke of Rochester, who loved an "ether party," it is said, was just a chance experimenter who is resurrected here merely as an example of the typical, eager, extroverted medical student of the 1840's, able to meet the requirements which the Regents of the State of New York set up in 1828 for prospective doctors.

A revised statute required four years of medical study with an established physician before a license could be obtained. A year could be deducted if some essential studies had been pursued successfully for a year in a college or in an authorized medical school. An apprentice had to be registered by his medical preceptor at the office of the county medical society as soon as his work started. When the prescribed period of study came to an end, the candidate for a license presented himself at county headquarters for a series of rigid examinations. His papers had to be approved by censors, president, and secretary of the county medical society. Qualified practitioners thus decided whether or not he was fitted to become their professional associate in the practice of medicine. No person could receive a license until he had passed his twenty-first birthday. By 1840, 50 of New York's 58 counties followed this procedure of licensure.

In a report on medical education made by a committee of three, by request of the Medical Society of the State of New York, and published in its Transactions (vol. iv, 1838–1840), Drs.

Manley, Beck, and McCall register their approval of the standards developed for licensure and deplore the "go-ahead principle" manifested by young men who consider the M.D. degree the first essential, since the committee members agree that "Experience has shown the value of practicing with a license [only], and returning with a store of self-acquired knowledge [later] for the degree." Drs. Manley, Beck, and McCall were evidently aware that mid-nineteenth century instruction in medical colleges was insufficient, consisting as it did of lectures and book learning without opportunity for observation and study of patients in sickbeds. At this time honorary M.D. degrees could be conferred by the Regents upon licensed practitioners after recommendation by their medical peers in sufficient numbers.

The tide was turning temporarily against these old-timers. The privilege of conferring the degree of Doctor of Medicine, belonging at first to the Regents of the University of New York, obtainable by students after the usual period of apprenticeship, supplemented by two years of medical courses at an incorporated medical school, and by unanimous recommendation by the medical faculty of this school, was for a time passing into the hands of the medical institutions. When Geneva's medical school was incorporated by legislative act of March 27, 1835, this school was empowered to grant the M.D. degree subject to qualifications set up previously by the Regents, and this degree (like that granted by the Regents) was declared a license to practice in New York State. Similarly on February 11, 1837, the University of the City of New York was authorized by the State Legislature to establish a medical school, and its degree was declared equivalent to a license to practice. Two years later by legislative act, February 16, 1839, Albany Medical College was incorporated and allowed the same privileges enjoyed by the other two medical institutions as regards degrees and licenses.

Under wise direction of the Regents, influenced by able leaders of the Medical Society of the State of New York, confused and chaotic practices which had grown up in the early days of a new country were gradually giving place to a system of sound professional training which was becoming uniform throughout New York State, yet would be on the whole elastic enough to change with changing demands, thereby elevating its medical profession to unusually high standards. In New York State's hierarchy of professional mentors Monroe County was proud to take its place to comply with a State law of 1806 regulating local medical licensure. On May 9, 1821—just one hundred thirty-four years ago, almost to the day—17 doctors from Rochester and its immediate vicinity met to organize the Monroe County Medical Society. By virtue of its foundation when the community was only nine years old, and only three months after the creation of Monroe county itself, through division of Genesee and Ontario counties, by legislative act of February 23, 1821, the Monroe County Medical Society boasts of having the longest consecutive history of any organization in Rochester.

That Rochesterians were satisfied with their early doctors we must believe from the following statement in a "summary account" of their "highly flourishing and important town," appearing in a little volume entitled *Rochester in 1827*:

> The medical profession here is quite numerous and respectable, and if a wall of physicians round us is any guarantee to the preservation of Publick Health, we [in Rochester] may enjoy an exemption from disease altogether enviable by less fortunate places.

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* Pamphlet, obtainable in the Library of Congress.

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the June, 1955, meeting of the Council of the Medical Society of the State of New York

The Council met June 16, 1955, from 9 A.M. to 3:22 P.M. at the Manhattan Club, New York City. Dr. Renato J. Azzari, president, presided.

Secretary's Report

Executive Committee.—Dr. Anderton reported the recommendations of the Executive Committee regarding the following communications, considered at its meeting on June 15:

"1. Correspondence regarding the eligibility of Dr. Harry G. Stack, of Kings County, for remission of A.M.A. and State Society dues because of service in the armed forces. The Executive Committee recommends disapproval of the request because Dr. Stack was a member of the Regular Army."

It *was voted* that the recommendation be approved.

"2. Memorandum of June 9 from Dr. Theodore J. Curphey regarding a request of the New York State Chapter of the Academy of General Practice for financial assistance for their annual scientific assembly in New York, October 17 to 19, 1955, especially "utilization of the Medical Society addressograph for general mailing." The committee referred this to the Council without recommendation. I could report, sir, that the addressing of a notice to each member of the State Society is being taken care of by arrangement with Dr. Fuchs and that the Academy of General Practice is paying the usual fee of $25. The Executive Committee felt that Dr. Curphey's advice on this matter would be worth having."

After discussion it *was voted* that support be given to the Academy of General Practice through the Public Health and Education Committee.

"3. Letter of June 13, 1955, from Dr. James R. Reuling resigning as delegate from this Society to the A.M.A. due to his election as a trustee of the A.M.A. The committee voted to recommend acceptance."

It was so *voted.*

"4. Letter of May 11, 1955, from Mr. Robert C. Killough, Jr., Assistant Commissioner for Professional Education, requesting nomination of alternates for Dr. Linn J. Boyd and Dr. John J. Clemmer for appointment to the State Board of Medical Examiners, and of two candidates to replace Dr. Claus W. Jungblut on the board."

It *was voted* that Dr. Alfred P. Ingegno be nominated as an alternate for Dr. Boyd, and Dr. Andrew A. Eggston as an alternate for Dr. Clemmer; also that either Dr. Edward J. Hehre, of Cornell University Medical College, or Dr. Harry M. Rose, of the College of Physicians and Surgeons of Columbia University, be selected by the Board of Regents to replace Dr. Jungblut.

Dues Remissions.—The Council voted to remit 1955 annual State dues of ten members because of illness, of 37 members because of service in the armed forces, and of one member and two deceased members because of financial hardship. It was voted to request remission of American Medical Association dues of 42 members for 1955, of three members for 1956, and of seven members for succeeding years. The Council also voted to rescind its action of May 12, 1954, remitting 1954 annual State dues and requesting remission of 1954 American Medical Association dues of a member in the armed forces. This member had been classed as resigned, effective December 31, 1953.

General.—Dr. Anderton stated: "Mr. President, the secretary's report this month is rather voluminous on account of matters referred to and through the Council from the House of Delegates.

"Before going on with them, sir, may I draw to your attention that the secretary has taken the liberty to place around the table copies of comments on the Bricker Amendment as assembled by the American Medical Association and a report of a committee of the Association of the Bar of the City of New York and a committee of the New York State Bar Association.

"Also, sir, we have received a request from Dr. Leopold Leber, of Berne, in Albany County, to be permitted to join the Schenectady County Medical Society. His hospital affiliations are in Schenectady; it is shorter in time for him to go to Schenectady than to Albany, and the Albany County Medical Society has no objection to his joining the Schenectady County Medical Society. Therefore, in accordance with the Bylaws I move that this Council grant him permission to be a member of the Schenectady County Medical Society, if so elected."

Permission *was granted.*

"May the secretary also request the Council for instructions to write each county society asking for nominations for the outstanding general practitioner of 1955 and to transmit them to Dr. Leo E. Gibson, chairman of the Committee on Medical Licensure and Medical Service?"

It was so *voted.*

"Also, Mr. President, it is customary about this time of the year for the Council to delegate you power to appoint delegates to the annual meetings of the State Societies of Pennsylvania, Vermont, Connecticut, and New Jersey, when and if we receive invitations."

This was *voted*.

"Your secretary takes the liberty to remind the Council that of late years you have invited the following to attend your meetings: Dr. Harold B. Smith, executive officer; Dr. David J. Kaliski, director of the Workmen's Compensation Bureau; Dr. John H. Iselin, Jr., assistant to the secretary; Mr. William F. Martin, counsel; Mr. George P. Farrell, director of the Bureau of Medical Care Insurance; Mr. Frederick W. Miebach, director of the Bureau of Public and Professional Relations, and Mr. Thomas E. Alexander, office manager and business manager of the JOURNAL and *Directory*."

Invitations *were voted*.

"I hope this next announcement will not so embarrass our president that he feels it necessary to leave the room. Mr. President, may I tell the Council, with great pride from myself, and I believe also from them, the fact that Governor Harriman has appointed our president a member of the Citizens Advisory Council for the Conference on Problems of the Aged and also has made him chairman of that body's Subcommittee on Health, Medical Care, and Rehabilitation.

"President Azzari requests your approval of the following appointments of session officers:

History of Medicine
Chairman—Dr. McIver Woody, New York City
Secretary—Dr. Irving Wolfson, Buffalo

Legal Medicine
Chairman—Dr. Robert B. McGraw, New York City
Secretary—Dr. Samuel Sanes, Buffalo

Public Relations
Chairman—Dr. Henry I. Fineberg, Jamaica
Secretary—Dr. John C. McClintock, Albany

and, for the new Section on Physical Medicine,

Chairman—Dr. Jerome Tobis, New York City
Secretary—Dr. Leslie Blau, Buffalo

"Since your last meeting, the secretary has attended the 50th annual meeting of the Harvey Society, May 19; meeting of the Joint Commission on Improvement of the Care of the Patient, May 23; meeting of the Ad Hoc Committee on Definition of Unprofessional Conduct, with representatives of the State Education Department, May 24; executive committee meeting of the Fourth District Branch at Glens Falls, May 25; funeral of Colonel Candler Cobb, New York City Director of Selective Service, May 27; luncheon of Columbia University Alumni Association, June 1; and dedication meeting at New York University College of Medicine, June 2. He also plans to attend premonitory meetings, June 4 and 5, before the American Medical Association House of Delegates, June 6 to 8."

House of Delegates Matters

Dr. Anderton reported: "As result of action by the House of Delegates, May 11, 1955, your secretary has notified legal counsel, William F. Martin, Esq., and the Malpractice Insurance and Defense Board, Mr. Harry F. Wanvig, secretary, that 'out-of-pocket' expenses in connection with suits or claims against uninsured members of our Society for alleged malpractice should be borne by said members; and that any uninsured members having multiple suits within a given period of time shall be reported to the Malpractice Insurance and Defense Board.

"Your secretary recommends that the words 'within a given period of time' be defined by the Council or referred to the board with request to suggest definition."

After discussion it *was voted* to refer this to the Malpractice Insurance and Defense Board for definition.

"The report of the Reference Committee on Reports of Malpractice Insurance and Defense Board and Legal Counsel contained the following:

> The reference committee feels that the Medical Society of the County of Westchester has justification in its request. Further, the matter which the Westchester County Medical Society raises in its request may affect other counties. The committee recommends that the decision on the request from the Medical Society of Westchester County be postponed for the present. It further recommends that a State-wide survey be made of the malpractice experience and cost at a county level on a sound actuarial basis, with a view to the feasibility of formulating reclassifications for premium purposes other than the present geographic classification.

"That is in regard to the request of Westchester County to have its malpractice insurance rates classified as upstate rather than with the metropolitan area."

It *was voted* that the question of conducting a survey be referred to the Budget Committee and the Board of Trustees for study and recommendations to the Council.

"The adopted report also contained the following paragraph:

> The committee supports and approves the recommendation made by the board in its report under the heading, *Panel of Experts*, that the House of Delegates withdraw the 1954 directive—authorizing the formation of a panel of outstanding physicians and surgeons throughout the State, whose members would be available to assist the board and legal counsel in the preparation of effective defenses and appearing as witnesses—until such time as the board and legal counsel can determine how a State-wide panel can be used to better advantage than appears possible at present."

It *was voted* that the Malpractice Insurance and Defense Board be notified.

"The officers of the Ninth District Branch and its component county medical societies have been notified by your secretary that the House of Delegates voted that their annual meeting will consist of a meeting of their delegates at the House of Delegates and will consist of election of officers.

"Your secretary takes the liberty to draw to your attention the following recommendations adopted by the House of Delegates as part of the report of the Reference Committee on Report of Trustees:

> 1. That the Council and Board of Trustees be authorized to defer action on any new item of major current expense for the coming year pending further study of Society expenditures; and
> 2. That any future resolution voted upon by the House of Delegates, requiring the expenditure of money, include a statement of the amount of money that may be expended for the purpose and source of appropriation; and
> 3. That a committee of the Trustees and Council review present expenditures and advise this House at its 1956 meeting regarding the possible sharp curtailment of such expenditures. It is suggested that such a committee give particular thought to:
> (*a*) The possibility of reducing administrative expense by the use of more efficient methods and equipment;
> (*b*) Reducing to a necessary minimum public and professional relations activities;
> (*c*) Eliminating the Legislation Bureau and pinpointing activities of this sort to the actual legislative session and to the obtaining of special counsel for specific projects as required;
> (*d*) Reduction of expenses of the Workmen's Compensation Bureau and of the Bureau of Medical Care Insurance and, with respect to the latter, consideration as to whether or not expenses of the Bureau of Medical Care Insurance may not properly be contributed to by the various Blue Shield Plans;
> (*e*) Reduction of travel expenses and consideration of the possibility of arranging for some committee meetings and conferences by telephone hookup with the various county medical societies;
> (*f*) Careful scrutiny of commitments to the Blood Banks Association of New York, Inc. (Indeed at this very session, the House of Delegates should instruct the Board of Trustees specifically as to the extent it should commit funds of the Society to this project.);
> (*g*) Issuance of the *Medical Directory* at longer intervals than every two years, but with brief interval supplements.
> 4. In view of the foregoing, your reference committee advises that the request for additional dues be disapproved."

It *was voted* that this be referred to the Budget Committee.

"The report of Reference Committee on Reports of Secretary, Judicial Council, and District Branches, as adopted by the House of Delegates, 'recommends the functions of the district branches as provided for in our Constitution and Bylaws be referred to and reassessed by the Council.' In regard to the same subject, the speaker referred to the House Committee on Constitution and Bylaws resolution 55-29, which states: '*Resolved*, that the Bylaws of the Medical Society of the State of New York be changed so as to eliminate the district branches.'"

It *was voted* to refer this to the Constitution and Bylaws Committee of the House of Delegates.

"The report of Reference Committee on Report of the Planning Committee for Medical Policies, which was adopted, contained the following matters which are drawn to your attention:

> 1. Regarding the integration of the Bureau of Medical Care Insurance, the Bureau of Workmen's Compensation, and the Industrial Health Bureau, the Planning Committee recommended that the Bureau of Workmen's Compensation and the Industrial Health Bureau be integrated into one department, since these bureaus have much in common and that a physician direct the combined bureaus—if possible, a physician competent in industrial medical practice who can properly represent us in medical compensation practice and in educational activities for industry, labor, and the medical profession. The Planning Committee felt that the Bureau of Medical Care Insurance has nothing in common with the Bureaus of Workmen's Compensation and Industrial Health and should not be combined with them."

This *was referred* to the Workmen's Compensation and Industrial Health Committees for information.

> 2. The reference committee also recommended that the study of State Society committees be continued, with words of caution "against overemphasizing expense."
> 3. This reference committee also recommended a continuation of the study by the Planning Committee for Medical Policies in regard to the method of electing delegates from our society to the American Medical Association.

"The report of the Reference Committee on Report of Council, Part I, recommended that the Medical Defense Committee 'continue to function and that its deliberations be disseminated in the NEW YORK STATE JOURNAL OF MEDICINE and in the *Newsletter*.' It also recommended continuation of the Special Joint Committee on Inhalation Therapy, which President Azzari and Council reappointed May 11, 1955.

"The House of Delegates commended your Special Committee to Study Hospital and Professional Relations and adopted its report, changing only the wording of the two phrases. The words 'under terms or conditions which permit the sale of the services of that physician by such agency at a profit to the agency' were substituted for the words 'under terms or conditions which permit exploitation of the patient, the hospital, or the physician' in the proposed principles to be agreed upon by the Medical Society of the State of New York and the Hospital Association of New York State, headed Fiscal Relations of Physicians with Hospitals (B) which now would read:

> The financial arrangements, if any, between a hospital and a physician properly may be placed on any mutually satisfactory basis, but a physician shall not dispose of his professional services to any hospital, lay body, organization, group or individual, by whatever name called or however organized, under terms or conditions which permit the sale of the services of that physician by such agency at a profit to the agency.

"And in the committee's report, Appendix A-4, the same change of words was adopted so that the paragraph would now read:

> The right of an individual to develop the terms of his services on the basis of local conditions and needs

is recognized, but such contractual arrangements should in all cases ensure (*a*) the policy of professional incentive for the physician, and (*b*) progressive development of the hospital departments involved, in order that increasingly improved services to patients may be rendered. Moreover, a physician shall not dispose of his professional attainments or services to any hospital, lay body, organization, group or individual, by whatever name called, or however organized, under terms or conditions which permit the sale of services of that physician by such agency at a profit to the agency."

After discussion it *was voted* to refer this to the Committee on Hospital and Professional Relations.

"Resolution 55-9 as amended was adopted by the House of Delegates, and its referral to the Subcommittee on Public Medical Care of the Economics Committee was voted for further negotiations with the State Department of Social Welfare. This resolution deplored the 'forty-eight hour limitation' for initial reporting of social welfare cases and recommended that 'five-day limitation or until liability of Welfare Department has been assumed' be the time recommended to the Welfare Department for reporting."

It *was voted* that this be referred to the Subcommittee on Public Medical Care of the Economics Committee.

"The House also approved and recommended referral to the same subcommittee resolution 55-10, which deplored refusal of the Madison County Welfare Department to reimburse private physicians if a State facility was available, thereby abrogating free choice of physician, and voted 'to take definite action aimed to secure the elimination of this deplorable situation.' "

It *was voted* to refer this to the Subcommittee on Public Medical Care of the Economics Committee.

"Furthermore, your House resolved that there be an investigation regarding the alleged requirement of physicians to contribute money to hospitals and, if 'this situation be a State-wide condition, that measures be taken to alleviate the situation.' "

It *was voted* to refer this to the Committee on Hospital and Professional Relations.

"The House of Delegates voted the following recommendations regarding the Blood Banks Association of New York State, Inc.:

1. That the original Blood Banks Association be continued in its original intent under the supervision of the Blood Banks Commission;
2. That the regional blood clearinghouse program in New York State be under the control of the Blood Banks Association. Many state medical societies are already part of this program;
3. Study and report to the Blood Banks Commission by the blood assurance program of the advisability of raising the $3.00 per pint fee to a proper cost-estimate fee;
4. That the blood assurance program be continued with the following controls:

(*a*) Report must show the number of certificates suitable to the Council by January 1, 1956.

(*b*) Economies must be shown to the Blood Banks Commission to have been effected by July 1, 1955.

(*c*) Evidence of reorganization must be shown to the Blood Banks Commission by July 1, 1955.

(*d*) The limit of deficit by January 1, 1956, must not exceed the estimate of $18,000 deficit as described in this report.

"The House also voted that, if recommendations 4,*a*, *b*, *c*, and *d* are not met, that the Council act with the following recommendations of the reference committee in mind:

A. That the blood assurance program be discontinued.

B. That no further certificates of assurance be issued.

C. That certificates of assurance then in effect be continued to their expiration date and then not renewed.

D. Claims of blood be arranged to be paid by blood banks at the local level at a fee to be arranged between these blood banks and Blood Banks Association, Inc.

E. That no additional loans be made to the Blood Assurance Program after this date.

F. That sufficient funds be allocated to close out these Blood Assurance Program debts.

G. That the Council and Trustees be authorized to carry out these recommendations."

It *was voted* to refer this to the Blood Banks Commission.

"The reference committee report regarding Maternal and Child Welfare and School Health was adopted by the House of Delegates. It contained the suggestion 'that it might be instructive to publish yearly in the JOURNAL the incidence of maternal deaths and perinatal deaths by county or by region,' inasmuch as these statistics 'are not usually seen by the average members of this Society.' "

It *was voted* to refer this to the Maternal and Child Welfare Subcommittee through the Public Health and Education Committee.

"This reference committee noted that school health is a problem of the Department of Health in New York City, Buffalo, and Rochester, and in the rest of the State school health is under the Division of Health of the Education Department."

It *was voted* that this statement be similarly referred.

"Regarding legislation—the House of Delegates endorsed the proposed revision of the autopsy law and voted that its passage be actively promoted and that every effort be made to obtain the support of the executive branch, including, if indicated, a petition to Governor Harriman."

This *was referred* to the Committee on Legislation.

"The House approved the following recommendations of the Workmen's Compensation Committee:

1. To arbitrate disputed medical bills in the county in which the medical service was rendered rather than in the county in which the claimant resides.
2. To create panels of specialists rather than single experts now appointed by the chairman.
3. To amend Section 13-c 2, which restricts x-ray examinations to specialists in x-ray only—disregard-

ing general practitioners and other specialists who properly use x-rays within the limits of their qualifications and specialty.

4. To amend Section 10-a of the Labor Law and the Workmen's Compensation Law to give the Medical Appeals Unit full power in appeals rather than advisory power only."

These recommendations *were referred* to the Committee on Legislation.

"Also, the House adopted a resolution calling for introduction of a bill and its vigorous pursuit to abolish the Medical Practice Committee of the Workmen's Compensation Board and restore to counties with population over one million the same functions that other county compensation committees have."

It *was voted* to refer this to the Committee on Legislation.

"The House of Delegates voted: 'that a representative of the Council Committee on Workmen's Compensation and members of workmen's compensation committees be invited to appear not only at local society meetings but also at district branch meetings, to discuss all phases of workmen's compensation as it affects the profession and those other interested parties with whom we must share responsibility in the treatment of compensation claimants and the prompt adjudication of their claims.' "

It *was voted* that the secretary be instructed so to notify the district branch presidents.

"Also, the House in adopting resolution 55-12 recommended: 'that the Council, through the Bureau of Workmen's Compensation, determine the extent to which veterans hospitals are treating compensation cases and that the Society make every effort to abate any abuse of the Workmen's Compensation Law that may exist.' "

After discussion it *was voted* to refer this to the Workmen's Compensation Committee.

"On a supplementary report of the Public Relations Committee, the House of Delegates voted that *A Guide for Cooperation* with media of information be reviewed annually in conference with representatives of these media." (This was read for information.)

"Further action by your House of Delegates was to recommend that the Publication Committee continue 'during the next succeeding academic year' to supply the NEW YORK STATE JOURNAL OF MEDICINE free of charge to all fourth-year medical students in New York State.

"Another resolution passed by the House was that 'all elected officers of the Medical Society of the State of New York be identified according to their respective county medical societies on the officers pages of the NEW YORK STATE JOURNAL OF MEDICINE.' "

It *was voted* that these items be referred to the Publication Committee.

"The Reference Committee on Report of Council, Part XII, considered matters of ethics. It noted that the Council had advocated that the county societies not enforce the following three changes in the *Principles of Professional Conduct,* which had been adopted by the 1954 House of Delegates:

"1. Clarification of Chapter I, Section 4, under the heading of Advertising.

"2. Addition of a sentence to Chapter III, Article 6, Section 3, under the heading of Contract Practice; also adding 'duly licensed' before the words 'physician' and 'physicians.'

"3. Clarification of Chapter III, Article 6, Section 4, under the heading of Free Choice of Physician.

"The House approved the reference committee's following recommendations:

"A. The Council again request county medical societies not to activate aforesaid changes until after meeting of the 1956 House of Delegates;

"B. The Council temporarily interpret the portion on contract practice that it not apply to local health officers;

"C. The Council prepare changes covering these features in language not ambiguous, to be presented at the next meeting of the House of Delegates.

"It was noted that the addition of Section 7 to Chapter III, Article 6, of the *Principles of Professional Conduct,* entitled Proration of Fees, was made mandatory by passage of law in 1954."

It *was voted* that these be referred to the Committee on Questions of Ethics.

"The House also voted approval of the report of the same reference committee regarding Dr. Leonard J. Schiff's resolution concerning 'questionable advertising of medical books written for the laity.' This requests the Council to investigate, study, and take any necessary appropriate action regarding medical books which are advertised to the general public 'in such a manner as to appeal to lewd and lecherous curiosity.' "

This *was referred* to the Committee on Public Health and Education.

"In dealing with the report regarding industrial health, the House of Delegates approved of the reference committee's report, which stated in part:

> In the meantime the problem has become more crucial as management and labor unions, either separately or together, are setting up health centers to furnish some type of medical care to their employes. In the majority of the cases no help is sought from organized medicine in setting up these health facilities.
>
> The problem, in the opinion of your reference committee, rests with the Council and the Board of Trustees to obtain a properly qualified expert to run the Bureau of Industrial Medicine with the funds that are available."

This *was referred* to the Committee on Economics.

"The House of Delegates voted that the work of the Subcommittee on Geriatrics should be coordinated with that of the Subcommittees on General Practice, Mental Hygiene, Heart Disease, Physical Medicine and Rehabilitation, and 'such Council Committees as Economics and Medical Care Insurance.' "

This *was referred* to the Public Health and Education Committee.

"Furthermore, the House voted approval of the recommendation that 'the position of Commissioner of the Deaf should be created by the State.'"

This *was referred* to the Public Health and Education Committee.

"Also, the House voted 'that the State Society should take more interest in' cerebral palsy and 'that the subcommittee's efforts should be coordinated with those of the Legislation Committee and the Committee on Public Relations.'

"The House of Delegates voted 'unqualified approval' of the proposed Bricker amendment to the United States Constitution.

"Your secretary has prepared and sent copies to Dr. George F. Lull, secretary, American Medical Association, of the resolutions for the American Medical Association, advocated by the House of Delegates. He has commenced implementation of the House of Delegates resolution to change the session to a section on physical medicine. He has written to Commissioner of Education Lewis A. Wilson, Attorney General Jacob Javits, and the Chancellor of the Board of Regents, as the House of Delegates directed. Also in the name of the State Society he congratulated Associated Hospital Service of New York on its anniversary. He has sent to the House of Delegates Committee on Constitution and Bylaws three matters intended for them, and in other ways has carried out the instructions of the House of Delegates."

The secretary's report as a whole *was approved.*

The treasurer's report was accepted.

Reports of Committees

Blood Banks Commission—Dr. James Greenough, chairman, gave a comprehensive report on the status of the Blood Banks Association and moved that the Trustees be requested to appropriate the $13,000 authorized by the House of Delegates and that the Blood Banks Commission should be allowed discretion in lending these funds to Blood Banks Association depending upon (*a*) the legality of the program, (*b*) reorganization of the Blood Banks Association, both in office management and board of directors, satisfactory to the Commission at their meeting on June 23, and (*c*) indications satisfactory to the Commission of cooperation by the Greater New York Hospital Association in this program.

It was so *voted.*

Dr. J. Stanley Kenney, president of the Blood Banks Association, supplemented Dr. Greenough's report, stating that representatives of the Blood Banks Association met on June 3 with representatives of the Greater New York Hospital Association and that, during the American Medical Association annual meeting, he conferred with representatives of the American Association of Blood Banks.

Constitution and Bylaws.—Dr. Frederick W. Williams, chairman, reported: "The Committee on Constitution and Bylaws has before it an amendment to the constitution and bylaws of the Broome County Medical Society, merely changing its hours of polling on its voting day. This amendment was submitted to counsel and to the members of the Committee and was found in keeping and within bounds of the Constitution and Bylaws of the Medical Society of the State of New York. Therefore, I move that the Council approve the amendment to the Broome County constitution and bylaws."

It *was voted* to approve.

Economics.—Dr. Denver M. Vickers, chairman, presented the following report of Mr. George P. Farrell, director of the Bureau of Medical Care Insurance:

May 9 to 12, 1955—Your director attended the annual meeting of the Medical Society of the State of New York. The Bureau displayed graphs on the progress of Blue Shield Plans in New York State, showing growth in membership and benefits paid to doctors from 1940 through 1954. Descriptive literature was distributed, as well as the annual financial progress report on all New York plans. Your director appeared before the Reference Committee, Council, Part VII, Medical Care Insurance, and attended the Public Relations Session, Thursday, May 12.

May 17, 1955—Your director addressed the Medical Society of the County of Rockland at Pomona on the "Semi-Private" and "New Family Doctor Plan" offered by Group Health Insurance, Inc.

The bureau has recently compiled a comparative schedule of allowances of New York State Blue Shield Plans and the states of New Jersey and California.

The Bureau's March 31, 1955, quarterly progress report on the New York State Blue Shield Plans was published in part in the July 1, 1955, issue of the NEW YORK STATE JOURNAL OF MEDICINE.

The report *was adopted.*

Ethics.—Dr. Thurman B. Givan, chairman, reported on two matters:

> Dear Dr. Anderton:
>
> Would appreciate opinion from the State Society regarding subject outlined below.
>
> Recently in Olean, several doctors have subscribed to the doctor's telephone exchange, which covers the doctor's calls when no one answers his phone. This exchange has not received any publicity, and I am interested in knowing whether ethically we have the right to advertise this fact in local newspapers.
>
> Present rules allow a doctor to advertise three times in newspapers—when he first opens an office, changes his office location, or changes his telephone number.
>
> However, the present situation has never occurred, and I would like to know whether we who belong to this medical exchange may also advertise three times in a paper, without infracting any rules of medical ethics.
>
> Sincerely yours,
> JAMES F. DURKIN, M.D.

"Dr. Ezra Wolff and I discussed this, and I got in touch with Dr. LaGattuta, and I formulated this answer for your consideration: 'In regard to questions asked about advertising in newspapers by those belonging to a telephone service, the Committee on Questions of Ethics believe it should be taken care of by the county medical society to which the physicians belong. Local rules throughout the State have governed such principles in the past. In many counties any type of advertising in telephone Red Books or in newspapers is frowned upon.' "

It *was voted* that the reply be approved and that a copy be sent to the president of the Medical Society of the County of Cattaraugus.

Dr. Givan continued: "Another matter, a letter from the United Medical Service, May 9, 1955:

> The Medical Policy Committee of United Medical Service has been asked again to consider policy on proration. The following is the procedure currently being followed by United Medical Service:
>
> 1. Two or more physicians who, of necessity, participate in the care of a subscriber may prorate the U.M.S. scheduled allowance.
> 2. It must be done with the knowledge and consent of the subscriber.
> 3. Each physician must submit a separate statement of claim to U.M.S.
> 4. The amount of proration is determined by the physicians who rendered care to the subscriber and should be in proportion to the services rendered.
> 5. If the physicians cannot agree on an equitable proration, they may submit the claims to the Physicians' Review Committee for adjudication.
>
> At the April 15, 1955, meeting of the Policy Committee it was recommended and approved that the problems presented in the letter from Dr. . . . of . . . County, asking U.M.S.'s opinion on the establishment of specific amounts of proration between surgeons and general practitioners, and a copy of the resolution of the New York State Academy of General Practice, requesting that the principles of proration be publicized to all subscribers, be referred to your committee for opinion and comment.
>
> The following is an excerpt of the pertinent portions of the correspondence from the chairman of a committee of the directors of surgery:
>
> > "The president of the . . . Surgical Society appointed a Committee of the Directors of Surgery of the hospitals in the county. I am chairman of this committee. The committee has had two meetings to discuss the new United Medical Service plan. The first meeting was with the Chairman of the General Practice sections of . . ., . . ., and . . . hospitals. The conclusions arrived at during this meeting were very satisfactory. Both groups agreed unanimously on all the points discussed. To mention the contents of the above meeting very briefly, I would like to add the following:
> >
> > "1. We agreed in principle that the referring doctor should be paid for services rendered.
> >
> > "2. We agreed that the postoperative care should be the responsibility of the operating surgeon.
> >
> > "3. We agreed that in those hospitals where assistants were not available, that the referring doctor should be compensated for services as an assistant, and agreed that 10 to 15 per cent depending upon the length of the procedure would be adequate compensation. This as you know is consistent with the principles of the American College of Surgeons.
> >
> > "Our next meeting was with a committee representing the Academy of General Practice in . . . County. At this meeting, we agreed on one aspect of the problem only, and that is that the referring doctor should be compensated for services rendered. The General Practice Committee felt that they should assume the responsibility of the postoperative care in less major operations, such as hernias, appendectomies, etc. We did not feel this was consistent with the best interest of surgery. However, the largest point of disagreement arose in relation to the distribution of finances. The committee representing the Academy of General Practice state they want $33^1/_3$ per cent of the surgical fee allowed by the United Medical Service if they render preoperative care, assist at the operation, and partake in postoperative care. The Surgical Committee feels that this is contrary to the principles of the American College of Surgeons, and we further feel that it would not meet with the approval of the directors of the United Medical Service."
>
> The following is the resolution passed unanimously by the Congress of Delegates of the New York State Academy of General Practice at their Annual Meeting, October 11, 1954, in Syracuse, New York:
>
> > "*Resolved*, that the U.M.S., G.H.I., and all other voluntary prepaid health insurance plans be requested to allow in their fee schedules for the principle of proration of fees for all services wherein the family doctor actively participates and, be it further
> >
> > "*Resolved*, that the principle of proration of fees be publicized to all subscribers of the voluntary health insurance plans concerned."
>
> The Medical Policy Committee would appreciate receiving the opinion of your committee before taking further action.
>
> Yours very truly,
> Leonard J. Raider, M.D.
> Secretary to Medical Policy Committee

The Ethics Committee of the State Society also discussed this and recommends the following:

"We agree that in many instances there are inequities in fees between physicians, who make diagnoses and carry out treatments and after-care of postoperative patients, and surgeons, who perform operative procedures, yet to spell out percentages, in our opinions, would not be ethical.

"If there is a question of inequities of fees between physicians, mutual agreements with full knowledge of the patient and all concerned should be arrived at, fully taking into account the New York State Law and the *Principles of Professional Conduct.*"

It *was voted* that the recommendations of the committee be approved.

Legislation.—Dr. Henry I. Fineberg, chairman, stated: "Dr. Greenough has very graciously invited me to visit him this week-end. We will discuss the Legislation Bureau. Actually, I am going to be well briefed on what has taken place in the last couple of years and what the future holds for us."

Office Administration and Policies.—Dr. John J. Masterson, chairman, reported: "A regular meeting of the Office Administration and Policies Committee was held on June 16, 1955.

"The committee reviewed various personnel changes and other matters."

These were employes' disability benefits insurance and the annual employes' picnic at Bear Mountain.

"A letter from Dr. David J. Kaliski suggested that employes having twenty or more years continuous service be granted four weeks vacation. We have two employes who are in this category. The suggestion was approved."

The report *was accepted.*

Publication.—Dr. John J. Masterson, chairman, stated: "The Publication Committee met yesterday afternoon in the offices of the State Society.

"The editor presented his monthly report which was accepted.

"It was proposed that the committee request permission of the Council to invite Dr. John G. Masterson to its meetings with voice but not vote, for the current Society year.

"It was voted to recommend to the Council that the following be appointed to the Associate Editorial Board for the current Society year:

I. J. Brightman
Harold F. Brown
William A. Brumfield
William G. Childress
Theodore J. Curphey
Samuel A. Garlan
William Hammond
Louis M. Hellman
Reginald A. Higgons
Alfred P. Ingegno
Bernard I. Kaplan
Granville W. Larimore
George M. Lewis
Margaret M. Loder
Arthur M. Master
John G. Masterson
Peter M. Murray
Henry J. Noerling
George H. O'Kane
Raymond L. Pfeiffer
John F. Rogers
Howard A. Rusk
Irving J. Sands
Leo F. Simpson
Robert Turell
Denver M. Vickers
Edward T. Wentworth
Frederic D. Zeman

"The editor informed the committee that he had received an article on the Red Cross Blood Bank program in New York State. After considerable discussion the committee voted to present the matter to the Council, and the chairman was requested to suggest that each member of the Council be sent a copy of the manuscript, with the request that Council members reply to the editor whether they believe the article ought to be published.

After discussion it *was voted* that this decision regarding publication be tabled until the next Council meeting. (It was understood that a copy of the article would be sent to each member of the Council.)

Dr. Masterson continued: "The committee voted approval of the editor attending the American Medical Association clinical sessions at Boston, in December.

"The business manager reported that for the eleven months ended May 20, 1955, the JOURNAL had a net income of $23,668 after dues allocation. It was also noted that gross advertising income for the eleven months ended May, 1955, as compared with the same period ended May, 1954, showed an increase of $15,541. The comparison of advertising scheduled for the year 1955 exceed the amount scheduled last year at this time by $14,855.

"The committee discussed the request of the advertising salesmen to have their rate of commission increased. After much discussion it was voted to approve a change beginning January 1, 1956. If we adopt this program, the salesmen will not receive less than they are receiving at present, and they may receive more.

"A letter from the International Academy of Medicine stated that the Academy desired to contact film authors through a JOURNAL advertisement, but they desired a free run. The committee voted not to accept the copy submitted as a free advertisement.

"The committee voted to approve exchange of the JOURNAL with the *Bulletin of the Research Council of Israel,* with a review of the matter at the end of one year.

"It was voted to request the editor to submit a report at the next meeting in connection with all exchanges.

"The committee reviewed some complaints about listing in the 1955 *Medical Directory.* It was voted to publish corrections and additional information in the JOURNAL in the near future.

"It was voted to grant a 10 per cent discount to component county medical societies and academies of medicine for purchase of the 1955 *Medical Directory.*

"It was voted to deny the request of Beth-El Hospital for a complimentary copy of the 1955 *Medical Directory.*

"There was a general discussion of a proposed agreement with the Audio-Video Corporation of New York City in connection with setting up a tape-recording library on medical subjects for educational purposes. The agreement, as approved by our legal counsel, Mr. William F. Martin, was read. It was voted to request the Council to recommend to the Board of Trustees that this agreement be approved with an additional provision which stated that, if the voice of the author of the material on the tape is not used, that it shall be so stated on the tape."

After discussion it *was voted* that this contract, as approved by Mr. Martin, should be signed if it is acceptable to the tape-recording company; that the Council so recommend to the Board of Trustees.

Public Health and Education.—Dr. Theodore J. Curphey, chairman, reported that since his last report to the Council, he had attended five meetings and arranged 12 postgraduate lectures and teaching days in 11 counties.

He stated: "1. After Commissioner Hilleboe's appearance before the Council on April 13 a joint statement was drawn up by him and your chairman (subsequently approved by Mr. Gesoalde, executive secretary of the State Pharmaceutical Association), which was mailed on April 15 to the presidents of all county medical societies outside the metropolitan area and which was released to the press for publication April 16. It outlined the priority for use of available polio vaccine during the temporary period of shortage; it recommended that (*a*) New York State purchase additional supplies to cover all third and fourth grade children as well as first and second graders; (*b*) that the State purchase supplies for emergency use this summer in the event of local outbreaks; (*c*) that the schedule advocated by Dr. Salk of two doses with a later booster dose be adhered to.

"2. Governor Harriman subsequently requested Commissioner Hilleboe to form an Advisory Committee on Poliomyelitis Vaccine, of which your chairman is a member. The first meeting was held on May 3 in Albany. Recommendations from this meeting were circulated to the presidents of the county medical societies immediately and released to the press. A system of voluntary allocations was advocated that should eliminate rationing in New York State. The committee believed that, contrary to New York City, where local legislation for record keeping had been enacted the previous week, there was no need for mandatory record keeping in the upstate area. If conditions later should warrant, regulations could be put into effect within twenty-four to forty-eight hours through changes in the Sanitary Code or administrative rules and regulations.

"A program of voluntary checks to prevent diversion of the vaccine was approved by the committee, whereby the Health Department will receive weekly reports, on a voluntary basis, of all consignment and shipping orders of each pharmaceutical manufacturer sending vaccine into the State.

"The committee recommended the establishment of a subcommittee to act on any complaints that cannot be handled on a local basis. It was named on May 9 and is composed of representatives of medical and pharmaceutical groups, surgical supply houses, and the public. Your chairman is included as the representative of physicians.

"3. On May 5 your chairman was asked to confer with Commissioner Hilleboe and Attorney General Jacob Javits on the matter of controls for the prevention of a black market. Your chairman voiced opposition to mandatory controls. Later, at a meeting of the Public Health Council in Buffalo on May 11, it was recommended that the Sanitary Code be amended to require reporting by the physician of the names of those to whom vaccine is given.

"4. The second meeting of the Advisory Committee was held in Albany on May 31 after Dr. Hilleboe's attendance at meetings in Washington the previous week called by Secretary Oveta Culp Hobby and Surgeon General Leonard Scheele. The Advisory Committee recommended that booster shots for children vaccinated last year should take precedence over second shots for children vaccinated for the first time this year.

"Commissioner Hilleboe said he expected additional information within a few days as to whether the supply of vaccine on hand would be sufficient to complete all booster shots. The extra vaccine is available because fewer children participated in the first series of injections than originally estimated."

Dr. Curphey supplemented his report as follows: "Our report was distributed with the agenda. There is just one item I should like to ask action on, that we be permitted to underwrite the traveling expense of either the chairman or a representative of the Subcommittee on Mental Health to the annual meeting in Chicago on November 18 and 19 of the Council on Mental Health that the American Medical Association is sponsoring. We have done this previously."

Approval *was voted.*

It *was voted* to adopt the report as a whole.

Public Relations.—Dr. Floyd S. Winslow, chairman, presented the following report:

The annual convention occupied much of the work of your committee and the Public and Professional Relations Bureau during the past several weeks. Following the pattern established successfully two years ago, the bureau utilized the facilities of radio and television to publicize the meeting in upstate New York. Thirty-six State Medical Society and Woman's Auxiliary speakers took part in a record-breaking total of 46 radio and television broadcasts. These broadcasts reached hundreds of communities in at least 19 New York State counties, and a number were heard in Pennsylvania and Canada. The physician-speakers represented 12 county medical societies including the following: Erie, Niagara, Chautauqua, Monroe, Oneida, Albany, New York, Bronx, Westchester, Washington, Tompkins, and Nassau. These broadcasts, which were very favorably received by both broadcasting stations and the public, included both "live" and recorded programs.

For the recording of numerous programs without cost, your committee is indebted to the A-V Tape Libraries, Inc., and to Dr. Laurance D. Redway, through whom we obtained the use of the A-V group's facilities. The radio and TV programs were supervised by Mr. Schuyler, who prepared the scripts for most of them, while Mr. Tracey acted as interviewer on several of the broadcasts.

As in past years, a press room was maintained throughout the convention for the convenience of reporters. Representatives of the Buffalo press, the wire services, the *New York Times*, and other media of public information used our facilities. The Bureau's field and secretarial staff manned the press center and helped the members of the press in every way possible. There were 26 digests of scientific papers which had been prepared as press releases for the convenience of reporters. A vote of thanks is due to Dr. Henry I. Fineberg, who reviewed these press releases.

The Bureau also manned an exhibit entitled: "Doctor—PR Publications Pay Dividends!" This called attention to publications available from the Bureau without cost for use in doctors' offices and in developing county medical societies' public relations programs.

Assistance was given to Dr. John Naples, of Buffalo, as chairman of the Public Relations Session. According to comments heard from some of the 60 persons estimated to have attended the meeting, the program was one of the best of its kind put on during an annual meeting. Your chairman participated in this session and came away feeling that it was so valuable that it should be made a General Session at future conventions. Minutes of the Session, recorded by Dr. Redway, are being transcribed by the Bureau's staff for distribution.

The new pamphlet, "Seven PR Pointers for Medical Personnel," came off the press in time for distribution at the Public Relations Session. This contains practical suggestions concerning how a doctor's office assistant can improve medical public relations.

Soon after the annual convention, a digest of the highlights of the proceedings of the House of Delegates was sent out to members of the House of Delegates, State Society officers, county medical society secretaries, and executive secretaries, after being submitted to Dr. W. P. Anderton.

The "Guide for Cooperation" between the medical profession and various media of public information continued to attract attention. Requests for information or assistance were received by the Bureau. In addition, I received a letter from Mr. Seymour N. Siegel, director, Station WNYC and Station WNYC-FM, radio stations operated by the City of New York, which I should like to quote in part: "This is a distinct and outstanding contribution, and I could not resist the opportunity of writing to you to tell you how much the industry and the working press, in particular, appreciate this gesture of thoughtfulness on the part of the Society."

The Bureau assisted the Woman's Auxiliary in many ways. Your chairman was invited to address its workshop session held during the convention. Being unable to attend because the House of Delegates was in session, I designated Mr. Tracey to attend in my place. Mr. Walsh also spoke to the Auxiliary's postconvention meeting.

The A.M.A. exhibit, "You and Your Medical Care," was put on display under the sponsorship of the State Society and the A.M.A. in early June at the Hall of Springs in the Saratoga Spa. It will remain there until the fall.

By means of special news releases mailed by the Bureau, publicity has been given to postgraduate lectures presented in the following counties: Cortland, Jefferson, Montgomery, Ontario, Rensselaer, Rockland, Suffolk, and Sullivan.

Representatives of the Bureau attended several meetings: Mr. Miebach, Mr. Tracey, and Mr. Walsh were present at the Medical Societies' Executive Conference and the Conference of Presidents and Secretaries held in conjunction with A.M.A. convention in Atlantic City. Your chairman attended the Conference of Presidents and Secretaries, and Mr. Tracey represented the Bureau at the 51st annual Health Conference held at Lake Placid.

The Bureau took an active part in publicizing information about the Salk vaccine. In close cooperation with Dr. Curphey's committee on Public Health and Education and the State Health Department, the front page of the May *Newsletter* carried a full-page story, with the headline "State Society, Health Department and Pharmaceutical Association Make Recommendations for Use of Salk Vaccine." In addition, the June issue called attention of our members to the new amendment to the State Sanitary Code and to the Sanitary Code of the City of New York concerning the keeping of records on polio vaccine. The Bureau notified wire services, newspaper editors, radio stations, and others of President Azzari's telegram to county medical societies requesting that they ask their members to keep records of polio vaccine in accordance with the new regulations.

The report was *adopted*.

Sesquicentennial.—Dr. A. H. Aaron, chairman, presented a report containing his opinions with regard to the sesquicentennial celebration and including suggestions received from members of his committee.

It *was voted* that the report be referred to the Convention Committee.

Unprofessional Conduct Ad Hoc Committee.—Dr. Anderton read the following report, a copy of which had been distributed to the members:

The Ad Hoc Committee on "Unprofessional Conduct," appointed by Dr. Renato J. Azzari to confer with representatives of the New York State Education Department, met May 24, 1955, at 10 A.M. at the offices of the New York State Education Department, 16th floor, 2 West 45 Street, New York City.

Present: *Medical Society of the State of New York*—Dr. Renato J. Azzari, Dr. Andrew A. Eggston, Dr. Thurman B. Givan, Dr. John J. Masterson, Dr. W. P. Anderton, William F. Martin, counsel. *New York State Education Department*—Dr. Carroll V. Newsom, Dr. Stiles D. Ezell, Mr. August J. Bardo, Jr. Excused: Dr. Theodore J. Curphey, State Medical Society.

Inasmuch as the Education Law includes "unprofessional conduct" as a cause for discipline by the Board of Regents, it is proposed to add to *Regulations of the Commissioner of Education*, as amended by the Board of Regents, Article II, § 30, Definitions:

"4. Unprofessional conduct in the practice of medicine shall include but not be limited to the following:

"(*a*) The failure or refusal of a physician without adequate cause to make or provide another physician to make night and holiday visits to any patients under his immediate treatment;

"(*b*) Rendering professional service to a patient if the physician is intoxicated or under the influence of an alcoholic beverage;

"(*c*) The revealing of facts, data, or information obtained in a professional capacity relating to a patient or his records without first obtaining the consent of the patient;

"(*d*) Exercise of undue influence on an ill person for financial gain;

"(*e*) Entering into an arrangement or agreement with a pharmacy for the compounding and/or dispensing of secret formula (coded) or specially marked prescriptions, except where such prescriptions are to be filled at a hospital-operated pharmacy for hospital or clinic patients;

"(*f*) The promotion by a physician of the sale of drugs, devices, appliances, or goods provided for a patient in such manner as to exploit the patient for the financial gain of the physician;

"(*g*) Immoral conduct of a physician in his practice as a physician;

"(*h*) Performance of a complete or partial autopsy on a deceased person without lawful authority or family consent;

"(*i*) Willful omission to file or record, or willfully impeding or obstructing the filing or recording of legally or professionally required medical reports, or inducing another medical practitioner or other person to omit to file or record such reports;

"(*j*) Failure to furnish promptly details of a patient's medical record to succeeding physicians or hospitals upon proper request."

The Ad Hoc Committee requests approval of the above for transmission to the Board of Regents of the University of the State of New York and requests to be dissolved.

It *was decided* to act on each regulation separately. Due to the lateness of the hour, a quorum was not present, so action could not be taken until the September meeting.

Veterans Administration, Liaison with.—Dr. Anderton stated: "Dr. Bauckus asked me to report for him that the contract between the United States Veterans Administration and Veterans Medical Service Plan of New York, Inc., for the following year has been executed."

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, stated: "We are working on the request of the House of Delegates to investigate the problem of practice by the Veterans Administration in workmen's compensation cases and so far have not been able to find any. The one compensation case taken by the Veterans Administration, which I believe sparked the original resolution, was due to an oversight in the Veterans Administration and was not a question of policy on their part.

"Aside from that, we have made certain recommendations to Miss Parisi's office. She has been visiting over the State and has not been able to take any action. That is just for information."

New Business

Representatives at International Meetings.—In the hope that the Council would approve the appointments at its September meeting, Dr. Azzari, at Dr. Anderton's suggestion, requested Dr. Mellen and Dr. Berger, respectively, to represent the Society at the annual meeting of the World Medical Association in Vienna, September 20 to 26, and at the Third International Congress on Criminology in London, England, September 15.

Delegates to the American Medical Association

The report of the delegates to the American Medical Association, which was distributed, is as follows:

The Medical Society of the State of New York was ably and conscientiously represented in the House of Delegates of the American Medical Association, at the Hotel Traymore, Atlantic City, New Jersey, June 6 to 9, 1955. Delegates as elected attended, except that Dr. Leo F. Schiff as alternate replaced Dr. Peter M. Murray who had a speaking engagement at Nashville, Tennessee, June 7. He was unofficially at one session of the American Medical Association House of Delegates.

The delegation met June 6, 1955, at 9:15 A.M. in the Chippendale Room of the Traymore Hotel. Dr. Floyd S. Winslow presided. Those present were Drs. J. Stanley Kenney, John J. Masterson, Maurice J. Dattelbaum, Andrew A. Eggston, Renato J. Azzari, Leo F. Schiff, Peter J. Di Natale, A. H. Aaron, W. P. Anderton, Edward P. Flood, Ezra A. Wolff, Carlton E. Wertz, Gerald D. Dorman, and Charles H. Loughran. Excused were Drs. Thomas M. d'Angelo, James R. Reuling, and Thurman B. Givan. Also present were Dr. Louis H. Bauer, Dr. Laurance D. Redway, and Mr. Frederick W. Miebach.

The first order of business was discussion of a suggestion that the Medical Society of the State of New York be host at luncheon to the House of Delegates, officers, and members of the councils of the American Medical Association, Tuesday, June 7, 1955.

The delegation had been instructed by the House of Delegates of the State Society to introduce three resolutions. These were allotted to Drs. J. Stanley Kenney, Charles H. Loughran, and Gerald D. Dorman.

At this delegation meeting other proposed resolutions were discussed and certain members directed to obtain information and report the following day. It was also agreed to obtain additional information regarding the candidacy of Dr. Donald C. Balfour, of Rochester, Minnesota, for the American Medical Association medal, and the report of the committee on relations between osteopathy and medicine.

The second meeting of the delegation was a breakfast meeting in Room 124 of the Traymore Hotel, Tuesday, June 7, 1955. Dr. Floyd S. Winslow called the meeting to order at 8:25 A.M. On Dr. Thurman B. Givan's report regarding a resolution about pediatric residency training (Tennessee delegation), support was voted. Dr. Charles H. Loughran was selected to obtain additional information regarding Dr. Edward L. Compere's resolution which advocated deferment of young basic science teachers from the draft. Dr. John J. Masterson was requested to secure additional information regarding the social security resolution.

Drs. Wolff, d'Angelo, and Anderton were delegated to attend a reference committee on report of Council on Medical Education and Hospitals, to express disapproval of part of a report which would require a hospital to have at least 25 per cent of its quota of interns in order to be accredited by the Joint Hospital Accrediting Board, and to express the feeling of our House of Delegates which was one of opposition to accepting osteopaths as equals. The caucus decided that Dr. James R. Reuling should be nominated for trustee by Dr. Gerald D. Dorman. It was also agreed that your delegation would support Dr. Dwight H. Murray, Napa, California, for president-elect; Dr. Millard D. Hill, Raleigh, North Carolina, for vice-president; Dr. E. Vincent Askey, Los Angeles, California, for speaker; Dr. Louis M. Orr, Orlando, Florida, for vice-speaker; and Drs. Leonard W. Larson, Bismarck, North Dakota, and Thomas M. Murdock, Meriden, Connecticut, for trustees. The above were all elected. The only contest was for vice-president.

Present at this meeting were Drs. J. Stanley Kenney, John J. Masterson, Maurice J. Dattelbaum, Andrew A. Eggston, Leo F. Schiff, Peter J. Di Natale, A. H. Aaron, W. P. Anderton, James R. Reuling, Floyd S. Winslow, Edward P. Flood, Ezra A. Wolff, Thurman B. Givan, Gerald D. Dorman, and Charles H. Loughran. Excused were Drs. Renato J. Azzari and Carlton E. Wertz. The meeting adjourned at 9 A.M.

The resolutions introduced for our Society fared as follows:

1. A resolution establishing a scientific section on the history of medicine was introduced by Dr. J. Stanley Kenney; favorably reported by the reference committee and adopted.
2. A resolution requesting the Board of Trustees to study the possible establishment of a U.S. Hall of Fame was introduced by Dr. Charles H. Loughran; adopted after favorable report by the reference committee.
3. A resolution directing the treasurer of the American Medical Association to reimburse county and state societies for their expenses in collecting and transmitting American Medical Association dues was approved by the reference committee and referred to the Board of Trustees.

The House of Delegates adopted a minority report of the Reference Committee on Medical Education and Hospitals regarding relations between osteopathy and medicine.

It stated: "That if and when the House of Delegates of the American Osteopathic Association, their official policy-making body, may voluntarily abandon the commonly so-called 'osteopathic concept,' with proper deletion of said 'osteopathic concept' from catalogs of their colleges and may approach the Trustees of the American Medical Association with a request for further discussion of the relations of osteopathy and medicine, then the said trustees shall appoint another special committee for such discussion."

The luncheon on Tuesday, June 7, 1955, in the American Room of the Traymore Hotel, was much enjoyed by the guests and our delegation. A total of 199 buffet luncheons were served.

ANNOUNCEMENT

SCIENTIFIC EXHIBITS

1956 ANNUAL CONVENTION MEDICAL SOCIETY OF THE STATE OF NEW YORK

Applications for space for the scientific exhibits should be made directly to the Chairman of the Subcommittee on Scientific Exhibits of the Convention Committee:

William L. Watson, M.D.
340 East 72nd Street
New York 21, New York

The Annual Convention will be held May 7 to 11, 1956, at the Hotel Statler, New York City.

No applications can be considered after January 1, 1956.

There will be two groups of awards:

Group I: Awards in Group I are made for exhibits of individual investigation, which are judged on the basis of originality and excellence of presentation.

Group II: Awards in Group II are made for exhibits which do not exemplify purely experimental studies and which are judged on the basis of presentation and correlation of facts.

W. P. Anderton, M.D., *Secretary*
Medical Society of the State of New York

NECROLOGY

Emmett Alfred Dooley, M.D., of New York City, died on September 24 at his home at the age of fifty-seven. Dr. Dooley was graduated from Syracuse University College of Medicine in 1923. He was consulting skeletal surgeon at Morrisania Hospital, Bronx, and director of orthopedic and traumatic surgery at Columbus Hospital. He was a Fellow of the American College of Surgeons and a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Benjamin D. Klein, M.D., of New York City, died on September 27 at the age of fifty-eight. Dr. Klein graduated from Long Island College of Medicine in 1923.

Jacob Long, M.D., of Brooklyn, died on August 19, 1954, at the age of eighty-nine. Dr. Long graduated from New York University Medical College in 1892.

Filippo Morvillo, M.D., of Brooklyn, died on September 26 at the age of eighty. Dr. Morvillo received his medical degree from the University of Naples in 1899.

Philip Pearlstein, M.D., of Peekskill, died on October 5 at the age of seventy-five. Dr. Pearlstein graduated from University of Maryland School of Medicine in 1912.

Adam Morton Torrance, M.D., of Harpursville, died at his home on September 25 at the age of fifty-five. Dr. Torrance graduated from the University of Toronto Faculty of Medicine in 1923. He had practiced in Harpursville since 1935 where he had served also as school physician, health officer, and surgeon for the D & H Railroad. Dr. Torrance was a member of the Binghamton Academy of Medicine, the Broome County Medical Society, and the Medical Society of the State of New York.

ANNOUNCEMENTS

The following announcements concerning suspension, revocation, annullment, and cancellation of medical licenses have been received from Dr. Stiles D. Ezell, secretary, Board of Medical Examiners, University of the State of New York, State Education Department:

License Suspended.—ARTHUR LANKFORD, JR., Cambridge, Maryland: medical license number 49420, issued under date of October 6, 1949, through indorsement of his Maryland medical license, permitting him to practice medicine in the State of New York, suspended for a period of one year. The order of suspension was served by registered mail on Dr. Lankford on April 16, 1955, and his medical license, therefore, stands suspended from April 16, 1955, to April 16, 1956.

License Restored.—JOHN F. LYNCH, Elmira: medical license number 20523, issued under date of July 1, 1926, restored. The order of restoration was served on Dr. Lynch on June 10, 1955. His medical license, therefore, stands restored as of that date.

License Suspension Terminated.—CARROLL K. DAVIS, New York City: medical license number 27553, issued under date of September 22, 1932; suspension terminated on July 1, 1955. The order was served on Dr. Davis on July 5, 1955.

MEDICAL NEWS

Leukemia Society Grants—Grants in aid for leukemia research projects in the United States and England have been announced by the Leukemia Society, Inc.

Mrs. Rudolph Roesler de Villiers, president of the Society, said the awards are for direct research.

Drs. James F. Holland and Avery A. Sandberg, associate chiefs of medicine at Roswell Park Memorial Institute of Buffalo, were jointly awarded a grant to pursue their studies of the biochemical characteristics of the disease.

These, and other grants totalling $4,000, are the first of a series which the LSI has instituted since changing its name from Robert Roesler de Villiers Foundation, Inc., and these awards mark the organization's significant broadening of scope consistent with the world-wide aspects of the fatal disease.

Research Grants—A program of grants for research in hospital services and facilities has been initiated by the Public Health Service, Surgeon General Leonard A. Scheele has announced.

Grants will be awarded for research into: the needs for hospital and related services; measurement of resources to meet these needs; hospital and medical facilities planning, both in relation to community needs and resources, and to architectural and design aspects; methods of increasing the availability and effectiveness of hospital services and of improving the quality of these services, and methods by which hospital services can be improved or costs lowered through coordination on a regional or other basis. All inquiries and applications for grants in this field should be addressed to the Division of Research Grants, National Institutes of Health, Bethesda, Maryland.

Vitamin Symposium—The use of recently discovered vitamins in medicine was reported by some of the nation's leading scientists at a special two-day symposium held October 20 and 21, at Vanderbilt University, Nashville, Tennessee.

The meeting, entitled "Symposium on the Role of Some of the Newer Vitamins in Human Metabolism and Nutrition," was the twelfth in a series of semiannual scientific sessions supported by the National Vitamin Foundation and conducted in cooperation with the country's leading universities and medical schools. The National Vitamin Foundation, Inc., is a nonprofit organization which conducts a continuing program of scientific research in the fields of vitamins and nutrition.

Participants from New York State included Dr. M. Wachstein, Brooklyn; Dr. Henry Sebrell, New York City, and Dr. Karl Mason, Rochester.

International Academy of Proctology—The New York Chapter of the International Academy of Proctology met on October 4 at the Hotel Plaza in New York City. The subject of the meeting was "Problems in Coloproctology." Dr. Salvatore Trinidad, assistant pathologist at Doctors Hospital in New York City, spoke on "Problems in Pathology"; Dr. A. Z. Freudenheim, director of radiology at Good Samaritan Hospital in Suffern, spoke on "Problems in Radiology," and Dr. Lester Breidenbach, director of surgery at Beth David Hospital in New York City, spoke on "Clinical Problems."

Pan American Medical Association Forms Long Island Chapter—One hundred founder members attended the inaugural meeting of the Long Island (Queens, Nassau, and Suffolk Counties) Chapter of the Pan American Medical Association held October 2 in Southampton.

Officers elected for the chapter include: Dr. William C. T. Gaynor, Southampton, president; Dr. William Heroy, Huntington, Dr. Norman Thomas Kirk, Montauk, Dr. William George Abel, East Hampton, and Dr. Charles Buckman, Kings Park, vice-presidents, and Dr. Carmelo Cancellieri, Southampton, secretary-treasurer.

Members of the executive committee are: Dr. Eugene Doyle, New York City; Dr. John A. Northridge, Riverhead; Dr. Donald F. Currie, Shelter Island Heights; Dr. James J. Finnerty, Patchogue, and Dr. C. Nelson Baker, Flushing.

The board of council includes: Drs. Conrad Berens, Theodore J. Curphey, Juan Negrin, Jr., Joseph J. Eller, William C. T. Gaynor, Henry I. Fineberg, Edwin A. Griffin, Albert H. Douglas, Edward C. Veprovsky, Alfred A. Angrist, and Frank J. Cerniglia.

Hill-Burton Grants—The Department of Health, Education, and Welfare reports that as of August 31, 1955, the status of all Hill-Burton grants for the State of New York is: Approved, but not yet under construction: five projects at a total cost of $6,622,208, including $2,207,402 Federal contribution and designed to supply 481 additional beds.

Under construction: sixteen projects at a total cost of $49,088,018, including Federal contribution of $6,370,716 and designed to supply 1,358 additional beds.

Completed and in operation: seventy-two projects at a total cost of $73,330,211, including Federal contribution of $21,054,004 and supplying 4,003 additional beds.

Industrial Medicine Fellowships—The University of Cincinnati's Institute of Industrial Health is offering graduate fellowships in industrial medicine. The Institute, which is in the College of Medicine, provides professional training for graduates of approved medical schools who have completed at least one year of internship.

The three-year course of instruction, leading to the degree of Doctor of Science in Industrial Medicine, satisfies the requirements for certification in occupational medicine by the American Board of Preventive Medicine. Two years are devoted to intensive academic and clinical study in the field of industrial medicine. A final year is spent in residency in an industrial medical department or in some comparable organization.

Requests for additional information should be addressed to Secretary, Institute of Industrial Health, College of Medicine, Eden and Bethesda, Cincinnati 19, Ohio.

Los Angeles Midwinter Meet—The Los Angeles Midwinter Medical Convention, with headquarters at the Biltmore Hotel, will be held January 3, 4, and 5, 1956, according to Dr. Ewing L. Turner, LACMA president.

Conceived to commemorate the 85th anniversary of the Association, the convention will offer a number of innovations. Instead of the usual series of individual papers on a number of unrelated subjects, the convention program has been planned to coordinate the newest and most significant information in six major fields of medicine, Dr. Turner said.

The program is organized into sections in which prominent medical authorities and lecturers will lead panel discussions on preventive medicine, geriatrics, atomic medicine, blood and blood products, neoplastic diseases, and chemotherapy.

The midwinter convention has been planned so that doctors who so desire may combine postgraduate medical education with attendance at the annual Tournament of Roses festivities in Pasadena, including the Rose Parade and the Rose Bowl football game on January 2.

District Branch Officers—Officers of the Seventh District Branch of the Medical Society of the State of New York were elected on September 29 at that branch's annual meeting in Rochester. They are: president, Dr. Eldred J. Stevens, Hammondsport; first vice-president, Dr. Joseph A. Lane, Rochester; second vice-president, Dr. James H. Arseneau, Lyons; secretary, Dr. Robert F. Gibbs, Seneca Falls, and treasurer, Dr. Edward S. Platt, Auburn.

Doctors' Orchestras—The Doctors' Orchestral Society of New York is holding rehearsals every Thursday evening at 8:15 P.M. at Public School 33, at 9th Avenue and 26th Street. All members of the medical profession, or allied healing arts, who play an instrument, are invited to join.

The Brooklyn Doctors' Symphony Orchestra also has openings for new members. Physicians, dentists, and others engaged in allied professions, as well as nonmedical musicians, are invited to join. Rehearsals are held every Wednesday at 8:30 P.M. in the auditorium of the Brooklyn High School for Home Making, 901 Classon Avenue, Brooklyn. For further details call Miss Ethel Leitman, secretary of the orchestra, at SLocum 6-2252.

Cerebral Palsy Research—A special Research and Educational Foundation has been established by United Cerebral Palsy and a group of interested industrialists, in order to accelerate the research attack on the complex problem of cerebral palsy, it has been announced.

The United Cerebral Palsy Research and Educational Foundation, Inc., will seek to develop additional support for research into cerebral palsy, and for additional grants for the training of specialists in this field. It will seek gifts from industry, corporations, and foundations. These gifts will be added to the funds set aside for research and training by United Cerebral Palsy and its nation-wide network of affiliates, each of which allocates a percentage of contributions for the national program.

Kings County Radiological Society—The following officers were elected at the last meeting of the Kings County Radiological Society: president, Dr. L. Goldfarb; vice-president, Dr. H. Teperson; secretary, Dr. S. Maranov, and treasurer, Dr. E. Melton.

Mental Deficiency Research—The Research Department of Letchworth Village, Thiells, one of the oldest centers for the study of mental deficiency, has been recently expanded. The New York State Department of Mental Hygiene has granted additional funds, and Dr. Fred B. Goldstein, who will study abnormal metabolisms in certain types of mental deficiency, will be in charge of a section on biochemistry.

Personalities

Elected

Dr. Henry J. Noerling, Valatie, secretary of the Third District Branch of the Medical Society of the State of New York, as treasurer, at the 49th annual meeting in Hudson on September 15, succeeding the late Dr. William M. Rapp, of Catskill.

Speakers

Dr. Harold A. Abramson, assistant professor of physiology at Columbia University College of Physicians and Surgeons, and associate in medicine at Mt. Sinai Hospital, New York City, before the hospital staff of the Veterans Administration Hospital at Northport on September 22, on "The Model Psychoses produced by LSD-25 in Research and Therapy" . . . Dr. George E. Anderson, clinical professor of medicine at the State University of New York College of Medicine at New York City, before the Ontario County Medical Society on December 13 in Canandaigua, on "Diabetes: Its Modern Interpretation and Treatment" . . . Dr. Virginia Apgar, professor of anesthesiology at Columbia University College of Physicians and Surgeons, before the Ulster County Medical Society in October in Kingston, on "Resuscitation and Anesthesia Problems in the Newborn" . . . Dr. Franz J. Kallman, professor of psychiatry, Columbia University, before the hospital staff of the Veterans Administration Hospital at Northport on September 27, on "Genetic Aspects of Preadolescent and Adult Forms of Schizophrenia" . . . Dr. John H. Powers, associate surgeon at Mary Imogene Bassett Hospital in Cooperstown, before the Ontario County Medical Society on October 11 in Canandaigua, on "Farm Accidents in Central New York" . . . Dr. Nathaniel E. Reich, Brooklyn, before the New York Cardiological Society on October 13, on the program of the Kings County Surgical Society on October 25, and at the postgraduate course sponsored by the American College of Chest Physicians on November 18, on various cardiovascular problems . . . Dr. Frederick Reiss, associate clinical professor of dermatology at New York University Post-Graduate Medical School, in a symposium on Stress at the International Medical Conference in Verona, Italy, on "Stress and Psoriasis," on September 1.

Resigned

Dr. Frederick P. Becker, as pathologist at the Warren County Laboratory and Glens Falls Hospital, to accept an appointment as director of Kilmer Memorial Pathological Laboratory, Binghamton City Hospital . . . Dr. Alexander S. Dowling, as chief of professional services at Bath VA Center, to become assistant professor in the preventive medicine department of the medical school of the University of Maryland.

New Offices

Dr. John H. Ferger, general practice in Dryden, taking over the practice of Dr. John F. Dixon, Jr. . . . Dr. Richard G. Gould, practice of general surgery in Newburgh . . . Dr. James L. Harrington, practice of ophthalmology in Watertown . . . Dr. Robert L. Kemp, practice of internal medicine in Gloversville . . . Dr. James B. Loftus, practice of obstetrics and gynecology in Suffern . . . Dr. Elbert H. Loughran, practice of otolaryngology and facial plastic surgery in New York City . . . Dr. Gordon F. Marquissee, general practice in Churchville . . . Dr. Leon M. Weiss, consultant ophthalmologist to the Office of the Surgeon General of the U.S. Army and to the Department of Health of the City of New York, new office in White Plains.

Appointed

Dr. Leon C. Bernadot, St. Regis Falls, to the courtesy medical staff of the Alice Hyde Hospital in Malone . . . Dr. Paul F. de Gara, Pelham Manor, assistant professor and chief of the Pediatric Allergy Clinic at the Cornell University-New York Hospital Medical Center in New York City, as chief of the Allergy Clinic at Grasslands Hospital in Valhalla.

NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Changes—Dr. Joseph John Russo and Dr. Leonard D. Policoff have been appointed assistant professor of dermatology and associate professor of physical medicine and rehabilitation and head of the Sub-department of Physical Medicine and Rehabilitation in the Department of Medicine, and assistant professor of medicine, respectively. Members of the staff receiving promotions are: Dr. Donald W. Drew to assistant professor of medicine from instructor, and Dr. Frank C. Maxon, Jr., formerly instructor in medicine, to assistant professor of medicine and head of the Sub-department of Pulmonary Diseases.

Promoted—Dr. Edward S. Goodwin, a member of the pediatrics staff since 1929, has been promoted to full clinical professor of pediatrics. Dr. Edward R. Schlesinger has been promoted to assistant clinical professor of pediatrics; Drs. Thomas F. Riedy, Jr., Allan MacCollan, and John W. Abbuhl, from assistant to instructor in pediatrics.

Columbia University College of Physcians and Surgeons

Grant—A grant of $17,291 from the National Foundation for Infantile Paralysis has been received for the continuation of studies of an artificial respirator controlled by carbon dioxide exhaled. The project is under the direction of Dr. M. J. Frumin, assistant professor of anesthesiology.

New York Medical College

Appointed—Dr. Helen Wallace, New York City Department of Health, has been appointed professor and director, Department of Public Health and Preventive Medicine and Industrial Hygiene.

New York University—Bellevue Medical Center

Films—Motion pictures of some of the functions of the biliary tract, the pancreas, and the duodenum were shown for the first time at University Hospital on October 3. The filming of these internal organs from the outside was made possible through the use of this particular cinefluoroscope which was developed by Dr. Henry Doubilet, associate professor of surgery, Dr. Maxwell H. Poppel, professor of radiology, and Dr. John H. Mulholland, professor of surgery.

New Staff Member—Dr. Margaret H. D. Smith, formerly associate professor of microbiology at Tulane, has joined the staff as associate professor in the Department of Pediatrics.

Borden Nutrition Award—Dr. L. Emmett Holt, Jr., professor and chairman, Department of Pediatrics, received the annual Borden Nutrition Award.

New York University Post-Graduate Medical School

Short-term Courses—The following courses will be offered during the month of November: Cardiac Roentgenology, November 3 and 4, under Dr. J. Scott Butterworth; Arthritis and Allied Rheumatic Disorders, November 7 through 11, under Dr. Edward F. Hartung; X-ray Diagnosis (Department of Obstetrics and Gynecology), under Drs. Robert Berman and Arthur Weinberg, November 14 through 18; Culdoscopy, November 28 through December 2, (Department of Obstetrics and Gynecology), under Dr. Wayne H. Decker; Endaural Surgery (Department of Otorhinolaryngology), November 7 through 18, under Professor John F. Daly; Hematology (Department of Medicine), November 7 through 11, under Dr. Leo Weiner; Diabetes Mellitus, Hyperinsulinism, and Hypoglycemia, November 14 through 16, under Dr. Benjamin I. Ashe; Electrocardiography, November 14 through 18, under Dr. J. Scott Butterworth; Peripheral Vascular Diseases, November 28 through December 2, under Dr. A. Wilbur Duryee. Further information may be obtained by writing to the Office of the Dean, Post-Graduate Medical School, 550 First Avenue, New York 16, New York.

State University of New York College of Medicine at Syracuse

Grant—With the help of a $75,000 grant from the U.S. Public Health Service the Department of Behavioral Sciences under the guidance of Dr. Edward Stainbrook, professor and chairman of psychiatry, will be established at the College. The objectives of the Department during the five-year grant period are to raise this section to a departmental level, to add experimental and psychophysiologic laboratory experience for first year medical students, and to develop a psychophysiologic research ward.

Lecture—Dr. Theodore Rasmussen, professor of neurology and neurosurgery, McGill University, gave the seventh annual Richard H. Hutchings Memorial Lecture on October 3. Dr. Rasmussen, who was presented the memorial by Dr. Angelo J. Raffaele, discussed "Surgical Therapy of Focal Cerebral Seizures and Some Contributions to Cerebral Localization."

History is the essence of innumerable biographies.—Thomas Carlyle

CORRESPONDENCE

Medical Assistants

To the Editor:

Most physicians are well aware of the rising cost of living and in many cases have modified their fees by increasing the charges made for office and house calls. However, it is surprising the number of physicians who still expect girls to work in their offices at salaries ranging from as low as 35 to 40 dollars per week. This is especially significant when you consider that high school graduates today, with no specialized training whatsoever, are in great demand by industry at beginning salaries of 55 dollars or more per week.

The Telephone Company, leading department stores, and even small chain food stores are offering better salaries (with all kinds of fringe benefits) than doctors are offering their assistants who have had specialized training in addition to high school graduation.

Medical assistants who have been trained in clinical laboratory technics, x-ray, basal metabolism, electrocardiograph, and medical stenography and typing should, therefore, certainly be entitled to at least 60 dollars as beginning salary and should be advanced as their services become more valuable to the doctor.

Further, a medical assistant who is adequately paid is more likely to be conscientious and to work harder in the best interests of her physician-employer than one who is just using the job as a stepping-stone to a better position.

There are schools that train medical office assistants and really attempt to do an honest job. Unfortunately, some students who enter such schools and, for one reason or another, do not complete the course are employed by physicians when they claim they attended such schools. The doctors rarely take the time to phone the school and find out how the student acquitted herself or if she actually even attended the school. This may result in hiring a totally incompetent individual who certainly is not worth the salary given her and may react unfavorably against the school she attended, or claimed to have attended.

It is my sincere belief that the medical assistant who, after completing high school, is ambitious enough to invest time, money, and effort to meet the exacting requirements for graduation from a reputable school for medical assistants deserves an income commensurate with that investment.

James N. Bartley

105 East 19th Street
New York 3, New York

Job as a Patient

To the Editor:

Medicine is not unique in its cycles and fads; psychosomatic medicine is "all the rage" now. But to regard Job as a psychosomatic case—as does Dr. William Guy in the March issue of the *Archives of Dermatology*, as quoted in the July 1 New York State Journal of Medicine—is carrying things a bit too far!

Dr. Guy said that the reasons for Job's physical sufferings were never explained, and neither was his cure—but perhaps his spiritual experience had a soothing effect which healed him. Dr. Guy concludes that the notion that skin diseases may result from psychologic difficulties is not new and that the writers of the Bible knew about it two thousand years ago—all because one of the calamities visited on Job was a terrible skin disease.

The reason for Job's sufferings is this: One of God's messengers, the angels, was Satan (not the Satan in the usual sense of our understanding) who was like a prosecuting attorney. Doubting that Job was as righteous and faithful to God as reported, Satan was granted permission to test Job. Calamity after calamity, including the skin disease, was visited on Job.

Job never lost faith, although his friends insisted that he must have sinned. Finally, God spoke, saying than man cannot understand the mystery of suffering any more than man can understand the mysteries of Nature, of the heavens, of life itself.

The Book of Job teaches us that we must believe that God's ways are beyond human understanding—that God knows what is best. Such faith in the goodness of God brings us strength to face our calamities and sorrows and sufferings.

The reason for Job's cure is this: Throughout all his anguish he never lost his unconquerable faith in God. After God spoke, Job was satisfied and at peace. God cured Job of his skin disease as a reward for his faith and also gave him thousands of sheep, camels, and donkeys and even seven sons and three daughters.

If the disappearance of Job's skin disease was "psychosomatic," then all his material prosperity was also "psychosomatic!"

S. Albert Levitan, M.D.

492 Linwood Avenue
Buffalo 9, New York

MEDICAL MEETINGS

Westchester Chapter American Academy of General Practice

"Emergency Treatment in General Practice" is the subject of lectures to be held at Winslow Hall, White Plains Hospital, White Plains, from November 3 through December 22.

The lectures are given by the Westchester Chapter of the American Academy of General Practice in cooperation with the New York Medical College, Flower and Fifth Avenue Hospitals. They include "Care of Injuries to the Brain and Spinal Cord," "Care of Nontraumatic Neurological Emergencies," "Management of Cardiovascular Emergencies," "Management of Acute Respiratory Emergencies," "Management of Pediatric Emergencies," and "Management of Obstetric Emergencies."

For further information and registration, contact Dr. Frederick Saunders, 1 South Lawn Avenue, Elmsford, New York.

New York Cancer Society

The second meeting of the New York Cancer Society will be held on Wednesday, November 9, at 8:30 P.M. at the New York Academy of Medicine, Hosack Hall, Fifth Avenue at 103rd Street, New York City.

The topic will be "Current Concepts in the Treatment of Cancer of the Tongue." Dr. Danely P. Slaughter, director of the Tumor Clinic, Illinois Research Hospitals, in Chicago, associate attending surgeon at Presbyterian Hospital in Chicago, and associate professor of surgery at the University of Illinois College of Medicine, will speak on surgery. Sir Stanford Cade, K.B.E., C.B., F.R.C.S., F.F.R., attending surgeon at Westminster Hospital, and lecturer in surgery at Westminster Medical School, will speak on radiotherapy. All physicians and medical students are invited to attend.

Rheumatic Fever Conference

The New York Heart Association will hold an all-day conference on rheumatic fever and heart disease November 29, at the Biltmore Hotel in New York City. Dr. Arthur C. DeGraff, professor of therapeutics at New York University College of Medicine and chairman of the planning committee, will preside.

Speakers will include Dr. Maclyn McCarty, the Hospital of the Rockefeller Institute for Medical Research, New York City, on "Biologically Active Products of Group A Streptococci," and Dr. Currier McEwen, associate professor of medicine at New York University College of Medicine, on "Treatment of Rheumatic Fever and Carditis."

Association for Research in Nervous and Mental Disease

The thirty-fifth annual meeting of the Association for Research in Nervous and Mental Disease will be held on December 9 and 10 at the Hotel Roosevelt, New York City. The subject of the meeting will be "The Neurologic and Psychiatric Aspects of the Disorders of Aging."

BOOKS RECEIVED

(The following books were received during the month of August, 1955)

The Body Fluids. Basic Physiology and Practical Therapeutics. By J. Russell Elkinton, M.D., and T. S. Danowski, M.D. Octavo of 626 pages, illustrated. Baltimore, The Williams & Wilkins Company, 1955. Cloth, $10.

The Physician and the Law. By Rowland H. Long. Octavo of 284 pages. New York, Appleton-Century-Crofts, 1955. Cloth, $5.75.

Clinical Pathologic Conferences of Cook County Hospital. Vol. I. Cardiovascular-Renal Problems. Edited by Hans Popper, M.D., and Daniel S. Kushner, M.D. Octavo of 325 pages, illustrated. New York, The Blakiston Company (New York, McGraw-Hill Book Company), 1954. Cloth, $5.00.

Twenty-Third Annual Report of the Director of Syracuse Psychopathic Hospital to the Department of Mental Hygiene for the Fiscal Year Ended March 31, 1953. Octavo of 23 pages.

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A General Theory of Association. By Robert

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Bioflavonoids and the Capillary. By Gustav J. Martin, Sc.D. (biochem), and Albert Szent-Györgyi (Conference Cochairmen), W. E. Baier, B. S., G. J. Boines, M.D., C. E. Brambel, W. Burroughs, *et al.* Octavo of 100 pages, illustrated. New York, New York Academy of Sciences, 1955. Paper, $3.00. (*Annals of the New York Academy of Sciences*, V. 61, Art. 3, pp. 637–736).

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Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgement of receipt will be made in these columns and deemed sufficient notification. Selections will be based on merit and interest to our readers.

Chemotherapy of Neoplastic Disease

At present the usefulness of chemotherapy in neoplastic disease is limited to two classes of new growths: (1) the lymphomas and leukemias and (2) far advanced breast or prostatic cancer which is growing worse despite surgery and radiotherapy. Although only temporary control of these growths appears to be possible right now, this situation may improve both with respect to the time factor and the type of malignancy amenable to these agents. The agents now employed for the hemic group of malignancies are radiomimetic agents, antimetabolites, inhibitors of cellular function, and hormones.—*Henry M. Williams, M.D., Connecticut State Medical Journal, June, 1955*

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THE theme of the program of the Woman's Auxiliary to the Medical Society of the State of New York this year is "Active Leaders in the Health of the Community." In support of the medical profession the aim of the Auxiliary is to stimulate interest and guide public opinion with regard to medical care and the problems of community health.

A review of the past activities of the Auxiliary reveals that much has been accomplished, but the beginning of a new year demands the renewal of efforts. There is the ever-present threat of socialized medicine. Who but the Auxiliary is more qualified to show the public that this is not the solution? The Auxiliary, therefore, will assist in proving this through the most logical and practical channel, the media of good public relations. Abraham Lincoln said, "Public sentiment is everything. With public sentiment nothing can fail, without it nothing can succeed; consequently he who molds public sentiment goes deeper than he who enacts statutes."

Public relations start in the home and in the doctor's office. The Auxiliary recommends the Medical Society's carefully prepared booklet on the "Seven PR Pointers for Medical Personnel."

Activities which have been a part of the Auxiliary program and will be carried on are the State-wide poster contests; the promotion of increased subscriptions to *Today's Health;* cooperation with the local mental health board to help the public realize that the local mental health clinic in the community is for them; the setting up of Future Nurses Clubs for nurse recruitment; support of the American Medical Education Foundation; promotion of medical facts by TV films and radio scripts, and supplying speakers by the Speakers Service of the Medical Society of the State of New York, Mr. Thomas E. Walsh, director.

Nationally, the stressing of voluntary health plans will be done through the pamphlet "Free Health Care to Everyone—Would It Really Be Free?"

New ventures inaugurated at the Auxiliary Fall convention were: GEMS (Good Emergency Mothers Substitutes), the baby sitters project, and the National Safety Council's program "Homemakers."

Good public relations is the key to success of any program and the membership of the Auxiliary, under the guidance of the State president, Mrs. Isadore Zadek, is intensifying its efforts in assisting the members of the Medical Society of the State of New York in their drive to promote good public relations.

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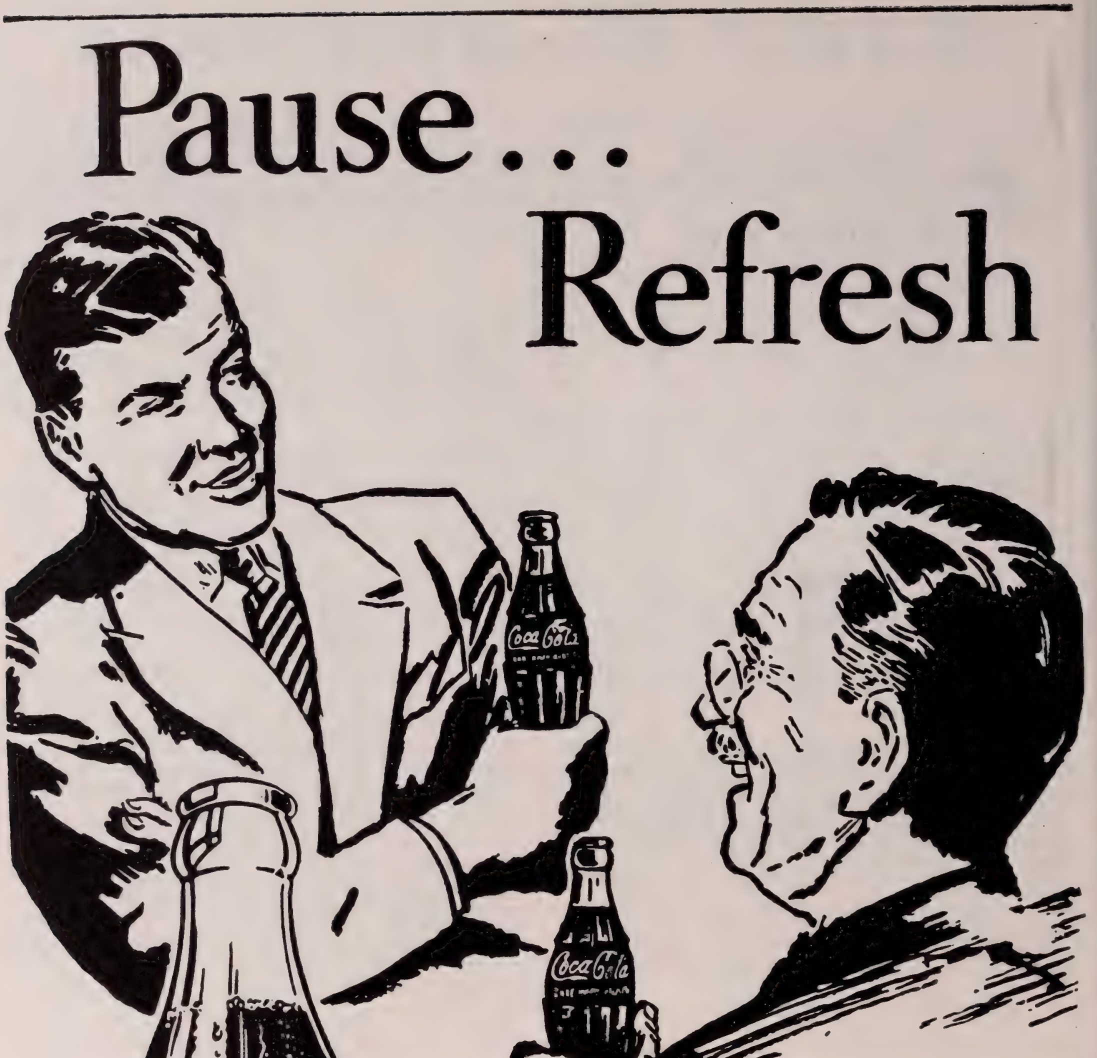
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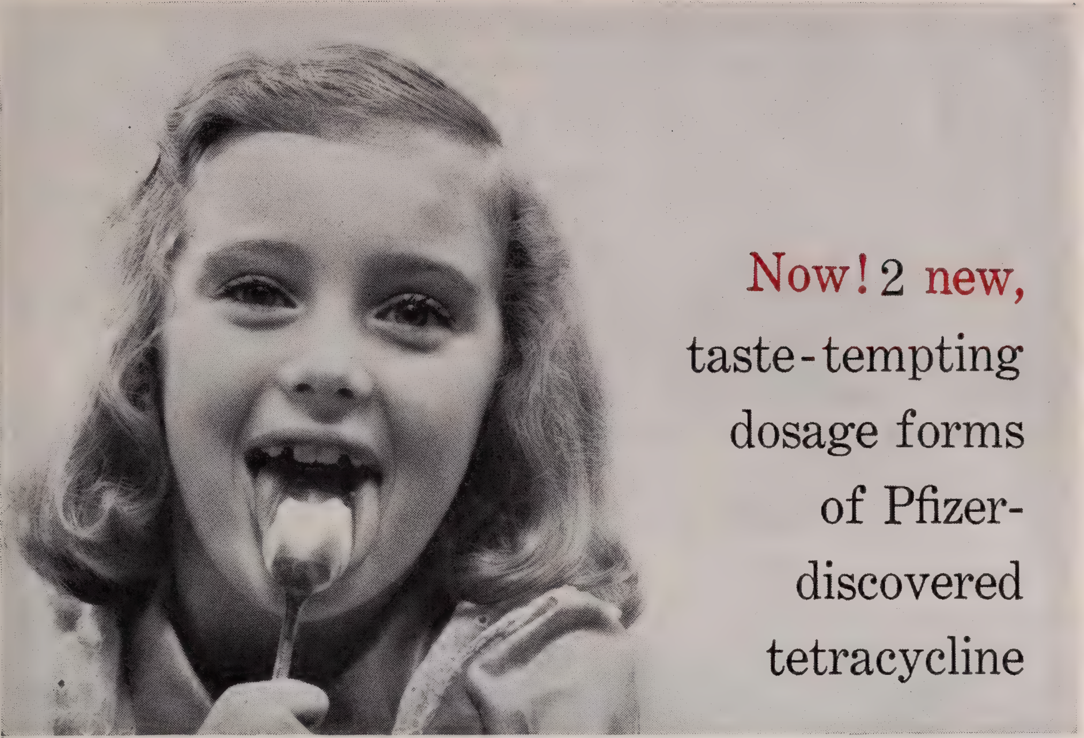

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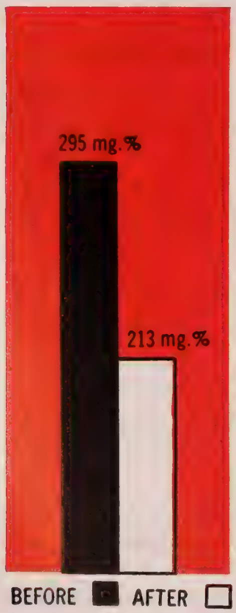

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Literature available.

1. *Albert, A., and Albert, M.: Texas State J. Med.* 50:*814 (Dec.) 1954.*
2. *Sherber, D.A., and Levites, M.M.: J.A.M.A.* 152:*682 (June 20) 1953.*

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1. McKenna, R.D.: Royal Victoria Hospital, Montreal, Canada: Personal communication.
2. Ingegno, A.P.; and Kertzner, Leonard: New York Jour. Med., 54:1185, Apr. 15, 1954.

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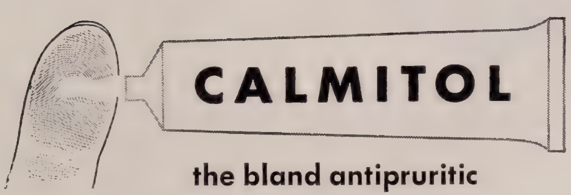

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1. Lubowe, I. I.: New York State J. Med. 50:1743, 1950.

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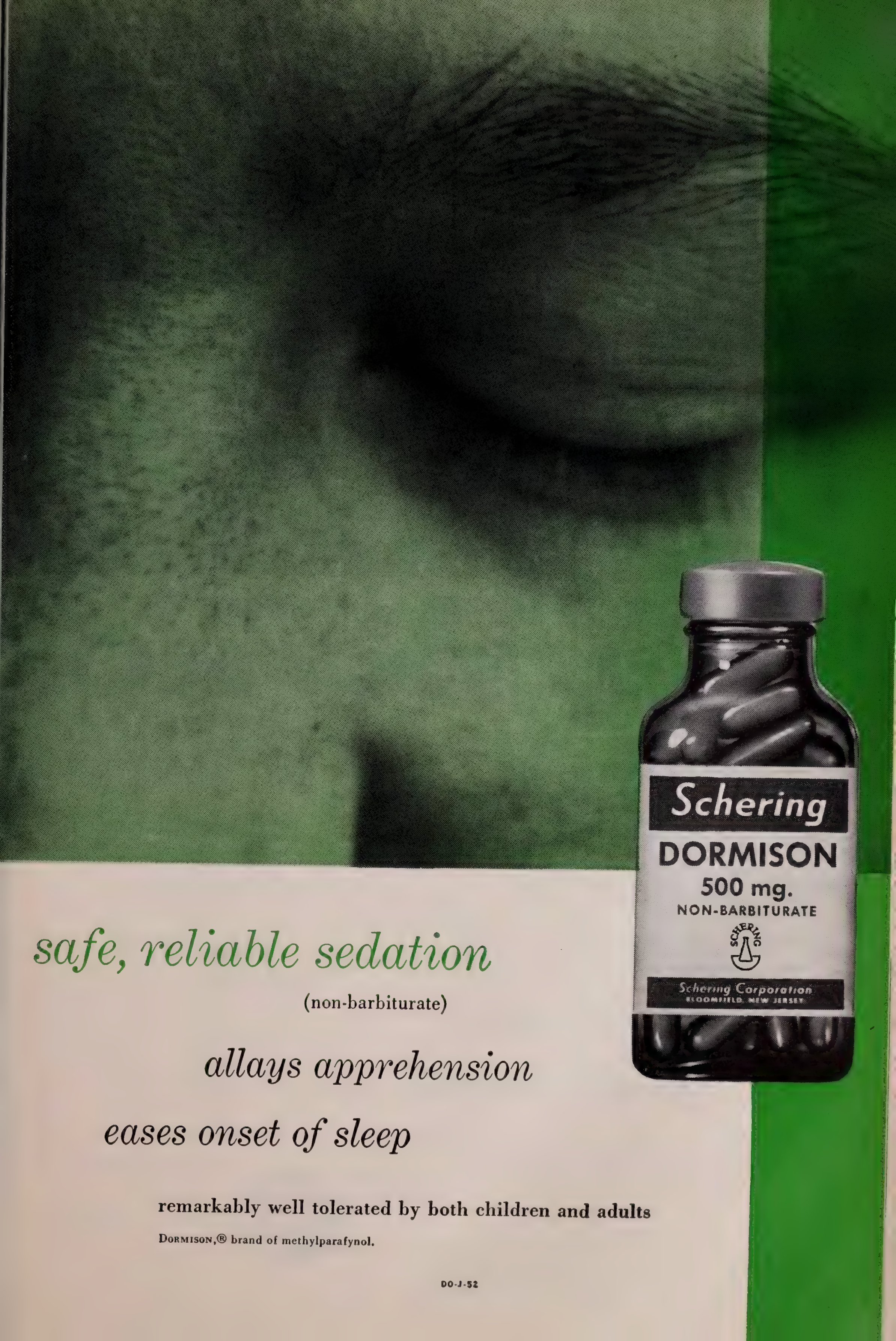
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(1) Payne, R. W.; Shetlar, M. R.; Farr, C. H.; Hellbaum, A. A., and Ishmael, W. K.: J. Lab. & Clin. Med. *45*:331, 1955. (2) Bunim, J. J.; Williams, R. R., and Black, R. L.: J. Chron. Dis. *1*:168, 1955. (3) Holbrook, W. P.: M. Clin. North America *39*:405, 1955.

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*Cohen, B. M.; Cross, E. B., and Johnson, W.: Amer. Pract. 6: 1030, July, 1955.

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Patient	Age	Daily dose Unitensen	B.P. BEFORE	B.P. AFTER	Months of treatment
A.N.	63	8 mg.	190/115	140/90	9
J.R.	55	10 mg.	205/130	170/120	4
V.E.	53	14 mg.	200/135	155/100	7½
W.B.	65	12 mg.	200/120	160/90	9
C.L.	50	8 mg.	200/130	160/100	4
R.A.	48	12 mg.	210/125	160/100	3
J.J.	57	10 mg.	210/120	170/100	7½
A.W.	66	14 mg.	200/110	170/100	3
A.H.	58	12 mg.	210/100	175/110	4½
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Riboflavin (B_2)	5 mg.
Niacinamide	15 mg.
Folic Acid	1 mg.
Pyridoxine HCl (B_6)	0.5 mg.
Ca Pantothenate	5 mg.
Choline Dihydrogen Citrate	100 mg.
Inositol	50 mg.
Ascorbic Acid (C)	50 mg.
Vitamin E (as tocopheryl acetates)	10 I. U.
Rutin	25 mg.
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Iron (as $FeSO_4$)	10 mg.
Iodine (as KI)	0.5 mg.
Calcium (as $CaHPO_4$)	145 mg.
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References: (1) Lawrence, E. D.; Doktor, D., and Sall, J.: Angiology 2:405, 1951. (2) Rottino, A.; Boller, R., and Pratt, G. H.: Angiology 1:194, 1950. (3) Boller, R.; Rottino, A., and Pratt, G. H.: Angiology 3:260, 1952. (4) Pratt, G. H.: S. Clin. North America *33*:1229, 1953. (5) Susinno, A. M., and Verdon, R. E.: J.A.M.A. *154*:239 (Jan. 16) 1954. (6) Pelner, L., and Waldman, S.: New York J. Med. 52:1774 (July 15) 1952. (7) Rottino, A.: Journal Lancet *71*:237, 1951.

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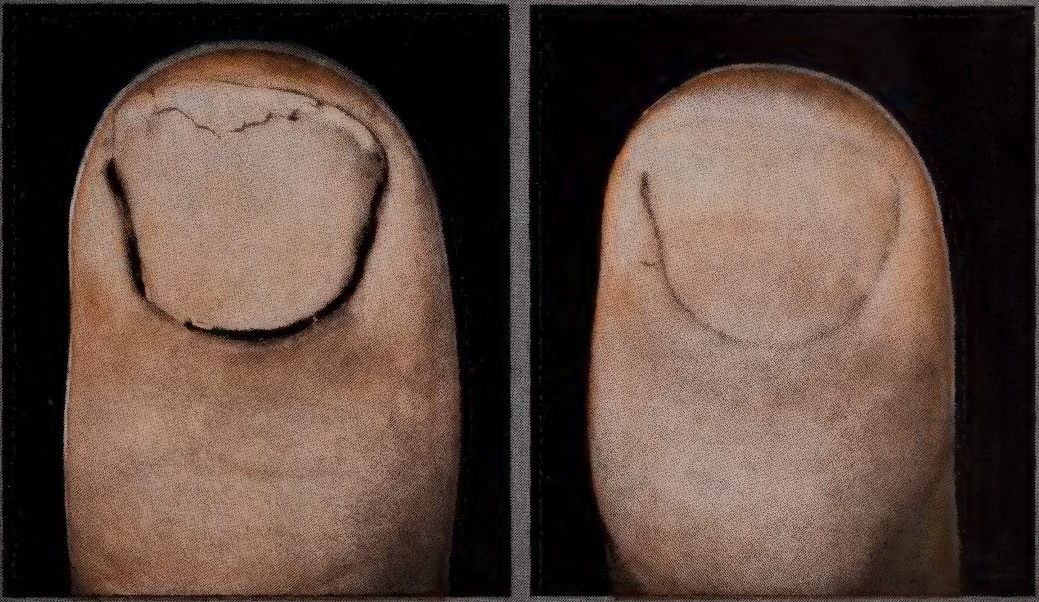

New Study Shows Gelatine Restores Brittle Fingernails to Normal

Directions for making the Knox Gelatine drink in every package

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---

1. Rosenberg, S. and Oster, K. A., "Gelatine in the Treatment of Brittle Nails," *Conn. State Med. J.* **19**:171-179, March 1955.
2. Tyson, T. L., *J. Invest. Dermat.* **14**:323, May 1950.

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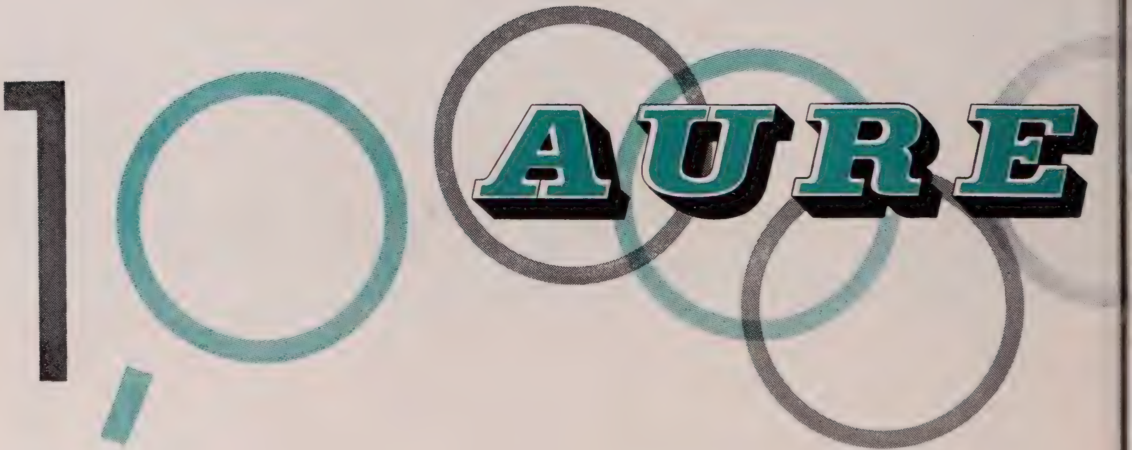

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1. Welch, H.: Personal communication

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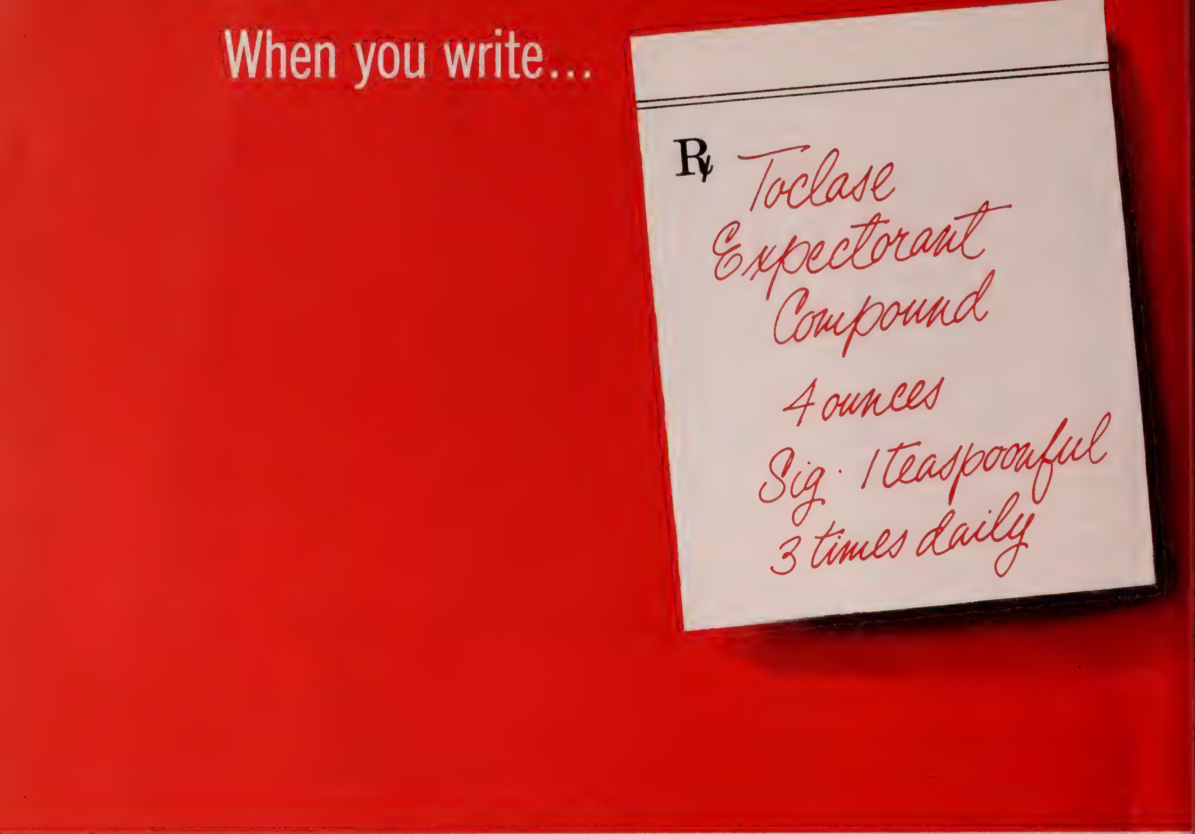

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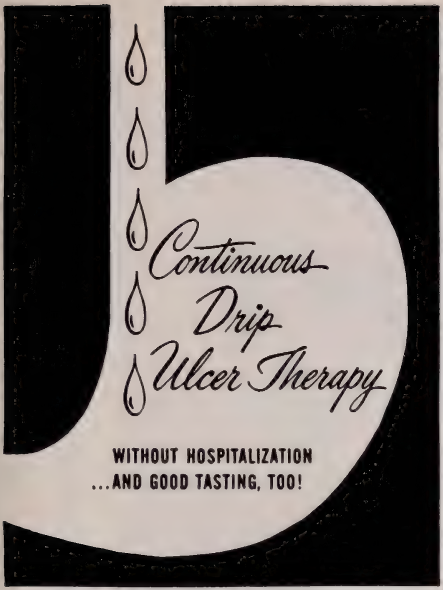

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*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. *22*:67 (Mar.) 1955.

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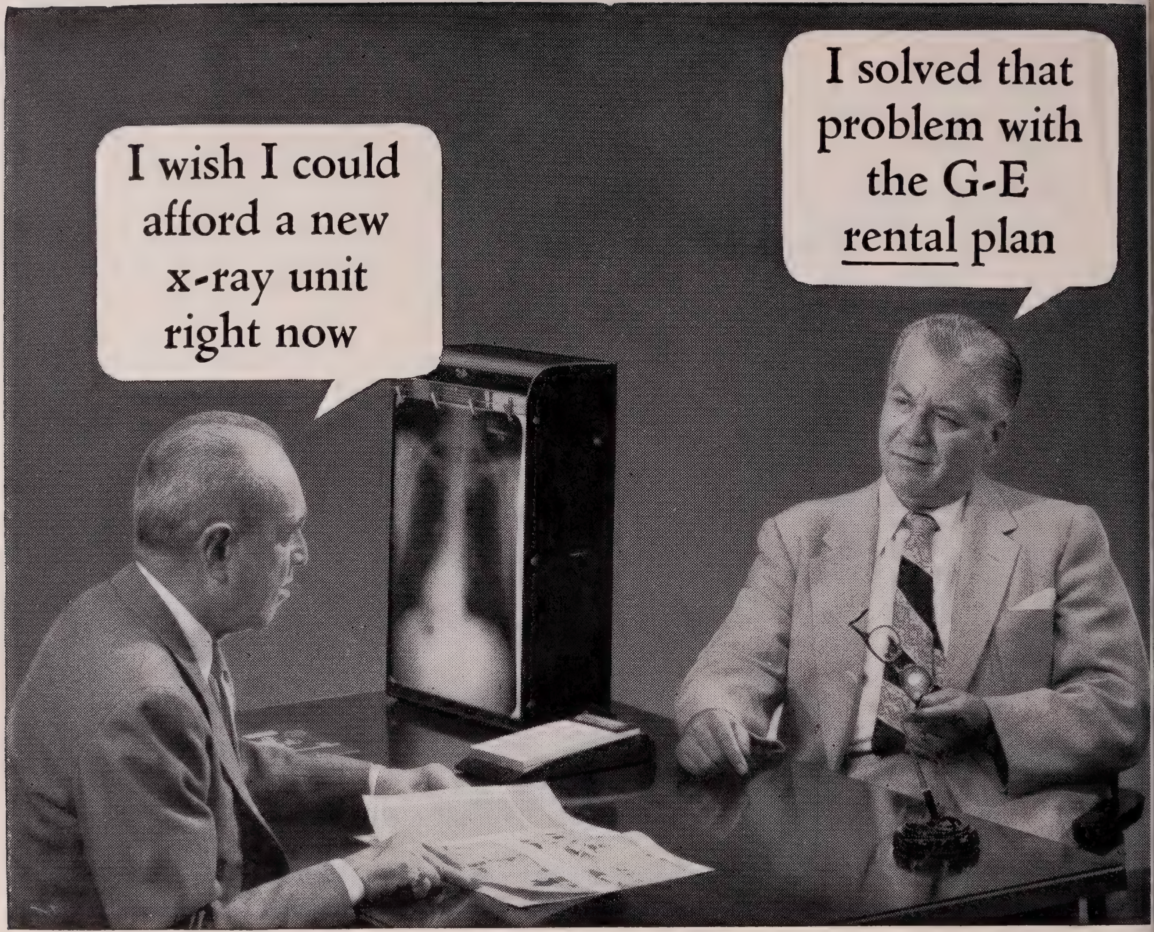
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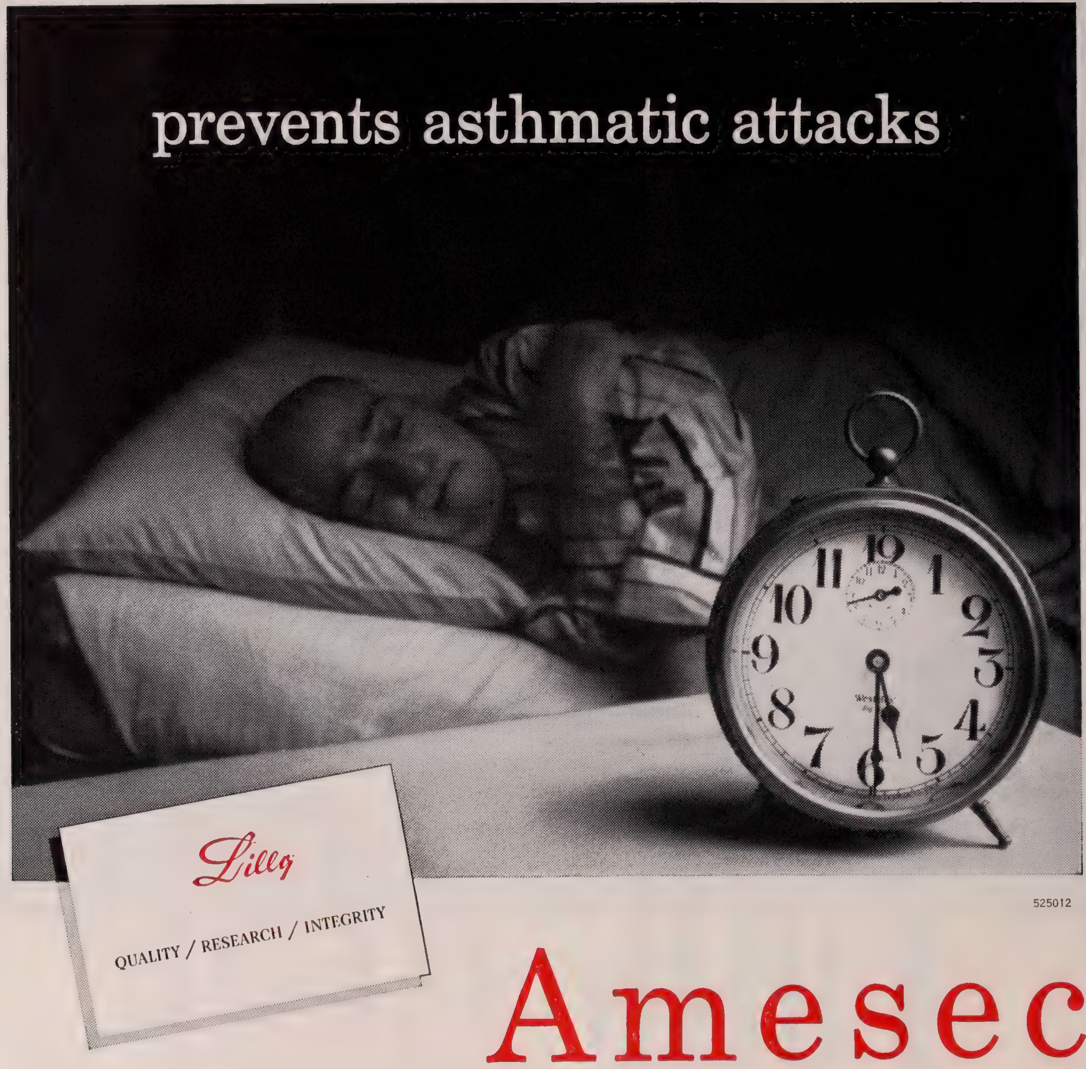
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EDITORIALS

Of This and That

In a comprehensive nation-wide poll of the doctor covering his health, his home, his family, his social activities, his community service, and his recreation, *Medical Economics*[1] analyzes the information received from some 15,000 doctors in terms of health habits, present physical condition, the kind of medical care he gets, and practice-connected health problems. This seems to us a useful enquiry in a sadly neglected field, and we commend the study to our readers for their thoughtful consideration.

We are not so naive as to think that much can be done about the health of doctors—still it is interesting to read about the several categories of their neglect of themselves. And since doctors with regard to their own health "break every rule in the book" according to *Medical Economics*, it is enlightening to read also a few recent facts about their estates.

New York Medicine[2] has this to say:

> A recent study made by the Hartford County (Connecticut) Medical Society of 144 obituaries of local physicians and probate court cases involving their estates reveals some illuminating—and startling—facts which should make any physician do a bit of checking on his

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[1] Medical Economics 32: 109 (Sept.) 1955.

[2] New York Medicine 11: 665 (Sept. 20) 1955.

own financial status and on just how fair he is being to his own health.

The study revealed the following, according to an article in the Hartford *Times*, abstracted by the New England Mutual Life Insurance Company's official bulletin, *The Pilot's Log:*

One out of eight of the physicians who died between 1940 and 1953 was in debt at the time of death.

Of the 144 doctor estates studied, one out of three. . .left net assets of less than $10,000.

The Hartford survey disclosed only one extremely wealthy doctor out of the 144, and $575,915 of his estate was consumed by estate taxes and other settlement expenses.

Only one doctor in eight survived his wife!

The doctors aged forty and fifty died twice as fast as the general population, and in the sixty to seventy-year bracket the doctors' death rate was 50 per cent higher than the insurance table.

Heart diseases and cerebral hemorrhage were the chief causes of death.

Expenses of settlement of the estates studied ranged from a minimum of 13 per cent to as much as one third.

The age at death of the physicians when compared with life insurance mortality tables showed that there were two vulnerable age periods for medical men—forty to fifty and sixty to seventy.

One out of three physicians left no will.

This last item seems to be one that could at least be rectified no matter what the doctor's disinclination may be to let his health take care of itself. This is one instance, seemingly, that runs counter to the New Testament: "Take therefore no thought for the morrow; for the morrow shall take thought for the things of itself. . ."

Treatment of Acute Coronary Occlusion

Under the above title Drs. Arthur M. Master and Harry L. Jaffe present a comprehensive and practical paper on page 3239 of this issue of the JOURNAL. The treatment of acute coronary occlusion has become a matter of great public interest in the recent past because of the illness of the Chief Executive.

This subject has been and continues to be of vital importance and a subject of intensive research by the medical profession. Much has been learned as to methods of management, and this has been ably summed up in the paper to which the attention of our readers is called.

We hope that the membership will accord this article the attention and careful reading we feel it deserves.

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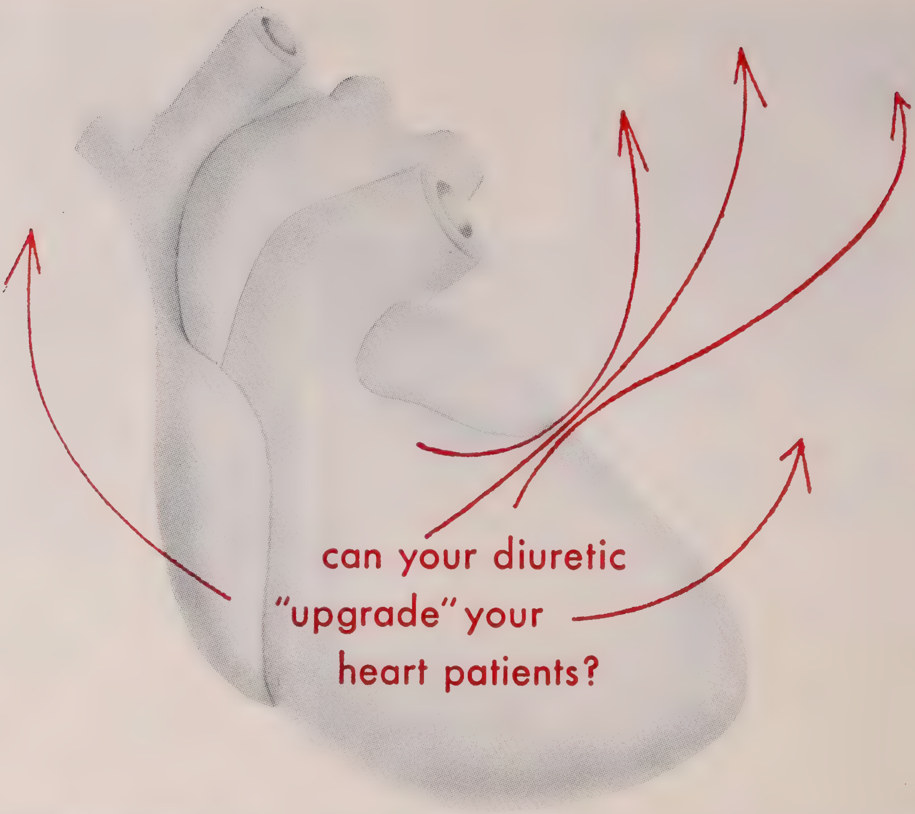

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SCIENTIFIC ARTICLES

Treatment of Acute Coronary Occlusion

ARTHUR M. MASTER, M.D., AND HARRY L. JAFFE, M.D., NEW YORK CITY

(From the Cardiographic Laboratory, Mount Sinai Hospital)

During the past thirty years the diagnosis of acute coronary occlusion has been greatly facilitated, and its treatment has been greatly improved. The diagnosis has been improved by the routine use of 12 electrocardiographic leads and by the recognition of atypical symptoms. Numerous mild cases have thereby been discovered, and a broader understanding of the disease has been reached. It should be emphasized that at the onset of the attack, possibly because the artery has not yet been completely occluded, the electrocardiogram may be normal or may show only slight changes. At this time RS-T depression may occur, as in coronary insufficiency, instead of the expected RS-T elevation.[1] The RS-T elevation may not appear for hours and the Q waves only later, at the end of one to two days. The treatment of the disease has been improved by several major therapeutic advances. These include oxygen therapy, a low-calorie diet,[2,3] the judicious use of digitalis and quinidine, the avoidance of such drugs as adrenalin, nitroglycerin, camphor, and strychnine, and the employment of anticoagulants.[4,5] Recently Levine has advocated the chair treatment of coronary occlusion.[6]

In 1935 the mortality rate in our private patients during the first attack was 10 per cent.[2,3] Today it is less than 5 per cent among such patients and is only 15 to 20 per cent during all attacks among ward patients.

Pain

The intensity of the pain which ushers in the attack is not an accurate gauge of the severity of the attack. Not infrequently a coronary occlusion which begins with very severe pain runs a remarkably smooth course after the pain has eased. It is essential to relieve the pain as soon as possible. The most effective drug for this purpose is morphine; if the pain is intense, morphine should be given intravenously in a dose of 8 or 10 mg. In most cases with less severe pain the subcutaneous administration of morphine, as well as of Demerol, Dilaudid, or Pantopon, is effective. In our experience, however, Demerol is much less efficacious than morphine. In very rare cases intravenous Sodium Amytal may give at least temporary relief. Oxygen and aminophylline (by vein or suppository) may be used but only rarely are efficacious in relieving the pain.

Nitroglycerin does not relieve the pain of acute coronary occlusion but is very effective in status anginosus, which represents a state of acute coronary insufficiency. It is distinguished from coronary occlusion by the finding of RS-T depression and/or T-wave inversion in the electrocardiogram. Reassurance, the free use of nitroglycerin, and the administration of a narcotic, such as Dilaudid (1.5 to 2.5 mg.) three or four times a day, during a period of status anginosus often cause the pain to subside gradually, and the patient may be asymptomatic for a long period. In other instances, however, status anginosus represents a premonitory phase of coronary occlusion. When the occlusion is complete, nitroglycerin no longer is effective and, indeed, is dangerous. Thus, nitroglycerin may be used not only therapeutically but also diagnostically. The estimation of transaminase activity in the serum appears to be a reliable test of significant infarction at the onset.

Hospital Versus Home Care

As soon as the pain has been relieved, the ad-

Presented at the Atlanta Graduate Medical Assembly, Atlanta, Georgia, February 23, 1955.

visability of hospitalization should be considered. If conditions at home are satisfactory, the vast majority of patients can be treated at home, particularly since most attacks run a mild course following the initial pain. However, if the patient's condition is serious, if the home environment is unsuitable, and if nurses are not available, the patient may be removed to the hospital immediately by ambulance.

At the onset of the attack, the patient is usually apprehensive. He may even be terrified, for like many others he may believe that the development of a coronary occlusion spells the end of things physically, sexually, socially, and financially. Therefore, it is important to allay his fears at the first feasible opportunity by assuring him that the vast majority of patients make a good recovery and can resume a full, productive life.

Anticoagulants

Less than ten years ago anticoagulants were introduced in the treatment of coronary occlusion. Their use soon became routine unless a specific contraindication was present. Early reports indicated that a significant diminution in embolic complications and a lower mortality rate resulted therefrom.[5,7–10] Great credit is due these early workers, Wright and others, for anticoagulants have been of great value in patients seriously ill with coronary thrombosis. During the past few years, however, several authors have questioned the value of anticoagulants in coronary occlusion[11] or have suggested that they were unnecessary in mild attacks.[12,13] Russek and his coworkers[12] found the mortality rate in good risk patients to be only 3.1 per cent and the incidence of embolic phenomena to be only 0.8 per cent. They reasoned therefrom that the use of anticoagulants can, at best, decrease the mortality rate only 1 per cent and that such a possible improvement is scarcely worth seeking in view of the danger of hemorrhage. On the other hand, it has been suggested that all patients should receive the benefit of anticoagulant drugs since the apparently mild case may develop embolic phenomena or may suddenly develop congestive failure or shock. In view of the infrequency of these complications in mild cases, however, this does not appear to be a wise course to follow. We have found that in the vast majority of attacks which are considered mild during the first day or two, this judgment proves to be correct. If there is any question in the physician's mind at first, anticoagulants may be administered for a day or two and then discontinued if the patient's course proves satisfactory. Naturally, should an indication for anticoagulant therapy arise at any time, it should be instituted immediately.

As the period of strict bed rest in the treatment of coronary occlusion has been gradually shortened, not only in the mild but also in the more severe cases, the indication for anticoagulant therapy has further diminished since the major effect of anticoagulants is to reduce the incidence of phlebothrombosis and early ambulation achieves the same end. In order to avoid phlebothrombosis the patient should be urged to move his toes and legs and to take deep breaths early in the attack. Massage of the legs and the use of elastic stockings are beneficial.[14]

Anticoagulant drugs are indicated (1) when congestive failure or shock is present, (2) if there is evidence of or a history of phlebitis, (3) after a pulmonary embolus or infarction, and (4) following peripheral arterial embolism, with the exception of cerebral embolism. The age of the patient is not a factor in anticoagulant therapy; old age is not a contraindication to the use of anticoagulants. This is also true of pulmonary edema, even if the sputum contains considerable blood.

Whether to use anticoagulants during the premonitory stage of acute coronary occlusion remains a moot question.[1,15,16] Although some success has been claimed for them in preventing the completion of the occlusion,[16] the data reported thus far appear insufficient and inadequately controlled. Our own results seem to indicate that anticoagulants neither prevent nor hasten the onset of coronary occlusion. At present apparently no known treatment will prevent an impending attack.[17] The premonitory stage of coronary occlusion cannot be differentiated from acute coronary insufficiency, and since the majority of attacks of coronary insufficiency subside spontaneously, the efficacy of anticoagulants in the premonitory stage of occlusion is necessarily difficult to evaluate for there is no way of knowing whether the drugs prevented the completion of an impending occlusion or whether no occlusion was impending.

If anticoagulants are employed in acute coronary occlusion, it is wise to give 50 to 75 mg. of heparin intravenously every four to six hours for the first day or two or 200 mg. of Depoheparin every twelve hours intramuscularly. Oral therapy with Dicumarol, Tromexan,[9,10] or Hedulin is instituted simultaneously since their effect are not manifest for one to three days. The initial dose of Dicumarol is 300 mg. followed by 100 to 200 mg. the second day and smaller daily doses thereafter depending on the prothrombin time. The effect of Tromexan is apparent in eighteen to twenty-four hours, but the individual reaction and daily dose are more variable than with Dicumarol. The dose is five or six times that of Dicumarol. Hedulin also acts more rapidly than Dicumarol. The initial dose is 200 to 300 mg. and the maintenance dose 50 to 100 mg. Final evaluation of this drug is not yet possible.

It is scarcely necessary to emphasize the extreme importance of careful supervision during anticoagulant therapy, for hemorrhage and even death may occur. While the response of most patients to anticoagulants is as expected, that of others is entirely unpredictable. An initial 300-mg. dose of Dicumarol has in some cases prolonged the prothrombin time to dangerous levels, either within a day or two or only after three or four days. Occasionally, bleeding occurs when the prothrombin is well within therapeutic levels, i.e., 40 to 50 per cent of the control. Evidence of bleeding should be looked for in the urine, in the skin, and elsewhere. Hemorrhage may occur into serous cavities, including the pericardium.[18] If bleeding occurs, vitamin K_1 oxide (50 to 100 mg.) intravenously will return the prothrombin time to safer levels within several hours. In the event of serious bleeding the transfusion of fresh blood or plasma alone is effective.

When anticoagulants are administered, they should be continued for approximately one week after the patient has been permitted out of bed and longer if there has been evidence of peripheral phlebitis or pulmonary infarction. Long-term anticoagulant therapy has been employed for months or years following an attack, but the value of this procedure has not been demonstrated as yet.

Anticoagulants are contraindicated in nonspecific pericarditis since they are apt to cause bleeding into the pericardium in this condition. For this reason it is essential to differentiate nonspecific pericarditis from coronary occlusion. This can usually be done by means of the electrocardiogram; while ST elevations occur in both diseases, Q waves are absent in pericarditis and usually are present in coronary occlusion. It has even been suggested from experience in one or two cases that anticoagulants should not be employed in coronary occlusion when a definite pericardial friction rub is present. We doubt the wisdom of this course. Anticoagulants are contraindicated in patients with a history of bleeding tendency, ulcerative colitis, peptic ulcer, renal or hepatic disease, and probably in those who have had a cerebrovascular accident.

Length of Bed Rest

When acute coronary occlusion first became widely recognized and its diagnosis was commonly established, complete and prolonged bed rest was the cardinal principle in therapy, although only scant data substantiated the need for such treatment.[19,20] In the 1920's and 1930's it was generally believed that it took at least six weeks for a scar to form in the infarcted area and that, therefore, the patient should remain in bed for that period. However, in the early 1940's many physicians, including ourselves, questioned the need for so long a period of bed rest and shortened it for various empiric reasons:

1. "Silent" coronary occlusions were discovered in many patients whose electrocardiograms were typical of a previous coronary occlusion, yet who gave no history of previous attack. Furthermore, although they had had no bed rest, their cardiac function was good, and no evidence of aneurysm of the left ventricle was found.
2. Patients with known acute coronary occlusion who refused to stay in bed or insisted, openly or surreptitiously, on going to the bathroom from the first day also showed no harmful effects of their activity.
3. Many patients whose course during the coronary occlusion was mild developed great anxiety and other psychologic tensions because of the prolonged rest in bed. This merely aggravated an otherwise mild illness and occasionally produced a prolonged psychoneurosis. For these reasons patients with mild attacks were often permitted to use a commode after the first two to three days and to sit in a chair after two to three weeks.

Great credit is due Levine,[6,21–23] Dock,[24] and Harrison[25,26] for pointing out that prolonged bed rest in acute coronary occlusion and in heart failure is often unnecessary and, indeed, may be harmful. It has been shown that recumbency tends to increase cardiac work by increasing the circulating blood volume.[27,28] In addition to the anxiety and depression it may produce, prolonged bed rest leads to generalized loss of muscular and vascular tone, causes constipation and distention, and predisposes to venous thrombosis. Conversely, chair treatment reduces these ill effects and lessens the need for prolonged anticoagulant therapy.

While many physicians now permit patients whose disease runs a mild course to sit in a chair after a shorter interval than before, Levine[6] advocates the armchair treatment for all cases of acute coronary thrombosis from the onset of the attack and particularly for patients with definite congestive failure. The patient is lifted or helped into a chair, remaining there as long as tolerated, and then is lifted or helped back into bed. Levine has reported patients with severe left ventricular failure who did not respond to treatment as long as they were kept in bed but who improved when they were placed in a chair. Recent favorable confirmatory reports on the chair method of treatment have appeared.[29,30]

It seems to us that the most important principle in the therapy of coronary thrombosis is to *treat each patient individually*. The physical and psychologic state of each patient should determine how he can best be treated. The patient suffering from a mild attack may be treated quite liberally with every expectation of a good recovery. If such a patient is unable to use a bedpan, it may be desirable to permit him to use a bedside commode and to sit in a chair from the very start. Or, he may be kept in bed for one week and then be permitted to sit up in a chair. During the period of bed rest the patient should be given a small enema every second or third day. Such a short stay in bed does not engender any of the harmful sequelae of prolonged bed rest. In mild attacks our own inclination is to keep the patient in bed approximately a week unless we think that earlier chair treatment is necessary to raise morale.

Patients who are more seriously ill (congestive failure, tachycardia, a systolic blood pressure below 80, or actually a state of shock) should be kept in bed until the usual therapeutic measures have been tried. Efforts should be made to approximate the sitting position by using a hospital-type of bed or by placing 9-inch blocks under the headposts. If a patient fails to improve in spite of these procedures, he may be placed in a chair. There should not be too long a delay before chair treatment is instituted in these cases. Much controlled experience is necessary to determine the efficacy of the "armchair" treatment. But indiscriminate prolonged bed rest for all patients appears inadvisable.[31]

Ambulation and Return to Work

When the patient is permitted to walk about depends to some extent on when he sat up. In very mild cases we allow walking at the end of the second week or at the beginning of the third; usually the patient begins to walk in the fourth week. Such patients may be ready to return to work within two or three months.[2,32–34] In the more severe cases rehabilitation is slower, but many of these patients also can resume work in three to six months. Treatment must be individualized. We have found that four of every five patients are able to resume work following coronary occlusion and can lead productive lives for many years.[2,32–34]

We do not depend on the electrocardiogram as a criterion for determining the progress of the patient or for deciding when he may sit up, begin to walk, or return to work.[35] If his clinical course is satisfactory, the patient may get up and walk, even though the electrocardiogram shows marked alterations. Nor do we always wait for the electrocardiogram to become stable. If the electrocardiogram returns to normal, the outlook is usually excellent, but the patient may also do very well during and after the attack even if the electrocardiogram is markedly abnormal or shows the changes of ventricular aneurysm, i.e., large Q waves, persistent ST elevation, and deeply inverted T waves.[34]

Nor do we place too much reliance on the sedimentation time as a guiding factor in treatment. We have observed patients who were running a severe course of acute coronary occlusion with little elevation of the sedimentation rate and, on the other hand, patients with very high sedimentation rates whose courses were mild. A woman of sixty-three, for example, became asymptomatic and afebrile several days after the onset of the attack. Her first sedimentation rate was elevated to 95. After four weeks it was still 88, although she was ambulatory and felt well. We do not prolong the period of bed rest because of an elevated sedimentation rate if the patient is doing well clinically. In some patients the sedimentation rate remains increased to 40 or 50 mm. for many months or even years following an occlusion, long after they have resumed working. The determination of the C-reactive protein may prove more useful than the sedimentation rate.

A normal ballistocardiogram in coronary occlusion usually indicates a good recovery, but the patient may be doing very well even when the ballistocardiogram is definitely abnormal. Of course, in people over fifty the ballistocardiogram may be abnormal in the absence of heart disease.

Heart Failure

Not uncommonly, coronary occlusion sets in dramatically as an attack of pulmonary edema. The treatment of this condition is the same as though coronary occlusion were not present. Morphine intravenously or intramuscularly is usually efficacious, but intravenous aminophylline and strophanthin may be necessary. Aminophylline must be administered very slowly, the dose being 0.5 Gm. The initial dose of strophanthin K is 0.25 mg. Injection of 0.1 mg. may be repeated every hour until 1 mg. has been given in twenty-four hours. Oxygen under positive pressure, rotating tourniquets or phlebotomy if shock is not present, and an intravenous mercurial diuretic may be helpful. Occasionally, the inhalation of alcohol vapor has been found to be effective.[36] In patients with pulmonary edema, anticoagulant therapy should be instituted even if the sputum is bloody.

In the persistent type of congestive failure in coronary occlusion, the usual treatment is given. However, particular care is required to avoid digitalis intoxication which is more dangerous in the presence of acute infarction. It is possible that the infarcted myocardium is more irritable and more sensitive to digitalis, for many of the attacks of ventricular tachycardia encountered in coronary occlusion have followed the administration of digitalis. Aged patients are more sensitive to digitalis than the young, often requiring half the average dose or less. The earliest symptoms of digitalis overdosage are usually weakness, anorexia, and abdominal pain. These appear before nausea, vomiting, and diarrhea occur. Premature beats and any other type of arrhythmia may develop. Potassium is the most effective antidote for this condition. A convenient method of administering it is in a liquid oral preparation, such as Potassium Triplex, but it may have to be given intravenously.

In addition to the use of digitalis the salt intake should be restricted and mercurial diuretics given. If the degree of failure is not severe, an oral diuretic such as Neohydrin or Diamox is often beneficial. Two or three tablets of Neohydrin are given daily. The dose of Diamox is one tablet (250 mg.) daily four or five times a week.

Shock

Mild transitory states of shock are very common at the onset of coronary occlusion. Sometimes the shock is profound and persistent. In the past this has augured a fatal outcome in 80 to 90 per cent of the cases. However, several vasopressor drugs are now available and are occasionally effective if used early.[37–40] Among them are (1) norepinephrine (Levophed), (2) mephentermine (Wyamine), (3) methoxamine (Vasoxyl), and (4) Neo-Synephrine. Recently Aramine has been studied in normal subjects.[41]

Norepinephrine must be given intravenously. The initial dose is 4 mg. per L. of 5 per cent glucose in water. This may be increased to 8, 16, or even 32 mg. if necessary until the systolic blood pressure rises to 100 to 110. The advantages of norepinephrine are the ability to regulate the height of the blood pressure by varying the dose and the speed of injection, the rapid disappearance of its effect, and the absence of undesirable side-actions, such as myocardial stimulation. During its use the blood pressure should be recorded frequently, not only to determine whether the dose is adequate, but also to avoid an excessive rise in blood pressure. If congestive failure is present, the amount of intravenous fluid administered with the Levophed should not be excessive. The dose of mephentermine (Wyamine) is 15 to 30 mg. given intravenously or intramuscularly, and repeated as often as indicated. The dose of methoxamine (Vasoxyl) is 20 mg. intravenously or intramuscularly. The dose of Neo-Synephrine is 1 mg. intravenously or 5 to 10 mg. intramuscularly. The sooner the vasopressor drugs are employed, the better is the outlook. Unfortunately, however, even if the blood pressure is raised, only some of the patients recover.

The use of ordinary plasma and blood infusion or of intra-arterial transfusion has not proved effective in shock following coronary occlusion.[42,43] When there is an element of congestive failure associated with shock, intravenous strophanthin or other digitalis preparations may be effective. In the absence of failure, digitalis may be harmful in shock and should be avoided.

Arrhythmias

All types of arrhythmias are common in coronary occlusion. We do not use quinidine routinely to prevent them. Premature beats, atrial and nodal tachycardia, and atrial fibrillation and flutter are often transitory. If they do not remit quickly or if any degree of shock or heart failure is present, treatment is indicated. For frequent premature beats quinidine or Pronestyl is given. Atrial or nodal tachycardia often responds to carotid sinus or eyeball pressure; if it does not, 0.5 mg. of Neo-Synephrine, may be administered intravenously, particularly if the blood pressure is low. If Neo-Synephrine is not effective, digitalis is given parenterally or orally. If necessary, quinidine or Pronestyl may be given orally or intramuscularly.

Ventricular tachycardia should be treated promptly with either quinidine or Pronestyl, administered orally or intramuscularly. If these drugs are ineffective by these routes, Pronestyl may be given intravenously, if well diluted and injected slowly. Since intravenous Pronestyl is apt to cause a considerable drop in blood pressure, Levophed may be administered simultaneously to maintain the blood pressure or Neo-Synephrine given as soon as indicated.

Auriculoventricular block occurs not infrequently when the right coronary artery is occluded and the diaphragmatic surface of the left ventricle is infarcted. Partial block usually requires no treatment, but atropine may abolish it. Complete auriculoventricular block was at one time considered a very ominous finding, but our recent experience has been much more favorable. The danger of complete block lies in the development of Stokes-Adams seizures which may result from asystole or ventricular fibrillation, or both. When the seizures are caused by asystole, adrenalin is administered subcutaneously or, if necessary, intravenously in very small doses. Sublingual Isuprel, 10 mg., may also relieve the attack. Recently, Zoll[44] has devised a machine called the "Pacemaker" for external electric stimulation of the heart in cases of asystole. He has reported good results from its use. If the Stokes-Adams attacks are caused by ventricular fibrillation, Isuprel should be employed; quinidine and Pronestyl are contraindicated since they may completely depress the ventricle. If asystole and ventricular fibrillation alternate in the same patient, Isuprel and the "Pacemaker" should be used. In recurrent Stokes-Adams attacks secondary to complete heart block, adrenalin or Isuprel may be repeated as often as necessary, and the "Pacemaker" may be applied for long periods.[44]

Other Therapeutic Measures

DIET.—The low-calorie diet has greatly improved the outlook during the attack of coronary occlusion.[1,2] It decreases the work of the heart and prevents gastrocardiac reflexes. During the first few days or weeks 800 to 1,200 calories daily suffice. Thereafter, the intake may be gradually increased.

NAUSEA AND VOMITING.—These symptoms are often very disturbing and may be serious. They may be prevented by abstinence from fruit juices, cold milk, and spicy foods. Dramamine (50 mg.), Thorazine (10 or 25 mg.), or Marezine (25 to 50 mg.) given orally, intramuscularly, or by suppository is the most effective treatment. Sips of charged water and ginger ale may also be helpful. Fluids by mouth should be restricted and solids given. Since nausea and vomiting may be caused by digitalis, morphine, aminophylline, ammonium chloride, or quinidine, these drugs should be temporarily discontinued. If the nausea and vomiting persist, however, administration of the drugs may be resumed since congestive failure alone may cause nausea and vomiting, which may disappear only after further digitalization.

Particularly if the patient has received much morphine, severe constipation and distention may set in. A cathartic should be given at night and an enema in the morning if necessary. The patient must be warned not to strain at stool. In the presence of distention fruit juices and cold milk should be avoided. Intramuscular prostigmine may be required.

HICCOUGH.—Hiccough is usually frightening to the patient, and it is extremely important to reassure him over and over again. If this is done, the hiccough almost always subsides. If it persists, various remedial procedures may be employed, all of which have proved successful at some time: rebreathing into a paper bag; Carbogen (5 or 7 per cent carbon dioxide and oxygen inhalations); quinidine intramuscularly; Thorazine, niacin, or atropine intravenously; inhalation of amyl nitrite; ethyl chloride spray along the diaphragm; ether anesthesia or ether intramuscularly; gastric lavage, and stellate ganglion block. In rare cases unilateral phrenicectomy or phrenic nerve crush is required.

Penicillin.—We administer this drug if pulmonary congestion or other signs of congestive failure are present or if the temperature is elevated, i.e., above 102 F.

Alcohol and Tobacco.—Whiskey should not be given in acute coronary occlusion since it may increase the pulse rate. Smoking should be prohibited.

Cortisone and ACTH.—Although these hormones have sometimes been found helpful experimentally, they are of no value clinically and may even be dangerous.

Summary

The diagnosis of acute coronary occlusion has been facilitated and its treatment improved.

At the onset of the attack the electrocardiogram may be normal or show only slight changes.

The major therapeutic advances include oxygen administration, a low-calorie diet, the judicious use of digitalis and quinidine, the avoidance of such drugs as adrenalin and nitroglycerin, and the employment of anticoagulant and pressor drugs. Therapy must be individualized, particularly in reference to the time when chair treatment is begun, the time of ambulation, and the time for returning to work.

The majority of patients can be treated at home.

The pain which ushers in the attack should be relieved immediately. For this purpose morphine is most efficacious. Nitroglycerin is not effective and may be dangerous.

The patient's anxiety must be allayed; he should be reassured that he, like the vast majority of patients, will make a good recovery and resume a full, productive life.

Indiscriminate prolonged bed rest for all patients is inadvisable. The period of bed rest is determined by the physical and psychic state of each patient. Some mild cases are permitted to be in a chair on the second or third day, others after a week. Early chair treatment has definite advantages.

In the average mild case the patient begins to walk during the fourth week.

The routine use of anticoagulants is unnecessary. They should be employed in patients with heart failure or shock and in those who develop peripheral phlebitis, peripheral arterial embolism, or pulmonary embolism. When anticoagulants are administered, the patient should be under close supervision.

We believe that anticoagulants administered during the premonitory phase of coronary thrombosis are inefficacious; they neither prevent nor hasten the progress of the thrombosis.

Anticoagulants are contraindicated in patients with a history of bleeding tendency, ulcerative colitis, peptic ulcer, renal or hepatic disease, or a cerebrovascular accident.

It is important to differentiate coronary occlusion from nonspecific pericarditis since anticoagulants appear to be harmful in this condition.

The electrocardiogram should not be used as a criterion for determining the progress of the patient and the time when he may sit up, begin to walk, or return to work. Neither should undue reliance be placed on the sedimentation rate as a guiding factor in treatment.

The treatment of heart failure in coronary occlusion is the same as though coronary occlusion were not present, but special care is necessary to prevent digitalis intoxication.

A low-calorie diet is important for it diminishes the work of the heart, prevents gastrocardiac reflexes, and reduces weight in the obese.

Constipation and distention must be prevented. Cold milk and fruit juices should be avoided and laxatives used.

Nausea and vomiting are benefited by the oral or intramuscular administration of antimotion sickness drugs.

Early treatment of shock is essential. The vasopressor drugs are helpful if administered early. If congestive failure is a factor, strophanthin or digitalis should be given.

Pulmonary edema requires immediate treatment with morphine. If necessary, aminophylline, strophanthin, mercurials, oxygen under pressure, and rotating tourniquets or phlebotomy are employed. The inhalation of alcohol vapor is occasionally efficacious.

Arrhythmias occur frequently and often remit. The indications for the treatment of each type are discussed and the details outlined. Quinidine is not used routinely.

Hiccough may be a serious problem. Reassurance of the patient is most important. Adequate sedation should be used. Numerous successful therapeutic measures are available.

Cortisone and ACTH are not efficacious in coronary occlusion.

Antibiotics are administered if pulmonary congestion or signs of congestive heart failure are present or if the temperature is above 102 F.

Whiskey should not be given in acute coronary occlusion since it may increase the pulse rate. Smoking should be prohibited.

The prognosis in coronary occlusion has greatly improved during the past thirty years. In private practice the mortality rate during the first attack is now 5 per cent or less. Most patients can be rehabilitated within two or three months. The vast majority make a fair or good recovery. More than half make an excellent functional recovery. Four out of five return to work.

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You and Your Big Thanksgiving

You will eat your fowl with chutney
And engage in one big glutt'ny
And think of all the ways of being thankful.
You'll call forth your gastric juices
Eating meat from deer or "mooses"
And imbibe the fermentations by the tankful.

You will garnish well with berries
That bird brought home from Sperry's
And eat until you've raised a healthy thirst.
You will stuff yourself with dishes
Including fancy fishes
Then wait to see who'll be the first to burst.

Meanwhile in what condition
Is your personal physician?
Can he plan these holidays as others plan 'm?
Gad No! he's treating bellies
Filled to over-flow with jellies
And gives thanks this day comes only once per ann'm.

—*Joseph H. Werk, M.D., Port Jefferson, New York*

Preventing Cardiovascular Disease in Industry

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There are a number of significant aspects to the subject of this paper. First, the choice of a topic in the field of internal medicine by this section demonstrates that industrial medicine has a real concern with the personal health problems of the worker. Second, the title takes cognizance of the aging of our industrial population. The median age of employed males in 1950 was nearly forty years compared with thirty-six years in 1930. Third, the emphasis on prevention indicates a major change in attitude toward cardiovascular disease. This new approach invigorates the quest for more knowledge about the basic causes of this number one killer and disabler. Last, it signifies the key opportunity which industrial medicine has in any program intended to minimize disability and mortality.

A Major Problem

The stakes are huge. Diseases of the cardiovascular system caused approximately 775,000 deaths in the United States in 1954 or more than half of all the deaths in that year.[1] It is estimated that in 1950 there were about 9,600,000 persons known to have heart disease or other circulatory conditions.[2] In addition, there must have been a sizable number of undiagnosed cases. In gross numbers of deaths, and in the proportion which they form of all deaths, the trend of cardiovascular disease has been upward. Long-term comparison must be made for the aggregate of the cardiovascular-renal diseases. This shows that the number of such deaths increased from 520,000 in 1933[3] to 791,000 in 1954[1] and the proportion from 39 to 54 per cent of all causes between these two years. This increase is accounted for entirely by the growth in population and more especially by the growing number of persons in the older age groups. The risk of death from cardiovascular-renal diseases at most ages has, in fact, actually dropped. The age-adjusted death rate fell from 469 per 100,000 in 1933 to 427 in 1952.[4,5] This fact appears to have been overlooked in our concern with the growing size of the heart disease problem. On the other hand, death rates from cardiovascular disease in males from thirty-five to sixty-five have increased over the past two decades. This sharpens the focus on the problem for those who are concerned with health supervision of a predominantly male working population.

I must make it clear at once that I offer no new knowledge which will prevent heart disease. So long as we remain as ignorant as we still are concerning the causes of 80 to 90 per cent of heart disease, as represented by rheumatic fever, hypertension, and arteriosclerosis, our preventive efforts will be weak gestures. But it is significant that we are assuming a more aggressive attitude toward a vast segment of death and disability which heretofore has been considered virtually impregnable to attack by preventive measures. And it is true that we are not using fully the measures we do have which may help reduce morbidity and premature death. Industrial medicine is in a strategic position to reconnoiter and to exploit these opportunities for prevention.

Prevention Defined

To understand the possibilities of this approach it will help to recall the definition of prevention used by the Conference on the Preventive Aspects of Chronic Disease in March, 1951.[6] "Prevention, in its narrowest sense," the Conference states, "means averting the development of a pathological state." This is called *primary prevention* and obviously depends on an established etiology. Measures which halt progression of disease to disability or death are termed *secondary prevention*. In the present state of our knowledge about etiology, then, prevention of cardiovascular disease, with one exception, is largely *secondary prevention*, but there has been considerable evidence in the past decade of real progress.

Cardiovascular Syphilis

Cardiovascular syphilis is the one form of

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heart disease which is truly preventable. Mortality from cardiovascular syphilis has been going down, although a true measure of the decline is difficult to assess because of deficient reporting of the condition on death certificates. Some indication of the reduction in cardiovascular syphilis is shown in the experience at the Massachusetts General Hospital. In 1925 syphilitic heart disease represented nearly 4 per cent of the cases in White's clinic.[7] In 1950 only 1 per cent of the cases were caused by syphilis. Further reduction in the incidence and mortality from heart disease of syphilitic origin may be expected through measures to prevent venereal infection and to detect and treat the disease adequately in its early stages. Industrial medicine has and is fulfilling a significant role, both with respect to discovery and follow-up of venereal infection and the detection of syphilitic heart disease by employe health examinations.

Congenital Heart Disease

Congenital heart disease, while not numerically important in the industrial cardiovascular picture, nevertheless should be mentioned because corrective surgery has offered new life to an increasing number of those actually or potentially in the working population. Here again, by adequate health examinations which include not only auscultation but blood pressure readings of arms and legs and palpation of the dorsalis pedis, it is not uncommon to discover congenital heart disease and coarctation of the aorta. In this connection the great progress made in surgical correction of congenital defects of the heart has helped to stimulate discovery and diagnosis. For example, in White's clinic[7] the proportion of congenital heart cases so diagnosed has increased fivefold in the last twenty-five years.

Rheumatic Heart Disease

The most encouraging advance has been made against rheumatic fever, the leading cause of heart disease from early childhood up to about age forty-five. For example, only a decade ago rheumatic heart disease was the ranking fatal disease at ages fifteen to nineteen among Metropolitan Industrial policyholders. It now ranks below cancer. Among Metropolitan white male industrial policyholders at ages fifteen to nineteen, the death rate from rheumatic fever and organic heart disease dropped 77 per cent between 1930 and 1953. Evidence of diminished prevalence of rheumatic fever is also found in the lower frequency of cardiovascular defects among drafted men in World War II as compared with World War I, as well as in the long-term downward trend in morbidity from the disease in the United States Army. If the data were available, it is probable that this same trend could be demonstrated in the working population. From your own experience you may have made this observation.

PREVENTION OF STREPTOCOCCAL INFECTIONS.—An important factor in the decline of rheumatic fever is the increasing control over streptococcal infections which has resulted from the widespread use of sulfa and antibiotic agents in the past decade. The precise etiology of rheumatic fever is not established. However, there is now an impressive body of evidence concerning the relationship of streptococcal disease and rheumatic fever. It is sufficient to justify measures designed to reduce further the occurrence of rheumatic fever through prevention of streptococcal infections. After reviewing the numerous studies of the sulfa drugs and antibiotics as prophylactic agents in the prevention of rheumatic recurrences as well as the prevention of the initial attack, the Council on Rheumatic Fever and Congenital Heart Disease of the American Heart Association recently recommended a national program of prevention. There are two aspects to this program. The first is to prevent recurrence of the disease in known rheumatics by the daily administration of sulfa or an antibiotic or by the periodic injection of a long-lasting antibiotic. The other aspect of the American Heart Association's program is the prevention of an initial attack of rheumatic fever in the susceptible portion of the population by the prompt and adequate treatment of all streptococcal infections with antibiotics. The American Heart Association recommends penicillin as the antibiotic of choice.

Although this program is focused on children and young people, the age groups which have the highest rate of rheumatic fever attacks, some elements of it are applicable to employes in industry with a history of rheumatic fever with or without rheumatic heart disease. The industrial medical department, when it has knowledge of such individuals, should communicate with the worker's physician to learn whether he has his patient on a prophylactic program and to offer cooperation in maintaining the regimen. Individuals with rheumatic heart disease should be protected by antibiotics before undergoing surgery, including tooth extractions.

Coronary Heart Disease

Hypertension and arteriosclerosis are by far the chief causes of heart disease in middle and later life.[6] Undue alarm has been created by the marked upward trend in the recorded death rate from coronary artery disease. Actually, the rise in this rate represents in some measure the increased alertness and ability of physicians in detecting and reporting coronary disease. It also reflects changing practices in describing degenerative cardiovascular changes.

Admitting our lack of knowledge concerning the cause of atherosclerosis and coronary heart disease, what secondary preventive measures appear reasonable? Genetic, hormonal, chemical, dietetic, and medical-statistical studies suggest certain approaches. It is obviously impossible for me to do more than mention them in passing. I must leave adequate discussion of such lines of investigation to authorities in these fields. White,[8] for example, points out the importance of a family history of heart disease as a predisposing factor in the development of atherosclerosis. This can be documented by life insurance experience.

Up-to-date statistics on the subject are contained in the 1951 Impairment Study,[9] a comprehensive investigation covering the experience of 27 life insurance companies from 1935 to 1950 on cases accepted for Ordinary insurance. It was found that insured lives with a family history of two or more cases of cardiovascular-renal disease occurring in close relatives less than sixty years of age were subject to mortality rates about 40 per cent higher than the average for persons insured at standard premium rates. Supplementary analysis of the data contributed to this study by the Metropolitan and Prudential Life Insurance Companies brought out further that those cases who also had minor impairments, such as a slight degree of overweight or moderate elevation in blood pressure in addition to a family history of early cardiovascular-renal disease, experienced mortality rates about 70 per cent higher than standard.

Although this genetic or familial association may appear to offer little ammunition for a preventive program, the presence of such a family history in certain employes should make us even more alert to follow, within reason, any new regimes which show promise of preventing or retarding the atheromatous or hypertensive process in these individuals.

Hormones.—There is evidence that hormones may influence the development of atherosclerosis. Women up to the menopause appear to be relatively immune to coronary artery disease. An exception to this, according to Wuest,[10] are women who have lost their ovaries early in life. Experiments with feeding chicks a high-cholesterol, high-fat diet have produced atherosclerosis.[11] Feeding estrogen to cockerels will protect them from developing atherosclerosis. Barr and his coworkers[12] have shown that large doses of estrogen shift the lipoid pattern from the coronary type toward the female type. These findings are encouraging leads but so far are not applicable as a prophylactic measure in man because the dosage of the estrogen has to be so large that it produces undesirable side-effects.

Obesity.—Obesity has long been recognized clinically and actuarially as closely correlated with increased mortality from cardiovascular disease.[13] In our most recent study of this association among insured who were at least 20 per cent over average weight for their height and age, cardiovascular-renal deaths were one and one-half times that expected on the basis of standard experience. In the overweight group deaths from coronary artery disease were 40 per cent higher than deaths among standard risks.

Our studies also indicated that weight reduction can improve longevity in overweight individuals.[14] Data on this point were obtained from the records of policyholders who, after they were issued substandard insurance, lost enough weight to qualify themselves for a lower premium class in many cases for standard insurance. For example, among men originally limited to substandard insurance because they were moderately overweight, the mortality following the change of rating was 113 per cent of the standard, compared with a mortality ratio of 142 per cent for all the moderately overweight men.

Some recent studies of overweight individuals point to a definite increase in the average weight of males and to a decrease in the average weight of females. In particular, a study made in the Equitable Life Assurance Society[15] of Ordinary policyholders insured during 1940 showed that the average weight of males had increased by about 5 pounds as compared with the average weight figures currently used by life insurance companies, while the average weight of females had decreased by about 5 pounds. The trend of mortality from heart disease in males has been upward over the past two decades. In contrast, the trend among females has been downward in all age groups. Certainly with regard to atherosclerotic and hypertensive heart disease, a most important practical preventive measure at this stage of our knowledge is weight control.

Smoking.—An important association which has not received as much attention as it should with respect to its possible influence on cardiovascular disease is the use of cigarets. In the publicity about lung cancer and cigarets the correlation between heavy smoking and higher mortality from coronary disease has not been given special attention. Actually, the relationship between the excessive use of cigarets and increased mortality from coronary disease is statistically more impressive than that between obesity and heart disease. In the report of Hammond and Horn,[16] among those who smoked more than two packs of cigarets daily the mortality from cardiovascular disease was comparable to the mortality of policyholders in our series who were extreme overweights. The experience developed by Hammond and Horn is quite suggestive, but until additional experience is accumulated, some reservations on this subject must be entertained. Nevertheless, excessive cigaret smoking appears to be a factor in the life history of cardiovascular disease—how important, it is not possible to say at present from the evidence.

Low-Fat Diets.—What about low-fat diets? There have been some interesting observations on the correlation between the proportion of fat in the diet and mortality from coronary artery disease. By comparison with some other nationalities with a fat intake of 10 to 20 per cent, our army derived about 45 per cent of its calories from fat. It was also observed that our young army men showed an extremely high incidence of coronary artery disease. In World War II it was the leading cause of death from disease among men in the armed forces.

Durant[17] has analyzed the diet of business and professional men who had been going to many banquets and found a considerable increase in the proportion of their diet derived from fat. The incidence of coronary disease is also high among American business and professional men.

Because of the possible connection between high-fat diets and high incidence of coronary episodes, some authorities recommend low-fat diets on the theory that reducing the amount of cholesterol-rich foods ingested will help prevent the blood vessel changes associated with coronary disease. According to Durant[17] the type of diet which is recommended for those who have had a coronary episode, as a means of preventing further episodes, is to reduce the fat to as little as 40 Gm. and occasionally, for short periods and in the early stages, down to 25 Gm. He also recommends for the asymptomatic adult male who comes from a coronary family a moderate restriction in fat. This is about 75 Gm. or about 25 per cent of the calories allowed per day.

In the present state of our knowledge about fat metabolism and its influence on atheroma formation, medical authorities are divided in their opinion regarding the value of lowering the cholesterol in the diet. Dock[18] believes that a high-protein and low-cholesterol and low-fat diet is a reasonable prophylactic measure. But even those who do not accept the concept that fat in the diet has a direct effect on the development of atheroma do recognize the importance of controlling obesity as a practical prophylactic measure. In practice a diet which controls or reduces weight is a low-calorie diet, and it is difficult for an individual to consume much fat or cholesterol.

Prognosis.—What about the individual who has had a coronary episode? In years past the popular impression existed that coronary attacks were almost invariably fatal, and this impression is still strong in some quarters. It is now known, however, that the great majority of first attacks are not fatal and that most of those surviving the initial attack live for many years. A considerable proportion are even able to resume normal or near-normal activities.[19] In fact, there is growing realization that efforts toward rehabilitation of cardiacs should be intensified. The fears of both employers and cardiac patients are often groundless. Many unemployed cardiacs would be better off physically and mentally if they obtained work within their physical capacity, and employers would tap another source of needed skills. Recent developments such as the increasing use of anticoagulants in the treatment of coronary occlusion hold promise of cutting down the death toll from these conditions.

Hypertensive Cardiovascular Disease

Despite our ignorance of the fundamental cause of hypertension, some progress has been made through diet, drugs, and surgery in delaying the effects of hypertension on the cardiovascular system. To this prophylactic triad we should add psychotherapy.

Before reviewing these secondary preventive measures, what constitutes hypertension? There is always some debate among clinicians regarding the level at which blood pressure readings are considered abnormal. The comprehensive study of the Joint Committee of the Association of Life Insurance Medical Directors and the Actuarial Society of America[20] demonstrated conclusively that levels of blood pressure higher than 140 systolic and 90 diastolic are abnormal at any age in the sense that actual mortality exceeds expected mortality in rapidly rising ratios for systolic and diastolic values above this level. This means that individuals with pressures above these levels, although some are not necessarily hypertensive in the clinical sense, should have closer observation and health guidance.

COURSE OF HYPERTENSION.—Studies of apparently well individuals, as in employe health examinations, show that a large proportion of hypertension has its onset in the thirties and early forties. Relatively few persons have consistent hypertension for the first time at age fifty-five or older. What happens to such people? While many go on in good health for years, the group with elevated blood pressures experiences a higher mortality from cardiovascular disease than those with normal pressures. For example, in Thomson's study[21] among a large group of our employes observed annually during an extended period, he found cardiovascular disease accounted for 51 per cent of deaths in normotensive persons, 60 per cent in those with frequently elevated pressures, and 80 per cent in those with consistently elevated diastolic pressures.

It is interesting that hypertension in women apparently runs a more benign course than in men. The mortality rate for hypertensive women is only half that for men. In uncomplicated hypertension without evidence of myocardial disease, 40 per cent of men die in a ten-year period compared to 22 per cent of women.

Work is perfectly compatible with hypertensive disease. In our company fully three-fourths of a large group of employes known to have hypertension for an average of more than thirteen years are actively at work.

HEALTH PROGRAM FOR HYPERTENSIVES.—The industrial physician who desires to provide an intelligent health supervision program for employes will give special attention to potential as well as definite hypertensives.

Careful study of each individual case is important. This is necessary not only in order to evaluate properly the seriousness of the hypertension but, even more important from the point of view of prevention, to find out whether the hypertension is secondary to organic diseases which may be curable. While this finding is the exception rather than the rule, it adds more incentive to careful investigation. Study of each case is also important in essential hypertension because we do know three factors which are significant in its etiology or development: (1) family history, (2) dietary intake of salt, and (3) the personality pattern.

The family nature of hypertension is well known, but how much of this is due to genetic transmission and how much to family patterns of personality and dietary habits is not clear. In any case an employe with a family history of hypertension should have closer observation and health guidance.

LOW-SALT DIET.—Salt intake appears to play an important role in prevalence. In the large areas of the world where salt intake is negligible, hypertension is uncommon. Where the intake is comparatively high, as in western Europe and the United States, hypertension is prevalent. Whether the hypertensive individual "handles" salt differently from the nonhypertensive or whether he has a greater need or desire for salt is a question. Like Dole and his coworkers[22,23] we have had good results with a low-salt diet offered to Metropolitan employes with hypertension or a history of congestive failure. This is done in cooperation with their family physician. The company provides a special low-salt diet for luncheon. This appears to be an important factor in aiding the patient to learn how to manage his diet.

DRUGS AND SURGERY.—What about drugs and surgery? The general opinion at present with respect to thoracolumbar sympathectomy is to reserve it for persons under fifty who have marked signs and symptoms of malignant hypertension which do not respond to a trial of more conservative management. Subtotal adrenalectomy is a rational approach but is not sufficiently evaluated at present and is not without danger.

Drugs are more generally employed. Many drugs will lower blood pressure. Adrenergic or ganglionic blocking agents, neural vasodilators such as veratrum, peripheral vasodilators such as nitrites, and drugs with unknown modes of action such as nitroprusside or Rauwolfia serpentina have all been reported to lower blood pressure in one to two thirds of patients and to relieve the clinical and laboratory signs of hypertensive cardiovascular strain in one-fourth to one-half.[24] Only very long-term studies will prove whether they actually prolong life for hypertensives.

Psychotherapy.—The third factor which has been established as important in the development of hypertension is personality. Intangible as this is, the profile of the hypertensive has been described by several investigators as having a background of inhibited, hostile, aggressive, and competitive attitudes. It has been stated that the person with hypertension is living in a state of perpetual preparation for action which, appropriately, should last about ten to thirty minutes but which for him becomes a way of life.

Psychotherapy may benefit such individuals. Most efforts in this direction are aimed at advising and counseling the hypertensive concerning his daily living habits. In this connection the industrial physician will naturally cooperate with the patient's personal physician.

Some interesting exploratory work has been done in the psychiatric management of hypertensives. At the University of Pennsylvania success has been reported by Saul[25] in reducing blood pressure in hypertensives following psychotherapy. The aim of the analytic treatment is to help the patient understand his major motivations and learn how to live with less tension. I believe it was Means who said, "The man or woman who does not enjoy himself as he goes along, but waits for retirement, will probably be sick or dead when it comes." Prevention depends on the early detection of hypertension and of emotional stresses, not only in adults but even in children, as early as possible in life. Here we have come full circle. We find the prevention of hypertension in a program of good child-rearing and sound interpersonal relations. This, then, is a mental health program.

It may be that through a good mental health program for employes, industrial medicine can make a contribution to the problem of cardiovascular disease. As our working population continues to age and a larger number of individuals become more conscious of either existing or feared diseases, most, if not all, of them will have anxiety about their health and its relation to their job and their future. I have no answer for this, other than that we might work more closely with our psychiatric colleagues to learn how best to handle these emotional needs.

Screening and Detection of Cardiovascular Disease

What about total cholesterol and lipoprotein determinations as a screening device for coronary and hypertensive cardiovascular disease? Attractive as this thought appears to be, based on Gofman's work,[26,27] recent studies of other investigators do not as yet confirm this promise. Katz and his coworkers[28] found no significant difference in total serum cholesterol and lipoprotein fractions in a series of normal subjects and patients with hypertension, diabetes, and coronary artery disease. Their findings indicate a wide range of values for these fat elements in the serum of apparently normal subjects as well as in those with known atherosclerosis.

Thomson[29] has made somewhat similar observations among our own employes. In his study preliminary analysis of serum lipoprotein values on 672 male employes showed the mean values for total blood cholesterol and the SF 12-20, 21-35, 35-100 molecules to be generally somewhat higher for individuals with hypertension and coronary artery disease than normal. However, the spread of values in normals is so wide that many employes with hypertension and coronary artery disease fall well within this normal range. This makes such determinations at present, in our opinion, of little or questionable practical value. For example, of 20 employes with documented myocardial infarction, only six showed total cholesterol values considered abnormal on the basis of preliminary evaluation of our data, and only four showed SF values considered abnormal. In only one were cholesterol and SF values both abnormal.

Collens and associates[30] summed up the situation in a recent report by stressing the need for clearly defined values for the normal concentration of the various lipoprotein fractions They suggest that it is possible that the same may be true regarding the presently accepted levels of serum cholesterol.

What special detection methods are feasible in the early diagnosis of heart disease in the employed population? Franco[31] recently summarized his experience at the Consolidated Edison Company with the exercise tolerance test and the ballistocardiograph in the diagnosis of latent coronary artery disease. He concludes that the "2-step" exercise test is of definite value but has its limitations. Nearly 20 per cent of his cases of asymptomatic hypertension and of arteriosclerosis of the aortic arch who later sustained either coronary thrombosis or electrocardiogram evidence of myocardial damage within a two-year period had a normal double "2-step" test. On the other hand, there was a progressive development of myocardial damage in nearly 50 per cent of those who had an abnormal test. A normal clinical examination, including a normal electrocardiogram and normal exercise test, in Franco's opinion appears to rule out latent coronary disease.

The time factor in performing the exercise test (fifteen to twenty minutes) led Franco to study the ballistocardiogram. He finds it an aid in cardiac evaluation when used in conjunction with clinical and other laboratory evidence. A normal test in the absence of clinical cardiovascular abnormality apparently excludes masked coronary artery disease. No case of heart disease developed in a four-year follow-up of this normal group.

When "normal" individuals have an abnormal double "2-step" test response in addition to an abnormal ballistocardiogram, Franco puts them on a special health-counseling regime. This includes reduction or elimination of smoking, weight reduction when indicated, and a more balanced plan of daily living.

Summary

In conclusion, the specific suggestions which may be incorporated into the industrial medical program, modified according to facilities and policies of particular industries, are as follows:

1. Employe health examinations designed to recognize syphilis; special management for individuals with congenital heart conditions and rheumatic fever history.
2. Prompt and adequate treatment of streptococcal infections with penicillin.
3. Prophylactic administration of long-lasting penicillin at regular intervals to known rheumatics.
4. Consultation and cooperation with patient's physician in administration of penicillin before operative procedures, including tooth extractions, in individuals with rheumatic heart disease.
5. Development of a weight control program for employes who are overweight.
6. Electrocardiograms for employes over forty.
7. Low-salt diet for hypertensives with any signs or symptoms related to consistently increased pressure.
8. Special advice regarding diet, tobacco, exercise, work, and relaxation for those with a family history of coronary disease or hypertension or who show abnormal cardiovascular clinical and laboratory findings.

These suggestions are intended as a guide in developing a program to forestall or halt the development or progression of cardiovascular disease in the working population. It is obvious that neither these "primary" nor "secondary" preventive measures can be instituted without the fullest understanding and cooperation of the employe and his personal physician. This involves cultivation of a close and sound relationship with family physicians and other medical resources in the community. Industrial medicine by its very nature involves a program of preventive medicine. Here is an opportunity to bring to the field of adult medicine particularly a broader concept of prevention. You have demonstrated the value of much of the preventive medicine now being practiced to an increasing degree in adult medicine, notably the periodic health examination. Here is the opportunity to exert your leadership to demonstrate, hand in hand with workers and their physicians, what can be done to improve the management of cardiovascular disease.

1 Madison Avenue

The author is indebted to Dr. K. J. Thomson, assistant medical director of the Metropolitan Life Insurance Company, for the privilege of reporting our experience in the management of company employes with cardiovascular disease and for helpful advice in preparation of this paper.

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Chronic Illness Care Program Recommended

Recommendations by the Commission on Chronic Illness were concerned with improvements in personnel and education, research, and financing, to be carried out by communities, voluntary health organizations, professional and educational associations, schools, individual physicians, and teams of workers representing all the sciences involved. It also suggested a central clearing agency to supervise and stimulate research in chronic illlness. Some of the research must be aimed at finding out why some people become chronically ill while others do not—with emphasis on emotional, social, and familial factors.

"Realistic" ways must be found to ease the double problem of income maintenance and medical costs which prove to be "stubborn" or even "overwhelming" for the chronically ill. Financial needs should be met by expanding present plans such as voluntary health insurance, workmen's compensation, and philanthropic programs. It urged emphasis on planning for more home care with "easy flow" of patients among home, hospital, and other institutions particularly within each community.

The first step is to find the answers to such basic questions as to why people are willing or unwilling to participate in periodic health exams, mass screening, and other health services. Voluntary agencies now concerned with single diseases such as tuberculosis or blindness should pool their efforts to find out what all long-term disabilities have in common.

Specific recommendations by the committee were:

Necessary personnel should be made available through better recruitment, stimulation of professional interest, scholarships, revision of curricula to broaden knowledge of chronic illness care, "in-home" student practice in caring for these patients, and higher pay. Existing personnel should be more carefully utilized.

It also suggested "demonstration projects" to show the public what can be done and how.

Research should be aimed at finding out: (1) distribution and severity of illness, (2) what social, economic, genetic, and familial factors affect long-term disability, (3) what makes people use or ignore existing health resources, and (4) what is the availability, public acceptance, and effectiveness of various community health services.

Universities, insurance companies, employers, health departments, and others should study people who remain in good health in order to better understand the "natural history" of conditions such as hypertension, arthritis, and coronary heart disease, the report said.

Financial support for other research should come from federal, state, and local governments, foundations, industry, civic groups, and educational institutions.

In attacking the patient's financial problem, the commission said present devices for providing maintenance of income should be continued and be further developed. This will relieve—but not eliminate—the related problem of medical and other costs.

Medical care and other costs should be met by voluntary health insurance, industrial medical care programs, direct personal financing, and other plans now in effect but these plans must be expanded. The commission said it recognizes that the medical care needs of all the disabled are not now met under these plans. Until they are, there is "no alternative" to the proposition that the public must bear the cost, the commission said.

A Review of the Prepregnancy Treatment Clinic in Respect to Fetal Salvage

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(*From the Department of Obstetrics, State University of New York Upstate Medical Center at Syracuse*)

As a result of a series of surveys conducted in our area, beginning in 1945 and still in progress, our Prepregnancy Treatment Clinic was formed in September, 1950. These surveys, conducted by Schoeneck,[1,2] made us realize that more research was necessary in order to solve the problems of habitual abortion, stillbirth, prematurity, and congenitally defective children. We felt that more should be known about the process of conception, the process of implantation, and placental formation in order to understand more thoroughly intrauterine fetal growth. It was our opinion at that time that it was necessary to study these problem cases before gestation had occurred, feeling that once pregnancy had begun, there is no uniform therapy which will actually effect a good outcome.

The object of our clinic was to study, as completely as possible, couples who have had two or more unsuccessful pregnancies. Included were patients who had two or more spontaneous abortions, premature births, congenital malformations, or any combination of these conditions. These patients were referred by private physicians or were admitted from prenatal or gynecologic clinics.

Pregnancy wastage was found in 87.9 per cent of the 488 pregnancies in this group. There were 324 abortions; prematurity occurred in 87 cases (Table I).

Our program of study, therefore, includes, besides a complete medical workup, consideration of the following: (1) sociologic status, (2) nutritional surveys, (3) genetic evaluation, (4) psychologic tests, (5) male genitourinary examination, (6) anatomic and functional uterine abnormalities, and (7) endocrine assays.

The working staff of the clinic includes the director of the Department of Obstetrics, the physician in charge or director, the resident in obstetrics, a consultant in endocrinology, and a urologist. The latter four comprise the coordinating committee. The remainder of the staff consists of a nutritionist, pathologist, roentgenologist, social worker (psychiatric), laboratory technicians, nursing personnel, and clerical assistants.

TABLE I.—Pregnancy Wastage in 140 Couples

	Number
Total pregnancies	488
Living	59 (12.08%)
Lost	429 (87.91%)
Full-term	
Living	52
Dead	13
Stillborn	11
Neonatal	3
Premature	
Living	7
Dead	80
Stillborn	50
Neonatal	30
Malformed	11
Abortion	324

Procedure

The first clinic visit is devoted to the explanation and discussion of the aims of our study with each couple. The need for patience and cooperation is emphasized to each patient. They are informed that the final result of the investigation may not be available for two or three months. After completion of the study, the physician in charge discusses defects and possible therapy.

At the first clinic visit a complete history and physical examination of each individual is done. The male is then referred to our urologist for a thorough genitourinary survey including examination of external genitalia, prostate, and prostatic smear. After a period of five days continence, arrangements are made for delivery of a fresh semen specimen to the endocrine laboratory.

A trained social worker interviews the husband and wife separately. A clinical survey of the nutritional status is made by the nutritionist.

Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Obstetrics and Gynecology, May 13, 1955.

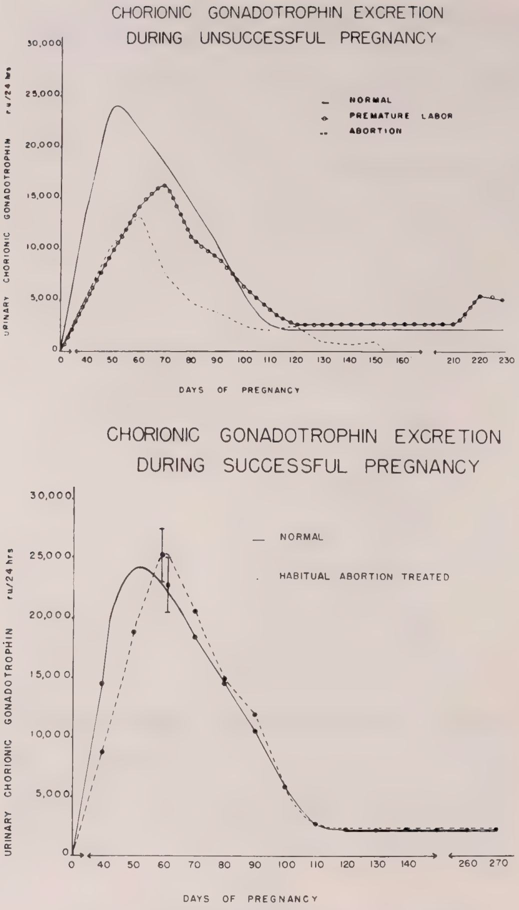

FIG. 1. Chorionic gonadotropin excretion.

In addition, appointments are made for various laboratory examinations.

Hematologic studies include complete blood count, hematocrit, sedimentation rate, serology, Rh factor, and blood type. Blood chemistry studies for various vitamin determinations are made—vitamins A, B, C, and carotene plus protein-bound iodine determinations. Appointments are made for a hysterosalpingogram, endometrial biopsy, and various endocrinologic tests. Subsequent clinic visits are devoted to the evaluation of reports.

Progress is reviewed by the coordinating committee. After all tests are completed, the material is reviewed and correction suggested where obviously indicated. When all findings are considered within normal range, the couple is advised to attempt pregnancy. Patients are followed in the clinic for the first three months, then referred back to the referring physician or clinic. From the time that the patient misses her first menstrual period, chorionic gonadotropin and pregnandiol tests are performed (Figs. 1, 2, and 3).

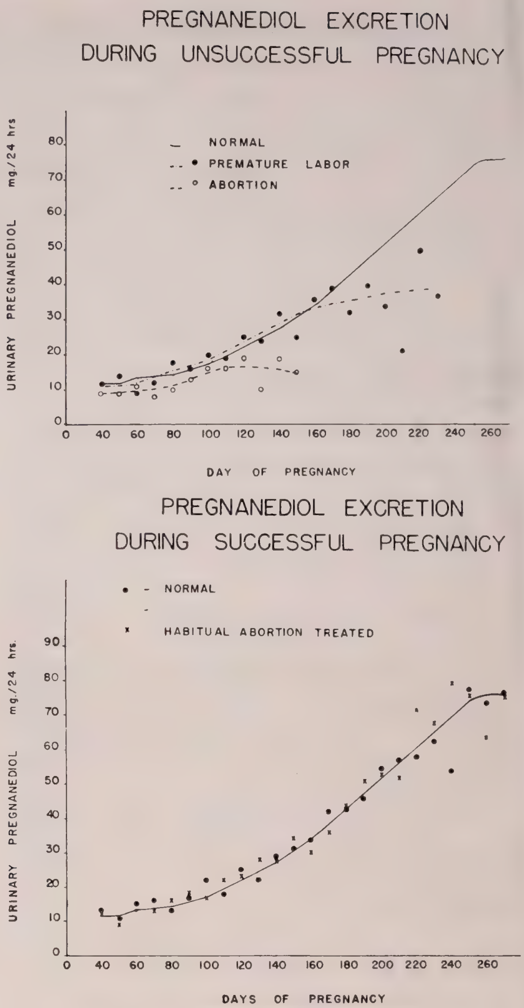

FIG. 2. Pregnanediol excretion.

Results of Study

GENERAL MEDICAL HISTORIES.—General medical histories have failed to point to any chronic constitutional disease as a causative factor. It does not appear that blood incompatibility is a causative factor since no patient who was Rh negative had a residual anti-Rh titer. Metabolism and protein-bound iodine reports were noncontributory (Table II).

SOCIAL ASPECT.—Economic levels did not seem to affect this condition. In a recent report by Bundensen and Potter, they claim a higher

RELATIONSHIP BETWEEN CHORIONIC GONADOTROPHIN-PREGNANDIOL EXCRETION TO FETAL WEIGHTS

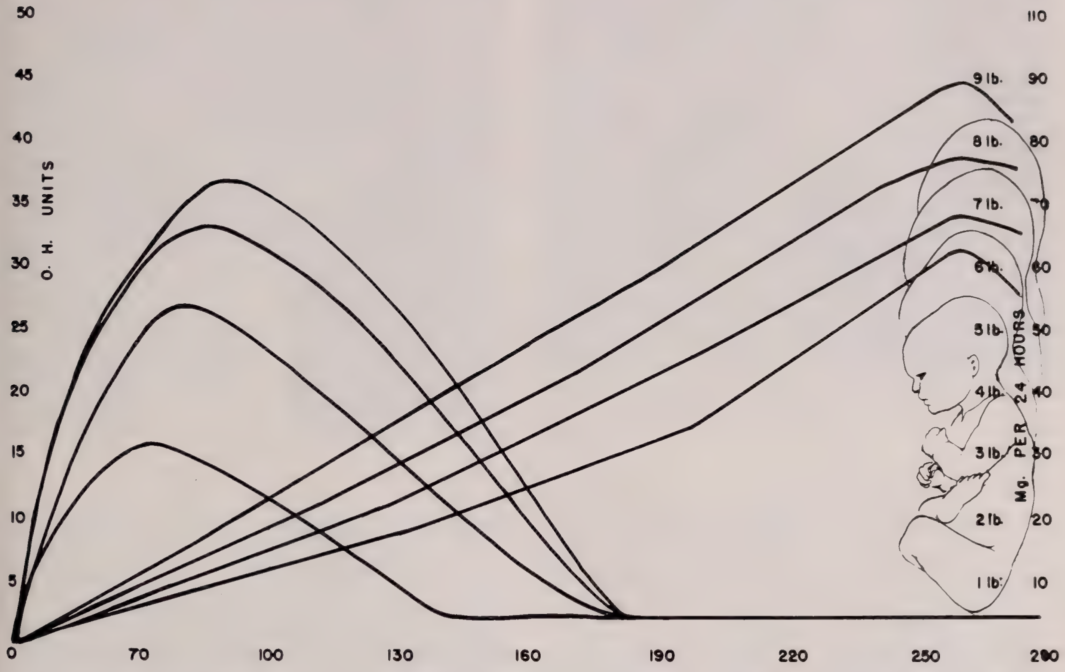

FIG. 3. These graphs indicate trends in fetal growth and quantitative excretion of pregnancy hormones.

TABLE II.—PROTEIN-BOUND IODINE TEST RESULTS

	Number	Per Cent
Female		
Normal	89	70.63
Below	7	5.50
Above	30	23.80
Total	126	100
Male		
Normal	90	74.3
Below	10	8.0
Above	21	17.0
Total	121	100

incidence of prematurity in the lower social economic group.

NUTRITIONAL SURVEY.—A great deal has been written concerning the effect of proper nutrition on fetal growth and development. It is also true that the secretions of the endocrine glands affect the physiology of nutrition both locally and generally. We know that estrogen and progesterone secreted from the ovary play an important part in preparing the endometrium for nutrition of the implanted fertilized egg. There is no doubt that interrelated physiology of all these glands plays an important part in the nutritional processes going on in the embryo while it lives within the uterus. Careful nutritional studies have been conducted in the clinic by an experienced nutritionist. Blood samples have been examined quantitatively for carotene, vitamin C, and vitamin A.

These two investigations were carried on separately, yet both report deficiencies in protein and vitamins A, B, and C in 70 per cent of the patients as compared with the controls.

GENETIC EVALUATION.—Familial investigations as to incidence of pregnancy wastage in parents and siblings has failed to reveal any higher percentage than normal. Aaron *et al.* report an incidence of 76 per cent in his review.[3]

PSYCHOLOGIC TESTS.—A careful psychologic workup is also being done. The following tests are used to evaluate this phase of our study: (1) Saslow screening test, (2) Stern activity index, (3) Guilford-Zimmerman temperament survey, (4) draw-a-person test (modified form), (5) Rorschach test, and (6) thematic apperception test.

We feel sure that certain psychologic influences

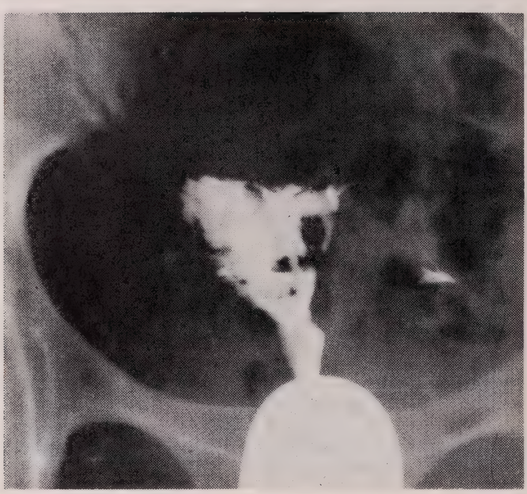

FIG. 4. Hyperplasia. Patient had one abortion and a macerated, eight-month stillborn.

TABLE III.—SEMEN ANALYSES IN 106 MALES

	Initial 106 (Per Cent)	Total 176* (Per Cent)
Volume		
1 to 3–4 cc.	50.08	50.55
4–6 to 6 cc.	49.04	49.43
Count per cc.		
1–20 to 50–70 million	47.16	55.67
70–100 to 100 million	52.82	44.31
Motility		
35 to 60–70%	68.86	72.10
70 to 100%	29.23	26.29

* Initial 106 semen analyses plus repeat studies.

must play a part in the bodily functions which are involved in reproduction. There is no doubt that frustrations, worry, and unhappiness probably affect the process of gestation and labor. There have been some patients for whom nothing specific was done except for the routine biopsies and tests; some of these patients have become pregnant and proceeded to term with the birth of a normal child. It has not definitely been proved whether the feeling of confidence which was established in the clinic through complete examination, thorough study, and frequent visits affected the psychologic makeup of these individuals so that normal conception and gestation occurred.

Javert[4,5] has recently reported on 100 habitual abortion cases who had a spontaneous abortion rate of 95 per cent before treatment and 11.9 per cent after treatment. His treatment consisted mainly of reassurance, frequent visits, some increase in vitamin C in the diet, and continence throughout the course of the pregnancy.

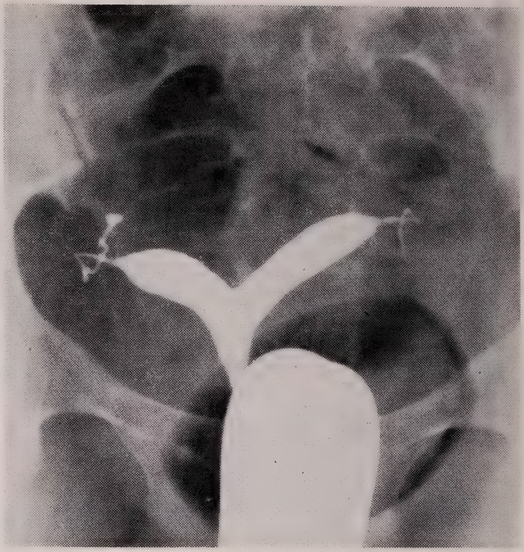

FIG. 5. Bicornuate uterus. Patient had a full-term birth with living infant weighing 6 pounds, 10 ounces; also one two-month abortion and one six-month stillborn. Patient now pregnant, due June 6.

TABLE IV.—FINDINGS IN 71 HYSTEROSALPINGOGRAMS

	Number
Total	71
Normal	23 (32.3%)
Abnormal	48 (67.6%)
Enlarged uterus	7
Small uterus	1
Fibroids	10
Polyps	10
Hyperplasia	7
Bicornuate uterus	9
Septate uterus	3
Endometrial pathology (hyalinized tissue at dilatation and curettage)	1
Other associated findings	
Retroversion	4
Hypermobility	1
No opaque material seen in pelvis	6
Opaque material noted on one side only	7
Dilated and tortuous tubes	
Unilateral	1
Bilateral	0
Ovarian masses	1

MALE.—The results of the "male factor" from the physical examination basis was not significant. Semen analyses were done in 106 males. The results are shown in Table III.

FEMALE.—Routine hysterosalpingograms with the standard method of fractional instillation of an oily contrast media was done on each patient (Table IV). It has been stated that the incidence of congenital malformation of the uterus varies from 25 to 40 per cent.[3] Results of hysterography in five cases are shown in Figs. 4 to 8.

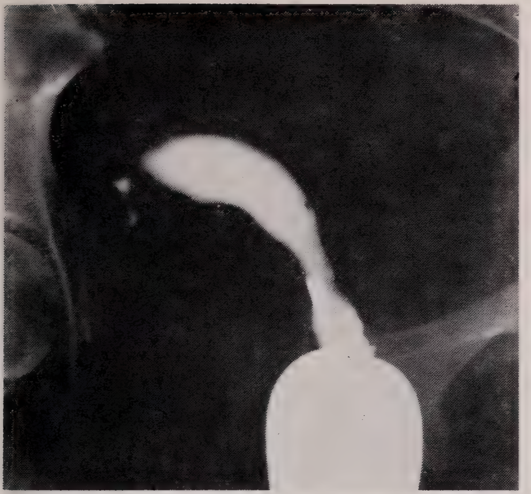

FIG. 6. Unicornuous uterus. Patient had two three-month abortions and a six-month late abortion with congenital malformation.

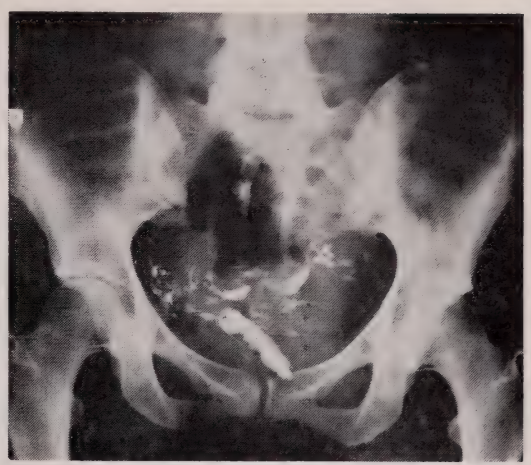

FIG. 8. Right ovarian mass. Patient had been married twice: first marriage—four-month abortion, one term living infant, two-month abortion; second marriage—four two-month abortions.

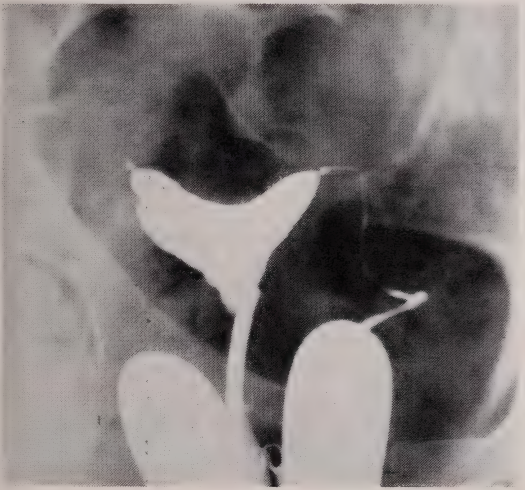

FIG. 7. Stage I bicornuate uterus and polyp. Patient had six-month, seven-month, and five-month prematures which lived and died and a six-week abortion.

Endometrial Biopsies

The director of our clinic, Dr. Edward C. Hughes, has proved that histochemical stains of the endometrium provide an analysis of its function as well as its morphology.[6,7] Poor glandular, stromal, and vascular development and faulty glycogen metabolism and secretion in the endometrium have been noted in cases of habitual abortion. Associated with these findings, we also have observed low excretion of gonadotropin and pregnandiol levels.

Endometrial biopsies were performed routinely on all patients on the twenty-sixth day of the menstrual cycle. The endometrial fragments were obtained with a suction curet. Parts of the specimen were placed in Bouin's solution for the hematoxylin-eosin and Mason stains. The other part was placed in absolute alcohol for the glycogen stain. A known control slide is stained with each run. These slides were interpreted as to their secretory activity, glycogen, and alkaline phosphatase content.[8,9]

Hughes[7,8] has also shown that the administration of small doses of estrogen increases the output of luteinizing hormone which in turn results in improved glandular pattern, vascular development, and glycogen secretion in the endometrium. Oral administration of 0.1 mg. of diethylstilbestrol daily for a period of twelve days, beginning on the last day of the menstrual flow, has been shown to improve endometrial function. All patients received two biopsies before any form of treatment was started.

A total of 389 biopsies were performed on 114 patients (Table V). Thirty-five per cent were normal, whereas 65 per cent were defective. After treatment of 77 patients, there was an improvement of 80 per cent.

Conclusions

We are of the opinion that deficient endometrial function and abnormalities of the uterus are two constant factors involved in the production of

TABLE V.—Endometrial Studies

	Number	Per Cent
Number of biopsies	389	...
Number of patients biopsied	114	...
Complete biopsy series		
First biopsy	114	...
Normal	39	34.21
Defective	75	65.78
Second biopsy	98	...
Normal	34	34.69
Defective	64	65.30
Patients treated	77	...
Unimproved	15	19.48
Improved after treatment	62	80.51

fetal loss. From these findings we have felt that prepregnancy studies should be carried out on individuals who fall into a certain waste pattern.[1] We are gratified by the prepregnancy treatment fetal loss reduction (Table VI).

The author wishes to express his appreciation to Dr. Edward C. Hughes and the clinic staff for their cooperation.

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Discussion

Ralph W. Gause, M.D., *New York City.*—I have had an opportunity to discuss this paper in detail with Dr. Javert, and many of the concepts which I shall state are taken from his clinic for the treatment of habitual abortion at the New York Hospital-Cornell Medical Center.

Perhaps a word should be said about the variation in the problems studied, namely, habitual abortion, stillbirth, prematurity, and congenitally defective children. This covers an extreme range, and the causative factors are frequently unrelated. When one begins to analyze the results, it would seem very important to break down the headings and discuss them accordingly. For example, the patient who has an abortion and later a stillbirth and, still later, another abortion, although she has no children as a result of her three pregnancies, is in an entirely different category and should be analyzed apart from the patient who has had three consecutive abortions at two to three months. Likewise, it is correct, I believe, to discuss the criteria which the patients must have before they are included in this study, that is, two or more unsuccessful pregnancies. Most authors have limited the term habitual abortion to patients with three or more unsuccessful pregnancies. The patient who has had one abortion and one unsuccessful term pregnancy is not necessarily a habitual aborter.

TABLE VI.—Results of Clinic to March 1, 1955

	Per Cent
Before clinic	
Pregnancies lost	87.91
Pregnancies alive	12.08
After clinic	
Pregnancies lost	22.03
Pregnancies alive	77.96
Reduction in fetal loss	65.88
Increase in fetal salvage	65.88

I hope it is permissible to mention a personal concept regarding the organization of a clinic staff for a study of this type. Generally speaking, the larger the staff, the more difficult the fitting together of activities, and although it would seem important to utilize all specialists available, this might have more theoretic value than actual practical value. It has been the impression at our clinic for the study of this problem that the greatest success has been obtained when one doctor has been completely in charge of all activities to do with the patient designated as an habitual aborter. This seems to be one group where continuity of care has a special therapeutic effect.

We would like to agree with Dr. Van Ness in the procedures carried out in the intricate study of the patients. The only additional study which we now think may be of importance is blood calcium levels, especially early in pregnancy. Blood calcium is of importance in blood clotting, and we have found that at the time of abortion astonishingly low blood calcium has been present in many of the patients. We are in complete agreement with the essayist's findings with regard to the general medical histories and the negative findings to be derived therefrom. We still believe in the basal metabolism determination when it has been repeated in one patient from time to time. It is my distinct impression that thyroid hypofunction is frequently a contributing factor in repeated abortion.

Some statistical data from old records may be of interest. A woman who has had three abortions has a 26 per cent chance of success in her next pregnancy. This figure has been derived from going back over past records from long before a study of this type was considered. In another clinic in New York City, as high as 70 per cent of the fourth pregnancies are likely to go to term. We might then take a figure somewhere between these extremes and estimate that approximately 50 per cent of patients are likely to go to term with the fourth pregnancy when the three previous pregnancies have ended in abortion.

The figure of 25 to 40 per cent congenital malformation of the uterus seems to be a very high one. In Dr. Javert's series of 100 consecutive abortions there were three cases of double uteri. I would certainly agree that the nutritional studies and adequate replacements have been very discouraging. The addition of correct diet and adequate vitamins has, in general, not been a factor of any importance. In the beginning of our study low vitamin C levels were obtained; however, at the present time this has not been true, and practically all the patients seem to have covered this shortage before they reach us.

I was delighted to see that so much emphasis has been placed on the psychologic tests and the importance of these factors. As many of you know, the psychologic facet has been considered to be the most important one in our clinic.

I might digress a moment here and make an analogy between localities and the type of therapy used. In the early days of vitamin E therapy for repeated abortion, that therapy was coming out of a locality where there was an abundance of grain and cattle activity. In the Boston area sex hormones have been given full credit for therapeutic effect. Coming from the Dublin area as late as 1952, there was a report of 90 per cent effectiveness in repeated abortion from antisyphilitic treatment. In the New York area, where there are perhaps more psychoanalysts than any other place in the world, psychotherapy has been the chief weapon thrown at these patients. Now from the Syracuse area where undoubtedly the very best laboratory technics have been demonstrated, we find that we can rely on better improvement of the endometrium from very careful study and enrichment of the same. So it might be implied that the implement at hand in each locality seems to have a great bearing on the successful treatment of these unfortunate patients.

Before concluding this discussion, I would like to ask a question regarding the results which have been obtained from the improved endometrium. From the laboratory studies it has been shown that the endometrium was improved by the minute doses of estrogen from 35 per cent normal to approximately 65 per cent normal. What effect has this had on actually carrying the pregnancies to successful termination?

Albert W. Van Ness, M.D., *Closing Remarks.*—In answer to Dr. Gause's question concerning the effect of improving the endometrium by small doses of estrogen and the relationship to actual successful pregnancies, we are reviewing our data at the present time in an attempt to determine accurately the effect of estrogen administration on the outcome of pregnancy.

ANNOUNCEMENT

SCIENTIFIC EXHIBITS

1956 ANNUAL CONVENTION MEDICAL SOCIETY OF THE STATE OF NEW YORK

Applications for space for the scientific exhibits should be made directly to the Chairman of the Subcommittee on Scientific Exhibits of the Convention Committee:

William L. Watson, M.D.
340 East 72nd Street
New York 21, New York

The Annual Convention will be held May 7 to 11, 1956, at the Hotel Statler, New York City.

No applications can be considered after January 1, 1956.

There will be two groups of awards:

***Group I:* Awards in Group I are made for exhibits of individual investigation, which are judged on the basis of originality and excellence of presentation.**

***Group II:* Awards in Group II are made for exhibits which do not exemplify purely experimental studies and which are judged on the basis of presentation and correlation of facts.**

W. P. Anderton, M.D., *Secretary*
Medical Society of the State of New York

The Future of Tuberculosis Control

New Problems Arising from an Expanded Program of Outpatient Treatment

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The ultimate goal in treatment of tuberculosis is full and permanent rehabilitation of the patient. This depends first on prevention of death, next on arrest of disease, and, finally, on prevention of relapse. In prechemotherapy days failure too often occurred at the first step; the disease progressed to a fatal termination, and the death rate was high. Modern antituberculous drugs are truly "miracle drugs" in preventing early fatality, but their very success has created new problems in control of the disease. Many now saved from death cannot be cured of tuberculosis but become chronic invalids—alive but not rehabilitated, constantly threatened with relapse, a burden to the community, and a source of infection to their associates. Modern chemotherapy has lowered the morbidity rate to a certain extent, but it has led patients and doctors alike to a false sense of security through rapid alleviation of symptoms and prompt arrest of progression, so that there has been a tendency to relax tested disciples and forget long-range goals. Emergence of bacterial resistance limits the usefulness of any of the available drugs and requires discrimination and careful timing of adjunctive therapeutic measures. The problem is a complex one, and a great deal of research is still needed, not only to produce additional drugs but to teach us the most efficient use of those already at hand.

Since the focus of interest is always the patient, we have selected three cases to illustrate several of the problems.

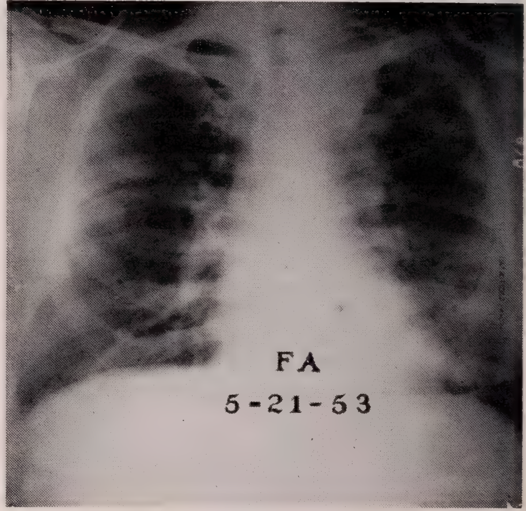

FIG. 1. *Case 1*—Admission roentgenogram showing 3-cm. cavity under left clavicle.

CASE 1.—F. A., a fifty-two-year-old diabetic, was first admitted following hemoptysis on May 21, 1953. Roentgenogram revealed a 3-cm. cavity in the left apex and scattered infiltrations at the right lung base (Fig. 1). Tubercle bacilli were demonstrated by direct examination of sputum. Streptomycin and para-aminosalicylic acid were administered with the patient at bed rest. Under this regimen the infiltrate on the right disappeared, and the cavity at the left apex was lost to view (Fig. 2). A sputum specimen obtained in November, 1953, yielded bacilli still sensitive to streptomycin. Surgical excision of the residual lesion was advised but refused by the patient. On February 24, 1954, he was discharged home to continue rest and chemotherapy under clinic supervision. A month later tubercle bacilli were cultured again from the sputum, and these were later found to be resistant to streptomycin. For this reason isoniazid was substituted for streptomycin in October, 1954. During the year there had been gradual progression of the lesion on radiologic examination, and by January, 1955, the cavity was again readily visible (Fig. 3). In February the patient had another hemoptysis and finally consented to readmission and operation. By this time his organisms were

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* By invitation.

Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Preventive Medicine and Public Health, May 11, 1955.

Based on a study undertaken with the support of the New York Tuberculosis and Health Association.

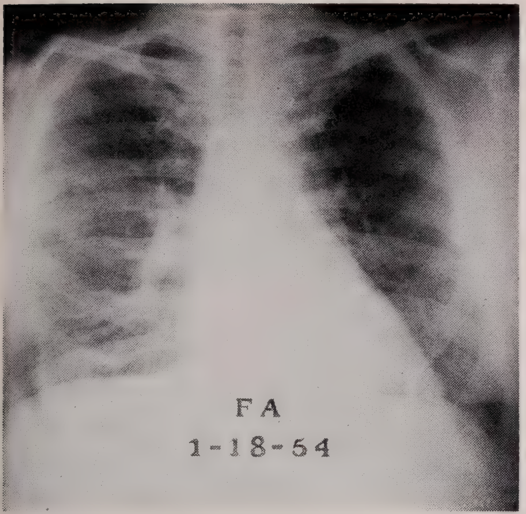

Fig. 2. *Case 1*—Roentgenogram taken after eight months of treatment. Much of the infiltrate has cleared, and the cavity is no longer visible.

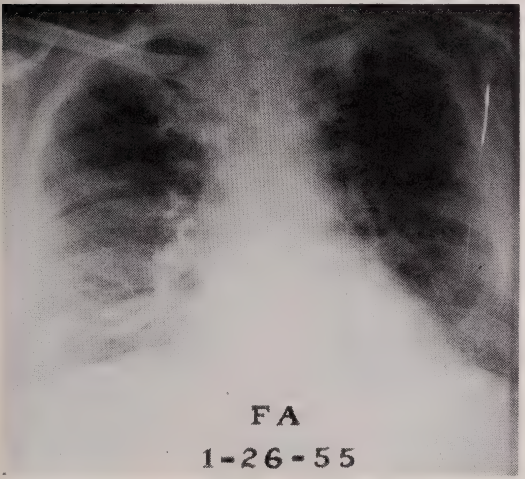

Fig. 3. *Case 1*—Roentgenogram taken after twenty months of treatment and after the bacilli had become resistant to the drug used. The cavity is again clearly visible.

demonstrably resistant to streptomycin and possibly resistant to isoniazid. Operation at this stage was more hazardous than it would have been a year earlier, and there was indeed a marked postoperative spread of disease.

Comment.—This case illustrates the importance of optimum timing of surgery and of education of the patient against false optimism when symptoms subside, sputum becomes negative, and radiologic improvement is reported.

Case 2.—J. K., a forty-six-year-old plumber, was admitted to a sanatorium on January 28, 1954, with widely disseminated bilateral tuberculosis (Fig. 4).

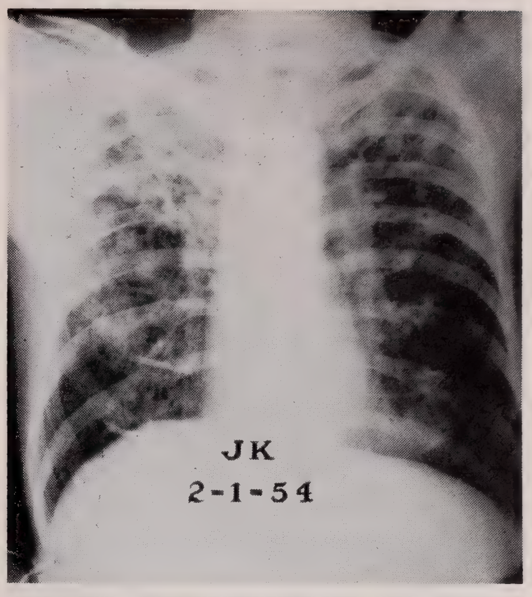

Fig. 4. *Case 2*—Admission roentgenogram showing widely disseminated bilateral tuberculosis, most extensive in the upper third of the right lung.

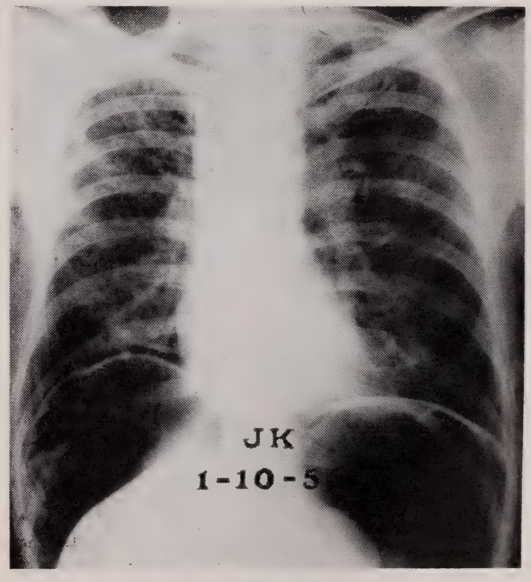

Fig. 5. *Case 2*—Roentgenogram taken nearly one year after treatment with streptomycin, isoniazid, para-aminosalicylic acid, and pneumoperitoneum showing marked resolution. Bilateral residues are apparent, but there is no clear evidence of cavity.

Considerable resolution was noted after a period of rest with streptomycin, isoniazid, para-aminosalicylic acid, and pneumoperitoneum (Fig. 5). Sputum, which had been easily positive on admission, became negative on culture by March. Since that time tubercle bacilli have not been found on

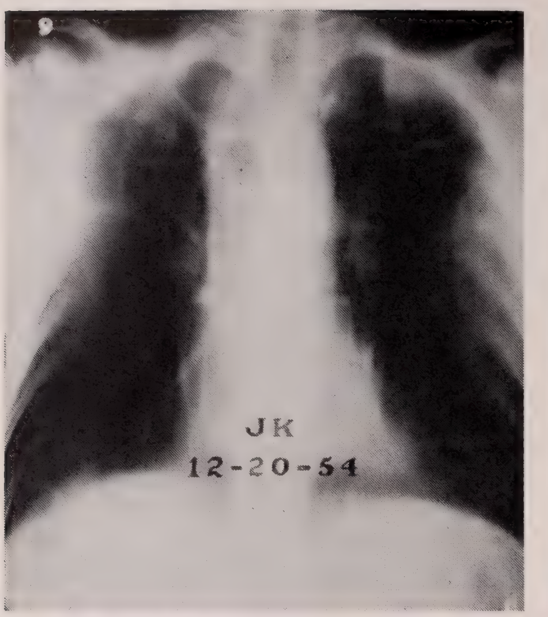

Fig. 6. *Case 2*—Sectional roentgenogram taken approximately the same time as Fig. 7, showing huge cavity in the right apex and another large one beneath it.

repeated cultures. Despite consistently negative sputum and disappearance of cavities in the standard x-ray films, tomograms of December, 1954, clearly showed several very large, clean-walled cavities in the right apex (Fig. 6). This patient is living at home with his wife and two adolescent children. Experience indicates that his disease will eventually progress unless these cavities can somehow be closed, so that it is our intention to perform a modified thoracoplasty.

Comment.—This case shows again the hazards of a too sanguine attitude toward "sputum conversion." It also raises a question concerning the wisdom of initial simultaneous administration of all three potent drugs in an advanced case where prolonged therapy was obviously needed. The outlook for complete cure is obviously poor.

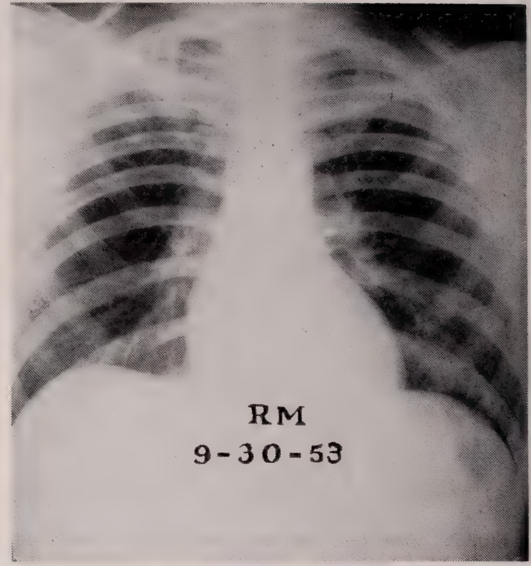

Fig. 7. *Case 3*—Roentgenogram taken on admission showing infiltrate in right apex and first interspace.

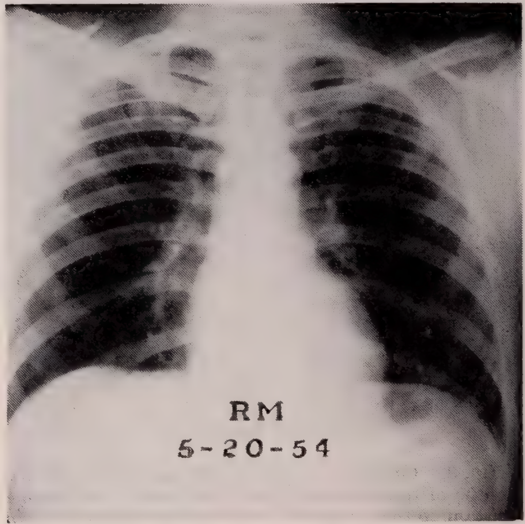

Fig. 8. *Case 3*—Roentgenogram taken after eight months of treatment and just prior to surgery. The apex now appears clear, and the lesion in the first interspace is more discrete.

Case 3.—R. M., a twenty-eight-year-old policeman, was admitted November 30, 1953, because of shadows found on a routine x-ray (Fig. 7). The patient was asymptomatic, and sputum failed to yield tubercle bacilli by any method of examination. The lesion was diagnosed, however, as active tuberculosis because of the man's youth and the fact that a roentgenogram taken four years earlier failed to show a lesion. Accordingly arrangements were made for him to receive streptomycin and para-aminosalicylic acid at home where he remained on bed rest except for biweekly automobile trips to the clinic. There was gradual decrease in size of the lesion (Fig. 8), and on May 13, 1954, he was readmitted for surgical excision of the apical segment of the right upper lobe. Pathologic examination of the specimen showed a small cavity filled with caseonecrotic material and surrounded by numerous fibrocaseous satellite lesions. The cavity contained many acid-fast bacilli. The patient made an uneventful recovery and is now being gradually rehabilitated.

Comment.—Examination of the excised specimen confirmed the preoperative premise that a dangerous residue remained. Although this man might never have suffered a relapse, complete rehabilitation and resumption of his former occupation appear much less hazardous than if the necrotic residue had been left.

Although each of the patients discussed above was treated at home during part of his course, there is nothing specific to home treatment in their problems. They are presented to emphasize the need for individualized long-range planning of the kind which does take place in tuberculosis hospitals where it is the custom to discuss each patient periodically at staff conference and where continuity of treatment can be effected. Such planning is more difficult when large numbers are treated at home, with less frequent contacts between patients and their doctors.

Home treatment, despite the recent furor, is not new. For many years patients have returned to their homes while receiving collapse therapy or for convalescence. As chemotherapy brings many patients to a point of earlier clinical quiescence, there has been a tendency to treat increasing numbers on an outpatient basis. Based on the assumption that chemotherapy makes early discharge safe, the procedure was tempting during a period of overcrowded hospitals and sanatoria. Pressure from patients who preferred being at home was also a factor, as was the hope that home care would be less costly.

In April, 1952, a study was begun at Bellevue Hospital in an attempt to test these assumptions and to learn which patients can be given good treatment at home and how this can best be effected. During the first eighteen months of the program 300 patients were treated for varying lengths of time. It was a heterogeneous group, about half of which comprised those discharged from the wards of Bellevue after careful screening. The remainder were patients awaiting sanatorium admission and those discharged from sanatoria while still in need of treatment. An attempt was made in each instance to evaluate the home situation, as well as other environmental and personality factors. While a wide variety of clinical material was included, no patient with symptomatic disease was treated at home. In general, the clinical course has been what one would have expected in similar cases treated in a sanatorium. i.e., response to treatment was influenced by the usual factors of extent and character of disease, native resistance, and type of treatment.

TABLE I.—Bacteriologic Status of 300 Patients During Treatment Outside the Hospital

	Number
Negative at outset of home treatment	200
Remained negative	191
At least one subsequent positive	9
Positive at outset of home treatment	100
Still positive after 4 months or more	21
"Converted" by 4 months and remained negative	50
Unreported or followed less than 4 months	29

From the outset of the program positive sputum was not considered a contraindication to home treatment, so long as the sputum was minimal in amount and the patient intelligent enough to appreciate the risks and reliable enough to take reasonable precautions. The bacteriologic status of the group is expressed in Table I. No sputum was called "negative" unless bacilli failed to grow on culture.

It should be emphasized that the 21 patients who continued to have positive sputum were under close supervision and lived in a situation where they had little opportunity to infect others.

These figures appear to justify our assumption that the public health risk is small among properly supervised patients, in that half the initially positive sputa had become negative by four months. One case of tuberculosis is known to have developed in a contact, but this unfortunate instance occurred early in the study, and infection may have taken place before the patient came under our supervision. An effort has been made to follow all contacts, and no other cases of infection are known.

Some of the advantages of home treatment have been apparent from the beginning. Dissolution of the family unit may be prevented. Its popularity among patients is such that it sometimes interferes with proper selection. An occasional patient who cannot tolerate institutional life may be salvaged when given opportunity to follow his own pattern of living. By assuming a large share of responsibility for his own treatment, a patient at home often avoids unhealthy attitudes of dependency so commonly encountered among those long in a protective environment, and when the time comes for rehabilitation, he is better able to resume competitive life.

Expanded outpatient care has aided in decreasing the overcrowding in the hospitals and has made beds available for symptomatically ill patients. The actual savings in cost is, however, somewhat illusory for much of it is represented by shift of financial burden from hospitals to other agencies and to the patients themselves.

So far as the clinics are concerned, it has required and will require further expansions in staff and in space. There is special need for a larger social service staff. Outside agencies which share the augmented burden are Department of Welfare, Department of Health, Department of Education (which supplies home teachers), and a number of private agencies, particularly the Visiting Nurse Association. We shall discuss later the problem of financial burden to the patient.

As time goes on, we are increasingly convinced of the need for proper selection of patients for home treatment, although we have not yet identified all the criteria. Certain patients who were chosen at the beginning appeared to have adequate homes but in retrospect might have had more complete care in a sanatorium. An example is a twenty-six-year-old separated graduate nurse who was very anxious to return home after a segmental resection for minimal tuberculosis. She had two children for whom social service arranged placement. Although she did well clinically at home, she lacked avocational interests and was bored and lonely. When the time came for rehabilitation, it appeared that there was no way to provide progressive physical activity in preparation for an eight-hour work day as staff nurse. In a sanatorium she could have had companionship, diversional activity, and eventually worked gradually at her profession until she was ready for a full work day. This case taught us that physical adequacy of a home is not the only criterion for suitability. It is as important to make long-range plans in the personal and social spheres as in the clinical.

We have also concluded that with rare exceptions patients should not be treated at home unless there is a reasonable chance of eventual stabilization of disease with closure of cavities.

It is our present feeling that the treatment of all patients with newly diagnosed tuberculosis should begin in the hospital where close clinical supervision makes possible observation of the early behavior of the disease and detection of drug intolerance. During this time the staff has an opportunity to learn something of the patient's personality and of his home environment so that a decision can be reached as to his suitability for home treatment.

Some of the problems which have become prominent are unique to home treatment; others are accentuated or complicated by it. Personnel shortage has limited the education of patients in many hospitals. Attempts at formal programs of indoctrination have been few and sporadic, and education has been through casual contacts with busy staff members. The patient however, does succeed in learning something about his disease from these contacts and from the routine of the hospital. At home he lacks these casual opportunities and has even greater need for orientation. Treatment of tuberculosis is at best unpalatable, involving as it does prolonged limitation of activity, distasteful medication, and sometimes humiliating precautions against infecting others. No patient will accept such treatment unless he is utterly submissive, which is undesirable, or well oriented to the goals of treatment. Thus there is need for considerable improvement in inpatient education and also provision for continuing this on an outpatient basis.

When a patient is placed on his own resources, he also needs recreation, some of which should be geared to his ultimate rehabilitation. Early vocational evaluation is widely recognized as desirable but has been limited by restrictions on the patient's physical activity. On home treatment the problem is further complicated by remoteness of home and clinic from the rehabilitation center.

Worry about money to a patient with tuberculosis is often secondary only to fear of death and sometimes takes precedence even over that. In abolishing the Means Test, New York recognized tuberculosis as a public health problem and the responsibility of the State. This has meant better care and relative freedom from worry for the hospitalized patients but not so for those treated at home. Paradoxically the same patients who are accepted for full care in a hospital must pass an Indigency Test before receiving welfare assistance at home. Once they are found eligible (often after a long and frustrating delay), care can be relatively adequate. A worse predicament arises among those with borderline income. A patient's wife may barely be able to support the children and herself while her husband is in the sanatorium, but on his discharge she is faced with the additional expense of his food, laundry, and all the extras involved in his treatment. This gap between hospitalization and rehabilitation has driven many a patient to seek premature employment.

Another problem of increasing importance is the health supervision of persons in contact with cases under treatment. A patient receiving chemotherapy may have a stable lesion and "negative" sputum for months at a time and yet have persistent disease, which might discharge tubercle bacilli at any time. If standards of classification are too rigidly applied, such a case may be reported as "arrested" and supervision of associates relaxed while there is still some danger of contagion. On the other hand, the occasional detection of a few bacilli on culture does not necessarily require immediate isolation of the patient. Supervision of persons in contact with a patient under treatment should be complete and prolonged but also discriminating. This discriminating management requires close collaboration between the Department of Health and the other agencies treating the patient.

A patient treated at home, if given total care equivalent to that available in the hospital, requires the assistance of multiple agencies—municipal, State, and private. We have encountered a willingness to cooperate and a sincere desire to help the tuberculous patient to the limit of existing facilities. The implementation has been unwieldy, however. There have been duplication of activities and reports, on the one hand, and delays and inadequacy of reports on the other. In our clinic it is not unusual to receive questionnaires from three agencies on the same patient. Some questions are relevant, but some do not apply to the unhospitalized patient. Most of the information requested is the same for all agencies, but the questions are phrased differently enough to require review of the case for each questionnaire. Even if the information is readily available in the patient's current record, the minimum length of time required to fill in each form is twenty minutes, or a total of one hour for three reports for each patient. This does not include time of clerks in securing records. Multiply this minimum figure of one hour by 200 (the approximate number of patients currently under active treatment), and the time amounts to nearly thirty working days of seven hours each—and this is physician time which should be devoted to care of the patient!

The other problem, delays and inadequacies in reporting, is more directly concerned with patient care. Formerly, when a patient was referred to a clinic for pneumothorax refills, the case could be adequately handled for some time without much past medical data. The picture is more complex under chemotherapy, and the patient is usually referred much earlier in his course, so that prompt and thorough evaluation is essential. It is a common experience at present for a patient to appear, without prior arrangement, from another agency or even another city, bearing only a drug prescription with a request that it be continued, without previous clinical, bacteriologic, or radiologic information. In treatment of a chronic disease, made complex by problems of drug resistance, consistent clinical care is not possible under such circumstances. Too often avoidable failure results. These problems need careful attention and simplification if patients are to transfer with safety from one clinical staff to another.

Summary

It is possible and safe to treat selected patients at home if long-range goals, both medical and social, are kept in mind. Patients at home have certain needs over and above those of patients treated in a hospital, and meeting these needs requires coordination of functions of many individuals and many agencies. This is a great deal more cumbersome than when patients and professional personnel alike are concentrated under one roof, so that it appears impractical to substitute home for sanatorium treatment on a large scale. In certain cases the advantages of home treatment may outweigh the disadvantages. As experience accumulates, it should be further possible to determine which patients benefit sufficiently from home treatment to warrant this more cumbersome method.

Discussion

Richard Nauen, M.D., *Perrysburg.*—There are many points here which merit discussion, but I will limit myself to those which seem to me to bear most directly on the tuberculosis control program. Unlike many other public health problems, tuberculosis control requires long-term control of the human beings who have the disease.

Thus treatment is an important factor in the control program. Tuberculosis control should provide protection against spread of infection; prevent death, restore health, prevent future reactivation; facilitate adequate treatment of medical, emotional, and social aspects of the disease; provide patient education; expedite early and effective rehabilitation and return to work; facilitate scientific studies and training of professional personnel. In evaluating proposed changes in our program, we must ask how they will affect existing and potentially improved programs.

One must agree with the authors' emphasis on the hazards of an increasing number of chronic sources of infection. To us this has seemed to point to the need for definitive treatment, including much more frequent use of surgery. One wonders whether this is accepted as readily by patients on home care.

As to the bacteriologic criteria of infectiousness, there are so many gaps in our knowledge that the situation is very confusing. We see patients with negative sputum cultures before therapy but spreading disease. In one such case recently resected, caseation and abundant tubercle bacilli were found. Another case had persistently negative cultures after many months of drug, but guinea pig inoculation was positive. Many lesions resected after many months of drug and negative sputum cultures show bacilli in the lesions by smear and culture.

As to the public health risk being small, should we be satisfied with "four months or more" infectiousness of 21 of the 71 cases or with eighty-four months of known infectiousness and possibly one hundred more months from the other 50 cases? Probably only a long-term study of attack rates for infection and disease can really answer this question satisfactorily. Did Drs. Lansdown and Jones mean infection or disease when they said that no other cases had developed under observation?

The authors mention avoidance of dependency as an advantage of home treatment. We have the impression that a patient's emotional problems, are more often the result of the stresses of disease and treatment acting on his basic personality and not related specifically to hospitalization. In fact, acceptance of treatment by the group may make it more acceptable to the individual.

We agree strongly with the authors as to the need for extramedical services. The following figures may be pertinent. In one month of twenty-two working days our social worker served 107 cases with 197 consultations, or nine daily. This excludes problems relating solely to hospitalization. She also participated in conferences and teaching programs. Since a home-care program would probably call for additional services relating to home care and would require more traveling. The same number of patients at home (300) would probably require at least one more social worker.

For occupational therapy and education and rehabilitation services our four workers serve 60 patients daily for library, typing, elementary and high school subjects, plus 12 patients weekly for rehabilitation testing, counseling, referrals, and work assignments, as well as helping plan two movies weekly, other entertainments, and patient government. On home care probably ten or 12 trained persons would be needed to give equivalent services.

As to rehabilitation, it is our feeling that this like other educational activities, is fostered by inhospital group teaching and by group acceptance of recommendations for increasing exercise, for retraining, or for job placement.

We agree that orientation of the patient is essential. In our admission service such a program is given by the nurses. The time devoted to this for such subjects as contagion, personal adjustment to disease, and various aspects of medical treatment ranges from fifteen to thirty hours per patient. It is our impression that learning is facilitated by close association with other patients who are also learning and by the close relationship with physicians, nurses, and other trained personnel. Acceptance of the need for prolonged treatment and for surgery is also influenced by group attitudes. One wonders whether this can be done in a home-care program, especially when we see some of our own weaknesses.

The authors have shown how costs are spread among various agencies and the family. One wonders whether there are any real "savings" or merely a reduction in services. If the patient actually rests, who provides nursing and dietary service? Finally, do we know yet that this apparent short-term saving will still be a saving ten years from now? I would agree with the authors that before coming to any final conclusions regarding such programs, we must have much more evidence than is yet available.

Frances S. Lansdown, M.D., *Closing Remarks.*—It is tempting to elaborate on Dr. Nauen's pertinent and constructive discussion, but I shall close by giving only brief answers to one or two points he raised.

We have not been aware of any greater difficulties in getting our outpatients to accept surgery than our inpatients. The task is of course enormously eased among the patients who have been informed of the long-range plan during their initial hospitalization.

In discussion of contagion we referred to infection, as evidenced by skin test "conversion," rather than overt disease. Our studies in this respect are incomplete, but we have the impression that such cases of "tuberculin conversion" as were encountered had occurred before the patient was placed on treatment at home.

Dr. Hilleboe has suggested that ambulatory treatment may be the answer to control of the recalcitrant patient. Our experience has been discouraging in this respect. Although there has been an occasional salvage of a patient who had never accepted consistent treatment in a sanatorium, such cases have been the exception. Our delinquency rate has been about three times as high among patients with a history of irregular discharge as among those without such a history. In other words, most patients who have been a problem under hospital management continue to be one when treated outside.

Malignant Giant Cell Tumor of Bone

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GIANT cell tumor of bone is a locally destructive lesion which, in spite of its tendency to recur, is generally benign and seldom gives rise to metastases. In those cases in which metastases have occurred, the question has arisen as to whether or not the tumor was malignant at the outset or became so during the natural course of its growth and development. The question has not been answered to everyone's satisfaction. Geschickter and Copeland[1] believe that these tumors are never malignant but that a malignant tumor may occasionally occur at the site of a giant cell tumor of bone. Other investigators believe that a few of the so-called "benign" giant cell tumors of bone seem to metastasize as such,[2,3] while others undergo definite morphologic evolutionary changes which represent the malignant transformation of the neoplasm and then metastasize.[4]

There is general agreement, we believe, that occasional giant cell tumors are frankly malignant when first examined, while the majority are not. However, some of the latter over a number of years may become malignant. On the basis of these possibilities, Jaffe, Lichtenstein, and Portis[5] have proposed a system of classifying giant cell tumors into three grades. They emphasize the fact that these tumors are potentially capable of metastasizing in direct proportion to the atypical and aggressive character of their growth. Their method of grading is based largely on the cytology of the round or spindle-shaped stromal cells which make up the main part of the neoplasm, the number and arrangement of these cells, and the degree of atypia of both the stromal and the giant cells. The more atypical the morphologic characteristics of the growth, the lesser the degree of cellular differentiation and the higher the grade of the tumor, grade III growths being definitely malignant. The grading of these neoplasms by this method can be definitely helpful.

Before discussing the malignant forms of this neoplasm, it may be well to ask what are giant cell tumors of bone. The answer might appear on first thought to be a simple one. However, there are differences of opinion among those who have studied and described these lesions as to just what should be considered a giant cell tumor. To some[5] the lesion is a neoplasm of very specific type, namely, a solitary growth composed of a rather vascular meshwork of spindle-shaped or ovoid stromal cells, among which are numbers of multinucleate giant cells. The neoplasm is found usually in certain specific sites, chiefly the epiphyseal ends of the long tubular bones of the extremities, and is not commonly seen in patients under the age of twenty years. Tumors which form cartilage or contain myxomatous or xanthomatous cells or the "brown tumors" found in patients with hyperparathyroidism are excluded. To others[6–8] the term giant cell tumor is applied to a group of diseases which, while not necessarily related to each other, have certain features in common. Thus, those bone lesions which have as their common components a proliferating fibrous stroma with giant cells, whether or not cartilage or xanthomatous or myxomatous cells are present and no matter if the lesions are solitary or multiple or accompany hyperparathyroidism, are all variants of giant cell tumors. We are inclined, with Jaffe and his coworkers, to be conservative and to limit the designation to the former group, thus classifying the giant cell tumor of bone as a specific type of neoplasm.

The histogenesis of giant cell tumor of bone depends in considerable measure on one's point of view with regard to its nature. Again, with Jaffe and his associates, we believe the lesion to be a neoplasm of a definite kind, the cell type being the spindle-shaped, round, or oval so-called "stromal" cell which apparently arises from the undifferentiated supporting connective tissue of the marrow. The giant cells are characteristic, being distributed in small or large numbers irregularly among the stromal cells, but they are not the essential cells. Their origin is less clear. They may be derived from the stromal cells by agglomeration or fusion or may come

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* By invitation.

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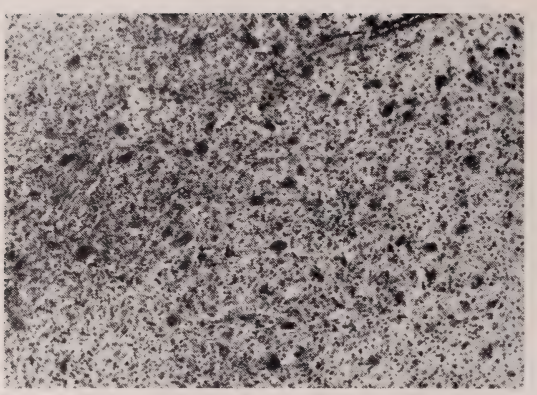

Fig. 1. Section of original biopsy taken in 1932 showing typical benign giant cell tumor of bone.

from the endothelium of the numerous blood vessels that are present. We do not believe they are osteoclasts, giant macrophages, or megakaryocytes.

In the affected bone the neoplasm develops in the epiphysis or in the epiphyseal end of the diaphysis. Only rarely is it found in the shaft of the long bone. It tends to be eccentric, enlarging and expanding the bone itself and often reducing the cortex to a thin shell which, if the bone is weight-bearing, may fracture. The spongiosa or central cancellous bone is usually destroyed and replaced.

Although the majority of these tumors are benign when first recognized, a few, as we have noted above, have proved to have malignant characteristics from the first, while a number of others, over a period of time have undergone transformation from benign to malignant lesions. A case in this latter category came under our observation some time ago and seems worthy of reporting in some detail.

Case Report

A thirty-five-year-old, white, male truck driver was admitted to the Albany Hospital in October, 1932, with the chief complaint of severe pain in the right knee. Two months previously he had slipped on some oil and injured his right knee. Severe pain had persisted since that time. Roentgenograms three weeks after the injury showed "extensive destruction of the distal end of the right femur. The cortical portion of the bone appears to be very thin, and evidence of a pathologic fracture is present, with the condyles overriding the shaft."

Biopsy of the lesion involving the distal end of the femur showed it to be a typical giant cell tumor of bone. Histologically, the neoplasm was composed of a lacy meshwork of round, spindle, or polyhedral stromal cells together with characteristic foreign body giant cells of slightly varying shape (Fig. 1). The stromal cells were loosely packed, were generally well differentiated, and in places were arranged like the cells of young, growing connective tissue. Some cells contained abundant cytoplasm, others very little. The cell nuclei were generally round or oval, small, and hyperchromatic, although a few were large and vesicular. Many of the latter contained a single prominent nucleolus. Mitoses were not found.

The giant cells were a prominent feature of the neoplasm. They were round or oval, of approximately the same size, and sometimes had a tail-like process. The nuclei, varying in number from five or six to 18 or 20 in each cell, were dispersed more or less evenly throughout the cytoplasm and resembled the vesicular nuclei of the stromal cells, even to the presence of nucleoli.

The growth was relatively vascular, the vessels being thin-walled, with flat endothelial cell linings, and varying in size from capillaries to fairly large sinusoidal spaces. No foci of hemorrhage, degeneration, or necrosis of tumor tissue were found. On the basis of the classification of Jaffe *et al.*, the neoplasm could be designated as a grade I giant cell tumor of bone.

Treatment consisted only of radiation therapy, three treatments of unknown quantity being given at four- or five-week intervals during the following three months. The fracture was treated in a Thomas splint with traction and soon showed radiologic and clinical signs of union. The patient was discharged on the sixty-ninth hospital day in general good health.

Eight years later, in 1940, the patient, now forty-three years old, was readmitted with the chief complaint of a throbbing pain in the same region of the right knee. He reported that his general health had been good during the eight-year interval except for some colds.

Examination of the lower part of the right thigh showed that the neoplasm, even though it had not enlarged greatly within the bone itself, had actually ruptured through the cortex of the femur and invaded the surrounding soft tissues. Three biopsies were taken, one from the tumor in the soft tissues, one from the region of the thinned-out cortex of bone, and one from deep within the marrow cavity. All showed the characteristics of a malignant giant cell tumor of bone, grade III in Jaffe's classification.

Histologically, the neoplasm was now composed of atypical, actively growing cells of three general morphologic types, although not infrequently bizarre forms were also present (Fig. 2). Round or polyhedral cells tended to be the most numerous.

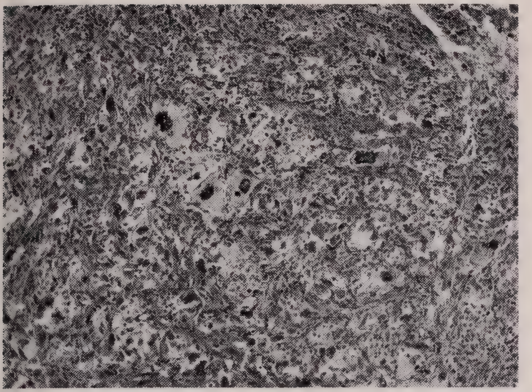

FIG. 2. Section of biopsy taken in 1940 showing clearly the atypical characteristics of the malignant transformation of the originally benign tumor.

Fusiform or spindle cells were next most abundant, although in some places they actually predominated. The third type was the giant cell, and there were many of these. In general, the neoplastic cells were closely packed, were often undifferentiated, and all contained a single round or oval nucleus with a prominent nucleolus. Many of these cells were in mitosis, some of the mitotic figures being atypical.

The giant cells, a characteristic feature of the neoplasm, were larger than those in the benign form, and they varied markedly in shape. Their nuclei were hyperchromatic and tended to be grouped in the center of the cell, sometimes as a compact mass and sometimes as a ring of nuclei about a central zone of pinkish hyaline cytoplasm. Most of the nuclei were devoid of nucleoli. The cytoplasm surrounding the grouped nuclei was sometimes reticulated and lipid-laden. Not infrequently round or fusiform stromal cells with two or more nuclei were also found. These appeared to represent stages in the transition of stromal cells to multinuclear giant cells. Their nuclei, like those of the stromal cells, contained a single nucleolus, and not infrequently they exhibited atypical mitotic division.

Blood vessels, generally small spaces with no well-defined endothelial lining, were abundant. Foci of hemorrhage or necrosis, often with associated leukocytic infiltration, were fairly abundant.

Amputation of the limb was advised following a course of preoperative deep x-ray radiation. A total of 4,590 r was given in 18 doses of 255 r each, over a period of one month. The leg was then amputated at mid-thigh. The lower portion of the femur was found to be practically replaced by a yellowish, firm neoplasm about which the cortex of the bone was markedly reduced in thickness. On the lateral condyle the thin layer of bone had been completely destroyed and penetrated by the tumor which had grown outward to invade the surrounding soft tissues.

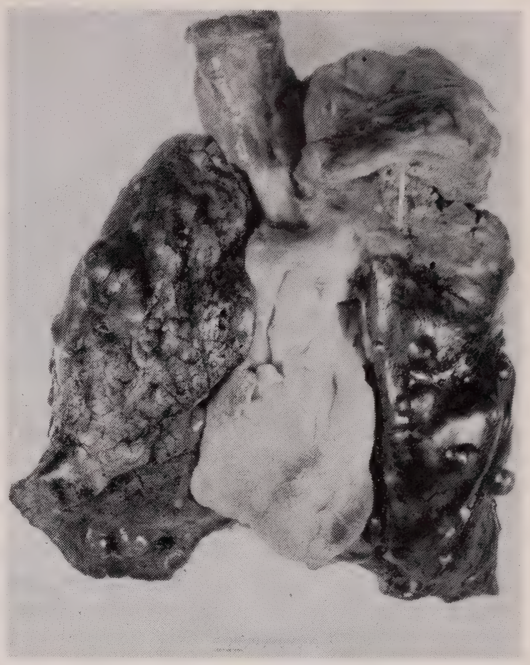

FIG. 3. Thoracic organs removed at autopsy showing multiple metastatic nodules in both lungs and large, fungating growth occupying the apex of the left lung.

Multiple specimens of the tumor showed essentially the same characteristics as those seen in the biopsy specimens taken several weeks previously except for the fact that hemorrhage, inflammation, and fibrosis were much more extensive and marked, possibly as a result of radiation therapy.

Eighteen days after the operation the patient complained of pain in the lower right chest and raised blood-streaked sputum. He became feverish and showed a rise in pulse and respiration rate. There was dullness to percussion over the right chest, and diminished breath sounds were noted on auscultation. A roentgenogram showed changes which were considered to be consistent with those of infarction. On the thirty-ninth postoperative day another roentgenogram showed an increase in the size of the shadow in the right chest. The patient continued to raise blood-streaked sputum occasionally throughout his hospital stay. However, he improved clinically until the sixty-third postoperative day when he was discharged.

Three years later, in 1943, the patient was readmitted with the chief complaint of coughing up blood. A specimen of sputum yielded a fragment of necrotizing sarcomatous tissue which histologically resembled the malignant bone tumor removed three years earlier. Roentgenograms showed a large, sharply demarcated, dense shadow in the left

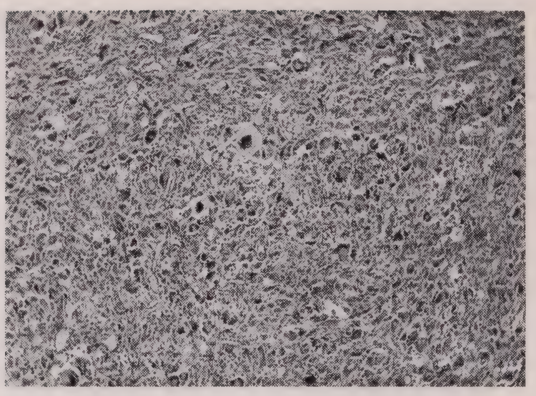

Fig. 4. A representative section of one of the many metastatic nodules in the lungs. Note persistence of the giant cell tumor-like characteristics.

apex. This measured 9 cm. in greatest dimension and clearly suggested a metastatic tumor. A later film showed this lesion to be further enlarged. Because of the extensive metastases only palliative therapy could be offered at this time, and the patient was discharged.

Seven months later he was readmitted with a typical Pancoast syndrome, extreme weakness, and marked hemoptysis. The clinical course was steadily downhill, and death occurred on the eighty-sixth hospital day. An autopsy was performed the same day.

The major pathologic changes were present in the lungs (Fig. 3). The right lung was extensively studded with well-circumscribed, firm, yellowish-red, spheric tumor nodules which varied in size from 2.3 to 5 cm. in diameter. The left lung was completely atelectatic, and its surface too was studded with tumor nodules like those in the right lung. The upper half of the upper lobe was replaced by a large necrotic neoplastic mass which compressed what little remained of the lung parenchyma. The lower lobe also contained many metastatic tumor nodules and was focally atelectatic. The neoplastic tissue occupying the left upper lobe extended through the parietal pleura to the adjacent chest wall beneath the clavicle and superiorly into the soft tissues of the anterior and posterior triangles of the neck, obliterating all landmarks, compressing the brachial plexus, and producing deviation of the trachea to the left. The tumor had invaded the left subclavian vein and extended into the superior vena cava. The hilar lymph nodes were practically replaced by neoplastic tissue, and one of the metastases in the left lower lobe had broken through the pleura to invade the diaphragm, on the superior surface of which was a conglomeration of tumor masses. No other metastases were found.

Multiple sections from the neoplastic metastases in the lungs left no doubt that they were secondary to the malignant neoplasm in the femur (Fig. 4). Histologically, the neoplasm varied considerably in morphologic appearance but had none of the elements of osteogenic sarcoma. Some nodules were composed of pleomorphic, poorly differentiated stromal cells and many giant cells. Others had fewer giant cells and resembled a poorly differentiated fibrosarcoma. Still others were characterized by marked pleomorphism, many mitoses, and, in places, transitions from stromal cells to giant cells. In many of the stromal cells the nuclei contained large nucleoli similar to those found in the primary tumor in the bone. The number of giant cells was variable and, on the whole, less than in the primary tumor, although in some of the metastases they were numerous. Sections from the tumors in the hilar lymph nodes and the diaphragm showed similar varying histologic characteristics.

In summary, then, this patient, at the age of thirty-five, some three weeks after an injury to his right knee, was found to have a bone-destroying lesion of the lower part of the right femur. Pathologically this proved to be a typical giant cell tumor of bone of benign type. X-ray treatments were given, probably with some subsequent regression of the growth in the femur. Eight years later, however, the neoplasm was larger and had penetrated the cortical bone to become a malignant, locally invasive growth. In spite of treatment, including further radiation and subsequent midthigh amputation of the limb, the tumor metastasized to the lungs, but the patient remained in relatively good health for nearly three years. Then his condition grew progressively worse, and he died three and one-half years after the amputation of the right leg at the age of forty-seven, thirteen years after the original diagnosis of a benign giant cell tumor of bone had been made.

Comment

We believe this to be a case of the malignant transformation of a benign giant cell tumor of bone. The original lesion was histologically typical of those giant cell lesions that are usually found at or near the ends of the long, tubular bones in persons usually twenty years of age or older. It followed an alleged injury to the knee, but since the neoplasm was already well advanced when roentgenograms were taken only three weeks later, trauma obviously did not cause it. Conversely, the fact that the lesion was already present may have made the knee more susceptible to the damaging effect of a fall or a minor blow, and presumably the injury in this instance was actually responsible for the discovery of the tumor. Like others who have reviewed the possible etiologic relationship of trauma to these lesions, we believe that the apparent causative effect was purely fortuitous since these tumors tend to occur in bones that are notoriously subject to minor blows or injuries. Thus the neoplasm in this patient undoubtedly arose spontaneously and without any relation to the injury.

When first examined in 1932, the neoplasm was a typical benign giant cell tumor, grade I in Jaffe's classification. Grossly it was localized to the distal end of the femur, while histologically the stromal cells were well differentiated, showed no evidences of atypia, and were not growing actively and the giant cells were of the so-called "epulis" type. Blood vessels, while numerous, appeared to be lined with normal endothelium, and zones of hemorrhage and necrosis were lacking. The "ominous" features of Jaffe *et al.* were missing, as were evidences of "aggressive" growth. It may be argued that because only a single biopsy specimen was available for study, a fair appraisal of the tumor's growth potentialities could not be made on the basis of this examination. This is a valid criticism which we are unable to answer. However, eight years went by before there were clinical evidences of renewed activity of the growth, and not until nearly four more years had passed, did death occur. We doubt, therefore, the malignant nature of the neoplasm in 1932. We cannot be quite so certain that all parts of the growth were as well differentiated as those included in the biopsy specimen.

In 1940 the neoplasm was grossly more invasive, having penetrated the cortex of the distal end of the femur and invaded the soft tissues. Histologically, too, in sections from widely separated portions of the growth, ominous characteristics were noted in all. The stromal cells were arranged more compactly, were often bizarre and poorly differentiated, and exhibited atypical mitoses, while the giant cells, although generally fewer in number, were often larger and varied more in size and shape. Blood vessels were numerous with no well-defined endothelial linings, and foci of necrosis and hemorrhage were not infrequently found. Nowhere was there evidence of the less aggressive type of growth such as had been present eight years before. Yet the basic character of the neoplasm, a tumor of fibrous tissue-like cells mixed with giant cells, was still maintained.

In 1944 the patient died, and extensive metastases were found in the chest, particularly the lungs. While it has been said by some that there are no acceptable instances of pulmonary metastases from a giant cell tumor of bone where the structure of the metastases was that of a giant cell tumor, we believe that such a criticism cannot be made in this instance. In this case the metastases, while not histologically uniform, certainly did not have the structure of osteogenic sarcoma, said to be the type of metastases usually found. In many situations, even in different metastatic nodules, the pattern of a poorly differentiated giant cell tumor occurred again and again. Even where the neoplasm was most undifferentiated, tumor giant cells, often with only two or three nuclei, were present. In none of many samples of the metastases was there evidence of either bone or cartilage formation. The metastases unquestionably tended to reproduce the more ominous and aggressive characteristics of the malignant giant cell tumor found in the femur in 1940. In our opinion, therefore, the metastases were derived from the malignant giant cell tumor of the right femur.

To what influence or influences may the transformation of this originally benign giant cell tumor of the femur into a malignant one be attributed? No definite answer can be given, but several possibilities can be suggested. In the first place the malignant tendency may have been inherent in the growth from the beginning. Thus the neoplasm, slowly, spontaneously, and without any outside stimulus, may have undergone gradual evolution into a malignant growth. Under these conditions, no matter what the treatment this man might have had and regardless of any injury, the tumor would have become malignant anyway. However, the spontaneous malignant transformation of these neoplasms is not common.

In the second place the treatment of the tumor, or the lack of it, may have played a part. No attempt was made to remove the neoplasm when it was first discovered. The cortex of the femur was greatly reduced in thickness, and a fracture was present. Thus treatment was directed primarily to the repair of the fracture, not to the removal or curettement of the new growth.

In the third place radiation therapy was employed to destroy the neoplastic tissue. One might question the adequacy of this treatment since only three applications of unknown quantity were given at widely spaced intervals. Treatments of this type may be stimulative rather than suppressive. Moreover, as Cahan and associates[9] have shown, sarcoma, usually osteogenic in type, can develop in irradiated bone from six to twenty-two years after roentgen or gamma ray therapy. It is possible that the malignant transformation of this giant cell tumor may have been induced, in part at least, by radiation.

Summary

A case of benign giant cell tumor of bone, which, eight years after it had been first recognized, became malignant and metastasized to the lungs, is reported. The histologic characteristics of the benign and malignant phases of the growth are described and illustrated and their differences emphasized.

The nature of giant cell tumors as a group is discussed.

The pulmonary metastases in this case were anaplastic giant cell tumors, similar histologically to the primary malignant neoplasm of the right femur that had been amputated They bore no resemblance to osteogenic sarcoma.

Although the cause or causes of the malignant transformation of the originally benign neoplasm are not clear, possible causes are discussed and evaluated. It is believed that intensive radiation therapy may have played a role.

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Discussion

Crawford J. Campbell, M.D., *Albany.*—In this paper the authors follow essentially the definition and pathologic classification of giant cell tumor of bone as described by Jaffe, Lichtenstein, and Portis in 1940. To be accurate in arriving at a clear-cut diagnosis, a pathologist must have access to a complete clinical history, a complete picture of the blood chemistry, roentgenograms, and adequate pathologic material. The interesting case history presented by the authors presents a question as to whether the lesion was originally malignant in character or whether it had undergone a transformation spontaneously or as a result of roentgen therapy. Although the exact dosage of roentgen therapy administered was not given, similar cases are known to have been treated (1932) in the same area with dosages of 1,000 to 1,500 r administered during each of the three treatments which were given at four to five-week intervals. From the standpoint of this therapy and the eight-year interval between the initial biopsy and the patient's return to the hospital, the possibility of malignant transformation due to roentgen therapy is highly suggestive. At the present time treatment of giant cell tumor of bone in the Albany Hospital consists of thorough curettage of the lesion following biopsy. Roentgen therapy initially is limited to those cases which are not amenable to surgical approach. If there is a local recurrence, a local excision of the tumor is accomplished and massive bone grafts used to bridge the defect. Further recurrence would necessitate amputation. Roentgen therapy is used in the treatment of some obviously malignant giant cell tumors.

A New Antirabies Vaccine for Human Use

Antirabies vaccines in current use carry the risk of allergic encephalomyelitis due to brain antigen, even though the problem has been partly met by high potency to reduce dosage. Rabies virus vaccine of duck embryo origin contains little or none of the encephalomyelitis-producing factor. After preliminary animal experimentation to assess potency and safety, the embryo-generated vaccine was given to 20 patients with minor bites. Untoward symptoms were not detected in any of these; local reactions were mild. Of 13 in whom antibody tests were done, 12 showed antibody responses. The other, in alcoholic suffering from delirium tremens, did not respond.—*Franklin B. Peck, Jr., M.D., Horace M. Powell, Sc.D., and Clyde G. Culbertson, M.D., Journal of Laboratory and Clinical Medicine, May, 1955*

Closed Cystolithotomy in the Treatment of Larger Vesical Calculi

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(From the Urological Service, Beth Israel Hospital)

OUR purpose in this paper is to present a preliminary series of 25 patients suffering from large vesical calculi who were subjected to suprapubic cystolithotomy with primary closure of the bladder. In our hospital the smaller bladder stones, those of about 2 cm. in diameter or less, which were not removed incidentally during the course of suprapubic prostatectomy or other open bladder operation, were, as a rule, either crushed by a visual lithotrite, removed by a grasping forceps, or simply evacuated through a cystoscopic sheath.

Blind litholapaxy has long been the method of choice of many urologists in the treatment of larger calculi in children and in adults without significant prostatic enlargement. The age incidence of bladder stones, however, has changed greatly in the more civilized countries, and in recent decades they have become increasingly rare in children and in young adults. Now, for the most part, they are an affliction of elderly men. For example, in a review of vesical calculi at the New York Hospital, Twinem[1,2] found that 83 per cent of the patients between the years 1820 and 1846 were less than thirty years old, as compared with only 3.2 per cent for the years 1933 to 1950. Similar striking diminution in the frequency of stone in childhood has been noted by British and French urologists.[3-5] This agrees with our observations at the Beth Israel Hospital between 1950 and 1954 where, among 106 successive patients studied and treated, only five were under fifty years of age; the youngest was a paraplegic female twenty-eight years old. The majority were associated with benign prostatic enlargement.

With this great decrease in the total number of cases suitable for blind litholapaxy, there is less opportunity for the average American urologist of today to acquire the large experience and skill necessary for the safe use of the nonvisual lithotrite. Blind stone-crushing, which dates back at least to 1818,[3,6] was put on a sound basis by Bigelow[7] of Boston who in 1878 devised a method of crushing and evacuating all the fragments at one sitting. The Bigelow lithotrite is still in use today. This operation is now usually done under spinal anesthesia and is subject to such grave complications as rupture of the bladder and urethra, hemorrhage, and severe infection. Small fragments and debris may be overlooked and left in the bladder to form the nidus for a recurrent stone.[8,9] There have also been failures due to poor selection of cases, excessive hardness of the stone, and inherent defects in the lithotrite causing breaking, bending, or jamming of the instrument. One of us observed a case many years ago in which a very hard calculus was suddenly fractured into many small sharp splinters, one of which perforated the anterior bladder wall. Such accidents are, of course, less apt to occur in the hands of experts. In a series of 215 male cases Prentiss[10] reported a mortality of 6.24 per cent in 1942. He also stated that "20 patients required two and only three required three stages to complete the lithotripsy." On the other hand, in northern India, where the standard of living is low and where bladder stones are still quite prevalent in the young, British surgeons have become highly skilled in the technic of litholapaxy; in their large series they record a death rate of only 1 to 3 per cent. After many years of experience Hyman[11] also was able to report 100 consecutive cases with but one fatality.

Suprapubic Cystolithotomy

The removal of calculi through an open suprapubic operation under local anesthesia is today a simple and a relatively safe procedure. There is little likelihood that any fragments or calculi will be inadvertently left in the bladder. The chief disadvantages of this method in the past have been the necessity of an abdominal wound and at times a longer period of hospitalization required because of prolonged suprapubic uri-

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nary leakage. We have largely overcome the latter objection by closing the bladder tightly in two or three layers, using fine plain catgut for the mucosa and chromic catgut for the muscular layers of the bladder. The suprapubic wound is closed in layers, leaving a small rubber dam drain to the suture line in the bladder. In our earlier cases a urethral catheter was left indwelling from one to three days, but this has usually been found unnecessary. These patients, as a rule, are out of bed, able to walk about, and void with a good stream shortly after operation.

Primary closure of the bladder should be done only when the patient is able to void without appreciable residual. It is contraindicated by the presence of prostatic enlargement unless the obstruction is relieved by simultaneous transurethral resection.

Results

Twenty-five suprapubic cystolithotomies with primary closure have so far been done; 22 were men, three women. The youngest patient was forty-seven years old, the eldest eighty-five, and the majority were sixty-five or over. Twelve were private patients of the authors; the remainder were done by resident and other staff surgeons. Twelve patients had had previous suprapubic operations.

There were no deaths. One case, done by a staff surgeon, was complicated by a small rent in the peritoneum; this patient developed auricular fibrillation and gastric ileus but soon recovered and left the hospital voiding well with a dry wound on the eleventh postoperative day. In the remaining cases there were no serious complications.

Urine examinations including cultures and sensitivity tests prior to operation revealed the presence of infection in all cases. Appropriate antibiotic therapy was instituted. In four cases there was some suprapubic urinary leakage, but all the wounds were well healed after a short time.

The average stay in the hospital following operation was nine days.

Comment

In determining which method of treatment is best for a patient suffering from a large vesical calculus or multiple calculi, the urologist must consider the amount of prostatic obstruction and his own experience and skill with blind litholapaxy.

The presence of prostatic obstruction indicates either transurethral resection or some type of open prostatectomy. In the latter event removal of the calculi becomes merely a coincidental measure.

In cases without significant vesical neck obstruction or in those in which transurethral resection is done, large calculi may be crushed with a nonvisual lithotrite by those who are expert in its use. The paucity of large calculi suitable for blind litholapaxy has made the acquisition of the requisite skill difficult or impossible for many American urologists. For these operators and also for patients who are poor risks, the authors recommend suprapubic cystolithotomy with primary closure as a satisfactory procedure.

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There is a certain blend of courage, integrity, character and principle which has no satisfactory dictionary name but has been called different things at different times in different countries. Our American name for it is "guts."—Louis Adamic

Problems of Obesity in Anesthesia

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ARMSTRONG *et al.*[1] found that 20 per cent of the population or 15 million people over age thirty are above ideal weights (as published in the *Statistical Bulletin of the Metropolitan Life Insurance Company*). Furthermore, one third of these 15 million people are 20 per cent or more above the ideal weight. This is pathologic. Since this age group provides a large number of surgical patients, an increasingly larger problem in the conduct of anesthesia has developed in direct proportion to the increasing girth of the nation. Since approximately eight million anesthetics are given each year in this country, it is safe to assume that at least 400,000 to 500,000 are given to obese patients.

It is the purpose of this paper to consider in some detail the nature and extent of the difficulties of conducting safe and efficient anesthesia for obese patients. These difficulties are expressed in the increased incidence of serious cardiovascular illnesses, certain physiologic disturbances of importance, psychologic alterations, and important anatomic derangements which cause serious technical problems in the administration of anesthesia. The following outline summarizes the important problems encountered in obesity.

I. Diseases associated with obesity
    A. Cardiovascular
        1. Arterial hypertension
        2. Arteriosclerosis
    B. Diabetes mellitus
    C. Degenerative arthritis
    D. Disturbed liver function
    E. Postoperative thrombophlebitis and embolism
II. Psychologic problem—the underlying emotional disturbances which caused overeating.
III. Problems of anesthetic technic
    A. General anesthesia
        1. Difficulty of maintaining a free airway
        2. Inadequate respiratory exchange
        3. Longer induction and recovery
        4. Need for greater muscular relaxation because of surgical difficulty of exposure. There may be an increased anesthetic drug requirement and increased tissue damage due to vigor of retraction.
        5. Difficulty in placing intravenous needles
    B. Regional and spinal anesthesia
        1. Difficulty in locating bony landmarks.

The Influence of Disease

Over one hundred and thirty years ago William Wadd stated, "corpulency is not only a disease itself, but the harbinger of others."[2] Not only is obesity a physical impediment in itself, but it predisposes its victims to other serious diseases.

Thomson[3] and Levy[4] found that essential hypertension occurred three times more frequently in obese adults than in others. Wilens[5] in a study of autopsy material found advanced atherosclerosis and coronary atherosclerosis two to three times more frequently in the obese.

Diabetes is perhaps the most striking penalty for being overweight. Joslin[6] showed that among those whose disease began at forty years or over, 85 per cent had previously been overweight and 60 per cent markedly so.

Zelman[7] reported in his study of liver function in the obese that damage was proportional to the duration of obesity. Since the metabolic turnover of the food ingested is largely a function of the liver, to which the assimilated foodstuffs are first delivered, excessive strain appears to result ultimately in liver damage.

Preoperatively, therefore, the obese patient's cardiovascular, renal, and hepatic status must be evaluated. A detailed history concerning these systems is indicative. Since he is more prone to have arteriosclerosis and coronary disease, hypotension during anesthesia should be particularly avoided. In normal patients the caliber of the coronaries can change to compensate for the dimished flow which occurs with a fall in the mean arterial blood pressure.[8] Sclerotic coronaries, however, are fixed in caliber. Their tonus

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cannot change to compensate for the diminished flow and coronary insufficiency results.[9]

Therefore, not only is a blood pressure and a blood count indicated preoperatively, but also an electrocardiogram and a blood volume measurement are desirable in any obese patient over forty-five years old to assist in the evaluation of his cardiovascular status. If the normal blood volume is estimated as 85 ml. per Kg. of body weight, the value for all obese patients will be low. However, if the blood volume is calculated for the ideal weight and one third of the difference between the ideal weight and the obese weight is added, the correct blood volume will be more nearly approximated. If the blood volume is definitely reduced, it should be brought up to near normal before anesthesia and operation in arteriosclerotic patients in whom a major procedure is contemplated. Otherwise anesthesia, surgical exploration, or even a relatively small blood loss may cause hypotension.

Latent diabetes must also be suspected. Careful regulation of the patient before anesthesia is worth while to avoid ketosis during and after operation. The principles of regulation consist of sufficient hydration and insulin preoperatively so that there is no ketonuria and moderate glucosuria. During the operation an intravenous infusion of 5 per cent dextrose, to which 10 units of regular insulin are added for every 25 Gm. of dextrose, will help prevent some of these complications.

The disturbed psychologic state of the obese patient must be kept in mind by the anesthesiologist during his preoperative visit. The etiology of obesity has been widely investigated. Disturbed function of the thyroid, the adrenals, the pancreas, the pituitary gland, and the hypothalamus have been implicated.[10] However, only 2 to 5 per cent of the obese patients show any of these disturbances. The other 95 to 98 per cent are obese because of overeating. It has been recognized that this overeating is an emotional problem.[11–12] The obese patient, like the infant, continues to utilize food as a means to relieve anxiety.[13] A preoperative visit by the anesthesiologist the night before operation, to reassure the patient and dispel any myths about anesthesia the patient may have, will prove to be of great value in diminishing the emotional tension.

As an aid to the psychologic preparation the inclusion of a barbiturate besides a narcotic in the premedication will prove to be valuable. If the operation is scheduled for the afternoon, another dose of barbiturate in the morning will help calm the patient. Along the same lines scopolamine, because of its amnesic effect, is probably more useful than atropine.

Management of Anesthesia

As with other patients the anesthetic agents and anesthetic technics for the obese must be individualized, depending on the contemplated operative procedure, the position of the patient, the over-all condition of the patient, and the abilities and preferences of the anesthesiologist. But certain difficulties may be anticipated in the obese and preparation made for immediate remedy.

During general anesthesia difficulty with the upper airway is very common. The tongue and the oropharyngeal tissues frequently cause obstruction in very light anesthesia, and the chin is difficult to hold forward. Adequate spraying of the pharynx with a suitable local anesthetic solution (cocaine 4 per cent, Pontocaine 2 per cent) will help ensure tolerance of an oropharyngeal airway during light anesthesia to relieve the obstruction.

Even in the supine position the respiratory exchange of the obese patient frequently is inadequate during general anesthesia. The diaphragm cannot descend fully against the weight of the abdominal wall and the abdominal contents, necessitating artificial assistance of the patient's inspiratory efforts. For the anesthesiologist to assist respiration properly, a good mask fit is essential. If the mask fit is poor or an unobstructed airway difficult to maintain manually, even with an oropharyngeal airway in place, endotracheal intubation is indicated. Trendelenburg position should be avoided when possible. Even with an endotracheal tube in place, it is difficult to inflate a very obese individual in this position unless very high pressures are exerted.

In the prone position the inadequacy of respiration in the obese is even more evident. Therefore, the patient should be placed on the table in such a manner that the chest and especially the abdomen are free from contact with the table to permit proper expansion with the least effort on the part of the patient. One method consists of placing a long roll of hard rubber or of rolled sheets (about 3 feet long and 8 inches wide) beneath the patient from the

TABLE I.—DIFFUSION VELOCITIES OF THE COMMON ANESTHETIC GASES AND VAPORS (MODIFIED FROM HARRIS[15])

	Vapor Density	Coefficient of Solubility in 100 Cc. Whole Blood at 37 C.	Diffusion Velocity at a Pressure Gradient of 60 Mm. Hg
Diethyl ether	37	1,500 cc.	14,750 K
Nitrous oxide	22	41.2 cc.	500 K
Ethylene	14	11.8 cc.	188 K
Cyclopropane	21	1.1 cc.	14 K

clavicle to the ilium on each side. Endotracheal intubation is always advisable in the obese patient who is given general anesthesia in the prone position.

The fact that more anesthetic drug is needed to reach surgical planes of anesthesia in an obese individual is important to consider in the choice of general anesthetic agents. Not only do we have to consider that the induction period will be prolonged, but more important the recovery period will be prolonged also. Barker *et al.*[14] reported twice as many postoperative vascular complications (thrombophlebitis and embolism) in the obese than in patients who were not overweight. Therefore, the agents desirable for these patients are those which are quickly eliminated to allow for earlier mobilization postoperatively.

The continued absorption of an inhalation anesthetic ultimately results in a state of equilibrium between the anesthetic atmosphere and the cells of the whole body. Absorption will be complete and the body saturated when the tension of the anesthetic in solution in the tissue cells is equal to that in the atmosphere to which the body is exposed. Ether saturation for both anesthesia and relaxation in the obese may be a poor choice due to the prolonged induction and recovery phases. Harris[15] reviewed the importance of blood solubility on the rate of induction with the various inhalation anesthetics.

The diffusion velocity of a gas through a thin watery film (which the respiratory membrane may be considered) is directly proportional to the pressure gradient and the solubility of the gas and inversely proportional to the square root of the gas:

$$\text{Diffusion Velocity} = \frac{\text{Pressure Gradient} \times \text{Solubility of Gas}}{\sqrt{\text{Density of Gas}}} \times \text{K}$$

Since the commonly used clinical inhalation anesthetics have densities which lie between 14 and 37, it is apparent that the differences in densities have little relative influence on the diffusion velocities through the respiratory membrane. The influence of blood solubility, however, is a dominant one (Table I).

The coefficients of solubility of nitrous oxide, ethylene, and cyclopropane in whole blood at 37 C. are so small that the mass of anesthetic dissolved in blood flowing in the pulmonary capillaries per unit time is less than the mass of anesthetic carried by effective lung ventilation to alveolar air during the same time. Therefore, gaseous equilibrium between the anesthetic atmosphere and alveolar air is achieved rapidly, and once gaseous equilibrium has been achieved between these two systems, the partial pressure of the anesthetic in alveolar air is not significantly reduced by the mass of anesthetic which can be dissolved in blood flowing in the pulmonary capillaries per unit time. In the case of nitrous oxide and ethylene the diffusion velocity is significantly rapid, however, to permit gaseous equilibrium to be assumed between alveolar air and blood flowing through the pulmonary capillaries, so that the tension in the pulmonary blood is equal to the partial pressure of these gases in the anesthetic atmosphere to which the body is exposed in a very short time.

Since cyclopropane is much less soluble than nitrous oxide or ethylene, the blood leaving the lungs in the pulmonary veins does not equilibrate with the alveolar air, and therefore, the tension is somewhat less than that in the anesthetic atmosphere. This, therefore, explains the somewhat slower induction and recovery from cyclopropane. On the other hand, the diffusion velocity and the coefficient of solubility of ether through the respiratory membrane are extremely rapid, permitting rapid equilibrium between alveolar air and pulmonary blood. But this solubility is so fast, relative to the mass of anesthetic carried to alveolar air per unit time from the anesthetic atmosphere breathed, that the partial pressure of the vapor in alveolar air remains considerably below that in the atmosphere for a long time. The assumption of equilibrium between alveolar air and inhaled atmosphere is slow, therefore, and does not occur until the body's general absorption of this anesthetic is well advanced.

Another factor regulating alveolar tension is the partial pressure of the gas in the mixed venous blood coming back to the lungs.[16] Since venous blood brings gas back to the alveoli, it helps raise the alveolar tension. The mixed venous tension depends to a large extent on the mass of muscles and fat which must be saturated. The solubilities of the inert gases are the same for muscle as for blood, but they are much more soluble in fat. Therefore, an obese person with large amounts of fat tissue will cause the removal of great quantities of gas from the blood which will keep the venous tension low. This in turn will contribute to keeping the alveolar tension low in the case of ether and slow the rate of induction.

The rate of recovery depends on the same factors discussed during induction except that these occur in the reverse order. Ether again, by virtue of its high blood solubility, will prolong markedly the recovery stage in all patients but even more so in the obese.

Since more drug is needed to reach surgical anesthesia in the obese, since greater relaxation is mandatory in abdominal procedures in these patients, and since faster recovery and movement are necessary, the use of fast-acting inhalation agents, usually in conjunction with muscle relaxant drugs, seems indicated. Ether is a poor choice.

The problem of using intravenous anesthetics such as thiopental appears to be similar in some respects to that of ether. Brodie *et al.*[17] showed that thiopental is mostly deposited in fat when equilibrium is established between blood and fat. If used in long cases where large intermittent doses would be necessary in the obese, it seems apparent that a large fat reservoir of drug would be established. Because of the slow metabolism of the drug (10 to 15 per cent an hour) anesthesia would continue for a considerable period of time during the recovery phase.

A common practice is the supplementation of a thiopental-nitrous oxide anesthesia with meperidine during long procedures to avoid the administration of large quantities of thiopental. The meperidine is given intravenously in doses of 10 to 25 mg. as indicated by signs of lightening of anesthetic depth. A good index to follow is the respiratory rate. Small doses are given until the rate drops to about 12 per minute and subsequent doses added when the rate rises to about 18 per minute. Most patients managed in this way will awaken within five to twenty minutes after the nitrous oxide is discontinued. If the respiration remains depressed, n-allyl-normorphine can be used as a specific antidote for the meperidine.

During regional anesthesia the problem in the obese is that of obtaining proper landmarks and then inserting a needle through thick, movable adipose tissue. However, for extraperitoneal lower abdominal procedures, such as inguinal hernias or surgery on the lower extremities, spinal anesthesia seems preferable to general anesthesia in these patients. The enhanced tension and restlessness which are especially prominent in the obese can then best be treated by supplementation with subanesthetic doses of barbiturate and/or meperidine.

Summary

1. The physiopathologic and anesthetic problems to be anticipated in the obese patient have been presented.

2. These problems include serious cardiovascular illnesses, such as arterial hypertension, arteriosclerosis, and coronary disease, diabetes, abnormal liver function, and postoperative thrombophlebitis and embolism. An understanding of the underlying emotional disturbances in the obese is important.

3. The anatomic derangements in the obese cause technical problems for the anesthesiologist and surgeon. Difficulties in maintaining a free airway, inadequate respiratory exchange, longer induction and recovery periods, need for greater muscular relaxation, and difficulty in exposure are the primary problems during general anesthesia. Difficulty in locating bony landmarks is the primary problem in regional and spinal anesthesia.

4. Some ideas on how to reduce these difficulties and increase the safety of anesthetic management are discussed.

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Discussion

Barnett A. Greene, M.D., *Brooklyn.*—The report of Dr. Schwartz is a valuable contribution because its presentation of anesthesiology is in the nature of "the practice of operating room medicine." The anesthesiologist, as the internist of the surgical team, should regard the obese patient with the viewpoint and facts presented in this paper.

Every hazard associated with obesity is met in other problem patients. The obese individual is unique, however, in the tendency to confront the anesthesiologist with many simultaneous problems in several different anatomic and physiologic systems joined by the common factor of pathologic obesity. The outline in the report by Dr. Schwartz is a convenient summary of the potential abnormalities likely to complicate anesthesia for the obese patient. This list should be remembered whenever we manage the abnormally obese patient. To the author's group of pathologic conditions associated with obesity, I would add bronchitis, emphysema, and diminished respiratory reserve. The frequency of respiratory complications before, during, and after anesthesia is decidedly greater among the obese whenever they are subject to bronchial irritation, pulmonary infection, or interference with ventilation. To the list of problems of anesthetic technic I would add the so-called "celiac plexus reflex" syndrome which, in my opinion, is simply vena caval obstruction produced by the mechanical means used by a surgeon to obtain better exposure.

Because of the emotional characteristics of the pathologically obese patient the author desires sedation with both a barbiturate and a narcotic. I prefer that patients with the circulatory and respiratory problems of the obese arrive in the operating room able to cooperate, to move themselves to the operating table, to sit up if necessary, and that the cough reflex, respiratory and vasomotor centers, venous return, and arterial blood pressure remain free of significant depression. A narcotic is omitted, therefore, unless pain is present before operation. To avoid depression of the sympathetic nervous system, the dose of barbiturate must be small, e.g., 0.1 Gm. pentobarbital sodium. Adequate sedation without undesirable side-effects is obtainable with the nonbarbiturate hypnotics such as 1 Gm. of Doriden or 50 mg. of diphenhydramine (Benadryl).

In the obese it is desirable to block the vagus more effectively than usual. We use both scopolamine and atropine, 0.3 mg. ($^1/_{200}$ grain) of each; by this combination we avoid the loss of cooperation that 0.6 mg. ($^1/_{100}$ grain) of scopolamine tends to cause.

Maintenance of a clear airway in the very obese presents a dilemma. On the one hand, obstruction is common and frequently begins during induction of anesthesia. On the other hand, endotracheal intubation of the unconscious, obese individual may be quite difficult. We prefer to avoid this problem by electing to intubate the very obese *before* general anesthesia. Intubation is mandatory for the patient in the prone position, as Dr. Schwartz has stated. If the patient is tremendously obese, i.e., over 250 pounds, intubation is also necessary for any procedure in any position under general anesthesia. To apply this recommendation as frequently as one should, the anesthesiologist must be expert in conscious blind nasal intubation. Equally important as conscious *intubation* in these patients is the practice of delaying *extubation* until the patient is awake, not just reacting.

The prone position is a serious hazard to circulation because pressure on the inferior vena cava and the femoral veins often persists despite efforts to support the chest and pelvis of the very heavy patient. Mechanical obstruction of venous return may engender a state of shock that is irreversible while the obese patient remains prone.

The author considers regional and spinal anesthesia preferable to general anesthesia for herniorrhaphy or surgery of the lower extremities. Spinal anesthesia, unless specifically contraindicated, is my choice for most procedures below the diaphragm. When the patient is pathologically obese, this selection is especially justified to circumvent most of the problems of general anesthesia cited by Dr. Schwartz. The consistently safe and effective use of spinal anesthesia, especially in the abnormal patient, demands special care and skill. For the best results with spinal anesthesia in the obese patient, a secure infusion should be running at the time of the lumbar puncture, the puncture should be performed with the patient sitting, oxygen should be administered whenever the anesthetic level is high (which tends to occur more readily in the very obese), and finally, if the patient is to be even lightly asleep during spinal anesthesia, nasotracheal intubation is a necessary preliminary.

Obesity is never mentioned as a cause of death associated with anesthesia. Nevertheless, it is often the key reason for an error of omission or commission which initiates a fatal series of events. The medical complications of obesity shorten the lives of many patients. The anesthetic problems of obesity shorten the lives of many surgical patients and also the lives of some of their anesthetists.

Present Status of Pneumothorax and Pneumoperitoneum

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Pneumothorax

A comprehensive survey of the recent literature reveals that the use of artificial pneumothorax has suffered a considerable decline in the United States, Canada, and England and almost complete extinction in Holland.[1] This decrease began with the introduction of streptomycin. In the United States this decline began earlier because of the appreciation of the frequency of undesirable complications and sequelae.

At the peak of its popularity in 1940, 50 per cent of patients in tuberculosis hospitals and sanatoria might be expected to receive or have an attempt made at pneumothorax. Drolet[2] stated that in 1942, 2,800 pneumothoraces were successfully induced in 43 New York State tuberculosis hospitals, while in 1950 there were only 1,750 successful inductions. In 1939, 3,080 patients were receiving pneumothorax in "upstate hospitals," whereas in 1949 the number had decreased to 1,031.

In order to determine the present status of pneumothorax therapy in New York State, a questionnaire was sent to the medical directors of all tuberculosis hospitals and sanatoria listed in the *Directory of Tuberculosis Institutions and Agencies Serving Greater New York*, published by the Council of the Tuberculosis and Health Associations of Greater New York in 1951.

Of 44 institutions written to, replies were received from 37 (Table I). Nineteen of these, or a little over 50 per cent, have completely abandoned the use of pneumothorax therapy. Eleven of the 37 use pneumothorax only "rarely" or "occasionally," that is, in one or two cases during the past year. The remaining seven hospitals use it in from 1 to 5 per cent of their patients. As far as could be determined from these figures, there were probably less than 150 pneumothorax inductions in New York State during the past year.

TABLE I.—TUBERCULOSIS HOSPITALS IN NEW YORK STATE USING PNEUMOTHORAX AND PNEUMOPERITONEUM

	—Number of Hospitals Using—	
Per Cent of Patients	Pneumothorax	Pneumoperitoneum
0	19	7
Up to 1	11	8
1 to 4	4	4
5 to 9	3	6
10 to 19	0	7
20 to 35	0	5

Comparing this figure with Drolet's figures covering 1950, there was a drop of at least 90 per cent in pneumothorax inductions in New York State in 1953. The generally expressed opinion regarding the decline of pneumothorax therapy was that cases formerly considered ideal for this modality are now best treated by antimicrobial therapy and excisional surgery. It appears evident that artificial pneumothorax as a definitive form of therapy appears to be playing a diminishing role, in our State at least.

The same downward trend is taking place in England but at a much slower rate. For example, in eight of the largest English tuberculosis hospitals the peak year of pneumothorax induction was 1948 when a total of 1,152 was reached. By 1951 in the same eight hospitals the number had dropped to 787 inductions, a decrease of 30 per cent. However, in two of these eight hospitals there was an actual increase in the number of pneumothorax inductions.

On the other side of the ledger, I would like to cite the work of Rubin and Burke[3] from Canada who report on 120 cases of pneumothorax discontinued between 1941 and 1946, the preantibiotic era. Fifty-three per cent of their cases had cavities. They used pneumonolysis early, maintained as selective a collapse as possible, and kept up the treatment for five years. If adhesions could not be severed, they promptly abandoned the pneumothorax. Five to six years after reexpansion, 112 or 93 per cent were alive, and of these, 106 or 88 per cent of the original group were well and working.

Muschenheim,[4] in an editorial comment on

Rubin and Burke's paper reviewed in *Recent Advances in Medicine for 1953–1954*, states, "Pneumothorax has fallen into almost complete disuse in this country and is everywhere giving ground, even in highly suitable cases, to excisional procedures. The above report prompts the question whether the pendulum has swung too far. It remains to be seen whether excisional surgery, even under the protection of antimicrobial therapy, will produce equally good results in suitable cases."

A review of recent American literature reveals only one paper covering a large series of cases of pneumothorax combined with antimicrobial therapy. This is a report by Birath[5] of Sweden, covering 167 pneumothoraces induced in patients who received para-aminosalicylic acid and streptomycin before and after induction. These patients were reported six months after induction, during which time many pneumonolyses were done. Seven per cent of this series developed fluid, but not a single case developed empyema.

The recent British literature reveals the following three reports. Snell[1] reports on 455 pneumothoraces induced at Colindale Hospital between 1947 and 1952. Antimicrobials were used in conjunction with pneumothorax in all of these patients, and again not a single empyema developed. Trayer[1] at Baguley Hospital reported over 300 pneumothoraces treated with antibiotics during the same period. Again, not a single case of empyema developed under cover of the new drugs. Wright[6] at Colindale performed 442 thoracoscopies on 301 patients who were getting pneumothorax in conjunction with antibiotics, and again not a single case of empyema was observed in this series. Thus we see, from the English literature at least, that empyema, the most dreaded complication of pneumothorax, has been virtually eliminated since the advent of antimicrobial drugs.

Twenty years ago the value of pneumothorax was overestimated. Today in this country its value is probably underestimated. On the basis of the above reports and on the assumption that no new potent antimicrobial drugs become available, it is reasonable to expect that artificial pneumothorax will be able to retain a place in the treatment of tuberculosis and perhaps regain some of its lost popularity in this country.

Pneumoperitoneum

As far as pneumoperitoneum is concerned, only seven of the 37 participating hospitals did not use this procedure (Table I). Of these seven, two indicated that they gave this form of therapy a trial before abandoning it, and only one of these two used pneumoperitoneum for more than a year before giving it up. The remaining five hospitals either made no comment as to why they did not use pneumoperitoneum or simply stated that it was ineffective or had no therapeutic value.

Eight institutions reported that they use pneumoperitoneum rarely or occasionally, and again this refers to from one to three cases induced during the course of the preceding year.

Four hospitals report an incidence of from 2 to 4 per cent of their patients receiving pneumoperitoneum.

The remaining 18 hospitals use pneumoperitoneum on from 5 to 35 per cent of their patients. Of these 18 hospitals one uses it in 35 per cent of its patients, three in 30 per cent of their patients, and seven use it in from 10 to 19 per cent of their hospital population, while the remaining seven use it in from 5 to 9 per cent of their patients.

The four institutions in the 30 per cent class are all municipal hospitals with a preponderant number of nonwhite patients who usually are admitted with rather extensive disease.

The generally expressed opinion of those who employ pneumoperitoneum is that this procedure is of therapeutic value in cases with extensive bilateral cavitary disease.

On the basis of the survey we estimate that there are at least 1,000 cases of pneumoperitoneum in the hospitals that participated in this survey. This is about one-third the peak number of pneumothorax cases in New York State in 1940 as reported by Drolet.

The question raised by those opposed to pneumoperitoneum is whether it is the pneumoperitoneum or the antimicrobials which are responsible for the good results seen in patients receiving combined drug and collapse therapy. I will attempt to answer this question by the following observations:

1. In late 1946 we began to use streptomycin at Kings County Hospital in doses of 2 to 3 Gm. daily for a period of six weeks, followed by a rest period. In a group of 60 patients who received pneumoperitoneum in addition to streptomycin, there was only one-third the number of relapses as there were in patients receiving the streptomycin alone. This lower relapse rate was attributed to the pneumoperitoneum.

2. Mitchell[7] recently stated that on chemotherapy plus bed rest alone there was a 10 per cent relapse rate in moderately advanced cases and at least a 40 per cent relapse rate in far-advanced cases. These were the failures in a group of 250 Trudeau patients treated between 1949 and 1952.[8] These patients were from a higher social and economic group and had far less extensive disease than patients in a municipal hospital. Among the causes of relapse Mitchell mentions the failure to use pneumoperitoneum at the onset in conjunction with antibiotics, especially in cases where cavities over 1 cm. in diameter are present.

3. Moyer and Schwartz[9] at the 13th Chemotherapy Conference in St. Louis presented what they called a retrospective study, not a randomized or controlled study, to check whether or not pneumoperitoneum was of any therapeutic value. Patients were listed in the order that they appeared for treatment, the only selection being that they had to be original treatment cases, having received neither chemotherapy or pneumoperitoneum previously.

Sixty per cent of the patients who had chemotherapy alone and 63 per cent of the patients who had chemotherapy plus pneumoperitoneum were cavitary cases so that these two groups were practically alike in this respect. At the end of eight months and twelve months of observation, the significant finding was that twice as many patients who were getting pneumoperitoneum plus antimicrobial therapy closed their cavities as compared to those on antimicrobial therapy alone.

The 12th Chemotherapy Conference in Atlanta in 1953 set up a protocol to establish the therapeutic efficiency of pneumoperitoneum when combined with prolonged chemotherapy. The results of this randomized and controlled study will be awaited with great interest. It should provide an answer for or against the value of pneumoperitoneum in the treatment of pulmonary tuberculosis.

25 EASTERN PARKWAY

Presented as part of a panel discussion on "Present Views on the Therapy of Pulmonary Tuberculosis" at the 148th Annual Meeting of the Medical Society of the State of New York, New York City, Section on Chest Diseases, May 14, 1954.

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Football Players' Disorder Studied

If a doctor let parents worry him into benching every football player who developed a disorder known as hematuria, he'd end up benching the whole team. Hematuria is a kidney ailment which may accompany the strenuous exertion of football. Many players have it sometime during the season. Each year doctors are caught between parents who want their son benched and fans who want their star player back.

However, researchers making a survey of 37 university varsity football players during the 1954 season found no reason to bench players who developed hematuria. This survey is reported in the August 27 *Journal of the American Medical Association* by Alex W. Boone, M.D., and Earl Haltiwanger, M.D., of the Department of Surgery, and Robert L. Chambers, B.S.Ed., of the physical education department, Duke University, Durham, North Carolina.

The disorder, which consists of blood in the urine, appeared in all the players, but cleared with rest. In fact, the rapidity with which it cleared was remarkable, the authors said. Even six players who had bleeding sufficient to discolor the urine, reverted to "football normal" within three to four days.

The first signs of hematuria were found during the preseason conditioning exercises. There was a moderate increase in its occurrence at the beginning of body contact drills. After each Saturday game, there was a peak in the number of players with hematuria, but that number usually dropped by the following Wednesday. The postgame rate remained about the same throughout the season, the authors said.

proceedings

Special Committee on

INFANT MORTALITY

Medical Society of the County of New York

HAROLD ABRAMSON, M.D., *Editor*

The Role of the Obstetrician in the Further Reduction of Neonatal Mortality

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In reviewing the excellent past proceedings of your Special Committee on Infant Mortality, it is a particular pleasure to have the privilege of participating in this year's program directed toward the further reduction of neonatal mortality. When considering this subject, the obstetrician may be visualized in one or more of several roles. He or she may be an educator and administrator, a hospital staff member, a diagnostician, an investigator, or a practicing specialist. In each and all of these roles the obstetrician can contribute to the further reduction of fetal and neonatal mortality.

For an obstetrician there is little reason to separate fetal and neonatal mortality. The causes of death at this time in life are about the same. Dr. Clement A. Smith in his lecture entitled the "Valley of the Shadow of Birth"[1] clearly states that the timing of the casualty is not so important as the end result but only indicates whether the obstetrician shall share the responsibility alone or with the pediatrician. The interests of the obstetrician and pediatrician in the preservation of pregnancy to term delivery of a healthy newborn are the same. Only the technics of practice vary.

Fetal and neonatal mortality represent a much more delicate index of adequate obstetric care than does maternal mortality. Combined fetal and neonatal mortality is approximately 40 times that of the maternal death rate. It would be remiss too not to mention that the margin between death and good health is smaller in the infant as a result of being born than in the mother as a result of giving birth.

The Obstetrician as an Educator and Administrator

On first thought it would seem that this role would be filled by obstetricians who have faculty appointments in medical schools or by obstetricians who hold responsible positions as health department officials or hospital administrators. This is not necessarily true. Many excellent teachers have no affiliations with medical schools but contribute immensely to obstetric and pediatric progress by high example and through their interest in education. The real responsibility of any teacher is to stimulate students to seek the truth and to impart such knowledge as they gain to others in an honest manner.

As a citizen, the obstetrician will be interested

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in all civic movements which benefit the general health of his community. He should have an interest in all educational programs which contribute to better parenthood. Certainly economic, hygienic, and educational factors have a direct influence on the life and well-being of the newborn.

It is the joint responsibility of the chief of an obstetric division, the hospital administrator, and the health officer to see that the details of birth as well as the conditions of mother and infant thereafter are accurately reported in detail. Accurate records leave a true impression of the past and point a way for progress in the future.

A recent report on birth injuries obtained by case-finding of abnormalities is an excellent example of how a progressive service such as the New York City Department of Health can contribute to an understanding of life-threatening conditions in the newborn.[2]

While the supplemental section utilized in New York and other areas has real value, it would seem that a uniform reporting of obstetric statistics for all hospitals in the United States would permit more accurate comparisons and would point out more definitely areas of deficiency which influence newborns. The Royal College of Obstetricians and Gynaecologists has recommended such a system of reporting all pregnancies. Abortions and ectopic gestations, as well as all other pregnancies, are now reported uniformly and in detail by hospitals in Great Britain.[3]

Dr. C. K. Fraser, chairman of the Obstetrical Board of the District of Columbia, is currently working on an uncomplicated and inexpensive system of reporting which can be used as a summary for mother and infant at the time of discharge from the hospital. If each hospital in the future files a monthly report with the Director of Health, the Department of Maternal and Child Welfare can keep currently informed of progress in maternal and newborn care. It is hoped that such a program of uniform reporting can be established for all hospitals in the District of Columbia.

The Obstetrician as a Hospital Staff Member

As a member of a hospital staff, the obstetrician must be interested in rules and facilities which contribute to the life and welfare of the mother, the newborn, and the family. Such rules should permit a ready exchange of thoughts, communications, and services which benefit mother and newborn.

All hospitals accepting the responsibility for maternal and newborn care should have departmental regulations which require consultation for all obstetric and pediatric complications.

It is the responsibility of the obstetric staff to see that proper equipment is available to meet the emergency situations of parturition, to provide immediate operating facilities for any type of delivery including cesarean section, to provide equipment for resuscitation of the newborn, to see that laboratory facilities are available at all times, and to work out a plan for complete day and night coverage by physicians or nurses trained in the technics of obstetric anesthesia.

It is also important to see that the hospital is equipped to keep the obstetrician as well as the patient comfortable during the latter part of the first stage and through all of the second stage of labor. This is the period when the expectant mother will be in greatest discomfort. It is the time when the obstetrician might like to turn his responsibilities over temporarily to a nurse or an assistant. It is also the most hazardous period of parturition for the fetus and newborn. With comfortable quarters in close proximity to the first-stage rooms, the obstetrician is much more likely to be present and ready to cope immediately with any complication which threatens the well-being of the fetus.

It is no longer acceptable for an obstetrician to dash into the delivery room, do a version and extraction because of some indefinite degree of fetal distress, bring out a limp, injured infant, and leave the mother in shock from trauma and lacerations. Regulations should also prevent the practice of any obstetrician who insists that birth be held back by anesthesia or pressure until his arrival. If unavoidable circumstances prevent the obstetrician from being present at the time the patient is ready for delivery, automatic authority to proceed with the process should be delegated to the most qualified physician immediately available.

The Obstetrician as a Diagnostician

Of all specialists the obstetrician has the greatest opportunity to carry on his services as a general physician and family advisor. He is responsible for the health and life of at least two people. He has several months in which to observe physiologic and emotional changes in the mother as well as developmental progress in the fetus.

Since expectant mothers are not immune to the potential diseases of their age group, the obstetrician must be a capable diagnostician with the ability to detect all threatening illnesses at their earliest onset and see that immediate and proper treatment prevents damage to the mother and her developing fetus.

Modern medicine and surgery have made motherhood possible for many women who would have had little hope of having living children a quarter of a century ago. Diabetes, hypothyroidism, syphilis, pneumonia, tuberculosis, and even mitral stenosis no longer carry with them the severe threat to the complete development of the fetus and to the life of the newborn which they did only a few years ago. To see an expectant mother at the gateway of death from Rocky Mountain spotted fever, in the sixth month of her pregnancy, respond to the administration of Chloromycetin and carry on to give birth to a healthy infant or to see a mother with congestive heart failure in the middle months of pregnancy respond to the life-refreshing results of a mitral valvulotomy without loss of fetus represent examples of the miracles of modern medicine and surgery. These are only two out of many critical circumstances where the science of today's medicine permits patients to have healthy needs for the newborn services of a pediatrician.

The obstetrician must evaluate the psychic as as well as the physical needs of the expectant mother.[4] Disregarded fear and unrelieved pain can contribute to such severe muscular contractions of the uterus and birth canal that a veritable vise encompasses the body and impairs the life of the fetus. Since the majority of emotional problems can be detected in early pregnancy, the obstetrician has a long period for therapy. Most acute emotional exacerbations at the time of childbirth can be avoided by proper prenatal treatment.

The Obstetrician as an Investigator

In the history of the human race the scientific fundamentals of reproduction are a relatively recent discovery. Less than three hundred years ago von Baer first demonstrated the ovum. A few years later, following the suggestion of one of his students, van Leeuwenhoek first saw the semen of male animals.[5] These two discoveries gave rise to many scientific theories. The "ovists" thought the egg to be the true beginning of man. The "spermists," with a completely unwarranted but deep feeling of masculine superiority, even described the fetus as well formed and curled up in the head of the sperm.[6] A century passed before it was realized that reproduction results from the satisfactory union of sperm with ovum.

Empiric principles in midwifery, as in other fields of medicine, often preceded scientific truths. Oliver Wendell Holmes and Semmelweis preached and fought for antisepsis in obstetrics before Lord Lister or Pasteur provided proof of the bacterial spread of disease.

Scientific investigations have been somewhat handicapped by the placental variations of mammals. Furthermore placental, embryonic, and fetal development are influenced in the human by dietary, postural, and possibly even emotional factors, dissimilar to those of other mammalian species. Only in the last quarter century have such brilliant studies as those of Heuser and Streeter[7] on embryos of the Rhesus monkey and the recent research by Ramsey[8] on the placenta contributed sufficient scientific knowledge to permit reasonable clinical comparisons in primates. The early embryos discovered by Hertig and Rock[9] have added immensely to our knowledge of human development. The in vitro fertilization process witnessed with phase-contrast microscopy by Shettles[10] and the ultramicroscopic studies of the spermatozoon by Madsen[11] represent outstanding fundamental contributions to the science of human reproduction. In recent years a number of investigators have added immensely to our knowledge of the physiologic and pathologic functions of the human placenta.[12-15]

Scientific investigation has three important components: a problem, an idea, and a budget. Certainly there are many unsolved problems in obstetrics and newborn pediatrics. A few important obstetric problems which fit so well into our discussion of this evening are those of ectopic pregnancy, abortions, prematurity, and malformations. Lack of complete understanding of these conditions and the inability to prevent early fetal losses represent a tremendous expenditure in life and money. Dr. Edward C. Hughes conservatively estimated that the hospital and professional costs of this group of fetal losses, as projected for the United States from his Syracuse survey, would be aproximately $193,612,245 annually.[16]

Practical ideas for productive research in reproduction are often difficult to initiate without unjustified potential dangers to mother and fetus. Knowledge of the genetic factors in human reproduction have been limited by the time factor. The placenta has posed a problem for it is only similar and not identical in the various primate groups.[8] The possibility of tagging radioactive elements in the maternal-fetal circulations without danger offers a promising opportunity for future research. In the field of radiology image-amplified fluoroscopy may prove to be a revealing future means of studying the mechanics of childbirth without harm to the mother or infant.

Eastman, in his stimulating address entitled "Mount Everest in Utero,"[17] estimated money for research, listed under the broad heading of "Pregnancy-Newborn," amounted to one-fifteenth the sum spent on cancer research and one-seventeenth the amount directed toward investigation of cardiovascular disease. Budgets are built by selling ideas about problems to proper sources of revenue. Childbirth has its greatest personal meaning to young people in the early reproductive years of life when their economic ability to contribute money for research is least. Resources for research in obstetrics and pediatrics justify a wide appeal. Research which leads to understanding the very beginning and early development of human life should pay greater dividends in better health for all the rest of life. One example is the unsolved problem of hypertension. Toxemia hypertension in late pregnancy offers an unusual opportunity to study blood pressure changes while they are still in a reversible state.

Thus far only gross methods of measuring delivery and drug effects on the fetus are available. The major problem in obstetric anesthesia concerns two individuals living in entirely different atmospheres of oxygen. Minute methods of measuring drug concentrations in mother and fetus are necessary before benefits of obstetric anesthesia can be balanced accurately against dangers for the newborn.[18]

While the art of midwifery is very old, the science of human reproduction is quite young, and many truths are still to be learned. If scientific perfection were possible in obstetric practice, each pregnancy could be planned, uncomplicated, comfortable, and productive of a perfect newborn.

The Obstetrician as a Practicing Specialist

In the original preparation of this presentation it was a great temptation to talk entirely in terms of technics which have been found, in selected circumstances, to be of particular benefit to the newborn. This would have been a review not only of our own practice procedures but those of our many colleagues, a task far too great to accomplish in one evening. Rather than attempt to cover all practice procedures which directly or indirectly contribute to fetal and neonatal mortality, only a few technics directed toward special problems will be presented.

There are differences of opinion about the benefits and dangers of vaginal examination in the presence of bleeding or contractions which threaten to result in abortion or premature delivery. A clean, antiseptic, nontraumatic visualization of the vagina and cervix will not only permit a better and more complete diagnosis, but it will result in a higher rate of preservation of conception. Threatening conditions such as a cervical polyp, cancer, and vaginitis can be treated according to indications and to the advantage of the pregnancy. The influence of contractions on the lower uterine segment and cervix can be evaluated, and the benefits of sedation and hormone therapy may be used with more intelligent indications.

In a small but highly important group of women who have repeated losses of pregnancy between the third and seventh months because of an incompetent cervix, pregnancy may be carried to term by early diagnosis, bed rest, and possibly even by a surgical purse string operation of the cervix with fascia lata as recently advocated by Shirodkar.[19]

An aseptic vaginal examination in the seventh month of pregnancy, particularly in the presence of an overdistended uterus may reveal cervical effacement, a highly suggestive sign of multiple pregnancy. One of the significant principles in preventing premature labor in twin pregnancy is based on posture and gravity. All other mammals with a potentiality for multiple births have uteri which are parallel rather than perpendicular to the earth's surface. Depending upon the degree of cervical effacement and dilatation, as determined by vaginal examination, partial to absolute bed rest may be indicated for the prevention of premature birth in the presence of multiple pregnancy.

The obstetric problems of prematurity are threefold: (1) to understand the causes and prevention of premature birth, (2) to conduct premature labor, often complicated by transverse or breech presentation, with preservation of life and health for mother and infant, and (3) to be responsible for maintaining warmth and establishing respiration in the premature newborn. Premature birth results from a multiplicity of causes, many of which remain unknown. Certainly in addition to multiple pregnancy, mentioned above, premature delivery may be associated with toxemia of pregnancy, abnormal implantation or premature separation of the placenta, traumatic intercourse, systemic diseases, fetal anomalies, and local pelvic pathology, such as tumors, cervical lacerations, and infection.

The threat to fetal life from toxemia of pregnancy is best accomplished through preventive prenatal care. However, when toxemia is well established, medical means of reversing the process of temporary hypertension should be tried. When it is evident that medical treatment is failing to correct pre-eclampsia, pregnancy should be terminated for the benefit of the fetus as well as the mother.[20]

Premature fetal life is threatened by placenta previa when hemorrhage is sufficient to produce a period of shock in the mother, when traumatic methods of delivery, particularly version and extraction or breech delivery are used, and when at cesarean section the operator cuts through the placenta and delays delivery of the fetus long enough to permit appreciable loss of blood from the fetal circulation.

When the diagnosis of placenta previa is made between the twenty-eighth and thirty-sixth weeks, there is justification for noninterruption of pregnancy so long as maternal and fetal life are not jeopardized by continuous or profuse blood loss. Survival chances for the fetus increase with each week pregnancy can be carried closer to term.[21–23] Expectant treatment of placenta previa by bed rest and observation should be carried out in a well-equipped hospital rather than in the home. Placenta previa at thirty-two weeks of pregnancy is about as serious a threat to the mother as an attack of coronary thrombosis, for which there would be no hesitancy to insist upon hospitalization. Even if costs alone are considered, it is less expensive to have an expectant mother in a maternity ward than a premature in the nursery.

The obstetrician's interest, if not his practice, should go well beyond the birth hour of the premature infant. It is in this large group of little people that the obstetrician can witness the end results of an incomplete and often imperfect pregnancy. Intracranial hemorrhage, fetal anomalies, cerebral palsy, hyaline membrane disease, and retrolental fibroplasia should concern the obstetrician as much as they do the pediatrician. The premature newborn is in reality an immature fetus transferred from a maternal to a somewhat less efficient mechanical incubator. During the last two decades premature care has improved immensely, but for lack of knowledge the principles of preventive medicine have not been completely applied to the problem.

Potter[24] has recently reported that all causes of perinatal mortality have decreased except malformations and erythroblastosis. There has been a reawakening of obstetric interest in factors directly or indirectly responsible for fetal malformations,[25,26] Statistical studies continue to indicate that mongolism is more prevalent in primipara and in women past forty.[27] The mathematical possibility of mongolism has served as a source of fear for older women who wish to conceive. Commendable efforts are under way to improve the health of mongoloid infants.[28]

In his day-to-day practice the obstetrician should never lose sight of the sad circumstances associated with cerebral palsy. Frequently by the time the condition can be diagnosed with accuracy, the obstetrician has forgotten the details of the delivery. Recent studies have renewed obstetric interest in the birth process as a contributing factor in cerebral palsy.[29,30]

Fetal life threatened by erythroblastosis requires the cooperative services of obstetrician, pediatrician, and hematologist, plus adequate hospital facilities. Until some factor is found which will provide immunity in blood incompatabilities, the obstetrician's responsibility will consist of detecting from history and laboratory studies the possibilities of anti-Rh sensitization, of determining after the period of viability the developing degree of antibody titer, of inducing labor in sensitized patients when fetal size and cervical circumstances permit at about the thirty-seventh week of pregnancy, of delivering the infant in a hospital equipped for twenty-four-hour laboratory determinations on the cord blood, and where exchange blood transfusion can be carried out with teamwork precision.[31,32]

In hospitals with special obstetric services there has been an appreciable decrease in fetal death due to trauma.[24] The usual operative procedures currently carried out in hospitals are based on sound obstetric and surgical principles, reinforced by indicated laboratory procedures and directed by careful medical knowledge of the individual patient. The prevailing principles in all operative obstetrics must be that the particular procedure to be employed will be of benefit to the mother or infant, harmful to neither, and preferably of value to both.[33]

As a general rule the greater distance the fetal head is moved in the birth canal between two unyielding steel forceps blades, the greater will be the possibilities of injury to mother and baby. In selected circumstances forceps can be lifesaving instruments for the fetus, but before forceps are applied the physician should always assure himself that he can facilitate the mechanism of labor with benefit to infant and mother.

Only in unusual and indicated circumstances should midforceps delivery be accomplished. As an elective procedure midforceps delivery is undergoing the same unfavorable scrutiny applied to high forceps during the first quarter of this century.[34–38] By and large midforceps operations can be avoided (1) by careful vaginal examination during labor, (2) by scientific, accurate x-ray pelvimetry, (3) by the indicated use of Pitocin to stimulate contractions, and (4) by the judicious use of caudal anesthesia. The use of any or all of these procedures with intelligence and forethought will practically obviate the need for an emergency removal of the fetus whose life has already been partially compromised by a long and traumatic labor.

Indicated and carefully conducted low forceps deliveries prevent perineal stress on the fetal head. Forceps should be used as much for guidance as for rotation. Thus used, forceps delivery may be considered the first form of child guidance.

Fetal dangers in breech delivery increase in direct proportion to the weeks of prematurity. The premature infant's head is relatively much larger than its body. Le Lorier[39] is quoted as saying that the premature infant presenting by breech is in fact born three times: with the birth of the breech, with the birth of the shoulders, and with delivery of the large aftercoming head. This is certainly a true statement and a significant contributing factor to the high incidence of birth injury, hypoxia, and fetal-neonatal death. In any breech presentation the capacity of the pelvis can be predicted and the size of the infant can be estimated, but the reaction of the lower uterine segment remains unknown until the birth process is well under way. Contraction of the lower segment about the aftercoming head is one of the most common contributing causes to fetal injury and death in the delivery of a premature infant presenting by breech. This can be avoided by the insertion of an extraovular bag when the cervix is partially effaced and 3 to 4 cm. dilated. The large bag causes complete retraction of the lower uterine segment and dilatation of the cervix in preparation for the passage of the fetus through the soft parts of the birth canal. This is a life-preserving procedure for the premature infant, and it can be quite helpful in the full-term fetus presenting as a footling or complete breech. Bag insertion deserves careful consideration in the patient who has early rupture of the membranes, a footling breech, a favorable cervix, and who is not in labor.

Cesarean section as a health-preserving procedure for the newborn is most successful when fetal life has not been jeopardized by neglected labor or delay in treating emergency conditions. Obstetric services should have immediate access at all times to operative delivery facilities, preferably their own and apart from surgery. There are many technical points in cesarean section, such as the anesthesia used, the type of section performed, preserving as much fetal blood as possible, and aspiration of the baby's stomach contents, all of which influence the health of the newborn. But in turning from technics to a practical point in judgment the obstetrician is often confronted today with the question of delivering a patient who has had a prior cesarean section. Our subject of this evening does not call for a debate about cesarean section, but it does justify a warning regarding the practice of some obstetricians who regularly advise repeat cesarean section two weeks before the expected date of confinement. Too often such a practice produces a premature newborn handicapped by rapid extraction from its natural incubator too soon. The dangers of uterine incision rupture are not great, and certainly elective cesarean section seldom has to be done before the onset of early labor.[40–42]

There are certain fetal emergencies which the obstetrician should detect early and correct immediately. These include overcontractility of the uterus, prolapse and impingement of the cord, partial or complete abruption of the placenta, rupture of the uterus with disruption of the placenta, placenta previa, vasa previa, and rupture of the cord.

The time-honored treatment of the overcontracted uterus has been some form of deep anesthesia, preferably chloroform or ether, but satisfactory induction to the point of uterine relaxation usually takes more time than the fetus can afford. Better results may be anticipated by stopping all oxytocic medications and by refraining from any direct stimulation of the uterus while giving the mother oxygen inhalation plus 10 to 20 cc. of a 10 per cent solution of magnesium sulfate slowly intravenously.

Placing the patient in knee-chest position while preparing her for examination is the best immediate method of taking pressure off the prolapsed cord.

The well-being of many infants can be preserved in abruptio placenta by releasing the amniotic fluid in the presence of a partially dilated cervix or by the immediate availability of operating room facilities for cesarean section in the event the cervix is uneffaced and undilated.

A ruptured uterus is a true maternal-fetal complication in which life for mother and baby both depend upon immediate diagnosis and excellent teamwork surgery in ideal surroundings.

The mechanism of reviving a newborn and the establishment of normal respirations are important, but the management of parturition should be such that the baby has no respiratory embarrassment at birth. The clinical signs of fetal distress include such findings as a fetal heart rate of more than 160 per minute or, particularly, one with a rate of less than 100 beats per minute, fluctuating and irregular fetal heart tones, meconium-stained amniotic fluid in the absence of a breech presentation, and unusual fetal activity. Any one or all of these clinical signs may be misleading when there is no associated reason for fetal embarrassment.[43] Oxygen given to the mother before delivery may reduce the need of the newborn for extra oxygen after his birth.[44] To date no clinical means has been devised for determining with accuracy when the fetus or newborn has a reversible or irreversible degree of anoxia.[45] Until better methods of measuring hypoxia than the gross signals of fetal distress are available, life for the newborn must rest on the variables of clinical judgment.

Summary

Yesterday's students of midwifery have become today's obstetrician-gynecologists. By utilizing the scientific advances of modern medicine and surgery they have made motherhood safer than ever before in the history of mankind. The end products of pregnancy, the infants, are healthier too than they were a decade or so ago. The obstetricians would be first to admit that the survival score for the newborn, particularly for the premature, must be shared in great part with their cooperative colleagues, the pediatricians.

In reviewing the role of the obstetrician in the prevention of neonatal mortality, it must be admitted that recent advances have resulted largely from practice procedures. The practicing physician is a translator of laboratory science to patient needs. The obstetricians will continue to share with scientific investigators, with pediatricians, with anesthesiologists, with hospital administrators, health officers, and nurses all thoughts which point the way to a better understanding of the science of reproduction and which contribute to a healthier life for infants of the future.

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EDITOR'S NOTE.—*With this article the current series on infant mortality is concluded. The papers from the 1955–1956 series will appear in issues following their presentation at meetings of the Special Committee on Infant Mortality of the Medical Society of the County of New York.*

ANNOUNCEMENT

PRIZE ESSAYS

The Lucien Howe Prize and the Merrit H. Cash Prize will be open for competition at the next Annual Convention of the Medical Society of the State of New York, May 7 to 11, 1956, in New York City.

The *Lucien Howe Prize* of $100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The *Merrit H. Cash Prize* of $100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win a prize automatically becomes the property of the Medical Society of the State of New York, "to be published as it may direct."

All essays must be presented not later than *February 1, 1956*, and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

R. TOWNLEY PATON, M.D., *Chairman*
Committee on Prize Essays

CLINICOPATHOLOGIC CONFERENCE

ST. JOSEPH'S HOSPITAL

ELMIRA, NEW YORK

Conducted by F. S. HASSETT, M.D.

NOVEMBER 10, 1954

Discussed by ROBERT E. WESTLAKE, M.D.*

Case History

This sixty-five-year-old housewife was admitted to the hospital in 1952 complaining of palpitation of a few hours duration. In the years between 1947 and 1952 she had been seen in this hospital five times. A summary of the significant observations and studies made in those years will be given first.

Two admissions had been for right lower lobe bronchopneumonia which had been easily controlled with antibiotics. She had asymptomatic cholelithiasis. At first it was found that she had an inconstant elevation of the blood pressure and from 2 to 4 plus albumin in her urine. Renal studies revealed the following: Urine cultures were always negative. The albumin came from both kidneys. The urine from each kidney was low in specific gravity and contained no formed elements aside from a few white blood cells. Phenolsulfonphthalein excretion was impaired but equal on the two sides. The kidneys themselves were smaller than normal, especially the left kidney, although the collecting and excretory systems appeared to be normal.

Later in her course, the blood pressure became fixed at an elevated level. An admission in 1950 was for "impending uremia," at which time she had a nonprotein nitrogen of 82 mg. per cent. By increasing her fluid intake the nonprotein nitrogen was reduced to a normal level. After discharge from the hospital she continued on a high fluid intake and a low-protein diet. In spite of constant high blood pressure her heart size was normal by x-ray, and her electrocardiograms remained within normal limits. She got along fairly well, performing her housework each day, up to the admission occasioned by the cardiac palpitation referred to above.

The patient had noted precordial distress in the form of palpitation which had come on rather suddenly several hours previously. On examination her physician diagnosed paroxysmal auricular fibrillation by electrocardiogram and sent her to the hospital.

The patient was a well-developed, well-nourished, white female. The head and special senses revealed no abnormalities. The lungs were clear to percussion and auscultation. The heart was grossly irregular. There was a diffuse systolic murmur over the precordium. The liver was not palpable, and there was no evidence of dependent edema. Temperature, pulse, and respirations were normal. Blood pressure was 186/120.

The urine showed a specific gravity of 1.005 with a 1 plus albumin and a negative microscopic examination. The red count was 4,100,000 with 12.9 Gm. of hemoglobin. The white count was 8,000 with a normal differential. The nonprotein nitrogen was 27. Total serum proteins were 6.9 with a normal albumin to globulin ratio.

The patient was digitalized in twenty-four hours with digitoxin, 1.2 mg. An electrocardiogram following this showed a normal sinus rhythm and minor ST changes which appeared to be digitalis induced. X-ray of the chest showed an enlarged heart with a transverse chest diameter of 26.6 cm. and a transverse diameter of the heart of 14 cm.

She was discharged after seven days to continue her convalescence at home.

She was readmitted ten days later. Two days before admission the patient had substernal

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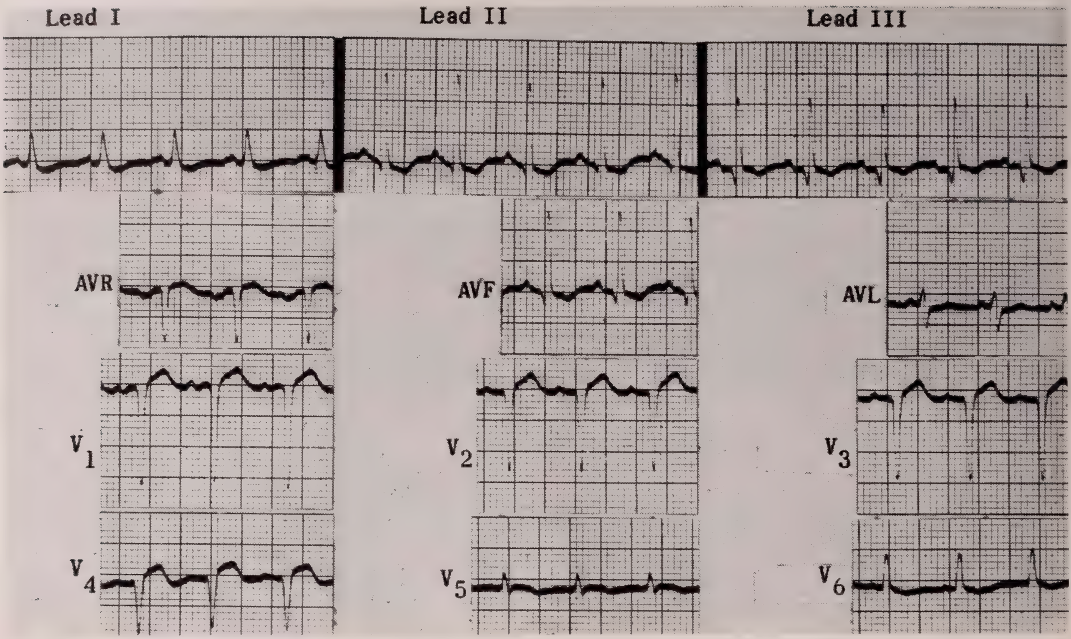

Fig. 1.—Admission electrocardiogram showing changes suggesting antero-septal infarction.

oppression radiating to both shoulders; with this she had nausea, vomiting, and diarrhea for twenty-four hours. In the second twenty-four hours before admission all symptoms had subsided except the substernal oppression, which radiated to the right shoulder and the right arm. Because of the persistence of the chest pain she was readmitted to the hospital.

The patient on admission appeared ill. The examination was essentially as previously. The heart was regular, and there was a grade II precordial systolic murmur. The temperature was 101.4 F., pulse 100, and respirations 30. The blood pressure was 168/105.

Laboratory findings were essentially as before except that the white blood count was now 14,000, and the sedimentation rate rose to 45. The nonprotein nitrogen was 67. The electrocardiogram (Fig. 1) showed depression of RT in leads I and II and a Q wave and inversion of T in lead III and a Vf. In the precordial leads V_1 through V_4 there was no initial R deflection, and the RT segments were slightly elevated.

The patient was placed in oxygen and given opiates as needed. During the first three days she had frequent recurrences of the anterior chest pain as well as paroxysmal attacks of dyspnea. On the third day in the hospital digitalis was restarted. The electrocardiogram (Fig. 2) on the fourth day showed a further depression in the RT in leads I and II. A small R wave was present in V leads 1, 2, and 3, and the RT segments in these leads were more elevated. In V_5 there was a QS wave with an inverted T; in V_6 there was a large R wave and a depression of the RT. Mercurial diuretics were used on two occasions with further improvement in the patient's subjective condition.

A week after admission the patient's temperature, pulse, and respirations were normal. The sedimentation rate was 51, and the nonprotein nitrogen was 55. An electrocardiogram showed no essential change from the one immediately preceding except that the QS pattern was now recorded in V_4 position rather than V_5. She complained of no chest pain or dyspnea and noted only weakness.

On the tenth day of her hospital stay she was awakened by a recurrence of the substernal oppression. The patient was restarted on oxygen therapy and given opiates to control the pain. About eight hours after the recurrence of the pain the patient's pulse suddenly became very weak and irregular, and she quickly and unexpectedly expired.

Discussion

Dr. Robert E. Westlake: This is a case which has more teaching value than testing value of the discusser, thank goodness! This was a five-year course, we notice, in a woman in

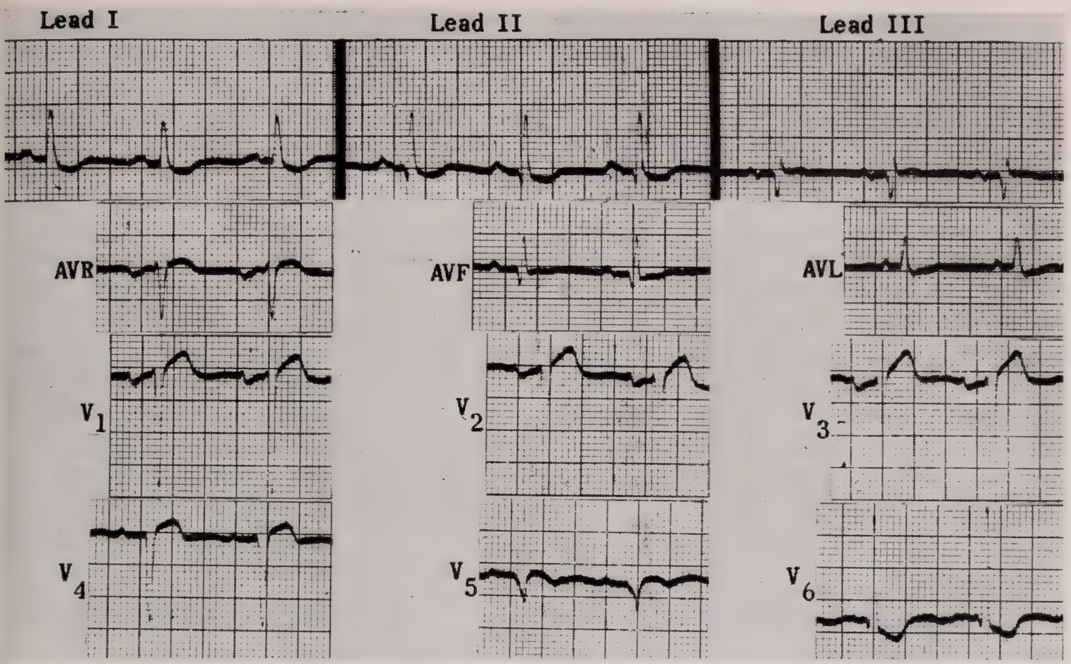

FIG. 2.—Electrocardiogram on fourth day showing changes suggesting posterior infarction.

her early sixties. At first there was an inconstant elevation of the blood pressure. At age sixty, inconstant elevation of the blood pressure either means that a patient without essential hypertension or renal disease is getting into the systolic hypertension stage of arteriosclerosis, or it means that he has had chronic kidney disease of some sort and that he is now getting into the secondary hypertension. Essential hypertension which gives trouble to a woman at age sixty is not inconstant. It is usually fairly fixed by then. Women tolerate high blood pressure well, except in pyelonephritis, so that may be a clue. Here is a woman who had inconstant blood pressure elevation at sixty, and at sixty-five she is dead with fixed high blood pressure. She hasn't really had steady hypertension long enough to do all this damage. So maybe we ought to think of other than the garden variety of hypertension.

There was 2 to 4 plus albumin in her urine. This is, of course, the common denominator of glomerular disease and is of no use whatsoever in trying to determine which road was taken to arrive at this juncture. Urine cultures were always negative. This reassures many people that pyelonephritis is not present. However, at this stage, unless there is an acute exacerbation, pyelonephritis will almost never give a positive urine culture. As a matter of fact, it doesn't even give dilated ureters. "The albumin came from both kidneys"—that is reassuring to some extent, but not very useful in separating our various possibilities. "Low specific gravity"—the same thing applies to that. She had smaller kidneys than normal. That isn't very helpful either, because the kidneys of chronic glomerulonephritis are contracted kidneys; the kidneys of chronic pyelonephritis are contracted kidneys; the kidneys of essential hypertension may be contracted and frequently are. Thus, the size of the kidney isn't any great help.

An admission in 1950 was for "impending uremia." The nonprotein nitrogen of 82 is no measure of the total efficiency of the kidney. All of us have seen nonprotein nitrogens in the hundreds for years. The kidney has many other functions besides that of clearing nonprotein nitrogen, and therefore, this is not an especially dire sign. By increasing her fluid intake the nonprotein nitrogen was reduced to a normal level. This is an accepted method of reducing the nonprotein nitrogen. Then we see that she was placed on a low-protein diet. This is an ancient controversial point. I do not use a low-protein diet. I feel that because albumin is still being spilled during a low-protein diet, it reflects just as much work for the kidney as a high-protein diet. In other words, as long as albumin is being spilled, it is probable that tubular resorption of protein is maximal. You've got the leaks; you've got the tubules working maximally; otherwise albumin wouldn't be spilled on a low-protein diet. So how can you do any harm by giving more proteins? I feel the avoidance of hypoproteinemia, general nutritional depletion, and loss of muscle mass by a high-protein diet is more important.

Now we come to the episode of precordial distress in the form of palpitation coming on suddenly. She was fibrillating with a rapid ventricular rate. A low-protein diet and a high fluid intake is an excellent way of keeping potassium stores down. We know that potassium favors polarization of the heart; there is a resistance to depolarization, a resistance to the generation of an impulse. With a low potassium the myocardium of both the ventricles and auricles is sensitive and is able to discharge. Its conductivity may be prolonged, favoring arrhythmias, either paroxysmal tachycardia, paroxysmal fibrillation, or flutter. I don't know that that's what happened, but at least it is a possibility.

The next thing we have are the laboratory findings. Specific gravity of 1.005 is low. I think that is a reflection of the large water intake more than anything else. One plus albumin, if the output was 3,000 or 4,000 cc. a day, represents a lot of albumin because our albumin test is based on concentration. Negative microscopic examination does not rule out pyelonephritis. Chronic pyelonephritis can come to this point and have no white cells, no pus, no casts or red cells, and only a low fixed specific gravity and some albumin. Interestingly enough, the red count and hemoglobin are not bad if we are going to postulate chronic kidney disease with a certain amount of azotemia. She had total serum proteins of 6.9 with a normal ratio. This, of course, supports those who say the low-protein diet is important in chronic renal disease. They point out that as little as 15 Gm. of protein a day will maintain normal total proteins and albumin-globulin distribution. This is a good case to illustrate that. Certainly those are rather surprising plasma proteins for anyone who has had to maintain a high urine volume in order to keep out of azotemia.

We are then given an actual blood pressure reading of 186/120. That is borderline, of course, for classic Bright's disease. There is much overlap. Corcoran and Page[1] reported an overlap of 35 per cent using blood pressure alone. It isn't of much use to say that if the blood pressure is over 180 systolic or over 110 diastolic, it must be essential hypertension. That does not work because pyelonephritis and chronic glomerulonephritis could elevate it that much.

Next I see the patient was digitalized. I assume this was because of the paroxysmal fibrillation because the lungs were clear to percussion and auscultation and the chest x-ray showed very little in terms of heart failure. By x-ray criteria the heart was enlarged. She was discharged after this, apparently no worse than before.

Ten days later something happened. She developed substernal oppression, nausea and vomiting, and diarrhea. On admission there was evidence of something more profound than had happened before. There were fever, tachycardia, and tachypnea. I suspect that she was dyspneic, i.e., she was in distress with her breathing as well as breathing fast. It makes a difference. The blood pressure was lower than it was before, but I do not know whether this was a true blood pressure drop. I would suggest that it represents very little blood pressure fall. The increased white count and sedimentation rate indicate tissue necrosis. The nonprotein nitrogen was 67. It is possible that this was 67 because of the dehydration caused by the nausea and vomiting and by the diarrhea and the lack of fluid, which went on for twenty-four to forty-eight hours. In other words, she had been unable to maintain her high urine output. It may also have been due to a lowered cardiac output.

Then we come to the electrocardiogram (Fig. 1). In this electrocardiogram, taken probably because of pain, tachycardia was present. There was a small Q wave in lead II and a slightly larger Q wave in lead III. Let me warn you never to get trapped into diagnosing infarction on a Q wave in standard lead III alone. Every time you see a Q wave in standard lead III, look for a Q in lead II. You never can be sure that it represents an "electrical hole" unless there is a Q at both points. In the precordial leads the RT segments were elevated. You will notice that in the right-sided leads, V_1 through V_4, there were elevated RT segments and deep S waves. These segments could be consistent with digitalis effect. This could have been just reciprocally displaced segments with a clockwise rotation of the heart. It is possible that the lack of

R waves in V_1, V_2, and V_3 is simply positional. In V_4, even though there was a smaller S wave, there was no R wave. The progression across the precordium ought to be this: As the S wave gets smaller and finally disappears, the R wave ought to "grow." As you cross around the electrical field, if it isn't going away from you, something must be coming toward you, and coming toward you inscribes an R wave. So at V_4 you have lost a certain amount of the electrical field, and with this the ST junction is more displaced. One would expect, if this were digitalis effect, that the junctional elevation would be greatest where the S wave was deepest. Instead you have the greatest displacement in V_4. So I think we have to presume there has been loss of tissue and recent infarction in the region of the apex of the heart.

In the next electrocardiogram you find a pathologic Q wave (Fig. 2). By that I mean it is 0.04 second or more in width. Whenever a Q is that wide with a fair R wave, you can be fairly sure that that Q is due to more than simply the initial depolarization of the septum. The normal time for depolarization of the septum is 0.02 to 0.035 second. If there is a prolonged Q, you must have an "electrical hole" of some sort. Lead aVf, of course, is the source of all these Q waves, because standard leads II and III are F minus L and F minus R. Therefore, if the Q in F, which dominates and is carried into leads II and III, is over 0.04 in width, it is probably a pathologic Q wave. In V_5 we see no R. Also we see initial slurring, a kind of a hesitation as the electrical field develops looking at it from V_5, which is in the anterior axilliary line of the patient. So the apex and a little of the lateral wall probably were involved.

Remember we have Q waves in aVF and in standard leads II and III. Classic electrocardiography says that Q in II and III and elevated junctions with inverted T's is "posterior infarction." The precordial leads show loss of R wave indicating infarction in the anteroapical region. How can we reconcile those two findings? It has been pointed out repeatedly in the last five years that what is classically called a "posterior infarction," that is, what is reflected in aVf and standard leads II and III, is actually an inferior infarction. That is, it lies on the diaphragm, that portion of the electrical field which is directed towards the foot. It is the apex of the heart and around the diaphragmatic surface in a vertical heart which is here involved. This gives changes in the foot and in the precordial leads. That is where I would localize this infarction.

At this point, we might summarize by saying that we have a patient with cardiovascular-renal disease and a myocardial infarction. Digitalis was restarted, and mercurial diuretics were used with further improvement in the subjective condition. This patient had kidney disease, and I would think twice before using mercurials. If she was in failure, I would probably go ahead and use them. Mercurial diuretics do strange things to people with kidney disease, possibly because of potassium or other electrolyte changes. The myocardium is sensitive to mercury, and mercury accidents have usually been due to ventricular fibrillation. I recall giving a mercurial to a nephrotic boy, age twenty, and (*post hoc*) the boy went into ventricular tachycardia and fibrillation and died. That certainly was dramatic enough to keep me aware of the fact that people with kidney disease, especially when they have an azotemia or any type of upset in their electrolyte pattern, do not tolerate mercurials well.

This woman was doing rather well, but on the tenth day something happened to her. The clues we have are that first she had chest pain; then the pulse became weak and irregular, and she quickly and unexpectedly expired. The tenth day rings a bell in every cardiologist's brain because the tenth day is when the pathologists tell us that infarction changes are the greatest, that the softening is the greatest. In cardiac rupture, while it can happen all the way from the first day to the twenty-fifth day, the tenth day seems to be the mode of the distribution. However, I don't think this patient ruptured. She might have, and I won't feel badly if she did, because I miss them all the time. Her pulse became weak and irregular, but she was awakened by a recurrence of pain—not palpitation, not dyspnea, but pain. I think that she may have extended her infarction a little and then had ventricular fibrillation. I am playing the horse with the best odds anyway.

As her basic disease, I would say that she had chronic pyelonephritis. From this the rest followed—the hypertension, the heart disease, the myocardial infarction, and finally death.

QUESTION: Had the patient been on quinidine, do you think it would have prevented the development of ventricular fibrillation?

Dr. Westlake: I am a great respecter of quinidine, but not to the point of asking it to do the impossible. When the myocardium is irritable, ventricular fibrillation may ensue. All that is needed is extensively damaged tissue or one irritable focus to get a circus movement started; when that happens, even patients on maintenance doses of quinidine will go on and fibrillate.

Question: Do you use a maintenance dose of quinidine routinely in patients with myocardial infarction?

Dr. Westlake: I do not use it routinely in my patients. We must remember that quinidine is a hypotensive drug. Its routine use may further impair the circulation by reducing the blood pressure.

Question: This patient was not given Dicumarol. In what circumstances do you use Dicumarol in treating patients with infarction?

Dr. Westlake: Our work in Syracuse indicates that in selected cases Dicumarol should be used. How do you select the cases? It is apparent that in anyone who is fat or who has leg vein disease, it is of value. We knew that before. It is apparent that in anyone who has had embolic phenomena during the course of his convalescence from an infarct, anticoagulants will reduce the morbidity and mortality from that cause. Well, we knew that before, too. In anyone who has auricular fibrillation it will reduce the number of emboli. We certainly knew that. Then the only group left is the group of clear-cut infarction with or without complications such as shock or persistent pain. When you narrow it down to that group, you don't come out with much salvage. I think many are getting away from the routine use of anticoagulants because in that narrow group where the only indication is infarction, we are not sure we need it.

Diagnoses

Clinical.—*Chronic pyelonephritis, coronary occlusion, and myocardial infarction.*

Dr. Westlake.—*Chronic pyelonephritis, coronary occlusion with myocardial infarction, and ventricular fibrillation.*

Anatomic.—*Chronic pyelonephritis, coronary occlusion with myocardial infarction, and cardiac rupture with cardiac tamponade.*

Pathologic Report

Dr. James A. Mitchell: Dr. Westlake has saved me from embarrassment by his interpretation of the electrocardiograms. Some of the staff members insisted that according to the electrocardiograms, this patient must have had both anterior and posterior infarctions. I did not find two infarctions.

Briefly, this was the body of a female, sixty-five, 5 feet 5 inches tall, and weighing approximately 125 pounds. There was no edema of the extremities. The pleural and peritoneal cavities showed no free fluid. The lungs showed moderate congestion and edema at the bases with no gross evidence of consolidation. The pericardial sac contained approximately 500 cc. of fluid and clotted blood. The heart weighed approximately 315 Gm. with a left ventricular hypertrophy; the left ventricular wall measured 15 mm. in thickness, the right ventricular wall 6 mm. There was noted an aneurysmal dilatation of the anterior wall of the left ventricle situated at and just above the apex and involving the anterior portion of the septum. There was a rupture of the wall in the center of this area, measuring 3 mm. in diameter. Both coronaries showed marked sclerosis and thickening of the walls, and there was complete obliteration of the left coronary beginning at a point about 2 cm. distal to the ostium. The right coronary artery was narrowed, but it appeared patent throughout. The kidneys were greatly diminished in size, the left weighing about 50 Gm. and the right 105 Gm. The capsules stripped with difficulty leaving reddish, granular, scarred, pitted surfaces. On transection the cortices were markedly diminished in width, only a thin rim of cortex remaining in the left kidney. The pyramidal markings were indistinct. Microscopic examination showed the findings typical of chronic pyelonephritis. The rest of the visceral organs were essentially negative. There were many calculi in the gallbladder.

Summary

Dr. Westlake: Rupture of the heart is a dramatic event. There is nothing one can do about it. Here is a place where we are truly fatalistic. Once the vessel is occluded, then a certain amount of tissue is going to die, and if that amount of dead tissue is too much to provide a wall which will withstand the pressure, dissection through the wall will occur.

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TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

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Treatment of Ovarian Cancer

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IMPROVED results in the treatment of ovarian cancer will probably require therapy adapted to the vagaries of the neoplasm and undertaken with greater optimism than we have reason to feel. Supposedly effective measures and our best efforts are often thwarted by rapidly progressive disease. Such frustration too often leads to undue pessimism when we are faced with the management of the next apparently similar case.

The results of the present-day treatment of ovarian cancer are not encouraging. Moreover, there is little reason to believe we can improve the situation merely by efforts to accomplish an earlier diagnosis. The "cure rate," when malignancy begins in the cervix or endometrium, has been shown to increase in proportion to the percentage of relatively early cases treated. Unfortunately, neither biologic nor mechanical factors favor the patient when malignancy begins in the ovary. Growth is often rapid, and not even peritoneal encapsulation of the ovary delays the dissemination of tumor cells onto adjacent viscera. Since the diagnosis is rarely suspected clinically until signs appear which are due to extension beyond the ovary, it is remarkable that 10 to 20 per cent of patients seem cured for five or more years by present-day surgery and irradiation.

Prophylactic Removal of Ovaries

The ineffectiveness of the methods of treatment now available suggests that virtually all women affected will eventually die of the disease. Replacement therapy is effective and can be inexpensive, so that the effects of castration may be overcome rather easily.

Published data[1] indicate that the probability of any woman developing a malignancy of the ovary approximates nine chances in 1,000. We recognize no factors which seem to predispose the individual to a greater than average chance of developing this neoplasm. When benign disease indicates hysterectomy, particularly when the woman is approaching an age when her climacteric may be imminent, the surgeon must decide if a 1 per cent chance of developing ovarian carcinoma justifies removal of normal-appearing ovaries. Several reports indicate that approximately 20 per cent of the women eventually developing carcinoma of the ovary had been subjected to a pelvic laparotomy during their preclimacteric years. It would seem, therefore, that prophylactic oophorectomy, if employed routinely, might be expected to reduce the number of women developing malignancies of the ovary from nine to seven per each 1,000 women over forty years of age.

Early Diagnosis

Experience gained by routine pelvic examinations and recognition of the earliest stages of cervical and endometrial malignancies have been changing our ideas regarding the life cycle of gynecologic cancer. It now seems evident that cervical and uterine carcinomas may exist for years; such lesions, if detected early, can be effectively treated and relatively easily "cured." Unfortunately, there seems but slight chance of discovering a malignancy of the ovary in an equally early and favorable stage.

Detection of ovarian cancer is likely to occur in either of two situations:

1. *Among those women examined without pelvic complaints,* the chance of discovering an ovarian malignancy is exceedingly small. It seems probable that each year not more than three women among each 10,000 "over forty" can be expected to develop a carcinoma in the ovary.

2. *Among those complaining of pelvic discomfort,* laparotomy is usually indicated to determine the character of any suspected enlargement of the ovary. Particularly among women "over forty," the smaller chance that dysfunctional cystic change may account for ovarian enlargement indicates prompt exploration whenever enlargement is suspected.

What of the women whose adnexa seemed normal when her pelvis was examined? How quickly may she develop a malignancy of the ovary? Would examination once a year increase the probability that ovarian carcinoma would be picked up "early," in a relatively favorable stage? Probably not, for we have recently found extensive peritoneal implantation and ascites in a woman whose pelvis had been regarded as completely negative only ten months prior to the discovery of "inoperable" ovarian carcinoma.

"Inoperable When the Abdomen Was Opened"

Surgery.—The presence of peritoneal implantations and ascites does not contraindicate attempts to remove the primary mass. Even when extensive growth replaces both ovaries, if lines of cleavage can be found between tumor and adjacent loops of bowel, the mass can usually be removed. With larger tumors, by abandoning usual technics of removing the adnexae, time and blood can be spared by a retroperitoneal approach along iliac vessels and the ureters. Such dissection often permits removal of the uterus, parametrium, tumor, and adjacent peritoneum in one mass. We need be concerned only with preservation of the larger vessels, the urinary tract and its blood supply and that of the rectosigmoid. Exenterations have taught us that peritonealization of the pelvis will recur rapidly. When the rectosigmoid is involved, its addition to the resected mass and a colostomy may increase the palliation accomplished.

Complete removal of the omentum will avoid the development of a distressing mass and decrease the reformation of ascitic fluid. Smaller tumor masses proliferating along parietal peritoneum may be peeled out of the pelvis as portions of the peritoneum are removed. Javert's[2] findings indicate that the pelvic nodes will often be involved; however, since an extensive local resection is indicated and in view of the probability of recurrences within the abdomen, an adequate dissection of pelvic lymphatics does not seem likely to improve palliation nor to add appreciably to the patient's chances of long survival.

When the patient's general condition permits, reoperation may occasionally seem indicated months after the initial surgery and irradiation. Localized recurrences that are resectable are most frequently noted with the granulosa cell type of relatively mature adenocarcinomas, and such recurrences occasionally develop without generalized carcinomatosis.

Irradiation.—*Preoperative:* When the vascularity and extent of the growth suggest that primary surgery is not advisable, biopsies should be taken, perhaps even the entire omentum removed. Irradiation should then be given a trial, and in some instances operability will seem markedly improved within a period of a few weeks.

Many patients, particularly with large masses of tumor, tolerate needed quantities of irradiation poorly, but the effectiveness of such therapy cannot be predicted without a "therapeutic trial," and when necessary, efforts to assure the patient's cooperation are most important.

Irradiation within the abdomen and pelvis by means of activated gold in colloidal suspension provides treatment surprisingly well tolerated by almost all patients. The effectiveness of such irradiation does not extend deeper than a millimeter or so into the tissues bathed by the suspension, however, and "deep" roentgen therapy is still advisable when there are appreciable masses of tumor to be irradiated.

Postoperative: After surgery, irradiation may be given on a purely prophylactic basis. When ascitic fluid reforms or recurrences of tumor become evident, such treatment often proves surprisingly effective. Pleural effusion and pulmonary metastases may temporarily recede as dramatically as intraperitoneal recurrences. Irradiation is always worth a trial.

HORMONE THERAPY.—Except for the nonspecific anabolic "tonic" effect of testosterone, glandular therapy has seemed of no benefit to the victim of an advanced carcinoma of the ovary.

"*The Pathologist Was the First to Recognize That the Ovarian Tumor Was Malignant*"

Occasionally the surgical procedure may have been completed before the malignant character of the ovarian tumor was recognized. Carcinomatous involvement of only one ovary does not imply a relatively slow-growing tumor; often apparently early neoplasms prove to be highly malignant. When the diagnosis of carcinoma of the ovary is a surprise and only the one ovary has been removed, adequate surgery should not be delayed. Removal of the uterus, remaining adnexa, adjacent areas of peritoneum, and the entire omentum will improve the patient's chances for longer survival. Removal of palpable nodes along the iliac and ovarian vessels might prove to be of prognostic significance, but it is doubtful whether a retroperitoneal dissection of lymphatics would alter the chances of recurrence, usually within the peritoneal cavity.

Within a few days after operation, injection into the abdomen of a colloidal suspension of activated gold provides a well-tolerated method of postoperative irradiation. The probability that scattered tumor cells will remain viable is generally recognized, and some form of prophylactic irradiation is usually given, even though its effectiveness under such circumstances is, of course, impossible to evaluate.

Rarer Types of Ovarian Malignancy

The ovary is peculiarly susceptible to metastatic involvement, but the discovery of metastatic tumor in the ovary seems a matter of prognostic importance only. In most instances removal of such ovaries will not appreciably affect the course of the primary disease.

The rarer but highly malignant tumors of the ovary—the sarcomas, mesonephromas, embryonic types of teratomas, dysgerminomas, and granulosa cell tumors—are often observed in adolescent girls or relatively young women. Since it may be particularly desirable to save the uterus and opposite ovary, no rules or generalizations can be made in regard to the management of these neoplasms. When an ovarian lesion of questionable character is discovered at laparotomy, it is advisable to call the pathologist to the operating room for immediate consultation at the table.

An apparently well-encapsulated or pedunculated tumor suggests no necessity for removal of the uterus and opposite adnexa. It is well to remember that even the most radical management may prove ineffective and that the conservative removal of only the involved ovary is sometimes followed by a surprisingly benign course. Follow-up studies emphasize that the histologic picture of granulosa cell tumors fails to provide a basis upon which the prognosis can be reliably determined. However, unless the patient is at an age when subsequent childbearing is a matter of primary importance, we believe the discovery of these rarer types of tumor usually indicates removal of the uterus and opposite ovary.

Summary

An over-all cure rate is of little value in determining the prognosis when ovarian malignancy is concerned. Each entity among this variety of neoplasms should be approached as a specific problem. We are usually concerned with the so-called primary carcinomas of the ovary. They comprise the largest group and are usually highly malignant. Some respond well to treatment, however, and that possibility continues to warrant our best efforts.

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Diagnostic Procedures in Allergy

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THIS discussion concerns itself with the diagnostic procedures which are commonly employed in the specific diagnosis of atopic allergic diseases, a group of illnesses based primarily on an hereditary predisposition and including among its most important manifestations asthma, hay fever, perennial allergic rhinitis, atopic dermatitis urticaria, angioedema, migraine, and related conditions. No single immunologic mechanism mediates all of these conditions, but when an antibody is demonstrable in the patient's blood or tissues, it is usually the "atopic reagin" or "skin-sensitizing" antibody. This antibody is not pathognomonic of atopic allergy and may occur in normal individuals following treatment or contact with unusual antigens, such as animal sera, intestinal parasites, and antibiotics. Moreover, the absence of reagins does not exclude a diagnosis of atopic allergy which may occur in the predisposed individual without positive skin reactions and even without the participation of an immunologic mechanism.

In the diagnosis of atopic allergic illnesses no procedure exceeds in importance the procurement of a detailed and careful history. This and a complete physical examination will usually not only establish the clinical diagnosis of atopic allergy but in most instances will determine the need for the diagnostic procedures and also their scope. In many allergic conditions, such as chronic urticaria, angioedema, drug sensitivity, some types of migraine, and gastrointestinal disturbances, skin tests contribute little information, and other diagnostic measures are indicated. The procedures most frequently employed in the search for specific excitants which cause atopic allergy are (1) the skin test, (2) ophthalmic tests, (3) nasal tests, (4) environmental tests, and (5) dietary studies.

The Skin Test

There are many varieties of this specific method of diagnosis which seeks not only to ascertain whether the patient is allergic but also to determine the specific allergenic offenders which are responsible for his symptoms. The skin test may be regarded as a method of detecting the presence of atopic reagins which are found not only in the circulation but also in the skin, mucous membranes, and other tissues. The union of the reagin in the skin with its related antigen (allergen) which is applied in the skin test causes the release of histamine or a histamine-like substance by the tissues and results in an urticarial reaction. This usually consists of a wheal of variable size and shape surrounded by erythema and frequently accompanied by pruritus.

The technic most commonly employed in general practice is the *scratch test.* A series of superficial scratches or abrasions about $^1/_8$ inch long are made on the cleansed skin of the arm, forearm, or back. Over these scratches, which should not be deep enough to cause bleeding, allergenic materials are gently applied. For the worker who tests only occasionally, the use of dry allergenic powders which are dissolved in alkaline solution applied on the scratch is desirable because of the stability of this type of test material. Others prefer to use extracts prepared with glycerin or other solvents and preservatives. After fifteen or twenty minutes the allergens are removed from the skin, and the reactions at the test sites are read and interpreted on the basis of comparison with control tests which have been made with diluents devoid of allergenic principle.

For the well-trained allergist and the research worker the *intracutaneous technic* is the method of choice. It involves the introduction into the skin of about 0.01 ml. of a sterile allergenic extract used first in high dilution and later in more concentrated form. The lateral surface of the arm is preferable for this technic. The reactions resulting from the intracutaneous technic are generally larger than those obtained with the scratch technic, and the standards of recording and interpreting vary with each procedure. When used injudiciously in highly sensitive patients, the intracutaneous test may cause severe constitutional reactions consisting of urticaria, asthma, allergic rhinitis, shock, and, in rare instances, even a fatality within a matter of minutes. The immediate application of a tourniquet above the test sites, if they have been performed on the extemity, and the early hypodermic administration of epinephrine above the tourniquet will usually control the reaction.

In determining the nature and number of tests to be performed, the clinician is guided by the history of the patient, the severity of his symptoms, his age, and the nature and concentration of the allergens employed. When the history points to an unusually severe clinical sensitivity to a known allergen or group of allergens, skin testing with such offenders should be approached with caution and, if possible, postponed until the clinician has had the opportunity of studying the patient's allergic status more carefully.

In interpreting positive reactions, there are many factors to be considered in addition to the specific histamine-releasing effect of the antigen-reagin reaction. The size of the reaction is by no means an indication of its clinical significance. Although reactions are considered positive if they are larger than the controls, their reliability diminishes as the size of the control increases.

The introduction of too large an amount of test material into the skin (more than 0.01 ml.) or the unskilled performance of the tests are common causes of nonspecific (traumatic) positive reactions. Other major causes of nonspecific positives include the use of extracts that are too irritating and the crowding of tests too closely to each other, causing reactions which would ordinarily be negative to light up because of their proximity to strong positives. For these reasons all positive reactions should be confirmed by repetition, preferably at a subsequent date.

Positive reactions, even when specific and well controlled, are not absolute indications of an existing clinical sensitivity. They may be residua of past clinical sensitivities or the forerunners of future ones.

Negative reactions need evaluation as much as positive ones. Theoretically, negative reactions should indicate the absence of reagins for the allergen tested, but other considerations, such as the use of inadequate, weak, or deteriorated extracts, can account for them. In food sensitivity the patient may be sensitive to a derivative of the allergen and not to the natural substance which is used for testing. Even more significant is the misguided search for reaginic antibodies by skin tests in those allergic illnesses already mentioned in which reagin mechanisms play no role.

Delayed reactions vary in mechanism and significance and are unreliable for diagnostic purposes.

In seeking to evaluate the comparative merits and disadvantages of the scratch and intracutaneous technics, there are many points to be considered. The intracutaneous technic is conceded to have greater diagnostic potentialities. On the other hand, it is dangerous in inexperienced hands. The expert has learned to prevent constitutional reactions, but such dangers are still formidable for the novice who would be well advised to restrict himself to the use of the scratch technic. Lest the unwary be misled by the irresponsible assurances that intracutaneous tests with an allergen are "safe" if a preliminary scratch test with the same allergen is negative, it should be pointed out that even such a precaution is not foolproof when the testing materials employed for the scratch tests are not dependable.

No technic is better than the technician who uses it. The diagnostic value of the technics will depend more on the clinician's ability to interpret his results correctly than on the elicitation of positive reactions. Both the scratch and intracutaneous technics will prove valuable to any worker who will take the time and effort to study and understand the procedure and materials which he is using.

When skin testing of the patient is impractical or impossible because of cutaneous disease, severe illness, or other complications, the *indirect* (*passive transfer*) *method* is indicated. By introducing small amounts of the patient's serum into cutaneous sites on a normal substitute, sensitized areas are created which may be tested intracutaneously after a few days for sensitivity. Each test is controlled by a similar test on the neighboring unsensitized skin. An excess of reaction at the sensitized site over the control represents a positive reaction. This excellent control (which has no equivalent in direct testing) is one of the greatest assets of the passive transfer technic. However, the indirect method of testing is an involved procedure which requires considerable experience for its effective performance.

Tests with pooled allergens in the form of "group" tests are neither time-saving nor trustworthy. One irritating extract in the group may falsely implicate all of its component allergens. A positive reaction necessitates separate tests with all members in the group. Group testing merely multiplies the pitfalls which are encountered in testing with individual allergens.

Ophthalmic Tests

A stronger allergenic extract is needed to produce a positive ophthalmic reaction than to induce a positive intracutaneous reaction. However, the conjunctival test is more sensitive than a scratch test with the same material.

The ophthalmic test is most valuable in interpreting the clinical importance of some positive skin reactions. For instance, a positive ophthalmic reaction to horse serum is an absolute contraindication to the systemic administration of horse serum, whereas a positive intracutaneous reaction to this allergen carries no such prohibitive implication.

Nasal Tests

Insufflation tests with pollens, molds, dusts, and similar inhalant allergens are not too helpful because of the lack of good controls. It is as difficult to differentiate between specific and irritative reactions in the mucous membranes as it is to make a similar differentiation in reactions in the skin.

Environmental Tests

Such investigations are of value when there are many etiologic possibilities to be ruled out, particularly in cases with respiratory allergy. The sudden dramatic improvement of a patient when placed in an allergen-free room or in a similarly controlled enviroment suggests the importance of inhalant allergens as the causative factor in his case. However, the value of the test should not be nullified by radical changes in the therapeutic regime which are initiated simultaneously with the environmental change.

Dietary Studies

A study of the patient's carefully kept records of his food and drug intake and their chronologic relationship to allergic symptoms may prove to be more helpful than skin tests in the diagnosis of some allergic conditions. One may resort to stereotyped systems of food elimination and trial feedings as, for instance, the Rowe diets. However, the more experienced investigator often prefers to vary his regime according to the patient's symptoms and needs. The gradual elimination of suspected allergens from the patient's normal diet is more likely to be successful in the long run than is the use of radical or starvation regimes. If these stern measures do not meet with immediate and striking success, the patient is likely to become discouraged by the severity of the regime and to seek other methods of obtaining relief.

Patch Tests

These are limited to the diagnoses of contact type dermatitis and will be discussed in detail in a paper devoted to the subject.

The special diagnostic procedures which have been briefly reviewed here and their clinical applications will recived more detailed attention in subsequent articles.

20 Plaza Street

(*Number two of a series on Fundamentals of Modern Allergy*)

Brainwashing May Produce Problems in Future

Chinese Communist brainwashing may play a part in producing future psychiatric symptoms in returnees from Korean POW camps, two St. Louis physicians have reported. They also suggested that because of the intensity of the conflict between ideas absorbed in the camps and American thinking, there may be more psychiatric problems in Korean returnees than in a comparable group from German and Japanese POW camps of World War II. The desire to avoid just such a conflict may have been the reason some prisoners chose to remain in China.

Drs. Peter S. Santucci and George Winokur, from the Department of Neuropsychiatry of Washington University School of Medicine, outlined the brainwashing technic and the conflicts it can produce in the July issue of the *Archives of Neurology and Psychiatry,* published by the American Medical Association.

"Brainwashing is not merely a method of indoctrination," they said. It is a process which can produce abnormal human behavior through the development of internal conflicts and their accompanying anxiety and confusion.

In brainwashing, prisoners were forced to do certain things, such as sing Communist songs and write pro-Communist statements. When they did not rebel, they were rewarded, usually with extra food. Thus the desirability of this behavior was "reinforced," and the action was more likely to be repeated. However, if the man did not believe in his statements and activities, internal conflict "inevitably" would result.

A prisoner could solve the conflict in one of three ways. He could outwit his captors by lying. He could refuse to do the bidding of his captors, which would result only in short-lived punishment. Or he could start thinking in favor of his captors, which would result in more rewards and more reinforcement of this behavior. If he chose the third way, another conflict could occur after his return home, when he would begin to compare American concepts with those ideas absorbed in the prison camp.

The doctors used as an example the case of a twenty-five-year-old Army sergeant of poor economic and education background, who became mentally ill on his return home from a POW camp. While a prisoner, he had been forced to attend lectures, where Communist and anti-American propaganda was repeated over and over. Later he was picked for several special duties and eventually sent to an advanced indoctrination school. Although he probably did not accept the Communist ideas at first, he was rewarded for his activities. In time he began to absorb some of the ideas. This soldier had very little political or socioeconomic knowledge with which to resist brainwashing, compared with men who withstood brainwashing and its effects, partly because they already had well-formed hostility towards Communism.

On his return home, the soldier met with hostility from persons who attacked as traitors those who had been brainwashed. Many of his ideas were now in conflict with those accepted by American society. This led to confusion, anxiety, and eventually hospitalization.

The physicians suggested that treatment for this patient would include a kind of brainwashing in reverse, in which he would be rewarded and reinforced for behavior acceptable by his own society.

SPECIAL ARTICLES

Operation of Red Cross Blood Programs in New York State 1948–1955

HERBERT R. BROWN, M.D., ROCHESTER, NEW YORK, L. EDGAR HUMMEL, M.D., BUFFALO, NEW YORK, THOMAS F. LAURIE, M.D., SYRACUSE, NEW YORK, AND WILLIAM F. MARKEL, M.D., NEW YORK CITY

In 51 out of a total of 62 counties in New York State, Regional Blood Programs of the American National Red Cross are operating with the assistance and cooperation of the 51 county medical societies. The fundamental purposes were to establish voluntary blood donor programs to serve the population requirements in the regional areas and to furnish whole blood and blood derivatives without charge to hospitals requesting and willing to accept the same.

The Red Cross Blood Program on a national basis began on January 12, 1948, when a group of 11 counties in the Rochester area joined to provide the total needs of that regional area. Throughout the country the Red Cross Blood Program developed quite rapidly, and within New York State planned programs began in New York City, Buffalo, and Syracuse on the same regional coverage basis. The record of blood contributions in New York State for these four programs from January, 1948, to January, 1955, is as follows: New York City 900,000 pints, Syracuse, 321,000 pints, Rochester 312,000 pints, and Buffalo 285,000 pints.

This represents a total contribution to the blood needs of New York State of 1,818,000 units of blood which were produced at an over-all cost to the collective Red Cross programs of between nine and ten million dollars. This amount does not include the costs of processing and distributing sizable quantities of blood derivatives: human plasma, human serum albumin, immune gamma globulin, fibrinogen, and antihemophiliac globulin. This was made possible because two million people presented themselves as donors (rejectees included). In addition, the task required the expenditure of an estimated four to five million hours on the part of volunteer Red Cross workers serving in the capacity of physicians, nurses, nurse aides, staff aides, motor service, canteen service, donor recruiters, etc. Even with the expenditure of nine to ten million dollars, the task would have been impossible without this vast volunteer support.

According to the most recent figures, the population of New York State is approximately 15 million people, and those hospitalized require about 500,000 pints of blood annually. The collective Regional Blood Programs of the Red Cross operating within New York State are supplying about 230,000 pints of blood per year or slightly less than 50 per cent of the total quantity required. This has been done without charge for the whole blood or its blood derivatives.

Beginning in June, 1950, and continuing through December, 1954, the four New York State Red Cross Regional Blood Programs collected 650,000 pints of blood to help meet the whole blood needs of the Korean conflict and the blood derivative requirements of the Defense Department.

The existence of Red Cross Regional Blood Programs makes possible:

1. A blood program in being which can expand quickly in an integrated fashion as demonstrated in the recent Korean conflict.

2. A system of national reciprocity (blood exchange) or interchange of blood and blood services on a nation-wide basis.

3. Well-planned mobile unit visits to all communities which are of particular value to rural or isolated areas not previously serviced.

4. The coordination of blood collection efforts so that group and type availability is efficiently maintained.

The organizational and operational methods of the four New York State Red Cross programs are designed to meet their particular local situations:

1. *The Rochester Regional Blood Program* serves a 12-county area of New York State and provides the total blood needs of the 43 hospitals within its region. During the period of January, 1948, to December 31, 1954, the Rochester program collected 312,000 pints of blood. Of this amount, 225,000 were required to meet hospital needs for whole blood and blood derivatives, while 86,500 pints were furnished to the Department of Defense.

2. *The New York Regional Blood Program,* because of the unusual and unique type of community that is Greater New York, operates under a credit system. Donors have been recruited from

more than 2,500 firms and organizations as groups, and consequently, credits have been established for members of such groups and their families. The program is designed to supplement existing hospital and community blood banks and has supplied 500,000 pints to more than 200 hospitals in its region since its inception in May, 1948. This has stabilized during the past four years at about one third of the total blood used and includes more than 16,000 pints per year to the voluntary and municipal hospitals for the indigent on a noncredit basis.

3. *The Syracuse Regional Blood Program* began on June 9, 1949, and provides the total blood needs of a 25-county area with a population of 1,790,000 people. This serves 86 hospitals with 9,100 beds. From June, 1949, through December, 1954, this center collected 321,000 pints of blood, 239,000 of which were used for civilian purposes and 82,000 pints were channeled to the Department of Defense for military personnel.

4. *The Buffalo Regional Blood Program* provides complete blood needs of Cattaraugus, Chautauqua, Niagara, and Erie Counties with the exception of the city of Buffalo. In Buffalo approximately 85 per cent of the blood needs are covered by the program on a participation basis for groups, families, and individuals. In addition to the above New York State counties, the Buffalo program provides the total blood needs of seven counties in northwestern Pennsylvania.

During the period of May 15, 1950, through December, 1954, the Buffalo center collected more than 285,000 pints of blood. Of this amount approximately 200,000 pints were used for civilian purposes, and the Department of Defense received 85,000 pints. The 53 hospitals in the Buffalo region with 17,000 beds received blood and blood derivatives. Of the 53 hospitals 43 have their total blood needs provided, while ten hospitals have their blood needs supplemented.

The people and the medical profession of New York State, by their participation in the Red Cross Blood Program, have provided a vital community service. This service, in addition to its day by day role in civilian blood banking, stands ready as a bulwark and strength against the emergencies which constantly threaten us all and for which our preparations must be made well in advance.

Editor Issues Challenge to Restaurateurs

The editor of *Today's Health*, published by the American Medical Association, this month issued a challenge to restaurant owners to remember "the forgotten man."

Dr. W. W. Bauer's forgotten men are not those who are ignored by the waiter but those who eat many meals away from home but must stick to carefully selected diets with restrictions on salt, meat, sweets, fats, or starchy foods.

"Not only is the plight of the restaurants' forgotten people a matter of grave concern to them and their health, it is also a factor in successful restaurant management," Dr. Bauer said.

He said the restaurateur can satisfy the growing number of diet-restricted customers and still make a good profit. In many cases a "mere change in menu" will help these people. He suggested the addition of fresh or sugarless canned fruit and skim milk to the menu for diabetics and those watching their weight.

A note might be added to the menu saying that artificial sweeteners and non-sodium "salt" will be supplied on request. Persons with gout must avoid meats; therefore, fish, poultry, eggs, cheeses, and pancakes or waffles "make them happy," Dr. Bauer said.

Customers who must watch their salt intake have a harder time than almost any other group and will give more trouble, Dr. Bauer said.

"With the progressive aging of the population, and the increase in heart and kidney diseases, it is a sound business prediction that these customers will grow more numerous." The low-salt diet requires extra stocks of low-salt bread and unsalted butter or margarine. It means special cooking without salt or with a salt substitute. "It means extra expense, and this must be reflected in menu prices. But it can also mean an expanding clientele of persons willing and able—no, more, happy—to pay the differential in price . . . ," he said.

Dr. Bauer suggested a special dietary department in a restaurant rather than a special restaurant, because most persons want a restaurant convenient to where they happen to be at the time. "A special restaurant, known as such, limits its clientele. The normal diner avoids it; even the one who needs its special attentions may be reluctant to let the world know that he has to eat in a restaurant catering to the abnormal."

An individual owner would not need a dietitian to institute such a department, if the industry as a whole got behind the plan and supplied its members with basic information, shopping and planning helps, menus, recipes, and promotion material. Cooks' and bakers' schools, local medical societies, and nutritional consultants could help start such programs.

Dr. Bauer's "challenge" also appears in the current issue of the industry's magazine, *Restaurant Management.*

Approved Medical Technology Training in Central New York

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HOSPITALS and medical research centers in the United States have experienced increasing difficulty in obtaining qualified technicians for their clinical and research laboratories. Not only have existing vacancies been difficult to fill, but new personnel have not been trained in large enough numbers to offset the high turnover rates generally experienced and to allow for expanded staff necessitated by the increasing demands for medical services.

The critical need for personnel in this important medical field is illustrated by Judd's statement: "The projected demand for American Society of Clinical Pathologists personnel, of which there are nationally (in 1951) some 14,000, is 45,000 by 1960."[1] The reasons for this heavy demand are complex, but there is every indication that the demand is not being met and that it will continue for many years. The shortage of clinical laboratory technicians in central New York has been recognized.

In September, 1952, a survey of medical technologists in this region was conducted by Patricia Brandt with the help of the Central New York Regional Hospital Council. The Regional Council covers 15 counties of central New York, from Franklin on the north, Herkimer on the east, Broome in the south, and Cayuga on the west. This survey obtained detailed information from 36 hospital laboratories employing over 200 technicians. Data were obtained which indicated a shortage of laboratory technicians and brought out the nature of this shortage.

Of 36 laboratory directors questioned, 83 per cent reported difficulty in securing technicians whom they considered properly trained. Less than a fourth of the technicians employed in these laboratories met the requirements of a certifying agency. Fewer still were actually registered.* This means that three fourths of the technicians in this region did not have the education necessary to meet the minimum requirements of the American Society of Clinical Pathologists.

In 1954 there were 17,773 registered technologists in the United States, or 11 per 100,000 population. The central Atlantic region which includes New York State had the lowest regional ratio of registered technologists with 8 per 100,000, while the Rocky Mountain region had the highest with 19 per 100,000 population. New York State tied with South Carolina for the lowest state ratio of registered technologists per population with 6 per 100,000.[2]

The laboratories reporting in the survey indicated that 10 per cent of their budgeted positions were vacant. These laboratories had not only been unable to increase their personnel to keep up with the growing demand for laboratory work but could not fill their usual openings.

One hundred per cent of all hospitals of 200 beds or more indicated an increase in work during the previous five years requiring one to five additional laboratory positions over those already budgeted. Eighty-eight per cent of hospitals with 100 to 199 beds reported work increases demanding one to four additional technicians. Thirty-three per cent of hospitals of less than 100 beds needed one or more additional technicians to keep up with the increase in work.

The survey showed that 27 per cent of the technicians employed in the hospitals reporting left their jobs in the course of a year. Since practically all technicians are women, it is not surprising that marriage and pregnancy accounted for a third of annual resignations. It is interesting to note, however, that 20 per cent left their jobs to accept a better position.

Statistics quoted for central New York are not atypical. Greefkens and Hopper[3] found in California that 12.4 per cent of budgeted positions were vacant in 1953. Nickerson[4] reported work increases of 400 per cent in Massachusetts in the decade 1940–1950. In California the annual technician turnover rate was 33 per cent,[3] and a national survey showed 10 per cent of the technicians left the job for a 10 per cent salary increase.[4]

It is estimated that the clinical laboratories in central New York could absorb 50 to 70 well-educated technicians a year, were they to become available.

The technician shortage is so acute that pressure has developed for hospitals to "train" their own technicians. Since the State does not require that technicians be licensed and since girls entering the

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* Medical technicians may register voluntarily with the Board of Registry of Medical Technicians which is a standing committee of the American Society of Clinical Pathologists. Requirements of the Board of Registry include graduation from an approved school of medical technology and the passing of an examination administered by the Registry.

The approval of schools of medical technology is carried out by the Council on Medical Education and Hospitals of the American Medical Association.

The requirements of the Board of Registry are recognized by the American Medical Association, the Canadian Medical Association, the American College of Surgeons, the American College of Physicians, the American Hospital Association, and the Catholic Hospital Association.

TABLE I.—Enrollment Potential of Approved Upstate Medical Technology Schools

	All Upstate New York	Central New York	Other Upstate
Number of schools	18	5	13
Maximum enrollment	163	26	137
Average maximum enrollment per school	9	5	11
Population (100,000's)	52.7	14.2	38.5
Population per school (100,000's)	2.93	2.84	2.96
Maximum enrollment per 100,000 population	3.2	1.8	3.5

field do not find it difficult to gain employment without professional registration, it is possible for the hard pressed hospital to offer merely a few months of posthigh-school, on-the-job training before hiring the technician.

If this situation is allowed to develop, it seems evident that neither the quality nor the quantity of available technicians will be much improved.

Some hospitals in the central region have accredited programs. The training potential of these programs is quite small, however, and enrollments are down. This situation is typical, but other regions of upstate New York are better off.

Altogether there are 33 approved schools of medical technology in New York State. Eighteen of these are upstate* schools. Table I indicates that the upstate schools have a maximum potential of 163 enrollees. The average school is small with a potential of about nine students. There is one school and there are about nine potential students for roughly every 333,000 population. As already mentioned, estimates based on surveys of job vacancies, increases in the demands for technologic work, etc., show that roughly 12 to 15 new technologists per 300,000 population are needed annually in central New York for some years to come. If these estimates are typical, at maximum enrollment upstate schools would be able to supply three fifths to three fourths of the current demand.

Table II shows the actual enrollments in approved upstate medical technology schools to be 93 students, and as a group the schools are filled to only 57 per cent of capacity.

The central New York region has about the same number of approved schools per population as the remainder of upstate New York, but these are very small, averaging only about five potential enrollees per school. This means a training potential of less than two per 100,000 population (Table I) for central New York compared with 3.5 for the rest of upstate. Central New York can train 26 technologists annually, whereas reliable estimates place the demand at about 60 technologists annually. On this basis central New York can supply less than half of its own needs at full enrollment.

Table II shows the concentration of schools in large metropolitan areas. The Albany-Schenectady-

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* All counties north of Westchester and Rockland.

TABLE II.—Enrollment, College Affiliation, and Tuition of Approved Upstate Medical Technology Schools by Geographic Location

Area and Hospital	Maximum Enrollment	Actual Enrollment	Per Cent of Capacity	College Affiliation	Credit Offered	Tuition
Albany	46					
Albany Hospital	6	5*	83	Albany Medical College	Yes†	None
Bender Laboratories	16	13	81	Union University	Yes	$200
Ellis Hospital (Schenectady)	16	8	50	Russell Sage; Skidmore	Yes	$100
St. Mary's Hospital (Troy)	4	0	0	College of St. Rose	Yes	$200
Samaritan Hospital (Troy)	4	1	25	Russell Sage	Yes	None
Rochester	17					
Rochester General Hospital	12	2	17	None	Yes†	$100
St. Mary's Hospital	5	5	100	None	No	None**
Buffalo	56					
Buffalo General Hospital	26	12	46	University of Buffalo	Yes	$50
Edward J. Meyer Hospital	16	6	38	University of Buffalo	Yes	None
Mercy Hospital	7	5	71	None	Yes	$150
Millard Fillmore Hospital	7	9	129	University of Buffalo	Yes	None
Elmira	18					
Arnot-Ogden Hospital	6	3	50	Elmira College	Yes	None**
St. Joseph's Hospital	12	6	50	Nazareth College	Yes	None
Syracuse-Utica	14					
St. Joseph's Hospital	4	1	25	None	No	None**
Utica State Hospital	10	8*	80	Syracuse University	No	$125
Binghamton	12					
Our Lady of Lourdes Hospital	2	2	100	None	No	None
Binghamton City Hospital	6	3	50	None	No	None
Charles S. Wilson Hospital (Johnson City)	4	4	100	None	No	None**
Total	163	93	57††		67%	

* Beginning in June, 1955.
† Some colleges give credit for work taken in these schools.
** Stipend paid to student.
†† Aggregate percentage of capacity.

Troy area has 28 per cent of the training potential, the Rochester area 10 per cent, and the Buffalo area 34 per cent. By contrast there is only one school in Syracuse which graduates one or two students a year. The Syracuse-Utica area has only 9 per cent of the upstate training potential.

Comment

It is interesting to speculate on the reasons for the apparent lack of demand for approved medical technology training in the face of a short supply of qualified technologists.

It may be said that the amount of training required in approved programs (two years of college and twelve months of technical training) is out of proportion to the monetary rewards. However, when one compares salaries of registered medical technologists who have a minimum three-year education with other professional groups with four or five years of posthigh-school education, the investment in training does not seem too far out of line. The median 1952 annual salaries of 5,400 registered technologists in 48 states was between \$3,300 and \$3,600.[2] Beginning annual salaries of elementary and secondary school teachers in 1953–1954 ranged from \$2,928 and \$3,456 for the country.[5] Staff positions for physical therapists pay between \$3,194 and \$3,983 on the average.[6]

The chances are that rather than income, it is more a matter of professional status. Approved training would doubtless be more popular in this section of the country if institutions of higher learning were willing to assume more responsibility for it. Many hospital courses are college affiliated, but all too often this is a loose affiliation with the professionalizing influences of a totally planned, continuous program lacking. In the West where four-year, integrated university programs have been available, the proportion of registered medical technologists is considerably higher.

Summary

High turnover rates, job vacancies, increases in demand for service, and low professional qualifications give evidence of serious shortages in the field of medical technology in central New York. The situation in this region is not atypical of the general medical technologist shortage experienced in the nation as a whole, but there is evidence that the shortage of qualified and registered technicians is greater in the eastern area of the country and in New York State.

A study of approved training schools in the State reveals that schools located in upstate New York fall short of providing the estimated training potential necessary, and these schools are currently realizing only a little over half of their potential in student enrollment.

Central New York does not have its share of training potential when compared with other regions of upstate New York.

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European Birth Rate Dropping

Birth rates in most of Western Europe are receding from the peaks reached during the early postwar years, according to a study of international birth trends by the Metropolitan Life Insurance Company's statisticians. In marked contrast is the unabated baby boom in the United States and other English-speaking countries outside Europe—Canada, Australia, and New Zealand—where birth rates have remained one third or more above their prewar levels. The rate in the United States during 1954—25.3 per 1,000 of population—was higher than for any prewar year since the early 1920's.

Exceptions to the general trend in Western Europe were noted in France and Norway, where the birth rate in 1954 was still appreciably above that recorded just before World War II.

In England and Wales the rate rose from 15.9 per 1,000 population in 1945 to 20.6 in 1947, but fell to 15.2 by 1954—not much above the 1935–1939 average of 14.9. Austria, Denmark, Scotland, and Sweden had similar trends.

Rates in Germany, Greece, Italy, and Portugal are now well below their prewar levels. In Japan, the rate in 1954 was about one third less than in 1935–1939, and in the Philippines, the decline has been even more pronounced.

Development of Medical Education in Western New York, Particularly in Buffalo

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In the autumn of 1845 a small group of Buffalo physicians formally applied for a charter to establish a University of Buffalo, with the medical school as the nucleus. This was at a time when the first frosts were marking the close of a rather successful farming season in this still agricultural community and the Erie Canal, now twenty years old, was closing down for the year.

Largely through the efforts of the honorable Nathen K. Hall, afterward Postmaster General but then a member of the State Assembly, authorization was granted by the Legislature of New York State in 1846 permitting the establishment of a medical school at Buffalo under a university charter.

Curiously enough, it was the medical portion of the founding group who firmly insisted that the University of Buffalo be incorporated as a true university and not simply as a medical college. It was the physician Austin Flint who, after warm debate at the first organizational meeting, persuaded the group to attempt not only a medical school but a university "with powers as complete and diversified as any in the land." Therefore, although for forty years the medical department comprised all there was of the University, it was known not as the Buffalo Medical College but as the University of Buffalo.

The first Council of the University included names still familiar in Buffalo: Gaius B. Rich, William A. Bird, George R. Babcock, Joseph B. Masten, George W. Clinton, and Millard Fillmore, who became the first Chancellor of the University and later President of the United States.

The first volume of the *Buffalo Medical Journal* in September, 1846, reported that the Medical Department had been fully organized by creating seven professorships to which the Council of the University had made the following appointments: chemistry and pharmacology, James Hadley; physiology and medical jurisprudence, Charles B. Coventry, who was succeeded in 1851, in physiology, by John C. Dalton, Jr. Dalton had been a pupil of the great Bernard, and he at once instituted the teaching method of illustrating his lectures by vivisections, the first time demonstrative instruction of this sort had been adopted in this country. Dalton eventually achieved international reputation as a physiologist and teacher.

For general and special anatomy there was James Webster. Pathology and materia medica were taught by Charles Alfred Lee. The principles and practices of surgery were taught by Frank Hastings Hamilton, who was the subject of a paper I had the honor to give before this section some years ago. Hamilton was one of the group who had come to Buffalo by way of Geneva from the great and early medical school of Fairfield, New York, which exerted such a profound influence on medical education in this State and in this country. During his fifteen years in Buffalo, Frank Hastings Hamilton did a great deal of original work. He was the first to perform a free skin graft, and his contributions to ophthalmic plastic surgery were early and original. He was a master of orthopedic surgery and became known as one of the ranking surgeons in this country.

In obstetrics and diseases of women and children there was James Platt White, who later

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achieved at least a national reputation in his field. In the principles and practice of medicine and clinical medicine there was Austin Flint, whose reputation still lives. It may seem strange to find professors heading more than one department, but this practice was not uncommon at that time.

Hamilton, Flint, White, and Dalton brought early prestige to the University of Buffalo, and actually it was they, together with a small group of sympathetic laymen, who were the true founders of the University.

It is too easy to judge the efforts and achievements of the first faculty in terms of our own times. Western New York was settled during the last decades of the eighteenth century and the first six decades of the nineteenth century. As a matter of fact, the first frame house in Western New York was built, east of what was later Rochester, in 1788, a square house with a large central chimney, the base of which concealed a recess in which to hide from hostile Indians. Buffalo was settled later and established as a town in 1832.

In 1840 the population of the United States was roughly 17 million, that of New York City 312,710, of Albany 33,721, of Rochester 20,191, of Buffalo 18,213, and of Erie County about 62,000. The Erie Canal had been opened for traffic in 1825, due in great part to the efforts and perseverance of Governor Clinton, whose descendants continue to teach at the medical school here. The Erie Canal was constructed along the principal route of immigration because the Mohawk Valley and a system of other streams and their valleys running east and west made transportation through these regions relatively easy. The Erie Canal brought a great boom in traffic. The sunny Genesee Valley became the center of wheat raising in this country. Although the first settlers had promised to pay approximately $2.00 an acre for their land, they were for some time unable to meet their payments because, prior to the Canal, there was no market to which they could take their wheat.

The settlers in the Rochester area acquired their land from James Wadsworth of Genesee, agent for the Phelps and Gorham Company, and the settlers in this area bought theirs from the Holland Company, whose stone office building survives in Batavia, and whose alert and farseeing agent was Mr. Cary. Mr. Cary's descendants have been active in the teaching of medicine in Buffalo and have contributed to the development of the city and of the University.

The Erie Canal, then, opened new horizons to the hitherto isolated settlers of Western New York. These people, many of whom came from rural and Western New England, brought with them a respect for education and for professional, if not always for scholarly, talent. At that time the typical doctor of medicine was not usually a graduate of any medical school. Ordinarily he was a man who might have served something of a medical apprenticeship with an older physician, a man with a limited practical acquaintance with the science of physics or with the medical knowledge then prevalent in Europe. He attended a rural population. "It is not strange that some of the more energetic physicians who pooled their teaching interests and gave lecture courses to small groups began to think and plan in terms of professional degrees, and to cast about for a well-chartered academy or college interested in sponsoring a medical department."

Just as Thomas Morgan brought about the founding of the first medical school in this country at the University of Pennsylvania by a provocative and now famous discourse on the attributes needed for medical teaching, so did Andrew Boardman attempt to do for the medical school in 1840, in Geneva, New York. If his critical analysis was not well received by the faculty at Geneva, nonetheless it found its way into print. Boardman cited the teaching of chemistry by a Doctor of Divinity, the absence of lectures on medical jurisprudence and physiology, and the providing of only one cadaver for the entire class in anatomy.

In those days when anesthesia was new and when large regions of the human anatomy were surgically accessible only when the operation was rapidly performed, it was too early to expect that anatomy would be taught other than as a rather tremendous discipline with memorizing of the site and nomenclature of the fine ramifications of the nerve and vascular trees. The later development and freeing of anatomy teaching from this depleting discipline owe a good deal to Dr. George Corner. Boardman also pointed out that one medical college, described in its prospectus as providing a great advantage of clinical instruction, was actually housed on the second floor of an old building labeled Geneva Shoe Store, where only one surgical and no medical patients had been cared for during the entire school session. Before finishing his 23-page review this student physician questioned the objectives of some educators seeking national reform and stressed the practical aspects of medical training and the necessity of establishing a national examining board with authority to license physicians.

It was this idea of Boardman's, of separating the licensing of physicians from the teaching schools, that led to the control and abolition of many derelict medical colleges in this country—which could not survive when the graduates no longer licensed by them were not deemed sufficiently trained to be granted licenses by the independent authorities.

Around 1879 four new medical schools were founded in Buffalo, one the Homeopathic College of Physicians and Surgeons, which changed its name to the College of Physicians and Surgeons in 1880. Its first class was graduated in 1880, and it was closed by order of the Supreme Court of the State of New York in 1884. The diplomas of the college were legalized by a special act of the New York State Legislature. Should we allow ourselves to feel too patronizing toward the cult and the college, let us remember that Hahnemann who founded homeopathy was a gifted and sincere man and that homeopathic medicine among other things helped to bring about a reduction in the heroic dosages of medicine generally employed at the time, even if this influence may have later led to the extremes of therapeutic nihilism.

Also founded in 1879 was the Mohawk Medical College, which survived until 1884. Hamburg Canal College also was founded in Buffalo about this time but closed its doors in 1883. The Buffalo College of Rational Medicine, also homeopathic, was founded in 1879 and closed only after the State Supreme Court had held that the Legislature, in its original act empowering groups to obtain charters, had not intended that organizations affecting the public welfare as deeply as medical schools should in effect charter themselves. Should it seem strange that this interpretation was necessary, let us remember that in Rochester a Central Medical School had been founded in which the faculty were the students and the students the faculty. "At the close of a short and comprehensive course of study the faculty conferred degrees upon themselves and closed the school."

In 1883 the *Buffalo Medical and Surgical Journal* announced the opening of Niagara University Medical Department in Buffalo. The announcement stated (1) that the school would be connected with the Hospital of the Sisters of Charity which would provide ample clinical material, commodious lecture rooms, and chemical and physiologic laboratories; (2) that the new school would conform to standards which the *Journal* had advocated and that the college would not be brought into rivalry with other medical schools because there was in this vicinity [and of course the reference was to the University of Buffalo] no medical school which could even approach the high standards of Niagara; (3) that the matriculants would be required to furnish evidence of "certain and reasonable" literary attainments; (4) that a graded curriculum would be patterned after those of the best medical colleges in the country; (5) that the students would be subjected to thorough examinations before passing to higher classes, and the candidates for graduation would have to submit themselves to a board of medical examiners outside of the faculty, another indication of the long struggle to separate medical education from medical licensing.

The first class was graduated by Niagara University in 1886, and a class was graduated each subsequent year through 1898. The faculty of Niagara included many of Buffalo's most prominent practitioners and ablest teachers, including Buswell and Alvin Hubbell, ophthalmologist and learned medical historian. Osler's good friend, the revered Dr. William Hodge of Niagara Falls, once informed me that William Osler had told him that he regarded Dr. Buswell as the best diagnostician on this continent.

Whether or not the rivalry between Niagara University and the University of Buffalo was as friendly as some historians have suggested, nevertheless they gradually came to feel that the two schools provided unnecessary duplication. In 1898 when the student enrollment at Niagara was only 40, the school was combined with the University of Buffalo, and most of the members of the Niagara faculty were received into the faculty of the University of Buffalo, including Earl P. Lothrop, whom many of us remember.

In the commencement address of Niagara University in 1894 Harlow C. Curtiss, professor of medical jurisprudence, included in his remarks the following: "In many of our states the practice of medicine is still thrown open to any man who chooses to hold himself out as a doctor . . . the popular theory is that each individual is free to choose for himself his own system of medicine as well as his own religion . . . governmental paternalism which tries to protect each individual . . . has no tolerance in the minds of our liberty-loving people" who themselves have effectively "sifted out the good from the bad, sterling worth from its imitation, reality from hollow pretense; and the standards of professional attainment required by public opinion, of medical practitioners, have steadily advanced, both in general culture and in technical knowledge."

During its life Niagara University had instituted a medical course of three years, i.e., three full courses of lectures of six months each, which was advanced for its time. The faculty recommended that the students extend their studies to four years, but this was not immediately attained because of the competition from schools granting a degree in three years. The first lectures of the college were indeed delivered at the Buffalo Hospital of the Sisters of Charity, later in the Y.M.C.A. in Buffalo, and in 1884 a college building was constructed on Ellicott Street between Broadway and Clinton. When Niagara University was organized, only two-year study in medicine was legally required, and it was not until 1891 that a three-year course with separate State examinations and licensing was instituted.

In the University of Buffalo the first course of medical lectures was begun on February 24, 1847, with an attendance of 66 registered students. The Council of the University arranged for the rental of the edifice of the First Baptist Church which then stood on the corner of Seneca and Washington Streets. This building was used for the first three academic years of the college.

In 1849 a new housing for the University of Buffalo was begun on the corner of Main and Virginia Streets. This building was completed in 1850 at a cost of about $15,000. This money was donated by public-spirited citizens who were in the main self-made men. During the period 1850 to 1893 Austin Flint and Frank Hastings Hamilton went to New York City, and Dr. E. M. Moore of Rochester was appointed. He taught surgery at the University of Buffalo from 1860 to 1883, commuting from Rochester for this task. It was during this period that Dr. White introduced demonstrative midwifery for the first time in this country. Previously the dignity and oratorical resonance of the lecture platform had been deemed sufficient to transfer medical knowledge and experience to the practical grasp of the medical student.

In 1812 David Hosack, whom we regard as a dean of American medicine, had said, "Instruction by lecture has ever been considered one of the best means of imparting knowledge, and if we inquire into the literary history of different nations, we shall find that according as they have been more or less enlightened, institutes for this purpose have been established and supported." So does Hosack preface a review of the history of medical schools in this country, indicating his tacit assumption that medical schools were essentially lecture forums. It must be remembered that it was because clinical teaching with the requisite extensive amount of teaching material was not deemed necessary, or perhaps even sufficiently dignified, that medical schools such as Fairfield and Geneva, endowed with nothing much more than keen and self-catalyzing faculties, were able to exist. When teaching from patient material became the thing, medical schools in small communities could not carry on.

I should like to cite an example to show the great extremes of feeling and opinion on this subject at that time.

On the 18th of January, 1850, Dr. White delivered an unmarried young woman before some members of the senior class. It was a second child. The presentation was right occiput posterior. This was determined by "abdominal examination" both before and during labor, and students had an opportunity to examine the patient. The patient was carefully draped both during labor and during the delivery which was rather protracted. We have it that decorum was fully maintained.

Three days later the candidates for graduation passed a resolution exhibiting the "pride they felt in claiming for their school the honor of being the first, and at present, the only among the American medical schools where clinical instruction in midwifery is rendered within the walls of the institution."

About a month later an editorial endorsing the "innovation" appeared in the *Buffalo Commercial Advertiser*, and shortly thereafter an individual who signed himself "L" wrote an invective and inflammatory rejoinder, addressed to the citizens of Buffalo, in the *Buffalo Daily Courier*.

To quote in part from this diatribe: "A writer in the *Commercial Advertiser* of this city has attempted to defend a gross outrage upon public decency . . . . An open demonstration of obstetrical practice has been made, before a class of students . . . . The patient was a woman in humble circumstances whose poverty, perhaps, overruled her natural modesty. What mattered it then, if a score of scarcely adolescent youths satisfied their meretricious curiosity at her expense? The professor had enjoyed his clinique and his class their salacious stare, and under the specious plea of scientific advancement, a precedent had been set, for outrage indiscriminate."

"L" had supporters. Seventeen physicians addressed themselves to the *Buffalo Medical Journal*, "deeming demonstrative midwifery wholly unnecessary for the purpose of teaching, unprofessional in manner, and grossly offensive."

Dr. White then sued Dr. Horatio N. Loomis for libel, and the ensuing trial was replete with the current oratorical bombast popularized by Daniel Webster. White sued Dr. Loomis because the letter had been signed "L" and because Dr. Loomis had gone to the editor of the *Courier* asking for extra copies of "L's" article. Since the type had been distributed and there were no more copies, Loomis paid for another edition of the newspaper.

The defense attorney included among his remarks: "Dr. White may be, for aught I know, the modern Prometheus, who has brought down the fire from the gods with which to illumine our hitherto darkness, . . . to override the usages of ages and the prejudices and principles rooted and grounded in us from childhood to old age: yet we insist here that something is to be pardoned to public prejudices, we shall deny his right to stretch us out upon his Procrustean bed, or that he can cut off our limbs, if too long, or stretch them out, if too short, without waiting for us to grow up, or to grow down, to his 'innovating position!' He having thrown down the glove of controversy; we shall insist on our right to take it up . . . . We shall show you that it was not only a startling and bestial innovation, but without a particle of utility. To the stethoscopical examination we make no objection; against the exposure of this woman, whom, (though the virtuous angels had abandoned, society had not,) we do protest."

The medical journals of the country were not slow to comment. I am surprised to find the Philadelphia spokesman, Dr. Casper Morris, editor of the esteemed *American Journal of the Medical Sciences*, which most of us tend to associate with the University of Pennsylvania, and himself a hospital administrator and poet as well as physician, had this to say: "Some of our medical colleges resort to methods to allure classes by special exhibitions miscalled clinical instruction, and adapted rather to attract students by their novelty than to furnish them with solid information . . . . When, however, we came to be apprised that (Dr. White's) improvement consisted in subjecting the process of parturition to ocular inspection in one of its stages, our surprise at the excitement yielded to astonishment that any teacher of the obstetrical art should suppose that it could be made the object of the sense of vision, and mortification that the medical profession should have been placed in a position so well calculated to arouse public feeling and hostility to it."

The *Cincinnati Medical Journal*, on the other hand, supported Dr. White: "We strongly suspect that the objection to these experiments springs from some of those opposition factions, so commonly found surrounding and impeding medical schools." And the *New Orleans Medical Journal* believed that "practical clinical teaching will ultimately triumph over those who oppose it as alike grossly offensive to morality and common decency."

The *New York Medical Gazette* compared demonstrative midwifery to the use of the speculum, the attendance of a male obstetrician, or in fact any prescribing by a man for the sexual diseases of females.

The *Louisville Medical Journal* held, "The prudish Miss Nancys of Buffalo have unintentionally conferred a benefit on the medical profession. Their excessive modesty and shamefacedness have aroused attention to the subject of clinical midwifery; and this attention will urge forward the good work. We can easily imagine an innocent child-like simplicity that would put pantalettes on the legs of a piano, and that would screen with a veil everything capable of exciting prurient ideas; but we would not like to see this excessive flirtation with modesty introduced into medical teaching. A misplaced irritation of the blushing organs operated upon the 17 Buffalo doctors and induced them to ease their tender consciences by a protest. May the heavens smile serenely over their innocent slumbers, but while they sleep . . . we pray them not to disturb medical teaching with their snoring. They may sleep as much as they please, but the profession should be awake. The oil in the lamps of the 17 foolish virgins may burn out but we wish to see the lights of the profession continue replenished, so that perpetual lamps may be lighting the path of progression."

Dr. Herbert L. Thomas, writing in the *American Journal of Obstetrics and Gynecology* in 1934, summarized the whole matter nicely. "Space," he says, "does not permit us to give more of these important and interesting controversies. Within the year the opponents to clinical obstetrics burned themselves out and White continued his demonstrations to emerge a true pioneer in the teaching of clinical obstetrics."

In 1893 the medical building of the University of Buffalo at the corner of Main and Virginia was deemed inadequate, and a new building referred to at the time as "superb" was opened. Comments on the many achievements of the University since then, achievements that have maintained the true tradition of medical teaching in its best sense, and comments on the prime worth and abiding value of tradition to medical students, who must develop firm frames of reference and much more or less unspoken feeling for their calling, I shall not discuss, but I want to mention briefly an episode in the history of the financing of this important and potentially more important medical school. When the initial finances for the founding of the school were debated, Mr. Millard Fillmore held strongly and persuasively to the view that it would be misguided and dangerous to solicit any funds to endow the school. He felt that it would be much healthier to compel the teaching faculty to compete with other medical schools in attracting students by limiting the income for the school to the monies received as tuition from students.

The original charter of the University of Buffalo declared that the school should have capital stock not exceeding $100,000 in amount in shares of $20 each. I am unable to ascertain why a specific limit of $100,000 was stipulated, particularly in view of the fact that very little more than $20,000 was subscribed, and since the original records have been lost, I am unable to tell you how much of the original subscription was paid in. I do find one reference to the fact that Dr. Austin Flint subscribed for $8,060 and Dr. Hamilton for $8,040. We do not know why Dr. Hamilton subscribed to one share less than Dr. Flint, unless he wished to leave it on record that Dr. Flint was the largest subscriber. After all, it was Dr. Flint who had persuaded Dr. Hamilton to come to Buffalo.

Several years later when the then "new" building at the corner of Main and Virginia was proposed, $12,000 was collected by popular subscription. There was one gift of $500 from Mr. A. D. Patchin, the first subscriber, another of $600 from Jesse Ketchum, still widely remembered for his generosity to educational enterprise in Buffalo, and the rest of the subscriptions were for amounts of $200 or less.

At the time it was felt that Buffalo had been generous. The *Buffalo Medical Journal* of 1849 pointed out that in Buffalo there were no large or inherited fortunes, that in this new community there was a large necessity for public expenditures with requisite high city taxation. "Hence the liberality of the contribution for an educational object, in which the contributors were not directly interested, is not to be measured by what may transpire in other places."

The later building dedicated in 1893 and constructed at a cost of approximately $125,000 was also financed by rather small individual contributions and by placing a $70,000 mortgage on the combined new and old properties. Later a gift of $20,000 was received, in effect largely paying off the mortgage, since the old property was then valued at $70,000.

It is evident, then, that in its early years Buffalo had back of it no benefactor of extreme munificence. Money was not received from State or other government, a fact which is probably not to be regretted since State control of medicine in New York State has not always been free of political meddling. The essentially ridiculous proposal of Fillmore that the medical school operate on the financial steam generated by students' tuitions was rather well publicized and may have hampered to considerable extent the financial health of the University. Dr. St. John Roosa, the well-known general and ophthalmic surgeon, in 1882 complained of a state of affairs in New York City where funds for medical education were then lacking, in a way that may seem applicable to Buffalo. He wrote, "In Boston, when President Eliot wants $100,000 for Harvard College, he walks down Beacon Street, and without pulling a doorbell, he finds the son of a Puritan who will give it . . . . In Boston, no rich man can be properly buried who has not left some money to Harvard College or the Medical School."

It is indeed a matter of record that several distinguished members of Buffalo's medical faculty, antagonized one way or another by political maneuvering or considerations, have left quite large sums of money to medical schools which were already, from the standpoint of Buffalo's restricted financing, wealthy beyond the dreams of avarice.

In closing I would recall the recent summation of William F. Norwood in his history of medical education in the United States before the Civil War. He writes, "The upstate and western schools, especially the country schools . . . admittedly weak in clinical instruction . . . were redeemed by extraordinary faculties, members of which were nationally known and respected . . . . For this reason this backwoods institution for a time compared favorably with the schools of the coast cities . . . . From the standpoint of national development Albany, Fairfield, Geneva, and Buffalo were sources of supply for the medical needs of Western New York and the thousands who trekked westward through the Mohawk to the promised land."

To me at least it has for long seemed clear that the future fortune of this interesting old school of medicine may be greater than its past, and that there is more opportunity here for anyone interested in and determined to help build up a medical center, than in those cities where most of the foundation has been accomplished.

1109 Delaware Avenue

Unusual Heart Arrest Case Reported

After a probable record period of almost two hours in which his heart was useless and only emergency measures kept him alive, an eleven-year-old boy has returned to fully normal life. The boy's heart for one hour and fifty minutes was in ventricular fibrillation—a state in which it stops pumping and just twitches uselessly, according to a report made by a New Hampshire physician. All this time he was kept alive by hand massage of the exposed heart, electric shock, oxygen administration, and other emergency measures. This also prevented brain damage—inevitable unless oxygen gets to the brain within about four minutes after the heart stops beating.

The case was reported by Dr. Ralph Adams, Wolfeboro, New Hampshire in the July 23 *Journal of the American Medical Association.*

There have been many cases of recovery from cardiac arrest when emergency hand massage was started immediately. Some patients have survived many hours of massage. However, Dr. Adams said he knew of no other case in which a patient recovered completely after such a long period of ventricular fibrillation. Fibrillation, a complication of cardiac arrest, has been corrected within a few minutes by electrical shock in reported successful cases. The shock convulses the heart and makes it work rhythmically again. This failed in the case of the eleven-year-old boy. It took almost two hours of work before the heart suddenly "kicked" and began beating independently and normally.

The emergency measures were started within ten seconds after the heart stopped during surgery. Dr. Adams said speed was what prevented brain damage that always follows lack of oxygen. Since oxygen-carrying circulation stopped while the heart was not working, oxygen was forced into the lungs—and the brain—by a tube in the throat. Twenty minutes after leaving the operating room, the boy recognized his mother and gave other indications of being rational. Five months later he appeared to be completely normal.

"Cardiac arrest, either as ventricular fibrillation or as standstill, is probably the gravest emergency that can befall a patient or his surgeon," Dr. Adams said. It "possibly represents the closest approach to sudden death in which there is yet a chance that the life of the patient may be rescued."

1955 MEDICAL DIRECTORY
ERRATA

Corrections of erroneous biographic material in the 1955 *Medical Directory of New York State* are listed below. Changes have been made in material received prior to the closing date of May 1, 1954.

★**CAPRARO, Vincent J.,** 277 Linwood Ave. Buffalo, N.Y. by appt. Tel Elmwood 2424. Buffalo 1945. NB. D-OG. SL. FACS. Am Ac Obs & Gyn. Gyn State; Asso Obs & Gyn Meyer Meml & Sisters; Asso Gyn Emergency; Asst Obs Child.

Δ★**COLANTUONO, Julius George,** 109-23 71 Rd. Forest Hills, N.Y. Tel Boulevard 3-7280. Albany 1946. NB. A Am Psych; Al Queens Genl. Clin Asst Psych Queens Genl & Hillside OPD.

Δ★**CONTE, Alexander Joseph,** 515 Park Av. New York, N.Y. 2:30-5:30 Wed Fri. Tel Murray Hill 8-8666. LIC Med 1943. D-S. SAC. FACS. AFCCP. Am Rad; Ewing Soc; Morgagni; NY Thor Sur; NY Ca; Ac Med; Al St Vin; Al Meml. Asst Sur Meml; Sur Head & Neck Tumor Ser Man EE&T; Clin Asst Sur & Dir Tumor Clin St Vin.

Δ★**COVEY, Jerome Arthur,** 275 Middle Neck Rd. Great Neck, N.Y. by appt. Tel Great Neck 2-6251. West Ontario 1941. D-IM. SJ. Al Queens Genl. Phys No Shore; Asst Phys Queens Genl; Jr Phys St Francis San; Asso Phys Beth Deaconess; Staff Phys LI Jew.

Δ★**Di FIORE, John Alexander,** 515 Park Av. New York, N.Y. by appt. Tel Murray Hill 8-8668. 44 King St. New York, N.Y. Tel Watkins 4-0228. Creighton 1943. NB. D-IM. SJ. Ac Med; Al St Vin. Asst Phys St Vin; Asst Phys Cardiol St Vin OPD.

★**EUPHRAT, Edwin J.,** 726 W Onondaga St. Syracuse, N.Y. 9-5. Tel 4-4451. LIC Med 1934. D-R. SD. MACR. Radiol NA.

★**EVANCIE, David John,** East Northport, N.Y. 12-2, 6-8 except Wed Sat; 10-12 Sat. Tel Northport 3-1526. Hahne Phila 1953. NB. XM-5. Staff Huntington.

★**FISCHER, Abraham B.,** 4101 12 Av. Brooklyn, N.Y. by appt. Tel Gedney 6-0651. Univ & Bell 1923. D-PN. QP. M Am Psych; Adv Psychother; Bklyn Psych. Asst Neuropsych Maimonides; Psych Bklyn State OPD.

Δ★**FITZ-GERALD, Harvey Braden,** 136 Walnut St. Lockport, N.Y. by appt. Tel 3-2681. Rochester 1938. XJ. Ac Med. Phys City.

Δ★**GAGE, Walter Peter,** 140 E 54 St. New York, N.Y. by appt. Tel Murray Hill 8-0010. Also Cold Spring. P&S NY 1931. D-OG. SL. FACS. Ac Med. Gyn & Obs St Vin; Asst Gyn Poly.

Δ★**GAGE, Walter Peter,** Cold Spring, N.Y. by appt. Tel Cold Spring 5-3735. Also Manhattan. P&S NY 1931. D-OG. SL. FACS. NY Ac Med. Gyn & Obs St Vin; Asst Gyn Poly.

Δ★**GENERALES, Constantine D. J.,** 115 Central Park W. New York, N.Y. 5-7 except Sat Sun by appt. Tel Trafalgar 3-8540. Berlin 1934. XM-5. Asst Phys Mt Sinai, Flower & Fifth Ave, Met & Coler Meml.

★**GLENN, Jules,** 215 E 79 St. New York, N.Y. by appt. Tel Lehigh 5-3250. Also Great Neck. NY Univ 1946. NB. QP. M Am Psych. Asst Adj Ped Psych Lenox Hill.

★**GLENN, Jules,** 8 Preston Rd. Great Neck, N.Y. Tel Great Neck 2-6302. Also Manhattan. NY Univ 1946. NB. QP. M Am Psych. Asst Adj Ped Psych Lenox Hill.

★**GRAHAM, Jacob Jay,** 1 W 85 St. New York, N.Y. by appt. Tel Trafalgar 3-2355. NY Univ 1946. NB. D-OS. SB. Al Beth Israel. Asst Adj Orth Sur Beth Israel & Joint Dis; Asst Orth Monte.

Δ★**GRUND, Joseph,** Liberty, N.Y. 12-2, 7-9 & by appt. Tel 95. Freiburg 1935. XM-2. FCCP. Al Grasslands. Anest Liberty-Loomis.

Δ★**HARRIS, Bruce Alexander, Jr.,** 174 Clinton St. Brooklyn, N.Y. by appt. Tel Terrace 6-7023. Also Huntington. Harvard 1943. D-OG. FACS. Al Johns Hopkins. Asso Obs & Gyn Norwegian; Asst Obs & Gyn Methodist & Greenpoint.

Δ★**HARRIS, Bruce Alexander, Jr.,** Huntington, N.Y. Tel Huntington 4-8161. Also Brooklyn. Harvard 1943. D-OG. FACS. Al Johns Hopkins. Asso Obs & Gyn Norwegian; Asst Obs & Gyn Methodist & Greenpoint.

★**HELFAND, Max,** 65 Central Park W. New York, N.Y. by appt. Tels Susquehanna 7-3731, 7-4229. Fordham 1921. D-PN. QP. SI. M Am Psych. Neur & Psych Correction & City; Cons Psych Bklyn State.

Δ★**HIRSCH, Sidney,** 515 Park Av. New York, N.Y. Tel Plaza 5-2359. Also Cedarhurst. P&S NY 1926. D-S. SA. D-ICS. FICS. Queens Sur; Al Mt Sinai. Sur St Joseph Far Rockaway; Asst Sur Queens Genl; Asso Sur Hillside.

Δ★**HIRSCH, Sidney,** Cedarhurst, N.Y. by appt. Tel Cedarhurst 9-0999. Also Manhattan. P&S NY 1926. D-S. SA. D-ICS. FICS. Queens Sur; Al Mt Sinai. Sur St Joseph Far Rockaway; Asst Sur Queens Genl; Asso Sur Hillside.

★**HOEFER, Paul Frederick Adam,** 710 W 168 St. New York, N.Y. by appt. Tel Wadsworth 3-2500, ext 8048. Wuerzberg 1928. D-PN. Am Neur; A Am Psych; Res Nerv & Ment Dis; Am Ac Neur; Ac Med. Asso Neur Presby.

Δ★**HYMAN, George Arnold,** 7 E 63 St. New York, N.Y. by appt. Tel Templeton 8-1437. P&S NY 1945. NB. D-IM. SJ. AFCCP. Al Presby. Asst Phys Presby; Asst Phys & Asst Hematol Delafield; Asst Phys Cardiovas Dis Beth Israel.

Δ★**LEADER, Sidney D.,** 285 Central Park W. New York, N.Y. 12-1 & by appt. Tel Schuyler 4-3344. P&S NY 1926. XM-5. Ac Med; NY Ped; Al Mt Sinai. Sr Clin Asst Ped Mt Sinai OPD.

Δ★**LEVBARG, John Jacob,** 219 W 86 St. New York, N.Y. by appt. Tels Endicott 2-6845, Schuyler 4-4308. LIC Hosp 1913. D-OL. QP. Am Ac Ophth & Otolar; Adv Psychother; Milit Sur US; NY Clin Psych. Asst Neuropsych City & Welfare Isl Disp; Sur Otolar Harlem E&E; Dir Voice & Speech Harlem E&E OPD.

Δ★**NEY, Charles,** 745 Fifth Av. New York, N.Y. 9-1 Mon Wed Fri; 6-8 Tues by appt. Tel Eldorado 5-6024. Also Pelham Manor. Johns Hopkins 1937. D-U. SG. FACS. Am Urol; Ac Med; NY Urol; Al Morrisania; Al Monte. Asso Urol Leb, Morrisania & Beth David.

Δ★**NEY, Charles,** 914 Split Rock Rd. Pelham Manor, N.Y. by appt. Tel Pelham 8-1660. Also Manhattan. Johns

Hopkins 1937. D-U. SG. FACS. Am Urol; NY Ac Med; NY Urol; Al Morrisania; Al Monte. Asso Urol Leb, Morrisania & Beth David.

Δ★**OSSERMAN, Kermit Edward,** 4 E 89 St. New York, N.Y. by appt. Tel Sacramento 2-0373. Md 1933. D-IM. SJ. FACP. Ac Med. Asst Phys Mt Sinai; Phys-in-Chg Myasthenia Gravis Mt Sinai OPD; Asso Phys Syden.

Δ★**PLATAU, Martin,** 557 First St. Brooklyn, N.Y. by appt. Tel Hyacinth 9-5445. Berlin 1920. X. Asst Phys Kings Co.

Δ★**PRESCHEL, Sheldon Barcham,** 2711 Henry Hudson Pkway. Bronx, N.Y. 5:30-7:30 Mon thru Fri; 10-1 Sat. Tel Kingsbridge 8-2443. LIC Med 1946. NB. X. MACC. NY Cardiol; Al Joint Dis; Al Ford. Asst Adj Cardiol Jew Meml; Clin Asst Phys Beth Israel.

RAVITCH, Mark M., Mount Sinai Hospital, 100 St & Fifth Av. New York, N.Y. 9-5. Tel Trafalgar 6-1000, ext 505. Johns Hopkins 1934. D-S. D-TS. FACS. Am Thor Sur; Am Sur; Univ Sur; Ac Med; NY Sur. Dir Sur Mt Sinai.

Δ★**ROSENTHAL, Irving A.,** 157 Wyckoff St. Brooklyn, N.Y. 1-4, 7-9 except Sun. Tel Main 5-6170. Paris 1938. L-P. Asst Ped Met.

Δ★**SALOMON, Siegfried,** 117 Hart Blvd. Staten Island, N.Y. 1-2, 6:30-8. Tel Gibraltar 2-2434. Heidelberg 1921. SJM-4. Asso Phys St Vin; Chief Cardiol St Vin OPD.

Δ★**SANDERS, Martin M.,** 111 W Court St. Rome, N.Y. by appt. Tel 878. Vienna 1937. XC. Am Ac GP; Utica Ac Med. Phys Rome & Murphy Meml.

Δ★**SCHNEIDER, Irving Morton,** 25 Central Park W. New York, N.Y. by appt. Tel Circle 5-6720. Also Farmingdale. NY Univ 1937. D-U. SG. Al Harlem; Al Univ. Asst-in-Urol Univ; Asst Urol Bell; Staff Urol LI Jew.

Δ★**SCHNEIDER, Irving Morton,** Farmingdale, N.Y. by appt. Tel Farmingdale 2-1032. Also Manhattan. NY Univ 1937. D-U. SG. Al Harlem; Al Univ. Asst-in-Urol Univ; Asst Urol Bell; Staff Urol LI Jew.

SEMKIW, Wolodimir Oleg, Thiells, N.Y. Tel Haverstraw 9-5731. Lviv 1938. Sr Psych Letchworth Vil.

Δ★**SIEGEL, Sidney James,** 1085 Park Av. New York, N.Y. 1-3. Tel Atwater 9-4916. Dalhousie 1938. X. Am Ac Obs & Gyn; Ac Med. Asso Obs City & Welfare Isl Disp; Asst Gyn Knicker; Asst Obs Col; Jr Asst Gyn Poly; Gyn Poly OPD.

★**SOLETSKY, Louis Myram,** 81-52 Little Neck Pkwy. Floral Park, N.Y. by appt. Tel Fieldstone 7-4151. Also Manhattan. Hahne Phila 1950. NB. XM-5.

★**SOLETSKY, Louis Myram,** 124 W 79 St. New York, N.Y. by appt. Tel Endicott 2-8282. Also Floral Park. Hahne Phila 1950. NB. XM-5.

Δ★**SOLOVAY, Hyman U.,** 622 Ocean Av. Brooklyn, N.Y. by appt. Tel Buckminster 4-4230. Cornell 1925. D-IM. SJ. FACP. NY Ac Med; Al Kings Co. Phys Unity; Asso Phys Kings Co.

Δ★**TARACHOW, Sidney,** 123 E 80 St. New York, N.Y. by appt. Tel Regent 4-3160. Marquette 1932. P&S NY Med Sc D 1937. D-PN(P). QP. SI-2. F Am Psych; Am Psychoan; Psychopath & Psychother; NY Clin Psych; NY Psychoan; Al Mt Sinai. Psych Hillside.

Δ★**TRATTLER, Samuel Carlyle,** 1 W 70 St. New York, N.Y. Tues Thurs Sat by appt. Tel Trafalgar 7-5535. Res 101 Central Park W. New York, N.Y. Tel Trafalgar 7-5536. NY Hom 1923. D-OG. SL. D-ICS. FICS. Am Ac Obs & Gyn. Gyn Hosp & Home for Aged & Infirm Hebrews; Asso Obs & Gyn Met; Adj Obs & Gyn Jew Meml; Asst Obs & Gyn Flower & Fifth Ave.

★**TURNER, Louis Bythiner,** Roslyn, N.Y. Tel Wheatley Hills 5-6382. P&S NY 1944. NB. D-IM. SJ. Al Mt Sinai. Clin Asst Phys Mt Sinai OPD.

Δ★**VORHAUS, Martin G.,** 1130 Park Av. New York, N.Y. by appt. Tel Sacramento 2-8400. Univ & Bell 1918. D-IM(Ge). SJ. FACP. Am Gastroent; Am Ther; Am Ger; Ac Med. Cons Phys Joint Dis.

Δ★**WEISBERG, Aaron,** 1171 Eastern Pkway. Brooklyn, N.Y. by appt. Tel President 4-4044. Ecl Cinn 1939. D-IM. SJ. FACP. Am Fed Clin Res; Al Coney Isl. Asso Phys Coney Isl & Bklyn Hebrew; Asso Phys Unity; Asst Gastroent Jew.

Δ★**WINKELSTEIN, Asher,** 1185 Park Av. New York, N.Y. by appt. Tel Atwater 9-7879. Syracuse 1917. D-IM(Ge). SM-3. Am Gastroscop; Am Gastroent; Ac Med. Cons Phys Gastroent Mt Sinai.

Safety Measures Against School-Age Accidents Urged

Return of the millions of American children to their classrooms spotlights the need for further progress in safety measures against school-age accidents, currently causing about 6,000 deaths yearly in the United States.

Among boys five to fourteen years old the loss of life from accidents is seven times that from acute poliomyelitis, and nine times the loss from pneumonia and influenza combined, according to the Metropolitan Life Insurance Company's statisticians. Among the older elementary school boys—those at ten to fourteen—accidents take a greater number of lives than all other causes combined.

Although accidents are not as dominant a factor in the mortality among girls as among boys, they account for more than one fourth of all deaths and outrank every other cause of death in the five to fourteen-age range, the statisticians report.

A study of the experience among children of elementary school age insured by the Metropolitan showed motor vehicle mishaps to be by far the leading cause of accidental death, accounting for two fifths of the fatalities. In the insured group about three fifths of the children killed by motor vehicles were pedestrians.

Drownings ranked second as a cause of accidental death among these children, causing about one fourth of the fatalities. Other causes contributing in appreciable measure to the total are burns and conflagrations, firearms accidents, and falls.

A report by the statisticians points out that accident prevention constitutes the broadest single area for life conservation among children of elementary school age.

"Since one out of every six of these fatalities occurs in and about the home, it is clear that parents can do much to make the lives of their children safer," the report notes.

THE MONTH IN WASHINGTON

Within a few months there will be under way the first comprehensive survey ever to be made of the nation's mental health problems. The study will attempt to measure the extent of mental illness, to judge the progress and lack of progress in research, and to estimate the additional hospitals and clinics and trained personnel needed before a start can be made toward a solution.

A newly formed Joint Commission on Mental Illness and Health already has begun preliminary work on the survey. The all-out effort will be initiated, possibly before the first of the year, after the Commission has received the formal approval of the National Mental Health Advisory Council of the U.S. Public Health Service and the Surgeon General. Once this endorsement has been given, $250,000 in United States funds will be available to help with the first year's operations. Another million dollars is to be supplied over the following two years.

Originally, the Joint Commission was formed by the American Medical Association's Council on Mental Health and the American Psychiatric Association. Later other associations joined in, including the American Association of Psychiatric Social Workers, the American Hospital Association, the American Nurses Association, the National League of Nursing, the American Psychological Association, and the National Education Association.

A nation-wide survey has been the objective of these associations for more than a year. Substance was added to the idea this year when Congress approved the $1,250,000 fund, to be used over three years, for a comprehensive study. The law specifies that the investigation be conducted by nongovernmental bodies; to qualify fully the Joint Commission has been legally incorporated.

At hearings before Congressional committees early this year, psychiatrists and others outlined the complex problem they are facing. The care of mental patients is one of the great financial burdens of the states. Rate of cure and rehabilitation is so low that institutions are being filled as fast as they can be constructed; half the hospital beds are occupied by mental patients, and their care costs more than a billion dollars a year in tax funds.

There are not enough psychiatrists trained to administer state programs or even all the large hospitals; competition for the top men in this field has been compared to the proselyting of football players and coaches.

Many of the leading psychiatrists complain that too much attention is being paid to constructing hospitals and not enough to research, which might develop treatments that would keep many patients out of institutions and bring about the rehabilitation of hundreds of thousands of others now hospitalized.

In testifying before a House committee early this year, Dr. Leo H. Bartemeier, representing the A.M.A., argued for Federal help in conducting the survey.

He told the committee: "For several years we in the profession of psychiatry have been aware of the critical need for a survey and evaluation of our facilities and programs for the diagnosis, treatment, and care of the mentally ill and retarded. While the problems of mental illness appear to grow in almost geometric proportion, we find ourselves without a comprehensive, up-to-date, integrated body of knowledge in spite of the fact that many worth-while surveys and studies in this field have been made. It is only with such complete knowledge that our present and future direction and programs can be properly planned."

Notes

Before it prepares a report on the narcotic problem, the Senate subcommittee will have held hearings in most parts of the country. Many local addiction problems have been described. At the New York hearing the subcommittee was urged to recommend a system of clinics where the addict could obtain narcotics legally at reasonable cost, thereby defeating the rackets.

Although states either may take U.S. grants to buy Salk vaccine or the vaccine itself, most of them are taking the money.

Veterans Administration has set up a seventh area medical office in Columbus, Ohio, a move which it believes eventually will provide better service at less cost.

Almost nine million dollars will be spent next year on health work in North, South, and Central America by international bodies, such as World Health Organization. One project is the starting in Mexico of a four-year malaria eradication program.

The Navy has set up a program for training Waves as nurses; they will be obligated for a year's active duty for each year of training.

Bureau of Internal Revenue has summarized deductible and nondeductible medical expenses for income tax purposes; the listings combine new interpretations with a clarification of old rulings.

Prepared by the Washington Office of the American Medical Association, Washington, D.C.

Draw your Salary before Spending it.—George Ade

Department of

WORKMEN'S COMPENSATION

DAVID J. KALISKI, M.D., *Director, Bureau of Workmen's Compensation*

GERALD D. DORMAN, M.D., *Chairman, Council Committee on Workmen's Compensation*

Medical Society of the State of New York

Third Party Cases and Physicians' Malpractice

Under the provisions of Section 29, subdivision 6, the right to compensation or medical benefits under the Workmen's Compensation Law shall be the exclusive remedy of the employe (or in case of death, his dependents) when such employe is injured or killed by the negligence or wrong of another in the *same* employ.

If an employe covered by workmen's compensation is injured or killed by the negligence or wrong of another *not in the same employ*, the injured employe or, in case of death, his dependents, need no longer elect to take compensation and medical benefits or pursue his remedy against the third party but may take compensation and medical benefits and at any time either prior thereto or within six months after the awarding of compensation pursue his remedy against a third party subject to the provisions of Section 29 of the Workmen's Compensation Law.

The employer or carrier liable for the payment of compensation shall have a lien on the proceeds on any recovery from the third party either by judgment, settlement, or otherwise after the deduction of reasonable and necessary expenses, including attorney's fees, incurred in effecting such recovery to the extent of the total amount of compensation awarded or provided or estimated under Section 29 including the expenses of medical care paid or to be paid. This section further provides that if the injured employe or, in case of death, his dependents has failed to commence an action against a third party within the time limited, such failure shall operate as an assignment of the cause of action against a third party to the carrier or employer. The employer or carrier in such instance is required to notify the employe or his dependents by personal service or by registered mail at least thirty days prior to the expiration of the time limited for the commencement of an action, and the failure of the employe to commence action shall operate as an assignment of whatever cause of action may exist to the employer or insurance carrier. If, as a result of such action against the third party by an employer or carrier, a sum is paid in excess of the total amount of compensation awarded the injured employe or his dependents, including the cost of medical care and reasonable and necessary expenses in effecting the recovery, the carrier shall forthwith pay to the injured employe or his dependents two thirds of such excess. On the other hand, if the amount recovered by such suit is less than the total to which claimant would be entitled under the statute, or in the event of a modification of the award increasing compensation previously awarded, or in the event that the number of such compensation payments could not have been determined at the time of the award—if all these exceed the total, such excess shall be credited against the increase. If the injured employe proceeds against the third party and recovers less than the amount to which he would have been entitled for compensation and medical care under the Workmen's Compensation Law, then any deficiency shall be contributed by the employer or carrier.

Malpractice

There have been interesting court decisions in the past with respect to third party actions. In the case of *Parchefsky* v. *Kroll Bros.*, 267 N.Y. 410, May 21, 1935, the decision of the Appellate Division on November 25, 1934, was in response to an appeal by the employer and his insurance carrier from an award to the claimant in the amount of $1,626.27 with $33^1/_3$ per cent permanent loss of the use of his right hand. Patient had suffered a cut on the right wrist and was treated thereafter by a clinic at that time maintained by the insurance carrier. Claimant subsequently instituted an action to recover damages because of the alleged malpractice by physicians employed by the insurance carrier in treating the injured wrist. This malpractice action was settled by the carrier in the sum of $3,500, and the only question involved in the claim was whether or not money which the claimant received in settlement of the malpractice suit should be credited to the carrier. After the settlement of the malpractice action the State Industrial Board made a scheduled award to the claimant which was under review. It was the contention of the carrier that they were entitled to have credited the sum for which the malpractice action was compromised. Otherwise, according to the appellant, the Industrial Board allowed the claimant a double recovery for the same injury. The Appellate Court held that a settlement between the injured employe and his employer under the Workmen's Compensation Law did not preclude recovery against the negligent physician or the employer in the absence of showing that the settlement included compensation of a wrong done by the malpractice. *The injury inflicted by malpractice cannot be said to have arisen out of or in the course of the worker's employment in the case.* The court finally held that there are two independent acts presented here in the case. Compensation is not based on negligence but solely on the fact of employment; the injuries which gave rise to the malpractice action were solely the result of negligence. The two causes the court held are entirely unrelated, and actions for malpractice against the insurance carrier physician in a compensation claim are unrelated and independent of each other, and recovery in one does not bar recovery in the other. The Appellate Court, therefore, affirmed the award of the Industrial Board. This was not a unanimous decision. Upon further appeal the Court of Appeals reversed the decision of the Appellate Division as follows: "The injured employe may, if he chooses, avail himself of his common law remedy against the third party. If he does, the employer or carrier is liable only for the deficiency between statutory compensation and recovery collected from the third party. If he does not, the employer or carrier upon payment of the award may enforce the common law remedy for its own benefit." Since the amendment to the law in 1935, a subrogated carrier or employer is required to pay to the injured employe or his beneficiary two thirds of the excess of the recovery over the actual cost of compensation and medical care, plus legal expenses.

Some significant remarks by Chief Justice Lehman in this appeal (*Parchefsky* v. *Kroll Bros.*, 267 N.Y. 410, May 31, 1935) are the following:

> . . . . Where the chain of causation between accidental injury and ultimate disability remains unbroken an injured employe is entitled to the statutory compensation for the ultimate disability resulting from the accidental injury.

The court held that in the instant case patient received damages for the malpractice of the negligent physician employed by the employer which aggravated the result of the original injury and, in addition, was also awarded compensation from the employer for the original injury including those results which might be traced to the malpractice. The law should not allow double satisfaction for a single injury, and for that reason the court held that satisfaction by the employer of *all* damages caused by the injury and the malpractice bars action against the negligent physician who aggravated the damage (*Milks* v. *McIver*, 264 N.Y., 270).

It has been held in another case that the

> ". . . . original wrongdoer, when mulcted for all the damages caused by his wrong, may become subrogated to a right of action of the injured party against a negligent physician for aggravation of the original injury and damages. (*Fisher* v. *Milwaukee E. Ry. & L. Co.*, 173 Wis. 57, cited with approval in *Chicago & N. W. Ry. Co.* v. *Nye Schneider Fowler Co.*, 260 U.S. 35.)"

The purpose of the statute is clear after taking into consideration the provisions of Section 29, continues Justice Lehman:

> . . . . The employer or carrier must provide the statutory compensation for accidental injury arising out of and in the course of employment regardless of whether or not the injury was due to the employer's wrong or negligence. Against the employer the statutory remedy is exclusive. The common law remedy against a person not in the same employ [a third party] whose wrong or negligence caused the injury remains intact. The injured employe may, if he chooses, avail himself of his common law remedy against the third party. If he does, the employer or carrier is liable only for the deficiency between statutory compensation and recovery collected from the third party. If he does not, the employer or carrier upon payment of the compensation award may enforce the common law remedy for its own benefit.
>
> . . .
>
> . . . . it has been held that where an employe accepts compensation under the Workmen's Compensation Law for an industrial injury *including* the results of malpractice in the treatment of such injury, he cannot maintain an action against the negligent physician. (*Vatalaro* v. *Thomas*, 262 Mass. 383.) In that event the right of action for malpractice passes under the statute to the party paying the compensation. (*Overbeck* v. *New*, 261 Mich. 156.)
>
> . . .
>
> . . . . After malpractice has aggravated the original injury, the subsequent disablement is due to concurrent causes inextricably intertwined. . . . These results would not have followed from the original injury but for the independent negligence of the physician. To the extent that the injury for which compensation may be made under the Workmen's Compensation Law *includes* the result of malpractice, the "injury" is due to the negligence of the physician within the spirit and letter of the statute. To that extent, then, the injured employe has a common law remedy against the physician and a statutory remedy against the employer.

Then, under Section 29 of the Workmen's Compensation Law:

> . . . . the injured employe has then an election which remedy he will pursue. If he pursues his common law remedy against the negligent physician and collects more than the compensation provided by the statute, the employer or carrier is liable only for the injury, apart from the result of the malpractice. If he elects to take compensation under the statute, including damages for the injury caused by the physician's negligence, the employer becomes subrogated to the employe's right of action against the physician. So here the Industrial Board in the case cited above erred in rejecting proof that the employe had received a larger sum as

settlement of the malpractice action than he would have received as compensation for the original injury alone, plus the results of the malpractice. Upon that proof, the claimant was entitled only to an award for the injury apart from the malpractice.

The order of the Appellate Division and the State Industrial Board were reversed. (See also *Balsley* v. *Severance,* 261 App. Div. 492, March 19, 1941.)

It is apparent that a physician treating a compensation claimant may become a party (third party) to a negligence action under certain conditions enumerated above. Or, under certain other conditions, the money for damage caused by his malpractice (over and above the amount paid for the compensation injury alone), if paid by the employer, may be claimed by the subrogated employer or insurance carrier.

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the September, 1955, meeting of the Council of the Medical Society of the State of New York.

The Council met September 8, 1955, from 9:10 to 11:50 A.M. at the Manhattan Club, New York City. Dr. Renato J. Azzari, president, presided.

Dr. Peter J. Di Natale stated: "The following appeared in the June 16, 1955, Council minutes:

> In dealing with the report regarding industrial health, the House of Delegates approved of the reference committee's report, which stated in part:
>
> "In the meantime the problem has become more crucial as management and labor unions, either separately or together, are setting up health centers to furnish some type of medical care to their employes. In the majority of the cases, no help is sought from organized medicine in setting up these health facilities.
>
> "The problem, in the opinion of your reference committee, rests with the Council and the Board of Trustees to obtain a properly qualified expert to run the Bureau of Industrial Medicine with the funds that are available."

It was voted to refer this to the Committee on Economics."

Dr. Di Natale questioned the propriety of this action.

After discussion it *was voted* to change the reference from the Economics Committee to the Special Committee to Establish an Industrial Health Bureau.

Secretary's Report

Dues Remission.—The Council voted to remit annual State dues of one member for 1954 and seven members for 1955 because of illness; of one member for 1950, 1951, 1952, 1953, 1954, and 1955, of two members for 1954, and of 28 members for 1955 because of military service; and of one member and two deceased members for 1955 because of financial hardship. The council also voted to request remission of American Medical Association dues of one member for 1953, three members for 1954, and 25 members for 1955. The Council rescinded a remission of 1955 annual State dues granted on May 11, 1955, because of illness, and its authorization of a request that the American Medical Association take similar action, because the member had resumed active practice.

Executive Committee.—Dr. Anderton reported recommendations of the Executive Committee regarding the following communications considered at its meeting on September 7:

1. Memorandum of June 2 which was sent to the officers of the Ninth District Branch and the officers of its component county societies regarding the annual meeting of the Ninth District Branch, a letter from Dr. John R. Rogers, dated June 14, 1955, and a letter dated August 31, 1955, from Messrs. Martin, Clearwater, and Bell, regarding the constitutionality of a resolution adopted by the 1955 House of Delegates in regard to the annual meeting of the Ninth District Branch. The letter from Martin, Clearwater, and Bell reads:

> Dear Dr. Anderton:
>
> We have reviewed resolution number 55-16 reference the Ninth District Branch adopted by the House of Delegates of the Medical Society of the State of New York on May 10, 1955. In our opinion, the House of Delegates, in adopting said resolu-

tion, as stated in your letter of July 21, 1955, did act contrary to the State Society's Constitution and Bylaws.

In our opinion, the proper procedure to be followed in changing the bylaws of the Ninth District Branch is that outlined in Section 2 of Article XI of the Constitution of the State Society and in Section 1 of Chapter VII of the bylaws of the Ninth District Branch, rather than by resolution of the House of Delegates of the State Society. We also believe that the aforesaid resolution is in conflict with Section 1 of Chapter XIII of the Bylaws of the State Society which provides that each district branch shall elect a president for two years.

We believe that the Ninth District Branch might more properly achieve its objective by following the procedure outlined in Section 1 of Chapter VII of the bylaws of the Ninth District Branch and thereafter submitting the proposed amendment to the Council of the State Society for approval.

We believe that it is important to call to the attention of the Ninth District Branch that any amendment to their bylaws must not be inconsistent with the mandates concerning their organization contained in the Constitution and Bylaws of the State Society, i.e., promoting "the scientific, social, cultural, and other interests of the medical profession *within the district*."

We trust that the above will be of some assistance to you and Dr. Harold S. Heller, president of the Ninth District Branch.

Yours sincerely,
Martin, Clearwater & Bell

Dr. Anderton explained: "The resolution directed that the meeting of the Ninth District Branch should consist of a meeting of the delegates to the House of Delegates from the component county societies annually with the election of officers. That was passed by the House of Delegates erroneously.

"The secretary has taken the liberty of drawing these facts to the attention of the president of the Ninth District Branch, who is proceeding to have the annual meeting in accordance with the constitution and bylaws."

It *was voted* to accept the action of the secretary in this matter.

2. It was recommended that the Council approve of membership for Dr. Joseph H. Siris to continue in the Medical Society of the County of Queens, although he has removed his office into the county of Nassau. The Medical Society of the County of Nassau has no objection.

Approval *was voted*.

3. The Executive Committee also recommended that Dr. Richard A. Slezak, of Tully, in Onondaga County, be granted permission to join the Medical Society of the County of Cortland. The Medical Society of the County of Onondaga concurs. The reason is that Dr. Tully's main hospital affiliations will be in the County of Cortland.

Approval *was voted*.

4. An opinion of Messrs. Martin, Clearwater, and Bell, dated August 30, 1955, regarding the supplying of information to the Bureau of Motor Vehicles in the matter of a physician's liability for certifying an applicant's physical competency for driving on the highways, was read and summarized as follows:

(*a*) He may decline to give an applicant an examination or written approval, and thus sidestep the problem altogether.

(*b*) If he accepts the applicant's contract, then he owes him a duty to give him a thorough and careful examination, within the standards above described,* to determine his fitness for operating a motor vehicle.

(*c*) If the examining physician comes to the conclusion that the applicant is physically capable of so doing with safety, then he should write a statement to that effect, as required by the Motor Vehicle Bureau.

(*d*) If he does so and the applicant later has an accident involving injury to himself or to a third party, the physician will only be liable if it can be shown that his tests were careless and not conducted according to approved methods in general use and such failure was the cause of the accident or injury.

(*e*) And, finally, if it is proved that his methods were substandard and he is held liable to a *patient*, then he is still covered by any malpractice insurance he carried, whereas if the judgment is rendered against him in favor of a *third party*, not a patient of his, then he is not covered by that insurance. As you see, providing the doctor conducts himself in good faith and with due care, he has little to fear from the law, which adequately protects his interests. The present motor vehicle regulation makes no substantial change in that protection.

There was also a letter from Mr. Leech, executive secretary of the Medical Society of the County of Onondaga, asking if it was necessary for a physician issuing a statement regarding a driver's physical condition for the Motor Vehicle Bureau to have a signed permit from the driver. The answer was that it probably would be to the doctor's best protection to have such a signed statement but that it was not necessary, because in giving such a statement to the Motor Vehicle Bureau, the driver in effect gave his permission to the doctor to give such information.

After discussion it *was voted* that the summary be sent to secretaries of county medical societies at the earliest date possible.

5. An invitation described by Dr. Anderton as follows: "An invitation has come from Mr. C. Aubrey Gasque, General Counsel of the Committee on the Judiciary of the United States Senate, stating that Dr. Andrew A. Eggston has been invited to appear before meetings of a subcommittee at the United States Courthouse, Foley Square, on September 19, 20, and 21 in New York City, where the main subject of the meeting will be the clinic plan for treatment of drug addicts.

"Dr. Eggston has also been invited by the Council on Mental Health to attend its meeting at the American Medical Association on September 10.

"May I explain, sir, that our House of Delegates adopted a resolution advocating the treatment of drug addicts in clinics and not as criminals. That resolution also called for its introduction in the House of Delegates of the American Medical Association. The introduction was made by Dr. Eggston and was considerably reported in the newspapers. The resolution from the American Medical Association was referred to the Council on Mental Health of the American Medical Association. That is why both the Council on Mental Health and the Subcommittee of the Judiciary Committee of the Senate have invited Dr. Eggston to appear. The original motion had as one of its principal backers Dr. Herbert Berger, our vice-president. Dr. Berger will be in England at the time of at least one of these meetings. Therefore, it is recommended by the Executive Committee that the Council request Dr. Eggston to represent the State Society at the two meetings which have been mentioned."

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* "An adequate examination (i.e., commensurate with customary tests) and care (i.e., that degree of care exercised by doctors in general)."

After discussion it *was voted* that Dr. Eggston act as alternate at any meeting on that topic which Dr. Berger cannot attend.

6. Correspondence regarding the membership of Dr. Anderton on the Organization Committee of the Committee for Modern Courts. This is a committee sponsored by the Bar Association to aid in the streamlining and modernization of the courts of this State. Membership on it would entail a contribution requested of $100 each from five men in helping to make up a budget of $20,000 to $25,000, of the Committee for Modern Courts.

The Executive Committee felt that this project, while very important and worthy, was not a matter for the direct participation of our State Society.

Dr. Anderton moved approval of this point of view of the Executive Committee and that the secretary be instructed so to communicate with the Committee on Modern Courts.

After discussion it was so *voted.*

General.—Dr. Anderton reported: "During the past summer the members of your staff at the headquarters and Albany offices have worked diligently and faithfully in spite of the tremendous heat. Their loyalty deserves commendation.

"Mr. Robert C. Killough, Jr., Assistant Commissioner for Professional Education, has requested that the State Society make suggestions to fill a vacancy on the State Board of Medical Examiners, because Dr. J. Ernest Delmonico of Syracuse, has resigned, 'keeping in mind that the persons so named should be qualified in the field of anatomy, from upstate New York.' Your secretary has consulted several and suggests that you nominate Dr. Victor M. Emmel, Assistant Professor of Anatomy at the University of Rochester School of Medicine and Dentistry; Dr. Leon G. Berman, Clinical Professor of Surgery at the State University of New York College of Medicine at Syracuse; and Dr. Carl W. Clark, Jr., Assistant Professor of Surgery at the State University of New York College of Medicine at Syracuse."

Approval *was voted.*

"On August 11, Dr. Earl C. Waterbury, secretary of the Medical Society of the County of Orange, handed me the following letter:

> Dear Dr. Waterbury,
>
> I have a relative in your city who needs a colostomy. Can you recommend a group of physicians who specialize in this type of operation, from whom I can select one.
>
> Thank you for giving this your kind attention, I am
>
> Very truly yours,
> Marion R. Michaels
> (Mrs.) Marion R. Michaels

"Similar letters were received by a number of county medical society secretaries in New York and other states. Your secretary's office received several inquiries regarding this matter. On August 16, Mr. Martin Tracey, field representative, and your secretary called upon Mrs. Michaels and Mr. Nicholas Molnar, president of Fine Organics, Inc., at Mrs. Michaels' apartment, 40 West 59th Street, New York City. It developed that Mrs. Michaels desired a mailing list of abdominal surgeons to whom she could advertise 'Odagon' tablets to deodorize colostomy bags. She was advised to consult the *Directory of Medical Specialists,* and the following memorandum was sent to secretaries of county medical societies in New York State, and others: 'With Mrs. Marion R. Michaels' consent, you are requested to disregard her letter of August 1, 1955. She will pursue other methods of advertising a deodorant for use in colostomy bags.' "

Dr. Anderton also reported regarding his activities since the preceding Council meeting, including committee meetings and visits to exhibits at Saratoga Spa and the State fair.

It *was voted* to approve the report as a whole with the supplementary report.

At the request of the president, Dr. Anderton read the following letter of resignation from Councillor Denver M. Vickers:

> August 7, 1955
>
> Dr. Renato J. Azzari
> The Medical Society of the State of New York
> 386 Fourth Avenue
> New York, N. Y.
>
> My dear Dr. Azzari:
>
> As I plan to move outside the State about October 1, 1955, may I submit to you my resignation as a councillor of the Medical Society of the State of New York?
>
> Will you please express to the officers and members of the Council my sincere regret that I cannot continue the very pleasant associations I have had with them for so many years? It has meant a great deal to have personal contact with men who are among the outstanding figures in medicine and to have even a little part in formulating some of the policies of organized medicine.
>
> To you, personally, go my very best wishes for a good year.
>
> Sincerely,
> Denver M. Vickers

It *was voted* to accept the resignation with deep regret and that the secretary send a letter to Dr. Vickers expressing the feelings of the Council.

The Treasurer's report was accepted and its recommendations adopted.

Reports of the Committees

Blood Banks Commission.—Dr. James Greenough, chairman, reported that a meeting of the Blood Banks Commission was held on June 23, 1955. These problems appeared to be of primary importance: (1) whether blood assurance was insurance, (2) agreement with the Greater New York Hospital Association to cooperate in the program, and (3) overcoming the obstacles to transferring blood from a non-National Institute of Health-licensed bank to an N.I.H.-licensed bank.

On July 11, 1955, he met Commissioner Herman E. Hilleboe to discuss the transfer of blood between non-N.I.H.-licensed banks and N.I.H.-licensed banks. Dr. Hilleboe very kindly wrote Dr. W. H. Sebrell, Jr., director of the N.I.H., asking whether banks licensed by the State Department of Health could transfer blood to banks licensed by N.I.H.

A letter dated July 28 was received by Dr. Hilleboe from Dr. Sebrell, and a copy was sent to your chairman. This letter stated that a license from N.I.H. would not be required to transfer blood to an N.I.H. bank provided this blood was not shipped across state boundaries. An outline of the necessary procedure was included. Dr. Sebrell offered to help in the development of the blood program in New York State. This would appear to clear up the difficulties which have been encountered in transferring blood from non-N.I.H.-licensed banks to N.I.H.-licensed banks.

Your chairman attended a meeting of the board of directors of the Blood Banks Association July 12, 1955. At that meeting Mr. Burns of the office of Martin, Clearwater, and Bell stated that a complete report of the activities of the Blood Banks Association was being submitted to the State Insurance Department.

The financial report for June was submitted.

The budget was reviewed. The present problem appears to be more concerned with increasing income than decreasing expenses which have already been drastically cut. Agreement with the Greater New York Hospital Association and disposal of surplus blood would increase the income appreciably.

A joint meeting of the Blood Banks Commission and the executive committee of the Blood Banks Association was held July 26, 1955. The problems of the Blood Banks Association were discussed. The question whether blood assurance is insurance, the proposed agreement with the Greater New York Hospital Association, and the disposal of surplus blood still appeared to be of primary importance.

Motion was passed that in view of the fact that the Blood Banks Association was closely approximating the dictates of the House of Delegates, its activities should continue through the summer. A meeting of the Commission was set for September 9, at which time the program would again be reviewed.

The report *was approved.*

Civil Defense.—Dr. Anderton stated: "There is no report, Mr. President, from the Civil Defense Committee, but the secretary takes the liberty of calling to the attention of the Council the fact that in the recent flood disasters in this State there was very little action taken by the physicians as an organized body and that perhaps it might be recommended to the Civil Defense Committee that they undertake organization for any and all catastrophes."

It *was voted* to approve this recommendation.

Convention.—The report of the Convention Committee, as distributed with the agenda, is as follows:

The 149th Annual Convention of the Medical Society of the State of New York was held at the Hotel Statler in Buffalo, from May 9 through 13, 1955.

REGISTRATION.—Registration figures were as follows:

Physicians	1,619
Guests (included are medical students, interns, dentists, nurses, technicians, etc.)	637
Technical exhibitors	332
TOTAL	2,588

HOUSE OF DELEGATES.—The House of Delegates met the first three days of the convention. An evening session was held on Tuesday. Thirty-three resolutions were acted upon.

The Session on Physical Medicine was changed to a Section. It was voted to hold the 1957 meeting in Buffalo. The 1956 meeting will be held in New York City, May 7 to 11.

SCIENTIFIC PROGRAM.—The Allergy Section held its first meeting, as did the divided Ophthalmology Section and Otolaryngology Section.

Dr. Laurance D. Redway, editor, NEW YORK STATE JOURNAL OF MEDICINE, had some of the panel discussions and scientific papers tape recorded.

Instead of holding postgraduate lectures on Tuesday and Wednesday mornings, round table discussions were substituted.

The following are the attendance figures for scientific meetings:

Sections		
Allergy	Wednesday A.M.	85
Anesthesiology	Thursday A.M.	68
Chest Diseases	Thursday A.M.	56
Dermatology and Syphilology	Thursday A.M.	79
Gastroenterology and Proctology	Thursday A.M.	53
General Practice	Friday A.M.	73
Industrial Medicine and Surgery	Wednesday A.M.	40
Medicine	Thursday A.M.	68
Neurology and Psychiatry	Thursday A.M.	45
Obstetrics and Gynecology	Friday A.M.	69
Ophthalmology	Thursday A.M.	82
Orthopedic Surgery	Wednesday A.M.	60
Otolaryngology	Friday A.M.	43
Pathology and Clinical Pathology	Friday A.M.	37
Pediatrics	Thursday A.M.	53
Preventive Medicine and Public Health	Wednesday A.M.	67

[Continued on page 3328]

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[Continued from page 3326]

Radiology	Friday A.M.	56
Surgery	Friday A.M.	61
Urology	Friday A.M.	31
Sessions		
History of Medicine	Tuesday 8 P.M.	71
Legal Medicine	Wednesday A.M.	32
Physical Medicine	Wednesday A.M.	78
Public Relations	Thursday A.M.	52
General Sessions	Monday P.M.	109
	Tuesday P.M.	300
	Wednesday P.M.	350
	Thursday P.M.	400
	Friday P.M.	50
Round Table Discussions	Tuesday A.M.	58
	Wednesday A.M.	33
	Thursday 8 P.M.	30

Scientific Exhibits.—The Scientific Exhibits Subcommittee chose 27 exhibits from the applications. The Scientific Awards Subcommittee reported there were not enough exhibits to warrant three awards in each class and picked the following for recognition—two in each class. (The list of award winners was published in Section 114 of the Minutes of the Annual Meeting, page 91, of the New York State Journal of Medicine for September 1, 1955, Part II.)

Scientific Motion Pictures.—The motion picture exhibit was planned by Dr. Colgate Phillips, cochairman, Motion Picture and Television Subcommittee. With the help of his committee he reviewed and chose the pictures which were presented with the cooperation of the Medical Film Guild.

Television.—The television program sponsored by Smith, Kline & French Laboratories, and arranged with the cooperation of the Television Subcommittee, Dr. John H. Talbott, chairman, and the Buffalo General Hospital, ran Monday through Thursday. Attendance ranged from 125 to 425. This year, the television was shown on one large screen rather than on several scattered small television sets.

Videclinic.—The videclinic was an innovation. It consisted of live and film reports on mental health. This, too, was sponsored by Smith, Kline & French and was shown on Monday evening to an audience of about 800.

Technical Exhibits.—Mr. Charles L. Baldwin, in charge of technical exhibits, reported there were 79 exhibits.

Annual Meeting and Dinner Dance.—The annual meeting and dinner dance was held on Wednesday evening of the convention week; 162 attended. The speakers were the Drs. Dan Mellen, Renato J. Azzari, Herbert J. Bauckus, James Greenough. Dr. Walter Scott Walls was toastmaster, and the guest of honor was the Very Reverend Philip E. Dobson who spoke on "The Doctor as a Person." An excellent dance band played after the dinner.

Woman's Auxiliary.—The Woman's Auxiliary to the Medical Society of the State of New York had their convention the first three days of convention week. A corps of hostesses took attendance at meetings and directed doctors to meeting rooms and registration desk. Their help is appreciated.

Miscellaneous.—A card of thanks was sent to each participant in the scientific program.

The committee expresses thanks for the kind cooperation and work of Miss Mollie Pesikoff and Mr. Charles L. Baldwin.

Approval of the report *was voted.*

Economics.—Report of the director of the Bureau of Medical Care Insurance, Mr. George P. Farrell:

June 4, 1955—Attended the Ninth Annual Meeting of the Medical Society Executives Conference at the Ritz Carlton Hotel, Atlantic City, and the Third Annual Medical Civil Defense Conference at the Traymore Hotel.

June 5, 1955—Attended the Annual Meeting of the Conference of Presidents and Other Officers of State Medical Associations, at the Traymore Hotel; also the interim session of the American Medical Association June 6 to 9, 1955, at the Traymore Hotel and sat in several reference committee meetings.

July 7, 1955—Met Dr. Peter F. Birkel of the New York State Department of Social Welfare, in regard to the standard schedule of allowances being prepared for different State departments. Conferred also with Mr. Ralph Hammersley, executive director of the Northeastern New York Medical Service, in regard to a recent communication to Mr. Raymond H. Harris, Deputy Superintendent of Insurance, from the Dental Society of the State of New York, in regard to interpretation of section 250, of the Insurance Law, regarding extent dental care can be provided through duly licensed dentists for medical expense indemnity. Also, consulted on this matter with Mr. Charles A. Voss, legal counsel for United Medical Service, and Dr. Harold B. Smith, executive officer of the State Society.

July 8, 1955—Met Dr. Denver M. Vickers, chairman of the Economics Committee, at Cambridge, New York, to outline a program for his committee during the ensuing year.

July 19, 1955—Conferred with the following officers of United Medical Service: Dr. Louis H. Bauer, chairman of the board; Mr. James Coleman, president, and Mr. John McCormack, secretary, in regard to a meeting of New York State Blue Shield Plan presidents and executive directors, to consider a report of a joint Blue Cross-Blue Shield committee on a uniform State-wide contract for New York State Civil Service employes. This meeting was held August 5, 1955, at the office of United Medical Service. A preliminary outline for uniform Blue Cross-Blue Shield benefits for Civil Service employes throughout the State was submitted for consideration of Blue Shield plan presidents and executive directors.

August 13, 1955—Met Dr. Harold B. Smith, executive officer of the State Society, and Judge Charles A. Voss, in Syracuse, to discuss further the request of the Dental Society of the State of New York to

[Continued on page 3330]

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[Continued from page 3328]

the Deputy Superintendent of Insurance for clarification of Section 250 of the Insurance Law, regarding reimbursement of licensed dentists for services under medical expense indemnity plans.

August 14, 1955—This group and Dr. Dwight V. Needham met with the executive committee of the Dental Society of the State of New York at the Syracuse Hotel. After discussion it was agreed in principle that the Dental Society outline its objectives in regard to services provided under Blue Shield Plans and that then a further meeting be held.

August 16, 1955—Met Dr. Merle Evans, chairman of District III of Blue Shield Plans, to discuss what action should be taken regarding request made by the Dental Society for the inclusion of services rendered by dentists under article 9-c of the Insurance Law.

The detailed quarterly report regarding Blue Shield plans in New York State is in the office copy of these minutes and is summarized in the October 1, 1955, NEW YORK STATE JOURNAL OF MEDICINE.

The report *was approved.*

Ethics.—Dr. Thurman B. Givan, chairman, reported the receipt of an inquiry from a member as to the propriety of addressing a meeting of an osteopathic society. He stated the inquirer was advised it would be unethical to deliver such an address. In support of this ruling, reference was made Chapter II, Section 1, of the *Principles of Professional Conduct* of this Society and to Chapter II, Section 1, of the Principles of Medical Ethics of the American Medical Association, both of which read: "A sectarian or cultist as applied to medicine is one who alleges to follow or in his practice follows a dogma, tenet or principle based on the authority of its promulgator to the exclusion of demonstration and scientific experience. All voluntarily associated activities with cultists are unethical."

Reference was also made to the "Minority Report of Reference Committee on Medical Education and Hospitals" (found on pages 741 and 742 of the July 2, 1955, *Journal of the American Medical Association*) which was adopted by the 1955 House of Delegates of the American Medical Association.

The report *was accepted.*

Legislation.—Dr. Henry I. Fineberg, chairman, stated: "Although no meetings were held during the summer months, plans were developed for the year that lies ahead. Your committee chairman spent the week-end of June 18—a very enjoyable one—with the Greenoughs at Cooperstown. He was briefed by Dr. Greenough on what has taken place in the legislative field during the past few years, with the idea that there should be a continuity between the old and new committees.

"A meeting was held in New York City on July 14 with the secretary of our Society and the executive officer and legal counsel of the Legislation Bureau. The program for 1955–1956 was discussed.

"On July 21 a letter was sent to the Governor and each senator and assemblyman in the State, reminding them that our Committee on Legislation and Legislation Bureau offer assistance in any matters concerned with public health and the practice of medicine. There were a number of acknowledgments.

"In accordance with the precedent established by your previous chairman, the State, outside of New York City, has been divided into eight areas, which take into consideration the distribution of senatorial districts. These do not coincide with our district branches. Each of these has one or two 'group leaders' who are members of the Committee on Legislation. New York City has been designated an area by itself.

"A schedule of meetings, covering each of the areas, has been prepared. The purpose of these conferences is to integrate the county legislation committees and your State committee to establish a better liaison between the men throughout the State and central headquarters. We are anxious to learn what the county societies have to say about legislative matters, and it is important that we utilize the services of the local representatives, who have a much more intimate contact with the senators and assemblymen and can better bring to them our ideas.

"Thus far, your chairman and executive officer have visited Glens Falls (August 30) and Long Beach (September 7). A meeting in New York City will take place this afternoon. The itinerary calls for meetings in Ogdensburg (September 12), Canandaigua (September 13), Syracuse (September 14), Buffalo (September 15), and Kingston (September 22). A conference with the county chairmen of Columbia, Dutchess, Putnam, and Westchester is being arranged.

"At the suggestion of a number of members, a meeting of the entire committee is being arranged for October 28 on the eve of the Regional Legislative Conference of the American Medical Association in New York City.

"At the request of Mrs. Brane, chairman of legislation of the Woman's Auxiliary, an article for the *Distaff* is in preparation. It will be published in November.

"A report on the problems that have been referred to this committee by the House of Delegates and the Council will be submitted next month.

"Your chairman wishes to express his gratitude to the members of the committee, Dr. Smith, Dr. Greenough, and to Dr. Anderton for the great help and splendid cooperation he has received from them."

It *was voted* to approve the report.

EXECUTIVE OFFICER.—Dr. Harold B. Smith, stated: "During the summer the Education Department had a meeting on physiotherapy licensing on which I will report extensively next month."

Office Administration and Policies.—Dr. John J. Masterson, chairman, reported: "The regular monthly meeting of the Committee on Office Administration and Policies was held on September 7, 1955.

[Continued on page 3332]

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Literature? write
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1. Hyman, S., and Rosenblum, S. H.: Illinois M. J. 104:257, 1953.
2. Piper, C. E., and Nicklas, F. W.: Indust. Med. 23:510, 1954.

*U.S. Pat. 2,630,400
†U.S. Pat. 2,628,185

[Continued from page 3330]

"Various personnel matters were approved.

"The office manager reported that employes' physical examinations are now being given.

"It was noted that the Blood Banks Association of New York State would be taking smaller quarters in the near future. The committee approved the purchasing of items of needed office equipment from the Blood Banks Association, within our budget.

"It was noted that of 56 employes, 15 own automobiles which could be used or have on occasion been used on Society business. Of the 15 employes, six carry personal liability and property damage insurance which includes the Society as a coinsurer. It was the sense of the meeting that the Society ought to provide nonownership automobile liability and property damage insurance for itself."

It *was voted* to accept the report.

Publication.—Dr. Masterson, chairman, reported: "The regular monthly meeting of the Publication Committee was held on September 7, 1955.

"A paper presenting the Richmond County plan for the control of narcotic addiction was discussed with reference to its being published in the JOURNAL. It was the sense of the meeting that we obtain the opinion of Dr. S. Bernard Wortis.

"Dr. Redway reported that he had received an article from Dr. Joseph Rath, a doctor of podiatry, which took issue with certain statements in an article in the JOURNAL. It was the sense of the meeting that the editor write to Dr. Rath and suggest a letter for the correspondence column of the JOURNAL.

"It was decided to approve the exchange with the *West Virginia State Medical Association Journal*, the *Journal of the American Geriatrics Society*, and the *Journal of the U.S. Atomic Energy Commission*.

"It was voted to accept the business manager's report.

"A letter from the Craft Advertising Company stated that they desired to obtain approximately 45 JOURNAL covers to be used with window display posters. Dr. Anderton was requested to answer that it was against the policy of the Publication Committee to use the JOURNAL for display purposes to the laity.

"A letter from Mr. Stephen K. Leech, executive secretary of the Onondaga County Medical Society, requesting a free copy of the *Directory* for each county society having an executive secretary was read. The request was denied, but it was the sense of the meeting that 10 per cent discount be allowed.

"A letter from Mr. Samuel N. Turiel, executive assistant, requested an exchange of our Directory with that of the American College of Chest Physicians. It was voted, as a policy, to exchange our directory for any other directory and to allow the same discount as publishers of other directories allow us in the event of purchase.

"It was moved, seconded, and passed to grant Mr. John Greene of the *Long Island Daily Press* a complimentary copy of the 1955 *Directory*, provided the Public and Professional Relations Bureau accepts the charge of $15 less a 10 per cent discount.

"Along this line we received a number of requests for our *Directory*. We are of the opinion that to refuse these requests would seriously hamper our public relations. We have two requests, from the State Department of Education and from the State Department of Labor. The Medical Society is in contact with various departments of the State continuously, and we feel it is very good public relations to grant these requests.

"It was passed that in the case of New York State, its government subdivisions, welfare organizations, and the like, which request complimentary copies of the *Directory*, the editor, secretary, and business manager meet with the Public Relations Committee periodically to present these requests, and if the Public Relations Committee consents to being charged, such copies shall be given gratis.

"The committee reviewed various complaints from doctors regarding errors in listing of biographic data in the 1955 *Directory*.

"We are very happy to say that in spite of the great storm damage that was done to the printing plant at Easton, Pennsylvania, the Mack Printing Company got out our JOURNAL and the supplement on time."

After discussion it *was voted* to accept the report with thanks.

Public Health and Education.—Dr. Theodore J. Curphey, chairman, stated that he had attended six meetings since his June report, had arranged 12 postgraduate lectures in nine counties, and had provided a speaker for three sessions of the Scientific Assembly of the Academy of General Practice.

He reported as follows:

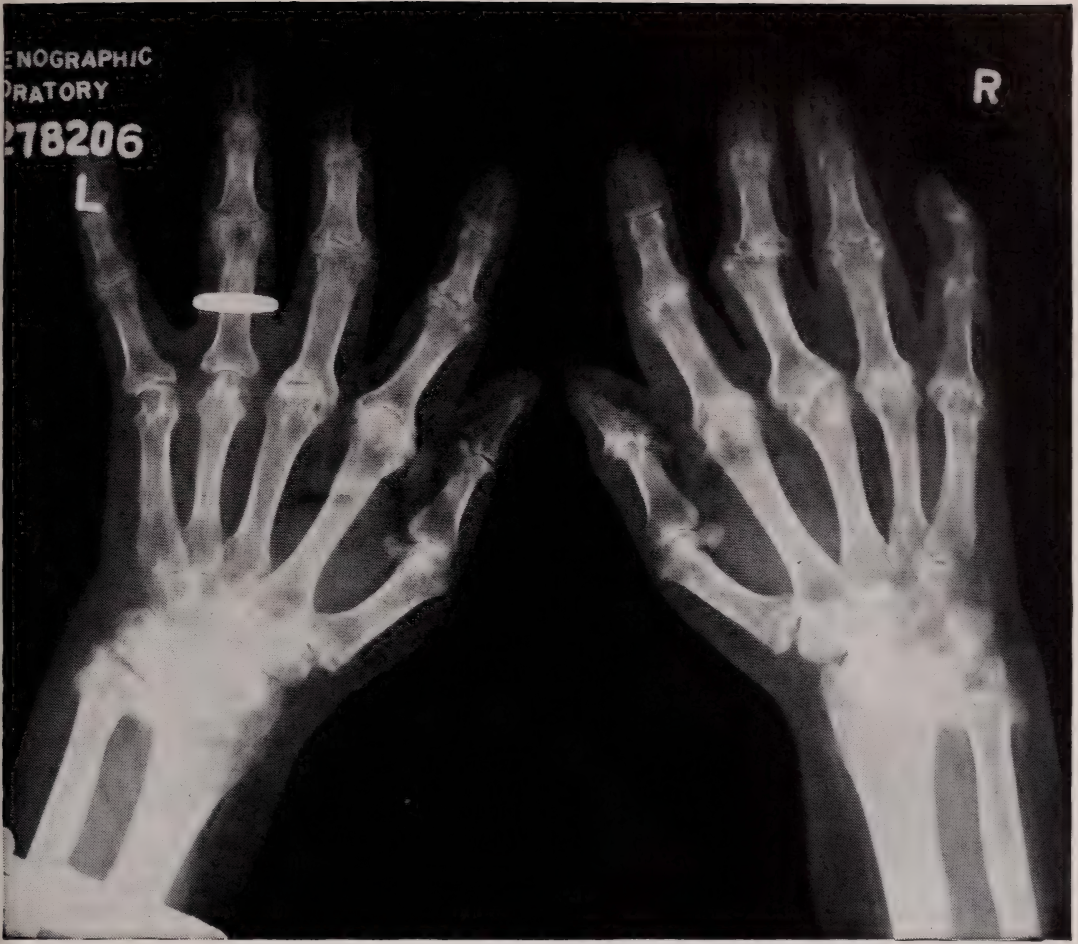
1. The Subcommittee on School Health on June 7 passed a resolution relative to a communication from Dr. Anderton to the effect that "the State Charities Aid Association desires the quality of school childrens' examinations to be investigated." A letter was sent to the S.C.A.A. informing them that the committee is attempting to bring about changes and additions to the laws which would result in considerable improvement in school health services.

Revision of the Manual on Administration and Supervision of School Health Services, submitted by Dr. Forst, chief of the Bureau of Health Service of the Education Department, continued where it had terminated at the January 28 meeting. The suggestions of the committee will be submitted to Dr. Forst, whose bureau will rewrite the manual and submit it for final approval.

2. Dr. Denver Vickers was kind enough to substitute for your chairman at the meeting of the Citizens' Health Council in Geneva on June 17 and 18. The principal item of discussion by the health group of this 11th Annual Institute of the New York State Citizens' Health Council was the creation of many problems by an increasing urban and rural nonfarm population and a decreasing farm population. The need for community-wide action was brought out repeatedly.

Dr. Vickers pointed out in his report that the

[Continued on page 3334]



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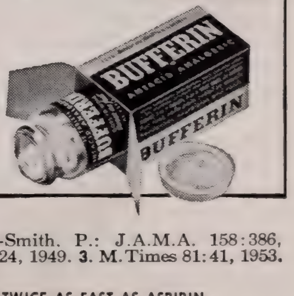

References: 1. Fremont-Smith, P.: J.A.M.A. 158:386, 1955. 2. J.A.M.A. 141:124, 1949. 3. M. Times 81:41, 1953.

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[Continued from page 3332]

president for the coming year is Senator George Metcalf of Auburn, chairman of the State Senate committee on affairs dealing with health. To his committee go bills relating to health insurance, disability, and the like.

3. A meeting was called on July 6 in Albany by Dr. Carroll V. Newsom, Assistant Commissioner of Education, for discussion of the problem of admitting physical therapists to the State licensing examinations. Dr. John W. Ghormley, member of our Subcommittee on Physical Medicine and Rehabilitation, attended. He reports, "At the present time unless the therapist has completed a four-year course in physical therapy at a school recognized by the State Department of Education he must petition the Board of Regents to take the examination. It was Dr. Newsom's opinion that no legislative action is necessary, but that Mr. Robert C. Killough, Assistant Commissioner for Professional Education, should decide whether or not the applicant has had a comparable course in instruction. Thus, an individual with a bachelor's degree in physical therapy having the courses required by the State would be eligible to take the State examination. No petitioning to the Board of Regents would be necessary, even though the individual had not had all of his courses at one institution."

5. On August 3 there was a meeting in Albany of the Subcommittee on Medical Film Review. Your chairman was unable to attend, but Dr. Anderton was present, as were Dr. Olson, chairman, Drs. Norris, Angrist, Ottaviano, Watkeys, and Quinlivan. The members were conducted through the State Department of Health Film Library by Dr. Quinlivan. Four films were reviewed by the committee. At the business session there was long discussion of the type of film which should be purchased (commercial and advertising films versus medical), the criteria for good medical films, and the procedure to be followed in reviewing films.

It was suggested that scheduled programs be offered at monthly or weekly intervals to the county medical societies. It was also suggested that the availability of programs be made known to the medical society secretaries' meeting in Syracuse in November. Dr. Anderton proposed that Drs. Olson and Quinlivan attend the meeting.

6. Arrangements were concluded in June with a New York City printer for supplying the Health Examination Form prepared by the Subcommittees on Cancer and General Practice, a sample copy of which was sent last year to each physician in the State Society. Orders will be placed by each county medical society with this printer and will be billed direct. Orders totaling 11,000 have been placed thus far.

7. *Developments re the Salk Vaccine:* On June 14 the Technical Advisory Committee met in New York with Dr. Hilleboe and recommended that the children who received placebo during the field trials last year should receive as second shots the more than 100,000 doses remaining after the first round of this year's inoculations. This group had been promised they would receive the vaccine this year if the trials proved it effective. The committee also made recommendations on the use of gamma globulin during the polio season, principally for mass immunization.

On July 14 the Advisory Committee, on which your chairman represents the physicians of the State, met in Albany to discuss the distribution of vaccine within the State.

On August 4 a telephone conference was held by the Advisory Committee. They recommended to the Health Department that the 58,000 cc. of vaccine scheduled for New York State be allocated to full-time health officers in nonfield-trial areas. This was the first shipment purchased by New York State after completion of the NFIP's program, in order to complete the vaccination of third and fourth graders who did not take part in the 1954 field trials. It was to be sent to the 37 upstate counties and 25 New York City health districts that did not participate in the field trials. Health officers in each locality were to arrange for administration of the vaccine.

Dr. Curphey supplemented his report as follows: "The meeting of the Advisory Committee on Poliomyelitis Vaccine, held on August 18, 1955, unfortunately I was unable to attend, but I have the minutes here.

"It was moved that the State Health Department accept the $1,700,000 of Federal funds available for purchase of polio vaccine (or vaccine in lieu of these funds), subject to Public Health Service regulations. These funds are to be used for the purchase of vaccine to complete vaccination of the five to nine-year age group. If there are any extra funds after completion of the five to nine-year group, such funds should be used for the next priorities as determined by the Federal and State Advisory Committees. The amount of vaccine for other than the five to nine-year age group, which is to be made available to public and other sources, is to be determined by the New York State Advisory Committee on Polio Vaccine.

"Another item of interest at that meeting was that Dr. Hilleboe stated that within a day or two he will appoint a subcommittee to determine policy for the proportion of vaccine which should go to public agencies and commercial channels and to modify these proportions with changes in time and place. He stated that he will also appoint a subcommittee to determine the mechanism for making requests to the Public Health Service for distribution of polio vaccine to commercial channels.

"This is in connection with the Citizens' Health Council meeting that was held in Geneva on June 17 and 18, and which Dr. Denver M. Vickers was kind enough to attend as the representative of the State Society.

"This organization brings together citizens of all categories interested in health and affords a good listening post for the profession into trends in the minds of the people throughout the State.

"We certainly think that this contact between the medical profession and a group of influential

[Continued on page 3336]

VAGINAL TRICHOMONIASIS TRAVELS FROM MR. TO MRS.

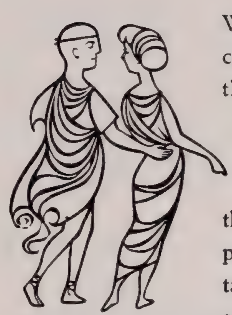
It often happens that the physician's time and skill in clearing up vaginal trichomoniasis are wasted because the husband will re-infect the wife. Fortunately, there is a method of circumventing this endless cycle of re-infection.

Husband often the carrier. "Approximately 39 to 47 per cent of resistant cases are reinfections from the sexual partner."[1] Whittington reports infestation in the male in 27 per cent[2] and Freed in 28.5 per cent.[3] A study of all foci of infection, such as urethra, prostate, seminal vesicles, bladder, kidneys, pelvis and preputial sac, would probably reveal even higher incidence in the male.

Danger without signals. Trichomonads in the male rarely produce symptoms to signal their presence.[4]

Prevent re-infection. Karnaky recommends in recurrent cases that the husband wear a condom during coitus for four to nine months. By the end of this time the trichomonads will usually die out.[5] Davis states: "Use of a sheath by the husband has long been advised during the period a woman is under treatment and should be used permanently if he carries the infection."[6]

Prescribe quality condoms. To eliminate trichomonads "once and for all," take specific measures to win cooperation of the husband. In prescribing a condom, be selective as to quality and take advantage of Schmid product improvements.



When there is anxiety that the condom might dull sensation, the answer is to prescribe XXXX (FOUREX)® skins. Made from the cecum of the lamb, they feel like the patient's own skin, are pre-moistened and do not retard sensory effect. If cost is a consideration, prescribe RAMSES,® a transparent, tissue-thin, yet strong condom of natural gum rubber. SHEIK,® also a natural gum rubber condom, is even more reasonable in price.

Isn't it true that any husband, any wife, in your practice would prefer to hand the druggist your *prescription* for a condom, rather than to ask for it "in public"? This is another instance of diplomacy in medicine to prevent an embarrassing situation. To assure finest quality and earn appreciation for your thoughtfulness, prescribe XXXX (FOUREX), RAMSES or SHEIK condoms by name. Prescribe Schmid protection for as long as *four* to *nine* months after the wife's infestation has cleared. The protection Schmid condoms afford is the very foundation of re-infection control.

References: 1. Karnaky, K. J.: Urol & Cutan. Rev. 48:812 (Nov.) 1938. 2. Whittington, M. J.: J. Obst. & Gynaec. Brit. Emp. 58:614 (Aug.) 1951. 3. Freed, L. F.: South African M. J. (March 27) 1948, as abstracted in Urol. & Cutan. Rev. 52:489 (Aug.) 1948. 4. Bernstine, J. B., and Rakoff, A. E.: Vaginal Infections, Infestations, and Discharges, New York, The Blakiston Co., 1953. 5. Karnaky, K. J.: J.A.M.A. 155:876 (June 26) 1954. 6. Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955.

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[Continued from page 3334]

citizens, and their communities should be encouraged and continued, being a definite channel to get across the ideas and ideals of the men of medicine."

It *was voted* to adopt the report.

Public Relations.—Dr. Floyd S. Winslow, chairman, presented the following report:

During the summer most of our activities were concentrated on projects at Society headquarters.

Among these was preparation for the sixth annual Conference of County Medical Society Public Relations Chairmen on Saturday, October 8, at the Hotel Biltmore in New York City. In late August invitations to attend were sent to each county medical society public relations chairman in the State. The presidents of all the societies were mailed information copies. Special invitations were sent to executive secretaries of county medical societies.

Requests continued to be received from writers for assistance in preparation of articles to be published in national magazines, such as the *Woman's Home Companion* and *Family Circle*.

Releases were mailed to newspaper editors covering postgraduate lectures in Chemung, Cortland, Jefferson, Montgomery, Ontario, Rensselaer, Rockland, Suffolk, and Sullivan counties.

Assistance also was rendered the Woman's Auxiliary.

Copies of the minutes of the Public Relations Session during the annual meeting were sent to participants, county medical society public relations chairmen, and county society executive secretaries.

On August 31 and September 1, Mr. Miebach and his field staff attended the annual Public Relations Institute of the American Medical Association in Chicago. This brought together professional and volunteer medical public relations personnel from various parts of the country.

Our bureau's latest publication, "Seven PR Pointers for Medical Personnel," has attracted attention in this country and abroad. In July the American Medical Association's "PR Doctor," a compilation of the latest ideas and publications in the medical public relations field, contained a copy of the pamphlet. In August the Arabian-American Oil Company requested copies, which the bureau supplied without charge, for Saudi Arabia.

In midsummer plans were made for the bureau's participation in a panel discussion on public relations at the Sixth District Branch meeting. At present news releases covering branch programs are being prepared and will be mailed to local newspapers on schedule.

It *was voted* to adopt the report.

Woman's Auxiliary.—Dr. Dan Mellen, chairman, requested that $500 additional be included in the budget of the Woman's Auxiliary for publication of the *Distaff*.

After discussion it *was voted* to recommend this to the Board of Trustees.

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, presented the following report: The Kings County Medical Society has arranged an evening devoted to a panel discussion on all phases of workmen's compensation on Tuesday, November 15, 1955, to which Miss Angela Parisi and Mr. Henry Sayer have accepted invitations to participate in company with your director and chairman.

Dr. Gilbert M. Palen, president of the Sixth District Branch, is arranging a panel discussion on workmen's compensation at the Sixth District Branch in Elmira, on Wednesday, October 26, 1955. Your director will be moderator.

The chairman of the Workmen's Compensation Board advised that the Department is undertaking a study of Section 25 of the Workmen's Compensation Law as recently amended by Chapter 520 of the Laws of 1955. Your chairman has been invited to participate.

The State Insurance Fund persists in its failure to pay for assistance at operations in hospitals which have interns but where interns are not available. Item 9 of the fee schedule reads as follows:

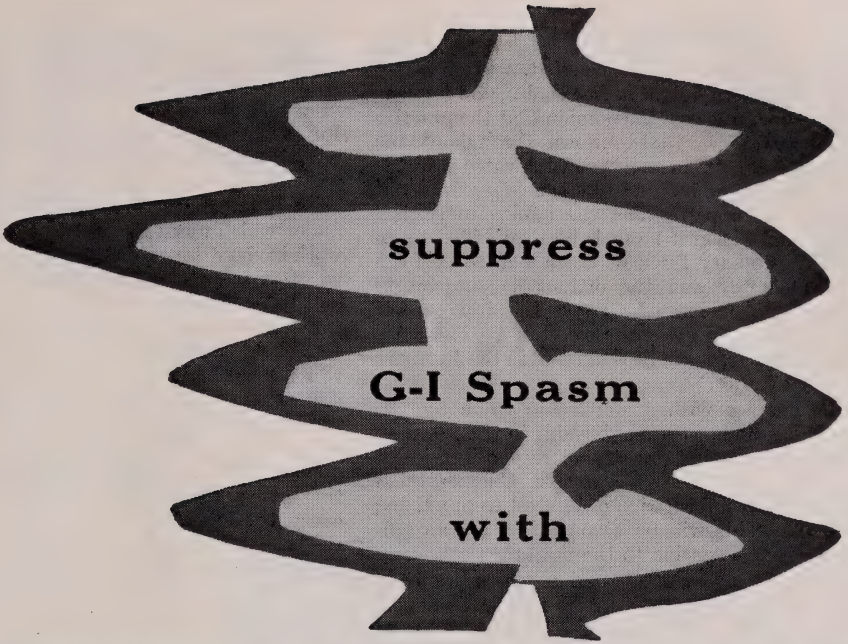
Assistant to surgeon........................$15
(in hospital with intern staff no charge to be made for service of intern or assistant)

All other insurance carriers, on certification of the fact that an intern is not available for operation, pay an assistant's fee in accordance with item 9. After many other conferences with and letters to claim adjustors, the matter was finally brought to the attention of Mr. W. Folger, executive director of the State Insurance Fund on August 4, 1955. Mr. Folger replied on August 16 that they would adhere to their interpretation of the fee schedule with respect to paying an assistant's fee in hospitals where interns are not available for operation. This is entirely unjustified. Under date of August 19 the entire matter was brought to the attention of Miss Angela Parisi, asking for an early interpretation of item 9 of the fee schedule with respect to a fee for assistance at operation.

Your director has continued his investigation of the policy of the Veterans Administration hospitals concerning treatment of veterans with nonservice-connected disabilities covered by the Workmen's Compensation Law. Although a satisfactory reply was received from the medical director of one of their New York hospitals, an unsatisfactory reply was received from the medical director of the Veterans Administration in Washington. The matter is being pursued.

Your director has continued to survey the policy in various hospitals with reference to operations for laminectomy and spinal fusion in cases of "slipped disks," necessitated by an inquiry from the chairman of the Workmen's Compensation Committee of the Niagara County Medical Society. An orthopedic surgeon in that community was denied the privilege of performing laminectomy in a slipped disk case, it being the policy of the hospital with which he was connected that the laminectomy be done by a neurosurgeon. The orthopedic surgeon felt that he was qualified to do the entire procedure, and the patient wished him to do so. Calling in

[Continued on page 3338]



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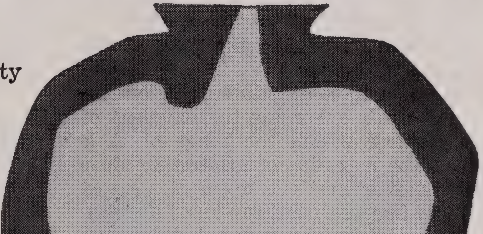

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[Continued from page 3336]

another surgeon, this physician felt, was an intrusion on the patient's right of free choice, and furthermore, the doctor was of the opinion that the practice in his hospital was not uniform throughout the State. So far, our investigation indicates a diversity of policy. While the orthopedic surgeon is not prohibited from performing the laminectomy preceding spinal fusion if he feels he is qualified to do so, it is customary for a neurosurgeon to perform the laminectomy and the orthopedic surgeon to complete the fusion. In some hospitals either specialist may perform both procedures. The exact details of the study will be published in the JOURNAL in the near future.

In accordance with a suggestion made by Dr. James Greenough, we are publishing in the JOURNAL an article concerning duties and responsibilities of physicians under the Workmen's Compensation Law with other information of interest to practicing physicians. This will be accompanied by an editorial drawing attention to the matter.

With respect to the discussion which we have been carrying out with Miss Honora Miller, corporation counsel of the City of Rochester, concerning the failure of members of her staff to comply with certain provisions of the Workmen's Compensation Law relating to payment and arbitration of compensation medical bills, we have been fortunate in our negotiations in having the assistance of Dr. Floyd S. Winslow. On August 22, 1955, we again requested Miss Miller to consider accepting our interpretation of the rule governing the payment of specialists for services within the range of their practice without the necessity of arbitrating since the chairman of the Workmen's Compensation Board had quite recently issued a memorandum fully supporting our position with respect to such payments. Furthermore, we felt that the City of Rochester should comply with the law with respect to objecting to medical bills under the provisions of Section 13-g rather than refusing to make such objections and then declining payments, necessitating civil action. (All cases taken to court have been successfully decided in favor of the physician involved.) Recently we have been requested to intercede for physicians whose bills have not been objected to and where the only issue was the question of payment of a specialist's fee for services rendered within the scope of the particular specialist. The Workmen's Compensation Board has requested our assistance in obtaining waivers from physicians who by law can collect their bills by going to court. So that these bills may be arbitrated, we are making another effort to induce the corporation counsel of the City of Rochester to pay these bills since the basic objection involved is one which has already been decided both by Miss Parisi and by numerous previous arbitrations, invariably in favor of the physician. We hope to arrange a personal interview with Miss Miller and Miss Parisi in the near future if our plea for payment of outstanding bills and compliance with Section 13-g cannot be effected by our present negotiations.

Your director participated in arbitration hearings during the week of June 20, 1955, in Binghamton, Syracuse, Rochester, Buffalo, and Niagara Falls.

Dr. Dorman supplemented his report by stating: "I would also like to add that the Commerce and Industry Association is still discussing their idea of rehabilitation on all cases of compensation which will not be ready for active work within sixty days. That is the suggestion that Mr. Zucker advocated under which any case which would not be back at work in sixty days would be sent to a medical center where a team of experts would evaluate the case and recommend to the physician in charge further care and treatment. He has estimated that the cost of this would be about 30 million dollars a year which would wipe out all the saving of 42 million dollars which was made in the change in operative procedures resulting from the hearings last year, and it is a matter which I feel the State Society should oppose—not the question of rehabilitation, but putting every case into a hospital. It means that every fractured hip, every fractured spine, every case which we know will take more than sixty days before they are back at work will have to be put into a hospital, even though they may be under very adequate care of a proper orthopedic surgeon at the time."

It *was voted* to adopt the report.

Unfinished Business

Ad Hoc Committee on "Unprofessional" Conduct.—The report of the committee was considered at the June meeting, but because of lack of a quorum, all the items could not be acted upon.

Dr. Anderton presented the following as submitted by the New York State Education Department: " '(*a*) The failure or refusal of a physician without adequate cause to make or provide another physician to make night and holiday visits to any patient under his immediate treatment.'

"Last June the Council decided that this should read: '(*a*) The failure or refusal of a physician, without adequate cause, to make or provide another physician to render necessary medical attention to any patient under his immediate care.' "

> After discussion it *was voted* that the word preceding "or" in paragraph (*a*) be changed from "make" to "render," thus having the paragraph as amended read: "The failure or refusal of a physician, without adequate cause, to render, or provide another physician to render, necessary medical attention to any patient under his immediate care."

" '(*b*) Rendering professional service to a patient if the physician is intoxicated or under the influence of an alcoholic beverage.'

"It was previously voted to change that to read: 'Rendering professional service to a patient if the physician is intoxicated.' "

After discussion it *was voted* to approve the change.

" '(*c*) The revealing of facts, data, or information obtained in a professional capacity relating to a patient or his records without first obtaining consent of the patient.'

[Continued on page 3340]

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1. Grayzel, H. G., Heimer, C. B., and Grayzel, R. W.: New York St. J. M. 53:2233, 1953.
2. Heimer, C. B., Grayzel, H. G., and Kramer, B.: Archives of Pediatrics 68:382, 1951.
3. Behrman, H. T., Combes, F. C., Bobroff, A., and Leviticus, R.: Ind. Med. & Surgery 18:512, 1949.
4. Turell, R.: New York St. J. M. 50:2282, 1950.

[Continued from page 3338]

"No change was made at the June meeting."

After discussion it *was voted* to add "or his duly authorized representative." The recommended section now reads: "The revealing of facts, data, or information obtained in a professional capacity relating to a patient or his records without first obtaining consent of the patient or his duly authorized representative."

" '(*d*) Exercise of undue influence on an ill person for financial gain.'

"At the last meeting it was agreed that this should be worded: 'Exercise of undue influence on a patient for financial gain.' "

Approval *was voted.*

" '(*e*) Entering into an arrangement or agreement with a pharmacy for the compounding and/or dispensing of secret formula (coded) or specially marked prescriptions, except where such prescriptions are to be filled at a hospital-operated pharmacy for hospital or clinic patients.' "

After discussion it *was voted* to write the Education Department that the Council felt that this section includes two main thoughts, which is confusing, and suggested that the Department state that they are opposed to secret formulas, for one thing, and, second, that they are opposed to certain economic abuses in the handling of prescriptions.

" '(*f*) The promotion by a physician of the sale of drugs, devices, appliances, or goods provided for a patient in such manner as to exploit the patient for the financial gain of the physician.' "

It *was voted* to adopt section (*f*).

" '(*g*) Immoral conduct of a physician in his practice as a physician.' "

It *was voted* to adopt section (*g*).

" '(*h*) Performance of a complete or partial autopsy on a deceased person without lawful authority or family consent.' "

After discussion it *was voted* to omit the words, "or family consent." The section now reads: "(*h*) Performance of a complete or partial autopsy on a deceased person without lawful authority."

" '(*i*) Willful omission to file or record, or willfully impeding or obstructing the filing or recording of legally or professionally required reports, or inducing another medical practitioner or other person to omit to file or record such reports.' "

It *was voted* to adopt section (*i*).

" '(*j*) Failure to furnish promptly details of a patient's medical record to succeeding physicians or hospitals upon proper request.' "

After discussion, it *was voted* to adopt section (*j*) with the word "promptly" omitted. The section now reads: "Failure to furnish details of a patient's medical record to succeeding physicians or hospitals upon proper request."

It *was voted* to adopt the report as a whole.

Publication Regarding Red Cross Blood Program in New York State.—Dr. Azzari presented the matter of publishing an article in the JOURNAL entitled, "Operation of Red Cross Blood Program in New York State," held over from the June meeting.

After discussion it *was voted* to publish the article.

New Business

Election of Councillor.—Dr. Azzari stated: "There now exists a vacancy in the Council as the result of the resignation of Dr. Vickers. Nominations are in order."

Dr. Greenough stated: "I would like to nominate Dr. John C. McClintock, of Albany. At present he is president of the Albany County Medical Society. He has done a great deal of work for the State Society. He has been on the Public Relations Committee and on its Media of Information Subcommittee. He was also on the special committee to discuss hospital and professional relations and did a lot of work on that."

President Azzari called for further nominations.

Dr. Moore moved and Dr. Dorman seconded a motion that the nominations be closed and that the secretary cast one ballot for this election.

The motion *was unanimously carried.*

Appointments.—Dr. Anderton stated: "Mr. President, in accordance with the authority voted you by the Council, you have made the following appointments: A member of the Industrial Health Committee, Dr. Jerry McCahan, of New York City; a member of the Economics Committee to replace Dr. Joseph H. Cornell who died last week, Dr. Ralph Isabella, of Schnecetady, the same county from which Dr. Cornell came; a member of the Medical Expense Insurance Subcommittee of the Economics Committee, Dr. Arthur F. Gaffney, of Clinton, in place of Dr. Fred M. Miller, Jr., of Utica, who declined the appointment; a member of the Subcommittee on the Hard of Hearing and the Deaf, of the Public Health and Education Committee, Dr. Samuel Zwerling, of Brooklyn, for Dr. Charles A. Anderson, of Brooklyn, who declined. Your Expense Curtailment Committee was to consist of the Budget Committee and a Trustee, so you appointed Dr. Walter W. Mott, and a member of the Council, Dr. Harold Brown, in addition to the Budget Committee, who are Drs. Dattelbaum, Freedman, and Holcomb; on the Physical Medicine and Rehabilitation Subcommittee of the Public Health and Education Committee you have added Dr. Jerome S. Tobis, of New York City; and on the Cancer Subcommittee of the Public Health and Education Committee you have appointed Dr. Jacques Lasner, of Clifton Springs, Dr. Reid R. Heffner, of New Rochelle, Dr. LeRoy S. House, of Oneonta, Dr. Samuel Sanes, of Eggertsville, and Dr. Theodore Rosenthal, of New York City. This is for information, sir."

Dr. Azzari also requested approval of Dr. John C. McClintock as chairman of the Committee on Economics.

Approval *was voted.*

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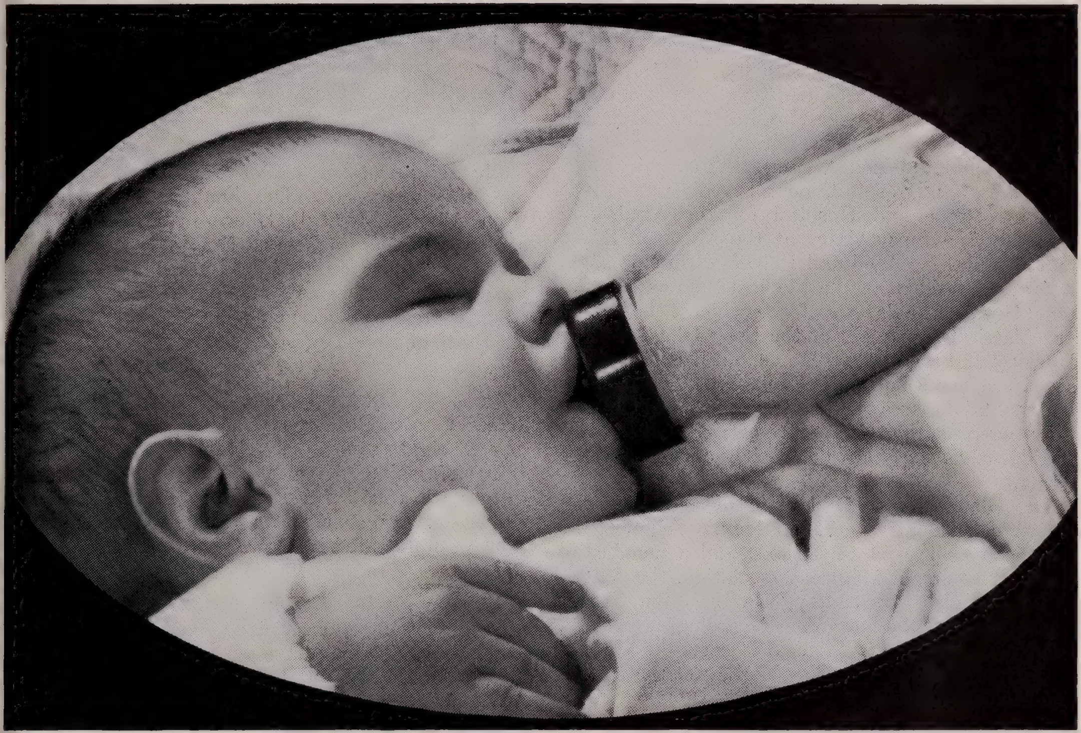

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NECROLOGY

Siegfried Block, M.D., of New York City, died on October 18 at Montefiore Hospital, Bronx, at the age of seventy-three. Dr. Block was graduated from Long Island College Hospital Medical School in 1905. He was consultant in neuropsychiatry at the Greenpoint Hospital, consulting neurologist at the Samaritan Hospital, neuropsychiatrist at the Hebrew Home and Hospital for the Aged, and director of neuropsychiatry at the Menorah Home and Hospital for Aged and Infirm, all in Brooklyn. A former president of the Medical Board of Greenpoint Hospital, he also was a former chief of the Neuropsychiatric Department at the Long Island College Hospital and the Hebrew Home and Hospital. For seventeen years he had been instructor in nervous and mental diseases at Long Island Medical College, a former consultant for the New York City Board of Education, the Court of Special Sessions, and the Army.

Dr. Block was a Diplomate of the American Board of Psychiatry and Neurology, a Fellow of the American College of Physicians, and a member of the Pan American Medical Association, the American Psychiatric Association, the Brooklyn Neurological Society, the New York Neurological Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Charles William Chapin, M.D., of Greene, died on September 17 at the Binghamton City Hospital at the age of eighty. Dr. Chapin graduated from Albany Medical College in 1904. He had served more than twenty years on the Greene School Board, most of the time as president, and was a past president of the Chenango County Medical Society. On June 12, 1954, Dr. Chapin was honored at a testimonial dinner for the completion of fifty years of service as a doctor in Greene and surrounding area. He was a member of the Chenango County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Jay M. Chauss, M.D., of Olean, died on September 16 at the age of thirty. Dr. Chauss was graduated from the University of Minnesota College of Medicine in 1946. He was attending radiologist at St. Francis Hospital in Olean. Dr. Chauss was a Diplomate of the American Board of Radiology.

Frank Lamar Christian, M.D., of Elmira, died in a hospital in Elmira on October 20 at the age of seventy-nine. Dr. Christian was graduated from New York University College of Medicine in 1898 and Cornell University Medical College in 1899 and interned at Bellevue Hospital. He was a former superintendent of the Elmira Reformatory.

George Watson Dufty, M.D., of Nassau, died at his home on October 9 after a heart attack, at the age of seventy-two. Dr. Dufty was graduated from Albany Medical College in 1910. He had served as coroner in Rensselaer County for fourteen years and had practiced in Nassau for forty-five years. Dr. Dufty was a member of the Rensselaer County Medical Society and the Medical Society of the State of New York.

John W. Durkee, M.D., of Morristown, New Jersey, formerly of Brooklyn, died on July 6 at the age of eighty-seven. Dr. Durkee was graduated from Columbia University College of Physicians and Surgeons in 1895. He was a Fellow of the American College of Surgeons and a retired member of the Kings County Medical Society.

Marven Orville Larsen, M.D., of Middletown, died on October 21 in a plane crash near Williamsport, Pennsylvania, at the age of thirty-eight. Dr. Larsen graduated in 1950 from the College of Medical Evangelists, Los Angeles. He was a member of the Orange County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Walter Frederic Lomnitz, M.D., of New York City, died on October 11 at the age of sixty-six. Dr. Lomnitz received his medical degree in 1913 from the University of Strassburg. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Harvey Maddren, M.D., of Freeport, died on October 16 at the age of eighty. Dr. Maddren graduated from Johns Hopkins University School of Medicine in 1901. He was a member of the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Hossein Motamed, M.D., of Garden City, died on September 23 at the age of sixty-two. Dr. Motamed received his medical degree in 1915 from the University of Teheran. He was a Diplomate of the International College of Surgeons and a Fellow of the International College of Surgeons. He was also

[Continued on page 3344]

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[Continued from page 3242]

a member of the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Stanley Alfred Nowak, M.D., of Buffalo, died on September 12 following a collapse after a tennis game, at the age of fifty-one. Dr. Nowak graduated from the University of Buffalo School of Medicine in 1927. He had been a member of the Polish Physicians' Club and the Alpha Phi Theta medical fraternity, as well as a member of and physician for the St. Andrew's Society 270, Polish Association of America.

Franklin Duane Pierce, M.D., of Buffalo, died of a heart attack at his home on September 16 at the age of seventy-eight. Dr. Pierce graduated from Syracuse University College of Medicine in 1904. He had served several terms as a vice-president of the Eclectic Medical Society in the 1920's.

Kenneth B. Turner, M.D., of New York City, died suddenly at his home on October 9 at the age of fifty-four. Dr. Turner graduated from Harvard Medical School in 1926. He was director of cardiology at Presbyterian Hospital and associate professor of clinical medicine at Columbia University College of Physicians and Surgeons, and associate attending physician at Presbyterian Hospital. Dr. Turner served as a liaison officer for the Committee on Medical Research of the Office of Scientific Research and Development from 1942 to 1943, and from 1943 to 1945 he was chief of the records section of the Committee on Medical Research. From 1947 until his death he was a consultant in internal medicine to the Surgeon General of the Army. During World War II he served the government and in 1948 received the Presidential Certificate of Merit. Dr. Turner was a member of the American Society for Clinical Investigation, the Association of American Physicians, the Society for Experimental Biology and Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Earl Calvin Wagner, M.D., of Tupper Lake, died on September 12 at the Mercy General Hospital at the age of sixty-eight. Dr. Wagner graduated from Syracuse University College of Medicine in 1908. He served as anesthetist at Mercy General Hospital and the Veterans Administration Hospital, Sunmount, and was consultant in anesthesia at the Ray Brook Sanatorium and Saranac Lake General Hospital. A former Franklin County coroner, Dr. Wagner was a Fellow of the American College of Anesthesiologists and a member of the American Society of Anesthesiologists, Inc., the Franklin County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

MEDICAL MEETINGS

Capital District Conference

The Capital District Conference on Aging, sponsored by the Albany County Department of Public Welfare, will be held on November 17 at the Ann Lee Home in Watervliet. Dr. Raymond Harris, attending cardiologist and assistant medical director at the Ann Lee Home, will speak on "Chronic Diseases and Aging" on a panel devoted to medical service for the aging. Dr. Robert Whalen, medical administrator at the Albany County Department of Public Welfare, will speak on "Public Assistance Services," and Dr. John J. Bourke, executive director, New York State Joint Hospital Survey and Planning Commission in Albany, on "Hospital and Convalescent Problems."

Kings County Medical Society

The Pediatric Section of the Medical Society of the County of Kings and Academy of Medicine of Brooklyn will meet on November 28 at 8:45 P.M. in the Kings County Medical Society auditorium at 1313 Bedford Avenue in Brooklyn.

Dr. Harry Bakwin, professor of clinical pediatrics at New York University College of Medicine and president-elect of the American Academy of Pediatrics, will speak on "The Management of Behavior Disorders in Children." All members of the medical profession are invited.

A.M.A. Clinical Meeting

The American Medical Association clinical meeting will be held in Boston, November 29 through December 2.

The postgraduate education meeting, aimed at helping to solve the daily practice problems of the family physician, is expected to be attended by some 4,000 persons. About 200 scientific papers

[Continued on page 3346]

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[Continued from page 3344]

and exhibits have been scheduled for presentation, according to Dr. Thomas G. Hull, secretary of the A.M.A.'s Council on Scientific Assembly.

Among the scientific exhibits scheduled will be displays on fractures and deliveries. Leading surgeons and obstetricians will be available for individual problem discussions.

Closed circuit television programs, originating in New England Deaconess hospital, will bring live operations in color to the lecture hall. The program is again being sponsored by Smith, Kline and French Laboratories of Philadelphia.

A new medical film will be premiered at a special program on November 30 in the Statler Hotel. Following the premiere will be a special film and discussion on "Total Right Hepatic Lobotomy" by Drs. George T. Pack and Richard D. Bradfield, Memorial Hospital, New York City.

Animal Care Panel

The Animal Care Panel, an organization of individuals interested in the care of experimental animals, will meet at the Henry Hudson Hotel, 353 West 57th Street, New York City, on December 1 and 2. The program will consist of papers dealing with the physiology and behavior of laboratory animals, their diseases, nutrition, and related problems.

History of Surgery Seminars

Another of the monthly seminars on the History of Surgery and allied fields will be held on December 7 at the Mount Sinai Hospital, Fifth Avenue and 100th Street, New York City. Dr. Lloyd N. Spindell will speak on "Early Use of Radium Therapy" with a discussion opened by Dr. Sidney M. Solverstone, and Dr. Jack I. Lipman will speak on "Cesarean Section," for which Dr. Alan F. Guttmacher will open the discussion.

Other seminars will be held on January 18, February 15, March 21, April 18, and May 16, 1956.

Nassau Pediatric Society

A scientific meeting of the Nassau Pediatric Society will be held on December 12 at 9:00 P.M. at Felice's Restaurant, Westbury, Long Island. Dr. Janet W. McArthur, instructor in medicine at Harvard Medical School and assistant physician at Massachusetts General Hospital, will speak on "Menstrual Disorders in the Adolescent."

Florida Midwinter Seminar

The tenth annual University of Florida midwinter seminar in ophthalmology and otolaryngology will be held at the Sans Souci Hotel in Miami Beach the week of January 16, 1956. The lectures on ophthalmology will be presented on January 16, 17, and 18, and those on otolaryngology on January 19, 20, and 21. A midweek feature will be the midwinter convention of the Florida Society of Ophthalmology and Otolaryngology on January 18 to which all registrants are invited.

Dr. A. Gerard DeVoe, New York City, will be one of the lecturers on ophthalmology.

American College of Chest Physicians

The American College of Chest Physicians, an international society, has announced that its fourth international congress on diseases of the chest, sponsored by the Council on International Affairs of the College, will be held in Cologne, Germany, August 19 through 23, 1956.

The scientific program to be presented at the Congress is now being organized, and physicians who have carried out original work in diseases of the chest (heart and lungs) which they wish to present are invited to send outlines of their studies to Dr. Andrew L. Banyai, chairman, Committee on Scientific Program, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois. Physicians who have motion pictures or exhibits dealing with heart and lung disease are also requested to submit complete data to the committee. All requests for places on the scientific program will be given due consideration. Further information may be obtained by writing the Executive Offices of the College in Chicago.

The Inspired Sign Painter

High on the brick wall of a hotel in Columbus, Ohio, is the following sign: FREE PARKING, 10 to 6, $3.00 and UP WITH BATH.—*Today's Health. August, 1955*

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Ethaverine Hydrochloride	20.0 mg.

*Equivalent to 2.5 minims of tincture of belladonna U.S.P.

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Each teaspoonful (5 cc.) contains:

Fluidextract of Belladonna†	0.017 ml.
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MEDICAL NEWS

Eighth District Branch Officers—At the Eighth District Branch meeting in Niagara Falls on September 28, the following officers were elected to take office at the close of the annual meeting of the Medical Society of the State of New York in May, 1956: president, Dr. Elmer T McGroder, Buffalo; president-elect, Dr Wilfrid M. Anna, Lockport; secretary, Dr. Clyde L. Wilson, Jamestown, and treasurer, Dr. Richard A. Loomis, Springville.

Medical Research Fund—Recipients of awards by the Life Insurance Medical Research Fund for the aid of research on diseases of the heart and arteries include: Columbia University College of Physicians and Surgeons, New York City, for research by Dr Seymour P. Halbert on streptococcal antibodies in rheumatic fever, $13,200; Cornell University Medical College, New York City, for research by Dr. Don W. Fawcett on electron microscopy of arteries, arterioles, and capillaries, $12,100; for research by Dr. David D. Thompson on the metabolism of calcium, phosphorus, and potassium, $15,400; Health Research, Inc., Albany, for research by Dr. Ray K. Brown on physical and immunochemical aspects of purified serum lipoproteins, $3,300; New York University-Bellevue Medical Center, New York City, for research by Dr. Ludwig W. Eichna on effects of venous congestion in man, $17,600; for research by Dr. Saul J. Farber on metabolic derangements associated with salt and water metabolism in heart disease, $13,200, and for research by Dr. Benjamin W. Zweifach on mechanisms influencing the behavior of small peripheral blood vessels, $10,780.

Also, the Research Foundation of the State University of New York Medical Center at New York City, for research by Dr. Clarence Dennis on definitive repair of intracardiac congenital anomalies under direct vision, $17,600; the Research Foundation of State University of New York Medical Center at Syracuse, for research by Dr. John M. McKibbin on effects of lipotropic substances on the distribution of essential lipides, $8,800; for research by Dr. Gordon K. Moe on the spread of the heart impulse, $7,700, and for research by Dr. Jay Tepperman on lipogenesis and cholesterologenesis in aurothioglucose obesity, $11,110.

Postdoctoral fellowships for 1955–1956 awarded by the research fund included those to Dr. Paul Didisheim of New York City, for study with Dr. Jessica H. Lewis at the University of North Carolina School of Medicine, Chapel Hill, later at the University of Pittsburgh, and to Dr. Richard H. Kessler, of New York City, for study with Dr. Robert F. Pitts at Cornell University Medical College, New York City.

Postgraduate Courses—Courses in the most modern and practical means of treating children with cardiac problems, the problems of infertility as related to both husband and wife, and recent advances in the diagnosis and treatment of poisonings will be offered by the New York University Post-Graduate Medical School during the month of December.

"Recent Advances in the Diagnosis and Treatment of Poisonings" will be presented for three days, full time, from December 5 through 7. Designed for the practicing physician, the course will cover the newer methods of treatment combining physiologic and chemical antidotes. Actual testing of materials will be undertaken in the laboratories of the Chief Medical Examiner and the Toxicologist of the City of New York.

The course on "Infertility" will be of three days duration, full time, from December 5 through 7. It will be presented jointly by the Post-Graduate Medical School's Departments of Urology and Obstetrics and Gynecology.

"Pediatric Cardiology" consists of five days of full-time instruction, beginning December 5. It will include an intensive review of the most recent advances of pediatric cardiology and the various diagnostic and therapeutic procedures.

For further information write: Dean, N.Y.U. Post-Graduate Medical School, 550 First Avenue, New York 16, New York.

American Medical Education Foundation—New York State contributors to the American Medical Education Foundation for the month of September were: *Albany*—Dr. Gilbert Dalldorf; *Astoria*—Dr. Ignacy Alter; *Auburn*—Drs. Bernard L. Cullen and Everet H. Wood; *Baldwin*—Dr. Elliott V. Vurgason; *Belfast*—Dr. Dorothy Grey; *Binghamton*—Dr. Harry H. Levy; *Bronx*—Drs. Harry N. Ballot and Edward R. Cunniffe; *Brooklyn*—Dr Charles H. Birnberg; *Caledonia*—Dr. M. Hare; *Cambria Heights*—Dr. Aldo Palmisano; *Cobleskill*—Dr. John H. Wadsworth; *Elmira*—Drs. John G. Allen, James A. Mitchell, Robert V. Powell, Joseph Shortsleeve, and Joseph Valicenti; *Fair Haven*—Dr. G. B. Hanford; *Farmingdale*—Dr. John Axelrad; *Flushing*—Dr. James F. Tobin; *Geneva*—Dr. H. J. Knickerbocker; *Glen Cove*—Dr. John M. Galbraith; *Gloversville*—Dr. Michael Palamar; *Gouverneur*—Dr. Donald J. Blodgett; *Great Neck*—Dr. Walter M. Glass; *Helmuth*—Dr. William Allexsaht; *Hempstead*—Drs. Walter Cane and Wendell L. Hughes.

Also: *Hicksville*—Drs. Charles Hoffman and Chester Kaminester; *Highland*—Dr. Carl F. Meekins; *Larchmont*—Dr. Seymour H. Fine; *Levittown*—Dr. Abraham Azulay; *Long Island City*—Dr. William E. Robinson; *Manhasset*—Drs. William H. Horan and Howard L. Walker; *Mannsville*—Dr. M. N. Margulies; *Maybrook*—Dr. Daniel Rakov; *Merrick*—Dr. G. Gaetano; *Middleburgh*—

[Continued on page 3350]

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Aside from these psychobiologic effects of wine, however, there are physiologic effects of wine on the human host, which can also be significant in clinical medicine. A definitive literature on these actions is rapidly accumulating.

The Wine Advisory Board has recently accumulated in a concise brochure the highlights of recent work in this field.

Herein are reported the latest findings on the value of wine as a stimulant to flagging appetite, as an aid to digestion, as a vasodilator, as a daytime and night-time sedative.

We will be glad to send you a copy of "Uses of Wine in Medical Practice" (at no expense, of course). Just write to: Wine Advisory Board, 717 Market Street, San Francisco 3, California.

[Continued from page 3348]

Dr. B. W. Andrew; *Newburgh*—Dr. Arnold Bockar; *New York City*—Drs. Isidore Arons, David B. Friedman, John H. Garlock, William A. Horwitz, Charles E. Kossmann, Joseph J. Lordi, A. R. Martin, Hayes Martin, Luis Mendez, F. W. Ninde, A. C. Posner, Ada C. Reid, Ellen I. Simon, H. M. Taterka, G. Tomasulo, and Alice D. Weber; *Patchogue*—Dr. P. J. Laviano; *Peekskill*—Dr. Percy Garson; *Port Washington*—Dr. Anthony A. Ressa; *Poughkeepsie*—Dr. Garrett H. Price; *Rensselaer*—Drs. K. Gordon, B. W. Wilcke, and L. Wirth; *Rochester*—Dr. F. A. Dobrzynski; *Rockville Centre*—Dr. Herbert L. Elias; *Roslyn Heights*—Drs. A. T. Sheehy and Thomas G. Sheehy; *Salem*—Dr. Gerald P. Finke; *Sayville*—Dr. Charles M. Rogers; *Scarsdale*—Dr. M. L. Woodhull; *Schenectady*—Dr David W. Hayeslip; *Schoharie*—Dr. Harry Plaskov; *Syosset*—Dr. Anthony L. O'Connor; *Ticonderoga*—Dr. R. J. Martin.

Also: *Troy*—Drs. R. F. Amyot, H. G. Anderson, C. E. Bessey, M. S. Chirot, R. L. Coletti, E. F. Connally, J. F. Connor, F. DeLucia, R. P. Doody, H. C. Engster, J. T. Gallo, J. P. Jaffarian, J. L. Lanzillo, A. A. Laquidara, J. R. Mascaro, S. W. McIlmoyl, E. Palmer, J. J. Pohl, J. J. Squadrito, J. J. Talin, and W. Trotter; *Watervliet*—Drs. O. Loewy and W. A. Stewart; *Weedsport*—Dr. Clinton E. Goodwin, and *Windham*—Dr. Edwin Mulbury.

Symposium on Crash Injuries—Automobile accidents will be considered as a public health problem in the Hermann M. Biggs Memorial Lecture of the New York Academy of Medicine, to be presented on February 2, 1956, in the form of a symposium under the title, "Automobile Accidents and Their Prevention."

Among the speakers will be Dr. Herbert J. Stack, director of the Center for Safety Education at New York University, where studies of the human element in accidents have been carried on for ten years. He will speak on "The Psychology of Drivers."

Academy of Psychosomatic Medicine—The second annual meeting of the Academy of Psychosomatic Medicine was held at the Plaza Hotel in New York City from October 6 through 8. Officers elected for the coming year include: president, Dr. Alfred J. Cantor, Flushing; president-elect, Dr. Samuel Poindexter, Boise, Idaho; first vice-president, Dr. Harry Phillips, East St. Louis, Illinois; second vice-president, Dr. Carlos Seguin, Lima, Peru; treasurer, Dr. George Sutherland, Baltimore, Maryland, and historian, Dr. Robert Drews, Detroit, Michigan.

Hill-Burton Grants—The Department of Health, Education, and Welfare reports that as of September 30, the status of all Hill-Burton grants for the State of New York is as follows: Approved, but not yet under construction, four projects at a total cost of $3,322,208, including $1,107,402 Federal contribution and designed to supply 249 additional beds. Under construction are 16 projects at a total cost of $52,627,137, including Federal contribution of $7,423,316 and designed to supply 1,561 additional beds. Completed and in operation are 73 projects at a total cost of $73,684,913, including Federal contribution of $21,101,404 and supplying 4,209 additional beds.

David Anderson-Berry Prize—A David Anderson-Berry silver-gilt medal, together with a sum of money amounting to about $280, will be awarded in 1956 by the Royal Society of Edinburgh to the person, who, in the opinion of the Council, has recently produced the best work on the therapeutic effect of x-rays on human diseases.

Applications for this prize are invited They may be based on both published and unpublished work and should be accompanied by copies of the relevant papers.

Applications must be in the hands of the General Secretary, Royal Society of Edinburgh, 22 George Street, Edinburgh 2, Scotland, not later than March 31, 1956.

Intestinal Research Institute—The Intestinal Research Institute has been incorporated in New York State as a nonprofit educational, research foundation for the study of intestinal diseases. The incorporators are Dr. Earl J. Halligan, international secretary general of the International Academy of Proctology and director of surgery, Jersey City Medical Center; Dr. Alfred J. Cantor, editor of the *American Journal of Proctology;* Dr. Louis Wegryn, president of the International Academy of Proctology, and Dr. Paul Lahvis, chairman of the Foreign Chapters Committee of the Academy.

For full details, write to the Intestinal Research Institute, Office of the Director, 147-41 Sanford Avenue, Flushing, New York.

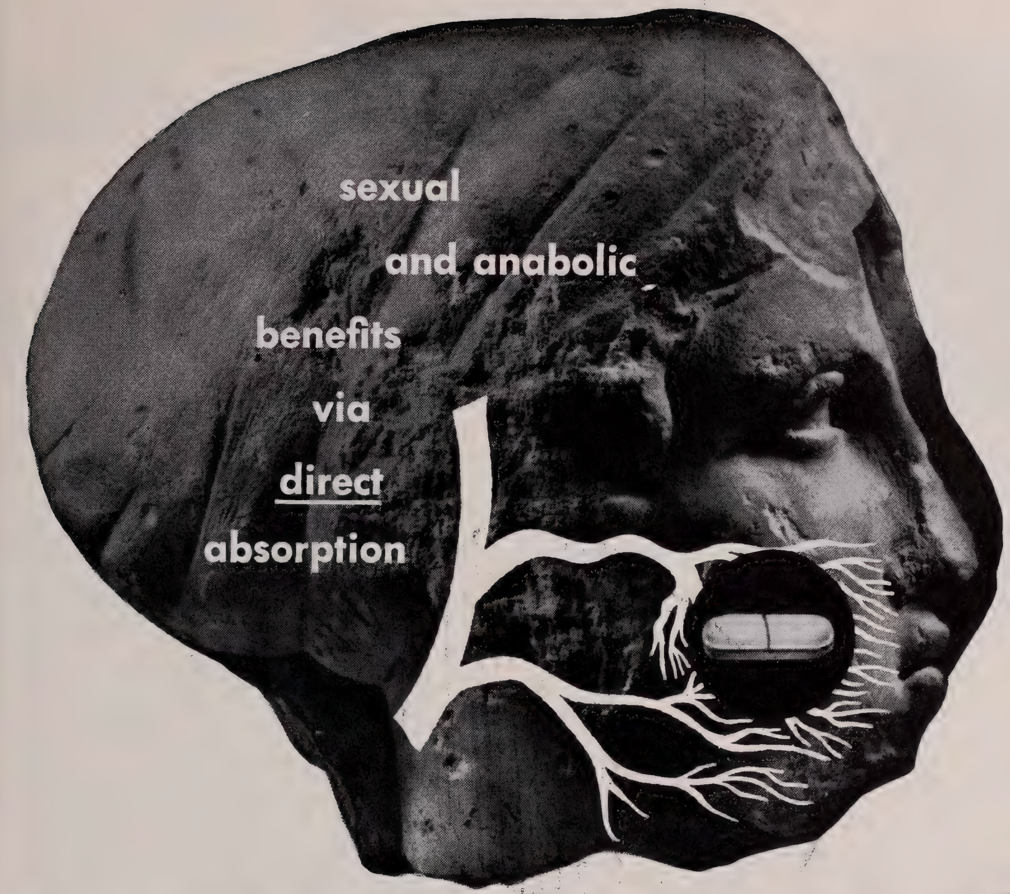
New Metropolitan Hospital—The official opening ceremony of the new Metropolitan Hospital on 2nd Avenue from 97th to 99th Streets, New York City, was held on October 28.

Dr. Basil C. MacLean, Commissioner of Hospitals, presided, and among the speakers were Dr. Ralph E. Snyder, dean of New York Medical College-Metropolitan Medical Center, and Dr. Lawrence B. Slobody, president of the medical board of Metropolitan Hospital.

Metropolitan Hospital is affiliated with New York Medical College, Flower and Fifth Avenue Hospitals, and along with these institutions and the new Bird S. Coler Memorial Hospital and Home on Welfare Island, comprises the New York Medical College-Metropolitan Medical Center. Dr. Benjamin G. Dinin is medical superintendent of the hospital.

Mental Hygiene Clinics—The opening of the third of four centralized clinics designed to provide aftercare for mental patients from the New York City area has been announced by Dr. Paul H. Hoch, New York State Commissioner of Mental Hygiene. The new clinic is located at 150–11 Hillside Avenue, Jamaica, Long Island.

[Continued on page 3352]



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[Continued from page 3350]

The clinics are operated under the department's reorganized aftercare clinic program which provides psychiatric and social services to patients on convalescent care from State mental institutions residing in the metropolitan area.

Dr. Eugene B. F. Riley, formerly supervising psychiatrist at Creedmoor State Hospital, is psychiatrist in charge at the Queens clinic.

Albany Medical Society—The Medical Society of the County of Albany met on October 25 at the Colonie Country Club in Albany. A symposium on "Rehabilitation and the Practice of Medicine" was held, with Dr. I. J. Brightman, associate commissioner for Welfare Medical Services, New York State Department of Health, acting as moderator. Dr. Leonard D. Policoff, associate professor of physical medicine and rehabilitation, Albany Medical College and director of the Department of Physical Medicine and Rehabilitation, Albany Hospital, spoke on "Modern Concepts of Rehabilitation"; Dr. John F. Filippone, assistant professor of medicine and director of the Department of Cardiology, Albany Medical College, on "Rehabilitation of the Cardiac Patient," and Dr. Frederick D. McCandless, assistant professor of psychiatry, Albany Medical College, on "Emotional Barriers in Rehabilitation."

Jefferson County Medical Society—The regular meeting of the Jefferson County Medical Society was held on October 18 at the Black River Valley Club. Dr. James M. Winfield, professor in the Department of Surgery at New York University Medical College, spoke on "The Problem of the Nodular Goiter."

Research Institute Established—The board of directors of the Jewish Chronic Disease Hospital at Brooklyn has announced the establishment of an Isaac Albert Research Institute, named in honor of the president of the hospital, Mr. Isaac Albert. The institute was established for the purpose of promoting the development of research laboratories and enlarging and improving the present facilities for expanded studies in the field of chronic diseases.

Personalities

Appointed

Dr. Henry F. Albrecht, Jr., to the Department of Medicine, and Dr. Anthony V. Passaretti to the section of urology of Samaritan Hospital in Troy... Dr. Howard Albright, as associate medical director of Bristol Laboratories, Inc., of Syracuse...Dr. Herbert M. Edwards, executive director of the New York Tuberculosis and Health Association, as associate professor of medicine and public health at Yale University...Dr. Jacob David Goldstein, Rochester, as professor of medicine at the State University of New York College of Medicine at New York City, and as chief of medicine at Jewish Hospital in Brooklyn...Dr. Clara Regina Gross, assistant professor at the College of Physicians and Surgeons in New York City, as cochairman of the 1955 Christmas Seal campaign for the New York Tuberculosis and Health Association...Dr. Santino F. Lando, Albany, as assistant psychiatrist in the Ellis Hospital psychosomatic division in Schenectady... Dr. Samuel K. Levy, associate attending pediatrician at the Maimonides Hospital in Brooklyn, as chief attending pediatrician at the Bushwick Hospital, Brooklyn...Dr. Ralph J. Mazza, Ithaca, as municipal surgeon in Ithaca...Dr. Frank Reynolds, Saratoga Springs, as director of the New York State Bureau of Chronic Disease and Geriatrics...Dr. Irwin D. Stein, chief of the peripheral vascular disease clinics of Mount Vernon and Grasslands Hospitals, as assistant professor of clinical medicine at the Albert Einstein College of Medicine at Yeshiva University.

Awarded

Dr. Helen M. Wallace, professor and director of the Department of Preventive Medicine at New York Medical College, the New York Philanthropic League of the United Order of True Sisters, Inc. award for medicine at the organization's 44th annual luncheon.

Elected

Dr. D. A. Astone, as president of the medical-surgical staff of Highland Hospital...Dr. Walter Atkinson, Watertown, as vice-president of the American Academy of Ophthalmology and Otolaryngology.

New Offices

Dr. Philip Aronson, practice of internal medicine in Norwich...Dr. Leon Burak, general practice in South Onondaga...Dr. David L. Clarke, general practice in Glens Falls...Dr. Donald F. Coon, general practice in Bath, taking over the practice of Dr. Vrooman S. Higby...Dr. Donald Delaney, general practice in Rouses Point...Dr. Norman C. Elitharp, general practice in Liverpool...Drs. William Flynn and Howard J. Westney, general practice in Schenectady...Dr. Frank W. Jones, practice of ophthalmology in Schenectady...Dr. Irving J. Kane, general practice in Hartsdale...Dr. Alan Lerrick, practice of surgery in Suffern...Dr. John J. O'Donnell, practice of pediatrics in Patchogue... Dr. Winsor Chase Schmidt, general practice in

[Continued on page 3354]

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[Continued from page 3352]

Elmsford, taking over the practice of Dr. Herman D. Barest...Dr. Philipp von Sielentz, specialization in chest diseases in Port Washington...Dr John W. Wood, practice of pediatrics in Utica...Dr. Duncan C. Wormer, practice of internal medicine in Portville.

Speakers

Dr Louis H. Bauer, secretary general of the World Medical Association, at the opening of the 1955 campaign of the Queens division, United Hospital Fund of New York...Dr. Leon G. Berman, clinical professor of surgery at the State University of New York College of Medicine at Syracuse, before the St. Lawrence County Medical Society at the Massena Memorial Hospital in Massena, on November 3, on "Intestinal Obstruction—Diagnosis and Management"... Dr. David Brewer, clinical assistant professor of otolaryngology at the State University of New York College of Medicine at Syracuse, before the St. Lawrence County Medical Society on November 17 at the Hepburn Hospital in Ogdensburg, on "Office Management of ENT Patients"...Dr. Lewis H. Bronstein, chief of the Work Classification Unit at Bellevue and Beekman-Downtown Hospitals and associate medical director at the Beekman-Downtown Hospital, before the Broome County Medical Society on November 8 at the Nurses' Home of the Ideal Hospital in Endicott, on "Work Classification for Cardiacs."

Also: Dr. William H. Button, chief of the Cardiac Clinic at Roosevelt Hospital, New York City, and associate in medicine at Columbia University College of Physicians and Surgeons, before the Steuben County Medical Society on November 10, at the Hotel Wagner in Bath, on "The Diagnosis and Treatment of Rheumatic Fever and Rheumatic Heart Disease"...Dr. Kenneth Chesky, cardiologist at Mt Sinai Hospital, before the New York Society of Physiotherapists, Inc., on October 18 at the Park-Sheraton Hotel in New York City, on "Pitfalls in Cardiac Diagnoses"...Dr. Nathaniel H. Cooper, health director of the Welfare and Health Council of New York, before an institute of the National Cancer Foundation on October 11, at the Lexington Hotel in New York City...Dr. Edwin F. Daily, vice-president of the Health Insurance Plan of Greater New York, as member of a panel on "Organization of Health Services" at the Massachusetts Memorial Hospitals Centennial at the Hotel Statler in Boston, on November 21...Dr. Charles L Fox, Jr., research associate at New York Medical College and assistant surgeon at Flower-Fifth Avenue Hospitals, before the Dutchess County Medical Society at the Nelson House in Poughkeepsie on November 9, on "Electrolyte and Fluid Balance"...Dr. Norman Jolliffe, City of New York Department of Health, at a conference on "Nutritional and Metabolic Considerations in Disease" in Philadelphia on November 9, on recent advances in the science of nutrition...Dr. John S. LaDue, assistant professor of clinical medicine at Cornell University Medical College, at the 28th Graduate Fortnight of the New York Academy of Medicine on October 17, on "Evaluation and Preparation of the Patient with Degenerative Cardiovascular Disease for Major Surgery"...Dr. Erwin Neter, Buffalo, before the Indiana State Board of Health on October 22, on infantile diarrhea.

Also: Dr. Conrad Riley, associate professor of pediatrics at Columbia University College of Physicians and Surgeons, before the Ulster County Medical Society at the City Laboratory in Kingston on November 1, on "Nephrosis in Childhood"...Dr. Howard A. Rusk, professor and chairman, Department of Physical Medicine and Rehabilitation, New York University College of Medicine, centennial address at the Massachusetts Memorial Hospitals celebration in Boston on November 21, and at the 28th Graduate Fortnight of the New York Academy of Medicine on October 19, on "Rehabilitation in the Aged"...Dr Frederic D. Zeman, chairman, subcommittee of geriatrics, chief of medical service, Home for Aged and Infirm Hebrews, New York City, before the Dutchess County Medical Society at the Nelson House in Poughkeepsie on December 14, on "Geriatrics in Relation to the General Practitioner"...Dr. Gregory Zilboorg, clinical professor of psychiatry at the State University of New York College of Medicine at New York City, before the Long Island Psychiatric Society at the Veterans Hospital in Northport on October 18, on "Growing Conflicts Between Clinical and Theoretic Psychiatry."

Honored

Dr. Frank L. Babbott, by the Brooklyn Polytechnic Institute at their centennial at the Brooklyn Academy of Music, with the honorary degree of Doctor of Laws...Dr. James H. Bennett, school physician of Baldwinsville, chosen as the outstanding general practitioner of New York State for 1955.

Retired

Dr. Vrooman S. Higby, as president of the medical staff of Bath Memorial Hospital...Dr. Esther Parker, from general practice in Ithaca.

Resigned

Dr. Nelson W. Cornell, Pelham, as chief of surgery, and Dr. Paul Reznikoff, Pelham, as chief of medicine at Mount Vernon Hospital.

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CORRESPONDENCE

Query from Fallsburgh Health Officer on Syndrome

To the Editor:

There has been an increasing number of cases, appearing of late in this area, manifested by the sudden onset of pleuritic pain, very severe diffuse headache—throbbing in nature—accompanied by malaise, fatigue, and a low-grade fever. The pleuritic pain is fleeting, but the headache is persistently severe and lasts three to four days. The headache does not respond to aspirin but does respond to intramuscular caffeine and sodium benzoate and codeine. There is no nuchal rigidity, but there have been several cases with meningismus. The acute episode subsides in three to four days, but there is a residual feeling of weakness and vague numbness which the patients find difficult to describe adequately. The patients complain of feeling feverish, but either no fever or only an oral temperature of 100.5 or 101 F. is present.

The cases appear at first sight to be "grippe" or pleurodynia. However, the clinical course is atypical, and the recovery is longer than one would ordinarily expect.

We are interested in knowing whether any other physicians have encountered any similar cases in their practice.

One can speculate that the disease is viral in nature and may be akin to the Coxsackie virus or influenza virus or perhaps a variant of one of the types of poliomyelitis viruses.

H. O. Immerman, M.D., *Health Officer*
Joseph J. Ricca, M.D.

Board of Health
Town of Fallsburgh
Woodbridge, New York

Hyperventilation and "Dizziness"

To the Editor:

Dr. Gordon D. Hoople's comprehensive review, "Why Is Your Patient Dizzy?" in the August 1, 1955, issue of the Journal, illustrated a common omission in medical thinking. In a paragraph entitled "Functional: Psychogenic (Stress)," Dr. Hoople ascribes the patient's dizziness to altered otic blood supply, edema, or anoxia. In a previous section he declares that it is crucially important to distinguish between lightheadedness and true vertigo. Although he does not so state, this distinction is the key in most cases to the differential diagnosis of the hyperventilation syndrome, which, in this internist's experience, is the commonest cause of so-called "dizziness." Various manifestations of the hyperventilation syndrome are also responsible for many visits to physicians. I have been preparing a review of this problem detailing my experience with 100 such patients, but Dr. Hoople's article led me to write an immediate letter on the subject.

The hyperventilation syndrome, as its name implies, is caused by overbreathing, a common response to stress situations or to intrinsic anxiety feelings. Sighs, yawns, groans, or simple rapid deep breathing are manifestations. Since the lungs are the sentinels of dissolved carbon dioxide in the blood, more efficient respiration than necessary for oxygenation leads to hypocapnia and respiratory alkalosis. Respiratory alkalosis eventually leads to tetany as ionic calcium decreases in the serum, but there first occurs a great many of the manifestations to be described. Only a rare patient will spontaneously hyperventilate to the point of tetany.

The complete hyperventilation syndrome may include the following symptoms:

1. *A sensation of "dizziness,"* which is really lightheadedness rather than true vertigo. The patient often describes the feeling as one of "wooziness" or "floating in the head."
2. *Blurring of vision,* which the patient occasionally may describe as simulating diplopia.
3. *Tinnitus,* which may lead to neurologic or otologic investigation of eighth nerve pathology.
4. *Numbness of the tongue, oral mucosa, or lips.* Some patients have a "peculiar taste."
5. *Numbness, tingling or a "prickly" feeling in the arms and legs,* often localized to the fingertips. The sensation may be unilateral. It may lead the

[Continued on page 3358]

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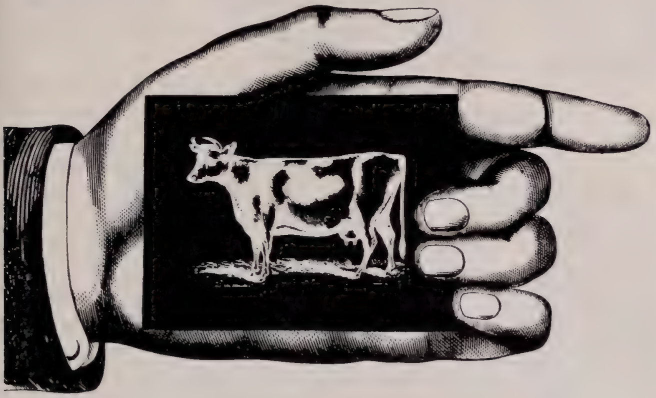

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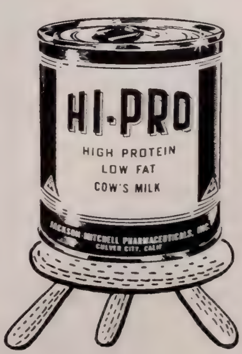

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[Continued from page 3356]

patient to the cardiologist when confined to the left upper extremity, or to the neurologist because of concern about radicular lesions or early demyelinating disease, or to the peripheral vascular specialist.

6. *Precordial pressure, aching or stabbing pain.* A number of patients may be initially thought to have coronary insufficiency, particularly since this symptom may arise with exercise, which produces hyperventilation.

7. *Air hunger,* often characterized by the patient as shortness of breath, which may lead to extensive cardiologic investigation.

8. *Nausea, "queasiness," or "butterflies in the stomach."* Some of these patients may vomit frequently and ultimately be referred to a gastroenterologist.

9. *Generalized weakness,* often localized to the arms and legs. Many patients with "neurasthenia" are hyperventilators.

10. *Loss of equilibrium and ataxia,* resulting in a staggering gait and occasional total inability to walk. These patients may be subjected to neurologic and otologic workup for cerebellar and labyrinthine disease.

11. *Syncope.* In an occasional patient, marked alteration of consciousness with transient fainting spells may occur. Frequently, orthostatic hypotension is present. It is important to ascertain whether a true convulsive seizure occurred, else the neurologist may be called upon to do an elaborate workup to exclude epilepsy.

Unfortunately, the average patient may present with just one or two of these symptoms, and only careful questioning will elicit the rest of the syndrome. The physician must be oriented toward the hyperventilation syndrome in order to take the necessary history.

The control of the hyperventilation syndrome depends on patient education. First, the correctness of the diagnosis must be demonstrated to the patient (and the physician) by having the patient hyperventilate in the office. Usually, only one or two minutes of rapid forced breathing, with emphasis on expiration, is sufficient to provoke most of the leading symptoms. Second, the basic chemical changes involved are explained. Patients easily understand the principle of acid-alkaline balance in the blood and how breathing out the "soda-water" acid of the blood makes the blood turn more alkaline. Finally, the patient is instructed to control his breathing carefully, restricting depth and rate to that which is just necessary to survive, especially at the time of symptoms. Rebreathing into a paper bag is taught as an alternative control measure. One young woman, who was unable to rise from bed for four days because of severe weakness and "dizziness," was diagnosed as an "acute brain syndrome." She was promptly resuscitated by an oxygen mask, without the use of oxygen and with the inlet obstructed. The significance of eliminating sighs, yawns, and groans is explained. Since many patients experience weakness and lightheadedness on exercise, for instance, on climbing one flight of stairs, it is important to explain how the need for oxygen in such situations leads to hyperventilation, which in the chronic hyperventilator, provokes the syndrome. Many patients can be saved from the label "exertional dyspnea" and cardiac neurosis by this explanation.

I should like to add a brief comment about the prevalence of this syndrome. In an average semiweekly afternoon office consultative session, I may see six new patients referred by physicians in the outpatient department, the flight surgeon's office, or by other specialty services. Of these six, I invariably see at least one patient whose chief complaint is due to hyperventilation, usually two such patients, and sometimes three! This demonstrates the need for greater physician awareness of the hyperventilation syndrome.

ERNEST SCHWARTZ, M.D.

2750 USAF Hospital
Wright-Patterson A.F.B.
Ohio

Comment by Dr. Hoople

To the Editor:

Dr. Schwartz's splendid composition on the hyperventilation syndrome is timely and well done.

He calls attention to it as the commonest cause of so-called "dizziness." This is a good example of the need for differentiation between vertigo and giddiness or lightheadedness. Hyperventilation does not cause dizziness, i.e., true vertigo. This is the important point that is made in the third paragraph of the original article, "Why Is Your Patient Dizzy?"

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1. Kulz, F. and Rosenmund, K.W., Klin. Wchnschr., *17*:344 (1938).
2. Weiss, S., Rev. Gastroenterol., *12*:426 (1945).
3. Kulz, F., Rosenmund, K.W., *et al.*, Ber. deut. chem. Gesellschaft, 72B; 19; 2161 (1939).
4. Lux, E., Klin. Wchnschr., *17*:346 (1938).
5. Ohr, A., Therapie d. Gegenwart, *80*:29 (1939).

BOOKS RECEIVED

(The following books were received during the month of September, 1955)

Brain Mechanisms in Diachrome. By Wendell J. S. Krieg, Ph.D. Illustrated by the author. Quarto of 188 pages, illustrated. Evanston, Ill., Brain Books, 1955. Cloth, $7.00.

Office Procedures. By Paul Williamson, M.D. Quarto of 412 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $12.50.

Cancer Cells. By E. V. Cowdry, Ph.D. (anat). Octavo of 677 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $16.

Textbook of Endocrinology. Edited by Robert H. Williams, M.D. Contributors, William H. Daughaday, M.D., Peter H. Forsham, M.D., Harry B. Friedgood, M.D., John Eager Howard, M.D., *et al.* Second edition. Octavo of 776 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $13.

Recueil Périodique de l'Encyclopédie Médico-Chirurgicale. Paraissant cinquante-quatre fois par an, à raison de deux cahiers pour chacune des matières. Section #33, illustrated. Paris, Editions Techniques S.A., 1955.

Child Behavior. By Frances L. Ilg, M.D., and Louise Bates Ames, Ph.D. Quarto of 364 pages. New York, Harper & Bros., 1955. Cloth, $3.95.

Asclepiades, His Life and Writings. A Translation of Cocchi's *Life of Asclepiades* and Gumpert's *Fragments of Asclepiades*. By Robert Montraville Green, M.D. Octavo of 167 pages, illustrated. New Haven, Elizabeth Licht, 1955. Cloth, $6.00.

Endeavour. A Quarterly Review Designed to Record the Progress of the Sciences in the Service of Mankind. Volume XIV. July, 1955. Number 55. Quarto. pp. 115/168. Illustrated. London, Imperial Chemical Industries Limited.

The Medical Clinics of North America. Boston Number. September, 1955. Octavo. Illustrated. Philadelphia, W. B. Saunders Company, 1955. Published bimonthly, (six numbers a year). Cloth, $18 net; paper, $15 net.

Postgraduate and Graduate Courses for Physicians. Compiled by the Council on Medical Education and Hospitals of the American Medical Association. September 1, 1955 to August 31, 1956. Quarto pp. 1052/1131 [Chicago], American Medical Association, 1955. (Reprinted from *The Journal of the American Medical Association*, Vol. 158, (July 23) 1955).

Economics of Minimum Wage Legislation. Testimony of Emerson P. Schmidt before the Senate Labor and Public Welfare Subcommittee With Respect to Wage and Hour Legislation, 1955. Octavo of 32 pages. Washington, D.C., Economic Research Department, Chamber of Commerce of the United States, 1955. Paper, 50 cents.

Annual Report, 1954. New York State Department of Health, Herman E. Hilleboe, M.D., Commissioner. Bureau of Cancer Control, Paul R. Gerhardt, M.D., Director, Vincent H. Handy, M.D., Assistant Director. Octavo. 8 pages and 12 tables, illustrated.

Anesthesiology. By Forty American Authors. Donald E. Hale, M.D., Supervising Editor. Quarto of 756 pages. 149 illustrations. Philadelphia, F. A. Davis Company, 1954, 1955. Cloth, $15.

Obstetrical Roentgenology. By Robert Berman, M.D. Octavo of 599 pages, 486 illustrations. Philadelphia, F. A. Davis Company, 1955. Cloth, $12.50. (Obstetrics and Gynecology, a series of monographs)

Introduction to Virology. By Gilbert Dalldorf, M.D. Octavo of 102 pages, illustrated. Springfield, Charles C Thomas, 1955. Cloth, $3.50.

Pharmacologic Products Recently Introduced in the Treatment of Psychiatric Disorders. Papers Presented at a Regional Research Conference Held under the Joint Auspices of the American Psychiatric Association and the University of Texas Medical Branch, Galveston, Texas, February 18–19, 1955. General Chairman, Titus H. Harris, M.D., Chairman of the Scientific Program, Martin L. Towler, M.D., Consultant Editor, This Number, William T. Lhamon, M.D., Editorial Assistant, Marion Robinson, B.S. Octavo of 152 pages, illustrated. Washington, D.C., American Psychiatric Association, 1955. Paper, $2.00. (Psychiatric Research Reports #1 of the American Psychiatric Association)

A Handbook of Hospital Psychiatry. A Practical Guide to Therapy. By Louis Linn, M.D. Octavo of 560 pages. New York, International Universities Press, 1955. Cloth, $10.

A Short History of Medicine. By Erwin H. Ackerknecht, M.D. Octavo of 258 pages, illustrated. New York, Ronald Press Company, 1955. Cloth, $4.50.

Peptic Ulcer. Diagnosis and Treatment. By Clifford J. Barborka, M.D., and E. Clinton Texter, Jr., M.D. Octavo of 290 pages, 33 illustrations. Boston, Little, Brown & Company, 1955. Cloth, $7.00.

[Continued on page 3362]

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[Continued from page 3260]

Introduction to Operating-Room Technique. By Edna Cornelia Berry, R.N., and Mary Louise Kohn, R.N. Quarto of 154 pages, illustrated. New York, The Blakiston Division, McGraw Hill-Book Company, 1955. Paper, $4.00.

The Management of Oral Disease. A Treatise on the Recognition, Identification, and Treatment of Diseases of the Oral Regions. By Joseph L. Bernier, D.D.S. Octavo of 825 pages. 1,001 text illustrations and 5 color plates. St. Louis, C. V. Mosby Company, 1955. Cloth, $15.

Anesthesia in Ophthalmology. By Walter S. Atkinson, M.D. Octavo of 101 pages, illustrated. Springfield, Charles C Thomas, 1955. Fabricoid, $3.25. (American Lecture Series #251)

The Helen Hay Whitney Foundation. Second Report. For the Years 1950–1954. Octavo of 60 pages, illustrated.

Georgia Warm Springs Foundation, Warm Springs, Georgia. Annual Report for the Year Ended September 30, 1954. Octavo of 28 pages.

Premature Infants. A Manual for Physicians. By Ethel C. Dunham, M.D. Second edition. Octavo of 459 pages, illustrated. New York, Paul B. Hoeber, Medical Book Department of Harper & Brothers, 1955. Cloth, $8.00.

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selections for review will be based on merit and interest to our readers.

Wider Knowledge of Chemical Health Hazards Needed

The thousands of chemical products developed to make life simpler may only complicate it unless used with care and intelligence.

The Committee on Toxicology of the American Medical Association said that there are about a quarter of a million brand name chemical products which may be used in the home, farming, and industry. All of them may be useful—but handled improperly, they may become killers, cripplers, and destroyers of property.

Understanding of the uses and the potential dangers of the wealth of products available is needed to prevent the estimated 3,300 accidental poison deaths which result each year from misuse of chemicals. The array is so large and so many combinations of chemicals are possible that no complete catalog of all available products has been made, the committee said.

As part of its campaign to spread information about these products and their hazards, the committee will sponsor a symposium on health hazards of chemicals on December 29 during the annual meeting of the American Association for the Advancement of Science, in Atlanta, Georgia.

Bernard Conley, Ph.D., secretary of the A.M.A. Committee on Pesticides, which is cosponsoring the discussion, will be moderator for the symposium. He said the purpose of the meeting is to interpret new knowledge of chemical products to scientists so they may in turn use and spread the information.

The committees are working toward development of more intelligent use of chemicals so that their advantages may be enjoyed without dangerous results, Conley said. They do not mean to imply that potentially dangerous chemicals should not be used at all.

"The problem of health hazards has increased with the wider household use of chemicals once found only in industry," he said. "This makes misuse more serious and the necessity for widespread knowledge more urgent. There are several thousand basic chemicals used in available products; these can be mixed in an infinite number of combinations and sold under an infinite variety of fanciful names. The products can be changed in composition without notice, and even patent office records don't necessarily show the present composition. Thus, a listing of the contents of all brand-name products is impossible to make."

Conley said that while no one may know all about all of these products, the danger of poisoning would be greatly reduced by wider understanding of the problem, reasonable care in using any chemical, and careful attention to label instructions.

On the AAAS meeting symposium devoted to the problem in the home, agriculture, and industry will be Lester M. Petrie, M.D., director, preventable diseases service of the Georgia Department of Public Health, Atlanta; Wayland J. Hayes, M.D., chief of the toxicology section of the Communicable Diseases Center, U.S. Public Health Service, Savannah; Irvin Kerlan, M.D., associate medical director of the Federal Food and Drug Administration, Washington, and Mrs. Veronica Conley, assistant secretary of the A.M.A. Committee on Cosmetics, Chicago.

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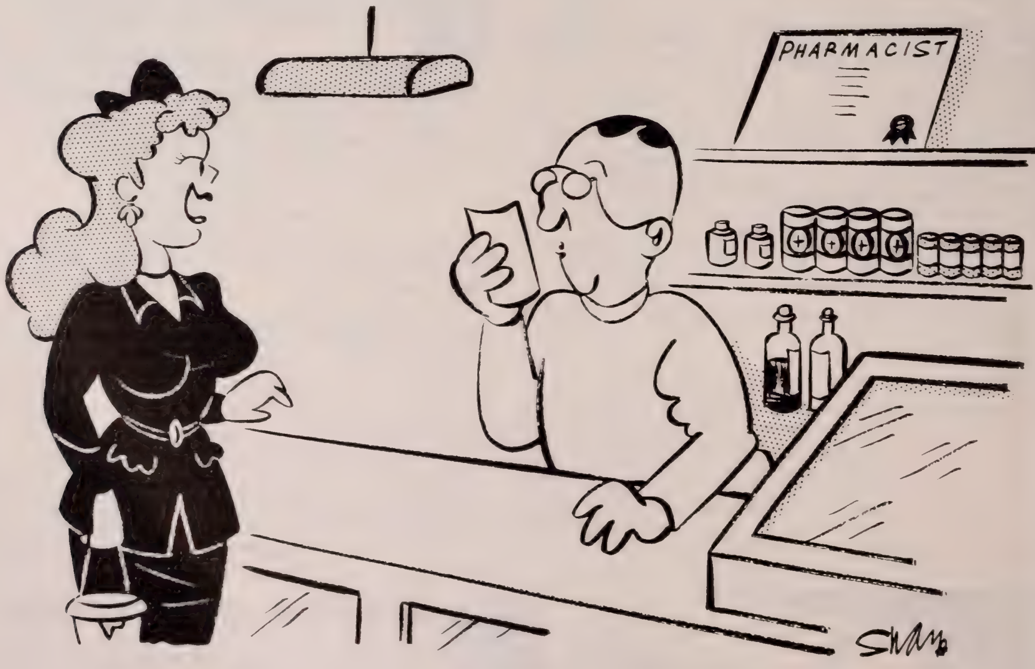

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Moyer et al.: A.M.A. Arch. Int. Med. 94:497 (Sept.) 1954.

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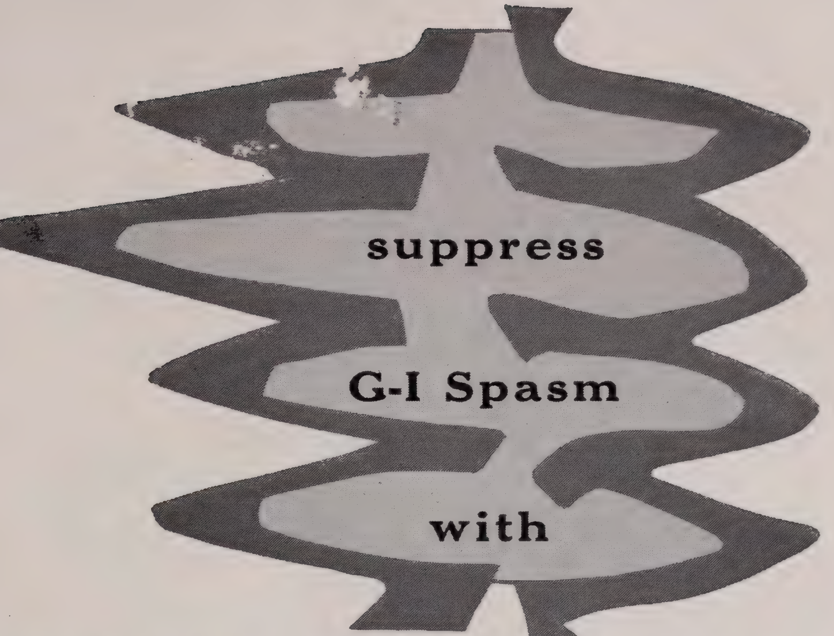

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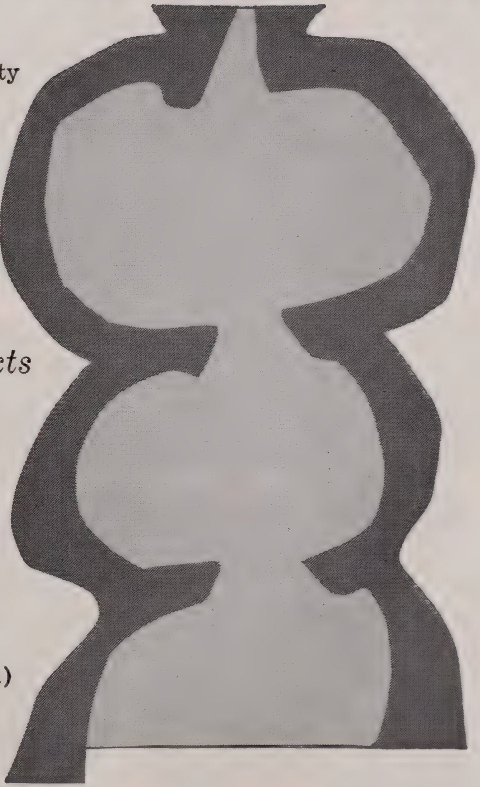

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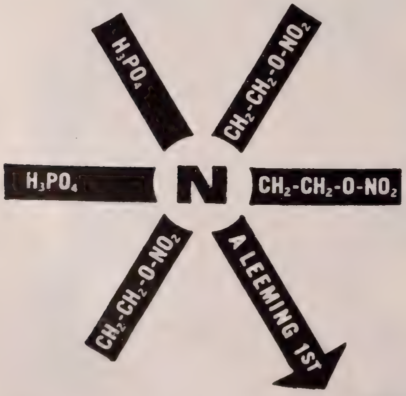

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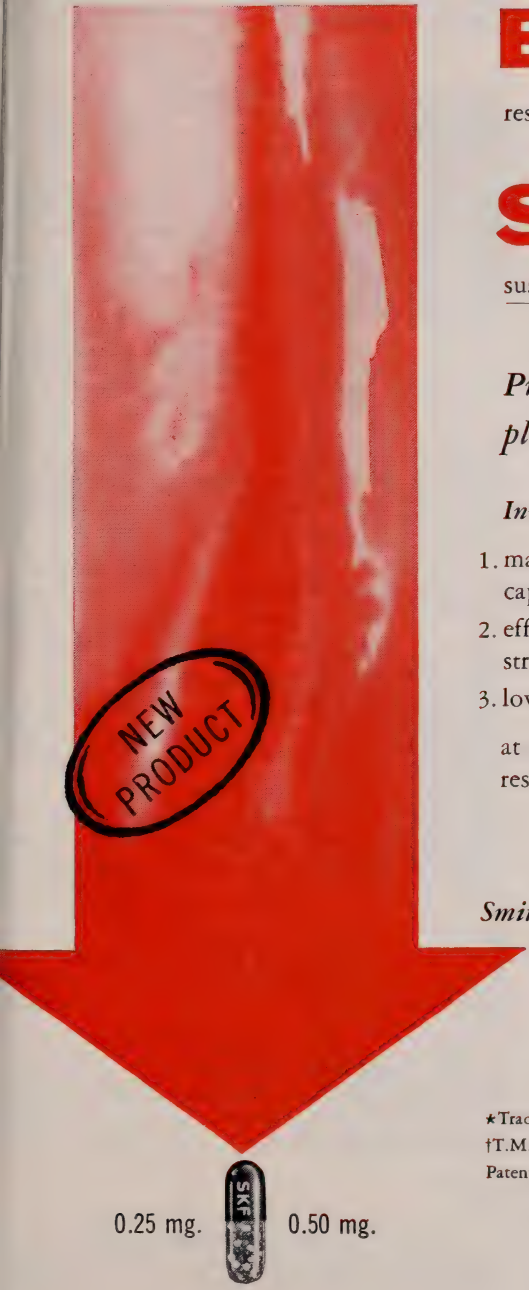
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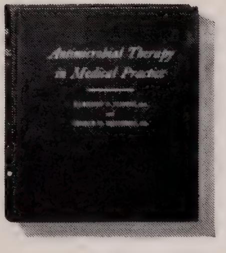
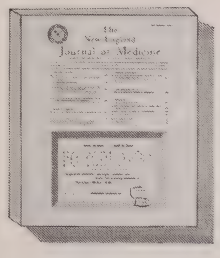
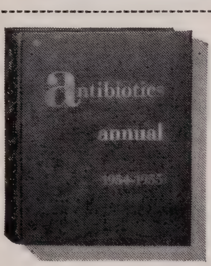
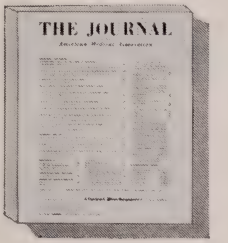
lippin, H. F., and Eisenberg, G. M.: Antimicrobial Therapy Medical Practice, Philadelphia, F. A. Davis Co., 1955, p. 40.		Clinical studies have demonstrated rapid clinical response in cases of cystitis and pyelonephritis, including infections caused by refractory organisms.
Trafton, H. M., et al.: New England J. Med. **252:** 383, 1955.		13 acute cases . . . 6 appeared cured . . . 6 markedly improved with no relapses. 36 chronic infections: 30 showed symptomatic improvement, frequently within 24 hours.
Beutner, E. H., et al.: Antibiotics Annual, 1954-1955, New York, Medical Encyclopedia, Inc., 1955, p. 988.		30 chronic urinary tract infections: Of 47 strains of bacteria isolated from these patients, 29 strains (62%) were eradicated by Furadantin.
Hasen, H. B., and Moore, T. D.: J.A.M.A. **155:** 1470, 1954.		Of patients with acute urinary tract infections, 95.7% were benefited. Patients with chronic infections and those with organic or obstructive lesions were benefited in 82% of cases.

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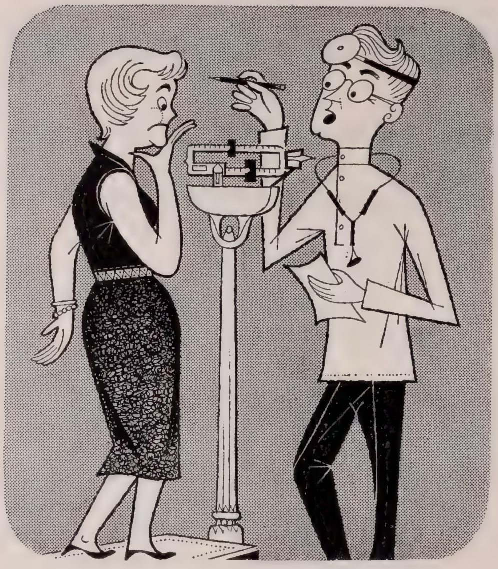

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IN CORTICOID-TREATED PATIENTS

minimize adrenal suppression and atrophy

BY THE REGULAR PERIODIC USE OF

HP*ACTHAR® *Gel*

Stress of surgery, accidents or infections is magnified in patients treated with cortisone, hydrocortisone, prednisone or prednisolone. Adrenal steroids, even in small doses, jeopardize the defense mechanism against stress by causing adrenal cortical atrophy. Concomitant use of HP*ACTHAR *Gel* counteracts adrenal atrophy by its stimulant action on the adrenal cortex.

Dosage recommendations for supportive HP*ACTHAR *Gel* are, inject:

1 a. 100 to 120 U. of HP*ACTHAR *Gel* for every 100 mg. of prednisone or prednisolone.
b. 100 U. of HP*ACTHAR *Gel* for every 200 to 300 mg. of hydrocortisone.
c. 100 U. of HP*ACTHAR *Gel* for every 400 mg. of cortisone.

2 Discontinue use of steroid on the day of injection.

*Highly Purified. HP*ACTHAR *Gel* is The Armour Laboratories brand of purified corticotropin.

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A DIVISION OF ARMOUR AND COMPANY • KANKAKEE, ILLINOIS

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BACITRACIN·TYROTHRICIN·NEOMYCIN·BENZOCAINE TROCHES

in sore-throat weather—a 4-in-1 attack

MAJOR ADVANTAGES: Provide three potent antibiotics plus a soothing topical anesthetic. Effective against both gram-positive and gram-negative bacteria. Little danger of sensitization.

Winds and showers bring sore and inflamed throats; new TETRAZETS provide the ideal topical treatment.

TETRAZETS are soothing, pleasant-tasting troches, each containing bacitracin, tyrothricin and neomycin, with benzocaine, added for its anesthetic effect.

The 3 antibiotics together (1) enhance the antibacterial potency, (2) extend the antibacterial range, and (3) minimize development of secondary invaders.

Prescribe TETRAZETS before and after tonsillectomies, too. They are valuable also as an adjunct to parenteral antibiotic therapy of deep-seated infections such as Vincent's infection.

Supplied: Vials of 12 troches, each troche containing 50 units zinc bacitracin, 1 *mg.* tyrothricin, 5 *mg.* neomycin sulfate with 5 *mg.* benzocaine.

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DIVISION of MERCK & CO., INC.

Better Patient Cooperation

Because of

Simpler, More Effective Combination Therapy

in hypertension

Greater Efficacy from smaller dosage

Side actions fewer and of lessened intensity

No complicated dosage schedules

Simpler patient management

Rauwiloid® + Veriloid®

A Riker Single-tablet Preparation

Indicated in moderately severe hypertension. Each tablet contains 1 mg. Rauwiloid and 3 mg. Veriloid.

Initial dosage, one tablet t.i.d., p.c. In bottles of 100 tablets.

Rauwiloid® + Hexamethonium

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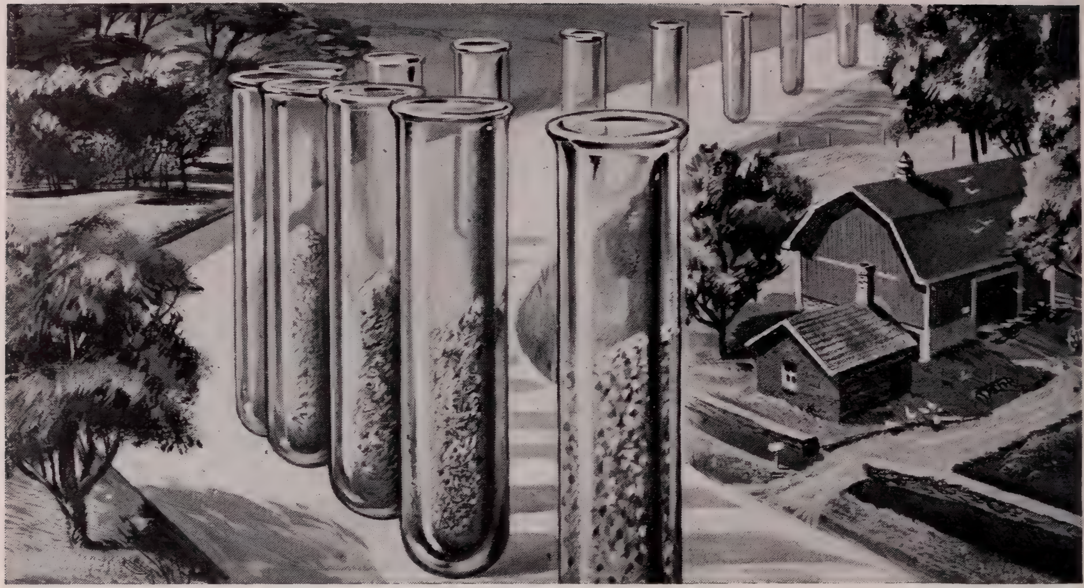
Indicated in rapidly progressing, otherwise intractable hypertension. Each tablet contains 1 mg. Rauwiloid and 250 mg. hexamethonium chloride dihydrate.

Initial dosage, one-half tablet q.i.d. Available in bottles of 100 tablets.

Riker LABORATORIES, INC., LOS ANGELES

SECOND REPORT



LECITHIN RESEARCH—AT THE BEND OF THE ROAD

The Therapeutic Usefulness of Lecithin – a natural phospholipid

Because lecithin, a natural, edible food constituent, is an excellent emulsifying agent its application in diseases characterized by disturbed fat absorption and metabolism is logical. Research has proved its value in facilitating intestinal absorption of fats and fat-soluble substances such as Vitamin A.[1-5] For this reason it suggests itself as worthy of trial in treating underweight and steatorrheal diseases (sprue, celiac disease, etc.).

Encouraging results were also achieved in the management of psoriasis, together with dietary and topical measures,[6] and in fatty livers.[7] In the treatment of diabetes, lecithin together with vitamin E has reduced insulin requirements in certain patients.[8] Research on its potentially useful role in the management of the more complicated forms of deranged lipid and cholesterol metabolism – as encountered in essential hyperlipemia, idiopathic familial hypercholesteremia, xanthomatosis, diabetes, etc. – is now being actively conducted.

An excellent source of lecithin is Glidden's "RG" Oil-free Soya Lecithin, a highly purified extract containing a minimum of 95% phospholipids. It is packed in a specially designed 8 oz container to maintain its purity and freshness and is available at your drugstore.

Dosage: Investigators of lecithin have used quantities from 7.5 to 30 grams daily in divided doses. (3 teaspoonfuls equal 7.5 grams.)

Administration: "RG" Lecithin is presented in palatable granules which may be taken plain, in milk, in orange juice or other citrus juices, or sprinkled on cereal.

Literature available on request.

Bibliography: 1. Adlersberg, D., and Sobotka, H.: J. Nutrition *25*:255 (March) 1943. • 2. Adlersberg, D., and others: Gastroenterology *10*:822 (May) 1948. • 3. Adlersberg, D.: New York J. Med. *44*:606 (March 15) 1944. • 4. Adlersberg, D., and others: Am. J. Digest. Dis. *16*:333 (Sept.) 1949. • 5. Augur, V.; Rollman, H. S., and Deuel, H. J., Jr.: J. Nutrition *33*:177 (Feb.) 1947. • 6. Gross, P., and Kesten, M. B.: New York J. Med. *50*:2683 (Nov. 15) 1950. • 7. Schettler, G.: Klin. Wchnschr. *30*:627 (July) 1952. • 8. Dietrich, H. W.: South. M. J. *43*:743 (Aug.) 1950.

GLIDDEN RG® LECITHIN

THE GLIDDEN COMPANY • CHEMURGY DIVISION
1825 North Laramie Avenue, Chicago 39, Illinois

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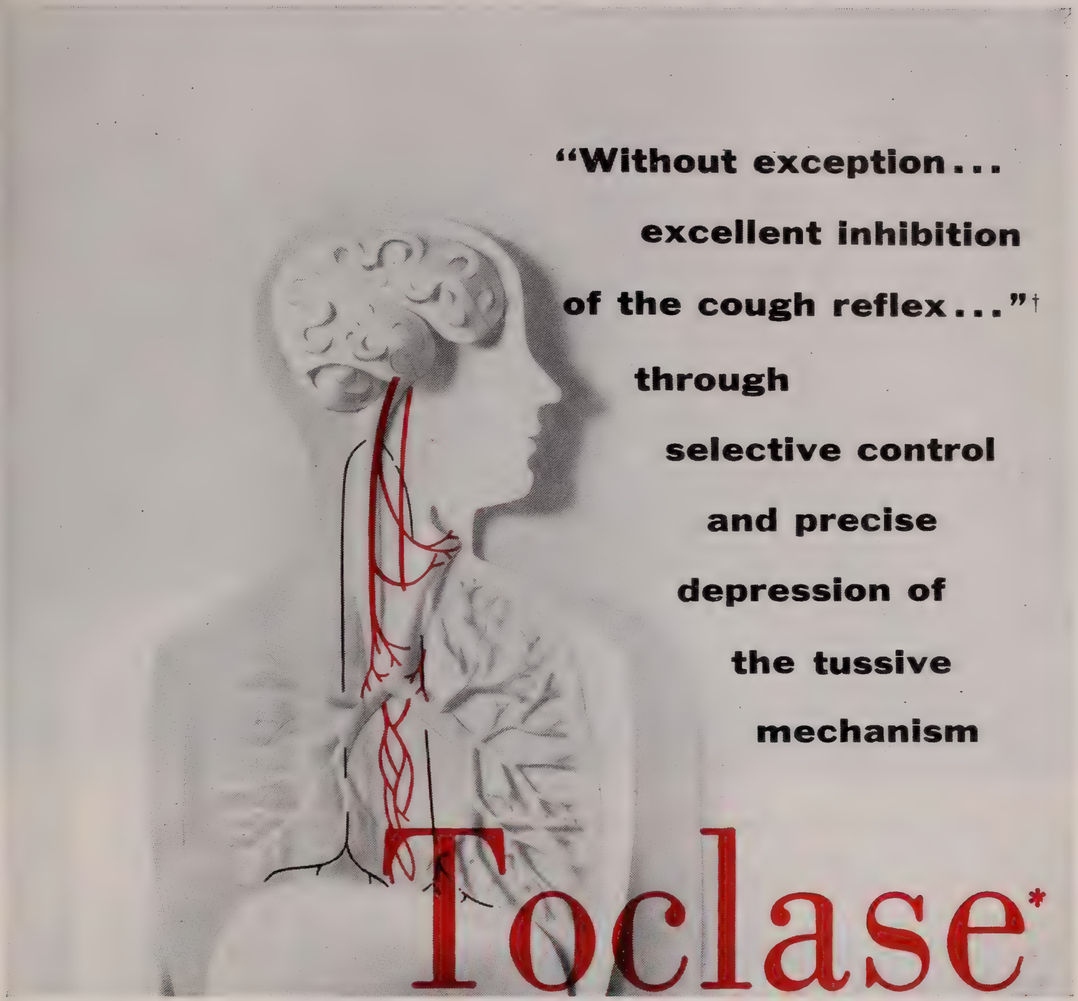

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for convenience at work or recreation
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†Parish, F. A.: M. Times *83*:870 (Sept.) 1955.

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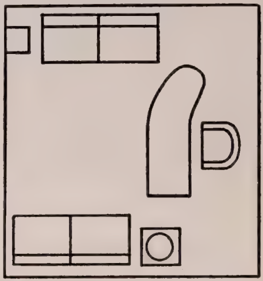
Pfizer

PFIZER LABORATORIES, *Division, Chas. Pfizer & Co., Inc.*, Brooklyn 6, N. Y.



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Trademark
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500 mg. capsules, bottles of 100.

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FORTY

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The indications include non-surgical cases of gallstones, cholecystitis, non-obstructive jaundice, intestinal indigestion and habitual constipation.

The recommended dose of CHOLOGESTIN is 1 tablespoonful in cold water after meals. Three tablets of TABLOGESTIN are equivalent to 1 tablespoonful of CHOLOGESTIN.

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LIQUID

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TABLOGESTIN

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yet different!

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Mead *phosphorus-free vitamin-mineral capsules

Natalins

Mead prenatal vitamin-mineral capsules

One Natalins-PF capsule t.i.d. or 1 Natalins capsule t.i.d. supplies vitamin A 6000 units; vitamin D 600 units; ascorbic acid 100 mg.; thiamine 3 mg.; riboflavin 4.5 mg.; niacinamide 30 mg.; pyridoxine HCl 3 mg.; calcium pantothenate 3 mg.; folic acid 1 mg.; vitamin B_{12} (crystalline) 1 mcg.; iron (from ferrous sulfate) 22 mg.

Here's the difference

One Natalins-PF capsule t.i.d. supplies calcium carbonate to provide 450 mg. of phosphorus-free calcium. One Natalins capsule t.i.d. supplies veal bone ash to provide calcium 375 mg., and phosphorus 188 mg.

both alike
in patient acceptability

small size . . .
easy to swallow
small dosage . . .
one capsule t.i.d.
economical, too

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man against microbe . . .

Few drugs are so firmly established in international medicine as the oral forms of BICILLIN. Crossing barriers of flag and language, oral BICILLIN has but one medical homeland—the place where men and microbes struggle. Just as penicillin is the antibiotic of choice in approximately 72% of infectious disease, so oral BICILLIN—a penicillin of choice—serves clinicians throughout the free world.

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Benzathine Penicillin G (Dibenzylethylenediamine Dipenicillin G)

Penicillin with a
Surety Factor

Wyeth®
Philadelphia, Pa.

unexcelled among sulfa drugs . . . for safety

Valid tests, clinical trials, and long use proved the Triple Sulfas offer greater relative safety than single sulfas, and they compare favorably with all potent therapeutic agents in this respect. In addition, the Triple Sulfas are distinguished for their established efficacy, broad-spectrum activity, and outstanding economy. Alone or in combination with other therapeutic agents, the Triple Sulfas are available from leading pharmaceutical manufacturers under their own brand names. Remember: not all sulfas are Triple Sulfas. Ask any medical representative about the Triple Sulfa products his company offers!

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SULFAMERAZINE

TRIPLE SULFAS

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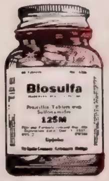


HOW **Upjohn** OFFERS TRIPLE SULFAS

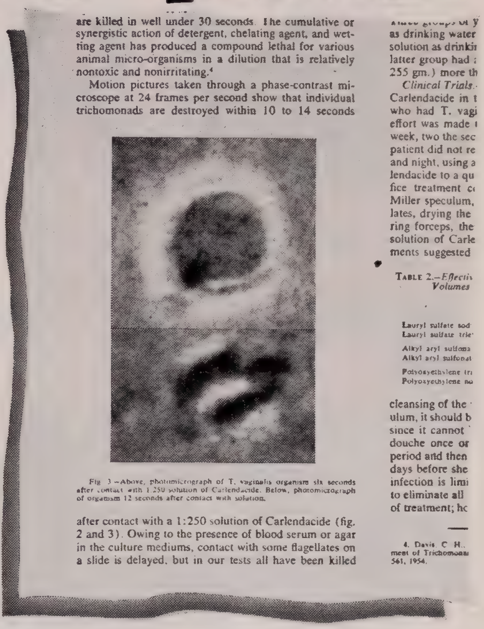
BIOSULFA* Tablets are a combination of the Triple Sulfas and penicillin G, prepared in three strengths of penicillin—125M, 250M, and 500M. Resistance to penicillin is significantly diminished by the simultaneous use of sulfonamides, and the spectrum of activity is considerably broadened. BIOSULFA is extremely useful in treating infections such as pneumonia, tonsillitis, sinusitis, otitis media, acute mastoiditis, scarlet fever, gonorrhea, urinary infections, and enteritis associated with generalized infections in infants. Upjohn also offers Triple Sulfas in various other forms.

*Trade-Mark Reg. U. S. Pat. Off.; The Upjohn Company, Kalamazoo, Mich.

DESTROYED

"... INDIVIDUAL TRICHOMONADS ARE DESTROYED WITHIN 10 TO 14 SECONDS AFTER CONTACT WITH A 1:250 DILUTION [**VAGISEC** LIQUID]."

Davis, C. H.: J.A.M.A. 157:126 (Jan. 8) 1955.


are killed in well under 30 seconds. The cumulative or synergistic action of detergent, chelating agent, and wetting agent has produced a compound lethal for various animal micro-organisms in a dilution that is relatively nontoxic and nonirritating.[4]

Motion pictures taken through a phase-contrast microscope at 24 frames per second show that individual trichomonads are destroyed within 10 to 14 seconds after contact with a 1:250 solution of Carlendacide (fig. 2 and 3). Owing to the presence of blood serum or agar in the culture mediums, contact with some flagellates on a slide is delayed, but in our tests all have been killed

Fig. 3.—Above, photomicrograph of T. vaginalis organism six seconds after contact with 1:250 solution of Carlendacide. Below, photomicrograph of organism 12 seconds after contact with solution.

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TABLE 2.—*Effecti*
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of treatment; hc

4. Davis, C. H.,
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561, 1954.

In his new *J.A.M.A.* article, Dr. Carl Henry Davis reviews his experience with the new trichomonacide which he and C. G. Grand, research physiologist, developed under the name of "Carlendacide." Now available as VAGISEC jelly and liquid, it has been shown on clinical trial to clear up even stubborn cases of vaginal trichomoniasis. "Adequate office and home treatment can effect a cure of T. vaginalis infections, if limited to the vagina, within four weeks."[1]

Synergistic action. VAGISEC liquid attacks the trichomonad with three surface-acting chemicals.[2] The *chelating agent* tears out the calcium of the calcium proteinate from the cell membrane of the trichomonad. The *wetting agent* lowers surface tension and removes waxes and lipid materials from the cell membrane. The *detergent* denatures the protein. With the cell membrane destroyed, the cytoplasm imbibes water from its surroundings, swells up and explodes.[3] *Synergism accomplishes this within 15 seconds!*

Thorough peneration. VAGISEC jelly and liquid penetrate the cellular debris and mucoid material that line the vaginal wall and reach hidden trichomonads that lie buried among the rugae. They dissolve mucinous material and explode hidden trichomonads as well as trichomonads on the surface of the vaginal wall.[4]

Trichomonads destroyed in 15 seconds. No other agent or combination of agents kills the trichomonad in this specific fashion, or with the speed of VAGISEC liquid.[2] Dr. Davis studied this action under the phase-contrast microscope and actually *saw* individual trichomonads destroyed within 15 seconds of contact with a 1:250 solution.[1]

Clinical tests. VAGISEC liquid has been clinically tested by over 100 leaders in obstetrics and gynecology. Those who have followed the plan of treatment have had better than 80 per cent of cures among non-pregnant patients with one course of treatment.[1]

The Davis technic.† The Davis technic is a combination of office treatment with VAGISEC liquid and prescribed home treatment with both VAGISEC jelly and liquid.[1] Dr. Davis says that office treatment is an essential part of the technic.

Write for: reprint of Dr. Davis' article,[1] file card giving complete details of Davis technic, and pad of patient instruction sheets for home treatment. Address Julius Schmid, Inc., 423 West 55th Street, New York 19, N. Y.

Bibliography

1. Davis, C. H.: J.A.M.A. 157:126 (Jan. 8) 1955. 2. Davis, C. H.: Am. J. Obst. & Gynec. 68:559 (Aug.) 1954. 3. Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955. 4. Davis, C. H.: J.A.M.A. 92:306 (Jan. 26) 1929.

JULIUS SCHMID, INC. *gynecological division*
423 West 55th Street, New York 19, N. Y.

VAGISEC is a trade-mark of Julius Schmid, Inc. †Pat. app. for

Active ingredients: Polyoxyethylene nonyl phenol, Sodium ethylene diamine tetra-acetate, Sodium dioctyl sulfosuccinate. In addition, VAGISEC jelly contains Boric acid, Alcohol 5% by weight.

they've heard the call for

VI-DAYLIN®

MOGENIZED MIXTURE OF VITAMINS A, D, B_1, B_2, B_6, B_{12}, C AND NICOTINAMIDE, ABBOTT)

In *any* season, kids love its golden honey color, citrus aroma and lemon candy flavor. And each delicious teaspoonful of VI-DAYLIN has a full day's supply of eight essential vitamins (including 3 mcg. of body-building B_{12}).

No refrigeration, no pre-mixing is needed with VI-DAYLIN. Mom can serve this lemon candy treat right from the spoon . . . or mix it easily in milk, juices or cereals.

At pharmacies everywhere, VI-DAYLIN is supplied in bottles of 3 fl. oz., 8 fl. oz., and one pint.

Abbott

Each 5-cc. teaspoonful of VI-DAYLIN contains:

Vitamin A	3000 units U.S.P. (0.9 mg.)
Vitamin D	800 units U.S.P. (20 mcg.)
Thiamine HCl	1.5 mg.
Riboflavin	1.2 mg.
Pyridoxine HCl	0.5 mg.
Ascorbic Acid	40 mg.
Vitamin B_{12} Activity	3 mcg.
Nicotinamide	10 mg.

and for infants . . .

VI-DAYLIN **DROPS**

244

210/125

Oral cryptenamine (Unitensen) is a safe, effective anti-hypertensive agent for the routine office treatment of patients with moderately severe arterial hypertension. Side actions are mild and transitory. In some patients, addition of reserpine to the basic Unitensen regimen enhances the hypotensive effect.*

*Cohen, B. M.; Cross, E. B., and Johnson, W.: Amer. Pract. 6: 1030, July,

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160/100

RESULTS with Unitensen therapy in patients with arterial hypertension

Patient	Age	Daily dose Unitensen	B.P. BEFORE	B.P. AFTER	Months of treatment
A.N.	63	8 mg.	190/115	140/90	9
J.R.	55	10 mg.	205/130	170/120	4
V.E.	53	14 mg.	200/135	155/100	7½
W.B.	65	12 mg.	200/120	160/90	9
C.L.	50	8 mg.	200/130	160/100	4
R.A.	48	12 mg.	210/125	160/100	3
J.J.	57	10 mg.	210/120	170/100	7½
A.W.	66	14 mg.	200/110	170/100	3
A.H.	58	12 mg.	210/100	175/110	4½
S.P.	55	12 mg.	230/140	140/90	3

Each tablet contains cryptenamine (as the tannate salt) 2 mg. Bottles of 50, 100, 500, 1000

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TANNATE TABLETS

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MUMPS VACCINE

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Packages: 2 cc. vial (1 immunization),
10 cc. vial (5 immunizations).

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Lederle

KRUSE SPECIALISTS' BAG

NO. 26

Lightweight Specialists' Bags are preferred by Physicians who desire a small bag to carry a few instrument units and accessories on outcalls—when larger bags are not required.

EXTERIOR	INTERIOR
Top Grain Cowhide	Vinyl coated lining
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SIZE: 14″ x 5½ x 7½

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STECLIN-MYCOSTATIN
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WELL TOLERATED BROAD SPECTRUM ANTIBACTERIAL THERAPY PLUS ANTIFUNGAL PROPHYLAXIS

BROAD SPECTRUM ANTIBIOTIC THERAPY, EFFECTIVE IN MANY COMMON INFECTIONS

Because it contains Steclin (Squibb Tetracycline), MYSTECLIN is an effective therapeutic agent for most bacterial infections. When caused by tetracycline-susceptible organisms, the following infections are a few of those which can be expected to respond to MYSTECLIN therapy:

bronchitis
colitis
furunculosis
gonorrhea
lymphadenitis
meningitis
osteomyelitis
otitis media
pneumonia
pyelonephritis
sinusitis
tonsillitis

MYSTECLIN is also indicated in certain viral infections and in amebic dysentery.

BROAD SPECTRUM ANTIBIOTIC THERAPY, WITH A MINIMUM OF SIDE EFFECTS

In clinical use, Steclin has produced an extremely low incidence of the gastrointestinal distress sometimes observed with other broad spectrum antibiotics. Mycostatin (Squibb Nystatin), as contained in MYSTECLIN, is also a particularly well tolerated antibiotic and has produced no allergic reactions, even after prolonged administration.

BROAD SPECTRUM ANTIBIOTIC THERAPY, WITHOUT THE DANGER OF MONILIAL OVERGROWTH

Because it contains Mycostatin, the first safe antifungal antibiotic, MYSTECLIN effectively prevents the overgrowth of Candida albicans (monilia) frequently associated with the administration of ordinary broad spectrum antibiotics. This overgrowth may sometimes cause gastrointestinal distress, anal pruritus, vaginitis, and thrush; on occasion, it may have serious and even fatal consequences.

SQUIBB

Each MYSTECLIN capsule contains 250 mg. Steclin Hydrochloride and 250,000 units Mycostatin.

Minimum adult dose: 1 capsule q.i.d.

Supply: Bottles of 12 and 100.

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Shorter ℞
to recovery
with fastest
tastiest
broad-spectrum
therapy

NEW palatability, **NEW** convenience, **NEW** versatility . . . the same unexcelled efficacy and toleration

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(unique fruit-flavor)

Brand of tetracycline

Supplied in 2 ounce bottles, containing 125 mg. tetracycline per 5 cc. teaspoonful.

TETRABON SF[†]

Brand of tetracycline hydrochloride with vitamins

(fruit-mint flavored)

Sugar free. Supplied in 2 ounce bottles, containing 125 mg. tetracycline per 5 cc. teaspoonful.

These new, remarkably palate-pleasing non-alcoholic homogenized mixtures of Pfizer-discovered tetracycline are now *standardized and ready-mixed* at Pfizer Laboratories for uniformity and reliability.

TETRABON SF supplies with each average daily dose of tetracycline the special vitamin formula recommended for the treatment of stress conditions, thus giving antibiotic therapy and metabolic support with a single prescription.

[*] *Trademark*

[†] *Trademark for Pfizer-originated, vitamin-fortified antibiotics*

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Avoids habit formation, addiction; does not cause drowsiness, nausea, or constipation; yet 10 mg is equal to 15 mg codeine in cough suppressant effect. Tablets, 10 mg; syrup, 10 mg/4 cc.

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ROMILAR EXPECTORANT

Provides 15 mg Romilar, 90 mg of ammonium chloride per teaspoonful, in a pleasing citrus flavored vehicle which effectively masks the taste of NH_4Cl.

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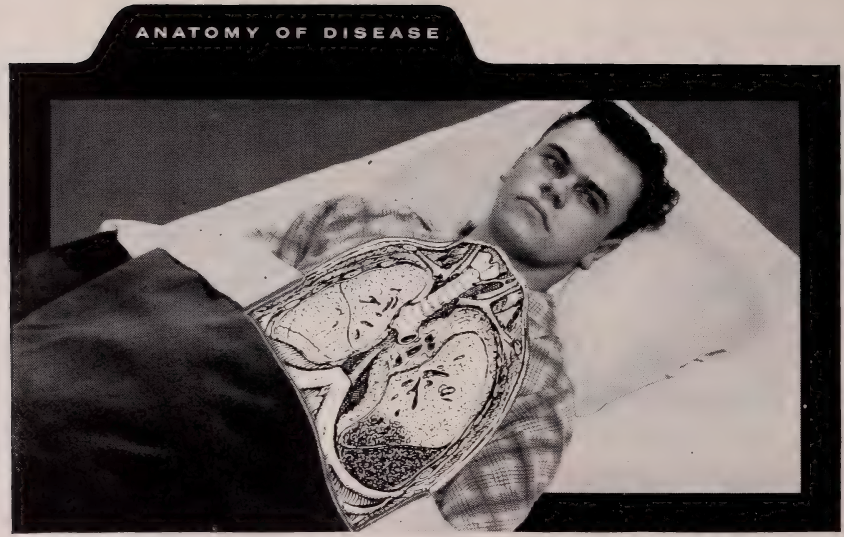

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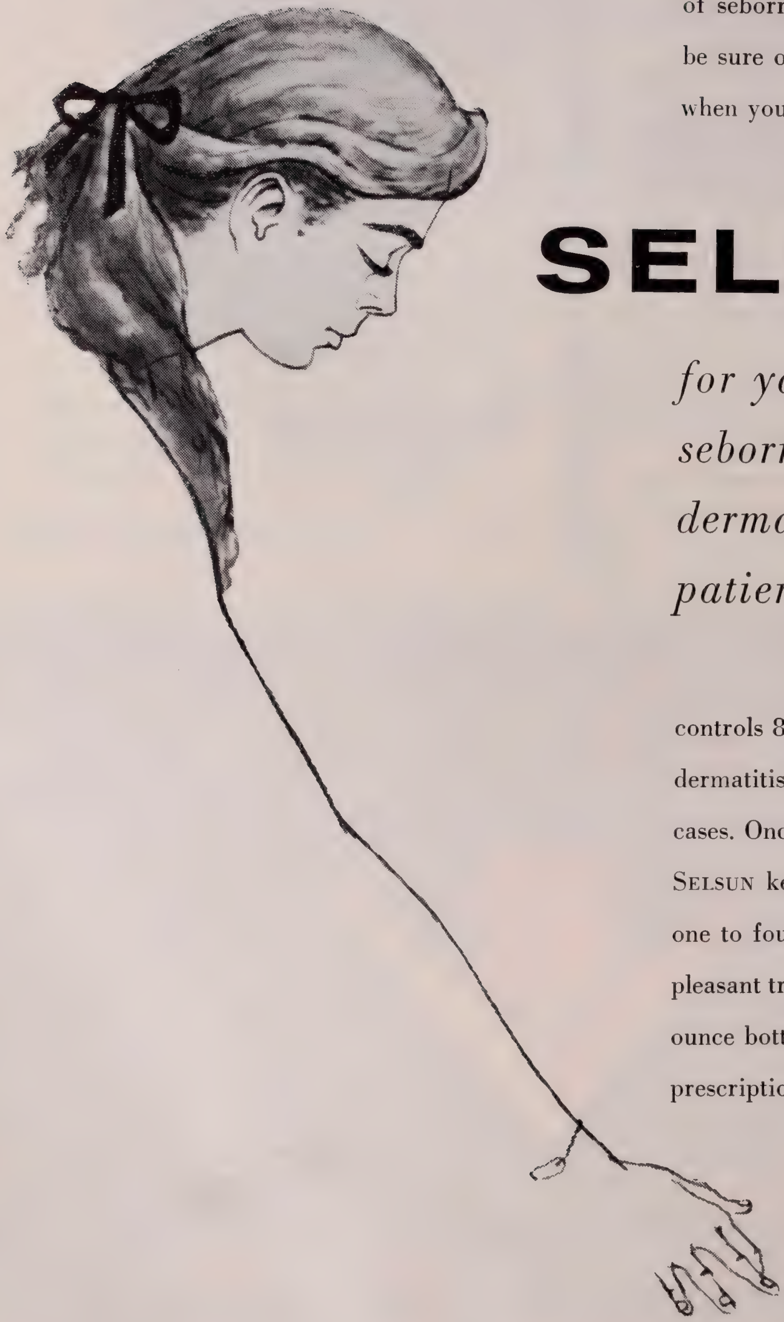

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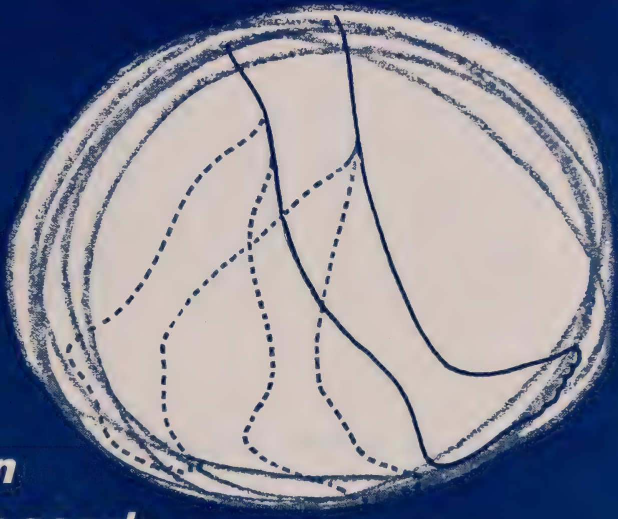

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[1] Forsham, P. H., et al.: Paper presented at First Internat. Conf. on Prednisone and Prednisolone, New York, N. Y., May 31-June 1, 1955.

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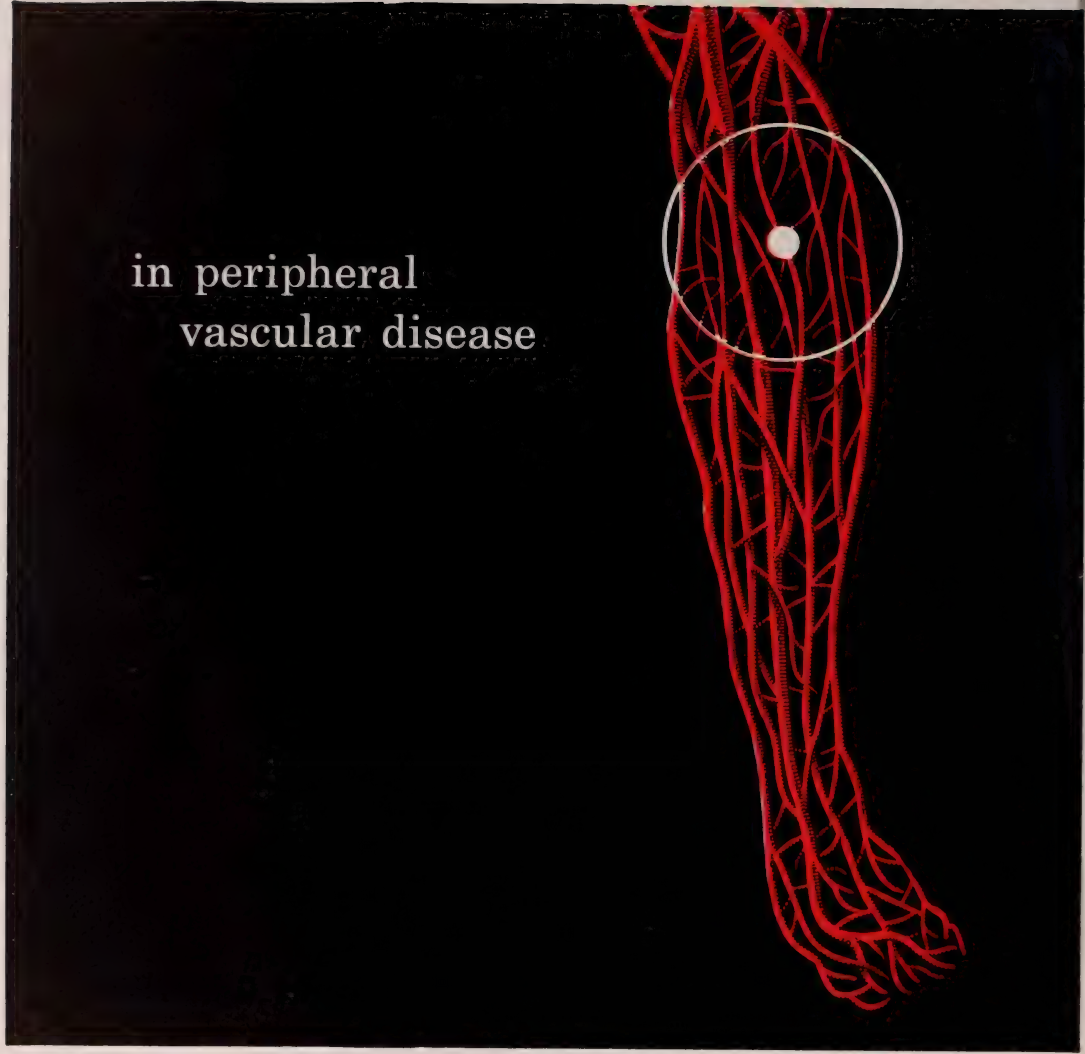

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EDITORIALS

The Physicians' Home

Among the various facilities available to the doctors of this State about which they know relatively little is the Physicians' Home. This organization carries on its work so efficiently and quietly that few among the membership are aware of the widespread good it does. This is especially true of the younger members.

Physicians' Home is a corporation organized in 1919 by 16 founder members as a charitable organization under the Membership Corporation Law of the State of New York for the purpose, among others, of giving financial aid and other assistance to aged and indigent physicians and their wives, widows, and needy minor children, subject only to the provisions of its bylaws and the policies in that regard established by its board of directors.

Although it was originally contemplated at the time of formation that Physicians' Home might maintain its beneficiaries in a physical home, it does not now maintain one. Twice in the past and during its early history, it endeavored to maintain a physical home, but both experiments were abandoned. These experiences convinced the directors that in most cases elderly physicians and dependents did not desire to live segregated and necessarily somewhat regimented lives in such a home but were much happier when maintained in familiar surroundings with relatives and in the communities in which they had lived and practiced. For years now the efforts of Physicians' Home have been directed toward the granting of beneficial aid in the form of financial assistance, given monthly, directly to the beneficiaries.

The income of the corporation is derived from annual contributions received directly from members, per annum voluntary contributions collected from certain members by the county medical societies, annual contributions from woman's auxiliaries, and bequests under wills. Expenditures of the corporation consist primarily of beneficial aid extended to its beneficiaries, known as guests, with a relatively small expense for necessary administrative, legal, and accounting services. Generally speaking, the ordinary income of the corporation from contributions and from interest and dividends derived from its endowment fund is used up each year in extending beneficial aid to guests and in defraying administrative expenses, and its extraordinary income from bequests has been set aside in an effort to build up an endowment fund.

In the light of provisions of the charter and bylaws and the traditions of the corporation, the directors have always maintained the clear conception that its benevolence was intended for, and only for, the benefit of physicians who have spent a considerable portion of their lives in the practice of medicine in the State of New York. To that end and in order that its benevolence should not be applied to purposes beyond its limited resources, the corporation adheres to certain basic policies in the granting of beneficial aid:

That it should be extended only to a physician who is a citizen of the United States of America, who continuously resided in New York State for ten consecutive years, and who had continuous membership in a county medical society of New York State for ten consecutive years, or to the wife, widow, or dependent child of such a physician.

That it should be extended for the purpose of providing shelter, food, maintenance, and necessary living requirements and to provide maintenance in a moderate and reasonable style of living, but not to the extent of maintaining beneficiaries in their former or customary style of living, nor to enable beneficiaries to continue to practice or to enter into new enterprises.

That it should not be extended, except in exceptional circumstances, to individuals in cases requiring institutional treatment or custodial care, in cases of positively diagnosed mental diseases, or in cases in which the result would be a lessening of the responsibility to those individuals of other proper welfare agencies.

Any person may propose a beneficiary or guest for the consideration of Physicians' Home, and recommendations in that regard should be addressed to the Physicians' Home or in care of the State Society's office in New York City. All applications are referred in the first instance to the secretary of the local county society for recommendations and in most cases are investigated through a local social service organization. Thereafter, the application and any recommendations and supporting data are reviewed by the executive committee and by the board of directors and appropriate action taken thereon, depending on the results of the review and investigation.

From meager resources and small income in its early years, the annual income and endowment fund have progressively increased until today, within the limitation of its financial means, Physicians' Home is making a significant social contribution within the profession. This has been due primarily to the continued interest and support of the members of the State Society and to the faithful and loyal service as directors and trustees of many prominent physicians and other professional men. As a result of an expected substantial addition to the endowment fund and assurance of the continued interest and support, the directors and trustees are confident that the benevolence of Physicians' Home will in the years to come be broadened and its aid become available to a progressively larger number of eligible and meritorious members of the profession in their declining years.

Introduction to Virology

In this book[1] of 99 pages, Dr. Gilbert Dalldorf, director of the Division of Laboratories and Research, New York State Department of Health, Albany, New York, has provided a well-written, practical, and informative volume to introduce both clinicians and laboratory workers to this important field. It would be difficult to find anyone better qualified to write on this subject. Dr. Dalldorf is the second physician to occupy the distinguished office of Director of Laboratories in this State, having succeeded Dr. Augustus B. Wadsworth, the first incumbent. Dr. Dalldorf with his associate, Grace M. Sickles, discovered the Coxsackie viruses which have since received so much attention and opened the fascinating new field of enteric viruses.

The ten chapters of the book deal with the nature of viruses and virus diseases, the poxes and the rashes, virus diseases of the liver and of the respiratory tract, encephalitis and meningitis, poliomyelitis viruses and their cousins, virus infections of the skin and brain, and rabies; also the virus laboratory with suggestions regarding facilities, equipment and methods; likewise in some detail with the simple, common technics. A comprehensive index facilitates the location of any subject or author.

Dr. Dalldorf ably describes the virus diseases that are of the greatest significance to American physicians and states the fundamental problems involved in the classification, diagnosis, pathogenesis, and immunology of these in the first section. This is followed by a second section in which are outlined special facilities, instruments, and technics as a guide to the beginner. Rather simple tools suffice for this purpose in the author's view.

The technical section introduces bacteriologists and pathologists to the basic virus procedures, with a proper emphasis on precautions necessary in handling highly infectious agents and in interpretation of results. Dr. Dalldorf writes simply and clearly and has a vast practical and theoretic background. His book should be well received and carefully read. The chapter on the poliomyelitis viruses and their cousins is especially timely. The book should be in the hands of those who contemplate the study of modern virology or plan to initiate investigation in this field.

---

[1] Dalldorf, G.: Introduction to Virology, Springfield, Illinois, Charles C Thomas, 1955.

Evolution of the District Branches

Speaking before the 49th Annual Meeting of the Seventh District Branch in Rochester, September 29, 1955, Dr. James Greenough, president-elect of the Medical Society of the State of New York, discussed the evolution of the district branches and their possible future usefulness as follows:

> The district branches were organized in 1800 to provide educational meetings for groups of county societies. Travel was difficult at that time. The branches were set up according to the pattern of the Judicial Districts which were primarily based on railroad lines. The county societies at that time were very local in scope. It was difficult for them to obtain authoritative speakers from a distance to present scientific talks. There was very little specialization and few, if any, scientific societies to present educational programs. By combining several county societies into district branches, leaders of the profession could be obtained to present outstanding scientific programs.
>
> Today travel is simple. By car, railroad, or plane all physicians may attend several meetings a year and thus refresh themselves on whatever subjects they desire. Every specialty has one or more societies whose function is to keep the specialist up to date. The Academy of General Practice does a colossal job of offering meetings and courses to keep the general practitioner abreast of the times. County societies, helped by the post-

graduate speakers provided by the State Medical Society and the State Department of Health, can develop excellent educational programs at their meetings. Periodicals cover every subject in medicine.

What, then, is the need for district branches?

In the past, doctors were leaders in the community along with the clergy and teachers. Men in these professions had spent long years being educated. They were looked up to by their fellow citizens as better educated and, hence, better able to think out problems and reach worth-while opinions. Then, as now, they devoted their time, often with little remuneration, to the benefit of mankind.

I do not think physicians have changed radically, but the world has. Education is more universal. Dissemination of news is instantaneous. As a result of the mechanical age, groups have formed to protect persons interested and working in the same field. Efforts have been made to show the world the good points of each group. In other words, "Public Relations" has been born.

Doctors have lagged behind in this development. Rightly or wrongly they seem to have felt that they were doing their best, they were doing a good job, and people should realize this without being reminded of it. Well, we may have been wrong. How else can we account for the fact that physicians as a group have been the target of so much criticism when at the same time most patients respect and trust their own doctor? As a whole, doctors do a better job for mankind as each year passes. They certainly have the greatest responsibility for eradication of disease, improvement in health, and the great increase in life expectancy which has occurred. Why then is there such widespread suspicion and criticism of the medical profession?

Personally, I feel that the answer to this question is the lack of interest displayed by the medical profession in the groups which constitute organized medicine. Your county societies, district branches, State and national medical societies are the backbone of what might be called the economic side of medicine. As I said before, the scientific side of medicine is well taken care of, but how about those factors which would put the medical profession back in the esteem which it deserves from the public?

Here in New York almost one fifth of the physicians belong to no county or State society, and almost one-half are not members of the American Medical Association.

And consider those who do pay their dues and *are* members. Look at your own county society. How many men attend meetings faithfully? Of those who attend, how many will work on committees? The district branch meetings averaged 6.5 per cent attendance last year. How many doctors after working in their county society are willing to devote part of their time to the activities of the State Society?

You have all heard your fellow physicians criticize what the county, State, and national societies are doing. Yet these same men make no effort to pitch in and work for their ideas. The situation is a little like politics. We all criticize our elected representatives, and yet many of us don't even vote when we have the opportunity.

I should like to point out some of the things that need to be done to improve the status of the medical profession. These objectives can only be attained by more participation, more general activity, and more cohesion of all the physicians in the State.

First and foremost we must attain more unity of effort. Of course, we cannot all agree on many subjects, but internal strife among doctors cannot help but damage our standing as a profession. If more interest were shown, if all sides of a question were thoroughly studied, if there were more "give and take," we should be able to reach a broad area of majority agreement and, advancing from that point, solve many of the problems besetting us.

More widespread unity and interest by the profession would certainly lead to self-discipline. Whatever abuses may exist could be eliminated. Any abuse reflects on the entire profession. We must correct them ourselves.

And then there are many specific problems that would be helped if more doctors were interested and would devote themselves to solving them. Let me name a few: malpractice insurance, hospital-professional relations and the practice of medicine by hospitals, legislation affecting medicine, the most advantageous use of the funds derived by the State Society from dues, and above all, public relations which really includes all the foregoing.

Each county society manages its own affairs. By electing delegates to the annual meeting of the State Society, it has its share in the management of State affairs. But the House of Delegates meets only once a year. Between meetings the officers, Council, and Trustees conduct the business of the State Society. Liaison between this organization and the county societies is weak. It is this gap which I feel could be well bridged by the district branches.

For two years as chairman of the Committee on Legislation, I held local meetings throughout the State where county legislation members could meet in small groups with the executive officer of the Legislation Bureau and members of the State Society committee. The interchange of ideas in these meetings was invaluable. The county men could learn at first hand what the State Society committee was planning, and in turn, they offered many very constructive suggestions. The whole program was strengthened.

I believe the district branch meetings could be used in this same way to integrate local and State planning on many subjects such as malpractice insurance, public relations, legislation, workmen's compensation, medical expense insurance, and others.

You are not the men and women I would like to reach to urge more interest in your county, district, and State societies. The very fact that you are here shows that you have that interest. But will you go back to your county societies and work to promote interest? Try to get more men to join. Try to get your members to attend meetings. Consider what I have proposed in regard to the district branches. See how your county societies react to the suggestion. In recent years the delegates to the State Society from several districts have met one or more times before and several times during the annual meeting. They have discussed the annual reports and the resolutions introduced in the House. As a result, these delegates have acted much more intelligently in the annual meeting. This is a healthy sign and again leads toward unity. Read the minutes of the Council, and discuss them with your fellow members.

I believe I have indicated steps which will strengthen the medical profession. Won't you help to develop cohesion? With unity we can do better work and can provide better care to our patients. Better care of patients is the only sound basis for good public relations.

Leo F. Simpson, M.D.

LEO F. SIMPSON, M.D.

Dr. Leo F. Simpson, aged seventy-two, died at his home in Rochester, New York, on October 31, 1955. He was graduated from the University of Buffalo School of Medicine in 1905, interned at St. Mary's Hospital, and thereafter established his practice in Rochester.

He was president of the Monroe County Medical Society in 1938 and of the Rochester Academy of Medicine in 1940. He became president of the Medical Society of the State of New York in 1948.

Dr. Simpson was a Diplomate of the American Board of Surgery and a Fellow of the American College of Surgeons and the International College of Surgeons, as well as a member of the American Medical Association. He served at one time as chief of staff at St. Mary's Hospital and was also a consultant at Strong Memorial Hospital, the Monroe County Infirmary, and the Park Avenue Hospital.

He served for many years as an associate editor of the NEW YORK STATE JOURNAL OF MEDICINE. His great energy, his lovable disposition and friendliness endeared him to all who knew and worked with him. He has earned his rest.

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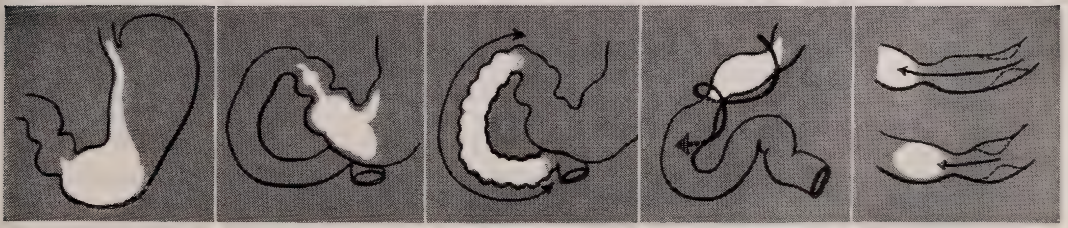

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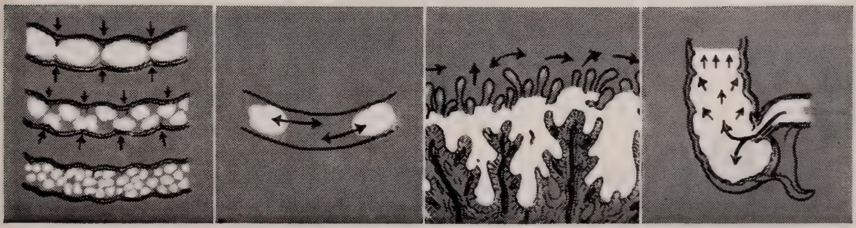

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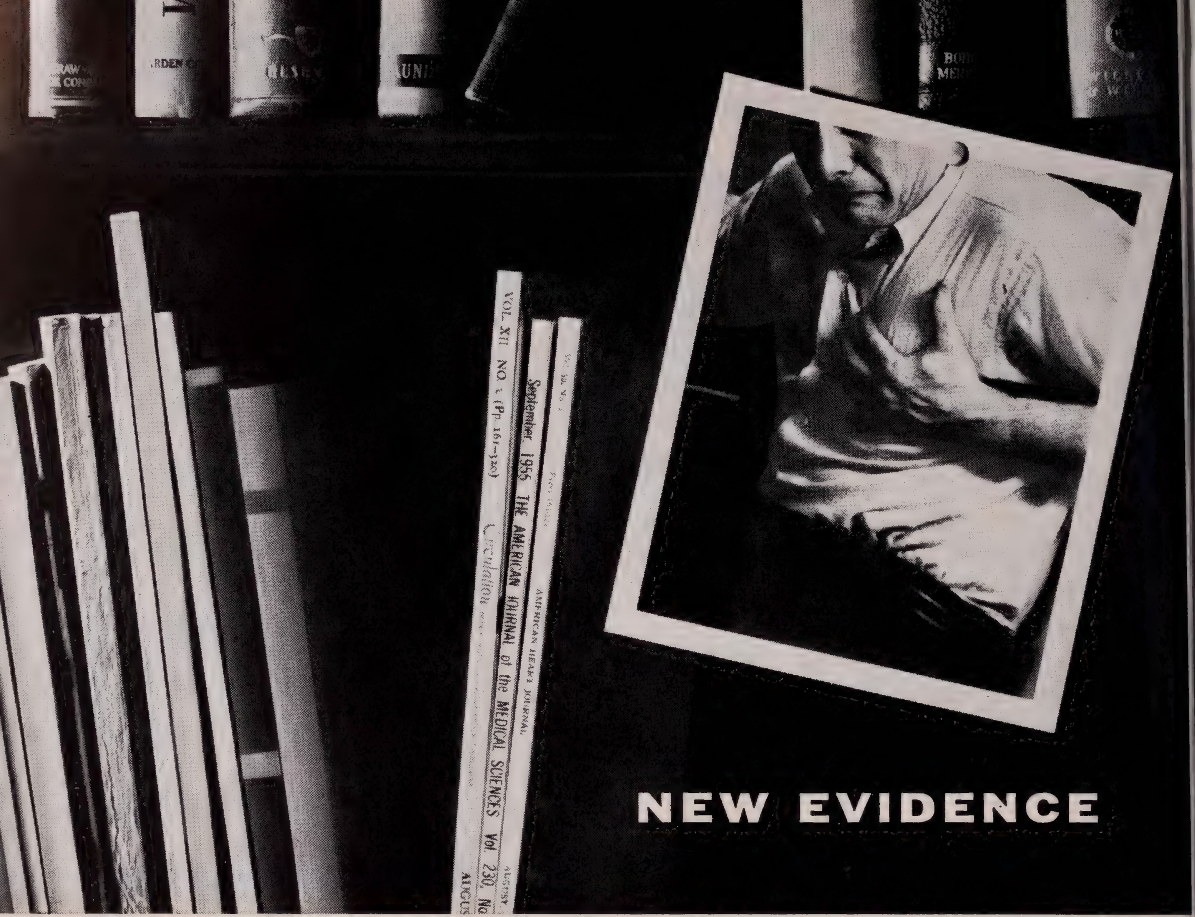
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NEW EVIDENCE

How you can prevent attacks of angina pectoris

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SCIENTIFIC ARTICLES

Bedside Considerations of Pituitary Disease

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THERE is a vivid memory of working not more than twenty-five years ago in an endocrine clinic, the student teaching conference room of which was decorated with the photographs of classic endocrine types of patient and the many congenital and genetic anomalies with which they may be confused. Representing disturbances of the pituitary gland were instances of infantilism, gigantism, acromegaly, Simmonds' cachexia, and, quite mistakenly, Fröhlich's disease. Among the congenital and genetic anomalies were mongolian idiocy, achondroplastic dwarfism, the Laurence-Moon-Biedl syndrome, Vogt-Koyanagi's disease, gargoylism, "nonendocrine" hirsutism, progeria, and "renal rickets." There is still a great tendency to present the clinical facts about the pituitary—or any other gland—today in terms of these same extreme pictures of its dysfunction, and it must be confessed that this pattern will not be entirely abandoned at the present time. We should, however, abandon the thought that all pituitary dysfunction, when recognizable, is so far advanced as to be unresponsive to therapy. Nothing is further from the truth. The classification of pituitary disease which follows is based solely on its usefulness in making an earlier diagnosis and in pointing the way to helpful therapy. In attempting such a classification the proximity of the pituitary to vital neural structures and its physiologic integration with them cannot be ignored; hence, the emphasis is placed on the hypothalamic alterations which may be present with and influence pituitary dysfunction.

Clinical Manifestations in Relation to the Type of Endocrine Disease

1. PITUITARY LESIONS WITH FOCAL SYMPTOMS AND SIGNS.—Of hypophyseal lesions, only tumors are associated with focal symptoms and signs, of which the most common are headaches, impairment of vision, and changes in the size and shape of the sella turcica. The headaches may vary from mild to severe and intractable, are commonly ascribed to tension of the sellar diaphragm, are infrequently due to lateral extension of the tumor into the area of the cavernous sinus, and are rarely caused by internal hydrocephalus through blockage of the foramen of Munro. Vomiting and papilledema may later accompany the headaches, particularly if the tumor is large, or arises from the upper end of the pituitary stalk, or expands rapidly.

The most characteristic and common defect of the visual fields, a bitemporal hemianopsia, which was present in 65 per cent of Cushing's cases of pituitary tumor, is due to pressure on the anterior border of the optic chiasm. This usually starts as an upper temporal quadrantic defect. Homonymous hemianopsia may occur in one of two situations: (1) with a prefixed chiasm, in which instance the tumor grows upward asymmetrically behind the chiasm, and (2) a lateral extension of the tumor into the middle cranial fossa where it impinges on the optic radiations. In any visual disturbance it is rare to find both eyes equally affected.

Intrasellar tumors, eosinophilic and chromophobic adenomas and craniopharyngiomas arising from Rathke's "pouch," usually show "ballooning" of the sella with erosion of the floor, dorsum

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sellae, and clinoid processes or one or more of these defects. In such instances, as the growth enlarges, the clinoids are usually forced upward, as well as forward or backward, as the case may be. Ballooning of the sella with erosion is an almost pathognomonic sign of an hypophyseal tumor. This sign is virtually always present in cases of craniopharyngioma, is commonly seen in both acidophilic and chromophobic adenomas, and is almost never observed in connection with tumors of the basophilic cells. Quite rarely metastatic tumors and aneurysms may give rise to similar changes. If the tumor is suprasellar, as is commonly true of craniopharyngiomas, the clinoids may be forced downward. Moreover, if the tumor is solid, their upper surfaces and that of the dorsum sellae may be eroded. As a rule the craniopharyngiomas are soft and cystic and, therefore, do not have the erosive qualities of the eosinophilic and chromophobic adenomas. Characteristic of the craniopharyngiomas is calcification, usually visible above the sella but sometimes within, and varying in amount from a few faint specks to an area several centimeters in diameter.

Among the other localizing manifestations of pituitary tumor must be included the cavernous sinus syndrome, internal hydrocephalus, and evidences of hypothalamic dysfunction secondary to pressure on that structure. Hypothalamic disturbances will be considered later separately. In its classic form the cavernous sinus syndrome "consists of ptosis, convergent strabismus and dilatation of the pupil from pressure on the oculomotor nerve, intense tic douloureux from pressure especially on the ophthalmic division of the trigeminal nerve, congestion of the eyelids, and swelling of the veins of the face from obstruction to the return of venous blood in the sinus."[1]

Focal symptoms and signs without endocrine manifestations: At least a third of the chromophobic adenomas are completely devoid of any evidences of a disturbance in endocrine function. In the remainder, suppression of such functions is associated with the displacement and final atrophy of many of the functionally active endocrine types of cell.

Focal symptoms and signs associated with disturbances in endocrine function: Any intrasellar tumor occupying sufficient space will eventually suppress the normal hormonal functions of the pituitary to a greater or lesser extent. Since basophilic adenomas are rarely much more than microscopic in size, they usually cause no disturbance of pituitary function as a *result of pressure.* Craniopharyngiomas, whether originally arising above or within the sella, almost invariably result in "crowding" of the pituitary with a secondary diminution of secretory activity. In view of the fact that the great majority of these tumors interfere with pituitary function before the end of the second decade of life, retardation of growth and sexual development and differentiation are almost invariably present. In patients with chromophobic adenomas gonadal function is disturbed in about three-fourths, adrenal function in somewhat more than one-third, and thyroid activity in approximately 20 per cent.

Suppression of pituitary function may similarly be seen as a result of large eosinophilic adenomas which are no longer actively secreting. By contrast the functionally active tumor of this type is associated with acromegaly in the adult and gigantism in the growing child.

It should be re-emphasized that suppression of pituitary function can be produced by *any* space-occupying lesion in the sella or in the region just above it. Hence, in this group of cases we must include not only metastatic tumors and aneurysms which appear within the sella but also a number of extrapituitary lesions, such as meningiomas, vascular swellings, infections, metastatic neoplasms, and tumors of the third ventricle, thalamus, and hypothalamus.

2. Pituitary Lesions With Endocrine Manifestations and No Focal Signs.—Lesions of the pituitary giving rise to endocrine disturbances may be divided into those associated with (*a*) increased secretory activity, (*b*) decreased secretory activity, and (*c*) mixed activity with one or more hormones increased and others decreased.

Lesions associated with an increase in secretion: Hyperfunction of the eosinophilic cells of the anterior pituitary may give rise to *gigantism* or *acromegaly,* in rare instances without the formation of tumor. Very mild disturbances of this type can be recognized in everyday bedside practice if the physician carefully compares the growth, stature, and configuration of his patient with that of parents, siblings, and other close relatives. Growth changes not shared by close relatives may be of value in carrying on the treatment of a patient with overt diabetes mellitus, in correcting secondary gonadal disorders, and in preventing the subsequent appearance of more advanced aberrations in somatic development.

The "transient" acromegaly of pregnancy usually occurs without any signs of tumor formation but always leaves in its wake mild but unmistakable alterations in acral and soft tissues.

Pituitary basophilism with or without tumor rarely causes any focal symptoms or signs but produces the characteristic features of Cushing's syndrome. This is a very rare condition, if it exists at all. In most instances changes are concomitantly present in the adrenal cortex, and a majority of observers are of the opinion that the changes in the adrenal are always or nearly always primary and the alterations in pituitary secondary in nature.

"Mixed" syndromes are not infrequently observed with or without evidence of local symptoms and signs. For instance increased growth of acral parts, diabetes mellitus, and enhanced metabolism may indicate the presence of hyperfunction of the eosinophil cells, while the adenoma producing them may suppress the function of the basophilic elements of the pituitary and thereby give rise to a decrease in gonadal and adrenal activity. Similarly, the overactivity of the basophilic elements seen in Cushing's syndrome may suppress long bone growth and/or gonadal function.

Lesions associated with a decrease in secretion: Following longer or shorter periods of activity (sometimes intense), hyperfunction of the eosinophil cells with its dramatic influence on growth and general somatic development may be followed by a return to normal or a decrease in the function of these cells. While this will not be accompanied by any regression in the gigantism or acromegaly already produced, there will be a reversal of all of the heightened metabolic processes previously observed so that the basal metabolic rate may be decreased rather than increased, the glucose tolerance heightened rather than lowered, protein anabolism diminished rather than furthered, etc.

Similarly, the heightened function of the adrenal cortex seen in Cushing's syndrome may be lost in the late or inactive stages of that disease despite the retention of the characteristic body habitus, skeletal injuries, scarred skin, and altered secondary sex features.

Panhypopituitarism, a term meaning absence or underfunction of all the hormones of the anterior lobe of the pituitary, embraces not only Simmonds' "cachexia," Sheehan's postpartum necrosis and pituitary infantilism, but also lesser degrees of damage to the pituitary associated with a general decrease in its functional capacity. Greatest difficulty is found in distinguishing this syndrome, first so named by Albright, from anorexia nervosa and Addison's disease. For the former, therapeutic trials may be necessary and, for the latter, functional tests.

In some instances one hormone or group of hormones suffer more than the others so that specific pituitary syndromes with secondary effects predominantly in the function of a single target organ may be identified. Here must be mentioned pituitary myxedema, which clinically may be distinguished by lack of the characteristic bodily habitus of spontaneous primary myxedema and by demonstrable changes in adrenal function, poorly preserved gonadal activity, and altered responsiveness to the use of thyroid hormone, which must be used most cautiously. Here, too, may be placed at least two postpartum syndromes in which the pituitary does not recover fully from the normal gestational suppression: persistent lactation with or without ovarian and uterine atrophy (Chiari-Frommel syndrome) and postpartum asthenia. Probably postinfectious asthenia is analogous to the last-mentioned condition, although on present evidence this may equally well be, at least initially, a disturbance of the adrenal cortex.

3. PITUITARY LESIONS WITH HYPOTHALAMIC MANIFESTATIONS.—With the exception of basophilic adenomas involvement of the hypothalamus is not uncommon in all other types of pituitary tumors and is generally present in the nonpituitary extrasellar types of lesions already mentioned. The latter group of lesions may give rise to functional endocrine disturbances without any proved organic changes in the pituitary and can increase disturbances already present in relation to primary pituitary diseases. Fröhlich's syndrome is now believed to be primarily a disease of the hypothalamus. The alterations in water, fat, and electrolyte metabolism and the gonadal changes can be accounted for by the changes in the hypothalamic nerve centers. Any change in the pituitary or other glands is secondary. What used to be called "girdle" or

"pituitary" obesity must be now recognized as hypothalamic in origin. It seems not unlikely that some of the lipodystrophies, associated with small upper body and heavy legs, thighs, and hips and periods of water retention, may be hypothalamic-gonadal syndromes with or without secondary functional pituitary disturbances. The participation of the hypothalamus in premenstrual tension with water retention seems now to be an established fact, in which the pituitary plays a secondary rather than a primary role, as once thought. What is now known of these syndromes, in any event, seems to point clearly to the fact that we must in the selection of therapy think not merely of pituitary or endocrine factors but of hypothalamic *and* pituitary, that is, neuroendocrine, mechanisms.

Clinical Tests Applicable in the Diagnosis of Pituitary Disease

Inasmuch as the influence of the activities of the pituitary, aside from long bone growth, are expressed through the regulation of the functions of other endocrine glands, tests designed to appraise the status of the pituitary are all of those which evaluate the function of these secondarily involved structures. It is rare to find a disturbance in the function of the pituitary in which only one of these target organs suffers. Therefore, the multiplicity of tests with positive or abnormal results will more frequently point to a disturbance of the pituitary than to any other gland. However, in making this statement, it must not be forgotten that the entire endocrine system is so well coordinated and integrated that one cannot interfere with any one of these structures without in some way altering the activity of others. When the primary fault is in the pituitary, two or more of the subsidiary glands may be about equally involved. It is helpful to realize that this is less liable to be true when one of the other glands, such as the gonad or the adrenal, is the seat of the initial disorder.

Screening procedures for pituitary involvement are designed to confirm the presence or absence of focal manifestations, the status of pituitary hormone excretion and growth hormone activity, and the function of secondary glandular structures. Many of the tests are influenced by the activity of more than one gland so that considerable overlapping of usefulness does occur. Most of the tests mentioned are familiar to all of us. It will be our present purpose merely to point out some of the diagnostic points which may be settled and the field of usefulness and the limitations of each of several procedures.

Urinary gonadotropins undoubtedly have their origin in the pituitary gland and should, therefore, be a good index of at least one group of its functions. Nevertheless, it must be kept in mind that the urinary levels for such material are unquestionably influenced by the nature and intensity of gonadal function and possibly by factors in other glands as well. Tests for other pituitary hormones are not practicable on a clinical basis at the present time, e.g., somatropin, thyrotropin, and adrenotropin. X-rays of the long bones afford some information regarding the status of growth hormone production. The length, width, and thickness of the bony cortex and epiphyseal appearances and closures are all influenced by this hormone in the growing subject, and changes in acral parts are readily demonstrated in the acromegalic. In the growing child, however, more than one hormone influences the test. Gonadal hormones directly and indirectly through changes in gonadotropic hormones of the pituitary may materially alter the results. Thus is emphasized the necessity for other tests by which the influence of each secondary gland can be further assessed in the individual patient.

Thyroid function can be appraised by the use of serum protein-bound iodine levels and cholesterol values, the basal metabolic rate, and radioactive iodine uptake. Each of these values moves in the same direction in the presence of *active* primary disease of the pituitary, as it does in the corresponding functional state associated with a primary disorder in the thyroid. Where activity has ceased, as for instance in "burned-out" eosinophilic adenomas of the pituitary, the values may be normal or reversed as compared with the values which were found when the disease was active. For a long time it has been recognized that gonadal activity influences thyroidal function, and more recently, a similar connection has been demonstrated between the thyroid and the adrenal cortex. These relationships are, at least in part, mediated through the pituitary so that the interpretation of any test must be made in the light of what these other glands are doing.

Gonadal function in the female can be assessed quite easily by serial vaginal smears, rather accurately by timed endometrial biopsies, and to some extent by the urinary levels for estrogen, pregnanediol, and gonadotropins. Interfering substances limit the usefulness of the determination of urinary estrogens. Until the recent work of Merriam and his associates, as reported by Klopper, Michie, and Brown,[2] there was too great a factor of error to warrant carrying out tedious procedures for the determination of pregnanediol. Gonadotropins are only partly influenced by the status of gonadal activity. Hence, with the exception of vaginal smears the procedures just mentioned have limited application in everyday practice.

The status of tests for male gonadal function is little better. The urinary 17-ketosteroids are of some help, but the testis contributes only part of this value. Testicular biopsy is impractical except in extreme cases. Examinations of seminal fluid are often informative and should be employed. However, longstanding pituitary insufficiency will result in as marked a loss of function as primary testicular damage.

The most useful single test for adrenal insufficiency is the Kepler-Robinson-Power water test. However, this will give a positive result not only in primary adrenal disease but also in pituitary insufficiency and anorexia nervosa. The Soffer salt tolerance test is the most helpful functional test for Cushing's syndrome, but a positive result will not aid in distinguishing a primary adrenal overactivity from a basophilic adenoma of the pituitary. Urinary 17-ketosteroids and 17-ketogenic steroids and insulin sensitivity and glucose tolerance tests will further aid in detecting overactivity or underactivity of the adrenal cortex but will respond in similar fashion to the corresponding states within the pituitary, so they cannot be relied on to differentiate pituitary from adrenal disease. Perhaps Thorn's ACTH eosinophil response test is best adapted to distinguish primary adrenal insufficiency from that of pituitary. To do this the "long" test is necessary. In this test several preliminary priming doses of ACTH are used. If the primary fault or hypofunction is in the pituitary, these priming doses will reactivate adrenocortical function, following which a test dose of ACTH will depress the circulating level of eosinophils. In case the adrenal is primarily damaged, no significant depression of eosinophils will occur. In anorexia nervosa responses to this test should also be normal.

It is clear that the above tests will readily detect alterations in the function of the glands of internal secretion. Moreover, by their use dysfunction of the pituitary can be differentiated from conditions primary in other glands. However, these tests do not distinguish pituitary insufficiency or panhypopituitarism from anorexia nervosa. To do this requires the test of therapy. Panhypopituitarism will respond dramatically to appropriate glandular therapy. Anorexia nervosa will not.

Most hyperfunctioning states of the pituitary can be distinguished from those of other endocrine glands by the same screening procedures mentioned above. However, this is not true of pituitary basophilism. Even localizing tests fail us here unless unequivocal evidence of a tumor in the region of the adrenal can be obtained or, *very rarely*, an intrasellar mass demonstrated.

If all efforts at localization fail, it is best to consider the adrenal as the site of the primary lesion for, by operation of the law of chance alone, one will thus be right approximately 99 out of 100 times.

Therapy of Pituitary Diseases

Three major difficulties confront the clinician in his efforts to treat successfully lesions of the pituitary gland. In the first place the association between the pituitary and the brain centers immediately above is so close that virtually every condition within the sella turcica has, or sooner or later will develop, a neural aspect, for which all too often little therapy is known. In the second place only two preparations of pituitary hormones are commercially available, ACTH and a gonadotropin mixture actually derived from pregnant mare's serum. These are expensive, must be given parenterally at frequent intervals, and often induce reactions of sensitivity. In the third place pinpointing the specific defect in the pituitary is never easy and sometimes impossible. This is because of the multiple functions of the organ, the presence of several—at least six—hormones, and the expression of pituitary disease chiefly in terms of the target glands which are regulated by its secretions.

Therapeutic agents available for the management of pituitary disorders include hormones of the pituitary, hormones of the target organs, drugs influencing hypothalamic function, roentgen ray irradiation, and surgery. The place of each in the therapeutic regimen is perhaps best delineated by dividing diseases of the pituitary into two separate categories: (1) when a tumor is present and (2) when a tumor is absent.

1. TREATMENT OF PITUITARY TUMORS.—Therapy of the tumors of the pituitary must envisage a full appraisal of the metabolic, local, and systemic factors present. The aims of treatment are the protection or restoration of vision and the prevention of further progression of the endocrine manifestations. Obviously the ideal way to deal with any tumor is to remove it. However, in the case of tumors of the pituitary, rarely can the whole mass be ablated, and operative risk is such that less radical measures have found considerable favor.

Hormonal therapy: In general, hormonal agents are used in the treatment of pituitary tumors to replace the suppressive effect of the neoplasm on normal function. This phase of their action will be detailed later in relation to panhypopituitarism.

In the case of eosinophilic adenomas, testosterone has been employed successfully in a number of instances for its supressive effect on growth of the tumor and its beneficial influence on the metabolic disturbances. Treatment must be intensive and is the same for either sex. This therapy should be tried in all patients in whom vision is not at all or only slightly affected and in whom changes in the visual fields are progressing only slowly or not at all. Parenteral administration of the hormone is best, and either a short or long-acting material may be used. We have had most experience with testosterone propionate in sesame oil. The daily administration of 100 to 200 mg. intramuscularly for the first week and of 50 to 100 mg. daily for from three to five weeks longer usually constitute a course of treatment. If a long-acting material is used, such as testosterone cyclo-pentyl propionate, then 200 mg. should be given twice weekly for about four to six weeks. Sometimes permanent relief follows a single course of treatment, or this may have to be repeated, rarely, however, at more often than yearly intervals. Prompt regression of local and metabolic signs have been observed in connection with testosterone therapy. Visual fields have been improved, and headaches have disappeared. The weakness, bulimia, hyperglycemia, glycosuria, and sexual aberrations have been partially or wholly normalized and these individuals enabled to return to their previous vocations without handicap.

Roentgen irradiation: It seems advisable to try irradiation if vision is not materially impaired. Probably the best results are to be expected in eosinophilic tumors with acromegaly because they usually run a benign course and are the most sensitive to x-radiation. More than half of them respond to such treatment. Good results are obtained in less than half of the chromophobe adenomas, and the craniopharyngiomas are more or less completely resistant to x-ray, especially when cystic in type.

Unfortunately the results of radiation are poorest when optic atrophy has occurred and the tumors are large: surgical procedures face the same handicap.

The response to radiotherapy is usually prompt so that if satisfactory doses are used, the *trend* of the result is commonly well established within four weeks. If no improvement has occurred within several weeks, then surgical removal must be contemplated.

Radiation sickness is usually present in connection with the use of the roentgen ray to the pituitary area in dosages sufficient to be effective. An increase in the signs of pituitary insufficiency should be watched for since severe secondary adrenal insufficiency may require prompt treatment. A temporary increase in visual impairment may occur during therapy as a result of radiation edema. If this happens, dosage and dosage intervals should be adjusted downward.

Surgery: The smaller the tumor and therefore the earlier it is removed, the less the surgical risk. However, there is general agreement that all other measures should be tried before surgical intervention is attempted since operative hazards are a considerable deterrent to this form of therapy. All tumors that encroach on vision and do not promptly respond to irradiation should be approached surgically. The possible exception to this rule is the large chromophobe adenoma of long standing in which central scotomas exist. The presence of central scotomas indicate that the chiasm is prefixed, which interferes very materially with the exposure and removal of tumor tissue. Craniopharyngiomas must always be dealt with surgically, if at all. In such cases it is rare that the surgeon is able to remove all tumor tissue so that irradiation should follow as soon as recovery from the surgical procedure is assured. In the cystic craniopharyngiomas, repeated taps of the cyst may be necessary.

2. Treatment of Panhypopituitarism.—In the treatment of panhypopituitarism it is generally necessary to substitute for the hormones of the target glands which are diminished or absent due to the loss of pituitary hormone stimulation. The most critical loss is that of the adrenal steroids, which must always be replaced to some extent in any instance of pituitary failure. Gonadal and thyroid replacement are also usually in order, but the amount of each of these hormones administered should be governed by the degree of impairment found in the functional tests above described. Cortisone or hydrocortisone, orally administered in daily divided doses of 25 to 50 mg. for the former and 10 to 30 mg. for the latter, is usually sufficient to cover the adrenal cortex deficit. Sometimes a small intraoral dose of desoxycortisone acetate is also advisable, particularly when hypotension is a persistent manifestation. Testosterone makes the best gonadal therapy in both the male and the female. The daily intraoral doses do not have to be large—from 5 to 10 mg. in the female and from 10 to 30 mg. in the male. Desiccated thyroid substance in daily doses of from 0.5 to 3 grains or synthetic levothyroxin in 0.5 to 3.0 mg. may be required, but it is best to delay the administration of both the gonadal and thyroid hormones for several days until the adrenal substitution has had an opportunity to improve the body's handling of carbohydrate and protein.

3. Treatment of Hypothalamic Disturbances with Pituitary Manifestations.—Certain obesities and water retention syndromes appear to be hypothalamic in origin. When the obesity is of the familial lipodystrophic type, reduction in weight is difficult through dietary restriction alone. Moreover, most of the weight disappears from those areas which are already thinnest, the upper parts of the body, face, and neck. In such individuals diets which were previously intolerable become readily acceptable when moderate doses of cortisone are added to the regime (20 to 50 mg. daily in divided doses). Furthermore, weight is lost from those parts which are heaviest. If diet is faithfully followed in conjunction with the cortisone therapy, no untoward manifestations will appear, and in the doses recommended added potassium is not required.

In the water retention syndromes the problem of therapy is a rather difficult one. If the retention of water is not related to the menstrual cycle, there is little to be gained from the use of ovarian hormones. As a matter of fact, these may make the condition worse. Diet is important, but too great a restriction of either carbohydrate or protein seems to defeat its own purpose. As a rule less than 1,200 calories is inadvisable, but fat should be held to a practicable minimum in this connection, i.e., to about 40 Gm. daily. Diuretics aimed at interfering with tubular resorption, i.e., the mercurial preparations, are in our opinion contraindicated in these conditions despite the dramatic response and the concomitant psychologic influence upon the patient. A pituitary—not chorionic—gonadotropin will influence the release of water. A gonadotropin made from pregnant mares' serum (Upjohn's Gonadogen or Cutter's Gonadin), given three times weekly for the first two weeks of each menstrual cycle or each month in the nonmenstruating person, in individual doses of 400 international units, will usually be effective.

If the water retention syndrome is seen in conjunction with premenstrual tension, then estrogen and progesterone should be tried. As a rule moderate doses of estrogen and large doses of progesterone will be needed. Timing in the cycle may have to be individualized. In addition, a diuretic of the theophylline series is useful. The most effective one of the theophylline preparations appears to be 2-amino-2-methyl-1-propanol-8-bromotheophyllinate (Pamabrom). When an antihistamine drug is added, the action seems to be enhanced. We have actually employed a mixture of Pamabrom and pyrilamine maleate (NeoBromth, Brayten). Two tablets of this mixture twice daily for from four to seven days before the menstrual flow is expected will usually be effective in preventing the retention of water and in eliminating many of the undesirable features of the premenstrual tension syndrome.

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The Craig Vertebral Body Biopsy

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THE approach to the vertebral bodies has been known for many years. However, lack of proper instruments and training have prevented this procedure from assuming its proper place in the orthopedic surgeon's diagnostic armamentarium.

In 1928 Dr. Herman von Lackum curetted a giant cell tumor of the fourth lumbar vertebra and packed the cavity with bone chips. This case was reported by Duncan and Ferguson in 1936,[1] and it was stated that since previous similar attempts had resulted in collapse of the segment and at times shearing of the cord, a spine fusion was done. In 1932 Compere[2] described an approach for excision of hemivertebra in the thoracic region for scoliosis. In 1932 Ball[3] and in 1935 Robertson and Ball[4] described needle biopsy and listed a number of cases in which definite diagnosis had been made. They stated that it was difficult to obtain soft tissue and disk material. In 1948 Valls, Ottolenghi, and Schjowicz[5] reviewed the literature and introduced a needle guide and the approaches to the cervical, thoracic, and lumbar vertebrae. They stated that the vertebrae could not be approached surgically. In 1949 Michele and Kruger[6] published the surgical approaches and introduced an excellent trephine for securing diagnostic material. Since that time, there have been other contributions on needle and trephine biopsies by Sieffert and Arkin,[7] Ray,[8] and Frankel.[9]

Our biopsies were started in 1948 and at first were open operations. Because of the morbidity of this method and one death from collapse of the segment in a case of osteomyelitis, it was discarded.

New instruments for trephine biopsy were developed which answered requirements of adequate material with a central section free of surface artefacts, ability to obtain cartilaginous and soft tissue, low morbidity, and safety for the nerve roots (Fig. 1).* Because it was often found necessary to re-enter a vertebra several times, the cutters were introduced through a cannula which was held firmly in contact with the vertebral body. For aspiration or infiltration, the cutters and cannula were adapted for a plain-tipped syringe. The cannula is introduced over a trocar with blunted point, which, it is expected, will push nerves and vessels aside. A blunt stylet is provided to palpate tissue in front of the cutter and to expel the section obtained into Bouin's solution. Since cortical bone plugs the cutter, it is necessary to cut through, expel, and re-enter to obtain soft tissue. Because soft tissue is easily cut but withdrawn with difficulty, a sharp worm is provided to secure this type of material in the cutters. A removable wrench is provided for the cutters to add force in going into sclerotic vertebrae. Usually finger pressure on a knurled ring is adequate.

We prefer a freehand approach in the belief that a needle guide technic lacks flexibility for approach to thoracic and upper and lower lumbar vertebrae. In the lumbar spine a wheal is raised four fingers (8.5 cm.) from a spinous process and a 22-gauge needle advanced at approximately 45 degrees to the skin surface, infiltrating 1 per cent Novocain until bone is contacted when 2 per cent Novocain is injected. Bone reached at one-third the needle length is transverse process, at one-half the length vertebral body. Anteroposterior and lateral films are taken for orientation in passing the trocar. While the needle-lesion relationship is being observed, the trocar is introduced along the same or a new pathway, infiltrating as necessary with a lumbar puncture needle. Anteroposterior and lateral films are taken and the trocar position accepted or corrected. The point should lie on the posterolateral aspect of the body anterior to the neural canal. It is usual that radicular pain or reflex contraction is obtained $^1/_4$ inch from the correct bone contact. The cannula is passed with a rotary motion over the trocar until in good contact with bone where it is held firmly, while the trocar is withdrawn, the cutter inserted, and sections taken. The stylet is used

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* Manufactured by V. Mueller & Company, Chicago, Illinois.

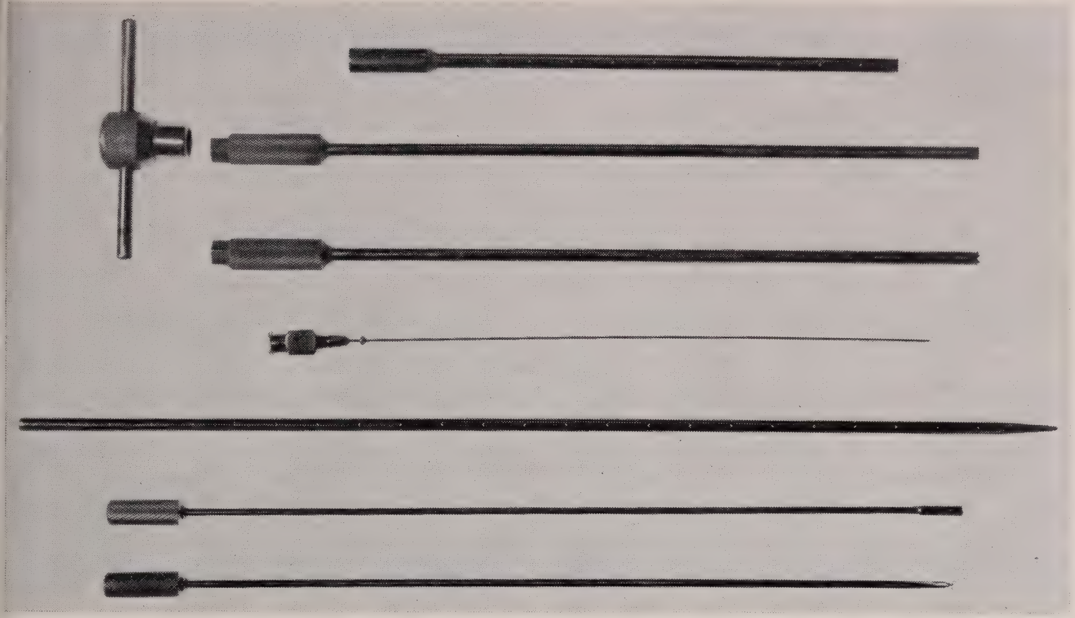

FIG. 1. Craig vertebral body biopsy instruments: *top to bottom* cannula, sharp smooth cutter with wrench, toothed cutter, infiltration needle, trocar, stylet, and sharp worm.

to determine the length of section and its retention as the cutter is withdrawn. Sections which do not impact in the cutter may be aspirated or withdrawn by the sharp worm.

In the thoracic spine the entrance is made from just medial to the angle of the rib to avoid entering the pleural space. The needle and trocar are directed slightly cephalad. The costotransverse process articulation may obstruct, in which case the point of the instrument may be slightly depressed before advancing to the body. Cutting may be done only if bony resistance is felt.

We have failed to secure tissue in three instances. In the first, with a thick-walled tuberculous abscess, every attempt produced intense radicular pain, and biopsy was abandoned. In the other two the destruction was so great that bony resistance was never met, and no tissue could be obtained. At open biopsy one was found to be highly cellular metastatic disease, and the tissue could not be held with thumb forceps for cutting.

We have had two known and two more probable false negatives with adequate material showing only "necrosis of bone and healing fracture." This could be avoided by better selection of the point of entrance, multiple punctures, or expelling the first plug obtained and re-entrance with the cutter for a second deeper section. In our series we have had one injured nerve root.

Biopsy of the vertebral bodies is assuming greater importance because of the excellent work of Haagensen[10] who is investigating the most frequent sites for metastases and determining the presence of such spread in the absence of roentgenographic changes before subjecting a patient to radical breast surgery.

Conclusions

1. Vertebral body biopsy is a valuable procedure of low morbidity for the diagnosis of disease of the vertebral column.

2. A kit of instruments is introduced which offers a higher percentage of successful biopsies due to a blunted trochar which avoids injury to the nerve roots, a cannula which permits reentrance to the area, cutters adapted to aspiration and limited in penetration to 1 inch beyond the cannula, a sharp worm to extract soft tissue, and a wrench for sclerotic bone.

3. A technic is described which is versatile, easy in the lumbar region, and applicable to the thoracic area with caution. Disk or vertebral body may be obtained.

4. The technic may fail in the diagnosis of highly cellular lesions and in the presence of healing compression fractures due to metastatic disease.

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Discussion

Glenn H. Leak, M.D., *Buffalo.*—Dr. Craig has certainly presented us with an ingenious device for the early diagnosis of lesions of the vertebral bodies. The subject of aspiration biopsy has been debated for many years. Many of us use it routinely, while others consider it injurious. One of the common criticisms is that in the presence of malignant disease, one might seed the needle tract. This aspect of the problem, however, has been shown many times to be relatively unimportant, and certainly malignant cells are brought through a surgical tract as easily as those through a needle tract. When the diagnosis has been established, the tract is treated either by surgical excision or radiation therapy depending on the type of lesion.

Aspiration biopsy by many is commonly used for soft tissue structures but has not been routinely employed for biopsy of the vertebral bodies. This method, however, adds one more tool to our armamentarium for the diagnosis of cancer.

That the method is becoming more popular was shown by Dr. Haagensen from Dr. Craig's institution last week at the American Radium Society when he suggested that in certain indicated cases a routine lumbar vertebra biopsy should be done in breast cancer. The finding of metastatic disease, not radiologically visible, of course, would be a contraindication, in his opinion, to surgery for the primary lesion. If the methods and technic are successful, it certainly adds to our ability to diagnose distant disease and thereby prevent local radical surgery.

Aspiration biopsy of the vertebral column is certainly indicated in the cancer field when a lesion can be seen and no source of the primary lesion can be determined. Much valuable information can be gained from the plug of tissue obtained through the aspirating needle. The aspiration of lumbar vertebrae is of extreme importance when the operator realizes the limitations, especially the possibility that one may not be able to get an adequate section. In our experience dense osteoblastic prostatic metastases have been difficult to aspirate, but I am sure that this will become easier with the instrument which Dr. Craig has presented.

Our own experience is limited to a small series of cases, the majority of which have been successful in establishing a diagnosis. Personally, I have had no experience with the aspiration of inflammatory lesions, such as tuberculosis or osteomyelitis. Our problem has been the presence of a radiologically malignant tumor situated in one of the vertebral bodies, the source of which was not apparent until after the aspiration. We have not been so fortunate as to have the excellent equipment that was shown this morning. We have used a routine needle aspirating biopsy set. This, as I have stated previously, has been adequate except for two cases of dense osteoblastic metastases from prostatic cancer. In these two cases it was impossible to penetrate deeply enough into the body of the vertebrae, and reactive sclerotic bone around the metastasis was all that could be removed. I am looking forward to being able to attempt an aspiration of this type of lesion by Dr. Craig's method.

Here then we have one additional biopsy method which, if used properly and in its indicated place, adds greatly to our ability to make a definite pathologic diagnosis before definitive surgery or x-ray therapy. I feel this is particularly important since by the diagnosis of metastatic cancer one can save a patient needless surgery, and second, everyone wishes to have a positive definitive diagnosis before giving x-ray therapy to any lesion.

Passing Reflection

She may not have the eyesight
Of an eagle
Nor yet the hunting instinct
Of a beagle;
But something always draws
A woman nearer
A mirror.

—Ruth Seymour Vesely

Arteriography in Bone Tumors

A Preliminary Report

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(*From the Departments of Diagnostic Radiology and Surgery, Roswell Park Memorial Institute*)

In many instances the radiologist finds himself hard pressed to differentiate adequately between a benign and a malignant bone lesion. This difficulty, unfortunately, is not peculiar to radiologists but often extends to pathologists as well, and the surgeon in such instances is left with the unhappy choice of performing a radical operation for what may turn out to be a benign lesion or of procrastinating with a doubtful lesion until unmistakable signs of malignancy supervene.

Any procedure, then, that will in some way add to the potentiality of arriving at a correct diagnosis in these questionable lesions should constitute a valuable addition to our diagnostic methods. Under ordinary circumstances the radiologist must rely upon changes in calcium impregnated bone or gross soft tissue deviations to interpret pathology. When the blood vessels in and around a lesion are made visible, however, he has the advantage of a third architectural component that can be scrutinized for deviational abnormalities.

According to Mucchi and Columella,[1] the injection of an opaque substance into a peripheral artery in an attempt to evaluate the vascular architecture in and around a bone tumor was described first by Dos Santos, Lamas, and Caldos in 1932.[2] Since that time there appears to have been less than a dozen reports on the use of this procedure.[1,3-8] None of these has originated from institutions in this country.

We began to explore the procedure in this hospital about eight months ago. In this period we have attempted 18 percutaneous injections of the femoral artery, two of them unsuccessfully. One injection has been made into the axillary artery via a catheter inserted into the brachial artery. Thus there is a relatively small series of cases included in this study, but the results were felt to be sufficiently interesting for a preliminary report at this time.

The technic for the investigation of tumors of the lower extremities is relatively simple. The patient is prepared for the procedure by the administration of a suitable amount of morphine and scopolamine about one half to three quarters of an hour prior to the arterial puncture. In several instances intravenous Demerol was substituted. In three instances in young children the examination was carried out under general anesthesia, and in these cases the patients proceeded directly to the operating room for definitive surgery on completion of the arteriogram.

Thirty per cent Urokon has been used in most instances as the opaque medium. In one case with the patient under general anesthesia, 70 per cent Urokon was injected, and in one instance in an eighty-two-year-old individual, Thorotrast was used. Patients are questioned for evidences of hypersensitivity, and if there is no previous history of Urokon injections, an intravenous sensitivity test with 1 to 2 cc. is carried out prior to the arterial injection.

After preparation of the skin and local anesthesia, the femoral artery is punctured percutaneously just distal to the inguinal ligament. An 18-gauge spinal needle is used, and after puncture of the artery the needle is connected to the syringe by a short section of plastic tubing. Five cubic centimeters of 1 per cent procaine are injected first to help combat any possible arterial spasm. Then 20 to 30 cc. of the opaque medium are injected as rapidly as possible, the injection averaging six to eight seconds. Films are taken at two-second intervals using a rapid cassette changer for a total of about eight to ten exposures. The patients experience varying degrees of heat passing down the leg and into the foot with the procedure. In several instances the pain appeared to be moderately severe but passed off quickly, and the authors are in agreement with others who have used the procedure that in most

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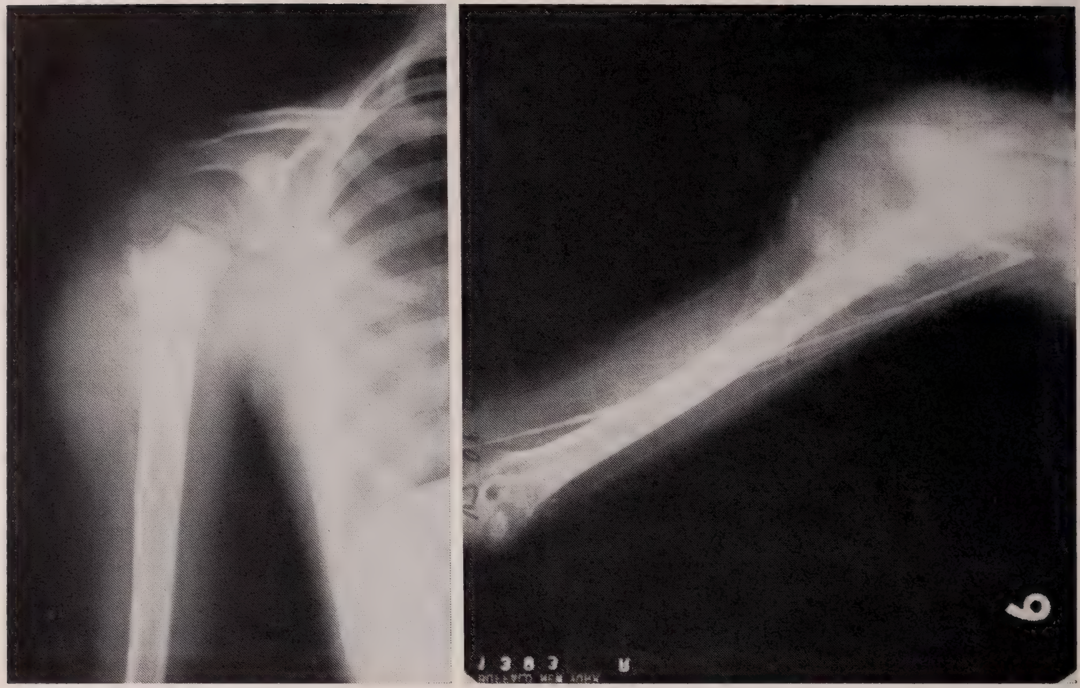
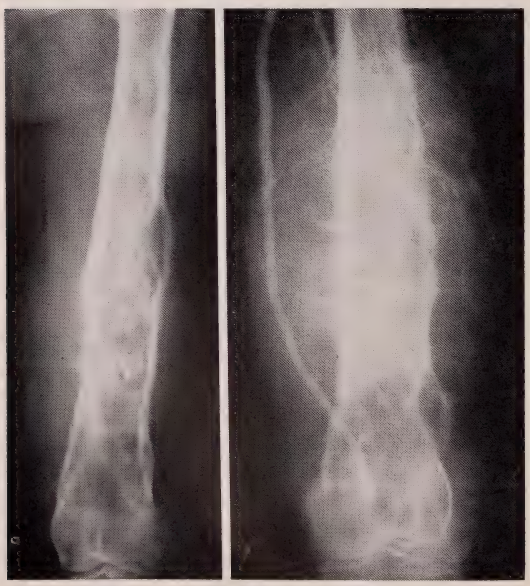
* By invitation.

Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Radiology, May 13, 1955.



A B

FIG. 1. (*A*) Sclerosing osteogenic sarcoma. (*B*) Brachial arteriogram shows pathologic vessels in tumor area. Note diffuse stain in proximal portion of mass, disorganized vascular architecture, and encompassing vessel.



A B

FIG. 2. (*A*) Chondromyxosarcoma. (*B*) Femoral arteriogram shows disorganized tumor vessels.

cases it does not necessitate a general anesthesia.[8]

In the present series six bone sarcomas were encountered. There were three primary osteogenic sarcomas, one osteogenic sarcoma developing secondary to Paget's disease, one Ewing's sarcoma, and one chondromyxosarcoma. All but one of these showed a definite formation of abnormal vessels associated with the tumor. In the one instance the tumor was necrotic except for one small area not well demonstrated on the arteriogram.

Figures 1 to 5 illustrate the pathologic vessels alluded to above. In accordance with the work of previous investigators, it can be noted that these vessels are peculiar in that they depart rather markedly from the expected, normal, orderly arborization pattern. Increased numbers of vessels, coiled vessels, "encompassing" vessels surrounding soft tissue masses, and rapid and persistent visualization of abnormally dilated venous channels appear to be the outstanding characteristics of these tumor blood vessels.

The case of Paget's disease with superimposed sarcoma is of particular interest (Fig. 4). This case was originally studied simply because of the presence of Paget's disease, and the tumor vessels were an entirely unexpected finding. This patient refused further study after the original vascular abnormality was noted, and when he finally

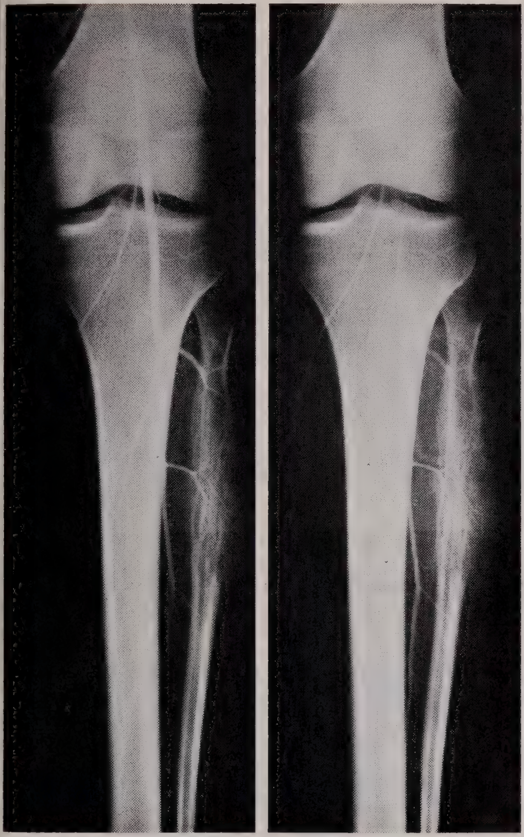


FIG. 3. (*A*) Ewing's sarcoma on femoral arteriogram; early arterial phase. (*B*) Film two seconds after early arterial phase shows abnormal vessels, rapid passage of contrast medium into dilated veins.

returned nearly three months later, an unquestionable soft tissue mass with new bone formation was present. Again, however, the patient refused to submit to any therapeutic considerations.

The question of whether or not a malignant change has taken place in Paget's disease, certain osteochondromas, myositis ossificans, etc., is often a perplexing one, and the presence or absence of pathologic vessels in these doubtful conversions may go a long way toward resolving this dilemma.

Visualization of abnormal vessels has one further advantage. In many instances the extent of the soft tissue involvement can be better appreciated by evaluation of the tumor "stain" than by inspection of the conventional films or by palpation of the affected area.

Several secondary malignant bone deposits are included in the present series. Metastases from primary carcinomas of the prostate, lung, and kidney have been studied. No tumor vasculature could be made out in the osteoblastic lesions. The osteolytic metastases showed varying degrees of pathologic vessel formation except for one discrete lesion confined to the medullary canal region of the femur. The general characteristics of these pathologic vessels are similar to those encountered in the primary tumors. This is particularly well illustrated in Fig. 6C. In this specimen the arteries are opacified by a lead-turpentine suspension after hemipelvectomy for metastases from a clear cell carcinoma of the kidney.

The benign lesions successfully studied in this series include an osteochondroma, a giant cell tumor, and three cases of uncomplicated Paget's disease.

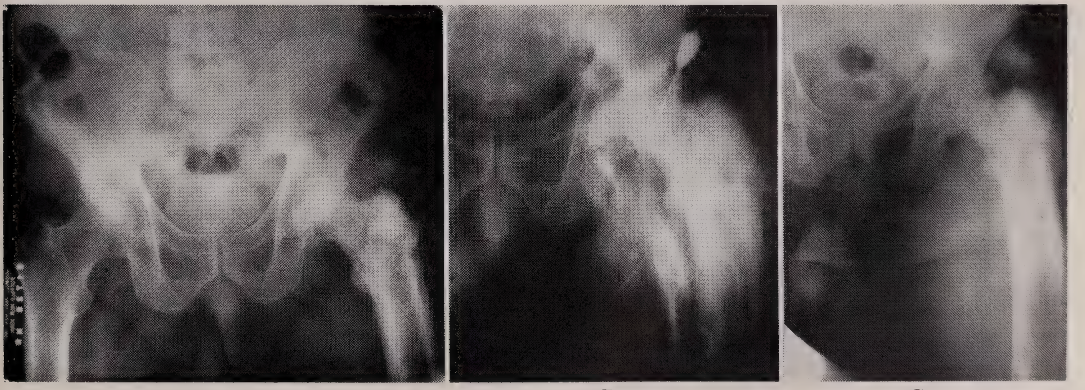


FIG. 4. (*A*) Paget's disease left femur. There is some calcification in the soft tissues adjacent to the greater trochanter but no soft tissue mass. (*B*) Femoral arteriogram shows partial extravasation of dye accounting for density medial to femur. Pathologic vessels were found to be present in soft tissues lateral to upper femur indicating superimposed sarcoma. (*C*) Same case three months later. Definite soft tissue mass present lateral to upper femur with fine radiating bone spicules indicating definite sarcomatous transformation.

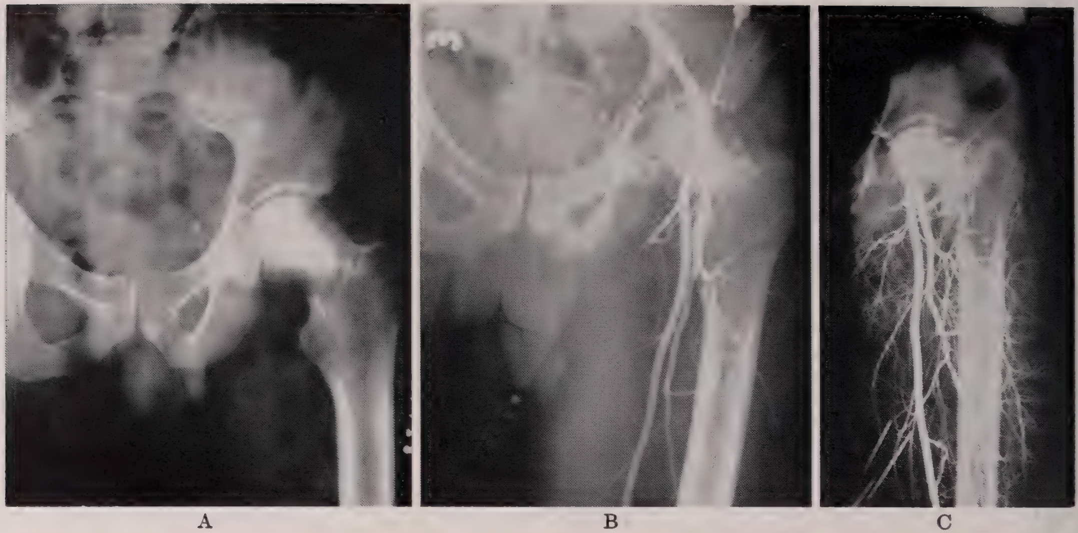


FIG. 5. (*A*) Osteogenic sarcoma head of femur. (*B*) Femoral arteriogram. The vessel leading to small area of viable tumor is insufficiently filled to appreciate pathologic vessels. (*C*) Hemipelvectomy for tumor shown in (*A*). Arteries injected with red lead-turpentine mixture. Abnormal vessels present in one small area of viable tumor in head of femur.

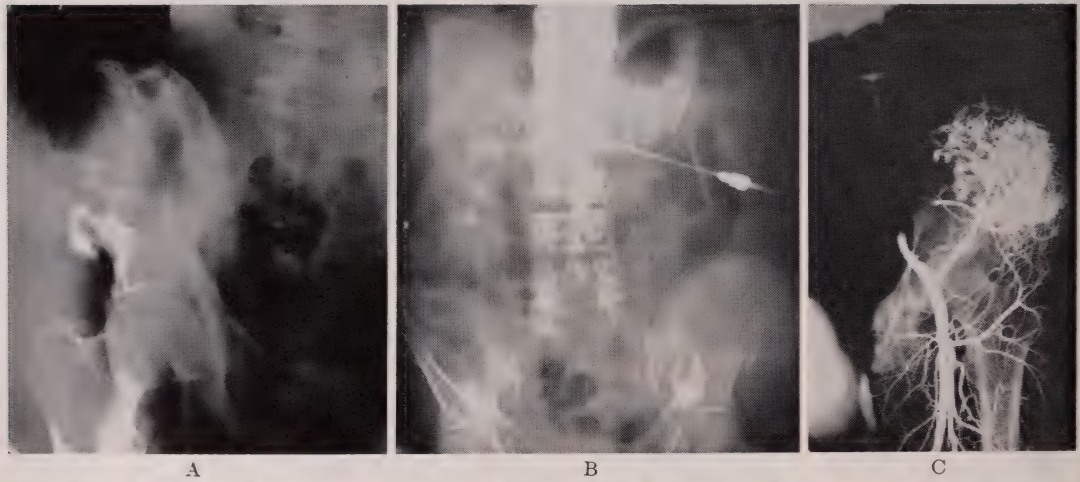


FIG. 6. (*A*) Metastasis from clear cell carcinoma kidney. (*B*) Aortogram. Pathologic vessels faintly visualized in left ilium. (*C*) Hemipelvectomy specimen of metastatic lesion with red lead-turpentine mixture in arterial tree. Good demonstration of abnormal vessels in tumor.

The osteochondroma showed a normal vascular pattern. The giant cell tumor, which involved the first cuneiform bone, is of particular interest. Several extra (orderly) vascular channels appeared to be present in proximity to the lesion, and within three to four seconds the entire tumor was diffusely and evenly opacified, this opacification lasting for at least six seconds (Fig. 7).

The three cases of uncomplicated Paget's disease included in this study are noteworthy in that they showed no definite vascular abnormalities. There were no dilated arterial channels, no increase of periosteal vessels, and no evidences of arteriovenous shunt as has been reported by others.

Comment

In spite of the fact that Dos Santos and his coworkers did their original work back in 1932, there have been few publications devoted to the subject of arteriography in bone tumors. This

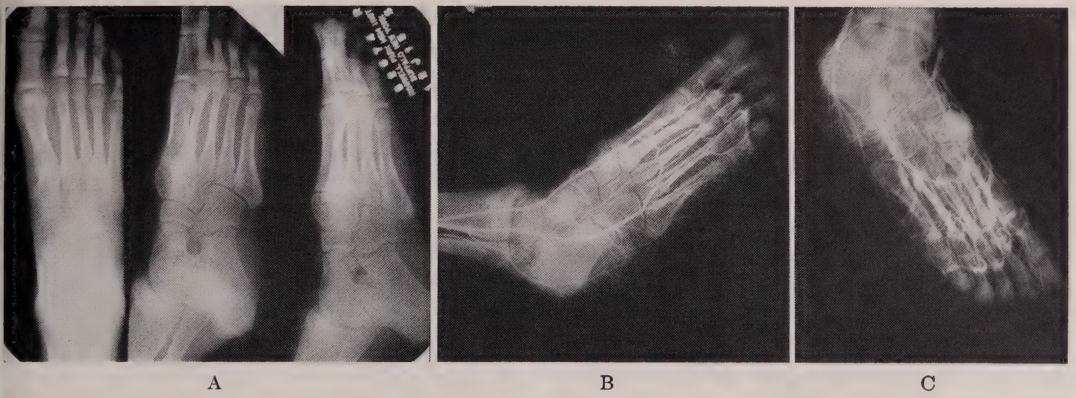


Fig. 7. (*A*) Giant cell tumor of first cuneiform bone. (*B*) Femoral arteriogram; early phase showing a few extra vessels in region of tumor. (*C*) Femoral arteriogram; late phase showing diffuse opacity of involved bone.

may be due in part to the fact that percutaneous puncture of arterial vessels has only relatively recently received universal acceptance. Also, Dos Santos and his coworkers[2] used Thorotrast in their injections, a substance which has fallen largely into disrepute because of alleged late carcinogenic properties. The ideal contrast medium for this procedure has not yet been developed, although the newer media are considerably less irritating than some of the original preparations.

The most recent report on the subject of percutaneous arteriography comes from Sutton[8] in England who has performed over 250 percutaneous angiograms in the limb vessels, including 19 arteriograms for bone tumors. In addition to the femoral artery, he has succeeded in carrying out percutaneous punctures of the external iliac and popliteal arteries in the lower limb and the subclavian and brachial arteries in the upper limb. Sutton states that he has encountered no severe or important complications in any of these cases.

The characteristics of the abnormal vasculature encountered in and around a primary malignant bone tumor have been outlined in the cases cited above, and in general, these are in agreement with what has been cited by others. How often these vessels fail to appear is a question that cannot yet be answered. Only one report gives any details in this regard, and that is in a relatively small series. In evaluating this question also, one would have to be wary of mistaking a technical failure for a failure to visualize abnormal vessels. Thus, if insufficient dye is injected into the deep femoral branch, lesions involving the head and neck of the femur may fail to show their pathologic vascular components.

While we have as yet had no experience with inflammatory lesions of bone that may simulate bone malignancy on conventional study, others[3,5] report a diminution of vessels leading to such a lesion and consider this a valuable differential diagnostic test in these instances.

Among the benign bone lesions three merit special consideration. These are Paget's disease, which has already been touched upon, giant cell tumors, and polyostotic fibrous dysplasia.

Farinas[3] in his communication stated that giant cell tumors do not show intratumoral circulation but show an artery following the capsule. Dos Santos[5] in 1950 stated that osteoclastomas show new vessel formation and appearance of blood pools. Caldos,[7] using Thorotrast as his contrast medium, pointed out that the arteriographic picture in these lesions is characteristic, in that they show marked intramural puddling of the dye and long-continued presence of dye within the tumor. He felt that this would occur only with Thorotrast and was due to the fact that giant cell tumors have their origin in reticuloendothelial cells. Our case that showed the diffuse opacity after injection of 70 per cent Urokon suggests that Thorotrast need not be used to obtain this effect (Fig. 7). When this lesion was curetted, the walls were found to be highly vascular, and the central portion was not cystic and did not contain fluid. The staining effect evidently was due to retention of dye in the capillaries of the wall of the tumor rather than to any central diffusion.

While we have had no personal experience thus far in polyostotic fibrous dysplasia, it is worth noting that Mucchi and Columella[1] in three cases showed a remarkable increase of the caliber of the regional vessels, both arteries and veins, which they feel is peculiar to the disease.

From what has been mentioned in the foregoing paragraphs, it appears probable that arteriography will in most instances enable the examiner to distinguish between malignant and benign primary bone lesions and in some instances may aid in establishing with more certainty the histology to be expected in benign tumors. At the present time the indications for the procedure are not well defined and will not be so until sufficient experience has been accumulated. At the present time the reliability of negative findings or questionably positive findings has not been ascertained, and credence is given only to unquestionably positive findings.

Summary

1. Visualization of the arterial and venous channels in and about bone tumors adds one further component for analysis of the nature of these lesions.
2. The technic of percutaneous arterial puncture has been discussed.
3. In a small series studied thus far, characteristic architectural changes of the visualized vessels have been outlined.
4. The more precise indications for this procedure have not yet been established.

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Discussion

R. D. Severance, M.D., *Syracuse.*—The study which has served as a background for this report has included both arteriograms and venograms of various tissues and organs other than bone. This study has suggested avenues of diagnosis and therapy yet unexplored. For instance, the absence of the filling of vessels may be as important as the abnormalities shown when they fill, or the altered pattern of venous return may be significant.

It seems clear that a great deal of careful study and experience will be necessary to evaluate the practical usefulness of these procedures. The orthopedist joins with all others in welcoming any adjunct to the diagnosis of bone tumors.

ANNOUNCEMENT

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W. P. Anderton, M.D., *Secretary*
Medical Society of the State of New York

Allergy in Otolaryngology

MICHAEL H. BARONE, M.D., BUFFALO, NEW YORK

(*From the Edward J. Meyer Memorial Hospital*)

THE specialty of otolaryngology in comparison to all other specialties has undergone the most drastic change in its course of treatment in the past decade. If one scans the literature written in the past twenty-five years, the treatment of the diseases encountered in this field was primarily a surgical one. There is no question that in certain cases surgical interference is necessary to alleviate the patient's symptoms, especially where suppurative conditions involve the sinus, throat, and ear, but today even these cases have diminished tremendously due to the advent of antibiotics and chemotherapy. One might add that in a great percentage of cases involving the nose and sinus, the surgical treatment was not the proper course to follow since the results were not satisfactory because an accurate diagnosis was not made. Today our concept of treatment is swinging toward the medical management of many of these diseases since the greater percentage of ear, nose, and throat diseases fall in the medical phase group, and if considered and treated as such, the results will be more satisfactory. The medical phase of otolaryngology embraces the field of allergy. Allergy affects the respiratory tract more frequently than any other structure in the body, and why should we as otolaryngologists avoid the treatment of these allergic conditions that confront us in our daily practice? It is of the utmost importance that we recognize these allergic manifestations in otolaryngology, especially in children because here the best results are obtained if recognized and treated early, thus preventing the progress and permanent allergic changes that occur in later life, at which time proper management of these cases is very difficult and the results not so satisfactory.

The main points to be covered in this paper will be the immunologic methods of treatment in the allergic and closely allied diseases of ear, nose, and throat. The principle involved in the treatment of these diseases is one of low dosage or optimum dosage form of therapy as advocated by French Hansel.[1] This form of therapy is one that is ideal for the otolaryngologist in office practice for it is easily administered and devoid of severe constitutional reactions. The conditions which are amenable to the optimum form of therapy are pollinosis; perennial nasal allergy due to house dust; allergy due to animal danders, molds, tobacco smoke; dermatitis involving the auricle and external auditory canal; angioedema of the pharynx, larynx, and trachea; involvement of the middle ear and eustachian tube; histamine and tension headache; acute upper respiratory infection, and penicillin reactions.

If the otolaryngologist utilizes the optimum form of therapy, he will be able to treat satisfactorily the above-mentioned medical diseases which are commonly seen in otolaryngology. The optimum dosage is the effective zone, and to attain this, one must start treatment below any dosage that may cause exacerbation of symptoms. Therefore, an injection above the optimum dosage produces a flareup of symptoms, while one below this causes no reaction. The optimum dosage, when obtained, produces therapeutic results.

Before any form of treatment is instituted, an accurate diagnosis must be established, and this is accomplished by obtaining a detailed history, local examination, and cytologic studies of nasal and bronchial secretions. Most important are the cytologic studies of the nasal secretions since the evidence of eosinophils or neutrophils or both will reveal the type of disease present.

In the treatment of hay fever there are many methods employed today, such as the preseasonal and perennial in which the patient is treated by a series of injections beginning with a small dose and gradually increasing the dose until the point of maximum tolerance is reached. This method is based on the principle of producing a state of refractoriness to allergenic substances injected and is not one to be used by the beginner since the danger of constitutional reaction is great. The method of choice for the otolaryngologist is the coseasonal low-dosage therapy; this is simple,

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easily administered, and devoid of constitutional reactions. In the coseasonal type the patient reports before the onset of the hay fever season and is treated throughout the period of pollination. The patient is titrated with a serial dilution consisting of 0.01 to 0.02 cc. of a dilution ranging from 1:10,000,000 to 1:100,000. The initial dose is usually a multiple of the endpoint 20 to 40 times. Since the amount used in testing is 0.01 to 0.02 cc., the endpoint dosage would be 20 times 0.01 which equals 0.2 cc. This dosage is given intracutaneously every two or three days depending on the response obtained. One must bear in mind that in treatment, desensitization is not the only factor to consider. Care must be taken of the extrapollen sensitivities that may accompany hay fever, such as food and other inhalant factors. It is always best to place the patient on an elimination diet of the foods which contain the most common allergens, such as wheat, eggs, milk, chocolate, tomato, oranges, nuts, onion, cabbage, and also to have him avoid inhalants such as house dust, feathers, wool, animal dander, and occupational dust. By carrying out the above regime the routine complete skin testing which many patients dread to undergo may be avoided in many cases.

The sublingual method of therapy was used with very good results in infants and older children. The tablets used were furnished by the Hansel Foundation and were equivalent to dilutions varying from 1:1,000,000 to 1:100,000 and numbered accordingly.[2] The tablets were prescribed three times daily during the hay fever season. In order to evaluate the efficacy of the tablets, no other form of therapy was instituted. Excellent results were obtained in about 80 to 90 per cent of the cases due to the fact that infants and children do not have the food and inhalant complications so commonly found in adults.

House dust allergy is one of the commonest causes of perennial nasal allergy, and treatment in these cases is carried out along the same lines as in pollinosis. It is best to use a stock dust extract containing the most common inhalants found in the average home, such as orris root, feathers, kapok, wool, silk, animal hairs, jute, or cotton. Skin testing with dust extract by serial dilution is not so accurate as in pollen testing. The dust extract dilutions are carried up to one billion dilutions, and treatment is started with 0.05 to 0.1 cc. of this dilution. In some cases the injections are given weekly or semiweekly depending on the period of relief. The period of relief in these cases is much greater than that obtained in pollen therapy. Hansel,[3] Ashley,[4] and Shambaugh[5] have reported very good results with the use of low-dosage form of therapy in the dilutions described above.

Another condition where treatment is carried out by serial dilution and low-dosage therapy is the histamine and atypical histamine headache. Histamine cephalgia, as described by Horton,[6] is well known to all of us. He stated in his report, "Pain in the histamine headache is due to a sudden vasodilation with no preconstrictor phase, while in the migraine type there is a preconstrictor phase followed by a vasodilation." Perhaps due to this mechanism in the histamine type a response or relief may be obtained more readily than in the migraine type. The atypical headache comprises the greatest percentage of the histamine group and is characterized by vague pains which follow a vascular pattern and may involve any region corresponding to the arterial network of the upper extremity, especially the head, face, and neck. The symptoms in the atypical type usually are not so severe and may follow the same pattern as those in Horton's syndrome. In histamine headache the optimum dosage form of therapy is carried out, similar to that for dust and pollen. Dilutions of histamine ranging from 1:100,000,000 to 1:100,000 are used. The initial dose is usually 0.05 to 0.01 cc. of 1:10,000,000. This dose is increased by 0.05 or 0.1 cc. every three to five days until relief is obtained. Treatment is then discontinued, and the patient is advised to return immediately on the recurrence of the symptoms. In some cases it was possible to obtain relief after one injection. The period of relief in the histamine cases was found to be much greater than that obtained in the dust and pollen cases.

The adminstration of antibiotics is being abused considerably at the present time. Repeated use of antibiotics in the treatment of minor infections and the common cold should be greatly discouraged for it restricts the body from developing a natural immunity to those organisms commonly found in upper respiratory tract infection. In time the attacks become more frequent and less responsive to these antibiotics. Therefore, more thought should be given to methods of immunization which will abort or cut down the severity of these acute infections. We have used mixed respiratory vaccines and virus A and B vaccines in the optimum dosage plan employing dilutions ranging from 1:10,000 to 1:1,000,000 in doses of 0.05 to 0.1 cc. semiweekly. The results have not been too gratifying, perhaps because the optimum effective dosage was not established. The above treatment was not instituted as a prophylaxis but at the onset of an acute attack. In a few cases the attack was aborted, but poor results were obtained in the majority of cases. This method should not be abandoned and is worthy of further study. Respiratory vaccine has been used for many years but was advocated in large buildup dosages which frequently produced reactions, and the results were not too satisfactory.

A vaccine which has become important in our armamentarium is staphylococcus toxoid, and its use in the optimum dosage form of therapy has been a major help in many diseases involving the ear, nose, and throat, such as allergic reactions to penicillin and aureomycin manifested by angioedema of the mouth, pharynx, and larynx; infection of the external canal and nasal vestibule; atopic and contact dermatitis of the auricle and external canal; respiratory infections, such as acute colds, serous otitis, and sore throat. The optimum dosage form of therapy using staphylococcus toxoid has been found to be very beneficial in conditions due either to allergy or infection. Immunologically, the results can be attributed to a nonspecific effect rather than to a specific one, except in furunculosis involving the ear canal and nasal vestibule since in some of these cases the offending organism is the Staphylococcus aureus and the use of staphylococcus toxoid produces excellent results. Here the results are due to specific action of the staphylococcus toxoids towards the staphylococcus organism.

The staphylococcus toxoid used by us has been standardized by the manufacturer and is prepared from a highly hemolytic strain of Staph. aureus. The staphylococcus toxin is detoxified by the action of formaldehyde. Because an occasional local or general reaction may develop following the administration of staphylococcus toxoid, the manufacturer (Lederle) recommends a sensitivity test before beginning treatment. The reactions are due to a possible hypersensitivity to the staphylococcus protein. The sensitivity test is made by injecting intracutaneously 0.01 cc. of 1:10 dilution, and the reaction is read in twenty-four hours. The reactions are recorded as follows:

1 plus—Erythema less than 10 mm.
2 plus—Erythema 10 to 15 mm.
3 plus—Erythema over 15 mm. without necrosis
4 plus—Erythema over 15 mm. with necrosis (rarely encountered)

The initial dose is based on the reactions obtained:

1 plus reaction—0.1 cc. of Dilution No. 1 or 0.01 cc. of Dilution No. 2
2 plus or 3 plus reaction—0.1 cc. of a 1:10 dilution of Dilution No. 1 or 0.1 cc. of a 1:100 dilution of Dilution No. 2
4 plus reaction—0.1 cc. of a 1:100 dilution of Dilution No. 1 or a 1:1,000 dilution of Dilution No. 2

Injections are made subcutaneously or intramuscularly, are usually administered two times a week, and the dose increased by 0.02 cc. with each injection until 1 cc. of Dilution No. 2 is reached. After this top dose is attained, the injections are given every three to four weeks.

The above method is the buildup type, and a maximum of 1,000 to 10,000 units per dose is given. Although satisfactory results have been obtained with its use, it is not the method of choice. We employed the small optimum dosage form of therapy with very good results and without any local or constitutional reactions. With this low-dosage form of therapy, skin testing was not done, and in our series of 50 cases there were no reactions elicited at any time during the course of treatment. The dosage varies with each case according to the degree of allergic involvement. The initial dose in the majority of patients is 0.01 unit, while in children we begin treatment with 0.001 unit. The injections are given intracutaneously every three to four days and increased by 0.05 cc. until beneficial results are obtained. The subsequent dose is maintained at the optimum level for one or two weeks and then discontinued. The effective or optimum dose should initially be started from the lowest or ineffective dose and gradually increased until the optimum level is obtained. In beginning treatment the weakest dilution is given first in order to avoid the danger of any reaction. It is rare to elicit a local or general reaction with this method, even in those patients who have a high degree of sensitivity toward the staphylococcus toxoid. The most dramatic results were noted in patients with urticaria and angioedema of the face and larynx due to penicillin sensitivity. Complete subsidence of the edema and urticaria was obtained after one or two injections of the staphylococcus toxoid. Infection and allergic involvement of the external ear do not respond so dramatically and require a longer duration of treatment.

Hansel[7] has been treating acute respiratory infections with staphylococcus toxoid along with small doses of antibiotics, and his results have been moderately satisfactory. We have used this same approach in a small number of cases and have found it very difficult to evaluate this form of treatment at the present time, although it is our opinion that it has some value in the treatment of acute head colds and that it requires further study.

Summary

1. Immunologic methods of treatment in allergic and closely allied diseases have been presented.
2. The use of staphylococcus toxoid in the optimum dosage form of therapy has been very beneficial in the treatment of medical diseases commonly found in the ear, nose, and throat.
3. The optimum form of therapy is devoid of local or constitutional reaction and is the method of choice for the beginner.

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7. Hansel, F. K.: Personal communication.

Discussion

Samuel Farrar Kelley, M.D., *New York City.*—The essayist has presented a very interesting and instructive contribution on the subject of allergy in otolaryngology. His paper primarily covers the immunologic methods of treatment in the allergic and closely allied diseases in the ear, nose, and throat. He states there is no question that in certain cases surgical interference is necessary to alleviate the patient's symptoms, especially where suppurative conditions involve the sinuses, throat, and ear, but these cases have diminished tremendously due to the advent of antibiotics and chemotherapy. In this I concur.

Despite this remarkable accomplishment, however, these drugs have often provided the physician with a false sense of security by apparent prompt recovery, although the infection persists and progresses slowly in the sinuses, middle ear, and mastoids, leaving not only the same surgical problems but with added new clinical entities such as latent sinusitis, middle ear and mastoid infections with irreversible changes in anatomic structures resulting in impairment of hearing and even deafness, infectious bronchial asthma, chronic bronchitis, and emphysema. Reliance on the use of these drugs for the control of recurrent infections and on hyposensitization to known or undetermined allergens without recourse to effective local treatment and surgical measures when indicated is no doubt responsible for many of the unfortunate consequences just mentioned.

Progress in the control of these diseases will be much enhanced not only by allergic measures of control and proper immunologic therapy when applicable but by avoidance of indiscriminate antibiotic medication and the employment of effective treatment and correction of pathologic conditions in children. During early childhood the tissue functions have not been permanently altered and are more responsive to treatment.

The treatment of acute nasal and sinus infections in children consists of intranasal tampons moistened with a well-chosen vasoconstrictor for shrinkage, ventilation, and drainage; soft rubber catheter or spot suction; removal of hypertrophied infected tonsils and adenoids, and in older children antral lavage and irrigation of other sinuses. All these measures may be employed in the treatment of the adult, as well as such surgical procedures as correction of congenital and acquired nasal deformities, deflected nasal septum, hypertrophied turbinates, removal of nasal polyps and other pathologic conditions obstructing sinus ventilation and drainage, and exenteration of irreversible infected sinus membranes as the Colwell-Luc and ethmoid operations. Grove and Cooke[a] found the responsible organism for infection within the sinus membranes. This has since been concurred in by others. Myringotomy, simple, modified, and radical mastoid operations, although infrequently required, are still occasionally necessary to save life. More often, however, they are needed to prevent deafness or persistent disease. The use of antibiotics or chemotherapy in the form of nose drops, dusts, sprays, or troches is of questionable value and not infrequently results in unpleasant or very distressing allergic reactions. If these drugs are indicated, they are administered in adequate oral or parenteral dosage.

I have had no experience in the plan of immunologic therapy presented by Dr. Barone or in the treatment of the onset of an acute attack of an upper respiratory infection, including the ear, or of allergic reactions, such as edema of the pharynx or larynx, with vaccines or staphlococcus toxoids. Angioedema of unknown cause or from penicillin or aureomycin in mild form is treated by administering an effective antihistaminic in adequate dosage; epinephrine hydrochloride 0.5 cc. of 1:1,000 solution subcutaneously, cortisone, ACTH, or meticortisone may be given. If the condition fails to respond promptly to any of these measures and involves the tongue, pharynx, or larynx, the patient is immediately admitted to the hospital for careful observation and treatment and for emergency tracheotomy should it become necessary.

In conclusion, I congratulate Dr. Barone on his valuable contribution and wish to stress the role of the otolaryngologist in providing effective treatment and the employment of such surgical measures in these allergic individuals as may be indicated.

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[a] Cooke, R. A.: Allergy in Theory and Practice, Philadelphia, W. B. Saunders Co., 1947.

ANNOUNCEMENT

PRIZE ESSAYS

The Lucien Howe Prize and the Merrit H. Cash Prize will be open for competition at the next Annual Convention of the Medical Society of the State of New York, May 7 to 11, 1956, in New York City.

The *Lucien Howe Prize* of $100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The *Merrit H. Cash Prize* of $100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win a prize automatically becomes the property of the Medical Society of the State of New York, "to be published as it may direct."

All essays must be presented not later than *February 1, 1956,* and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

R. Townley Paton, M.D., *Chairman*
Committee on Prize Essays

Practical Aspects of Carbon Dioxide Absorption

ELWYN S. BROWN, M.D., AND JAMES O. ELAM, M.D., BUFFALO, NEW YORK*

(*From the Department of Anesthesiology, Roswell Park Memorial Institute*)

RECOGNITION in recent years of the incidence and importance of respiratory acidosis during general anesthesia has emphasized the need for adequate pulmonary ventilation. Another common feature of this problem, incomplete removal of carbon dioxide in the circle system, has not been sufficiently appreciated. Frequently the anesthesiologist has a justifiable sense of uncertainty about the adequacy of carbon dioxide removal from the circle system. He has no reliable indication of the end point of useful life of the absorbent since the indicating absorbents do not inform him of inadequate carbon dioxide removal. Under conditions when carbon dioxide absorption is generally assumed to be adequate, surprising elevations in the inspired carbon dioxide concentration are found during clinical anesthesia. These observations indicate the necessity for evaluating the performance of the circle systems in everyday use.

The to-and-fro absorber was designed and elaborated by clinical trial.[1] In designing this absorber Waters recognized that the basic requirement for effective carbon dioxide absorption was to provide optimal contact between expired air and absorbent. Waters employed a cylindric shape in his to-and-fro unit which Adriani and Rovenstine[2] later demonstrated to be the most efficient. Their laboratory studies and those of Conroy and Seevers[3] defined the time efficiency of these absorbers.

However, today the circle system is used to a much greater extent than the to-and-fro system. Circle absorbers have also been developed through clinical trial. Clinical impressions have prompted suggestions which manufacturers have incorporated into the design of the circle absorbers. As a result, circle absorbers now in use represent a compromise of numerous ideas. Some circle absorbers retain the cylindric shape of absorbent container but are reduced in overall size for the sake of compactness. Others depart from the simple cylindric shape to incorporate two chambers. However, the circle absorbers which have been evolved for general use have not been submitted to thorough investigation comparable to that afforded the to-and-fro absorbers.

TABLE I.—STATIC AND EFFECTIVE CANISTER AIR SPACE OF ABSORBERS

	Weight of Lime (Gm.)	Static Air Space (Cc.)	Effective Air Space (Cc.)
To and Fro 8 by 13 cm. ("450 Gm.")	550	370	370
Heidbrinck 9-B	750	490	370
Foregger			
CF No. 1	400	240	240
CF No. 2 (small)	310	200	200
CF No. 2 (large)	480	300	300
CF No. 2 (Kappesser)	780	510	510
McKesson			
No. 620	530*	330*	..*
No. 640	880*	550*	..*
Chicago	1,120	670	470

* Not available for this test; estimated from manufacturer's data.

On the basis of their laboratory studies of carbon dioxide absorption with the to-and-fro system Adriani and Rovenstine[2] as well as Conroy and Seevers[3] recommended that the inter- and intragranular air space of the absorber should equal or exceed the tidal volume in order to obtain optimal time efficiency. In the circle absorber with competent valves this amount of air space should permit the entire expired air volume to remain in contact with the absorbent during the period of inspiration. Obviously this condition is not fulfilled unless the expired air is evenly distributed throughout the air space of the lime. On the other hand, if the tidal volume exceeds the air space or if channeling occurs, a portion of the expired air rapidly traverses absorbent and loses only a part of the carbon dioxide in passage.

Since the several variables involved in the performance of circle absorbers cannot be controlled in patients, a laboratory test system was devised to study their effects.[4] Use of the infrared carbon dioxide analyzer and pneumotachograph considerably simplified this task. A detailed account of carbon dioxide absorption studies is to be reported elsewhere. This paper summarizes limitations in several absorbers in common use and recommends an improved design.

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Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Anesthesiology, May 12, 1955.

Three factors may combine to shorten the useful life of circle absorbers and permit the patient to reinspire carbon dioxide:

1. The canister may be too small to contain an adequate amount of absorbent.
2. The flow of gas through the absorbent may channel through preferential paths so that, in effect, the expired air does not come in contact with an adequate amount of absorbent.
3. The breathing valves of the circle system may be incompetent and fail to direct all the expired air through the absorber. Obviously these defects are preventable since they involve the design of the circle system.

The effective air space in most circle absorbers is less than 500 cc. (Table I). Tidal volumes greater than 500 cc. are frequently required in anesthetized adults, particularly when the mask is used. Therefore, an air space of this volume should be considered a minimum requirement for absorbers to be used in adults. Moreover, as indicated in Table I, the channeling of expired air through preferential paths in the absorber markedly reduces the effective air space in one absorber (Heidbrink 9B). From the standpoint of the total static space provided for absorbent, both this absorber and another (Chicago) are adequate, but the effective inter- and intragranular air spaces available for contact with expired air are reduced by channeling effects. Therefore, in terms of the ideal requirement that the air space of the absorber equal or exceed the tidal volume, the circle absorbers in use today are usually overloaded. Indeed, an immediate accumulation of carbon dioxide would occur in the patient anesthetized with the closed circle system except for the high activity of fresh absorbents. Fresh soda limes reduce the concentration of carbon dioxide by 90 per cent (from 5.0 to 0.5 per cent carbon dioxide) if only 0.16 second are allowed for contact during the passage of expired air through the absorbent.[5] Fresh Baralyme required 0.32 second to reduce the carbon dioxide concentration of expired air similarly. Although this initial activity declines during use of the absorbent, it is evident that either of these absorbents is capable of sustained activity when present in sufficient quantity.

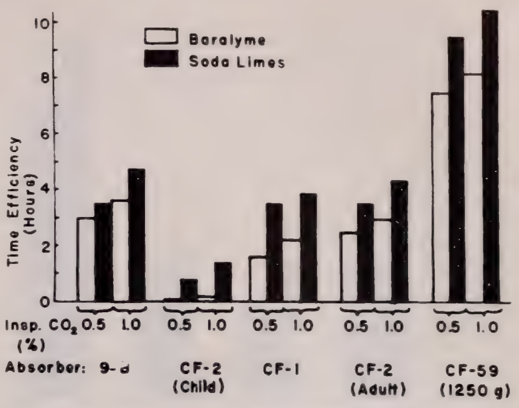

FIG. 1. Time efficiency of closed circle absorbers. Tidal volume 500 cc.; carbon dioxide production rate 280 cc. per minute; respiratory rate 15 per minute. The time efficiency was uniformly less when Baralyme was employed as absorbent.

The time efficiencies of closed circle absorbers, as determined in a laboratory test system, are given in Fig. 1. A tidal volume of 500 cc., respiratory rate of 15 per minute, and carbon dioxide production rate of 280 cc. per minute were employed. The useful life of soda lime in the absorber, taken arbitrarily as the time required for the exit carbon dioxide concentration to reach 1.0 per cent, is four and three-quarter hours for each half of the Heidbrink 9B, four and one-quarter hours for the Foregger CF No. 2 (large), three and three-quarter hours for the Foregger CF No. 1, and only one and one-half hours for the Foregger CF No. 2 (small). With this particular set of standard conditions about one hour of useful life is obtained per 100 Gm. of soda lime except when channeling occurs. Of course many of us would prefer that the patient not be burdened with an inspired carbon dioxide concentration of 1.0 per cent. If we take the exit carbon dioxide concentration of 0.5 per cent as the end point, the useful life of soda lime under the above standard conditions is three and one-half hours for all these absorbers except the Foregger CF No. 2 (small). This absorber had a useful life of only three-quarter hours (Fig. 1).

In an experimental 1,250-Gm. to-and-fro canister, used in the circle system, the time efficiency to an exit carbon dioxide concentration of 1.0 per cent was ten and one-half hours and to an exit concentration of 0.5 per cent carbon dioxide nine and one-half hours (Fig. 1).

The time efficiencies for each absorber were

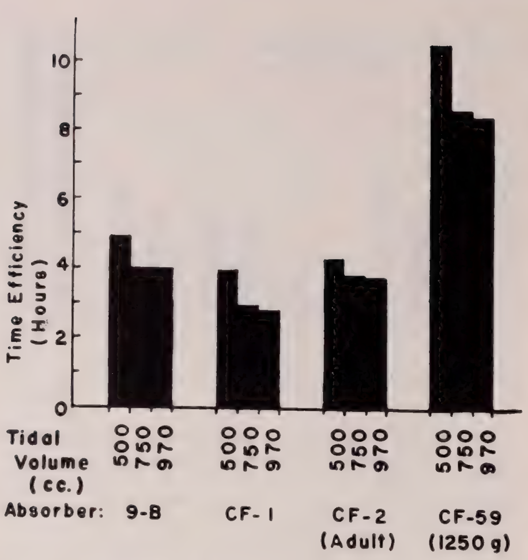

FIG. 2. Effect of increased tidal volume on time efficiency. Relatively little reduction in time efficiency is observed if tidal volume is increased and respiratory rate decreased to maintain carbon dioxide production at 280 cc. per minute.

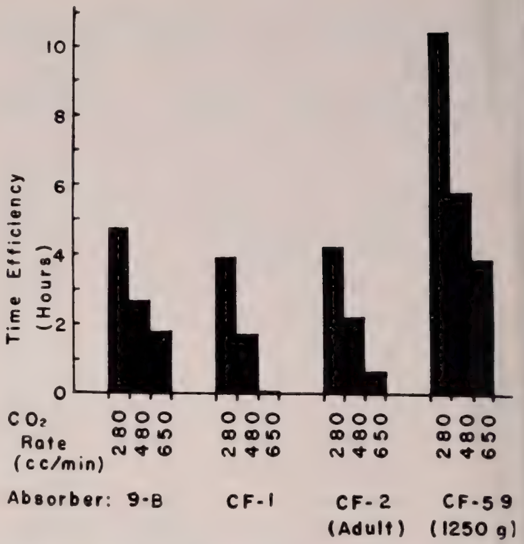

FIG. 3. Effect of increased carbon dioxide production on time efficiency. Time efficiency is greatly reduced by increased carbon dioxide production. Tidal volume is increased from 500 to 750 cc. and 970 cc. Carbon dioxide production is increased from 280 to 480 cc. per minute and 650 cc. per minute.

uniformly less when Baralyme was used as the absorbent. When channeling effects were minimized in the cylindric closed circle absorbers, 100 Gm. of soda lime absorbed 14 to 15 L. of carbon dioxide, and 100 Gm. of Baralyme absorbed about 9 L. of carbon dioxide. An exit carbon dioxide concentration of 1.0 per cent was employed as the end point for these comparisons in which the standard conditions were identical. Further evaluation of recently submitted Baralyme samples of increased porosity is in progress.

The failure of the Heidbrink 9B to yield an hour of useful life per 100 Gm. of soda lime, in terms of an exit carbon dioxide concentration of 1.0 per cent, reflects the reduction in effective air space resulting from channeling. This absorber contains 750 Gm. of soda lime in each canister so that a useful life of over seven hours would be expected instead of the four and three-quarter hours obtained. Apart from the shape of this canister, the arrangement of the inlet is also probably responsible for channeling. In order to accommodate the bypass valve, one third of the inlet into each chamber is sacrificed, and the expired air is directed through roughly two thirds of the lime contained in the canister. This result is apparent when the distribution of used indicator lime is examined in this absorber. Portions adjacent to the corners appear fresh, while lime at the center is spent. Hence, channeling reduces the performance of an absorbent mass which is otherwise sufficiently large. An attempt to reduce the channeling effect of the restricted inlet by filling the canister to a level just below the inlet was ineffective. Channeling still occurred, and since less absorbent was used, the result was not satisfactory.

Since the circle absorbers in general use, for one reason or another, have effective air space volumes which are not sufficient to accommodate a nominal tidal volume of 500 cc., the factors which might produce a further overloading of their performance deserve attention. These factors are increases in tidal volume over 500 cc. and increases in carbon dioxide production rate above basal. When the tidal volume was increased and the carbon dioxide production rate maintained at 280 cc. per minute, the time efficiency of soda lime in these absorbers was reduced by approximately one hour (Fig. 2). The greatest relative reduction in time efficiency under this condition was exhibited by the Foregger CF No. 1. This result is not surprising since a larger tidal volume produces a greater disparity with the air space of the absorber. This type of overloading of the absorber corresponds to the clinical situation in which the patient's tidal volume is increased without a concomitant increase in carbon dioxide production. With no

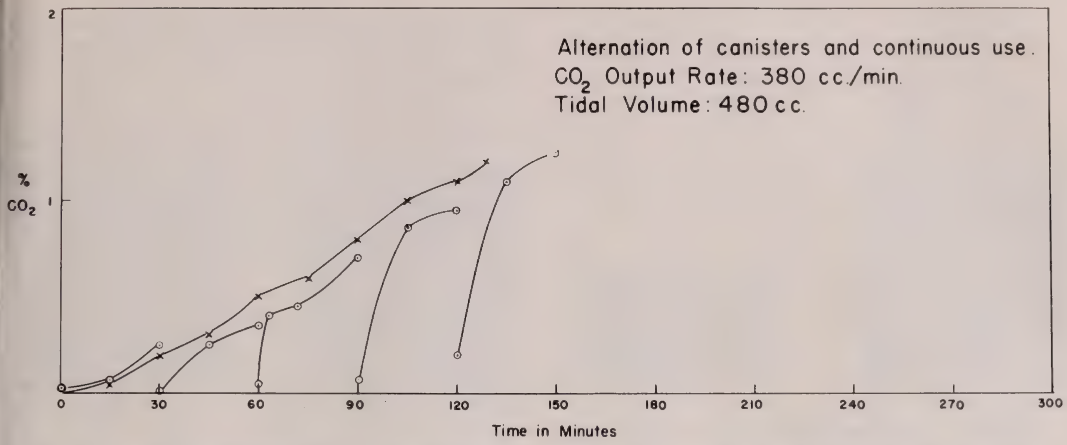

Fig. 4. Effect of regeneration on time efficiency. Inspired carbon dioxide concentration in Foregger CF No. 2 (small). Half-hour regenerative cycling of two canisters did not increase appreciably the time efficiency over that observed when a canister was used continuously.

change in the metabolic production of carbon dioxide, sustained hyperventilation re-establishes a new steady state in which the alveolar and expired carbon dioxide concentrations are lowered. In such an instance the time efficiency of soda lime in the circle absorber is significantly reduced.

An increase in the carbon dioxide production rate markedly reduces the time efficiency of the circle absorbers (Fig. 3). This situation, which may occur with fever, hyperthyroidism, or ether anesthesia, increases the demand for ventilation. In testing this type of overloading the absorber, the respiratory rate was maintained at 15 per minute and the alveolar carbon dioxide pressure value was maintained at 44 mm. Hg. Under these conditions a carbon dioxide production rate of 480 cc. per minute required a tidal volume of 750 cc., and a carbon dioxide production rate of 650 cc. per minute required a tidal volume of 970 cc. The time efficiencies of the circle absorbers were reduced in direct proportion to the increase in carbon dioxide production except for the smallest absorber tested. For this one, Foregger CF No. 1, failure was immediate with the highest carbon dioxide production rate. It should be emphasized that tidal volumes and carbon dioxide production rates of this magnitude are encountered in anesthetized patients. Early carbon dioxide accumulation may be anticipated when the Foregger CF No. 1 is used for closed ether-oxygen anesthesia in a large febrile patient.

If the failure of the circle to remove all the carbon dioxide from the expired air occurs during hyperventilation, carbon dioxide accumulation may be postponed only to develop rapidly as terminal exhaustion of the overloaded absorber occurs. Without hyperventilation sufficient to compensate for defective performance of the absorber, a gradual progression of respiratory acidosis occurs.

Regeneration does not prolong time efficiency. While the activity of soda lime can be improved remarkably by a rest of the absorbent, this rejuvenation is evanescent. Regeneration results from the conversion of sodium carbonate to sodium hydroxide at the expense of the conversion of lime to calcium carbonate. When carbon dioxide absorption is resumed, the sodium hydroxide reacts rapidly and returns to sodium carbonate, but the accessibility of lime in the granule, on which time efficiency depends, has been impaired by the regenerative process. The over-all effect of regeneration is no change in the time efficiency of circle absorbers containing soda lime (Fig. 4).

Occasionally signs of carbon dioxide accumulation appear early in the use of a fresh absorber for closed system anesthesia. Inadequate ventilation and excessive external dead space must be considered. In addition, the competence of the breathing valves and the moisture content of soda lime should be suspected. Competency of a valve may not be determined by breathing forcibly against the valve since leakage may only occur with quiet breathing and low air flow rates which failed to close the relaxed valve leaflets. The duck bill and mushroom types of valves were particularly incompetent. Valves several months

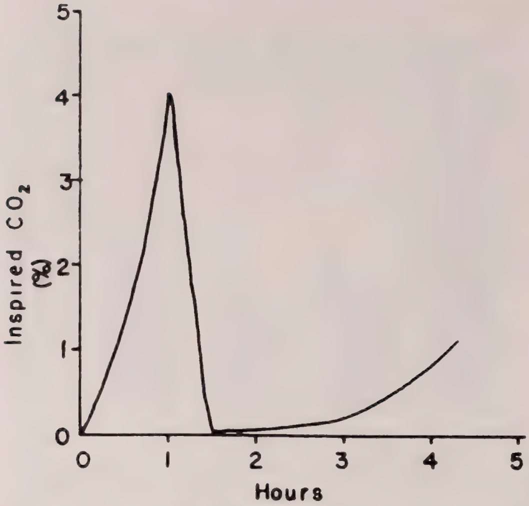

FIG. 5. Reconstitution of moisture content of soda lime during absorption. Primary rise in inspired carbon dioxide concentration from loss of moisture during storage of soda lime. The moisture-saturated atmosphere of the closed circle system (Heidbrinck 9-B) returned the moisture content to an efficient level after one hour.

old were found to have backflow leak as high as 150 cc. at a 500-cc. tidal volume. The older, all-metal disk valves were also prone to leak when their flat surface became slightly distorted. The "J" or acushnet valves were found to be most satisfactory. Gross leaks may be detected by breathing to and fro through each valve separately without exerting marked pressure. Valves permitting backflow leak defeat attainment of the potential efficiency of the circle absorber.

Early failure of the circle absorber may also result from loss of moisture from soda lime stored in damaged containers or in containers which have not been properly resealed after opening. The moisture content of such soda lime will be reconstituted from the patient's expired air after the closed circle absorber is used for an hour (Fig 5). A more rapid remedy consists of sprinkling several tablespoons of water on the top of the soda lime in the absorber before starting anesthesia.

Indicators in the absorbents are not advantageous at present. In all absorbers some channeling along the sides of the canister occurs. Hence, exhaustion of lime cannot be reliably predicted in transparent canisters as presently designed. Only in some experimental canisters in which baffles reduce the side channeling and in which several tidal volumes are accommodated in the air space have the indicator absorbents been of value in allowing one to judge the extent of absorbent exhaustion.

The time efficiency of the circle absorber may be increased when the semiclosed system is used with the "pop-off" valve situated in the expiratory circuit between the patient and the absorber. Since this arrangement discards some of the patient's expired carbon dioxide before it reaches the absorber, the increase in time efficiency is proportional to the rate of inflow gas delivered from the machine. Another advantage of the semiclosed system in terms of carbon dioxide rebreathing is the dilution effect. If the inflow is delivered into the inspiratory circuit between the inspiratory valve and the patient, the inspired air is diluted so that partial failure of the absorber will not produce carbon dioxide accumulation as rapidly as will partial failure in the closed system. Under the same conditions of carbon dioxide production by the patient, the semiclosed technic will increase the useful life of the absorber two or threefold over that of the same canister in a closed system. This advantage is not gained, however, if the excess gas escapes from the semiclosed system after passing through the absorber. In the latter case the only advantage of the semiclosed system from the standpoint of carbon dioxide removal is in the dilution effect of high inflow rates.

No absolute recommendations are possible for the exact periods of useful life in the various canisters because of the wide variation in carbon dioxide production rates of anesthetized patients. With the existing absorbers some waste of lime must be accepted if carbon dioxide accumulation from absorber failure is to be prevented. In our hospital lime is changed daily in both canisters of the Heidbrink and the Foregger CF No. 2. The Foregger CF No. 1 is regularly changed after each two hours of use. This schedule is followed whether closed or semiclosed technics are used. When an increased carbon dioxide production rate is suspected, more frequent changes of the absorbent are made. No attempt is made to salvage apparently unused lime from the absorber regardless of the appearance of the indicator. This routine admits of some extravagance with absorbent which we feel is justified in the prevention of carbon dioxide accumulation from absorber failure.

There are real prospects of improving the reliability of carbon dioxide absorption, the rationale

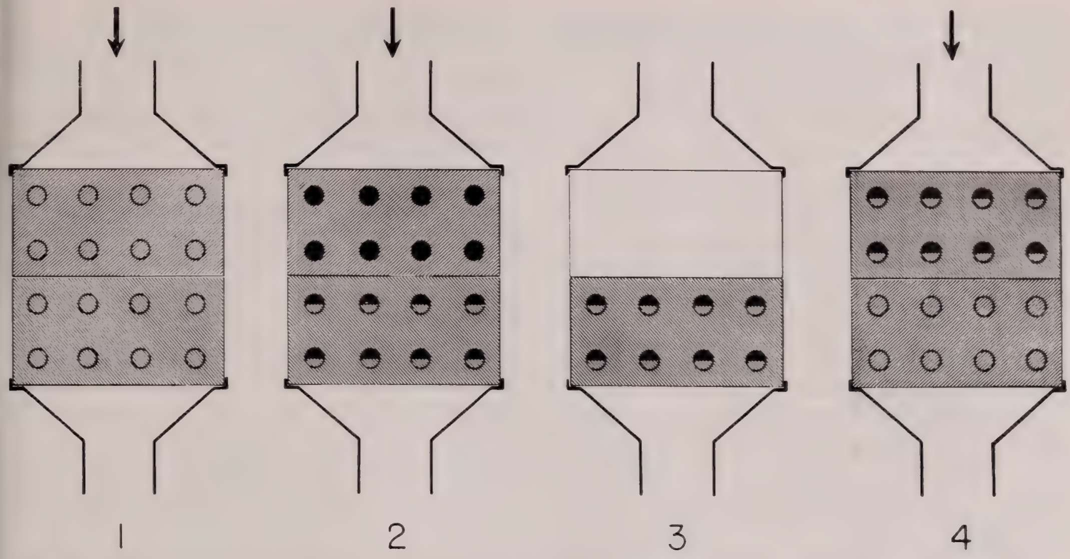

FIG. 6. Depletion and replacement of absorbent in double reversible canister. The absorbent in upper half is exhausted first. When the indicator has changed in this portion, the lower reserve half of absorbent is only partially used. After the upper half is refilled with fresh absorbent, the canister is reversed so that the previously partially used absorbent is used to completion.

of changing absorbent, and the economy of its use. These advantages may be obtained without the risk of absorber failure. To achieve these features the circle absorber must be redesigned.

It has been noted that in existing absorbers 100 Gm. of soda lime absorb maximally 15 L. of carbon dioxide. This amount of soda lime is actually capable of absorbing 25 L. of carbon dioxide. Hence, as we use lime in our present circle absorbers, we realize about 60 per cent efficiency of the absorbing capacity of the absorbent. The double reversible canister described by Kappesser,[6] as a modification of the Foregger CF No. 2 (small), has been found to have an efficiency of 95 per cent. This transparent canister which is baffled to prevent channeling absorbs 23.7 L. of carbon dioxide per 100 Gm. of soda lime. A dividing screen, placed horizontally at the midpoint of the cylindric absorber, permits discarding of the upper half of absorbent, refilling with fresh absorbent, and reversing the position of the canister with respect to expired air (Fig. 6). If such a canister is large enough to accommodate an average tidal volume in each half, the upper half of absorbent may be used almost to completion. Appreciable exit concentrations of carbon dioxide do not appear since the expired air must also traverse the lower reserve half of absorbent. This design also provides a visual indication of exhaustion of absorbent in the upper half. When the change in the indicator reaches the level of the dividing screen, absorbent in the upper half is changed and the canister reversed. The lower half of absorbent acts in reserve to prevent carbon dioxide passage through the canister when the upper half of absorbent is exhausted. Moreover, changing the absorbent may be postponed several hours if necessary. Thus, unlike existing absorbers, the double reversible absorber insures virtually complete carbon dioxide absorption throughout the entire period of its use.

Several double reversible circle absorbers have been built and evaluated, both in the laboratory and in the operating room. The useful life of soda lime in each half of these units varies between twenty and forty hours depending on their size and on the variable use of closed and semiclosed technics. We are convinced of the practical value of the double reversible large absorbers. There is the assurance that adequate carbon dioxide absorption occurs at all times with a minimal wasting of absorbent. Exit carbon dioxide concentrations do not exceed 0.5 per cent. While the details of fabrication, in terms of a durable unit, have not been undertaken in constructing these experimental absorbers, their performance demonstrates principles for designing improved circle absorbers. The incorporation of these principles by manufacturers in the design of new absorbers would eliminate at least one source of uncertainty in inhalation anesthesia.

Summary

A study of circle absorbers has revealed several defects. The effective air space of existing circle absorbers is less than a nominal tidal volume of 500 cc. as a result of size or channeling. Performance is further restricted by incompetent breathing valves.

The average useful life of soda lime in certain circle absorbers has been determined. Absorbers are considerably overloaded when used in patients with increased carbon dioxide production rates. The time efficiency of Baralyme was found to be less than that of soda lime. Excessive drying of soda lime results in early failure of carbon dioxide absorption. Regeneration of soda lime did not increase time efficiency.

An improved design of the circle absorber is described. A double reversible canister of sufficient size to accommodate an inter- and intragranular air space of two tidal volumes, 1,000 cc., is recommended.

We are grateful to the following companies for their cooperation in this study: Thomas A. Edison, Inc., the Foregger Company, the Ohio Chemical and Surgical Equipment Company, and the Mallinckrodt Chemical Works.

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Even when laws have been written down, they ought not always to remain unaltered.—ARISTOTLE

Vice . . . is a creature of such heejus mien, . . . that the more ye see it th' better ye like it.—"MR. DOOLEY" (FINLEY PETER DUNNE)

Prognosis in Heart Disease

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Few persons appreciate the wide difference that exists between the estimation of a man's physical soundness and his prospects for continuing sound over a period of years. A patient recovered from a serious illness is looked upon as a well man with as good a chance of continued life as his fellows. Emphasis is laid, and perhaps rightly so, on the significance of existing disease alone, and little attention is paid to the collateral factors which may influence longevity. We tend to deal exclusively with man as he is and not as he is likely to be. Prognosis is usually considered merely incidental to the total evaluation of the case at hand.

Granted, however, that the management of the immediate problem must be the primary preoccupation of the physician, it is a fact that today a study of the long-range implications of a disability are more important than ever before. In the instance of an illness from which recovery seems complete, we should inquire into the possibility of late complications or recurrence. If the condition is associated with an element of chronicity, we are concerned with future management and with the appraisal of work capacity in the interest of setting up a life pattern best calculated to insure as many useful and enjoyable years as possible. When faced with an unfavorable outlook, we have the social obligation to direct with tact the necessary personal and family adjustments, be these emotional or financial.

We learn little about prognosis in medical school. Rare indeed is the textbook which does not dismiss the subject casually or even mentions it at all. Our prolific literature contains numerous fine studies in which symptoms, signs, and syndromes are correlated with necropsy findings. We encounter only in the most general way discussions of the principles of prognosis, and for the most part we tend to develop only piecemeal knowledge of the fundamentals that form the basis of the estimation of longevity. Even those of us who, through prolonged exposure to the problems of insurance medicine, are oriented beyond the immediate toward the ultimate outlook are ever conscious of the fact that our conclusions are valid only for groups of people and not for individuals.

It will be the purpose of this paper to review prognosis as applied to heart disease. Clinical impressions will be supported by certain selected insurance data, but there will be no complicated statistical considerations. There will be areas in which a seeming conflict occurs between the clinically evaluated prospects and the probable outcome from the insurance viewpoint. It must be borne in mind that the skillful physician strives for harmony between the dictates of his educated art and the cold facts of actuarial science.

Finally, in introduction, reference should be made to the fact that general expectancy is increasing constantly. No time need be lost in tracing in detail the lengthening of the life span for such figures are readily available at numerous sources. Suffice it to note only that the average length of life in the middle of the nineteenth century was forty years, at the turn of the century fifty years, and today almost seventy years. This almost incredible change has altered the entire spectrum of heart disease. The impact has shifted from the infectious to the degenerative. Many more people now survive to face the cardiac impairments of later years.

Congenital Heart Disease

There is no reason to suppose that there has been any significant variation in the incidence of congenital cardiac anomalies. There is no more hope today for those unfortunate infants born with complex deformities, especially with predominant right-left shunts, than there was a century ago. However, striking improvement in the prognosis of a few congenital conditions has occurred, and one, patent ductus arteriosus, can be cured if operation is undertaken in time and if complicating factors are not present. These individuals require no restrictions of any kind. After a suitable postoperative period of observation they are regarded as standard or normal insurance risks. Dextrocardia with situs inversus does not affect longevity.

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Unfortunately, no other congenital abnormality is subject to so favorable an outlook at this time. The future may change the picture. As matters stand now, we have every reason to hope for a favorable course after operation for isolated pulmonic stenosis, provided irreparable involvement of the pulmonary circulation has not occurred, but we do not know enough about protracted postoperative courses to justify undue optimism as to the end results. Operative closure of septal defects, auricular and ventricular, is still in the experimental stage. Surgical intervention in complicated situations such as the tetralogy of Fallot is palliative at best, and there is not much to be hoped for except some prolongation of a life lived out under considerable restrictions.

Lest this seem a dim view to take of the ultimate prospects of patients with most types of congenital defects, it should be pointed out that the strides made during the past two decades in cardiac surgery are so impressive as to make essential the belief that the future may alter the picture entirely in this category. Prognosis is not static. While insurance appraisal must be based on conditions as they obtain at the time of decision, ten years or less may bring developments that will permit a substantial revision of prognostic concepts of some congenital cardiopathies. However, since long-range and not immediate prognosis is always at stake in evaluating insurability, it is evidence that changes in viewpoint will always be cautious and slow.

Rheumatic Heart Disease

Mortality from rheumatic fever has been decreasing for many years, and the decline has been especially marked since the war. This trend has been due as much to the continued improvement in living conditions as to the effect of the antibiotics in controlling streptococcal infections. The latter has had an effect in preventing initial rheumatic infections and in combating the tendency to recurrence. One cannot say, as yet, whether the long-term effect of a single attack will be appreciably influenced, but there is already suggestive evidence that this may be the case. Survival rates among children and adolescents who had no demonstrable cardiac involvement at the time of the attack have improved materially, but the mortality in this group is still above normal.

At this point it would seem indicated to make the initial reference to the 1951 Impairment Study of the Society of Actuaries, a monumental intercompany work carried through with the advisory collaboration of the Association of Life Insurance Medical Directors of America. This investigation covered the experience with policies issued from 1935 through 1949, traced to their anniversaries in 1950. A wide variety of impairments came under statistical scrutiny, and the magnitude of the project is demonstrated by the fact that a total of 725,000 policies was covered, of which over 18,000 terminated in death. Reference will be made only to those cardiac classifications which contained enough deaths to produce statistically valid mortality ratios.

By such a ratio is meant the number of actual deaths measured against the number of expected deaths in a specific category. It is to be borne in mind that in any large group of normal persons a given number will be expected to die during any stated period of observation. If we consider the mortality of 10,000 individuals and calculate that 100 are to be dead in the normal course of events after a given interval, this figure forms the basis for comparison with the experience in any special group. If it is determined that in fact 100 did die, this is called a mortality appraisal or ratio of 100 per cent. If, on the other hand, in another group there are found 200 deaths, twice the expected, this is expressed as a ratio of 200 per cent. Finally, there may be a group subject to favorable environmental and other factors in which only 80 deaths occur; this would mean a mortality ratio better than average, or 80 per cent. In the tables to follow, the approach will be entirely uniform, and only actual and expected deaths, with the resulting ratios, will be shown. This is a simple method of pointing up comparative mortality in those classifications to be considered.

It would seem useful to give an example of a basic table constructed from the known experience of the years covered by the actuarial study. This is done purely as an explanatory measure, and the figures do not have to be retained since it has been pointed out that reference will be made only to ratios in dealing with the various impairments. Table I shows the expected number of deaths per 1,000 at various ages at issue and during various intervals during which the policies were in force. In all categories a

TABLE I.—Basic Table 1935–1950, Mortality Rates per 1,000

Age at Issue	Policy Years			
	1 to 2	3 to 5	6 to 10	11 to 15
15 to 29	1	1	1	2
30 to 39	1	2	3	5
40 to 49	3	4	7	12
50 to 64	7	13	20	31

TABLE II.—Acute Articular Rheumatism, One Attack Within 5 Years of Application

Age at Issue	Deaths		Mortality Ratio (Per Cent)
	Actual	Expected	
15 to 29	27	15	182
30 to 39	26	20	127
40 to 49	26	28	92
50 to 64	30	21	142
15 to 64	109	84	129

TABLE III.—Acute Articular Rheumatism, One Attack over 5 Years Before Application

Age at Issue	Deaths		Mortality Ratio (Per Cent)
	Actual	Expected	
15 to 29	29	28	102
30 to 39	85	64	134
40 to 49	106	103	102
50 to 64	103	82	126
15 to 64	323	277	116

certain number of deaths are always expected. It is against this number that the actual deaths are measured in estimating the percentage of mortality incident to any impairment in question.

Brief mention should be made of the acknowledged limitations of any study of this character, which depends on the analysis of results stemming from examinations of all kinds and varying competence made at many sources. It is recognized that such data are not uniformly unimpeachable, but there is the compensating factor that the numbers of cases are extremely large, the underwriting approach reasonably consistent, and the deaths unequivocal. In smaller groups, morbidity and the correlation of clinical, physiologic, and pathologic data are of vital importance and frequently most illuminating, but mortality established and equated actuarially points up more absolute trends.

Returning to the consideration of the prognosis of rheumatic fever, it is found that in the Impairment Study over 4,000 policies were issued on a standard basis to applicants giving a history of one attack of acute articular rheumatism within five years of the date of issue. These were individuals not presenting murmurs on examination. Table II shows the mortality experience.

These were cases insured at standard rates. Over 2,600 policies were issued to persons with the same history but, for various reasons, at an increased premium. The experience in this substandard group did not vary significantly from the standard. Furthermore, if the history of the single attack of articular rheumatism was over five years prior to the date of application, the mortality was more favorable. Over 10,000 policies were issued to persons in this category. Table III summarizes this experience. It is evident that statistically a history of rheumatic fever carries with it a slightly increased mortality, but the excess is not great and the prognosis under these circumstances must be considered relatively good. It is interesting to note that the actual mortality among insured lives has decreased in comparison with earlier studies, doubtless due to improved therapeutic management, the decreased incidence of recurrence, and the effect of the antibiotics in controlling subacute bacterial endocarditis.

Cardiac Murmurs

With a history of rheumatic fever the presence of a cardiac murmur must be considered presumptive evidence of valvular deformity unless proved otherwise by time or other evidence. It must be borne in mind, however, that the actual rheumatic infection escapes diagnostic notice in a considerable proportion of cases, and it is necessary, therefore, to estimate prognosis in many instances on the basis of the qualitative evaluation of a murmur alone.

Those murmurs occurring in diastole are due in the large majority of cases to either mitral stenosis or aortic insufficiency. Rheumatic involvement of the pulmonary valve is rare. Tricuspid stenosis is less uncommon but is almost invariably associated with other valvular lesions and carries with it a grave immediate prognosis. It has been notoriously difficult to predict the course of the individual case of mitral stenosis and aortic insufficiency. Many individuals do well for long periods with these conditions, provided rheumatic fever does not recur and provided cardiac hypertrophy of marked degree and intractable arrhythmias do not supervene. It is quite possible for patients with uncomplicated

TABLE IV.—Systolic Murmurs

Apical
1. Physiologic—*common*
2. Pathologic—mitral insufficiency
   Rarely—aortic stenosis

Pulmonic
1. Physiologic—*common*
2. Pathologic—pulmonic stenosis
   Rarely—aortic stenosis

Aortic
1. Physiologic—*uncommon*
2. Pathologic—aortic stenosis

valvular deformities to lead relatively normal lives; so much so that operative intervention in favorable cases of mitral stenosis is, at this point anyway, of very questionable merit. It is certain that no current conclusions are justified as to the long-range effect on mortality of commissurotomy. This could hardly be otherwise in view of the recent development of the procedure and the lack of suitable groups of unoperated cases with which to make valid comparison.

It is possible only to generalize when considering ultimate prognosis in mitral stenosis and aortic insufficiency. Taken as groups, both conditions would show a markedly contracted expectancy. Individuals within each group may not suffer in longevity if the lesions are slight. If more marked or if occurring in combination or complicated, the outlook is distinctly guarded. The first attack of decompensation in aortic insufficiency is of graver moment than in mitral stenosis since even with medical management alone it is usually possible to exercise control longer in the mitral case. Finally, no prognostic help is afforded by insurance data, in that these conditions are either regarded as uninsurable or as insurable under such unfavorable premium terms as to make the source material too small for statistical analysis.

Systolic Heart Murmurs

Systolic murmurs are the commonest of the auscultatory phenomena. In contradistinction to the diastolic murmurs, they have presented a troublesome diagnostic problem throughout the evolution of clinical cardiology (Table IV). They have been frequently overdiagnosed. Their significance has been often underrated. They may or may not be related to a rheumatic history. They may have been present before the rheumatic attack occurred. They do, however, present one feature which permits a classification of sorts, this being their loudness. There are, of course, other qualitative characteristics which aid in differentiation, but for the most part the axiom holds that the louder the murmur, the more likely it is to be of organic origin. In this area the actuarial Impairment Study provides extensive data which aid greatly in the drawing of prognostic conclusions.

Mention has been made of the loudness of the murmur. There are other features deserving of more attention than is accorded them in ordinary practice. Note should be made of whether the murmur is constant in all body positions and in the various phases of respiration. The more variable it is, the more likely is it to be of organic origin. It should be established whether the murmur occurs immediately after the first sound or whether there is an appreciable silent interval. Mid-systolic murmurs are more apt to be physiologic. Is the murmur heard in a circumscribed area, or is its distribution wider, perhaps extending to the axillary line, if apical, or upward and outward to or above the clavicle, if basal? The more widespread, the greater the probability that the murmur is organic.

There is the element of quality: Is the murmur soft or blowing, or is it rough or harsh, even to the point of producing a thrill? If rough or harsh, the murmur is more likely to be organic, and a thrill is rarely, if ever, present in physiologic states. What is the effect of exercise on the loudness, quality, and distribution of the murmur? This is more difficult to answer, but moderate to marked increase in the loudness and distribution of the murmur or a significant qualitative change in the direction of harshness is more likely to be an adverse circumstance.

These observations point up the vital character of discriminating auscultation and palpation. The hands and ears of the observer who has critically evaluated the history will provide the answer in the large majority of cases. It is only the unusual circumstance that calls for the more refined and complicated diagnostic procedures such as cardiac catheterization and angiocardiography.

Returning to our statistical material—comment is required on its sources. In insurance work we have to depend on reports from large numbers of physicians who must have a widely variable ability to observe, describe, and interpret physical findings. As that astute observer, Dr. Harry Dingman, has put it, "Who hears what?" Insurance examinations are not always made

TABLE V.—CONSTANT, LOCALIZED APICAL SYSTOLIC MURMURS

Age at Issue	Deaths Actual	Deaths Expected	Mortality Ratio (Per Cent)
15 to 29	52	31	170
30 to 39	60	43	141
40 to 49	87	65	134
50 to 64	70	56	126
15 to 64	269	195	139

TABLE VI.—INCONSTANT APICAL SYSTOLIC MURMURS

Age at Issue	Deaths Actual	Deaths Expected	Mortality Ratio (Per Cent)
15 to 29	27	24	110
30 to 39	41	41	101
40 to 49	67	54	125
50 to 64	41	40	103
15 to 64	176	159	111

TABLE VII.—APICAL SYSTOLIC MURMURS, CONSTANT, TRANSMITTED TO LEFT

Age at Issue	Deaths Actual	Deaths Expected	Mortality Ratio (Per Cent)
15 to 29	188	58	325
30 to 39	178	78	227
40 to 49	248	118	210
50 to 64	120	79	152
15 to 64	734	333	220

TABLE VIII.—MORTALITY RATIOS OF APICAL SYSTOLIC MURMURS

Age at Issue	Localized Inconstant	Localized Constant	Transmitted
15 to 29	110	170	325
30 to 39	101	141	227
40 to 49	125	134	210
50 to 64	103	126	152
15 to 64	111	139	220

under favorable conditions. Except in special circumstances the clinical impression is not supported by other evidence, such as that supplied by radiography. But there is a compensating factor—there are very large numbers of cases evaluated and classified with a considerable degree of underwriting uniformity. It is only necessary to recall again that statistical conclusions do not apply to the estimation of the expectancy of any single individual but rather to substantial groups of persons who present identical physical signs or clearly identified anatomic conditions.

LOCALIZED APICAL SYSTOLIC MURMURS.—Considering first the apical systolic murmurs, in Table V are shown the mortality ratios provided by constant localized apical systolic murmurs without a history of rheumatism. It is to be noted that for all ages there is a slightly increased mortality with this impairment. At the younger ages this increase is more marked, undoubtedly because of the presence of some unrecognized rheumatic carditis, but it must be realized that relatively few young people die for any reason, and hence, a few added deaths cause a somewhat disproportionate increase in the mortality ratio. In general, these figures, which represent the deaths among about 10,000 insured individuals, are favorable and indicate that the murmur in question is likely to be benign in character.

Proceeding to the category of the inconstant apical systolic murmurs, we find a more favorable experience; in fact, the excess mortality is negligible (Table VI). These constant and inconstant apical systolic murmurs would be graded as 1 or 2 clinically. They are, for the most part, physiologic. It is justifiable to regard their prognosis as extremely good. With supporting favorable radiologic evidence, the outlook becomes even better.

NONLOCALIZED APICAL SYSTOLIC MURMURS.—Quite a different picture emerges from a consideration of the more extensive apical systolic murmurs. The term "transmitted" is not a happy one, but it has a tradition and is hard to eradicate. It need not be disturbing if its use is simply applied to those murmurs heard over an area beyond that of the apex, usually most prominently to the left. In effect, the so-called "transmission" is simply a factor of loudness.

Compared to the favorable mortality shown by the circumscribed murmurs, the figures shown in Table VII are much more ominous. This group is large; almost 19,000 policies were issued to individuals whose murmurs were so classified. In no instance was there an admitted history of rheumatic fever. These persons were almost all insured at an increased premium. As with the circumscribed murmurs, the highest mortality was experienced at the younger ages, reflecting the greater likelihood of masked carditis at the time of the insurance examination and the greater tendency toward recurrence before the fourth decade.

In the presence of hypertrophy, suspected by a clinically observed displacement of the apex impulse to the left or proved by x-ray or fluoroscopy, there is a still further contraction of ex-

TABLE IX.—LOCALIZED PULMONIC SYSTOLIC MURMURS

Age at Issue	Deaths Actual	Deaths Expected	Mortality Ratio (Per Cent)
15 to 29	30	30	100
30 to 39	54	42	129
40 to 49	26	27	97
50 to 64	8	11	71
15 to 64	118	110	107

TABLE X.—AORTIC SYSTOLIC MURMURS (AGE AT ISSUE 15 TO 64)

Murmur	Mortality Ratio (Per Cent)
Not transmitted	191
Transmitted upward	491

pectancy. Likewise there is a marked increase in mortality when there is a history of rheumatic fever associated with the finding of the widespread apical systolic murmur.

Table VIII summarizes the insurance experience with apical systolic murmurs in the main categories discussed. The figures demonstrate in all age groups the graver prognosis of the nonlocalized murmurs.

BASAL SYSTOLIC MURMURS.—Turning to the basal systolic murmurs, it is found that insurance statistics support the clinical impression that those localized in the pulmonic area to the left of the sternum are for the most part physiologic.

Organic murmurs are of course heard in this same area, but they are almost always recognized by their character and wider distribution. Table IX shows the mortality in this group. Even with the almost inevitable inclusion of some cases of congenital pulmonic stenosis of slight degree, it is readily apparent that the experience is favorable when this is the only demonstrable physical sign over the precordium.

Basal systolic murmurs heard with maximal intensity over the aortic area are of far greater diagnostic significance. Physiologic murmurs are not commonly observed at this site. If organic, the valvular deformity is almost always of rheumatic origin at the younger ages but may be rheumatic or arteriosclerotic or mixed in the older group. The presence of a thrill clinches the diagnosis of an organic cardiopathy.

For the most part, aortic systolic murmurs occur in combination with other clinical features which make the subject uninsurable, and the number of deaths in this category is too small to justify an age breakdown. However, Table X shows a high mortality ratio even with the localized aortic murmurs presumed to be of low intensity and probably not producing thrills. When more widespread, almost five times as many deaths occur as in the standard control group.

Summarizing the discussion of systolic murmurs, one may consider those in the apical and pulmonic areas, identified as physiologic, to be of excellent prognostic significance. There is no significant increase in mortality. When the apical murmurs are more widespread, the outlook is less favorable, particularly if there is a history of rheumatic fever or if there is evidence of hypertrophy. These are the individuals who require careful observation. Many, indeed most, will live out a satisfactory expectancy, but ultimately the group as a whole will not do so well as normals. Reassurance is in order in all cases, but discriminating judgment on the part of the physician is called for in deciding on limitation of extraordinary physical activity.

Aortic systolic murmurs deserve a less optimistic outlook. They are not often physiologic. They are more likely to be associated with other clinical stigmata than are the apical murmurs. By the same token, subjects presenting this sign should be subjected to more rigid observation over the years, although encouraged to live nearly normal lives but with a clear and permanent realization of the necessity for observing common-sense restriction of undue physical exertion.

Degenerative Heart Disease

It should be stressed that there is a great difference indeed between degenerative heart involvement and degenerative heart disease. Strictly speaking, aging of the cardiovascular system begins at birth. Arteriosclerotic cardiovascular disease has its origin at a point at which pathognomonic signs or symptoms appear. This may be early or late. Progression in degree may be slow or rapid. There may or may not be disability, and this can be extremely variable in degree. The outcome is often entirely unpredictable, being manifested in some cases by sudden death due to myocardial infarction or massive cerebral hemorrhage, in others by a protracted period of increasingly severe cardiac failure. Finally, a stage is reached in the ninth and tenth decades where a remarkably stable course develops. The myocardium and the vascular tree can hardly have escaped sufficient damage to bring about an actual diseased state, but nothing happens. Thus we find a ninety-two-year-old alumnus, not of Cornell but of Princeton, who stated: "I have a very peculiar honor. I am the oldest living graduate. All I've got to do is just to live. Whether I become a thief or a rascal, I will still be the oldest living graduate of this University."

We need not concern ourselves here with the prognosis of the patient who has had one or more attacks of real decompensation due to arteriosclerotic heart disease. With careful and discriminating management these cases may do well for long periods, but there is an ever-present hazard which makes the outlook permanently guarded. The compensation threshold is modified by such diverse factors as increasing weight and temperament. Reorientation of the patient's life habits and interests is necessary. One can only say that some of these individuals will do surprisingly well at the expense of a modified and controlled way of life, but in almost all instances the expectancy, measured from the date of onset of failure, is contracted.

However, what of those persons who after age forty develop only minor suggestive symptoms of cardiac insufficiency or who are found to have borderline electrocardiographic findings, perhaps without any related clinical background? Granting the occurrence of the occasional unpredictable coronary episode, the fact remains that a high percentage of these individuals experience little or no increased mortality. This is the group that calls for reassurance and encouragement in the pursuit of life normal to its members. At these ages few persons are doing cross-country running or pulling stroke oar in a racing shell. If they are, or if they are climbing mountains or contemplating swimming the Channel, they should be told to desist. If they enjoy walking, or riding, or playing golf, or reasonable tennis, or the like, they should be told that they can continue on a common-sense basis, learning to stop short of undue fatigue or dyspnea. Their business life should go on as usual unless it is characterized by extraordinary emotional stress. They should drink and smoke in moderation, if they so desire, and, even recognizing disturbing trends in the understanding of the significance of cholesterol metabolism, they should continue to eat what they like as long as they do not put on excess weight.

TABLE XI.—Family History* of Cardiovascular-Renal Disease

Age at Issue	Deaths Actual	Deaths Expected	Mortality Ratio (Per Cent)
15 to 29	42	31	136
30 to 39	140	101	139
40 to 49	298	190	157
50 to 64	251	196	128
15 to 64	731	518	141

* Two or more cases under age 60.

These are sound clinical observations. What do we learn from insurance sources as to the prognosis of the early stages of degenerative heart disease? Unfortunately, little or nothing, since it is virtually impossible to set up even approximately uniform standards on which a mortality investigation could be based. In one area, however, that of the family history, the Impairment Study already referred to produced some interesting and important results. About 15,000 applicants, two or more of whose parents or siblings were known to have or to have had cardiovascular-renal disease under age sixty, chiefly degenerative, provided the material which is summarized in Table XI.

The substantial size of this experience rules out any possibility that these ratios are the result of chance fluctuation. It is true that the increased mortality is not great, but measured by the criteria of standard insurability, it is definitely significant. It is to be borne in mind that associated impairments were strictly minor in degree, in no case calling for the issue of other than standard insurance.

Coronary Artery Disease

The last subdivision under the heading of degenerative heart disease is that dealing with impairment of the coronary circulation and myocardial infarction. Countless studies are available which touch on various phases of this problem, but the evidence bearing on ultimate prognosis tends to be conflicting. It must be recognized that basically the occurrence of a documented acute coronary episode is of extremely serious moment. Sudden death is frequent. Death within a few months is common. It is only when the patient enters the third year that his chances of survival begin to brighten appreciably. It is not implied that disability is

TABLE XII.—Average Life Expectancy After Myocardial Infarction

Age at Onset	Expectancy After Infarction (Years)	Normal Expectancy (Years)
30 to 39	11.5	33.4
40 to 49	10.5	25.2
50 to 60	8.5	17.8

necessarily prolonged following the acute attack, but there is no question of the fact that the danger of recurrence or late complications is serious during the early course.

It is not within the scope of this discussion to comment on the effect on mortality of the use of anticoagulants. The statistical data compiled under the auspices of the American Heart Association are familiar. By and large, the more serious the nature of the initial episode, as measured by the degree of shock, irregularities of rhythm, the presence of complications, and possibly the extent of the area of infarction as shown by the electrocardiogram, the less favorable the prognosis. This correlation is by no means invariably noted, and exceptions are far from rare at both ends of the spectrum. It is, in fact, with the histories of cases of long standing that we should be primarily concerned since these are the ones that afford a really hopeful outlook. Mortality ratios definitely decrease as the survival time lengthens.

Table XII points up effectively the grave nature of myocardial infarction as far as prognosis is concerned. It is based on a series of over 1,500 disability claims analyzed by the Mutual Life Insurance Company of New York. The diagnosis in all cases was fully authenticated. The markedly contracted total expectancy in all age groups is evident. Material from other sources similarly treated might be expected to show some divergent figures, but it is unlikely that a much more favorable general trend would be shown.

Admitting the serious character of this impairment, when studied from a group standpoint, there is no justification for establishing a gloomy prognosis in managing the individual patient who has successfully weathered the early storm, particularly if the therapeutic approach has been sound and intelligent cooperation is encountered. Without doubt unnecessary chronic invalidism is caused by overconservatism. There is rarely an excuse for a disabling functional state when the physician has provided his patient with proper insight and skillfully guided his return to reasonably normal activity.

Other Cardiac Impairments

Clinical observations form the basis of prognosis in the wide variety of less frequent cardiopathies, in that too few cases are available to insurance sources to justify statistical analysis. Acute nonspecific pericarditis, even if recurrent, seems to carry with it little ultimate hazard. The more serious nature of constrictive pericarditis is obvious, but timely operative intervention frequently makes possible a reasonably good life span. Subacute bacterial endocarditis, previously fatal in almost all cases, can now be adequately combated, and the long-range prognosis is that of the underlying condition. Systemic conditions, such as sarcoidosis and certain other uncommon diseases, involve the heart in some instances, and this invasion of the myocardium may be decisive, but here again so many factors are present as to make impossible any practical estimation of the prognostic significance of the heart lesions.

Disturbances of Rate and Rhythm

The almost uniformly poor prognosis of such disturbances of rate and rhythm as ventricular tachycardia and mixed chaotic arrhythmias requires no comment. Chronic auricular fibrillation and flutter are serious manifestations of organic disease, but the prognosis is generally that of the underlying condition.

Premature contractions may be considered functional at the earlier ages, and they require no treament. At the older ages, especially if they have not been previously observed, they require cautious evaluation for under these circumstances they usually reflect arteriosclerotic myocardial changes, and a more guarded view of the ultimate prognosis must be taken. Whether or not these ectopic beats merit attempted control depends on the picture as a whole, and the element of morale is important. If the premature contractions are from multiple foci, whether supraventricular or ventricular, the prognosis is definitely dubious. Similarly, premature contractions complicating fibrillation are also to be taken as of adverse significance.

Paroxysmal tachycardia occurring as a single brief attack is almost always benign unless there is an associated Wolff-Parkinson-White pattern in the electrocardiogram, in which case there is undoubtedly the hazard of sudden death. Even occasional recurrences need cause little concern if there is no evidence of underlying organic disease. On the other hand, paroxysmal fibrillation or flutter requires careful scrutiny since it will be found that many cases showing this phenomenon progress to organic cardiopathies with a definitely increased mortality. Any paroxysmal, rapid, or disordered heart action calls for a guarded prognosis if persistently recurrent.

Electrocardiography

A favorable view may be taken of first degree heart block, even of rather marked degree, provided it is not a new phenomenon and is observed unchanged over a fair period of time. Second degree block and complete dissociation are more serious phenomena and generally reflect the presence of an organic cardiopathy. In such cases there is the danger of progression in the degree of block, and the outlook must always be considered uncertain, although many individuals with these high degree blocks go on undisturbed for long periods.

Complete left and right bundle branch block have been repeatedly investigated, and in this category wide divergence of opinion has been expressed. Here again a warning must be sounded against the temptation to be reassured by the occasional case of long duration. For the most part, these conduction defects are of serious moment, and from an insurance standpoint we have reason to believe that the mortality is anywhere from three to six times the expected. Complete left block is uncommon at the early ages. Complete right block is occasionally found by chance in young persons, and if there is no related history and if the pattern proves to be stable, it is quite possible that it may be of congenital origin and of little or no long-range significance. Incomplete right bundle branch block is now an entity easily identified by multiple precordial leads, and our own studies on a substantial number of cases suggest that it is not of adverse significance unless it appears at the upper ages in individuals who have previously demonstrated normal conduction patterns.

A stern word of caution must be directed against too optimistic a view of the so-called nonspecific T-wave changes so frequently encountered in electrocardiographic practice. These include low voltage or notched T waves as well as those which are diphasic or which show shallow inversion. In a disquieting number of cases these T-wave patterns produce a definitely increased mortality. A series being prepared for publication by my associates at the Prudential Insurance Company will show 50 to 75 per cent extra mortality without a history of chest pain and a considerably greater mortality with such a history. There is a definitely increased likelihood of the later occurrence of infarction than in a group of control individuals showing no electrocardiographic abnormalities. Since the course of coronary disease is so unpredictable, it is impossible to draw anything like fine prognostic lines, but persons with such T-wave patterns deserve discriminating observation with due attention, however, to morale factors and minimal restriction of activity consistent with reasonable safety. The management of this type of patient calls for very mature judgment indeed. The extra mortality has been stressed, but equal cognizance must be taken of the fact that many members of this group seem to enjoy normal or near-normal expectancy.

These electrocardiographic aberrations are among those most commonly encountered. The more advanced changes are too obviously of serious import to merit detailed discussion here.

Other Special Studies

Fluoroscopy and x-ray studies are vital in the evaluation of the cardiac status. Contour changes usually reflect specific congenital or acquired cardiopathies, the prognosis of which has been discussed. If simple left ventricular hypertrophy is noted, the prognosis is definitely unfavorable. Enlargement is an early manifestation of failure. It is impossible to make any statistical statement as to the specific ultimate outcome in cases showing variable degrees of hypertrophy, other than to make the obvious observation that the larger the heart, the less favorable the prognosis.

Ballistocardiography is in too early a stage of development to make possible any valid prognostic conclusions. It can be reasonably held, however, that an abnormal tracing below age fifty should be viewed with some concern and that an unequivocally normal one at age fifty and over should be considered as favorable.

Comment

Time does not permit discussion of the prognostic implications of cardiovascular lues, aortic disease, and hypertension. The prognosis of elevated blood pressure is at the moment a highly controversial issue, having its basic roots in differences of opinion as to what actually should be considered hypertension. There is also no time for a discussion of peripheral vascular disease.

It should be observed, however, that overweight impairs the prognosis of any form of heart disease and that there is some evidence to suggest that smoking also exerts a deleterious effect.

Summary

An attempt has been made to summarize the broad aspects of prognosis as it is applied to heart disease. It is possible to be statistically specific in some areas, while in others only the broadest of conclusions can be drawn. It is important to bear constantly in mind that it can never be stated categorically what will happen to any one individual with heart disease, and all the observations made have validity only when applied to groups of persons with the same or very similar conditions. This differentiation permits discriminating optimism on the part of the physician in guiding his own single patient, who is interested vitally in his own welfare, progress, and happy adjustment to life and not at all in his particular mortality ratio.

Kidney Disorders

Encouraging news for Americans with kidney disorders is provided by a current report by statisticians of the Metropolitan Life Insurance Company.

"The kidneys are subject to a wide variety of disorders," the report points out, "but the reserve capacity of the organ is so great that it is often able to function effectively in the presence of serious damage, or even when one of the kidneys is removed."

During 1953, the statisticians note, there were about 28,000 deaths in the United States attributed to nephritis and other diseases of the kidney and urinary system; they constituted but two per cent of the total mortality.

Chronic nephritis alone accounted for more than half of these deaths, with infections of the kidney ranking next in order of frequency; kidney stones caused less than 1,000 of the fatalities.

The Metropolitan statisticians also report that a long-term follow-up study of the experience of many large life insurance companies insuring persons, who at the time they were insured, had either a history or some evidence of common kidney disorders, indicates that such persons have a relatively favorable mortality even though somewhat higher than the average for standard risks.

"The reduction in the frequency and severity of certain infections in childhood has been accompanied by a rapid decline in fatalities from acute kidney disease and a decreased incidence of chronic kidney damage due to infection," the statisticians comment.

"Surgery on the kidney and its structures has become so highly skilled that persons undergoing such surgery have excellent prospects for virtually normal longevity. New drugs are available which enable physicians to control the symptoms of chronic kidney conditions of later life. By and large, most of the mortality from kidney disease now occurs among old people and is a consequence of the gradual breakdown of the organ with age."

Lysine Supplementation in Infant Feeding

Dosage Considerations

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THE daily requirements for certain amino acids during infancy have been estimated in a previous study.[1] The results indicated that the growth requirement of lysine in infants is surprisingly high and relatively much greater than the quantity needed for maintenance in young healthy adults. Thus, a lysine-tryptophane ratio of 6.0 was calculated to be the proportion of these essential amino acids required for efficient protein synthesis in infants, as compared with a lysine-tryptophane ratio of 2.0 to 3.2 that is necessary, according to the amino acid requirement data of Bricker *et al.*[2] and Rose,[3] for maintenance in young adults.

Analyses of amino acid composition show that the lysine-tryptophane ratio of most foods in the usual pediatric diet, with the notable exception of certain meat products, falls short of the growth ratio of 6.0. The analytic data of Williamson[4] reveal that even cow's milk, the keystone of the pediatric diet, has a relative deficiency of lysine and an average lysine-tryptophane ratio of only 4.3. Williamson's assay data have been confirmed in our analytic laboratories.

The disparity between the lysine-tryptophane ratio required for efficient growth in infants and the apparently suboptimal lysine-tryptophane ratio of milk suggested that the value of milk protein as a pediatric food might be improved, especially in infants with poor appetite and impaired nutrition, by supplementation with small amounts of lysine. Preliminary studies[5] among 15 infants provided biochemical and clinical support for the validity of this concept. The findings indicated that lysine fortification of fresh or evaporated milk formulas, fed to infants in a substandard nutritional state, resulted in marked increases in nitrogen retention together with elevated blood protein levels, rapid weight gain, and appetite improvement.

TABLE I.—LYSINE-VITAMIN-MINERAL MIXTURE*

Constituents	Supplemental Daily Dose Infant 10 Pounds or Under	 Infant over 10 Pounds
L-lysine	250 mg.	500 mg.
Vitamin A	1,875 USP units	3,750 USP units
Vitamin D	500 USP units	1,000 USP units
Thiamine	0.375 mg.	0.75 mg.
Riboflavin	0.625 mg.	1.25 mg.
Niacinamide	3.75 mg.	7.5 mg.
Vitamin B_{12}	1.25 mcg.	2.5 mcg.
Folic acid	0.125 mg.	0.25 mg.
Ascorbic acid	37.5 mg.	75 mg.
Pyridoxine	0.375 mg.	0.75 mg.
Calcium pantothenate	3.75 mg.	7.5 mg.
Elemental iron	3.75 mg.	7.5 mg.
Elemental calcium	65 mg.	130 mg.

* Available commercially as "Lactofort" (White Laboratories).

Daily additions of 50 to 100 mg. of lysine per Kg. of body weight seemed to approximate the range of effective dietary supplementation. The present study is an extension of the previous investigation and was undertaken in an effort to define a more convenient and practical dosage for supplemental lysine in infant feeding.

Experimental

Twelve infants, one week to fourteen months of age, were studied as described previously.[5] The infants were fed evaporated or fresh milk formulas and complementary foods in conformity with current pediatric practice. Daily caloric intake was maintained at 45 to 55 calories per pound with an approximate percentile caloric distribution of proteins 15, fats 35, and carbohydrate 50. Analyses of daily diet records revealed that the average protein intake from all sources was approximately 3.5 Gm. per Kg. per day.

In all cases the periods of lysine supplementation were preceded and followed by control pe-

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These studies were supported in part by funds from the Office of Naval Research and by grants-in-aid from E. I. du Pont de Nemours & Co. and White Laboratories, Inc., Kenilworth, New Jersey.

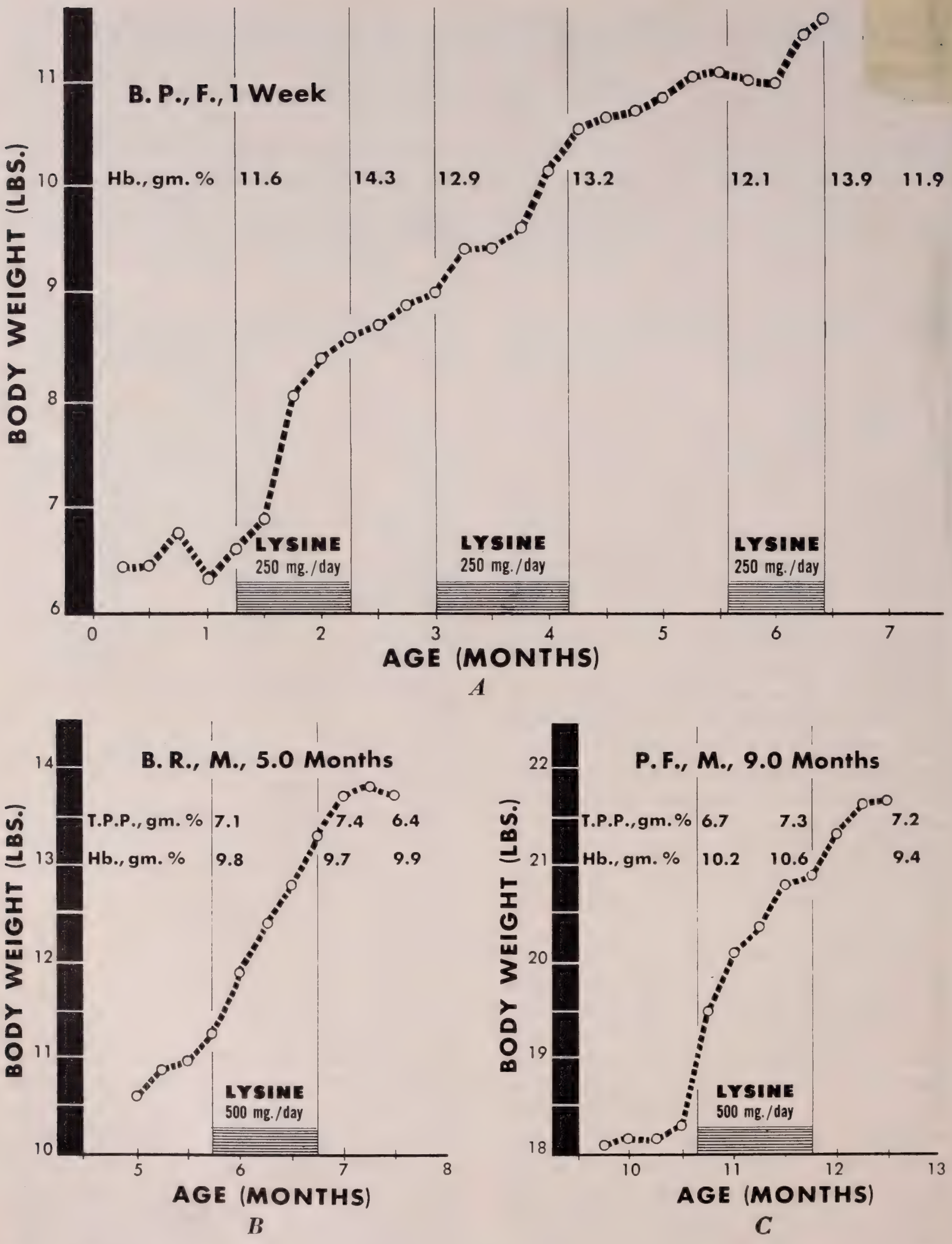

Fig. 1. Effect of dietary supplementation with lysine on three nutritionally subnormal infants during the first year of life.

riods of three to seven weeks duration. L-lysine monohydrochloride was added to feeding formulas, usually in amounts equivalent to 250 mg. of L-lysine per day for infants weighing 10 pounds or less and 500 mg. per day for infants over 10 pounds. The lysine supplement was contained

TABLE II.—EFFECT OF LYSINE SUPPLEMENTS ON THE NUTRITIONAL STATE OF INFANTS

				Preliminary Control Period				Lysine Supplement Period					Subsequent Control Period			
Case	Sex	Age (Months)	Initial Body Weight (Pounds)	Weeks Observation	Weight Gain (Ounces per Week)	Hemoglobin (Gm. Per Cent)	Total Plasma Proteins (Gm. Per Cent)	Lysine Dosage (Mg. per Day)	Weeks Observation	Weight Gain (Ounces per Week)	Hemoglobin (Gm. Per Cent)	Total Plasma Proteins (Gm. Per Cent)	Weeks Observation	Weight Gain (Ounces per Week)	Hemoglobin (Gm. Per Cent)	Total Plasma Proteins (Gm. Per Cent)
1	M	3	6.2	5	5.5	9.0	5.6	250	3	6.3	10.0	5.8	4	3.7	11.3	5.4
2	F	3	8.6	3	2.0	12.0	6.1	500	4	5.7	12.2	6.5	3	4.3	13.1	6.5
3	M	13	12.8	7	2.1	13.1	6.7	500	5	3.6	12.5	6.4	4	4.2	10.4	6.8
4	F	14	14.8	6	2.6	9.1	6.4	500	3	4.1	9.5	..	3	2.0	10.0	..
5	F	5	11.7	5	5.2	9.5	6.5	500	4	6.8	10.1	7.0	3	7.6	10.6	6.7
6	F	6	13.9	3	1.3	11.6	6.6	500	4	3.3	10.3	6.3	3	2.0	10.1	6.8
7	M	14	17.9	3.5	5.3	8.6	6.9	500	4	4.0	9.2	7.5	3	4.6	9.4	7.3
8	M	6	16.8	5	2.8	11.7	6.2	500	3.5	3.0	11.4	6.7	3	2.3	12.6	7.2
9	M	8	18.7	5	5.0	10.4	6.6	500	4	5.0	12.4	6.1	3.5	2.3	12.7	6.7

in a mixture of vitamins and minerals that assured daily intake of these nutritive elements at fully adequate levels (Table I). An identical vitamin-mineral mixture (*without* lysine) was administered during the control periods in order that the supplemental lysine would represent the only experimental variable.

Results

Striking results of dietary supplementation with lysine during the first year of life are graphically illustrated in the three growth charts of Fig. 1A, B, and C. A young infant presenting a feeding problem responded to three intermittent courses of supplemental lysine administered in a daily amount of 250 mg. (Fig. 1A). The rate of weight gain during the first and second lysine supplement periods was approximately three and a half times as rapid as that of the lysine-free control periods and reflects the adequacy of 250-mg. additions of lysine to the twenty-four-hour feeding formula for an infant weighing up to 10 pounds. The third lysine supplement period occurred when the infant weighed over 10 pounds, and the growth rate, although superior to that of the lysine-free control periods, was less than the growth rate during the first and second lysine supplement periods. This response suggests the desirability of a larger intake of supplemental lysine for an infant weighing more than 10 pounds.

Figure 1B illustrates the efficacy of a higher level of supplemental lysine for infants whose weight is in excess of 10 pounds. The response in this case of an infant who was malnourished in terms of body weight shows the rapid rate of growth associated with lysine supplementation at a level of 500 mg. per day. It is interesting to note that the improved growth rate carried over into the early phase of the subsequent control period. As in the previous case, the average weight gain per unit time was three and a half times greater during the period of lysine supplementation than in the two lysine-free control periods.

Figure 1C exemplifies the adequacy of 500-mg. additions of lysine to the feeding formula of an anorexic infant weighing approximately 18 pounds. On admission this patient was underweight and suffered from chronic bronchitis and occasional diarrhea. In this instance lysine supplementation evoked an increase in weight per unit time approximately three times that of the lysine-free control periods. Again, the improved growth rate was carried over into the early phase of the subsequent control period.

Our findings in nine other infants are summarized in Table II. Seven of these infants (Cases 1 to 7) presented appetite problems and were poorly nourished in terms of body weight. The remaining two infants (Cases 8 and 9) were initially in an adequate state of nutrition and physical development.

Among the group of seven anorexic infants, six responded to daily supplements of 250 to 500 mg. lysine with prompt improvement of appetite and with increased rates of weight gain. The average rate of weight increment in these six infants was 40 per cent greater in the period of lysine supplementation than during the lysine-free control periods. In one member of the nutritionally deficient group (Case 7), the growth rate was not favorably influenced during a four-week trial of daily supplements of 500 mg. of lysine. The failure of response in this infant was possibly due to the occurrence of acute exacerbations of generalized eczematous dermatitis during the period of observation.

In the two adequately nourished infants (Cases 8 and 9), the intervals of lysine supplementation, as compared with the lysine-free control periods, were associated with only a 29 per cent greater rate of weight gain. Our previous study[5] revealed similar minor effects on weight gain with lysine supplementation in infants of average body weight and appetite. In such infants, however, protein utilization was found to be significantly increased by biochemical criteria despite concomitant limited increments in body weight.

Summary

Previous studies provided biochemical and clinical support for the concept that the protein value of many infant foods, including cow's milk, can be substantially improved by supplementation with lysine. An extension of these studies was undertaken particularly to define a convenient and practical dosage for supplemental lysine in infant feeding.

Twelve infants (one week to fourteen months of age) were observed. Initially, ten of these infants presented appetite problems and were poorly nourished in terms of body weight, while two were of average weight and appetite. All were fed evaporated or fresh milk formulas and complementary foods in conformity with current pediatric practice.

Three to five-week periods of lysine supplementation were preceded and followed by control periods of three to seven weeks duration. Supplemental L-lysine, contained in a vitamin-mineral mixture, was added to feeding formulas, usually in daily amounts of 250 mg. for infants weighing 10 pounds or less and 500 mg. for infants over 10 pounds. An identical vitamin-mineral mixture (without lysine) was added to feeding formulas during control periods.

Nine of the ten nutritionally substandard infants exhibited moderate to striking increases in body weight and improvement in appetite during the periods of lysine supplementation. In the two adequately nourished infants the effect on body weight change was less pronounced.

These results agree with earlier findings concerning the nutritional benefits of dietary supplementation with lysine in anorexic infants and also indicate that a simplified dosage schedule for supplemental lysine in infant feeding is fully practicable.

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The Antibacterial Range of Erythromycin

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ERYTHROMYCIN is an antibiotic derived from an actinomycete (Streptomyces erythreus), found originally in a soil sample collected in the Philippines.[1] It is a white crystalline material, basic in reaction, poorly soluble in water, but very soluble in alcohol, acetone, and ether. It was first described by McGuire and his associates[1] in 1952, and its activity and range of usefulness were outlined by McGuire and his group, Heilman and his coworkers,[2] and Haight and Finland.[3]

In the course of a study on the clinical value of erythromycin, numerous bacteria isolated from patients with a variety of infections were tested in vitro for their sensitivity to different antibiotics. A number of patients were treated with erythromycin, and the clinical results will be reported in a later paper. None of the strains was obtained from healthy persons or from stock laboratory cultures.

Following the primary isolation of the organisms, the disk method for testing sensitivity was employed, using either blood agar or plain agar plates and standard Difco sensitivity disks impregnated with comparable concentrations of erythromycin, penicillin, aureomycin (chlortetracycline), chloramphenicol, Terramycin (oxytetracycline), streptomycin, bacitracin, and carbomycin (Magnamycin). A small number of organisms were also tested against Furadantin (nitrofurantoin), polymyxin B, tetracycline (Achromycin), and neomycin.

Although most investigators agree that the tube dilution method is more sensitive than the disk method used in this study, nevertheless, if properly done, the latter method is sufficiently accurate for most practical purposes. It also has the merit of convenience and simplicity when large numbers of tests have to be done. Kirby and his coworkers,[4,5] Hobson,[6] and others have shown that there is a close relationship between the results obtained by both methods.

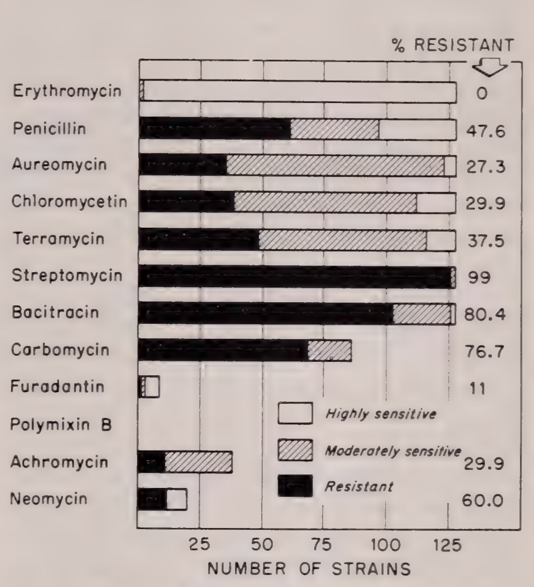

FIG. 1. Strains of Staph. aureus resistant to various antibiotics.

For the primary isolation of the organisms, a loopful or a swab of the specimen (sputum, urine, or pus) was smeared on blood agar plates. After incubation for eighteen to twenty-four hours, individual colonies were picked out and transplanted to heart infusion broth and incubated overnight. Then some of the broth was streaked over the surface of either plain agar or blood agar plates. The sensitivity disks were placed on the surface of the medium 3 to 4 cm. apart, and the plates were incubated again until sufficient growth appeared to permit detection of the zones of inhibition.

The sensitivity of the bacteria tested was graded roughly into three categories: very sensitive, moderately sensitive, and resistant (Table I). This classification was arrived at by the zone of inhibition around each disk.[7] If the zone was more than 20 mm. wide, the microorganism was considered very sensitive. If the zone was only 5 to 20 mm. wide, the organism was considered moderately sensitive, and if less than 5 mm., it was considered resistant. In the last group there was, for the most part, no true zone

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of inhibition, but movement of the disk occasionally produced a small clear zone around part of its periphery.

Staphylococcus Aureus

There were 128 strains of Staphylococcus aureus. Of these, 127 were very sensitive to erythromycin, and one was moderately sensitive. None was resistant. As seen from Fig. 1, 61 strains (47.5 per cent) were resistant to penicillin. Thirty-five strains were resistant to aureomycin, 38 to chloramphenicol, and 48 to Terramycin. With only two exceptions every strain tested was resistant to streptomycin. The results with bacitracin showed an incidence of 100 resistant strains.

Of 86 strains tested against carbomycin, 68 were resistant. Of 38 strains tested against tetracycline, 11 were resistant. Twenty strains were tested against neomycin; 12 were resistant. Of nine strains tested against Furadantin, only one was resistant.

The high degree of sensitivity to erythromycin of virtually all the strains of staphylococci is particularly interesting in view of the significant number of strains resistant to the other antibiotics tested. The coagulase activity was tested in a sampling of 16 strains and was found to be positive in all. Although the staphylococcus was the organism on Dr. Fleming's culture plate when he first observed the antibacterial activity of the penicillium mold, the present breed of staphylococci appears to be much hardier. In this series close to half of the strains were resistant to penicillin. In some institutions[8] the percentage of resistant strains runs as high as 75.

The incidence of strains resistant to aureomycin, chloramphenicol, and Terramycin, although moderately high, was appreciably lower than the number resistant to penicillin. In general, strains which were resistant to one were resistant to all three, although there were a number of exceptions to this rule.

A surprising finding was that such a high percentage of strains were resistant to carbomycin. Fusillo and his coworkers,[9] Hobson,[6] Rajam and Adcock,[10] and Herrell[11] have noted frequent cross-resistance between erythromycin and carbomycin, making it appear likely that strains resistant to one would show resistance to the other. However, we did not find that to be the case in this series.

Although only a small number of strains were tested against tetracycline, there appeared to be a smaller percentage (22 per cent) of strains resistant to this antibiotic than to any of the others except erythromycin. Insufficient tests were made with Furadantin to warrant any comment.

Pneumococcus

There were 51 strains of pneumococci. Pneumococcus typing was not done except in two instances. All the strains were very sensitive to erythromycin. A great majority (48 strains, 94 per cent) were either moderately or highly sensitive to penicillin. The percentage of strains resistant to aureomycin, chloramphenicol, and Terramycin was 29, 31, and 21.5 per cent, respectively. The correlation of resistance or sensitivity of individual strains to each of these three antibiotics was not close. Furthermore, although the incidence of resistance was not alarmingly high among the strains of pneumococci in this series, it may (if further observations verify these findings) indicate a trend which might alter the attitude of clinicians in managing pneumonia cases. Some have a preference for the use of aureomycin or Terramycin in the routine treatment of pneumonia before any etiologic diagnosis is made or where no bacterial studies are done, on the assumption that these antibiotics are uniformly effective against pneumococci and, as a safety factor, suppress the Friedländer bacillus and other gram-negative organisms as well. Our own clinical experience together with these in vitro observations inclines us to believe that there are enough exceptions to this rule to make it risky at times.

All the strains showed resistance to streptomycin. Most (86 per cent) were resistant to bacitracin and nearly half to carbomycin. Insufficient tests were made with the other antibiotics to report here.

Gamma Streptococcus

There were 167 strains of gamma streptococcus. With only one exception all were highly sensitive to erythromycin; none was resistant. Seventeen strains (10 per cent) were resistant to penicillin. The percentage of strains resistant to aureomycin, chloramphenicol, and Terramycin was 15.6, 15.6, and 11.4, respectively. Gross resistance was variable, and there were a good number of strains that were resistant to only one or two of these antibiotics. Virtually every strain was resistant

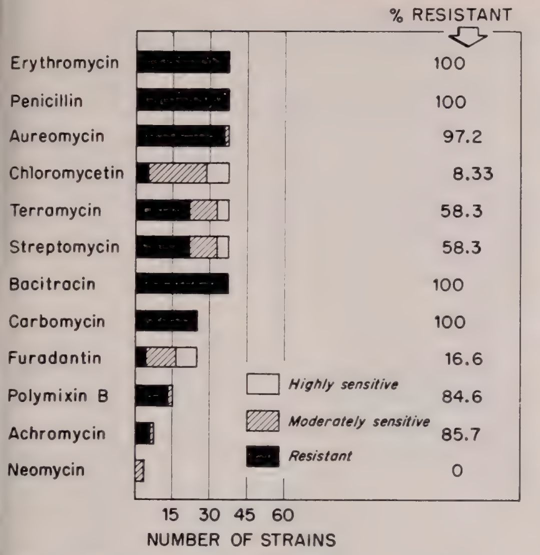

Fig. 2. Strains of E. coli resistant to various antibiotics.

to streptomycin. Most (70 per cent) were resistant to bacitracin. Of 119 strains tested against carbomycin, a little more than half were resistant. Of 49 strains tested against tetracycline, all were moderately or highly sensitive. Only 14 strains were tested against neomycin, and all but four were resistant.

Streptococcus Viridans

Of 40 strains of Streptococcus viridans, 39 were very sensitive to erythromycin, and one was resistant. This latter was isolated from the root canal of the tooth of a patient suffering from pneumonia. The organism in the sputum and bloodstream was Staph. aureus, and he was treated with erythromycin for twenty-one days with a good result. The dental extraction was done after that time. Although it was not a factor in his illness, nevertheless, it is possible that during prolonged treatment, resistance of the Str. viridans to erythromycin developed.

Thirty-six strains were either highly or moderately sensitive to penicillin, and four were resistant. The number of strains resistant to aureomycin, chloramphenicol, and Terramycin was eight, 11, and eight, respectively. As noted in the case of the gamma streptococcus strains, there was no reliable cross-resistance to these three antibiotics. All strains were resistant to streptomycin. The majority (28 strains) were resistant to carbomycin. Only eight strains were tested against tetracycline; all were moderately or highly sensitive.

Streptococcus Hemolyticus

There were 15 strains of streptococcus hemolyticus, all of which were highly sensitive to erythromycin. Thirteen were sensitive to penicillin, and two were resistant. Although the number is small, the finding of even two strains resistant to penicillin is important. The number of strains resistant to aureomycin, chloramphenicol, and Terramycin was four, five, and one, respectively. No strain was resistant to all three.

All the strains were resistant to streptomycin. Ten of the 15 strains were resistant to bacitracin. Of nine strains tested against carbomycin, five were resistant. Insufficient strains were tested against tetracycline and neomycin to warrant reporting.

Mucoid Streptococcus

There were ten strains of mucoid streptococci which produced a mucinous type of colony on the plates. The gross appearance of the colonies resembled type III pneumococcus, but the organisms were not bile soluble. All of these were highly sensitive to erythromycin. All were either moderately or highly sensitive to penicillin, aureomycin, chloramphenicol, and Terramycin; six were sensitive to bacitracin; all were resistant to streptomycin.

Eight strains tested against tetracycline were all sensitive. Four strains tested against carbomycin were resistant.

Escherichia Coli

There were 36 strains of Escherichia coli. As shown in Fig. 2, all were resistant to erythromycin and, for the most part, to other test agents except chloramphenicol and Furadantin. The uniform resistance against erythromycin and penicillin was to be expected, but the high number of strains resistant to aureomycin, Terramycin, and streptomycin was rather surprising and illustrates a corresponding clinical problem in E. coli infections.

Hemophilus Influenzae

There were 11 strains of Hemophilus influenzae. Ten were highly sensitive to erythromycin and one moderately sensitive. Ten were resistant to penicillin, six to aureomycin, two to chloramphenicol, five to Terramycin, three to streptomycin, seven to carbomycin, and all to bacitracin. Insufficient strains were tested against the remaining drugs to warrant mention.

Proteus Vulgaris

There were 40 strains of Proteus vulgaris. All were resistant to erythromycin, penicillin, aureomycin, and bacitracin. Half were resistant to chloramphenicol. Virtually all the strains tested were resistant to carbomycin, polymyxin, and streptomycin. The only drug that had any reliable inhibiting effect in vitro against P. vulgaris was Furadantin.

Pseudomonas Aeruginosa

There were 16 strains of Pseudomonas aeruginosa (Bacillus pyocaneus). With few exceptions they were resistant to every agent tested. One was sensitive to chloramphenicol, five to Furadantin, and three to polymyxin B.

Summary

In vitro sensitivity studies indicate that erythromycin is very effective against strains of staphylococci, whether or not these organisms are resistant to penicillin. Almost half of the strains were resistant to penicillin.

Erythromycin is also very effective in vitro against the pneumococcus, H. influenzae, and all varieties of streptococci. Only two out of 211 strains of these organisms showed resistance (Table I).

In this series with the methods used, we did not find any correlation between the antibacterial spectrum of erythromycin and carbomycin.

With the exception of the H. influenzae, erythromycin had no inhibitory effect on the strains of gram-negative organisms tested: E. coli, Friedländer's bacillus, P. vulgaris, Ps. aeruginosa, B. aerogenes, and Alcaligenes fecalis.

TABLE I.—Sensitivity of 534 Strains of Bacteria to Erythromycin

Organism	Number of Strains Tested	Very Sensitive	Moderately Sensitive	Resistant
Staph. aureus	128	127	1	0
Pneumococcus	51	51	0	0
Gamma streptococcus	167	166	1	0
Str. viridans	40	39	0	1
Str. hemolyticus	15	15	0	0
Str. mucosus	10	10	0	0
H. influenzae	11	10	1	0
E. coli	36	0	0	36
P. vulgaris	41	0	0	41
Friedländer's bacillus	4	0	0	4
Ps. aeruginosa	16	0	0	16
Aerobacter aerogenes	2	0	0	2
Alcaligenes faecalis	2	0	0	2
Diphtheroids	3	3	0	0
Klebs-Loeffler bacillus	1	1	0	0
Neisseria crassis	1	0	1	0
N. flavus	3	0	1	2
Yeast	3	0	0	3

Although in vitro tests do not necessarily correspond with clinical results, there is a close correlation. The above studies afford a clue to the clinical usefulness and limitations of erythromycin in infections caused by the organisms referred to in this paper.

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Pride is an established conviction of one's own paramount worth in some particular respect; while vanity is the desire of rousing such a conviction in others. Pride works from within; it is the direct appreciation of oneself. Vanity is the desire to arrive at this appreciation indirectly, from without—Arthur Schopenhauer

Methium Chloride with Reserpine, a New Antihypertensive Combination

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THE longer the problem of hypertension is studied, the more it is realized that not one but several etiologic factors are involved in the disease. Because of this etiologic multiplicity, combination therapy appears to be the most promising approach toward producing smoother, yet adequate blood pressure reductions. Many of today's leading investigators in the field agree that this is the best current solution.[1-3] In combination therapy, components can be selected in accordance with pharmacodynamic principles, for their actions on different centers in the body, for potentiating desirable effects, or for minimizing or abolishing unwanted reactions.

In an earlier study Crawley and coworkers[4] evaluated the efficacy of Methium Chloride combined with the whole powdered root of Rauwolfia in a series of cases of hypertension. The results of that study indicated that the combination was effective, not only in significantly lowering the blood pressure, but also in providing marked relief of subjective symptoms with smaller doses than required for either drug alone.

The introduction of the pure alkaloid, reserpine, which appears to be the active principle of the whole root, led to an extension of the series in which reserpine was substituted for the whole root. For this study 250 mg. of Methium Chloride was combined with 0.125 mg. of reserpine.*

Clinical Material and Procedure

Thirty-three patients were observed for a period averaging fourteen months. Of these, 16 were ambulatory patients referred to the outpatient Hypertensive Clinic of the Methodist Hospital from the medical and cardiac outpatient services. The remaining 17, also ambulatory, were from the private practices of two of the authors (C.J.C. and W.M.S.). Four of the patients were male, and 29 were female. They ranged in age from forty-four to sixty-nine years and had an average control blood pressure in the recumbent position of 210/119 mm. Hg. They were permitted to carry on their usual activities and were exposed to the normal strains and stresses of daily life.

The drug combination was discontinued in three cases after nine, ten, and fourteen months, respectively, although the patients became normotensive—140/70, 130/85, 150/84 mm. Hg, respectively. One failed to return to the clinic; another complained of general malaise, and the third showed retention of uric acid. Of the remaining 30 patients, seven were originally given the combination containing 125 mg. of Methium with 25 mg. of the whole powdered root of Rauwolfia. They were shifted to the combination of Methium with reserpine.

All of the patients in this study had undergone the routine clinical and laboratory procedures customarily used in evaluation of the hypertensive state. These embraced a thorough history and complete physical examination with particular attention to the eyegrounds. The laboratory tests included electrocardiograms, chest roentgenograms, cardiac fluoroscopy, urinalyses and urine concentration, phenolsulfonphthalein excretion, urea clearance, and blood urea nitrogen determinations.

The control blood pressure for each patient was calculated by averaging the basal blood pressure figures with those obtained during a control period while placebo medication was administered.

The basal blood pressure figure for each patient was obtained by having the patient remain at bed rest for forty-eight hours prior to the appointment. On arrival at the clinic or office the patient rested for one hour in the recumbent position. Five blood pressure readings were taken at one-minute intervals. The lowest reading was considered to be the basal blood pressure.

The therapeutic result of treatment is gauged

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* Methium with reserpine was supplied through the courtesy of Warner-Chilcott Laboratories, New York City.

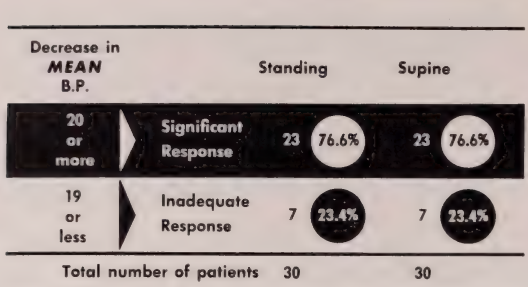

Fig. 1. Results of Methium with reserpine therapy in 30 patients with hypertensive cardiovascular disease.

by the *mean* blood pressure, which is computed by adding one third of the pulse pressure to the diastolic reading.

The initial dose of Methium with reserpine was one-half to one tablet twice a day taken before meals. The optimal dosage was attained by gradual increments which were governed by the blood pressure response in the *standing* position so as to avoid or minimize orthostatic hypotension. In the initial phase of therapy, adjustments in the dosage schedule were made weekly. Later, the patients were seen every other week and, when a maintenance dose was established, at monthly intervals. However, they were instructed to report any unusual symptoms promptly. Furthermore, the effects of the medication were carefully explained to each patient in terms which could be readily understood. The importance of a daily bowel movement or of maintaining the normal rhythm of bowel movement was emphasized, and they were specifically told what to do should constipation occur.

Clinical Results and Comments

The efficacy of Methium with reserpine in the treatment of the 30 hypertensive patients in this study was assessed on the basis of the following criteria: a clinically significant response was deemed to have been obtained (1) when a decrease in the *mean* blood pressure of 20 or more was achieved in the standing or supine position or (2) when hypertensive signs and subjective symptoms were alleviated. The blood pressure responses and the results achieved with the administration of this combination are shown in Table I and Fig. 1.

A significant reduction, i.e., 20 or more, in the *mean* blood pressure occurred in 76.6 per cent of patients on standing. It is of interest to note

TABLE I.—Blood Pressure and Clinical Response to Treatment in 30 Patients

Standing Blood Pressure					Supine Blood Pressure				
Control		Drug Induced*		Mean Blood Pressure Decrease	Control		Drug Induced*		Mean Blood Pressure Decrease
Mm. Hg	Mean	Mm. Hg	Mean		Mm. Hg	Mean	Mm. Hg	Mean	
240/120	160	200/80	120	40	240/125	163	206/80	122	41
180/110	133	136/90	105	28	180/110	133	138/90	106	27
242/132	169	190/100	130	39	242/130	167	200/100	133	34
220/140	167	190/130	150	17	265/148	187	205/120	148	39
218/120	153	190/105	133	20	246/130	169	210/105	140	29
225/102	143	168/80	109	34	240/112	155	185/80	115	40
195/115	142	165/90	115	27	200/110	140	185/85	118	22
180/106	131	130/86	101	30	180/109	133	138/89	105	28
195/107	136	160/100	120	16	196/125	149	160/100	120	29
200/115	143	140/90	107	36	187/105	132	150/90	110	22
275/150	192	160/90	113	79	250/140	177	200/100	133	44
190/110	137	195/110	138	−1	194/111	139	210/110	143	−4
183/112	136	120/80	93	43	182/113	136	148/80	103	33
196/110	139	150/110	123	16	200/120	147	180/120	140	7
196/126	149	142/90	107	42	184/128	147	155/102	120	27
210/120	150	158/88	111	39	200/120	147	158/92	114	33
225/115	152	150/100	117	35	215/115	148	155/92	113	35
165/108	127	170/85	113	14	180/100	127	160/76	104	23
210/125	153	180/100	127	26	230/125	160	175/94	121	39
195/100	132	150/90	110	22	192/90	124	150/81	104	20
185/130	148	176/105	129	19	195/130	152	176/105	129	23
225/115	152	160/92	115	37	245/120	162	158/88	111	51
215/135	162	150/108	122	40	205/125	152	178/110	133	19
215/134	161	195/95	128	33	220/134	163	220/110	147	16
200/115	143	170/100	123	20	220/120	153	216/104	141	12
222/100	141	165/80	108	33	235/110	152	178/91	119	33
185/120	142	160/104	122	20	200/125	150	174/110	131	19
200/105	137	148/95	113	24	180/110	133	145/85	105	28
200/120	147	140/94	109	38	218/130	159	150/98	115	44
185/110	135	165/100	122	13	195/105	135	165/100	122	13

* Average duration of treatment 14 months on an average daily maintenance dosage of 4 tablets, containing 250 mg. of Methium with 0.125 mg. of reserpine each.

that in an equal percentage of patients a similar reduction was manifested in the supine position. In both instances, however, the hypotensive effect was usually greater on the systolic than on the diastolic blood pressure. It seems evident from these results that Methium with reserpine is an effective hypotensive drug combination.

The average optimal dosage which maintained a significant response was four tablets a day. This dose equals a daily intake of only 1,000 mg. of Methium with 0.5 mg. of reserpine, representing less than half the usual daily requirements of either drug. Pharmacologically, it would appear that the centrally mediated effect of reserpine acts synergistically with the peripheral ganglionic blocking action of Methium, the keystone or major hypotensive drug. This synergism may be a factor in achieving, clinically, smoother and more satisfactory blood pressure reductions. It was accomplished with doses of each drug which, given alone, are too small to be effective. Another distinctive benefit derived from this apparent synergism is the mitigation of side-effects. During the period of treatment with the combination of Methium with reserpine, averaging fourteen months, 21 of the 30 patients or 70 per cent were free of side-reactions. In the remaining nine patients the following isolated episodes, all mild and transient, occurred in the course of the long-term therapy: hypotension, mild constipation, diarrhea, general malaise, nausea, nasal stuffiness, and mental depression with crying spells. With one exception these side-effects appeared among the clinic patients and mostly in the earlier phases of treatment. Postural hypotension was noted usually when the dosage increments were too great or when the blood pressure was lowered to strictly normotensive levels.

Of interest is the occurrence of mental depression with crying spells in a forty-six-year-old male patient which apparently were caused by the reserpine component. On a daily dosage of three tablets, representing a total of 750 mg. of Methium and 0.375 mg. of reserpine, the blood pressure on standing was lowered to the near normotensive level of 150/108. Shortly after, when this daily dosage was increased to four tablets daily, the emotional reaction occurred. However, on return to the original dose the previous normal personality state was restored.

Subjectively, nearly all patients were made more comfortable, although not all of these achieved a significant fall in blood pressure. Such definite pretreatment complaints as headache, dizzy spells, pressure in the eyes, blurred vision, palpitation, and nervousness disappeared. The anginal syndrome observed in five patients improved greatly during the course of treatment.

In all cases in which therapy was beneficial, eyeground examination showed definite regression of pathology in two instances. The fundi remained unchanged in the remainder. In patients that did not benefit clinically, signs of progression of ocular pathology were observed in two instances.

There were no essential changes in the electrocardiographic pattern or roentgenographic improvement in the cardiac status. A comparison of values indicating kidney function did not show significant changes at termination of the study.

Summary

1. Methium Chloride with reserpine was employed for a period averaging fourteen months in the treatment of 30 patients with hypertensive disease of varying severity.

2. The average daily dosage which maintained a significant blood pressure reduction was four tablets.

3. In the dosage used 76.6 per cent of patients responded with a significant fall in the standing blood pressure. In an equal percentage a similar fall was obtained in the supine blood pressure.

4. There were no side-effects in 70 per cent of the patients. When side-effects occurred, they were benign, isolated, and temporary episodes.

5. Symptomatic improvement was experienced by nearly all patients.

6. In patients who achieved a significant reduction in blood pressure, there was no progression of previously noted abnormalities.

7. Blood pressure readings in the *standing* position were utilized in adjusting the dosage to avoid or minimize hypotension.

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Prediction of the Height, Weight, and Pelvic Breadth of Children at Age Eighteen

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IN THE studying and teaching of the subject of growth and development, one is impressed by the many regularities of the process of development in both the physical and psychologic spheres. In a recent paper Weech[1] epitomized some of these regularities by formulating a number of mnemonic mathematical equations for calculating the average height and average weight from the age and the average weight from the height of the child. This stimulated me to seek some additional mathematical relationships pertaining to the growth of the child, namely, mathematical formulas which make it possible to predict the physical dimensions of the individual child when he becomes a young adult.

To be able to do so, I first required a complete table of normal physical dimensions from birth to the age of eighteen years. The original tables prepared by Woodbury for infants and preschool children and by Baldwin and Wood for older children could not be used because they are out of date. They are based on measurements made about thirty-five years ago. We know that since that time, with the betterment of socioeconomic conditions and the growth of medical science, the average height and weight of the young adult has increased. Very recent and accurate standards of body measurements are found in Nelson's *Textbook of Pediatrics*.[2] The studies upon which these were based were completed about ten years ago. These standards of measurement were compiled by Stuart and Stevenson from two sources. The norms for all measurements from birth to five years of age were based on repeated measurements of a group of white children of north European descent living in or close to Boston. These children were free from important defects or chronic diseases.* Although they belonged for the most part to families in the lower income brackets, they were all receiving regular health supervision. The norms for all measurements from five to eighteen years were based on similar studies made in Iowa City.* The children in this group were almost entirely of northwest European descent and predominantly from classes of higher income brackets. Although the socioeconomic status of the two groups differed, comparison of the measurements of the two groups at the same ages where the two studies overlapped revealed them to have been of similar physical dimensions with only insignificant differences.

Besides the recency and accuracy of these tables, they had a particular value for my project, because at any age not only is the average measurement given, but also the normal distribution expressed in percentiles, each percentile giving a value which represents a particular position in the normal range of measurements. Students of growth and development have shown that any given physical measurement tends to follow a constant percentile channel in the course of healthy growth and development.[3] Thus, it would be possible to verify whether a mathematical law predicting the growth of any physical dimension of the body applied not only to the average, but also to the wide range of normal deviations. Such a law could then be utilized for a given individual with a high degree of probability, provided his socioeconomic environment remained relatively stable and he did not acquire any chronic disease.

It is a matter of common knowledge that at two years of age the average child is roughly one half as tall as he will be at maturity.[4] My first problem was, therefore, to fix the 50 per cent mark in growth relative to the age of eighteen years more precisely as regards age, sex, and percentile distribution. In the case of boys, by dividing the percentile measurements for height at two years of age into the corresponding measurements at eighteen years, it was found that the height at eighteen years was two times the height at two years. However, in the case of girls, it

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* The data for the age of eighteen months and two years are derived from *Studies of Child Health and Development*, Harvard School of Public Health. The data for the age of eighteen years are derived from studies at the Iowa Child Welfare Research Station, State University of Iowa. (See Nelson's *Textbook of Pediatrics*, 6th edition, Tables 7 to 10, pages 54, 55, 59, 61, and 63.)

TABLE I.—HEIGHT FOR BOYS

Percentiles	3	10	25	50	75	90	97
	Length in Inches						
Data—2 years	32.6	33.1	33.8	34.4	35.2	35.9	37.2
Data—18 years	62.8	65.5	67.0	68.7	70.4	71.8	73.9
Predicted—18 years	65.2	66.2	67.6	68.8	70.4	71.8	74.4

TABLE II.—HEIGHT FOR GIRLS

Percentiles	3	10	25	50	75	90	97
	Length in Inches						
Data—18 months	29.5	30.2	31.1	31.8	32.6	33.3	34.1
Data—18 years	59.4	61.5	62.6	64.0	65.4	66.7	67.8
Predicted—18 years	59.0	60.4	62.2	63.6	65.2	66.6	68.2

TABLE III.—WEIGHT FOR BOYS

Percentiles	3	10	25	50	75	90	97
	Weight in Pounds						
Data—2 years	23.3	24.7	26.3	27.7	29.7	31.9	34.9
Data—18 years	113.0	120.0	127.1	139.0	155.7	169.0	179.0
Predicted—18 years	116.5	123.5	131.5	138.5	148.5	159.5	174.5

TABLE IV.—WEIGHT FOR GIRLS

Percentiles	3	10	25	50	75	90	97
	Weight in Pounds						
Data—2 years	19.4	21.2	22.7	24.5	26.2	28.3	30.9
Data—18 years	94.5	103.5	111.2	119.9	130.8	144.5	160.7
Predicted—18 years	97.0	106.0	113.5	122.5	131.0	141.5	154.5

TABLE V.—PELVIC BREADTH IN BOYS

Percentiles	10	25	50	75	90
	Pelvic Breadth in Inches*				
Data—2 years	5.3	5.5	5.7	5.9	6.1
Data—18 years	10.4	10.7	11.2	11.6	12.3
Predicted—18 years	10.6	11.0	11.4	11.8	12.2

* The original norms for pelvic breadth are given in centimeters. For the sake of uniformity, these were converted into inches by multiplying by the factor 0.394.

TABLE VI.—PELVIC BREADTH IN GIRLS

Percentiles	10	25	50	75	90
	Pelvic Breadth in Inches*				
Data—2 years	5.2	5.3	5.6	5.8	6.0
Data—18 years	10.4	10.7	11.0	11.4	11.9
Predicted—18 years	10.4	10.6	11.2	11.6	12.0

* The original norms for pelvic breadth are given in centimeters. For the sake of uniformity, these were converted into inches by multiplying by the factor 0.394.

was found that the height at eighteen years of age was two times the height at eighteen months. As regards weight, it was found that for boys, by dividing the percentile measurements at two years into the corresponding ones at eighteen years, the weight at eighteen years was five times the weight at two years. However, in the case of girls, it was found that the weight at the age of eighteen years was five times the weight at eighteen months. With respect to pelvic breadth both for boys and girls, it was found that by dividing the percentile measurements at two years into the corresponding ones at eighteen years, the pelvic breadth at eighteen years was two times that at two years.

These mathematical relationships can be formulated as follows:

Height

Boys: 2 × height at 2 years = height at 18 years

Girls: 2 × height at 18 months = height at 18 years

Weight

Boys: 5 × weight at 2 years = weight at 18 years

Girls: 5 × weight at 18 months = weight at 18 years

Pelvic breadth

Boys and girls:

2 × pelvic breadth at 2 years = pelvic breadth at 18 years

These rules are shown to give a very close approximation to actual measurements, as indicated in Tables I to VI.

Comment

Between World War I and World War II, a period of about twenty-five years, there was a considerable increase in the weight and height of the adolescent and young adult in those countries with improved diets and modern medical science. There does not appear to be any evidence, however, that since World War II there has been any comparable increase in size in the same group of the population. It seems likely, therefore, that the formulas presented above will be valid for at least the next sixteen years required to verify them, provided the individual for whom the prediction has been made does not acquire any chronic diseases and remains in a good socioeconomic environment. It is not inconceivable, however, that a major catastrophe, such as World War III, may even reverse the general trend for increase in size of the adult human being and thus invalidate the present mathematical relationships between size in early childhood and that in early adulthood.

Summary

Five simple formulas are presented, by which it is possible to predict the height, weight, and pelvic breadth at the age of eighteen years from the corresponding measurements in early childhood.

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Lower Death Rate

American wage earners and their families recorded a lower death rate during the first six months of 1955 than ever before in the country's history. This is on the basis of the experience among the Metropolitan Life Insurance Company's millions of industrial policyholders.

Through June, the death rate among these policyholders was 644.4 per 100,000 insured, which compared with the previous minimum of 652.1 established last year, and 668.6 for the first half of 1953.

Tuberculosis mortality was one sixth lower this year than last, and only one half of what it was as recently as three years ago, the company's statisticians report. Other diseases to establish new low death rates this year include the complications of pregnancy and childbirth and the principal communicable diseases of childhood as a group.

A mild outbreak of respiratory disease early in the year raised the mortality from pneumonia and influenza above that for the corresponding months of 1954. By the end of the January to June period, however, the death rate from these diseases was virtually the same this year as last, when a new minimum was established.

The polio death rate in the insurance experience was the same—0.2 per 100,000—in both years. The reported number of cases in the general population of the United States, however, decreased from 4,697 in the first half of 1954 to 3,708 in the like period of 1955.

The mortality from the major chronic diseases was not appreciably different from last year's. For the cardiovascular-renal disorders the death rate was 344.9 per 100,000, compared with 347.1 a year ago.

The toll from the cancers has remained at last year's level—about 129 per 100,000.

The accident death rate was 5 per cent lower, reflecting decreases in motor vehicle, home, and occupational accidents.

CLINICOPATHOLOGIC CONFERENCE

DEPARTMENT OF MEDICINE, NEW YORK UNIVERSITY POST-GRADUATE MEDICAL SCHOOL AND FOURTH MEDICAL (N.Y.U.) DIVISION, BELLEVUE HOSPITAL

Conducted by RAYMOND S. JACKSON, M.D.

OCTOBER 28, 1954

Case History

DR. MARIE C. ROSATI: A twenty-nine-year-old Puerto Rican male was admitted to Bellevue Hospital for the second time on June 19, 1953, because of multiple joint pain and fever of four weeks duration.

He had been in the United States for only a few months, and because of a language barrier, most of the details of the present illness were obtained from a letter sent by the Bayamon District Hospital in Puerto Rico. This abstract revealed the following:

The patient was well until 1950 when he developed weakness and malaise. He was treated with penicillin by a private physician and experienced complete recovery.

In 1951 he developed polyarticular pain, sore throat, weakness, and malaise and was treated with ACTH with improvement of symptoms except for weakness and malaise.

In August, 1952, he was referred to the Bayamon District Hospital where a complete medical workup was carried out. His liver was described as being palpable four fingers below the right costal margin. There was painful, fusiform swelling of the fingers. They noted a maculopapular rash all over the arms and chest which the patient claimed he had been getting for three years after cold showers.

The laboratory data included the following: Hemoglobin was 9.7 Gm., red blood cells 3,400,000, hematocrit 48, white blood cells 6,900; erythrocyte sedimentation rate 30; nonprotein nitrogen 19; albumin-globulin ratio 2.2 : 3.9. Urine showed specific gravity 1.014, 3 plus albumin, few granular casts, and Escherichia coli on culture. Muscle biopsy was negative; rectal biopsy was negative for Schistosoma.

He was treated with penicillin and streptomycin for ten days and discharged on September 10, 1952, feeling somewhat improved.

His first admission to Bellevue took place in April, 1953, at which time he had joint pain and swelling of the legs. The chart of this admission is not available, but some of the details are included in the chart of the second admission. Physical examination at this time revealed a large liver, swollen joints of the upper and lower extremities, and a macular rash. The urine showed a persistent albuminuria with a low specific gravity. Hemoglobin was 11.5 Gm., red blood cells 3,830,000, white blood cells 25,000; creatinine 2.9; albumin-globulin ratio 2.7 : 2.8; alkaline phosphatase 9.6; phosphorus 9. Electrocardiogram and x-rays did not contribute to the diagnosis. A liver biopsy revealed amyloidosis. He was treated with cortisone with improvement of symptoms.

Physical Examination.—Physical examination on the second Bellevue admission revealed a poorly nourished, pallid young man lying quietly in bed and appearing chronically ill. There was a scaly, confluent, macular rash scattered on the trunk and arms. Blood pressure was 106/60, pulse 92, respirations 20, and temperature 100.2 F. The tonsils were enlarged, cryptic, and beefy red. He had a few small, shotty submandibular and posterior cervical nodes. The breasts were slightly enlarged. The lungs were clear except for dullness and occasional rales at both bases. The heart was somewhat enlarged, and a soft systolic murmur was heard at Erb's point. A firm liver was palpated just above the iliac crest. Bilateral costovertebral angle tenderness was obtained. He had a trace of ankle edema (less edema than on previous admission). There was limitation of motion and pain on motion of both elbows, the right wrist, and the proximal interphalangeal joints. The fingers showed tapered deformities. The left knee joint was tender and contained fluid.

Laboratory Data.—Urine showed specific gravity 1.008, 200 mg. albumin, many white blood cells, and rare red blood cells. The highest specific gravity recorded was 1.015. All urines contained 200 to 400 mg. albumin. A few urines contained granular casts.

Hemoglobin was 10 Gm., red blood cells 3,180,000, white blood cells 15,250 with transitionals 12, polymorphonuclears 63, lymphocytes 16, monocytes 2, eosinophils 6, and basophils 1. Hematocrit was 31 per cent, erythrocyte sedimentation rate 62, platelets 400,000, prothrombin time seventeen seconds (control thirteen seconds).

Fasting blood sugar was 95 mg. per cent; uric acid 7.5; albumin-globulin ratio 1.3 : 3.7 and 1.3 : 5.6; icterus index 10; cholesterol 364 and cholesterol esters 191; alkaline phosphatase 10.1; creatinine 3.25; plasma urea nitrogen 41; sodium 131; potassium 4.1; phosphorus 6.0.

Mazzini test was negative, as were the stool guaiac and L.E. cell preparation. Electrocardiogram showed minor T-wave changes since previous admission.

X-rays of the knees, elbows, and hands were negative except for soft tissue swelling about several proximal interphalangeal joints. On June 29 the chest showed minimal infiltration in the apex and questionable infiltration in the right mid-lung field. The kidneys appeared normal in size, shape, and position on intravenous pyelogram. Pelves and calyces were poorly visualized, and some dye was seen in the bladder suggesting impaired functioning.

Urine culture on July 2 revealed Staphylococcus aureus, on July 9 Staph. albus coagulase negative, and on July 29 was negative for acid-fast bacilli. Blood culture on July 21 showed questionable staphylococcus coagulase. Concentrated smear of sputum and vomitus was positive for acid-fast bacilli, and stool examination for ova and parasites demonstrated Trichiuris trichiura.

Course in Hospital.—During the first week of his hospitalization, June 20 to 26, the patient ran a low-grade fever (98.6 to 101 F.). He was treated with sodium salicylate 0.6 Gm. every four hours. On July 13 Gantrisin, 1 Gm. four times a day, was started.

On July 21 the patient underwent cystoscopy with normal findings. That evening he spiked a temperature of 104 F. and continued to do so for four days. It was thought that the temperature might be secondary to instrumentation. He was put on aspirin, aureomycin, and intravenous fluids. It was noted that his face appeared puffy.

On July 22 he had persistent vomiting. The vomitus contained brown flecks and showed a 4 plus guaiac. The temperature was 105 F. Blood pressure was 70/30. He complained of chilliness. The white count was 28,950 with marked shift to the left. Hemoglobin was 8.5 Gm. Patient was given 500 cc. of whole blood. In addition to intravenous aureomycin, penicillin in doses of 1,200,000 units every six hours was started.

On July 24 streptomycin was added to the therapeutic regime. On July 26 the temperature fell to normal levels and remained within a normal range for several days. The white count dropped to 12,800. The lungs revealed numerous fine crackling rales in the right apical region; the abdomen was protuberant and tympanitic. On July 27 the patient claimed that he was feeling better. An area of about 5 by 7½ cm. on the frontal aspect of his head was described as being totally alopecic. It was learned from the family that the patient had lost hair (scalp, axilla, and pubis) in 1950 and that most of it had subsequently grown back.

On July 29 the creatinine was 4.1. The patient was extremely lethargic. He had periorbital edema and a fine erythematous, desquamating rash on trunk and extremities. There were numerous fine crepitant rales in right apex. He again began to spike fevers to 104 F. For the last three days he was treated with streptomycin and isoniazid.

On August 5, 1953, he was pronounced dead.

Discussion

Dr. Elmer Gais: This case presents a maze of phenomena which we will have to discuss in detail, enumerating possibilities as we proceed. Here was a young Puerto Rican male, who, at the age of twenty-six, developed weakness, followed by periarticular pain, sore throat, and malaise. These symptoms persisted during the next year when he was studied in Puerto Rico with findings that were significant in the light of his later course.

The liver is described as enlarged. There was painful fusiform swelling of the fingers, and the maculopapular rash was noted over the arms and chest. This rash which the patient claims had existed for three years previously is described in all subsequent examinations.

The laboratory data are particularly interesting. Even then there was hypochromic anemia, an elevated sedimentation rate, and reversal of the albumin-globulin ratio with slight, if any, hyperglobulinemia. Even the presence of considerable proteinuria and granular casts was noted. The urine showed E. coli, and muscle biopsy was negative.

In April, 1953, he was admitted here with joint pain, swelling of the legs, and a large liver. The swollen joints in upper and lower extremities and the macular rash were again found. The albuminuria and relatively low specific gravity were again noted. The anemia persisted, but a leukocytosis was noted. Now, we see an abnormally elevated blood creatinine, alkaline phosphatase, and phosphorus. There was some hypoproteinemia with about a 1:1 albumin-globulin ratio. A liver biopsy revealed amyloidosis.

The last admission in June, 1953, was for similar complaints and fever. Rash was again noted, described as scaly, confluent, and macular. There was hypotension of 106/60 and fever. Tonsils were enlarged. There were some shotty submandibular posterior cervical nodes. There was some gynecomastia. A soft, systolic murmur was noted at Erb's point. There was massive hepatomegaly and bilateral costovertebral angle tenderness. There was ankle edema, and it was stated that this edema was less than on the previous admission. There was limitation and pain on motion of the elbow, the wrists, and proximal interphalangeal joints. The fingers showed tapered deformities. The left knee joint was tender and contained fluid. The urine again showed a proteinuria with many white blood cells and a rare red blood cell. A few granular casts were noted, and the highest specific gravity recorded was 1.015. The anemia was still present, and there was some leukocytosis. The sedimentation rate was elevated again. The platelets were apparently normal. The chemical studies on the blood showed an elevation of the uric acid and a reversed albumin-globulin ratio with definite hyperglobulinemia, even though the total protein was only 6.9 mg. per cent. There was hypercholesterolemia with a slight decrease in esterification. The alkaline phosphatase was again elevated, as well as the phosphorus. There was an increase in the creatinine level and the plasma urea nitrogen. The blood sodium was low; the potassium was high normal. The L.E. cell preparation was negative. Bone and joint survey was negative except for some soft tissue swelling about the proximal interphalangeal joints. I had the opportunity to review these plates and can state that they included the entire bony skeleton including the skull. Except for a congenital spina bifida with incomplete transverse arch at the fifth lumbar vertebra and a few inconsequential looking areas of rarefaction in the humerus, they were not contributory. The chest showed minimal infiltration in the right apex and a questionable infiltration in the right mid-lung field. It might be noted now that the chest plate, taken at the time when rales were heard in the right apical region, showed some increase in this apical infiltration. The intravenous pyelogram showed very poor visualization. The urine showed a Staph. aureus and was negative for acid-fast bacilli. The blood culture revealed staphylococcus, whether coagulase positive or not is unknown. The sputum and vomitus were positive for acid-fast bacilli on concentrated smear.

His course in the hospital was constantly febrile. His face appeared puffy. The day following the cystoscopy he spiked a fever and vomited constantly, the vomitus containing blood. Note the extreme drop in blood pressure. A leukocytosis developed, and there appeared to be some drop in the hemoglobin level. He was transfused and was given antibiotic therapy. Two days later the temperature fell to normal level, and the white count dropped. At this time the fine rales were noted in the right apical region of the lung, and the abdomen was distended. At that time also it is stated that he had alopecia, and the family revealed that he had had generalized hair loss in 1950.

On July 29 his creatinine had risen to 4.1 mg. per cent. The temperature began to spike, and in spite of therapy with streptomycin and isoniazid, he expired. Periorbital edema and a fine erythematous, desquamating rash on trunk and extremities were again noted.

It would be very nice to have had a positive L.E. cell preparation on this case. The rash, the periarticular swelling, and the clinical course might be well fitted to a diagnosis of disseminated lupus. However, there are several factors that argue against this.

First, the L.E. cell preparation was negative, which is not likely to be the case in the active phase of this disease. Then again, to my knowledge, amyloidosis is not reported in lupus. The urinary findings might fit in since the nephrotic picture in some instances of lupus may be indistinguishable from such diseases as renal amyloidosis, diabetic glomerulosclerosis, or the nephrotic phase of glomerular nephritis. The rather distinguishing characteristic of the urinary findings in lupus is the so-called "telescoping" of the microscopic contents so that large renal failure casts, hematuria, and proteinuria are found together, as if all the phases of a glomerulonephritis were present at one time. This does not seem to be the case here.

The joint changes suggest rheumatoid arthritis, and to complicate the matter further, amyloidosis is not an infrequent complication of this disease. This is especially true in the so-called "Still's disease," Chauffard's syndrome of rheumatoid arthritis in children in which amyloidosis is reported to occur in about 50 per cent of the cases. But in these instances, both in the adult and the childhood types, the articular change is old, prolonged, and associated with marked joint destruction. That certainly was not present in this man.

Let us consider the action of secondary amyloidosis as the sequel to tuberculosis. Certainly the joint changes are not those of tuberculosis of the joints, and one can dismiss the so-called Poncet's syndrome of tuberculous rheumatism with the statement that this syndrome is now being considered as nothing more than coincidental rheumatoid arthritis in an individual with tuberculosis. Now, amyloidosis of this degree, involving as it does the liver, the kidneys, and probably the adrenals and other organs as well, occurs when the tuberculous focus is extensive and of a sufficient duration to produce this remarkable change in protein metabolism. As evidence of this concept, one may quote the observation that amyloidosis was found quite rarely in diabetics with tuberculosis who died, in the days before active therapy, within a few years of the onset of tuberculosis before amyloidosis had time to develop. In other words, the minimal amount of tuberculosis described in this man was of apparently short duration. It does not seem to me to have been sufficient to produce amyloidosis.

There were a few features that suggested sarcoidosis, particularly the serum findings and the few large nodes. The skin rash is certainly not that of sarcoidosis, and the renal findings are not characteristic of this disease, the usual situation in the kidney which distinguishes it being nephrocalcinosis. Also, I would feel that amyloidosis would be a rare, very rare, complication of sarcoidosis.

Now, let us consider the salient feature in this man's illness, namely, the presence of amyloidosis. It is demonstrated in the liver. I think that there is little doubt that one would find it in this man's kidneys as well. I would not like to call this latter situation amyloid nephrosis because the involvement with amyloid in the kidney is primarily glomerular, even though the picture may initially seem like the so-called nephrotic syndrome. It is quite obvious that he had developed either a so-called amyloid contracted kidney with azotemia or that a chronic pyelonephritis was present. One would expect that hypertension would have ensued which brings us to the fact that he was always hypotensive, and following the cystoscopy he had a febrile episode which was associated with a marked drop in blood pressure. Of course, he probably had some bleeding at that time, but I have the feeling that we are going to find that this man actually had an Addisonian crisis and that we will find amyloid-infiltrated adrenals. Since we can find no adequate explanation from our record for a secondary amyloidosis, one is tempted to consider that the whole situation may be the result of a so-called primary disseminated amyloidosis. I will concede at the outset that the various features in primary amyloidosis, such as involvement of the skin, tongue, heart, etc., are lacking here.

Experimental amyloidosis may be produced by a variety of means, usually involving the injection of a protein antigen with the production of lesions more like that of a secondary type within a relatively few days or weeks. There have been situations, particularly in the Scandinavian literature, of experimental amyloidosis produced by this means, in which the development of hypergammaglobulinemia coincided with antibody formation and shift of electrophoretic pattern to a pattern somewhat similar to what we have here. It is of interest that the administration of cortical hormone has been shown to alleviate this protein abnormality. It would have been of great interest to have had paper electrophoresis studies of this patient's serum. It is very possible that a beta globulin increase would have been shown, coinciding with the hypercholesteremia, although alpha 2 globulin may have been increased also, as is well known in the nephrotic syndrome. This may have been a differentiating point.

If this is a primary amyloidosis of the mixed type, one must always consider the possibility that there is an involvement of the reticulum cells, somewhat in the nature of a myelomatous transformation. Now, I say this even though the very extensive bone survey did not show any evidence of myelomas. However, it is not unknown that diffuse myelomatosis may occur without visible rarefaction in the bones. Hyperglobulinemia is a characteristic phenomenon in myelomatous disease, there being various types described depending on which fraction of the globulin is increased. There is some evidence that hypergammaglobulinemia precedes the development of amyloidosis.

I might point out another suggestive finding. The uric acid rise seems out of proportion to the nitrogen retention at the time it was done. It is possible that this was a secondary uric acid rise due to increased nucleoprotein destruction in association with proliferated cells of the so-called plasma cell type. There is no note of Bence Jones proteinuria or other manifestations of abnormal protein metabolism such as cryoglobulinuria. Incidentally, the noting of alopecia is a common finding in both lupus erythematosus and amyloidosis. It may represent the endocrine disturbance in the latter disease, particularly the loss of axillary and pubic hair as a symptom of Addison's disease.

I am afraid I will have to leave you with the above thoughts, not being able to explain either the periarticular swelling or the rash in one all-embracing disease. Primary amyloidosis is often associated with considerable joint and muscular pain, presumably due to the amyloid infiltration within the muscles. The fact that a systolic murmur was noted could represent a verrucous endocarditis of lupus. However, myocardial and endocardial amyloid implants and infiltration are well known and could lead to the same clinical finding. The minor T-wave changes in the electrocardiogram may be of significance in this respect.

My feeling is that we are dealing with systematized amyloidosis with involvement of the liver (*the spleen was not palpated or visible in the x-rays*), *kidneys, adrenals, and probably other organs with the resultant so-called amyloid contracted kidney and Addison's syndrome. I feel that this may represent a mixed primary and secondary type of amyloidosis, the underlying cause probably being myelomatous disease. I believe there was a terminal renal infection and terminal spread of the tuberculous focus in the lung.*

Dr. R. S. Jackson: The case is now open for discussion. Any comments from the floor?

Dr. M. Trubek: If we consider this amyloidosis secondary to rheumatoid arthritis, might not the skin rash be of a psoriatic type?

Dr. Gais: Rheumatoid arthritis with psoriasis should be restricted to those cases with definite changes of rheumatoid arthritis. The changes are easily noted in the terminal interphalangeal joints. A specific type of rheumatoid arthritis is usually combined with psoriasis.

Dr. A. Aronson: Would you comment on the incidence of multiple myeloma in this age group?

Dr. Gais: It can occur in this age group, although it usually does not.

Dr. N. Cooper: The highest incidence of multiple myeloma runs from fifty to sixty. In a review of primary amyloidosis in 1945, the youngest case described was a thirty-four-year-old patient. Secondary amyloidosis is found in a younger age group.

Dr. L. Weiner: Would you comment on the use of the Congo red test in the diagnosis of amyloid disease?

Dr. Jackson: There are false negatives and positives in the Congo red test.

Dr. Gais: It should be remembered that Congo red is carried in the albumin fraction and that the urinary Congo red should be performed to determine whether a false positive was obtained.

Dr. Jackson: One thing which interested me in this case was the rash that frequently followed cold showers. In lupus erythematosus it is not unusual to find the skin sensitive to the slightest trauma. I feel that amyloidosis can be found in lupus erythematosus.

Dr. Gais: Any condition in which hyperglobulinemia persists for a long enough period of time can lead to the development of amyloidosis.

Diagnoses

Clinical.—*Pulmonary tuberculosis and secondary amyloidosis.*

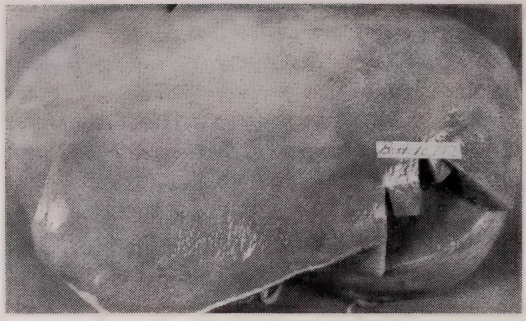

Fig. 1. The markedly enlarged spleen has the glassy appearance characteristic of amyloidosis on both capsular and cut surfaces.

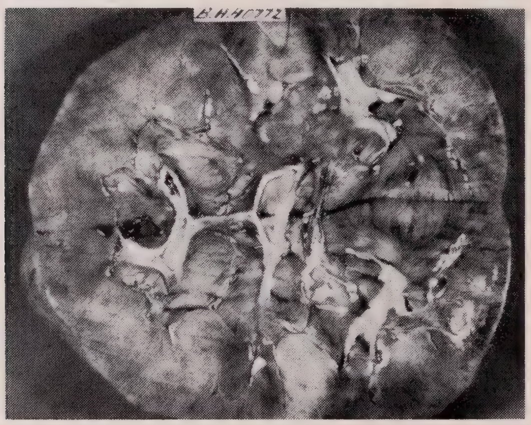

Fig. 2. The cut surface of the kidney is waxy; its architecture is blurred.

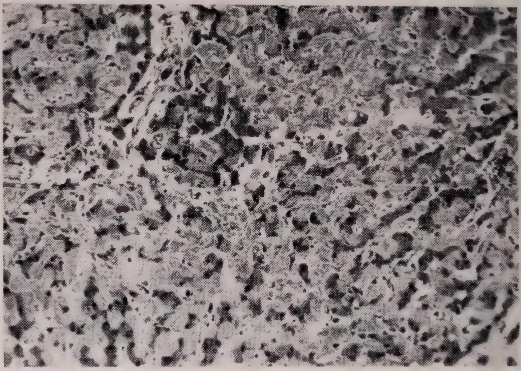

Fig. 3. Atrophic cords of hepatic cells are hemmed in by masses of amorphous amyloid. (*Hematoxylin-eosin*)

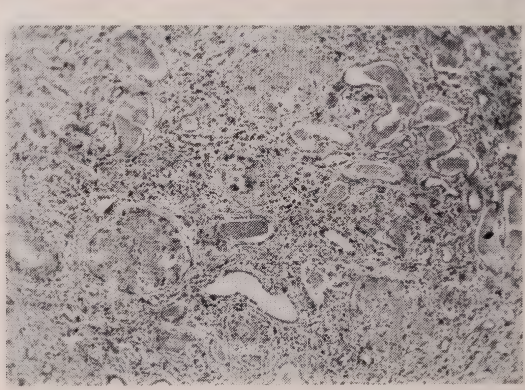

Fig. 4. The four glomeruli in this field have been replaced by amyloid. The casts in the tubules are nonspecific protein. The interstitial tissue is fibrotic and infiltrated by chronic inflammatory cells. (*Hematoxylin-eosin*)

Dr. Gais.—*Mixed primary and secondary amyloidosis, probable myelomatous disease, terminal pyelonephritis, and pulmonary tuberculosis.*

Anatomic.—*Primary amyloidosis.*

Pathologic Report

Dr. Norman Cooper: At autopsy the liver, spleen, and kidneys were markedly increased in size. The liver weighed 3,430 Gm., its cut surface contained many areas of yellow-brown stippling. The spleen, which weighed 570 Gm., was glassy and very firm; its cut surface was light red-brown, and trabeculae and Malpighian bodies stood out sharply (Fig. 1). Each kidney weighed 300 Gm. The capsules stripped easily, leaving smooth, mottled, yellow and pink surfaces. On cut surface the usual architectural markings were considerably blurred (Fig. 2). The adrenals, pancreas, and most of the other tissues were not remarkable. There was slight left hydrothorax (250 cc.) and many fibrous pleural adhesions bilaterally.

Histologically, liver, spleen, adrenals, and kidneys contained large deposits of hyaline material resembling (in hematoxylin-eosin stain) amyloid both tinctorially and in distribution. This material was metachromatic in crystal violet stains. In the liver the amyloid was found between sinusoidal endothelium and hepatic cells (Fig. 3). It appeared to have caused marked atrophy or complete disappearance of hepatic cells in some areas where only pools of amyloid remained. The amyloid did not have a predilection for any part of the hepatic lobule. The presence of scattered small groups of lymphocytes and plasma cells within the deposits suggested that the material had stimulated a mild inflammatory response.

In the spleen the amyloid was diffusely distributed, but larger pools were concentrated within

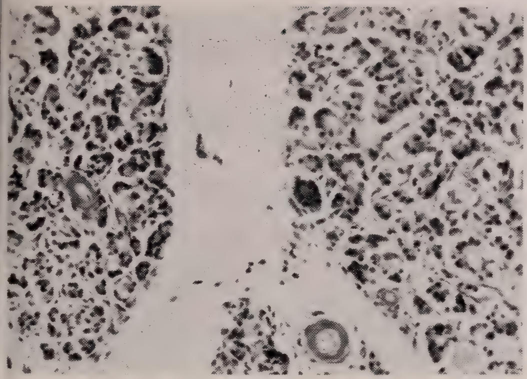

FIG. 5. The thickening of the walls of the two pancreatic arterioles in this field is due to deposition of amyloid. (*Hematoxylin-eosin*)

and around Malpighian bodies. Adrenal deposits were found chiefly in the zona fasciculata. They were subendothelial like those in the liver. They had not destroyed enough of the cortex to produce Addison's disease. In the kidney most of the amyloid was found in glomeruli. Virtually every glomerulus was partly or completely replaced by amyloid; in most, endothelial cells could still be seen (Fig. 4). Some amyloid was deposited in tubular basement membranes. There was a rather intense focal, interstitial, chronic, inflammatory reaction in the kidney which appeared to be related to particularly large deposits of amyloid.

In the kidney, adrenal, pancreas, spleen, and liver many arterioles were markedly thickened and hyalinized (Fig. 5). The "hyaline" material proved to be amyloid.

Amyloid disease has long been classified as "primary" or "secondary"; the latter designation implies the presence of a long-continued chronic inflammatory disease which is supposed to predispose the patient to amyloidosis. In patients who lack such a predisposing factor, the amyloidosis is called "primary." In addition to the absence of a recognizable predisposing disease, primary amyloidosis is usually said to be distinguishable from the far more common secondary amyloidosis by its anatomic distribution and the age range of its victims.[1] In primary amyloidosis the material is characteristically deposited in muscle (skeletal and smooth). The patients are middle-aged. In the secondary disease amyloid is found in just the places where it was seen in this case, namely, the kidneys, liver, spleen, and adrenals, generally beneath endothelium. The patients are younger, as was this patient.

Diseases often associated with amyloidosis are tuberculosis, rheumatoid arthritis, chronic osteomyelitis, bronchiectasis, chronic pyelonephritis, and Hodgkin's disease. This patient was said to have had rheumatoid arthritis. However, the characteristic x-ray changes were not present. At autopsy there were no visible joint deformities. If the patient's transient joint disease was indeed rheumatoid arthritis, it was a most mild instance of it. The 7 to 20 per cent incidence[2] of amyloidosis in rheumatoid arthritis is virtually confined to severe[3] and, usually, longstanding cases. The two small fibrocaseous tubercles in the lung were probably not responsible for this patient's amyloidosis either.

This case must be classified as primary amyloidosis since no acceptable predisposing disease was present. This situation, characteristic "secondary" distribution without antecedent disease, is not unique in our experience or in that of others[4,5] and has led to a somewhat more acceptable classification[4] of amyloidosis as "typical" (for visceral distribution of the material) and "atypical" (for cases with amyloidosis in muscle). Of course, the etiology of all forms remains a mystery. The chemical nature of the materials has also not been established except that it is probably a mucoprotein.

DR. JACKSON: What did the examination of the skin reveal?

DR. COOPER: Sections of the scalp revealed severe chronic dermatitis. This may have been associated with the alopecia.

DR. B. PIROFSKY: The presence of an L.E. cell would not necessarily be diagnostic in a case such as this. Cytologic studies have shown that amyloid will produce inclusion bodies very similar to the lupus erythematosus cell.

DR. GAIS: It is known that amyloid can be phagocytized. It is difficult to distinguish between this and the Hargrave's cell. Tinctorial reaction will distinguish between the amyloidosis and the cell of lupus erythematosus. In the absence of a cause for a secondary amyloidosis, one must account for the abnormal protein pattern. In the condition known as myelomatous transformation, the abnormal protein may be formed by the cells involved in the process of recticuloendotheliosis.

DR. COOPER: I feel it is dangerous to use the term "reticuloendotheliosis" in this respect. In addition to protein, amyloid also includes polysaccharides. The term "reticuloendotheliosis" does not add much to our understanding of amyloidosis. It is a specific term describing proliferation of a certain type of cell. Such proliferation is usually not demonstrable in amyloidosis. Using this word to "explain" something we don't understand tends to give us a false sense of security.

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Reflux Esophagitis

While it may be true that peptic esophagitis sometimes occurs in the absence of gastric reflux (due to secretion, for various reasons, of the gastric juice directly into the lumen of the esophagus), much more common is the damage produced by prolonged reflux of gastric juice in the presence of an incompetent cardioesophageal sphincter, or accessory causes. Drs. John D. Stewart, William M. Chardack, and Guy S. Alfano, Edward J. Meyer Memorial Hospital, Buffalo, list five etiologic factors found in 66 cases over a five-year period, 32 of which were treated surgically. Reflux esophagitis is relatively common, causing severe disability and threatening life. In patients who cannot be adequately managed on a medical regimen, remedial surgery should be undertaken, including repair of hiatal sliding hernia and gastric resection before the eosphagus becomes fibrotic and shortened. Resection must be performed where there is impenetrable stenosis of the esophagus; however, a wholly satisfactory solution to the problem of reconstruction has not been evolved. The series discussed ranged in age from birth to ninety-one years.—*Annals of Surgery, May, 1955*

CASE REPORTS

Ophthalmomyiasis

MAX KIMBRIG, M.D., HUNTINGTON, NEW YORK

In ophthalmic literature this condition is variously labeled as larval conjunctivitis, ocular myiasis, parasitic conjunctivitis, maggot conjunctivitis, or conjunctivitis caused by fly larvae, screw worm fly, sheep gadfly, sheep or deer botfly, or Oestrus ovis.

No case has previously been reported in the northeastern United States. So far only seven cases of conjunctival myiasis have been reported in the United States.[1–7] These do not include intraocular myiasis where the point of entry is far from the eye.[8,9] Ophthalmomyiasis seems to occur more frequently in Algeria[10,11] and Europe,[12–16] occasionally in South America[17–19] and Canada.[20]

Porchinsky[15] reports that in parts of Europe, particularly in Russia, similar botflies have produced myiasis with occasional serious intraocular complications. Archangelsky and Braunstein[12] in Russia report an eye lost through "Oestridae." The larvae of these flies have hooks and scrapers for entering the eyeball. In Algerian shepherds they are known to enter the sinuses, ears, and mouth with painful sequelae, and blindness has been reported. These flies lay living larvae, five to 50 in number. They dash to the eye, deposit their young, and are away—all in a fraction of a second. They usually choose sheep; the larvae pass into the sinuses, grow 20 to 30 mm. long, and, in the spring, fall to the ground, burrow in, and pupate into adult flies in three to six weeks.[10,11]

Most cases so far reported in the Western Hemisphere have no more trouble than a conjunctivitis caused by the mouth hooks of the larvae. Schenck[5] reported one case in which two larvae cut their way into the subconjunctival area. He destroyed them, together with a bit of conjunctiva, by electrocoagulation. Usually the conjunctivitis subsides with removal of the larvae. Good results have been obtained with mineral oil.

Ophthalmomyiasis occurs most often in early fall. In all cases the patient complained of sudden onset of mild persistent symptoms of conjunctival irritation after being struck by an insect.

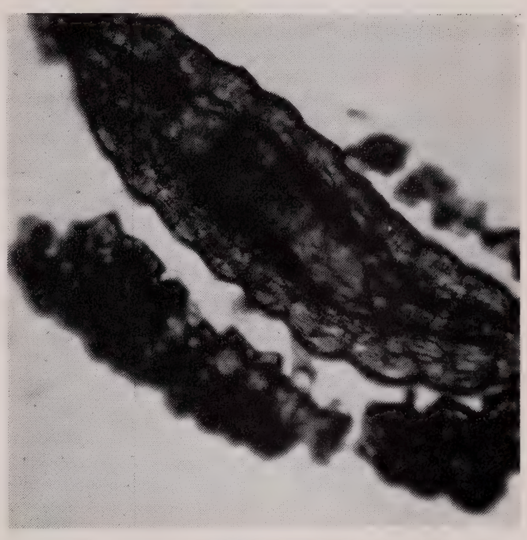

Fig. 1. Photomicrograph of larva removed from patient's eye.

Case Report

Mrs. M. W. was seen in September, 1954. She said that four hours previously, while in front of a grocery store, she was struck in the eye by a fly or moth, and it felt as though a piece of wing had remained in the eye. Mrs. W. is a middle-class housewife; her husband operates a gas station, and neither have been off Long Island for about ten years.

Grossly, there was evidence of a mild conjunctivitis with a delicate filament less than 1 mm. in length lying on the center of the cornea. When I prepared to remove it, it seemed as though her eyelids had brushed it away. After routine copious irrigation of the conjunctival sac, I examined the eye with a 10 × loupe and was amazed to find numerous maggots. They moved about very fast in the manner of inchworms. They were translucent, almost fusiform in shape, slightly less than 1 mm. in length, broader in front with numerous black pigment granules anteriorly, and were segmented

(Fig. 1). They hid themselves in the fornix and conjunctival folds but could sometimes be seen on the cornea. I picked off about six with a jeweler's forceps and placed them in saline for examination. The anterior end of the larvae clung tenaciously to the mucosa. Despite their terrific activity they never left the moist areas.

Mercury ointment, 1:5,000, was prescribed. Twenty-four hours later, the remaining larvae were still as active as ever. About six more were removed, and another ointment prescribed. The tearing and sensation of foreign body were diminishing. At the end of forty-eight hours the patient was symptom free, and no maggots could be found. Follow-up showed no complications.

Dr. Louis Pyenson of the Long Island Agricultural and Technical Institute identified it as an Oestrid fly (Oestrus ovis or a closely related species). Exact classification of the larvae is difficult in the stage in which it is found in the human eye.

Comment

All of us should be aware of the possibility of parasitic infestation of the eye and, when we see nothing but a little irritation, should examine the eye with magnification (9 × or 10 × loupe) before treating the condition as simple traumatic conjunctivitis.

While larvae are seldom found in the human eye, the geographic incidence seems to be spreading. Or is it better observation and reporting? I have made this report without waiting for exact identification of the larvae, because I feel that while they are interesting in the entomologic field, the vital medical point is recognition of their presence—and their removal.

20 High Street

The photomicrograph was done by Dr. John Mulvihill of Kings Park, New York.

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Like all great ideas it came to me in a flash. Having driven my car up one of those super-garages in town, I was gazing delightedly at the variety of cars displayed. Their number-plates showed the range of possible permutations of the alphabet. And that reminded me that in New York all doctors' number-plates carry the letters M.D., followed by a number. Now, I asked myself, why not go one better and work out full details?

Each specialty should have three letters, constituting either a complete English word, characterising the branch, or a well-known, time-honoured set of abbreviations. The surgeons should have CUT, and the P.R.C.S.'s CUT 1. To the physicians could be allocated NYD. Fellow peripatetics might like to help to draw up a full list. So far I have thought of paediatrician, KID; psychoanalyst, EGO; and geriatrician, OLD. We pathologists propose to claim the prefix PBP.—*In England Now, The Lancet, July 30, 1955*

Acute Appendicitis Complicated by Congenital Anomaly of the Urinary Tract

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It is common knowledge that the diagnosis of acute appendicitis may at times prove puzzling to the most experienced surgeon. It behooves one, therefore, to utilize every means at hand to evaluate adequately the differential diagnoses that may be involved.

Infections or calculous disease of the upper urinary tracts are often encountered in the differential diagnosis, and one should never hesitate to perform scout films of the abdomen with intravenous urography or even retrograde studies to rule out or determine such pathology. Otherwise one may be embarrassed to learn that the patient passed a calculus per urethra a few days postappendectomy.

The following case is presented from two points of view. First, it demonstrates the problem of differentiating urinary tract pathology from acute appendicitis and how it should be properly evaluated. Second, it describes a rare congenital anomaly of the urinary tract.

Case Report

The patient, W. M., a twenty-eight-year-old male, was admitted to Beekman-Downtown Hospital for the first time on March 12, 1954, complaining of abdominal cramps of sixteen hours duration. Associated with this pain was moderate anorexia. On the day of admission the pain was most constant in the right lower quadrant and right flank. There had been three loose, normal-colored stools but no nausea or vomiting. There was no fever or chills. In addition, for the previous two days he had suffered from moderate dysuria and some frequency. He had no previous gastrointestinal symptoms. However, one year before he had had an episode of hematuria for which aureomycin was prescribed by his local physician. He had no previous urologic investigation.

Physical examination revealed a temperature of 98.8 F., pulse 90, respirations 16, and blood pressure 117/80. The patient was a well-developed and well-nourished young man who did not appear to be acutely ill but did complain of considerable pain in the abdomen. The pharynx was mildly injected, and the tongue was smooth. His lungs were clear to percussion and auscultation. The heart showed a regular sinus rhythm at 90 with no thrills, murmurs, or gallop.

The abdomen was slightly distended. There was moderate to severe tenderness in the right lower quadrant and right flank with minimal muscle spasm. There was slight rebound tenderness in the right lower quadrant. Bowel sounds were active. There was definite tenderness over the right costovertebral angle as compared to the left side. Rectal examination revealed no tenderness or masses in either fossa.

Laboratory studies revealed the following: hemoglobin 15.4 Gm. and white blood count 17,000 with 75 per cent polymorphonucleated leukocytes; urine showed no sugar or albumin and no white blood cells, red blood cells, or casts.

From the above clinical history and physical examination it was obvious that we were dealing with either an acute appendicitis or an obstructing right renal or ureteral calculus. Despite the fact that the clinical impression pointed towards acute appendicitis, we deemed it necessary to investigate the urologic aspects further because of the previous history of hematuria and the present dysuria and right flank tenderness. For this reason an intravenous pyelogram was immediately performed. Following the injection of the contrast substance there was immediate visualization of the left kidney but no apparent excretion on the right side. The initial impression was that this patient either had a congenital absence of the right kidney or a complete block of the right kidney. For this reason cystoscopy with retrograde studies was immediately performed and revealed that the right ureter crossed medially to the left side. The right kidney was found to lie just below and was apparently fused to the undersurface of the left kidney. No shadows suggestive of calculi were seen. The diagnosis of a crossed renal ectopy of the discoid type ("pancake kidney") was made. The right ureteral urine was negative microscopically.

We were now certain that the patient's symptoms were not due to renal pathology and decided on immediate surgery with a preoperative diagnosis of acute appendicitis. This was performed approximately three hours after admission to the hospital. At operation an acutely inflamed appendix in a retrocecal position was found and removed. Postoperatively the patient did well and was discharged on the seventh postoperative day.

Summary

A case of crossed renal ectopia with fusion was encountered during investigation for an attack of acute appendicitis and is presented here because of the interesting differential diagnostic problem that arose.

Fatal Aplastic Anemia Due to Methylphenylethyl Hydantoin (Mesantoin)

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(*From the Medical Service of the Bronx Hospital*)

LOSCALZO[1] in 1945 introduced methylphenylethyl hydantoin (Mesantoin) for the treatment of convulsive disorders. The following year (1946) Harrison *et al.*[2] reported pancytopenia with fatality in a patient receiving Tridione and Mesantoin, both of which may cause such a dyscrasia. Aird[3] in 1948 reported the first case of pancytopenia due to Mesantoin with death resulting. Abbott and Schwab[4] reviewed the toxic effects of the newer anticonvulsive drugs, i.e., Tridione, Mesantoin, Phenurone, and Paradione. There were 11 cases of pancytopenia in which Mesantoin was implicated, and of these there were six deaths. In one of the fatal cases Tridione was concomitantly being used, and in another the reaction occurred during Phenurone therapy which had replaced Mesantoin. In 1951 Witkind and Waid[5] reported another case of aplastic anemia with death due to Mesantoin. Lennox[6] mentioned that he personally knew of six (as yet) unreported deaths from Mesantoin.

The following case is reported as another fatality following the use of Mesantoin.

Case Report

M. S., a forty-nine-year-old, white, male epileptic of twenty years duration, was admitted to the Medical Service of the Bronx Hospital on February 20, 1951, because of bleeding gums, weakness, and a petechial eruption on the skin of two weeks duration. He had previously been treated with phenobarbital and Dilantin Sodium with poor control of his seizures. In August, 1950, Mesantoin, $1^1/_2$ grains four times daily, was used to replace the Dilantin Sodium in a clinic of another hospital. Two weeks later the patient experienced fatigue, lassitude, and weakness, and a petechial eruption was noted. A complete blood count was reported to be within normal limits. Pyribenzamine was administered three times daily for a total of 24 tablets, and Mesantoin was continued. The side-effects of Mesantoin therapy disappeared promptly, and the drug was continued from August, 1950, until February, 1951, two weeks prior to admission, when his present illness began. A hemoglobin determination done by his family physician the day of admission showed a value of 28 per cent (Sahli).

On admission the patient exhibited a generalized hemorrhagic rash. Examination of the fundi oculi showed multiple hemorrhages. There was bleeding from the gums. The liver and spleen were not palpable, and adenopathy was not noted. Hematologic study showed the following: red blood count 1,450,000, hemoglobin 30 per cent, 4 Gm. (Sahli), and white blood count 3,100. On differential smear there were lymphocytes 92 per cent, polymorphonuclear leukocytes 6 per cent, and monocytes 2 per cent. The platelets numbered 1,000. The bleeding time was four minutes, eight seconds and coagulation time three minutes, forty-five seconds. The urine examination was within normal limits. The blood urea nitrogen was 13.7 mg. per cent, blood sugar 80 mg. per cent, icterus index 3, thymol turbidity 3.3 units, and blood Wassermann negative. Sternal marrow aspiration revealed a marked hypoplasia of the granulocytic, erythropoietic, and megakaryocytic series. Electrocardiogram and chest roentgenogram were normal.

The patient was febrile during his entire course. In spite of 3,500 cc. of whole blood, supportive therapy, and antibiotics, he rapidly developed a progressive neutropenic picture. On March 3 his white blood count was only 900 with 97 per cent lymphocytes. The reticulocyte response was poor, the level never rising above 0.8 per cent. The patient expired suddenly on the fourteenth hospital day (March 5, 1951). Postmortem examination was not performed.

Comment

A blood dyscrasia is one of the more serious toxic complications of Mesantoin therapy and may lead to death. This case illustrates the two phases of toxicity which the authors have noted in a number of reports on Mesantoin fatalities, namely, an initial reaction of mild degree in the form of a reversible skin eruption and followed, if the drug is continued, by a blood disturbance either of mild or severe degree.

In a series of 600 cases Schwab, Abbott, and Timberlake[7] noted reversible skin reactions and mild blood disturbances in 5 to 10 per cent of those patients who had been taking Mesantoin. Best and Paul[8] found that bone marrow aplasia developed after an average interval of five months (range two weeks to thirteen months) of Mesantoin therapy. In our patient the blood dyscrasia was recognized six months after therapy was begun.

In the presence of a toxic reaction, continuance of the drug may result in the development of a severe hematologic reaction, such as occurred in our patient. Schwab *et al.*[7] reported the incidence of severe blood dyscrasia in 2 to 4 per cent of their patients.

In order to prevent such hematologic complications while the patient is under therapy with

Mesantoin the following precautions are suggested:

1. Constant and regular blood study. Examination of the bone marrow if indicated.
2. Cautious treatment and careful supervision of those patients who (*a*) have a previous personal or family history of drug allergy, sensitivity, or rash regardless of the etiology, (*b*) require 0.8 Gm. or more of the drug daily, and (*c*) never have taken drugs of the hydantoin group.
3. Discontinuance of the drug in the presence of a rash or abnormal bleeding from the gums, nose, or vagina.
4. Discontinuance of medication if the white blood count falls below 1,600 or if the platelets appear to be reduced in the blood smear.

Summary

A fatal case of aplastic anemia following the use of Mesantoin has been reported. Skin eruptions as premonitory warning signals of impending blood dyscrasia should not be overlooked.

Thanks are due to Dr. Max Weiss, attending physician, for permission to report this case and to Dr. I. Rothstein of the Department of Pathology for the blood studies.

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Acute Urticaria Caused by Sensitivity to Saccharine

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Acute urticaria has been caused by a host of agents, including foods, drugs, inhalants, and injectants. Acute urticaria proved to have been caused by sensitivity to saccharine is apparently quite rare since a search through the recent literature fails to reveal mention of it. The following case, therefore, is thought to be of sufficient interest to justify a brief report.

Case Report

L. S., a surgeon, age fifty-five, complained of recurrent urticaria for several months. He stated that the urticaria involved chiefly the hands and stopped abruptly at the wrists, and he was able to demonstrate pitting edema of the palms during each episode, which lasted a few hours to several days. He suspected that it was caused by saccharine because he had been using saccharine freely for several months; when he had stopped using it about two weeks previously, the urticaria did not recur. His general health was excellent except for a history of kidney stones.

He was persuaded to place a very tiny amount of saccharine, a speck no larger than a pinhead, under the tongue. Within two and a half minutes, he complained of skipped beats, and examination of the pulse showed regular skipped beats about every sixth beat. He broke out in a cold sweat. An urticarial wheal appeared on the right hypothenar eminence and increased in size while it was being observed until it was 3 cm. long and 2 cm. wide. Pressure on this area caused distinct pitting (Fig. 1) He also complained of a prickling sensation of the face, and small urticarial wheals soon became visible on the forehead. The cold sweat, urticaria, and skipped beats all persisted for a period of about three hours. The next morning there were no residual symptoms. No therapy was given.

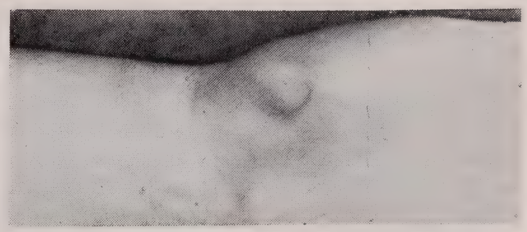

FIG. 1. Acute urticaria of hypothenar eminence caused by saccharine. Note pitting on pressure.

Comment

In view of the history and the dramatic symptoms occurring so rapidly after the ingestion of such a tiny amount of saccharine, we may consider the causal relation of the urticaria to the saccharine established. While the condition is probably rare, it is hoped that this report may stimulate search for similar cases. Saccharine is quite widely used and may conceivably be responsible for some of our intractable cases of chronic urticaria. The possibility of its role in producing these symptoms should be considered.

TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

with the cooperation of

Bureau of Cancer Control
New York State Department of Health

The Treatment of Carcinoma of the Cervix

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This article is intended to be a concise, practical presentation of the treatment of cervical carcinoma.

The present therapy for cervical carcinoma is only a phase of constant development and progress, requiring time for evaluation.

The Wertheim type of operation was favored during the early part of the century. This procedure removed the uterus, adnexa, parametria, and upper portion of the vagina. After World War I, radiation with x-ray and radium proved more effective and was generally accepted. During World War II, slow progress in radiation technics and marked progress in surgical technics resulted in renewed interest in surgical treatment. More extensive surgery than the Wertheim operation seemed possible.

The most significant operation developed is best called a radical panhysterectomy with bilateral lymphadenectomy, called radical hysterectomy for brevity. This procedure removes the uterus, adnexa, parametria, upper half of the vagina, and the lymphatic fascia of the lateral pelvis. In early selected cases operated by specially trained teams, it provides results comparable to radiation. It has not been proved superior to radiation in unselected series, and it is not technically feasible in more advanced cases.

Total pelvic exenteration has been developed during recent years. This procedure, which requires colostomy and urinary diversion, removes all of the pelvic viscera and fascias. It has proved reasonably safe in specialized centers but is best considered experimental since results do not justify its universal adoption.

The "nucleonic" age has brought unexpected progress in radiation therapy. Advances are slow in application, however, because they involve basic physical knowledge and expensive equipment beyond the grasp of the average operator. The medical profession must keep pace if carcinoma is to be treated with the best possible technics. Knowledge of variations in radiosusceptibility is growing. Future methods for predicting radiosensitivity may prove successful in guiding us in electing surgery, radiation, or both in individual cases.

After this encouraging review of progress, we have outlined below the following present standard plan of treatment according to the International Clinical Classification of Cervical Carcinoma.

Stage 0

Panhysterectomy with the excision of a 2-cm. cuff of parametrium and vagina is the treatment of choice. Normal ovaries may be left in the younger age groups. Panhysterectomy is necessary because in situ carcinoma may be diffuse or multicentric and because the diagnosis is often uncertain. Noninvasive carcinoma is determined by failure to find invasion. An energetic effort to find invasion must be made, therefore, through the study of many microscopic sections throughout the cervical epithelium. Telinde[1] reports apparent cure in all of 99 cases so treated.

Stage I

Radiation using x-ray and radium is the treatment of choice for the usual operator in the general run of cases. Radical hysterectomy yields its best results in this stage. In exceptionally well-trained hands, selected cases compare favorably with radiation. Results are not satisfactory under less limited conditions. Schmitz,[2] using radiation, reports about an 80 per cent cure rate. Meigs[3] and Pratt,[4] operating selected cases, both report an 84.7 per cent cure rate. Complications of selected surgery and unselected radiation are comparable. The seventh annual report (from 65 institutions) shows in stage I a 64.4 per cent cure rate for radiation against a 60.1 per cent cure rate for surgery.[5]

Stage II

As in stage I, radiation with x-ray and radium is the treatment of choice. Radical hysterectomy loses ground with the extension of disease. For instance, it becomes difficult to remove gross vaginal extension, yet leave bladder and rectum. About 30 per cent of stage II lesions will have lateral node metastasis. Theoretically, surgery has a better chance of removing these nodes, but in practice, cures of cases having node involvement are infrequent, whether by surgery or radiation.

Statistics cannot be properly evaluated. A controlled series of sufficient numbers is not available. The case most likely to be cured by radiation is the one selected for surgery, and the less favorable cases are left to radiation. Meigs[3] reports a 60.7 per cent cure rate in selected operative cases, Cantril[6] a 49 per cent cure rate in an unselected radiation series.

Stages III and IV

Satisfactory treatment for advanced cervical carcinoma has not been found. The best curative and palliative treatment is still radiation with x-ray and radium. Radical hysterectomy is technically too difficult, and the best of surgeons have not attempted this procedure in these stages. Exenteration is appealing on the theory that it could excise all of the carcinoma. Practice has not proved this to be true, and the pain and annoyance caused by the surgery is often added to that of the persistent carcinoma.

Brunschwig[7] reported extensive surgery on 100 advanced cases of genital carcinoma. Twenty per cent died within thirty days, another 49 per cent died within eight months, and 10 per cent are listed as "well" one year and six months after surgery. Some patients may deserve referral to centers capable of such surgery, but it is not yet the treatment for most cases.

Radioresistant Carcinoma

Radical hysterectomy may be indicated when radioresistant carcinoma can be placed in stage I or II at the time of surgery. When the disease is more advanced, it is usually incurable. Surgery can salvage a significant percentage of properly selected cases.

Carcinoma microscopically proved to persist after full radiation therapy can be considered radioresistant. The early diagnosis of persistent disease is important. Careful follow-up with frequent biopsies and cytologic smears after radiation will detect most operable persistent carcinoma. The work of Graham and Graham[8] deserves attention along this line. Routine laparotomy is not justified but may be indicated occasionally to diagnose persistence. Operability can usually be determined by bimanual examination.

Brunschwig[9] reported 47.5 per cent satisfactory results in radioresistant cases selected for radical hysterectomy. The sooner the persistent disease was diagnosed, the better were his results.

Carcinoma Complicated by Local Disease

Radiation, particularly with radium, may be hazardous if there is pelvic inflammatory disease, myomas, or endometriosis. If these complications limit radiation sufficiently, radical hysterectomy is indicated in stage I or II carcinoma. Individualization is important since lesser degrees of activity and extent of the complicating disease will not unduly limit radiation dosage.

Carcinoma of the Cervical Stump

Invasive carcinoma of the cervix remaining after supracervical hysterectomy is usually best treated by radiation. Proper radium implantation may be impossible, and the proximity of viscera to the upper endocervical canal must be considered. Through variations in radium application most early lesions can be adequately radiated. If adequate radiation of an early lesion is not possible, radical excision of the stump is indicated. Decisions regarding radiation, however, require as much specialized training as the ability to operate on the same patients.

Cervical Carcinoma in Pregnancy

Specific treatment cannot be outlined for carcinoma of the cervix complicated by pregnancy. Important facts are not known, and properly controlled series are not available regarding the behavior of carcinoma during pregnancy, cervical dilatation, and cesarean section. The following thoughts guide us in selecting the proper plan for the individual case:

Staging during pregnancy is difficult. Generally, the best treatment for the carcinoma is the same with or without pregnancy.

The problem often balances on time lost salvaging the fetus. In early pregnancy x-ray therapy will usually result in abortion, following which radium can be implanted. If abortion does not occur and the uterus is larger than two months size, an abdominal hysterotomy will usually be indicated.

A delay in treatment until after delivery may be indicated in late pregnancy. Cesarean section probably favors less extension of carcinoma than delivery from below.

When radium is to be used, the uterus is best preserved. Radium can be more effectively and safely placed in a well-involuted uterus.

Incurable Carcinoma

The above definitive treatment will leave nearly one half of patients uncured. Treatment must not stop here, for gratifying relief can still be given.

The patient's hope and confidence must be maintained, and the physician's behavior greatly influences these qualities. Look and act hopeful; never show despair. Act confident, although troubled, and above all show constant and sincere consideration and attention. It is best to keep the family informed of the facts, but teach them to behave properly before the patient. The best possible general physical condition should be maintained. Attention to diet, habits, body functions, together with supportive medication and correction of minor complications, will often greatly delay disability. The judicious use of analgesics and narcotics is usually indicated. The physician must be certain that there is sufficient pain to justify narcotics, lest the patient become more a problem of addiction than of carcinoma. He must be alert to true suffering, however, for he alone can control it.

The Present Basis for Treatment

Pathology.—The routes of extension of cervical carcinoma must be considered when planning treatment. Early spread is centrifugal so that parametria and vagina may be involved when only a small clinical lesion is evident. Lymphatic extension may occur early, node involvement occurring in about 20 per cent of stage I lesions, 30 per cent of stage II lesions, and 50 to 60 per cent of stage III lesions. The bladder and rectum seem to be involved later than their proximity to the cervix would indicate. Radical hysterectomy is based on this premise.

Tumors vary in their pattern of spread, some jumping to lateral nodes early, others involving nodes only after extensive local spread. Read[10] reported about 60 per cent node involvement in stage IV carcinomas. Radiosensitivity varies and is influenced by factors such as "host resistance" and associated disease. Microscopic grading according to degree of anaplasia does not give a satisfactory indication of radiosensitivity.

Radiation Therapy.—The basis for radiation therapy is a greater susceptibility of carcinoma than of normal cells to x-ray and gamma rays. The extension of carcinoma is slowed through radiation fibrosis with lymphatic and venous occlusion. There is a theoretic radiation dose which, delivered homogenously throughout the pelvis, would kill all carcinoma, yet would not kill normal cells.

Homogeneous dosage is not possible since gamma ray intensity drops rapidly with increasing distance from radium and x-ray intensity drops rapidly below skin portals. Intracavitary radium will damage bladder and rectum long before it delivers therapeutic radiation to lateral nodes. X-rays will damage the skin before they can deliver therapeutic dosage to the pelvic tissues.

X-ray and gamma rays summate in their action on carcinoma. X-rays should be beamed to the lateral pelvis so as to summate with the weak lateral, rather than the strong central, gamma radiation. Radiation can be counted on to cure most central carcinoma but usually will not cure lateral pelvic extension. Morton[11] reported 35.3 per cent node involvement when operating unradiated cases and 11.4 per cent node involvement in previously radiated patients.

SURGERY.—Surgery hypothetically offers the removal of all carcinoma, even in the lateral routes of extension. Practice falls short of theory, and complete removal of all carcinoma is often difficult. Complications such as atonic bladder, fistulas, and shortened vagina are often most distressing. Radical hysterectomy does not remove tissue near the cervix, such as the bladder and rectum, yet the removal of these tissues involves the loss of valuable function.

USE OF RADIUM.—Radium is the most practical method for delivering cancerocidal radiation. When placed in the uterine canal, it delivers about eight times the radiation intensity to the adjacent bladder as is received by the iliac or obturator nodes. When removed in time to avoid bladder damage, it will have delivered cancerocidal dosage only a short distance into the parametria. Intrauterine radium alone will cure only the early carcinoma.

Variations in radium application can enhance the relative lateral dosage. Parametrial needles place the radium laterally, but their proper application is difficult, and their use has not significantly improved results.

Colpostats, which place the radium laterally, increase lateral radiation. Dosage must be carefully estimated, however, and in many advanced carcinomas a good lateral displacement cannot be obtained. Distance is most important in practical application. The bladder and rectum should be carefully packed away from radium, and x-ray photographs should be taken after every application to confirm proper positioning. Attempts to measure distance by x-ray photography leave a wide margin of error and are not very helpful. One should be cautious of unfamiliar applications since experience seems to be the best guide for estimating dosage.

Whether single dosage or fractionated dosage is better is uncertain. Protraction of dosage using lesser intensity for longer times seems to increase the therapeutic index of gamma rays. Nearly all large centers in the world use different applications. Most centers have modified application technics frequently. Results, however, are rather consistent. The proper evaluation, application, and general care for the individual patient seem most important in determining results.

Cooperative planning of x-ray and radium therapy is necessary in each patient. X-ray and gamma roentgen dosage should be estimated and summation considered for important pelvic tissues. Dosage should be considered in roentgens received by tissues over a stated period of time. Dosage in milligram hours is dangerously vague.

X-RAY THERAPY.—The main purpose of external x-ray therapy in the treatment of carcinoma of the cervix is to supplement the radiation given by radium to the parametrium and the nodes draining the cervix. In almost all instances the amount of radiation administered centrally by the intracavitary radium is adequate and cancerocidal. Therefore, when administering external radiation, one should attempt to spare the midline structures, while treating the lateral pelvis adequately. In addition, most of the complications of the radiation treatment of carcinoma of the cervix are due to the effects of excessive radium dosage on the sensitive structures (rectosigmoid, bladder, and small intestine). This is a second reason for attempting to spare the midline when external roentgen therapy is applied.

In the average radiology department or office, x-rays of 200 to 250 kilovolts are available for therapy. Moderately heavily filtered beams should be used. There is a difference of opinion as to the proper sequence for x-ray therapy. In this medical center radium is administered first, followed in approximately one week by a five-week course of external therapy. There are three exceptions to this program:

1. A grossly infected lesion or a patient with pelvic inflammatory disease is given roentgen therapy first (in an attempt to irradiate the infection).
2. A cervix grossly distorted by cancer and in which the external os cannot be identified is irradiated with x-rays preliminary to radium insertion.
3. A patient with a severely bleeding lesion receives external x-ray therapy initially.

We use long narrow anterior and posterior fields 18 by 20 cm. average size, separated 4 cm. at the midline. In addition, oblique posterior sacrosciatic fields are applied.

A minimal tissue dose of 3,500 r to the lateral pelvic wall is given in five weeks.

It should be emphasized that the treatment plan must be adjusted to the individual patient. Thick heavy patients require larger doses in order to obtain similar tissue doses.

In planning external therapy we find it wise to expose x-ray films with the therapy cones in place upon the patient. These films guarantee accurate x-ray beam direction. The location of the ports should be clearly marked upon the patient's skin to ensure similar treatment at each visit.

With the plan outlined above, very little radiation sickness occurs. The skin reaction is not usually severe.

Summary

1. A review of the development of present methods of treatment has been presented.
2. The treatment for carcinoma in situ is panhysterectomy.
3. Invasive carcinoma of the cervix is best treated with x-ray and radium radiation.
4. Radical panhysterectomy with bilateral lymphadenectomy is indicated in some early radioresistant cases and in some early complicated cases.
5. Standard x-ray and radium therapy does not provide adequate lateral pelvic radiation.
6. Individualization of patients and rational modifications in methods can significantly increase lateral pelvic radiation and provide more cures.
7. Emphasis is placed on the value of conservative measures in the care of the uncured patient.

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(*Number thirteen of a series on Treatment of Cancer*)

When Thales was asked what was difficult, he said, "To know one's self." And what was easy, "To advise another."—DIOGENES LAERTIUS

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Extrinsic Factors in Bronchial Asthma

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The extrinsic factors which act as specific excitants of bronchial asthma comprise a large and varied group into which practically every known cause except infection is placed. Although diverse in origin and in characteristics, these factors, largely protein in construction, may be classed according to their manner of entry into the tissues of the body: as substances inhaled with the inspired air; ingested as food or drug, injected as heterologous sera, biologic products, antibiotics, or insect sting venoms; or anointed, as unguents or topically applied medicaments. Heat, cold, and light may also act as extrinsic agents of a physical type.

Among the primary extrinsic factors none is more important than the group that excites symptoms by inhalation. Present in the atmosphere in minute, particulate, and buoyant forms, these substances are inhaled, enter the body tissues by penetrating the upper and lower respiratory membranes, and cause almost immediate symptoms of allergic coryza, cough, and dyspnea.

Many of these inhaled excitants, notably the pollens of certain trees and plants have the outstanding characteristic of being seasonal in occurrence, producing discomfort only during the warmer months of the year and leaving the patient quite free of asthma during the winter. The pollens of the hardwood trees are remarkable in their ability to cause allergic dyspnea in April, May, and June, even in city dwellers who rarely venture into the country. In New York and its vicinity those of most importance are the pollens of ash, oak, beech, birch, elm, and hickory.

The grass family has a huge number of members whose pollens have the capacity to produce asthma by inhalation. In New York State during the months of May, June, and July the air teems with these granules. Among the outstanding are those produced by timothy, blue grass, orchard, low spear, velvet, sweet vernal, and rye, which seem to possess a common denominator, a family trait which permits any or all of this group to disturb the grass pollen-sensitive patient. Aiding and abetting the grass pollens is the pollen of plantain, a weed of English derivation which is important as a causative factor in about one third of the grass pollen-sensitive cases. In the very rare individual, plantain may be the sole cause of pollen asthma. The pollen of sorrel is a less common cause of asthma during the early summer season.

Pre-eminent, however, as the most notorious cause in producing pollen asthma is the ragweed plant. Its outstanding importance is recognized by botanist, allergist, public health official, and weed control expert, who have combined forces in an effort to lessen the threat offered by it. The giant and dwarf varieties flourishing in this area share equally in causing, each August and September, asthma of such intensity and duration as to damage the health of the patient permanently. Occurring as it does at the threshold of fall and winter, ragweed pollen by inflaming respiratory membranes and lowering resistance encourages the development of complicating infections in the paranasal sinuses and in the bronchi. Such secondarily induced inflammatory reactions may prove to have more damaging effects on the patient's respiratory system than the ragweed pollen itself.

While ragweed flourishes in bright sunlight in airy open spaces, a lesser but still important cause of seasonal asthma are the spores of molds and fungi which grow best in dark, damp, and warm air and are identified with mustiness. Molds flourish in infinite variety with many species difficult to identify. Hormodendron, penicillium, mucor, cladisporium, and alternaria, however, are members of this group, which produces asthma chiefly during the late summer, occasionally nonseasonally.

While the agents eliciting seasonal asthma are relatively limited in variety, being largely confined to the pollens and molds, the causes of nonseasonal asthma are many. Any dry particulate matter of vegetable or animal origin so attenuated that it can be raised and carried by the atmosphere is a potential producer of asthma. The sources of such excitants are the cotton, linen, kapok, silk, and wool of clothing and home furnishings; the down and feathers of cushions and bedding; the danders and salivas of domestic animals such as the horse, dog, cat, rabbit, and goat; and occasionally, tobacco, insecticides, and ground orris root, a constituent of inexpensive toilet powders. These substances are the components of house dust, the microscopic litter of our routine domestic living against which the vacuum cleaner was devised. It is the ubiquitous house dust which is supreme as a cause of inhalant asthma. Despite our ability to recognize most of its ingredients, it remains one of the most mystifying and baffling of the extrinsic factors since it contains allergenic substances which have so far defied analysis and identification.

Occasionally, occupational varieties of asthma may develop from the inhalation of dusts from other sources, usually foods, such as cereals, nuts, coffee, tea, spices, malt, and hops. Such asthma often proves implacable and stubborn to treatment, forcing the victim to abandon his occupation for another. Detailed discussion of occupational asthma will receive special consideration in this series.

In the exquisitely sensitive food asthmatic, the inhalation of the odor of fish, egg, nuts, certain fruits or vegetables, such as orange, banana, celery, and onion, may cause instant, severe dyspnea.

Usually, however, foods act as allergens by ingestion. While any edible substance may cause asthma, egg, milk, seafood, chocolate, and nuts are the most important, not only because of their high incidence as excitants but also because of the severity of symptoms which they produce. Bronchial asthma due to a food allergy may occur at any age, but it is chiefly a problem of the first two decades of life. Food sensitivity tends to disappear in later life. While a significant characteristic of asthma due to inhaled substances is the promptness with which symptoms appear on exposure to the allergen, this feature is present only in about half of the food cases. In the other half the reaction is delayed, and twelve to forty hours may elapse between the ingestion of the food and the appearance of symptoms, a situation which renders identification of the food factor difficult. By cross questioning, by skin testing of the patient, and by trial diet methods, the offender may be discovered. Despite these procedures the results in such cases are often disappointing.

An extrinsic factor of increasing importance is an ever-widening heterogeneous group of drugs and therapeutic agents which may act by inhalation but more often follow ingestion, injection, or topical application. Many members of this group are nonproteins, becoming allergenic through their facility to link with body proteins to become drug-protein conjugates. Comprising this group are aspirin, quinine, the sulfa drugs, and mercury.

Allergic hazards may be produced by biologic agents, organ extracts, vitamin preparations, heterologous sera in the form of antitoxins, and antibiotic preparations of fungous derivation, especially penicillin. The occasional case of asthma due to wasp or bee sting is an injectant type of sensitization.

Absorption of the food excitant through the intact unbroken skin may, in rare but important instances, lead to asthma. Egg, beef, nuts, seeds, banana, citrus fruits, celery, white potato, and other fruits and vegetables, especially in food handlers, may excite asthmatic attacks by contact with the skin. Other extrinsic factors, such as animal salivas, silk, mustard, flaxseed, and essential oils, such as bergamot, delphinium, wintergreen, may cause asthma by surface contact or topical application.

While a single extrinsic excitant, such as pollen, dust, or egg, may be the most important cause of asthma, rarely is it the only one. There may be associated sensitizations to various animal danders, dusts, nuts, seeds, or other foods. Such multiple sensitization renders more difficult the identification of the principal, specific cause or causes. Furthermore, the pattern of allergic response to the excitant may be not respiratory alone. From the same cause there may be an associated coryza, dermatitis, urticaria, angioedema, or gastroenteritis, conditions which usually indicate a severe and complex allergic problem.

Not all of the extrinsic factors capable of producing attacks of bronchial asthma are primary. There is multiplicity of agents secondary in nature which may arouse, intensify, and complicate an asthmatic condition which actually springs from very different, often obscure, causes. Such secondary factors may at times become even more important than the primary eliciting agents and may prove more difficult to control because of difficulty of identification and removal. Traffic fumes, chemical odors, emanations of dry cleaning fluids, naphthalene flakes, paradichlorobenzene preparations, paints and lacquers, and gases from leaky heating, cooking, and refrigerating equipment may prove to be important excitants both in the home and in the shop. The tensions and pressures of everyday existence, the stresses and strains of acute or chronic emotional experiences in both child and adult may be the obstacle to improvement, no matter how successful the identification of the primary exciting features or how intelligent their handling.

The extremes of temperature, of heat or of cold, are secondary extrinsic factors which may readily aggravate an asthmatic condition basically due to other causes. At times, however, such factors seem of primary importance, being the sole cause of asthma. These are difficult to evaluate and even more difficult to treat successfully.

The problems of diagnosis and of treatment are extensively discussed in other articles, but here it may be mentioned that the extrinsic factors of importance in causing bronchial asthma may often be readily identified by careful and comprehensive questioning of the patient regarding the features of his asthmatic seizures. They are usually paroxysmal, influenced by factors characteristic of the season, of the environment, or of the diet. The cause and effect relationship may be established frequently without benefit of skin test since practically all of the attacks due to substances inhaled and half of those due to substances ingested occur promptly on exposure to the excitant.

The solution of the problem of extrinsic asthma may frequently be accomplished without extensive treatment or immunization schedules. The simplest and at the same time the most effective measure against extrinsic asthma is the removal from the patient's environment of the identified or suspected exciting cause. The replacement of bedding and bedroom furnishings which are under suspicion, the banishing of pets and domestic animals, the removal from the diet of foods suspected or foods notorious as causes of extrinsic asthma may solve many cases without much ado and without the need for skin-testing procedures.

Education of the patient as to the importance and significance of his extrinsic factors is essential but may prove difficult, especially where his preferences or his emotions become involved. His immediate and remote forbears may have been canny enough to utilize the lofts of their houses as their own living quarters, reserving the ground floors for the shelter of their domestic animals, but the city apartment dweller, without discrimination and despite advice, may welcome to his bedroom, even to his bed, one or more not-so-clean licking and scratching animals. Or he may realize the disturbing effect of a food but persist in retaining it in his diet, even to excess. Without removal of all known active extrinsic factors from contact with the patient, even the most ambitious treatment schedules may prove unsuccessful.

The asthmatic whose symptoms are due to recognized extrinsic factors of recent appearance is in that fortunate, reversible stage where his distress may be altogether removed. No complicating respiratory pathology or concomitant infections check his recovery. Specific immunizing therapy may be required, but no large list of drugs is necessary. Ephedrine, epinephrine, antihistamines, aminophylline, and codeine may complete the list of required medications. The symptomatic treatment of asthma, to be subsequently discussed, is simple and uncomplicated in such cases.

Among extrinsic factors or factors from extrasomatic sources important in the causation of asthma, there should certainly be included bacterial agents. Responsible for causing infective asthma, these are just as much of extraneous origin as are all of the causative factors just discussed. The pedantic physician could insist, therefore, that since all factors, including bacteria capable of eliciting asthma, originate outside the body, all factors are actually extrinsic, and there is no such thing as an intrinsic factor capable of causing asthma. It remains convenient, however, to regard only the noninfective agents—inhalants, foods, and drugs—as the extrinsic factors causing asthma and to regard the infective agents as the intrinsic.

116 East 53rd Street

(Number three of a series on Fundamentals of Modern Allergy)

Doctors Suggest Exercise to Relieve Back Pain

A simple exercise which strengthens the abdominal muscles can help relieve a common type of acute low-back pain in some patients, according to two Georgia physicians.

The exercise is outlined by Drs. Robert P. Kelly and J. Trimble Johnson of Emory University in the August 27 *Journal of the American Medical Association.*

The abdominal muscles are supposed to help keep the lower spine flexible and in place, but they often become weak through lack of use. Then they are unable to control the spine when some unusual motion causes a "catch" in the back. The "catch" is accompanied by excruciating pain, spasms of the back muscles, and pain in the legs. The condition is aggravated by prolonged sitting, standing, or lying down.

The first step in the treatment is to relieve the muscle spasm by "hanging," the doctors said. The patient lies face down on an examining table, with his legs hanging over the elevated end of the table. This is continued at intervals until the pain and spasm subside. Then the daily abdominal muscle exercise must be started. The patient lies flat on his back on the floor with his knees bent. Thirty repetitions of the exercise are done in groups of ten, with a rest of one or two minutes between sets. The first movement consists of bending the neck, bringing the chin as near the breastbone as possible. Added to this movement in the second set is an effort to raise the shoulders slightly from the floor. In the third group the neck is bent and the shoulders are elevated as far toward a sitting position as possible. The rhythm of the exercise is slow and deliberate. Lurching motions should be avoided.

In most cases, this exercise, done daily even after complete disappearance of the pain, will maintain the desired tone of the abdominal muscles and prevent future "catches," the doctors said. In addition, correct posture should be maintained.

EDITOR'S NOTE: *This contribution to the medical history of our State first appeared in April, 1955, number of the* Richmond County Medical Society Bulletin *and is reprinted here through the courtesy of the author himself and of Dr. Jacob J. Silverman, the capable editor of the* Bulletin. *The devout wish of the editors of the State* JOURNAL *is that each of our county societies would produce an equally interesting and well-written chronicle. Part II will appear in the next issue.*
The author is a well-known historian of Staten Island.

History of the Medical Profession of Staten Island
Part 1, 1639–1800

LORING McMILLEN, STATEN ISLAND, NEW YORK

(*Vice-President and Director, Museum, Staten Island Historical Society, and Borough Historian and Consultant, Richmondtown Restoration*)

THE history of the medical profession of Staten Island embraces the period of modern medicine itself and began with the first settlement of 1639. This early cluster of well-planned "boweries" at the Watering Place, now Tompkinsville, was destroyed by the Indians, as well as two subsequent settlements made in 1641 and 1649. Finally, in 1661 a band of hardy French and English families settled at the "Oude Dorp," or Old Town at South Beach, and the permanent settlement of Staten Island was established.

The great centers of medical teaching during the seventeenth and eighteenth centuries were Leyden, Padua, and Paris. Leyden, the youngest, was however the most awake to the new science, and her great teachers taught or influenced the early doctors, both English and Dutch, who came to New Netherlands, later New York.

Henry Hudson's explorations in 1609 led to the settlement of New Amsterdam in 1624, and by the time of Dutch capitulation to the English in 1664, settlements in nearby New Jersey, Staten Island, Long Island, and throughout the Hudson Valley had come into existence.

In 1624 there were 45 persons in the settlement on Manhattan Island, and in 1626 the medical history of what was to become the center of the greatest city in the world began. For in that year there arrived in New Amsterdam two zieckentroosters, or comforters of the sick, Sebastian Jansz Crol and Jan Huyck, sent out by the authorities from their native Holland. These men and their successors, here and elsewhere, filled an important office in the early days of the Dutch dynasty. In the absence of a doctor or a minister whose services even in later days were spread over a large area, the zieckentrooster or voorlezer, to use a later and more common name, ministered to the sick and needy. He evidently had a broad and basic knowledge in theology, the fundamentals of teaching, and in the medicine of the time. On Sundays he would assist or lead the services, on weekdays teach the children the three "R's," and whenever sickness or injury occurred, apply simple treatment which we today might call first aid.

At first each Dutch settlement was required to have a zieckentrooster or voorlezer, and records attest to the ministrations of this long forgotten worthy. Later the office was absorbed by the doctor, the minister, and the school teacher as the growth of the community demanded the undivided services of each. While the name of the voorlezer of the first settlements on Staten Island is unknown, the careful organization as well as the official requirements of these settlements lead us to believe that this office was not neglected. However, in 1695 there was erected at Cocclestown, now Richmond or Richmondtown, a house for the voorlezer in which he lived, taught school, and conducted church services. This building still stands as the nucleus of a restoration of a typical American village now moving forward under the joint sponsorship of the Staten Island Historical Society and the City of New York. The voorlezer of 1695 was Hendrick Kroesen, who, at the time of his death in 1761 at the advanced age of ninety-five years, was one of Staten Island's most respected citizens. Aware of the duties of his office elsewhere, and in the absence of a resident physician in 1695, we might presume that Hendrick Kroesen administered material as well as spiritual and educational care.

However, the needs of a growing community such as New Amsterdam and later our own Island could not long be served by the zieckentrooster, and in 1637 the first resident physician, Johannes La Montagne, arrived. He was a Huguenot and a graduate of the University of Leyden. At the age of forty-two he left a lucrative practice in Leyden to come to the New World. Family connections here, as well as a spirit of enterprise and adventure, induced the prominent doctor to make this decision. His services, needless to say, were soon in great demand, and while he did not long remain sole physician, he became one of the city's most prominent citizens. At the close of his life he returned to Europe, where in 1670 he died.

In 1642 Dr. Abraham Stadts arrived from Holland and after a few years of practice in New Amsterdam moved to Albany and distinguished himself there both in his profession and in public life. His son, Samuel, is probably the first native-born American who traveled to Europe and, after receiving his training in medicine, returned to the new world. Dr. Samuel Megapolensis, an early doctor of this period, distinguished himself by first graduating from Harvard, then from the University of Utrecht, Holland, with both medical and theologic degrees. He evidently successfully used both, a not uncommon custom of his day. In 1661 Dr. J. Hughes, an Irishman, began to practice in New Amsterdam, and from this time on the number of physicians increased, keeping pace with the growth in population.

Probably the first resident physician on Staten Island was Dr. George Lockhart who petitioned for land in 1680 and had his cattle-mark, or brand, recorded before 1690, according to Leng and Davis, *History of Staten Island.* He was a Scotchman by birth and one of the five physicians and surgeons who, in 1691, performed the first official autopsy in this country. This was on the body of Governor Slaughter who it was suspected had come to an untimely end because of the death sentence he meted out to Jacob Leisler. The autopsy disclosed that his death resulted from natural causes, "that the late Governor dyed of a defect in his blood and lungs occasioned by some glutinous tough humor in the blood which stopped the passages thereof . . . ."

The name of Daniel Kelly brings to light for the first time an interesting story of a doctor who for a short time at least lived on Staten Island. The story appears in a Court of Admiralty proceedings for September 15, 1683, when on this date Governor Dongan, an Island resident, ordered the court to try a case of piracy, a not uncommon case.

It appears that Dr. Kelly was the ship's doctor of the vessel "Camelion of London" and, while trading on the coast of Africa, led four of his shipmates in taking over the vessel. They disposed of the cargo at various ports and eventually anchored off Sandy Hook, where they were apprehended. The evidence presented to the Court was so conflicting, involving the master of the ship as well, that Dr. Kelly and his associates were declared not guilty.

In 1685 Dr. Kelly, none the worse for a bit of "honest privateering," acquired a tract of property fronting the Narrows at the present Rosebank. However, the absence of his name from later records would indicate his early departure.

Dr. Kelly's profession as a ship's doctor lights up an interesting chapter in medical history. During the seventeenth and eighteenth centuries there was a group of men called chirurgeons in the old English, or surgeons, who in many instances were doctors with medical training. More often, however, they had little medical skill except in administering drugs or handling the lancet. They sailed in the ships as ship's doctor or surgeon and combined with their medical duties the more common one of shaving and barbering. Many of these surgeons left their vessels to become active citizens and practice their profession. Dr. Herman Van den Boogaerdt was the first ship's surgeon in New Amsterdam, arriving in 1631 and remaining here. He probably was the first doctor to set foot on Staten Island since in 1640 he led a party of white men to negotiate with the Island Indians who had destroyed the first settlement.

The surgeons of New Amsterdam were moved in 1652 to present the following interesting petition: "On the petition of the chirurgeons of New Amsterdam that none but they alone be allowed to shave, the director and council understanding that shaving doth not appertain exclusively to chirurgery, but is an appendix thereunto, that no man can be prevented operating on himself, not to do another a friendly act, provided it be thru courtesy and not for gain, which is hereby forbidden . . . ." It was also further ordered that all "ship barbers shall not be allowed to dress any wounds nor minister any potions on shore, without previous knowledge and special consent of the petitioners or at least of Dr. La Montagne."

During the colonial period preceding the Revolution we have meager information concerning the doctors residing here. The requirements to practice, from a legal or political point of view, were mostly limited to establishing the fees. It was not necessary to show proof of graduation from a medical school, nor was it necessary to have attended one to acquire the title "Doctor" and to practice. The custom was to serve a period of apprenticeship with an established physician or with several physicians who had reputations in various branches of medicine. After several years of this training the medico was ready to hang out his own shingle. This custom does not indicate that quackery and impostors thrived, for quite the contrary is true. Only the lack of medical courses and schools in the colonies and the great distance and cost of travel to the European centers for study prevented formal medical training. Of the estimated 400 physicians practicing in the Colonies, we know many actually completed studies abroad and returned to spread their knowledge among their less fortunate brothers. However, in nearly all instances there was substituted a formal liberal education from one of the several American universities for the lack of a formal medical training. This education and training fitted the colonial doctor to take an active part in the affairs of his community, as we have so often seen.

The first medical degrees in this country were conferred by Kings College, now Columbia, in 1769, where in 1768 the first medical department had been established in an American college. Two names connected with this department are of interest to us, John Bard and his son, Samuel. John Bard, upon the urging of Benjamin Franklin, had moved in 1745 from Philadelphia to New York as a more advantageous place to practice medicine.

Dr. John Bard was an eminent physician: He organized the first Medical Society of New York; established the infirmary out of which grew Bellevue Hospital; performed in 1753 before medical students the first vivisection in the Colonies, and recommended the post of and became the first Health Officer of the Port of New York at Quarantine, then located on Bedloes Island. His efforts were exceeded only by those of his son, Samuel, who with the exception of Dr. Benjamin Rush was the most honored doctor of the late eighteenth century. It was Dr. Samuel Bard who organized the first medical school at Columbia and among other activities was personal physician to George Washington.

Our interest in Dr. John Bard stems from his residing near Tompkinsville on Staten Island for a short time prior to the Revolution. In 1765 he leased for fifty-four years with an agreement to build a house for himself, the Glebe, or church property belonging to St. Andrews Church, Richmond. Evidently his intention was to have a country place, for Dr. Bard continued to practice in New York until his death in 1799.

A prominent doctor in New York and, during his youth at least, a resident of Staten Island was Dr. John Charlton, son of the Reverend Richard Charlton, rector of St. Andrews Church from 1747 to 1777. He married into a wealthy New York family, and his practice was largely confined to them and their friends. If for no other reason, he is remembered as the first doctor to visit his patients in a gig, the forerunner of the doctor's horse and buggy of the 1800's and 1900's.

Richard Charlton's contribution to medicine did not cease with his son John, for his daughter Catherine married Dr. Richard Bayley,

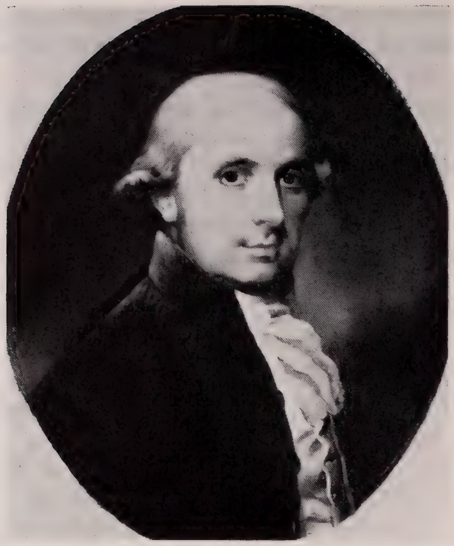

Fig. 1. Dr. Richard Bayley (1745–1801), first health officer, Port of New York Quarantine, Staten Island. Dr. Bayley is buried in St. Andrews Church Yard, Richmondtown, Staten Island, New York.

a noted physician (Fig. 1). He was professor of anatomy at Columbia and a pioneer in the problems concerning the prevention of disease. While most of his practice was in New York, we can claim him as an Island physician, for in 1799 he became the resident Health Officer of the Lazaretto, or Quarantine, when that institution was moved to Staten Island. On a white marble stone near the door of St. Andrews where he lies buried is inscribed the record of the death of Dr. Bayley, words that might well be a tribute to all of his profession—"in the midst of danger to perform with invincible fortitude the hazardous duties of Health Officer until in the discharge of this important trust he was seized with a malignant fever to to which he fell a lamented victim and thus terminated a life of great usefulness on the 17th day of August, 1801, aged 56 years."

The malignant fever which Dr. Bayley contracted was yellow fever which occurred as an epidemic as late as 1870 in New York. He had been in attendance on board a fever-stricken Irish immigrant ship off the Quarantine shortly before being taken ill. His wife, Catherine, lies within the church near the grave of her father. Their daughter, Elizabeth Bayley Seton, became a Roman Catholic and founded the order of the Sisters of Charity at Emmitsburg, Maryland, and for her fervor and devotion is now on the path to becoming the first woman Catholic saint of this country. Mother Seton's Sisters of Charity have their place in medical history as one of the first training centers in nursing.

The number of doctors connected with Staten Island during this period was never large, yet kept pace with the growth in population. In 1723 the population was 1,504 with possibly two resident doctors and, in 1790, 3,838 with at least four doctors serving the community. Probably these were at all times sufficient since during this period Island residents often resorted to New York doctors for treatment, as the $10 fee for a visit from New York in 1798 indicates—double in tempestuous weather. Also the call for medical services at this time was considerably less than today. Home medication and treatment still prevailed as any ancient notebook or account book proves, with its marginal notes on the care of the ague, blisters and sores, etc. We also must not overlook the midwife, who until recent times was the sole attendant at childbirth.

Morris and Leng and Davis' histories of Staten Island mention Dr. Bigell, 1714, Dr. Mersen, 1750, and Dr. Seaman, 1760. Dr. Oliver Taylor, who died in 1771, aged eighty-four years, is buried in St. Andrews churchyard, and Dr. Paul Micheau, of a well-known Staten Island family, died in 1793. On August 5, 1771, the widow of Dr. Arnest Linde advertised that she was selling the medicines and equipment of his shop at the North Side of Staten Island near the Dutch Church, now Port Richmond. Another advertisement in a New York newspaper of June 20, 1771, by Dr. Graham of Staten Island shows doctors once used this means to attract patients. The good doctor was not above self-esteem when he said, "The inhabitants of British America in general may depend on his (Dr. Graham's) best Endeavors in their behalf. Successful practice, low charges, Moderation and Attention, to even the poorest Individual, added to his having had more experience in the Disorders of the Eyes and Ears, than perhaps any Practitioner in this vast continent, induces him to hope for some share of Favor of the Public, who easily will distinguish true merit from pretended knowledge . . . ."

A doctor not mentioned by the historians is Dr. Jean Garreau who lived in or near Richmondtown as early as 1721. He evidently was of French descent and kept a store to add to the income from his practice. He died in 1725, leaving a son, John, and a widow, Mary. He was followed by Dr. Thomas Frost who lived in Richmondtown as early as 1765 and also added to his income by keeping a store and tavern. Dr. Frost was probably the best known of our eighteenth century doctors, holding many important posts, among them that of sheriff. He was an outspoken Tory but stayed on after the Revolution. He and his wife were members of St. Andrews and in 1793 gave the land on which the Second Court House was erected. His home is to be reconstructed as a memorial to the eighteenth century doctor as part of the plans for a restored Richmondtown.

A search of the records discloses the names of Dr. Woodhull Turner, 1774, Dr. Samuel Burrows, 1776, Dr. William W. Winans, 1799, and Dr. William Young, 1793 as hitherto unmentioned doctors. To complete the list up to 1800, as far as is known the names of Drs. Richard Channing Moore, 1788, Richard Henderson, 1792, and Benjamin Parker, during and after the Revolution, should be added. These last three were prominent Staten Island citizens of whom more will be recounted later.

The recorded history of medicine on Staten Island as in neighboring communities, actually begins after the Revolutionary War with the enactment of regulatory laws and the formation of medical societies. The first law in New York regulating the practice of medicine was hardly effective, except in New York City, and was passed on June 10, 1760. This law provided that any physician or surgeon in order to practice had to be examined by His Majesty's Council, the Judges of the Supreme Court, the King's Attorney General, or the Mayor, or any of them.

However, on March 23, 1797, the first general law for the State of New York was passed and applied, of course, to Staten Island. This law required that "no person practicing physic or surgery at the time of the passage of the act should continue to so practice without satisfactory proof to the chancellor, a judge of the Supreme Court, a Master in Chancery, or a judge of the Common Pleas, that he had practised for two years next preceding October 1st aforesaid, or had studied that time with a reputable physician or surgeon and had filed a certificate to that effect with the County Clerk."

While this law was passed in 1797, the history of its application belongs to the nineteenth century and will be recounted in the second part of this article.

The author wishes to thank the New York Historical Society for the use of the photograph of Dr. Richard Bayley.

July 25

Today is called the Feast of Christopher
The Saint who carried Jesus on his back
To safety o'er the wide torrential stream.
His burden, heavy with the sins of man,
Did tax his strength unto the uttermost.
He's now acclaimed the patron saint of all
Who travel on the road, by air and sea,
By car or 'plane or ship of Shanks's way.
But many mock him by excessive speed:
Their brakes though good cannot reduce their pace
Until too late and they have maimed a child
Or killed an elder man before his time
And those who walk off times compass their fate
For eyes they have but won't survey the scene.
Arise St. Christopher and guard our roads!
So when we drink to thine illustrious name
Death will have vanished from our stricken roads.

—*In England Now, The Lancet, July 30, 1955*

OPENINGS FOR PHYSICIANS IN NEW YORK STATE

GENERAL PRACTICE

Albany County

Altamont.—Population approximately 2,300 in 15 to 20-mile radius. Hospitals 9 and 15 miles distant. Privileges immediately available. Positions as village health officer and school physician may be available. Contact Dr. D. W. Sweeney (phone Altamont 4741); Mr. Raymond Brunk (phone Altamont 2371); Reverend C. Meyer (phone Altamont 4981); Miss Marion Keenholts (phone Altamont 4301); Mrs. Van Loon (phone Altamont 3321).

Cayuga County

Cayuga.—Population 500; service area with population 2,000 plus. Two hospitals at Auburn 9 miles distant. Contact Dr. Frank A. Graceffo, Secretary, Medical Society of the County of Cayuga, 9 William Street, Auburn.

King Ferry.—Population 250; eight villages and hamlets within 8 miles with population 1,200. Additional 1,500 in surrounding farm area; summer population adds another 1,500 to 2,000. Radius of 2 to 12 miles. Appointment as school physician available. Town health officer and insurance examiner position may be available. House with office space for sale or rent. Three hospitals within thirty minutes at Auburn and Ithaca. Contact Mr. G. J. Cummings, Box 145, King Ferry.

Chautauqua County

Cassadaga.—Population 700. Two villages within 4 miles; population 600. Additional 1,000 population in surrounding country. Radius to be covered about 5 miles. Industrial-farming community. General hospital at Dunkirk 12 miles; two at Jamestown 25 miles; tuberculosis hospital 3 miles. Position of town health officer available. Contact Mr. Raymond Haines, Mayor, Cassadaga (phone Cassadaga 31–F2).

Chenango County

McDonough.—Population 200; population 1,000 within a radius of 10 miles. Hospital at Norwich 18 miles; Greene 13 miles; Binghamton 32 miles. Contact Mr. J. J. Duell, Town Supervisor, McDonough.

Clinton County

Altona.—Population 2,000. Radius about 15 miles including villages of Ellenberg, Mooers Forks, Sciota, and West Chazy. Two hospitals in Plattsburgh, about 20 miles. Excelsior mill and milk plant. Private residence, rent free for one year. Appointments as school health officer and medical officer for industries available. Contact Mr. Halsey J. Stark, County Clerk, Altona.

Mooers.—Population 500; population 3,000 to 5,000 in 12-mile radius served. Hospitals in Plattsburgh 25 miles. Position of school physician available, possibly town health officer. Contact Mr. M. B. Stewart, Mooers, and Dr. Aaron Davis, 9 Rugar Street, Plattsburgh.

Rouses Point.—Population 1,990 within 2 miles, 3,000 within 5 miles. Dr. Harris Sklaire, only active physician in community, desires a colleague. School, industrial health, and railroad positions will become available. Contact Dr. Harris Sklaire, Rouses Point.

Delaware County

Andes.—Population 500 within 13-mile radius. School physican and health officer positions available. Hospitals 13 miles distant at Delhi and Margaretville. Contact Miss Eleanor W. Palmer, Box 105, Andes.

Essex County

Au Sable Forks.—Population 5,000 in 10-mile area. Hospitals 20 and 27 miles away. Compensation work for large mill. Contact Mr. James Rogers, Mr. Andrew Huntington, Mr. Daniel Manning, or Dr. Joseph Schoot, Au Sable Forks.

Essex.—Population 1,000 plus; about 2,000 in summer in 8 to 10-mile radius. Hospitals at Elizabethtown and Mineville 16 miles and at Plattsburgh 30 miles. Position of town health officer available at $350; also post as school physician. Contact Mr. Leonard E. Dempster, Essex (phone Essex 2-573).

Jefferson

Cape Vincent.—Population 900 in 15-mile radius. Hospitals 27 miles distant with privileges after a few months. Appointments as town health officer and school physician available. Contact Dr.

Charles A. Prudhon, Watertown; Mr. Arthur Parker, Cape Vincent.

Lewis County

Port Leyden.—Population 900; population 5,000 in working area. Temporary replacement desired. Lowville Hospital 18 miles. Positions available as school physician, health officer, examiner for two insurance companies, and compensation doctor for three mills. Well-equipped office and good living quarters available. Contact Dr. John P. Meyers, Port Leyden.

Madison County

Georgetown.—Population 800 in 10-mile area. Hospital at Hamilton 12 miles distant with privileges at once. Openings for town health officer and school physician. Contact Mr. Edgar Angelo, Georgetown (phone Georgetown 5).

Madison.—Population 2,500; area 100 square miles; five villages. Doctor expecting to come by the day. Hospitals at Hamilton 7 miles, Oneida 20 miles, Utica 25 miles, Syracuse 40 miles. Positions as school physician and town health officer available. Contact Dr. B. L. Rockwell, Oriskany Falls.

Niagara County

Rapids.—Population 150 families in 8-mile radius. Hospitals in Buffalo 25 miles and Lockport 7 miles. Opening as examining physician for school at $1.00 per pupil. Contact Mrs. George W. Dietz, Sr., Route 5, Lockport.

Oneida County

Clayville.—Population 719; 3,800 more population within 6-mile radius in prosperous farming territory. Three industries in Clayville with 525 employes. Hospitals and laboratory facilities in Utica 8 miles distant. Town health officer position probably available. Home and office of former doctor for sale, possibly equipment. Contact Mr. M. Donohue, Real Estate Broker, Sauquoit (phone Utica 7-7383).

Onondaga County

Lafayette.—Population about 2,080, comprising also villages of Pompey, Cardiff, Apulia, and Apulia Station in 10 square mile area rapidly growing. Hospitals at Syracuse 7 miles. When privileges may be obtained is undetermined. Opening September, 1955, for town health officer. Opening available for school physician. Contact Mrs. Marion Leckonby, c/o Dr. Leo E. Gibson, 831 James Street, Syracuse (phone Syracuse 9-2849); Mr. Charles Adsitt, Town Supervisor (phone OR 7-3107); Miss Bernice Amidon (phone OR 7-7562).

South Onondaga.—Population 10,000. Hospitals twenty to thirty minutes distant. Positions of town health officer, $1,500; school physician, $1,100; and physician to Indian reservation may be available at $3,000. Contact Mr. Walter Wheeler, R.D. #1, Nedrow (phone Syracuse 9-2680).

Ontario County

Hall.—Population 300; population 2,000 within surrounding prosperous farming area. Midway between Penn Yan and Geneva, each about 8 miles distant. Fifty-bed hospital at Penn Yan; 80-bed hospital at Geneva. Rochester 45 miles; Syracuse 50 miles. Contact Dr. Ray E. Deuel, Jr., 508 Castle Avenue, Geneva, or Mr. Joseph Robson, Hall.

Honeoye.—Population 1,300; population 4,000 in area. Present doctor leaving to specialize. Hospital at Canandaigua. Positions of local health officer and school physician available. Contact Dr. William J. Meyer, New York State Department of Health, Glens Falls.

Orange County

Unionville.—Population 500; additional 400 population within 8 or 10-mile radius. Hospital at Sussex, New Jersey, 8 miles; two at Middletown, New York, 13½ miles. Contact Mr. A. R. Blanchard, Orchard Street, Unionville, or Mrs. Julia Roche, Postmistress, Unionville.

Walden.—Population 10,000 in 5 to 15-mile radius. Hospitals 5, 12, and 15 miles distant. Privileges almost immediately. Industrial openings available. Contact Dr. Lynne T. Greene, 129 West Main Street, Walden (phone Walden 2-3031).

Oswego County

Altmar.—Population 2,300 to 3,000 in 8-mile radius. Hospitals 38 miles away. Opening for town health officer in Albion and for school physician in Altmar and Williamstown. Contact Mr. Norman B. Spear, Supervisor, Town of Albion, Altmar; Mr. Andrew Ferguson, Altmar; or Mr. Eric Kruepke, Pulaski, and confirm with postal card to Mr. Andrew Ferguson, Secretary, Altmar Chamber of Commerce, Altmar.

Otsego County

Otego.—Population 3,000 in 6-mile radius. Fox Memorial Hospital (95 beds) at Oneonta 8 miles; Mary Imogene Bassett Hospital at Cooperstown 39 miles; a 58-bed hospital in Sidney 16 miles. Positions as local health officer and school physician available. Contact Mr. Albert L. Bonner, Committeeman, Otego Rotary Club, Otego.

St. Lawrence County

North Lawrence.—Township of Lawrence, population about 1,625 in three villages. Radius of approximately 7 miles east to west and 16 miles north to south. Hospitals at Massena 18 miles and at Malone and Potsdam 22 miles. Contact Mr. Robert E. Driscoll, Town Supervisor, Lawrence.

Saratoga County

Mechanicville.—Population 8,000 plus. Hospitals 10 and 15 miles distant. Contact Dr. Claire K. Amyot, Secretary, Medical Society of the County of Saratoga, 54 Greenfield Avenue, Saratoga Springs.

Waterford.—Population 3,000 plus. Hospitals 10 and 15 miles distant. Contact Dr. Claire K. Amyot, Secretary, Medical Society of the County of Saratoga, 54 Greenfield Avenue, Saratoga Springs.

Schenectady County

Pattersonville.—Population about 1,300. Two hospitals at Schenectady and two hospitals at Amsterdam, each about 7 miles distant. Contact Mr. W. Eriksen, R.D. #1, Pattersonville (phone Tulip 7-8776).

Suffolk County

Fishers Island.—Winter population 500; summer 2,000 to 3,000 in 10-mile area. Hospitals one hour via ferry to New London, Connecticut. Openings available for district health officer, town health officer, and school physician. Salary $7,500, house and office guaranteed. Contact Dr. Grant Sanger, Delafield Hospital, 99 Fort Washington Avenue, New York 32 (phone LOrraine 8-7000, extension 231).

Sullivan County

Grahamsville.—Population about 2,500 in radius of 10 or 12 miles, including Neversink, Claryville, Sundown, and Grahamsville. Hospitals at Ellenville 16 miles; two hospitals at Monticello 18 miles; two hospitals at Liberty 14 miles. Contact Mr. Robert Many, Grahamsville (phone Grahamsville 2941).

Narrowsburg.—Population 2,500 in 12 miles. Hospitals at Callicoon 15 miles and Honesdale, Pennsylvania, 15 miles. Contact Mr. Roy V. Sullivan, Narrowsburg (phone Narrowsburg 56 or 28) or Mr. Carl Behling, Narrowsburg (phone Narrowsburg 107R120).

Washington County

Hartford.—Population 1,308. Surrounding territory includes towns of Argyle and Hebron. Posts as school physician and town health officer (New York State Department of Health) will be available. Possibility of bonus from town of Hartford. Contact Mr. Howard Hanna, Town Clerk, Hartford.

Salem.—Population 4,000 in 10-mile radius. Hospitals at Cambridge 12 miles and Granville 18 miles. Immediate privileges available in Granville; after one or two years in Cambridge. Opening for town health officer covering Salem, Hebron, and Jackson; for school physician in Salem; also for physician to Washington County jail. Contact Dr. Gerald Fincke, Salem; Mr. Donald Hanks, Salem; Mr. Julian Orton, Salem; Mrs. Catherine Coutter, Town Clerk, Salem, or Dr. Newton Krumdieck, Cambridge.

Wayne County

Palmyra.—Population 3,800 in 10 to 15-mile radius. Hospitals at Newark 6 miles and Canandaigua 14 miles. Privileges available any time. Contact Mrs. J. R. Hagaman, 145 West Main Street, Palmyra (phone Palmyra 235).

Savannah.—Population 1,500 to 2,000 in radius of 12 to 15 miles. Hospitals at Lyons 12 miles and Auburn 17 miles. Privileges may be obtained at once. Positions of town health officer and school physician available in Savannah. Contact Mrs. R. O. Jackson, Savannah, and Mr. Phil N. Rosekrans, Administrator, Lyons Hospital, 122 Broad Street, Lyons.

Case history of elderly lady who was being questioned by a hospital employe. "Have you ever been x-rayed?"

Back came the reply, "No sir, but once I was ultra-violated."—*Current Medical Digest, August, 1955*

CORRESPONDENCE

Pathologic Implications of Toe Deformities

To the Editor:

In a report of a panel discussion on hand injuries appearing in the June 15, 1955, issue of the NEW YORK STATE JOURNAL OF MEDICINE, Dr. Erik Moberg is quoted as follows: "But, fortunately, in our civilized life where we use shoes, *our toes are relatively unimportant* [italics mine]. Therefore, it is not at all the same danger for the foot as it is for a hand where finger function is of the utmost importance."[1] In taking exception to Dr. Moberg's interpretation, the writer does not presume to be critical of the relative danger, but rather he wishes to point out the importance of the toes as a causative agent in the etiology of mechanical disturbances of the feet, as well as the pathologic implications from the standpoint of gait, posture, and body mechanics.

Because of the weight-bearing role of the feet, in no other part of the body are the laws of Wolffe and Davis manifested so frequently, so early, and so progressively as in the feet. Emphasis on the stresses involved will point to the fact that malalignment of the toes is a primary factor in acquired disabilities of the feet. It is estimated that foot disorders occur in over 60 per cent of the population of this country. Kraus[2] in his fitness tests of American school children found that of the number examined 56.6 per cent were woefully inadequate in muscle power. In our mode of modern living, wearing shoes of doubtful anatomic design and walking on hard pavement produce a chain of progressive mechanical disturbances in foot structures which is reflected in local stresses and faulty postural habits.

No comprehensive correlation of foot disability as a factor in the rising incidence of chronic disease appears in scientific literature. The human foot is clearly evolved for a particular kind of bipedal locomotion, as well as to afford increased leverage to the leg in stance and gait with the forefoot acting as both a spring and shock absorber. The preciseness of forefoot function, with the least expenditure of muscular effort, is determined by the relationship of the toes to the long axis of the foot. In its normal structure the foot is a tripod having its apex at the heel and its base at the toes. Modern shoes are mostly constructed in the reverse manner with the narrowest part of the shoe towards the toes.

The toes are the extensions of the metatarsals along the same axis and normally contribute to the anterior-posterior diameter of functional support. From the moment of takeoff until the final completed action of locomotion, they play an important role in foot dynamics. Any disturbance, interference, or limitation of motion of the toes represents an alteration in the lines of force with the center of gravity falling behind the geometric center of the total supporting base. Deviation of the toes from their normal axial alignment has a traumatic influence on the opposing surface of their articulating cartilage, resulting in proliferative changes at the peripheral margins of the joint surfaces. Injury or disease of these joints is soon followed by diminution of circulation, loss of muscle tone, and a weakening in structural support, with the metatarsophalangeal area being the site of most frequent trauma.

Hallux-valgus or bunion is a syndrome common to a shoe-wearing society. It represents a narrowing of the anterior tripod of the foot and impairs its flexibility and the precise movements associated with good body balance. A fuller appreciation of the importance of this segment in functional disturbances will lead to a clearer understanding of the causes and the nature of foot problems. Most of the muscles below the knee, like the cables of a cantilever bridge, take part in supporting the structures of the foot. The flexor longus hallucis is of special significance. This muscle enters the sole of the foot behind the internal malleolus, passing along the inner side of the tarsus, and is inserted into the base of the terminal phalanx of the great toe. When this toe is in a normal position, the support of this muscle is of major importance in maintaining the integrity of the longitudinal arch, but if the large toe is deviated in valgus to any considerable degree, as so often occurs from wearing standard footwear, the tendon of this muscle cannot act to advantage, resulting in gravitational stresses along the inner aspect of the foot and ankle. Fallen arches and pronated feet are symptomatic of the gravitational stresses thus imposed. Nonshod or sandal-wearing races of people living in a natural environment show no gross disabilities such as are encountered in shoe-wearing societies. Postural faults are rare. The graceful carriage and beauty of the ladies of the island of Bali may be said to be largely due to the custom of going barefoot. Standard footwear tends to immobilize the toes and make their muscular apparatus useless. The recent trend of fashion to open-toed sandals should be encouraged.

There are accepted theories of correction of foot problems which deserve rebuttal. The general method is to provide some type of arch support to be worn in the shoe or a so-called orthopedic shoe having a static bracing or wedging principle. The dynamics, i.e., the influence of gravity, acting on the gait and the relationship of the toes in causing unbalanced feet has received very little emphasis.

Joseph Raff, D.Pod.

27 West 86th Street
New York City

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[1] Moberg, E.: New York State J. Med. 55: 1737 (June 15) 1955.

[2] Kraus, H., and Hirschland, R. P.: Research Quart., May, 1954, p. 178.

McWhirter Technic for Treatment of Breast Cancer

To the Editor:

As a member of Professor McWhirter's staff at present on a year's fellowship at the Mount Sinai Hospital, I read with interest Dr. Haagensen's review[1] of the treatment of breast cancer and especially his criticisms of the method of simple mastectomy and radiotherapy as practiced in Edinburgh. Two main objections were raised, one being the degree of morbidity associated with the method and the other the uncertainty of the permanence of results. I shall take each of these in turn.

1. *Morbidity:* This may be either the upset associated with the original therapy or the long-term effects. The operation itself causes little or no disturbance, and it is possible to start irradiation as soon as the wound has healed (generally within ten to fourteen days). Irradiation is given over a period of three weeks or 15 treatments, and local reaction is at a height two to three weeks afterwards with healing over a period of a further three to four weeks. General reactions are seldom troublesome, but locally there is usually moist desquamation in the axilla, along the lower border of the shoulder field anteriorly, and at the margins of the breast fields. Healing is rapid, however. No grafting is required, and provided movements of the shoulder joint are carried out from the time of the operation full function is retained. Later follow-up shows some atrophy of the skin in the treated area and some degree of telangiectasia, but there is no deformity and edema of the arm is an unusual complication. These findings would certainly not indicate an unusual degree of morbidity.

2. *Permanence of results:* A crude survival rate for 778 patients for ten years is now available and shows that 27 per cent were alive at that time which compares favorably with the figures quoted by Dr. Haagensen for the best teaching hospital practice.

J. Newall, M.B., Ch.B., M.R.C.P.E., D.M.R.T.

Mount Sinai Hospital
Fifth Avenue & 100th Street
New York 29, New York

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[1] Haagensen, C. D.: New York State J. Med. 55: 2797 (Oct. 1) 1955.

Lost, yesterday, somewhere between sunrise and sunset, two golden hours, each set with sixty diamond minutes. No reward is offered for they are gone forever.—Horace Mann

NECROLOGY

James Bailey Cross, M.D., of Buffalo, died on October 9 in the Deaconess Hospital following a brief illness, at the age of eighty. Dr. Cross graduated from Columbia University College of Physicians and Surgeons in 1907. He was a consultant in urology at Millard Fillmore, Buffalo State, Columbus, and Deaconess Hospitals. For sixteen years he served as treasurer of the American Urological Association, and from 1940 to 1941 was president. A Diplomate of the American Board of Urology and a Fellow of the American College of Surgeons, Dr. Cross was a member of the Buffalo Academy of Medicine, the American Urological Association, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Harvey Paterson Groesbeck, M.D., of La Mesa, California, formerly of Schenectady, died on October 20 at his home in La Mesa, at the age of seventy-five. Dr. Groesbeck was graduated from Cornell University Medical College in 1905. Until his retirement he was consulting physician at Ellis Hospital, Schenectady. He was a member of the Schenectady County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Albert David Kaiser, M.D., of Rochester, died on November 2 of a heart ailment at the Strong Memorial Hospital, at the age of sixty-seven. Dr. Kaiser graduated from Harvard Medical School in 1913. Since 1945 he had served as medical administrator and city health officer of Rochester. Dr. Kaiser was a former professor of pediatrics and a trustee of the University of Rochester, a past president of the New York State Public Health Association and the New York State Health Officers' Association, as well as past chairman of the pediatric section of the American Medical Association. A medal named in his honor is given annually by the Rochester Academy of Medicine as its highest award. He was an associate in pediatrics at Strong Memorial Hospital, consultant in pediatrics at General and Genesee Hospitals, and consultant physician at Highland Hospital. Dr. Kaiser was a Licentiate of the American Board of Pediatrics, a Diplomate of the American Board of Preventive Medicine, and a member of the American Public Health Association, the American Academy of Pediatrics, the Rochester Academy of Medicine, the Rochester Pathological Society, the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Theodore Alexander Lehmann, M.D., of Long Island City, died on October 24 in a nursing home in College Point at the age of eighty-five. Dr. Lehmann graduated in 1895 from Columbia University College of Physicians and Surgeons. He was a member of the Society of Medical Jurisprudence of New York, the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Joseph John Alexander McDonald, M.D., of New York City, died on November 6 in the French Hospital of a heart attack, at the age of sixty. Dr. McDonald graduated from the University of Toronto Faculty of Medicine in 1923 and interned at St. Vincent's Hospital, New York City. He was medical director for the Borden Company in the United States and Canada. Dr. McDonald was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Joseph Edward Maryanski, M.D., of Rochester, formerly of Buffalo, who retired from active practice in 1942, died on October 15 after a long illness at the age of seventy-one. Dr. Maryanski graduated from the University of Buffalo School of Medicine in 1912. He was a member of the Buffalo Academy of Medicine.

Elias Schneider, M.D., of New York City, died on June 20 at the age of forty-seven. Dr. Schneider graduated from the University of St. Andrews Conjoint Medical School, St. Andrews and Dundee, in 1934. He was an assistant dermatologist at the Vanderbilt Clinic. Dr. Schneider was a Diplomate of the American Board of Psychiatry and Neurology and a member of the American Psychiatric Association, the American Association for Research in Psychosomatic Problems, the New York Society for Clinical Psychiatry, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Leo Francis Simpson, M.D., of Rochester, died on October 31 at his home at the age of seventy-two. Dr. Simpson graduated from the University of Buffalo School of Medicine in 1905. He was a former president of the Medical Society of the State of New York as well as a former president of the Monroe County Medical Society and the Rochester Academy of Medicine. He was a consultant in surgery at the Monroe County Infirmary, St. Mary's, Park Avenue, Strong Memorial, and Arnold Gregory Memorial Hospitals. Dr. Simpson was a Diplomate of the American Board of Surgery, a Diplomate of the International College of Surgeons, a Fellow of the American College of Surgeons, a Fellow of the International College of Surgeons, and a member of the Rochester Pathological Society, the Rochester Academy of Medicine, the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association. (*See editorial on page 3411, this issue.*)

James W. Smith, M.D., of New York City, died on October 24 at the New York Hospital following a brief illness, at the age of sixty-two. Dr. Smith graduated from New York University and Bellevue Hospital Medical College in 1917. He was ophthalmologic surgeon and clinical professor of ophthalmology at the Post-Graduate Medical School of New York University-Bellevue Medical Center, chief of the eye service at the Hospital for Joint Diseases, consulting ophthalmologist for Goldwater Memorial Hospital and Nyack Hospital. A Diplomate of the American Board of Ophthalmology and a Fellow of the American College of Surgeons, Dr. Smith was a member of the American Academy of Ophthalmology and Otolaryngology, the Association for Research in Ophthalmology, the New York Academy of Medicine, the New York Society for Clinical Ophthalmology, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Max Armand Zipser, M.D., of New York City, died on October 23 after a long illness in St. Luke's Hospital, at the age of eighty-eight. Dr. Zipser graduated from Bellevue Hospital Medical College in 1891. Dr. Zipser, who had retired from active practice, was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Woman's Auxiliary
to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

The Physicians Home—Thirty-Six Years of Service

THE women of the Auxiliary to the Medical Society of the State of New York have always excelled at raising money for a worthy cause, and there is none more worth while than the Physicians' Home. Methods of raising money which have been used in the past are: budget allocations; card parties, rummage or food sales, and the voluntary contribution of a dollar or more at the time dues are paid, a method used by some of the county medical societies.

The members of the Auxiliary realize that there are many demands on the county societies as well as on individuals for contributions. However, any form of insurance is not a demand but an essential, and the Auxiliary members are proud to report that nearly all units of its organization contribute to the Physicians' Home, insurance against infirmity and old age, and this year an even better response is expected. Many successful physicians or their widows have been reduced to poverty through circumstances beyond their control and the Physicians' Home has enabled them to live out their days in dignity.

The Physicians' Home was organized in 1919 and the income is derived from contributions collected by the county medical societies from their members, the county auxiliaries of the Woman's Auxiliary to the Medical Society of the State of New York, direct bequests from wills, and gifts. Although named "Physicians' Home," support is given to the wives of physicians as well as their widows and needy minor children.

Most of the county auxiliaries have chairmen for Physicians' Home which has been a long standing project. To these chairmen and county presidents was directed an appeal at the Fall conference. The Physicians' Home is grateful for the Auxiliary's help and needs its support as an investment for each of them in the future.

MRS. JOHN ADLER, *Chairman*
Physicians' Home

Department of

WORKMEN'S COMPENSATION

DAVID J. KALISKI, M.D., *Director, Bureau of Workmen's Compensation*

GERALD D. DORMAN, *Chairman, Council Committee on Workmen's Compensation*

Medical Society of the State of New York

THE following court decisions bearing on the adjudication of workmen's compensation claims of interest to physicians are excerpted from the reports of the Commerce Clearing House, Inc.

(*1104*) *Morrello* v. *S. H. Kress & Co.*

New York Supreme Court, Appellate Division, Third Judicial Department. No. 21-22. February 3, 1955.

Error to Refuse General Practitioner Right to Give Opinion—Causal Connection Between Injury and Death.—The commission erroneously excluded the testimony of an attending physician, on the ground that he was not a specialist, as to his opinion of the causal relation between the injury and death of an employee who died as the result of cancer about three months after he strained his right sacro-iliac. The injured employee continued to work about a month after his injury. The question arose as to the causal relation of the injury and later massive hemorrhage which was caused from a pre-existing ulcerated cancer of the stomach. Another physician called by the claimant, and who also was only a general practitioner, was permitted to express his opinion on that issue. The court held that there was no legal justification for excluding the first physician's testimony. Reversed.

This brings up the question of "expert" testimony by physicians who are not especially qualified to express an opinion requiring expert or special knowledge. While the above decision held that the testimony of the general practitioner should have been accepted, the evaluation of the testimony by the referee, if competent to do so, is the important matter. Under our law, physicians are rated as general practitioners or specialists, and only the latter are supposed by reason of training, education, and experience to be qualified as experts in their special fields. General practitioners should in most instances not express opinions in matters requiring expert or special knowledge.

(*1138*) *Sleator* v. *National City Bank.*

New York Supreme Court, Appellate Division, Third Judicial Department. No. 1-2. February 3, 1955.

Heart Condition—Causal Connection of Employment to Death—Accident Tested by "Reasonable Man" Test.—There was sufficient evidence that an employee, who had a pre-existing heart condition, was killed by an accident while he was working, since the circumstances were such that a reasonable man would believe that an accident had occurred. The employee was an engineer in a building and on the day of his death some steam pipes began to leak. The employee called for assistance and his helper shortly thereafter heard a thud and found the employee lying on the floor with a cut on his head. He died almost at once. The court held that although the greater weight of evidence was that death did not result from the employee's work, the rule to be applied was that if a reasonable man would view the occurrence as an accident, the decision of the board is final. Since there was an emergency from the viewpoint of the employee, at least mental exertion and a violent fall, the court held that the reasonable man would believe that an accident had occurred. Affirmed.

This involved only the question of *accident.* The question as to whether the pre-existing heart disease was of such a nature as to be aggravated by an accident was not significant. It was admitted that even where a previous heart condition was present, an accident such as occurred was responsible for the claimant's death. The board's decision as to causal relationship was final.

(*1075*) *Schulz* v. *Standard Accident Insurance Co.*

United States District Court, Eastern District of Washington, Northern Division. No. 1181. October 28, 1954.

Employee Brings Action for Damages Against Employer—Compensation Act Exclusive Remedy—Malpractice of Physician.—A motion for summary judgment was properly granted in an action for damages for personal injury brought by an employee against an insurance carrier since the employee had recovered compensation and the remedy provided by the compensation act is exclusive insofar as the employer and the insurance carrier is concerned.

Driver, J. (Digest of opinion): The employee suffered a fracture of the neck of the femur as a result of an accident arising out of and in the course of his employment. In the course of surgical treatment, a plate and screws were placed in the employee's thigh. Later at the request of the insurance carrier the employee submitted to a physical examination by a physician selected and employed by the insurance carrier. The examination was for the purpose of ascertaining the physical condition of the employee for the information of the insurance carrier. In conducting the examination the physician failed to exercise ordinary care, handled the employee in a rough and unreasonable manner, and thereby caused a fracture of the plate in his thigh, and a new fracture of the femur. Pursuant to the compensation act the insurance carrier paid the employee his medical and hospital expenses and disability compensation from the date of the original accident. In granting the motion of the insurance carrier for a summary judgment, the court held that an action against the employer would be inconsistent with the subrogation provisions of the compensation act. An employer could not be subrogated to a right against himself. The court further held that such actions would open the door to possible double recovery, as the injured employee could accept and receive full compensation under the act and then maintain an action for damages against the employer. The court concluded that an employee may not recover from his employer, or the latter's insurance carrier, damages for aggravation of his injury resulting from the negligence of a physician in examination or treatment performed as prescribed by the compensation act. Motion for summary judgment granted.

Contrary opinions have been expressed by workmen's compensation administrators in various jurisdictions with special reference to the *physician's* liability in workmen's compensation cases. In general, where compensation has been accepted under the statute and includes payment in full for the original accident plus the result of the malpractice, the employe cannot collect either directly from the malpractitioner or the employer any sum in excess of what he is entitled to under statute for the full damages sustained. Thus, the physician as a third party would not have to pay to the patient in this event, but the employer who paid the full amount for compensation and medical care including the result of malpractice would have a cause of action against the malpractitioner under certain conditions.

MEDICAL MEETINGS

New York Chapter, International Academy of Proctology

The New York Chapter of the International Academy of Proctology will hold a meeting on December 6 at 8:30 P.M. at the Hotel Plaza, Fifth Avenue and 59th Street, New York City.

The subject discussed will be "Preoperative Management in Colonic Surgery." Dr. Paul H. Kuhn, associate physician at Bellevue Hospital in New York City, will speak on "Cardiorenal and Metabolic Factors"; Dr. Kurt Lange, associate professor of clinical medicine at New York Medical College in New York City, on "Fluid, Electrolyte and Blood Constituent Balance," and Dr. Russell F. Cahoon, associate director of clinical development at Lederle Laboratories, Pearl River, on "Antibiotics in Colonic Surgery."

Clinical Oral Pathology

The New York Institute of Clinical Oral Pathology will hold an open meeting to which members of the medical, dental, and allied professions are cordially invited, to be held on December 12 at 8:30 P.M. at the New York Academy of Medicine Building, 2 East 103rd Street, New York City.

The final report on the Newburgh-Kingston Caries Fluorine Study will be given at this time. Dr. Herman E. Hilleboe, commissioner, State of New York Department of Health, will report on the history; Dr. Edward R. Schlesinger, associate director, division of medical services, State of New York Department of Health, on pediatric aspects; Dr. Harold C. Hodge, professor of pharmacology at the University of Rochester, on toxicology and implication, and Dr. David B. Ast, director of the Bureau of Dental Health, State of New York Department of Health, on dental aspects.

MEDICAL NEWS

Course on the Shoulder—A two-day course on the shoulder will be given on December 9 and 10 at the Lenox Hill Hospital, Einhorn Auditorium, Lexington Avenue and 76th Street, New York City, sponsored by the New York and Brooklyn Regional Committee on Trauma of the American College of Surgeons.

Among the participating doctors will be Drs. Harrison L. McLaughlin, Edward B. Schlesinger, Otto Steinbrocker, Robert K. Lippman, and Robert E. Carroll, all from New York City.

Applications should be sent to Dr. Jesse W. Mahoney, secretary, 550 First Avenue, New York City.

Dutchess County Psychiatric Society—The first annual fall meeting of the Dutchess County Psychiatric Society was held on October 19 at the Harlem Valley State Hospital in Wingdale. Dr. Courtney Bennett, Beacon, was elected president. Vice-president is Dr. Donald Schwartz, Hudson River State Hospital; secretary, Dr. Alfred F. Rizzolo, Harlem Valley State Hospital, and treasurer, Dr. Charles Angelo, Wassaic State School.

A film on Thorazine was shown through the courtesy of Smith, Klein and French with a discussion of Thorazine, following which Dr. Arthur M. Sullivan and Dr. Harry Bittle of Harlem Valley State Hospital gave a report on the progress and treatment up to the present time.

Joint Blood Council—National headquarters for the Joint Blood Council were established in Washington, D.C., on November 1, and Dr. Frank E. Wilson of Washington was elected its executive vice-president and secretary. Dr. Wilson will carry out policies determined by the board of directors.

The Joint Blood Council is a voluntary group formed by the five national associations principally concerned with procuring, processing, preserving, and distributing blood and blood derivatives. It will coordinate activities in this field, including the interchange of blood, the standardization of cross-matching and typing procedures, the accreditation and inspection of blood banks, the stimulation of blood donor campaigns, and the encouragement of research. In time of emergency, the council will be prepared to assist in setting up new blood banks and to handle requests of the military forces for blood and blood derivatives. The council is a non-profit organization.

Joined in the venture are the American Association of Blood Banks, the American National Red Cross, the American Medical Association, the American Hospital Association, and the American Society of Clinical Pathologists, which have equal representation of the council's board of directors.

Lewis County Medical Society—At the regular monthly meeting of the Lewis County Medical Society, Dr. Earle E. Barnes, Jr., was elected president; Dr. Edgar O. Boggs, vice-president, and Dr. William Reed, secretary-treasurer. All are from Lowville.

Schenectady Medical Society—A meeting of the Medical Society of the County of Schenectady was held on November 1 at the Mohawk Golf Club. Dr. Lewis M. Hurxthal, attending physician at the New England Deaconess Hospital and the New England Baptist Hospital, and director of the Department of Medicine at the Lahey Clinic, spoke on "Cardiac Emergencies."

Utica Annual Heart Day—Speakers at the sixth annual Heart Day sponsored by the Oneida County Tuberculosis and Health Association in cooperation with the Medical Society of the County of Oneida, the Utica Academy of Medicine, and the Oneida County Chapter of the Academy of General Practice on October 27, included: Dr. Gunnar Heuser, research associate at the Institute of Experimental Medicine and Surgery, University of Montreal, who spoke on "Stress and the Cardiovascular System"; Dr. Paul D. White, consultant in medicine at the Massachusetts General Hospital in Boston, and president of the International Society of Cardiology, on "Possible Prevention of Coronary Artery Disease"; Dr. James Metcalf, associate physician at the Boston Lying-In Hospital in Boston, on "Rheumatic Heart Disease and Pregnancy," and Dr. Claude S. Beck, professor of cardiovascular surgery at Western Reserve and University Hospitals in Cleveland, Ohio, on "Attempts at Revascularization of the Heart."

Presiding at the program were Dr. Frank Valone, president of the Medical Society of the County of Oneida; Dr. Edward E. Powers, Jr., president of the Oneida County Chapter of the Academy of General Practice, and Dr. Quentin Jones, president of the Utica Academy of Medicine.

Radiological Society—At the annual meeting of the Northeastern New York Radiological Society in May, Dr. LeRoy House, Oneonta, was elected president. Vice-president is Dr. Ira Rowlson, Plattsburgh, and secretary-treasurer is Dr. Robert R. Wadlund, Albany.

Suffolk County Medical Society—A meeting of the Suffolk County Medical Society was held on November 30 at the Central Islip State Hospital in Central Islip. Dr. Victor H. Witten, assistant professor of clinical dermatology at New York University Post-Graduate Medical School, spoke on "Dermatology in General Practice."

The Society will hold a series of lectures on "Cardiac Diagnosis" commencing December 3, at the Central Islip State Hospital. On that date, Dr. Stanley A. Briller, instructor in medicine at New York University College of Medicine, will speak on "Basic Elements." Dr. G. Alan Rose, assistant professor of clinical medicine at N.Y.U., will speak on "Arrhythmia" on December 10; Dr. Charles A. R. Connor, assistant professor of clinical medicine at N.Y.U., on "Myocardial Infarction" on December 17; Dr. Bertha Rader, instructor in medicine at N.Y.U., on "Conduction Disturbances" on January 7, and Dr. Adolph Berger, assistant professor of clinical medicine at N.Y.U., on "Summation of EKG Findings in Heart Disease" on January 14.

Fluoroscopy will be discussed on January 21, 1956, by Dr. John B. Schwedel, assistant clinical professor of medicine at Columbia University College of Physicians and Surgeons; on January 28 by Dr. Dennison Young, associate in medicine at that hospital, and on February 4 by Dr. Abraham Jezer, assistant clinical professor of medicine at Columbia.

Eye, Ear, Nose & Throat Association—At the 193rd meeting of the Eastern New York Eye, Ear, Nose & Throat Association in April, the following slate of officers was unanimously elected: president, Dr. H. Little, Hudson; vice-president, Dr. Ben Volk, Albany, and secretary-treasurer, Dr. F. C. Furlong, Schenectady.

Fifth District Branch Meeting—At its 49th annual meeting in Utica on October 27, the Fifth District Branch elected the following officers for immediate induction: president, Dr. Donald C. Tulloch, Ogdensburg; first vice-president, Dr. Olin J. Mowry, Oswego; second vice-president, Dr. Charles A. Gwynn, Syracuse; secretary, Dr. John F. Kelley, Utica, and treasurer, Dr. George A. Burgin, Little Falls.

Genesee County Medical Society—Officers elected by the Genesee County Medical Society to take office on January 1, 1956, are: president, Dr. Paul C. Jenks, LeRoy; president-elect, Dr. Joseph Krawczyk, Batavia; secretary-treasurer, Dr. Elmer W. Rideout, Batavia, and delegate, Dr. Alfred L. George, Batavia

Dr. George was re-elected. Dr. Krawczyk suffered a coronary in August and found it necessary to decline the presidency for 1956. He was renamed as president-elect.

Bela Schick Lecture—The thirteenth Bela Schick Lecture was delivered by Dr. Rustin McIntosh, Carpentier professor of pediatrics in Columbia University and director of the pediatric service at the Babies Hospital in New York City, on "Malformations: Some New Studies of an Old Problem" on November 30 at the Mount Sinai Hospital, New York City.

Livingston County Medical Society—The Medical Society of the County of Livingston, at its annual meeting on October 27 in Geneseo, elected the following officers for 1956: president, Dr. Laverne G. Wagner, Dansville; vice-president, Dr. Robert A. Wise, Sonyea; delegate, Dr. Ernest A. Sanders, Lima; alternate delegate, Dr. F. L. Armstrong, Mount Morris, and censor, Dr. Emerson Learn, Mount Morris.

Tompkins County Medical Society—A meeting of the Tompkins County Medical Society was held on November 21 at the Statler Inn, Cornell University Campus, Ithaca. Dr. Walter F. Bugden, clinical associate professor of surgery at the State University of New York College of Medicine at Syracuse, spoke on "Mitral Stenosis"

Blood Donation—More than 15,000 persons in Middletown are now assured four pints of blood when needed anywhere in the United States as the result of a combined effort by the Orange County Medical Society, the Middletown Junior Chamber of Commerce, and the Blood Banks Association of New York State, organized under the auspices of the Medical Society of the State of New York.

In four weeks more than 50 civic, industrial, and other organizations enrolled their members and families. The largest organization was the Middletown State Hospital where approximately 4,000 members of the "employe family" are assured for one year by a premium of approximately 400 pints of blood.

Following enrollment during an intensive community education period of four weeks, identification cards are issued to every assured adult. Scheduling of donors then becomes the joint responsibility of the local hospital and the Blood Banks Association. The latter also maintains a State-wide blood clearing house.

American Medical Education Foundation—Contributors from New York State to the American Medical Education Foundation for the month of October are: *Bronx*—Dr. Sidney B. Burke; *Brooklyn*—Dr. Samuel Solomon; *Buffalo*—Dr. John C. Brady; *Cooperstown*—Dr. James Bordley, III; *Dannemora*—Dr. Laszlo R. Eber; *Glens Falls*—Dr. B. C. Tillotson; *Long Island City*—Dr. Harry Konterwitz; *Marlboro*—Dr. W. B. Harris; *Maybrook*—Dr. Robert W. Rakov; *Newburgh*—Dr. Paul Watson; *New York City*—Drs. R. Conklin, Jechiel M. Friedmann, Louis Levine, Thomas C. Peightal, John L. Pool, and I. W. Voorhees; *Norwich*—Dr. H. L. Wilson; *Rochester*—Drs. A. Fischer, Warren E. George, and George H. Whipple; *Patterson*—Dr. Frank C. Genovese; *Poughkeepsie*—

Dr. George E. Lane; *Skaneateles*—Dr. Herman G. Weiskotten, and *White Plains*—Dr. E. Rockwell.

Personalities

Appointed

Dr. J. Burns Amberson, consultant at Presbyterian and Bellevue Hospitals, as director of the New York Tuberculosis and Health Association. . .Dr. James F. Bagg as chief of surgery, and Dr. Hyman Belsky as chief of medicine, of the Mount Vernon Hospital. . .Dr. William A. Brumfield, Jr., Syracuse, as Westchester County Commissioner of Health. . . Dr. Richard E. Counselman, Port Chester, to the Department of Surgery at the University of Texas M. D. Anderson Hospital and Tumor Institute in Houston. . .Dr. Harold J. Eisenberg, adjunct attending physician at New Rochelle Hospital, as assistant professor of pediatrics at Albert Einstein College of Medicine, and attending pediatrician at Bronx Municipal Hospital Center. . .Dr. W. Yerby Jones, associate in ophthalmology in the University of Buffalo Medical School, as acting head of the Department of Ophthalmology at Meyer Memorial Hospital in Buffalo. . .Dr. Samuel Karelitz, associate clinical professor of pediatrics at the College of Physicians and Surgeons, Columbia University, and attending pediatrician at Mount Sinai Hospital, New York City, as full-time chief of the Department of Pediatrics of the Long Island Jewish Hospital in New Hyde Park. . .Dr. Abraham Norman as chief of professional services at the Bath Veterans Administration Center. . .Dr. Thomas M. Rivers as assistant to the president of the National Foundation for Infantile Paralysis. . .Dr. Richard M. Silberstein, clinical director for the Staten Island Mental Health Society, to the regional committee on the psychoanalysis of children of the American Psychoanalytic Association. . .Dr. Bruno W. Volk, pathologist and director of laboratories of the Jewish Chronic Disease Hospital, as director of the Isaac Albert Research Institute of that hospital.

Honored

Dr. Leona Baumgartner, New York City Health Commissioner, with a surprise bon voyage party before leaving for a two-month tour of India as a consultant on health problems in that country.

Elected

Dr. Frank W. Foote, attending pathologist at Memorial Hospital, New York City, to the board of directors of the American Cancer Society. . .Dr Belmont E. Thomas, reelected president of the medical staff of the North Shore Hospital in Manhasset.

Speakers

Dr. Martin Ackerman, surgeon at the New York Eye and Ear Infirmary, before the New York Industrial Nurses Club at the New York Academy of Sciences on November 8, on "Eye Care in Industry". . .Dr. Emil A. Gutheil, editor of the *American Journal of Psychotherapy*, and president of the Association for the Advancement of Psychotherapy in New York City, before the hospital staff of the Veterans Administration Hospital at Northport on October 26, on "Obsession, Compulsion, and Delusion."

Resumes Practice

Dr. A. David Etess, practice of hematology and internal medicine in Liberty.

New Offices

Dr. Nicholas I. Ardan, Jr., practice of orthopedic and traumatic surgery in Niagara Falls in association with his father, Dr. Nicholas I. Ardan, Sr.. . .Dr. Elliot T Bush, Jr., practice of general surgery in Elmira. . .Dr. Edward M. Cordasco, practice of internal medicine in Niagara Falls. . .Dr. Theodore Davidoff, general practice in Blauvelt. . .Dr. Charles Friedman, practice of general and chest surgery in Beacon. . .Dr. Anastas Petro, practice of internal medicine in Jamestown. . .Dr. Roderick C. Richards, practice of pediatrics in Scarsdale. . .Dr. Max Sharon, general practice in Madison. . .Dr. Vincas Sirmenis, member of the staff at Foster-Hatch Medical Group in Dundee. . .Dr. Emil Szasz, general practice in Tupper Lake.

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What's so hard to lose but so easily found as a pound?—RICHARD ARMOUR

NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Surgical Clinical Seminar—A Surgical Clinical Seminar was held from November 10 through 12 by Albany Medical College as part of the College's extensive postgraduate education. Speakers and their subjects were: Dr. Arthur D. Hengerer, assistant professor of gynecology, "Management of More Common Office Gynecologic Problems"; Dr. Samuel R. Powers, assistant professor of surgery, "The Practical Management of Arteriosclerotic Peripheral Vascular Disease"; Dr. Pelham Glasier, associate clinical professor of surgery, "Regional Enteritis"; Dr. C. Stuart Welch, associate professor of surgery, "Surgical Management of Duodenal Ulcer"; Dr. Lewis W. Barton, instructor in otolaryngology, Dr. Edward C. Brandow, Jr., and Dr. Ernst A. Kopp, assistants in otolaryngology, Dr. George J. Righter and Dr. Benjamin M. Volk, assistant and associate professors, Department of Otolaryngology, "Practical Management of ENT Problems."

Also: a Medical Surgical Conference conducted by Dr. David Sensenig, acting chief, Surgery Service, Veterans Administration Hospital, and Dr. William P Nelson, III, assistant professor of medicine; Dr. William B. Garlick, assistant clinical professor of urology, and Dr. Christopher Mamonas, assistant in urology, "Common Urological Problems"; Dr. John G. Hayes, associate clinical professor of obstetrics, Dr. John F. Filippone, associate professor of medicine and head, Sub-Department of Cardiovascular Disease, and Dr. John E. Kiley, assistant professor of medicine, "Heart Disease and Pregnancy"; Dr. Kenneth M. Archibold, associate clinical professor of obstetrics, and Dr. John E. Kiley, "The Use of Antihypertensive Drugs in Pre-Eclampsia and Eclampsia," and Dr. John J. Gamble, assistant professor of gynecology and obstetrics, and Dr. Siegfried Klinger, instructor in obstetrics, "The Management of Prolonged Labor."

The Clinical Seminar Days differed from the "Teaching Days" of the past in that after a preliminary period of instruction the physicians were divided into smaller groups and were given the opportunity to participate in the discussion of specific clinical problems. Those attending the Seminar were also present at the College's weekly clinicopathologic conference.

Representatives—Dr. Harold C. Wiggers, Dean, and Dr. Frank M. Woolsey, Jr., represented the College at the meeting of the Association of American Medical Colleges Teaching Institute which was held at Swampscott, Massachusetts, in October. Dr. Jack Wolfe, professor and chairman, Department of Anatomy, led a discussion group at the meeting.

New York University College of Medicine

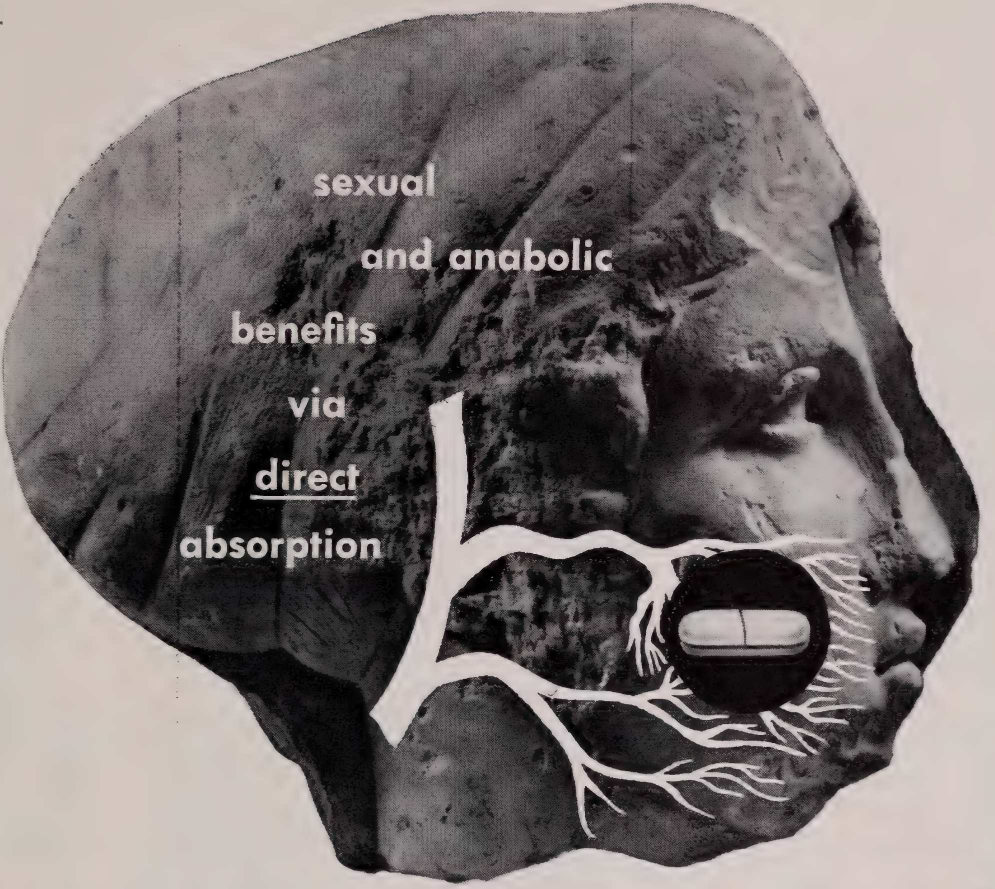
Appointed—Dr. Currier McEwen, associate professor in the Department of Medicine, is one of eight physicians invited by the World Health Organization to act as an advisory group to the Egyptian Ministry of Health and to serve as visiting faculty to the two medical schools in Cairo and the school in Alexandria. Dr. McEwen and other members met with WHO in Geneva, Switzerland, and proceeded to Cairo on November 26. Dr. McEwen was the representative for internal medicine and American medical education on the eight-man team. Following the Egyptian meeting, he will spend two weeks in France and Germany in early January visiting arthritis and rheumatism research centers.

Promoted—Dr. Andrew Dickson Hunt, Jr., director of pediatric services at Hunterdon Medical Center, Flemington, New Jersey, has been promoted to assistant professor of pediatrics.

New York University Post-Graduate Medical School

Appointed—Dr. Philip H. Sechzer has been appointed assistant professor in the Department of Anesthesiology.

[Continued on page 3508]



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[Continued from page 3506]

State University of New York College of Medicine at Syracuse

Postgraduate Seminar—A postgraduate seminar was held by the Department of Psychiatry on October 28 and 29 in the auditorium of the Veterans Administration Hospital. Dr. George L. Traeger, anthropologist and linguist, Research Advisor, Human Relations Area Files, Inc., Washington branch, American University, was the visiting lecturer.

Conference—The Departments of Pediatrics and Obstetrics sponsored a conference of the Syracuse Regional Obstetric-Pediatric Conference on Perinatal Problems on October 27 at the Syracuse Memorial Hospital. The pediatric side was represented by Dr. Julius B. Richmond, professor and Department chairman, and Dr. Tyree C. Wyatt, professor in the Department and also regional chairman of the conference in the pediatrics field. Obstetrics was represented by Dr. Edward C. Hughes, professor and Department chairman and also regional chairman for obstetrics.

Appointments—Appointments and promotions are: *Appointments*, Medicine—associate professor, Dr. Andrew Kerr; assistant professor, Dr. Philip E. Duffy, Dr. Richardson K. Noback; instructor, Dr. Edward Heitzman; clinical instructor, Dr. Arthur Dube, Dr. Howard Albright, and Dr. Norbet Schalet. *Promotions*—instructors, Dr. Robert Eich, Dr. Gerard Eastman, Dr. Lionel Rudolph; clinical instructors, Dr. Joseph J. Downs, Dr. Martin Black.

Psychiatry, Promotion—assistant professor, Dr. Robert E. Pittenger *Pediatrics, Appointment*—assistant professor, Dr. Sterling D. Garrard. *Surgery, Promotions*—assistant professor, Dr. Otto Sartorius; clinical instructor, Dr. Walter Wauro.

Public Health and Preventive Medicine, Appointments—assistant professor, Dr. John H. Mabry; clinical assistant professor, Miss Leone Renn. *Promotion*—instructor, Dr. Charles Willie. *Radiology, Appointment*—clinical instructor, Dr. Alfred Schick. *Pathology, Appointment*—instructor, Dr. Rufus Courtney; *promotions*—assistant professors, Drs. Albert J. Schaefer and Carl Austin.

Psychiatric Consultant—Dr. Edward Stainbrook, professor and chairman, Department of Psychiatry, left for Japan, Korea, and Okinawa on November 1 to serve as psychiatric consultant to the Far East Command. On his return trip Dr. Stainbrook will give a series of lectures and seminars at the Territorial Psychiatric Hospital in Hawaii.

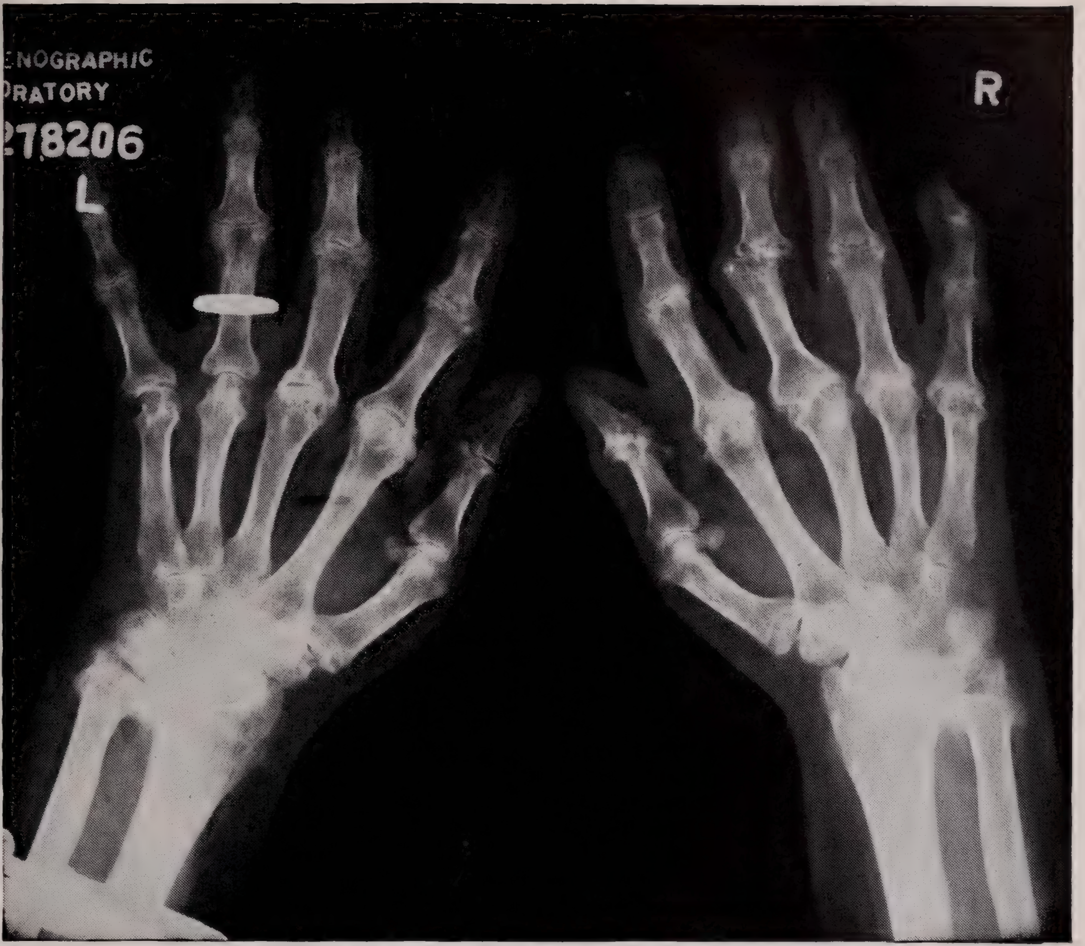
Attended Meeting—Dr. William R. Willard, dean, Dr. Davis G. Johnson, assistant dean in charge of student personnel, Dr. William A. Harris, assistant dean in charge of postgraduate medical education; Dr. Joseph K. Hill, assistant to the dean; Dr. Philip B. Armstrong, professor and chairman, Anatomy Department; Dr. Julius B. Richmond, professor and chairman, Pediatrics Department, and Mr. Al Boeck, public relations director, were participants in the 66th annual meeting of the Association of American Medical Colleges at Swampscott, Massachusetts, October 24, 25, and 26.

Scholarship Recipients—The following students have been chosen to receive scholarships for the school year 1955–1956: Frank E. Young, Merrick, the Dr. Menzo W. Herriman award of $500 for the senior most deserving of financial aid and chosen from the top five highest in honor at the end of the junior year; Sheldon H. Barnes, senior, Sidney, $300 Emma G. Gillette Scholarship; Albert Frankel, Syracuse, the Dr. John L. Heffron Scholarship for $200, awarded to a senior whose work during the previous three years has shown to have special aptitude for medicine or surgery; Wesley Sauter, Syracuse, the $200 Clara L. Graff Scholarship; recipients of the Florence M. Duesler Scholarship in memory of Her Father, Willis Maine: John W. Lawrow, Syracuse; Joseph Gold, Binghamton; Donald E. Robins, Brooklyn; Donald N. Mantle, Harrisville; Michael D. Yablonski, North Haledon, New Jersey; Richard Dole, Niobe; John J. Gorman, Schenectady, and Rita Carol Jaeger, New York City.

University of Rochester School of Medicine and Dentistry

Awarded—Dr. Karl Miller Wilson, professor emeritus of obstetrics and gynecology, received the 1955 Gold Medal of the University of Rochester Medical Alumni Association at the annual banquet on October 15 for outstanding service to medical education.

Young men have a passion for regarding their elders as senile.—Henry Brooks Adams



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References: 1. Fremont-Smith, P.: J.A.M.A. 158:386, 1955. 2. J.A.M.A. 141:124, 1949. 3. M. Times 81:41, 1953.

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BOOKS REVIEWED

The Physiological Basis of Medical Practice. A Text in Applied Physiology. By Charles Herbert Best, M.D., and Norman Burke Taylor, M.D. Sixth edition. Quarto of 1,355 pages, illustrated. Baltimore, Williams & Wilkins Co., 1955. Cloth, $12.

This edition maintains the excellence, thoroughness, and simplicity which have made the previous ones classics in modern textbooks. Both normal physiology and pathophysiology are detailed. There are excellent diagrams and an extensive bibliography. This text is of value to medical students and physicians alike.—LEON M. LEVITT

Ion Exchange and Adsorption Agents in Medicine. The Concept of Intestinal Bionomics. By Gustav J. Martin, Sc.D. Octavo of 333 pages. Illustrated with 15 line drawings and 11 photographs. Boston, Little, Brown & Company, 1955. Cloth, $7.50.

The author has simplified the subject of ion exchange, as well as the adsorption agents and the rationale of applying these materials clinically.

The literature is thoroughly reviewed and the results of the writer's own work and opinion are added. The chapter on the chemistry and medical applications of chelating substances, a subject that has recently come to our attention, is well compiled. The section on the concept of intestinal bionomics should stimulate clinical investigators with a view to further confirmation.—JAMES TESLER

Bone. An Introduction to the Physiology of Skeletal Tissue. By Franklin C. McLean, M.D., and Marshall R. Urist, M.D. Octavo of 182 pages, illustrated. Chicago, University of Chicago Pr., 1955. Cloth, $6.00.

This volume brings up to date the physiology of bone in all aspects. At times the reading is tiresome, but this is necessary to explain the complicated chemistry involved. The discussion on fractures and their healing is most excellent. A good reference manual.—OTHO C. HUDSON

Fragments of an Analysis with Freud. By Joseph Wortis, M.D. Octavo of 208 pages, illustrated. New York, Simon & Schuster, 1954. Half-cloth, $3.00.

The book deals with the experience that the author had with Freud, having studied with him for four months, from October, 1934, to February, 1935. He describes the circumstances which brought him into contact with Dr. Freud and then proceeds to give a picture of his daily association with that eminent man. He also gives a fragmentary description of other eminent psychiatrists of that period. While the author says in his preface that this is a book about "Sigmund Freud and his theories and not about me," there is much in the book that portrays the author himself. The author writes very well, and the book will prove of great interest to many people. Of course, it is bound to receive controversial discussions. Psychiatrists, medical men in general, and educators will find it very useful.—IRVING J. SANDS

Cornell Conferences on Therapy. Vol. 7. Edited by Harry Gold, M.D., Managing Editor, David P. Barr, M.D., McKeen Cattell, M.D., Frank Glenn, M.D., and George Reader, M.D. Octavo of 264 pages. New York, The Macmillan Company, 1955. Cloth, $4.50.

Volume VII of the *Cornell Conferences on Therapy* continues the high standard set by its predecessors. These are readable, up-to-date accounts of modern methods of treatment.—MILTON PLOTZ

Childbirth. Theory and Practical Training. By Marjorie F. Chappell, D.N. (Lond.). Duodecimo of 128 pages, illustrated. Edinburgh & London, E. & S. Livingstone, Ltd. (Baltimore, Williams & Wilkins Company), 1954. Cloth, $2.50.

This small monograph is a primer for setting up courses for the instruction of women in "Natural Childbirth." It gives in detail the outline for a series of eight lectures.

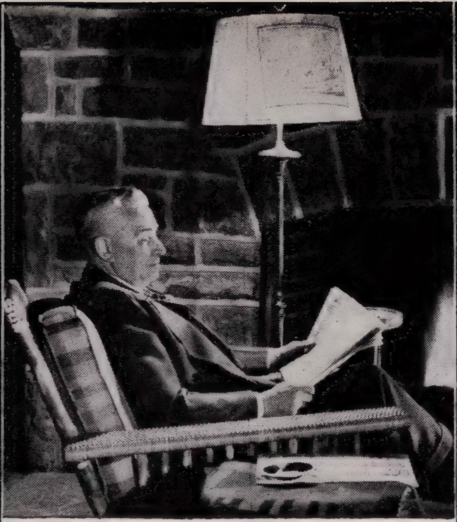
The book would also be very useful for the individual who is preparing for "Natural Childbirth" without the aid of formal group lectures.—WINFIELD E. STUMPF

Antiseptics, Disinfectants, Fungicides, and Chemical and Physical Sterilization. Edited by George F. Reddish, Ph.D. Thirty Contributors. Octavo of 841 pages. 71 illustrations. Philadelphia, Lea & Febiger, 1954. Cloth, $15.

Essential facts on disinfectants exclusive of chemotherapeutic agents are presented in this excellent volume. Interpretations and evaluations are made by 30 collaborators who are all well-known specialists in their respective fields.

The editor presents a brief historical review of antimicrobic agents and processes, clarification of the terminology, and a general review of methods of testing. Specific testing methods for antiseptics, disinfectants, and fungicides are reviewed by the other contributors in their own sections. The United States Pharmacopoeia sterility tests for

[Continued on page 3512]



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[Continued from page 3510]

liquids and solids are reprinted in full. Laboratory tests are explained in detail with the emphasis on in vitro and in vivo testing.

Advances in the field of sterilization by ionizing radiations and its importance to the food and pharmaceutical industry are discussed. Sterilization by chemicals, heat, and pasteurization, as well as the use of chemicals to prevent deterioration of food, and its relation to the public health problem are emphasized.

References are included with each chapter, and a bibliographic index at the end of the book includes references in the text and at the end of the chapters. A detailed subject index, including references to illustrations and tables, simplifies the use of the book.

This book will serve as an excellent source book for hospital personnel, laboratory workers, and technicians in such fields as the food, cotton, leather, and pharmaceutical industries.—W. Alan Wright

The Coagulation of Blood. Methods of Study. Edited by Leandro M. Tocantins, M.D. Prepared with the help and under the sponsorship of the Panel on Blood Coagulation of the Committee on Medicine and Surgery of the National Academy of Sciences, National Research Council. Octavo of 240 pages, illustrated. New York, Grune & Stratton, 1955. Cloth, $5.75.

This is a book written especially for hematologists who specialize in the study of blood coagulation and is highly useful to them in reference to the difficult technics of study that are involved. The book is limited to methodology and does not discuss clinical application. Tocantins has brought together many of the leading authorities in the field as contributors for the various chapters. These authorities include such well known names as Benjamin Alexander, K. M. Brinkhous, L. B. Jaques, Walter H. Seegers, and many others of equal reputation. Its main use will be as a reference book for any one who is interested in using a specialized technic in the study of coagulation.—R. Janet Watson

Freedom from Fear. By Lester L. Coleman, M.D. Octavo of 285 pages. New York, Hawthorn Books, 1954. Cloth, $3.95.

Within the past few years there have been a number of near "best sellers" written by physicians and relating case histories in a popular vein. The present effort attempts to discuss the ever present problem of fear and how to rid oneself of it. Many of the stories of individuals or patients contain problems known to all of us at one time or another. It would be somewhat more gratifying if an eventual solution might have been found for the overwhelming fear of cancer. Similarly, the overzealous physician who spent so much time trying to please everybody would seem worthy of an intensive attempt at rehabilitation by means of proper forms of psychotherapy. One wonders also whether a psychologist would be the proper person to treat a little girl suffering from a club foot and the subsequent anxiety of her parents.

The multitude of new drugs, as well as surgical and other medical advances, is offered as a means of reassurance against fear. Unfortunately, most physicians are only too familiar with patients who suffer, for example, from cancer phobias and who are not even reassured by cancer prevention clinics, known by the medical profession to offer the latest in the field.

The last two chapters make a sincere effort to advise those who are fearful on how to conquer such fears. Such suggestions as "Face fear frankly" have been said many times before. There is no doubt that fear or its general equivalent, anxiety, still constitutes one of the most important problems in psychiatry, and there is much to be learned before more widespread relief will be afforded. Recent drugs will no doubt be helpful, but the field of psychotherapy continues to be a fertile one.—Cecelia Jett-Jackson

Practical Obstetric Problems. By Ian Donald, M.D. Octavo of 578 pages, illustrated. Chicago, Year Book Publishers, 1955. Cloth, $9.50.

As its title implies, this English treatise deals entirely with obstetric complications and their management. The opinions expressed are in keeping with most present-day obstetric thought. Some of the methods suggested, such as the use of "tents" to accomplish cervical dilation, are seldom, if ever, employed in this country. The instruments described are similar to, but by no means identical with, those in common use here. The nomenclature for laboratory tests, pharmaceuticals, and procedures is different from ours, and there is an inconsistent mixture of apothecaries' and metric systems. In comparison with American texts it is rather sparsely illustrated. Its interest for this reviewer lay largely in the differences spoken of above.—J. Thornton Wallace

Christopher's Minor Surgery. Edited by Alton Ochsner, M.D., and Michael E. DeBakey, M.D. Contributors, John Adriani, M.D., James Harrill Allen, M.D., Frederick Fitzherbert Boyce, M.D., Guy A. Caldwell, M.D., Denton Arthur Cooley, M.D., *et al.* Seventh edition. Octavo of 547 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $9.00.

The text has been rewritten under the editorship of Alton Ochsner and Michael E. DeBakey. All of the contributors are or were associated with the editors.

The book has new material, presented clearly, concisely, and with explicit instructions in the management of common surgical problems which avoid controversial procedures. Basic practical principles and advances in treatment are stressed to prevent unnecessary morbidity. Many excellent illustrations and photographs accompany the text.

[Continued on page 3514]

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[Continued from page 3512]

The volume is divided into eight sections.

The contributors to the various sections have followed the same schematic clinical and comprehensive presentation which the surgeon, resident, and general practitioner will find extremely useful.—Irwin E. Siris

The Joints of the Extremities. A Radiographic Study. Notes on Non-routine Methods, Non-routine Ideas, and Less-common Pathology. By Raymond W. Lewis, M.D. Quarto of 108 pages, illustrated. Springfield, Charles C Thomas, 1955. Cloth, $8.50.

In his foreword Lewis states that the purpose of this text is "to make available methods, observations, and ideas not in common practice, which have been evolved and established as useful through many years' service in an orthopedic hospital."

No review can do this book justice. It more than fulfills the author's plan. It cannot be too highly recommended for anyone interested in any way in the joints of the extremities.—Solomon Schwartz

A Synopsis of Medicine. By Sir Henry Letheby Tidy. Tenth edition, revised. Duodecimo of 1,250 pages. Baltimore, Williams & Wilkins Company, 1954. Cloth, $7.50.

The publication of a tenth edition of Tidy's *Synopsis* attests to the popularity, and presumably usefulness, of this handy volume. There have been a few revisions since the last edition, all of which improve the book. It would be hard to think of a book of similar interest and scope being better done. Many students and practitioners will find this *vade mecum* to be a valuable reference.—Milton Plotz

Psittacosis. Diagnosis, Epidemiology and Control. Edited by F. R. Beaudette, D.V.M. Octavo of 240 pages, illustrated. New Brunswick, Rutgers University Pr., 1955. Cloth, $5.00.

The popularity of pet parakeets has increased the importance of the viruses of the psittacosis—lymphogranuloma venerium family—as a possible health problem to communities in our country.

The symposium, the proceedings of which form the substance of this report, was held under the sponsorship of the New Jersey Agricultural Experiment station at Rutgers University. The meeting was made possible through the generosity of the owners of the Hartz Mountain Products Company—a large importer and distributor of pet birds and pet bird products.

The participating specialists represent the fields of public health, veterinary medicine, virology, immunology, zoology, and microbiology. Pointed out are the following newer aspects of this group of virus diseases. Seventy-two species of birds have now been found to be reservoirs, and the number is increasing. A high percentage of the birds are carriers, but the birds come down with episodes only when crowded together in an unwholesome environment. They may be shedders of virus only during episodes of acute illness. Man-to-man infections seem to occur only from intensely severe or fatal cases of the infection. These epidemics have been reported from poultry feather picking establishments, affecting employes who handled viscera or pin feathers of turkeys, chickens, ducks, or pheasants. The infection has been spread to cattle—bovine encephalomyelitis, to cats—feline pneumonitis, to mice—pneumonitis, to goats—pneumonitis, and to ewes, in which the infection causes abortion.

Early treatment with aureomycin during the first forty-eight hours—as in known infections in laboratory workers—cures the disease entirely and rapidly. Late treatment is relatively ineffective and must comprise an intermitting treatment with alternating antibiotics, the most successful being aureomycin, Terramycin, chloramphenicol, and penicillin.

The symposium has answered a number of questions but given rise to many more. The most urgent needs are standardized serologic diagnostic tests to assess carrier state and acute infection, because the signs and symptoms are not specific for this group of infections.

The inclusion of the general discussions has added greatly to the interest and value of the book, which will be eagerly and profitably studied by physicians, veterinarians, pathologists, public health workers, and, in fact, by all who are interested in the ecologic aspects of diseases common to man and animals.—Kenneth G. Jennings

Surgery of the Small & Large Intestine. By Charles W. Mayo, M.D. Illustrated by Russell Drake. Octavo of 314 pages, illustrated. Chicago, Year Book Publishers, 1955. Cloth, $9.00.

The author designed this work for those interested in the more common surgical procedures performed for lesions of the small and large bowel as well as the anal canal. Certainly the book fulfills this goal.

The step-by-step descriptions of operations are presented in clear, concise language, and each operation is adequately illustrated with full-page plates which are remarkably clear. The text is easy to follow because only that portion of the description appears on a page as applies to the plate on the page facing it.

The book is divided into four sections. Much useful information is incorporated in the first section, which takes up preoperative and postoperative diet, surgical instruments, and incisions. The second and third sections deal with the blood supply and lymphatic drainage, operative procedures, and preoperative and postoperative care of the small and large bowel, respectively. This reviewer is pleased to note that the author is numbered among those who discuss with the patient during the preoperative period the possible necessity of performing a colostomy or ileostomy. Management of ileal and colonic stomata is very admirably presented in these sections. The fourth section is devoted to

[Continued on page 3516]

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[Continued from page 3514]

congenital malformations of the rectum and anus, prolapse of the rectum, and surgical technics for anal fistulas, hemorrhoids, and anal fissures, as performed at the Mayo Clinic.

The reviewer really enjoyed reading this book and heartily recommends it as a quick reference source. Surgical house staff officers should find this handbook especially useful, and the reviewer intends to have a copy available to them in the library of the hospital in which he works.—A. W. MARTIN MARINO

Fluoroscopy in Diagnostic Roentgenology. By Otto Deutschberger, M.D. Quarto of 771 pages, 888 illustrations on 523 figures. Philadelphia, W. B. Saunders Company, 1955. Cloth, $22.

This is a fine text which covers all of the clinical aspects of fluoroscopy. Obviously, in order to understand fluoroscopy one must have a basic understanding of radiology. This text is a valuable storehouse of radiologic information, written by an expert. It is reviewed by a radiologist and judged by these standards it is a valuable addition to the radiologic literature. It will be even more valuable to general practitioners and other specialists. It belongs in the library of anyone who owns a fluoroscope or x-ray machine.—MORTIMER R. CAMIEL

Advanced Surgery of Cataract. By Daniel B. Kirby, M.D. Quarto of 271 pages. 138 figures and 96 illustrations (22 plates) in full color. Philadelphia, J. B. Lippincott Company, 1955. Cloth, $27.

This volume is the pith and substance of years of research and surgical experience of an acknowledged above-average ophthalmic surgeon. He has carefully described and recorded his technics and the reasons for his conclusions as to the proper procedures to secure the best possible results in cataract surgery.

There are numerous exact and beautiful illustrations that add immeasurably to the reader's understanding of the details as outlined in the text.

Anyone who performs cataract surgery will be richly rewarded by a careful reading of Kirby's last and probably most important contribution to ophthalmology.—MORTIMER A. LASKY

Cardiac Auscultation. Including Audio-Visual Principles. By J. Scott Butterworth, M.D., Maurice R. Chassin, M.D., and Robert McGrath, M.D. Octavo of 111 pages, illustrated. New York, Grune & Stratton, 1955. Cloth, $4.50.

This compact, inexpensive, but excellent volume deserves a cordial reception. The clinical aspects of heart sounds are covered to the satisfaction of the exacting practicing physician. The physiologic principles are succinctly but completely reviewed and even the more controversial aspects of the origins of the heart sounds are treated in satisfactory fashion. This little book can be read with profit by the student, the general practitioner, and even the most experienced cardiologist.—MILTON PLOTZ

A Synopsis of Anaesthesia. By J. Alfred Lee, D. A. (Eng.) Third edition. Duodecimo of 483 pages, illustrated. Baltimore, Williams & Wilkins Co., 1953. Cloth, $3.50.

This 483-page, 5 × 7½", fine-printed, thin-leafed, pocket-sized, third edition contains a wealth of information on the subject of anesthesia. Illustrations of equipment are plentiful, but sparse in nerve blocks and other technics. Intricate details with regard to indications and complications are reviewed for each procedure in order to achieve completeness at the risk of repetition. The book has been modernized to include description of a recovery room, hypotensive technics, etc., but lacks discussion of hypothermia. It is an excellent text and reference because its detail includes physiology, physics, a good index, a prolific bibliography, and even a handy supplement.—IRVING M. PALLIN

Oral Surgery. By Sterling V. Mead, D.D.S. Fourth edition. Quarto of 1,478 pages. 872 text illustrations and 13 color plates. St. Louis, C. V. Mosby Company, 1954. Cloth, $25.

The fourth edition of Sterling V. Mead's *Oral Surgery* well deserves an outstanding place among textbooks on this subject, as have his three preceding editions. This last edition merits recognition for citing the many advancements made in education, and in hospital practice, in the field of oral surgery. These include achievements obtained through the use of antibiotics, chemotherapy, and roentgenotherapy. Mead discusses all phases of anesthesia, oral diagnosis, and treatment.

This volume is an exceptional contribution to dental literature. It will be particularly useful as a textbook in the teaching of oral surgery to the undergraduate. It is an excellent source of ready reference for the physician and general practitioner of dentistry. *Oral Surgery* is well illustrated, containing 872 text illustrations and 13 color plates.—LAWRENCE JOSEPH DUNN

The Road to Sexual Maturity. By Abraham N. Franzblau, M.D. Octavo of 279 pages. New York, Simon & Schuster, 1954. Half cloth, $3.50.

Only too often, similar books dealing with psychiatric subjects, intended for the lay public as well as the doctor, do more harm than good. This is definitely not true of this work. Dr. Abraham N. Franzblau is a practicing psychiatrist who brings to the subject experience of many years duration.

He has presented the material from the standpoint of dynamic psychiatry but has done so with language which will not confuse the reader. He has correctly stressed the early need for security on the part of the baby and the development of this security through the reactions of the mother. His intelligent presentation of this material will aid and not frighten the young mother.

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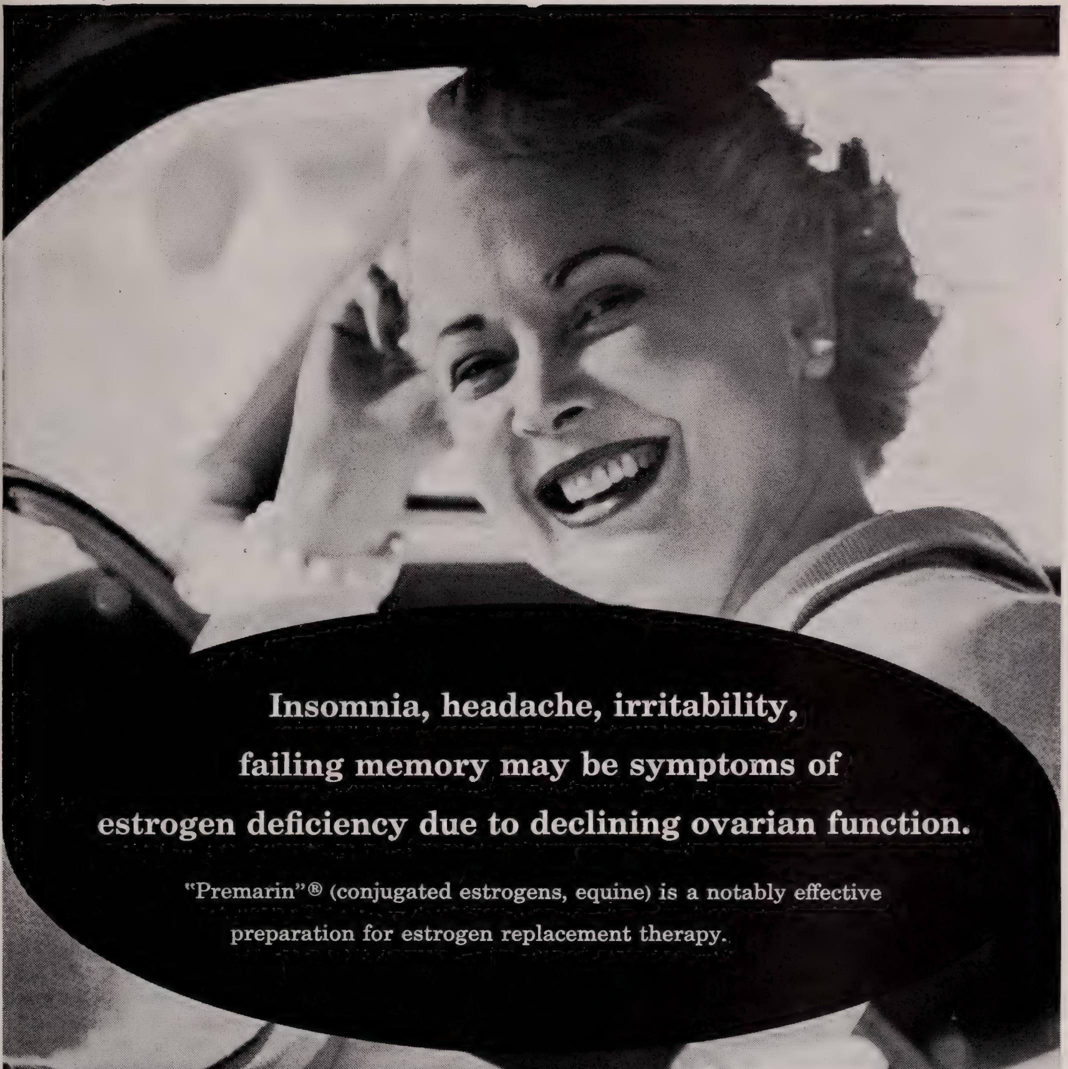

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[Continued from page 3516]

Chapters on siblings, child fantasies, the attainment of womanhood, and the ultimate road to sexual maturity are medically sound, lucid, and interesting. The reviewer has enjoyed reading the book and does not hesitate to recommend it to all parents, especially young mothers, as well as to practitioners of medicine who have to advise parents and others on the emotional and sexual growth of the child.—JOSEPH L. ABRAMSON

A Compend of Electrocardiography. By Harris Sklaire, M.D. Fourth edition. Duodecimo of 54 pages, illustrated. Rouses Point, N. Y., The Author, 1955. Cloth, $5.50.

This is a tiny (54-page) book which deals in sketchy, but authoritative fashion with some of the electrical bases for the cardiogram. It will surely add to the store of information of the novice. The *Compend* suffers from its extreme brevity and the fact that it presents electrocardiography entirely from a "pattern" point of view, omitting entirely a discussion of the physicochemical activity of the heart. The illustrations are good and in at least one case (p. 37), ingenious.—MILTON PLOTZ

Emotional Problems and What You Can Do About Them. First Aid to Wiser Living. By William B. Terhune, M.D. Octavo of 190 pages. New York, William Morrow & Co., 1955. Cloth, $3.00.

The author is an outstanding psychiatrist of national repute who writes comprehensively rooted in thirty-five years of successful psychiatric practice. Dr. Terhune is a gifted writer who clearly expresses experience-born fundamental principles of psychotherapy. In nontechnical language, he readily holds the interest of the reader with the result that one soon gains practical insight and a working approach to the understanding and the management of challenging life problems of social adjustment.

Throughout the volume, the author's sympathetic humaneness of understanding, made buoyant by spiritual ferment, creates and sustains rapport. While not primarily written for the psychiatrist, since it does not concern itself with diagnostic and treatment aspects of nervous and mental disorders, nevertheless the specialist will find this a useful and handy volume to supplement psychotherapy of milder degrees of personal maladjustments. The intelligent layman, educator, social worker, clergyman, and physician, called upon to help individuals who are having difficulties in getting along with themselves as well as with others in meeting critical life stresses along life's highway, will find a gold mine of telling information of how to handle various specific situations. Finally, the author points up guideposts in positive, constructive mental hygiene principles and suggestions whereby the individual, and thus society, might experience more satisfying performance in living together happily and effectively.—FREDERICK L. PATRY

Current Therapy, 1955. Latest Approved Methods of Treatment for the Practicing Physician. Edited by Howard F. Conn, M.D. Consulting Editors, M. Edward Davis, M.D., Vincent J. Derbes, M.D., Garfield G. Duncan, M.D., Hugh J. Jewett, M.D., William J. Kerr, M.D., *et al.* Quarto of 692 pages. Philadelphia, W. B. Saunders Company, 1955. Cloth, $11.

This very complete volume on therapy should be an excellent reference book for the general practitioner. The information is authoritative and is presented for the most part in a concise and lucid manner. The sections on "Parenteral Fluid Therapy in Adults" and "Diabetes Mellitus" are especially good.

Because of the fact that new pharmaceuticals are being tested and tried at a very rapid pace, some of the sections are already out of date. This is an unavoidable fault which in no way detracts from the general usefulness of the book.—MORRIS ZUCKERBROD

Biochemical Investigations in Diagnosis and Treatment. By John D. N. Nabarro, M.D. Octavo of 299 pages, illustrated. Boston, Little, Brown & Co., 1955. Cloth, $6.00.

The increasing use of clinical chemistry in medicine has, in recent years, resulted in a more comprehensive evaluation and understanding of disease processes. The literature in clinical chemistry keeps growing and the practicing physician is hard put to keep up with the implications in many of the tests employed.

While many good textbooks are available in applied physiology and applied biochemistry, most of them are written by the technologist. Here is a small volume written by a practicing physician, primarily as a guide for the resident staff of the hospital. The procedures employed in disturbances of water metabolism, sodium, and other electrolytes are well handled. Similarly, the laboratory procedures employed in disturbances in protein, carbohydrate, and fat metabolism and the significance of the results in diseases affected by disorders of these systems are clearly summarized.

This is an excellent compendium of the clinical interpretation of biochemical methods employed in medicine.—WILLIAM S. COLLENS

The Pharmacologic Principles of Medical Practice. A Textbook on Pharmacology and Therapeutics for Medical Students, Physicians, and the Members of the Professions Allied to Medicine. Third edition. By John C. Krantz, Jr., Ph.D., and C. Jelleff Carr, Ph.D. Octavo of 1,183 pages, illustrated. Baltimore, Williams & Wilkins Co., 1954. Cloth, $12.

This is an easily readable textbook of pharmacology. It is relatively up to date with its discussions, such as of recent antibiotics and hormones. There is a good index.—LEON M. LEVITT

Manual of Hand Injuries. By H. Minor Nichols,

[Continued on page 3520]

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[Continued from page 3518]

M.D. Octavo of 352 pages. Chicago, Year Book Publishers, 1955. Cloth, $9.50.

This volume of hand injuries is very well written. Anatomy, diagnosis, and treatment of acute hand trauma and infections are well covered. There is some discussion of reconstructive surgery. Prognosis should have been given more space. This is a book well worth reading.—Otho C. Hudson

The Hypophyseal Growth Hormone, Nature and Actions. Editors, Richmond W. Smith, Jr., M.D., Oliver H. Gaebler, M.D., and C. N. H. Long, M.D. Octavo of 576 pages, illustrated. New York, The Blakiston Division, McGraw-Hill Book Company, 1955. Cloth, $12. (International Symposium)

This book, as Maurice Raben says, will "let you in on the confusion" in the field of the anterior lobe hormones. As C. N. H. Long puts it, "any attempt to draw final conclusions concerning the chemistry or the physiologic and metabolic effects of the growth hormone would not only be untimely but a task beyond the power of any one individual to accomplish." However, 300 visitors and 50 international participants were involved in reaching these conclusions.

This book is for those interested in the research problems of endocrinology.—Bernard Seligman

Annual Review of Medicine. David A. Rytand, M.D., Editor, John Anderson, M.D., Associate Editor. Octavo of 459 pages. Stanford, Calif., Annual Reviews, 1955. Cloth, $7.00.

Volume 6 of this superb series is under the editorship of David Rytand, who has more than maintained the extraordinary level of excellence of his predecessors. There is an instructive foreword by Bloomfield on the history and usefulness of abstracting and reviewing the medical literature. The reviews themselves are comprehensive and intelligent. The annotated list of reviews in medicine is a highly useful reference list. In short, this reviewer commends the *Annual Review* without reserve.—Milton Plotz

A Synopsis of Obstetrics and Gynecology. By Aleck W. Bourne, M. B. (Eng.) Eleventh edition. Duodecimo of 536 pages, illustrated. Bristol, John Wright & Sons (Baltimore, Williams & Wilkins), 1954. Cloth, $5.00.

This eleventh edition is fully revised and brought up to date. With the elimination of the obsolete matter and the addition of the more modern concepts in both obstetrics and gynecology, this volume meets the standards set in the previous editions. Purely a synopsis of the subjects, it serves as an excellent medium for review in preparation for examinations. It is not expected to take the place of standard textbooks but will serve for quick reference. This should be of value to the general practitioner.—William C. Meagher

Prolonged and Perplexing Fevers. By Chester S. Keefer, M.D., and Samuel E. Leard, M.D. Octavo of 248 pages. Boston, Little, Brown & Company, 1955. Cloth, $5.50.

This excellent little book should be a must for all those interested in internal medicine. Keefer and Leard handle excellently a most difficult topic. They present a practical plan for diagnosis (as well as enumerate and illustrate with case histories) those diseases that present with fever of two or more weeks duration. All physicians, no doubt, have had many trying moments with cases that ultimately were diagnosed on the post-mortem table as lymphomas, blood dyscrasias, bacterial endocarditis, tuberculosis, or intra-abdominal abscesses.

The authors describe many such cases, and the book is full of diagnostic hints that will help solve the problems ante-mortem.—Julius E. Stolfi

The Year Book of Endocrinology (1954–1955 Year Book Series). Edited by Gilbert S. Gordan, M.D. Duodecimo of 392 pages, illustrated. Chicago, The Year Book Publishers, 1955. Cloth, $6.00.

As the years go by, Gordan develops a style that may eventually be more practical to the practitioner. His comments on the individual articles and the individual short synopses of newer concepts in endocrine diagnosis and therapy by Leutscher, aldosterone; Segalof, single pituitary gonadotropin, and Bernstein, autotransplantation of adrenal cortex to portal circulation combined with oophorectomy and adrenalectomy in treatment of metastatic carcinoma of the breast, are stimulating as well as important.—Bernard Seligman

The Medical Clinics of North America. New York Number. May, 1955. Octavo, illustrated. Philadelphia, W. B. Saunders Company, 1955. Published bimonthly (six numbers a year). Cloth, $18 net; Paper, $15 net.

The New York issue of the *Medical Clinics of North America* is devoted to a first-rate symposium on the basic sciences in medical practice. The editor, George Perera, has done an excellent job of selection of his staff and has chosen mostly people who are experienced clinicians, as well as laboratory workers. The result is an informative and well-balanced discussion of the present status of the basic sciences as related to bedside problems.—Milton Plotz

The Clinical Use of Corticotropin Cortisone and Hydrocortisone in Eye Disease. By Dan M. Gordon, M.D. Octavo of 88 pages, illustrated. Springfield, Charles C Thomas, 1954. Fabricoid, $5.50.

This monograph of 88 pages describes the many eye conditions in which the author has used ACTH and cortisone. They were even tried empirically on such far-fetched disorders as Eale's disease, glaucoma, and cataract, where the results were ad-

[Continued on page 3522]

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[Continued from page 3520]

mittedly negative or questionable. Although very enthusiastic, and rightfully so, the author has tried to be objective and factual.

The author had another purpose in writing this book—to urge the eye physician to prescribe these agents systemically as well as locally. With this recommendation not all will agree. He credits the department of medicine at his hospital with close cooperation. By the same token the private eye physician owes it to his eye patient to seek the assistance and advice of the internist to make certain whether the eye disorder or its treatment does not have more than local implications.—Emanuel Krimsky

Connective Tissues. Transactions of the Fifth Conference, February 8, 9, and 10, 1954, Princeton, N. J. Edited by Charles Ragan, M.D. Octavo of 222 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1954. Cloth, $4.25.

This book has the free, authoritative, albeit conversational, style of Macy conferences. In the introductory remarks the work in progress of some of the members is discussed: "Lathyrism," Murray Angevine; "Trigger Zones," Janet Travell; "Effect of Stress Hormones on Peptic Secretion," Arthur Mirsky; "Structure and Chemistry of Mucopolysaccharides," Karl Meyer, as well as Paul Gyorgy. The latter is also working on a microbiologic growth factor in milk. Marott Sinex is interested in the unique amino acids of collagen; John Krog, the hoof gland of the caribou; Paul Holbrook in the mechanism of the remission in rheumatoid arthritis.

Three papers are delivered: "The Exchange of Materials between Blood Vessels and Lymph Compartments," by Benjamin W. Zweifach. These are dependent upon the proteinaceous component, endothelial cells proper, intercellular cement substance, and the condensed pericapillary sheath. The second paper is by Mario Gaudino on "Interstitial Water and Connective Tissue." The third paper is by Gustav Asboe-Hansen on "Hormonal Effects on Connective Tissue." Cortisone and thyroid factors are stressed, as well as action of mast cells and mucopolysaccharides by electron microscopic studies in thyroid disturbances, and the effect of cortisone on skin papillomata.—Bernard Seligman

Public Relations In Medical Practice. By James E. Bryan. Octavo of 301 pages. Baltimore, Williams & Wilkins Co., 1954. Cloth, $5.00.

James E. Bryan knows us well and wishes us well. In his case familiarity has bred not contempt but admiration for the medical profession and the exacting standards and ideals it has set for itself. Bryan is the son of a doctor, has worked with and for medical organizations and enterprises for many years, and knows, as intimately as is possible for anyone not a doctor, the demands, stresses, and rigors of medical practice. But since he is a "layman" too (he dislikes the word), he evaluates public impressions and attitudes with an understanding which a physician-author, subconsciously biased perhaps, might find difficult to attain. It is precisely this ambivalence of the author that makes this book so valuable to us and permits him to make his points dispassionately, fairly, and with the utmost good will.

The central themes are simple enough. It is contended that, however highly regarded individual physicians may be, public esteem for the profession as a whole has been seriously shaken in recent years. Bryan feels that no public relations "gimmicks" can counteract this. The public relations "program" of organized medicine, including emergency call services, grievance committees, health information activities, cooperation with communications media, programs to assure medical care for the indigent, aged, and chronically disabled, participation in various public welfare projects, etc., he looks upon as "practical devices by which the profession may and does prove its devotion to the community." Nevertheless, insists Mr. Bryan, it is the individual physician striving as an individual to realize to the fullest the goals, ethics, and ideals of his profession that is all-important. In essence, and we know he is right, it is the upright physician, undeviatingly devoted to the service of his fellow men, who will resolve our public relations difficulties. And by implication (although Bryan does not say this) the individual physician who betrays these ideals and does such widespread harm to the good name of the profession must be set straight by the profession itself.

This book is no compilation of hackneyed platitudes and half-baked panaceas. The main concepts are deftly and expertly woven into an absorbing and stimulating review of the challenging problems and opportunities for leadership continuously before us every day of our professional lives insofar as they relate to the public's attitude towards us. It contains a wealth of practical suggestions for action. While conceding a certain degree of detachment to be necessary, Bryan deplores the ". . .paradoxical fact that the physician, whose most elemental concern is to understand the rest of us, seems at times to be that element of society least integrated with the social complex of our times." If this disturbing thought must be voiced by one who so obviously wishes us well, how much less kindly may we expect others to pinpoint our deficiencies; how much more opaque their understanding!

It is this reviewer's considered opinion that not only should this book be read by every physician and medical student, but to better assure its wide distribution to the profession, it would be a good thing if an inexpensive, paperbacked edition were made available for mass sale to county medical societies for distribution to their members. Bryan has done an important job, a job that needed to be done—expertly, concretely, kindly. Intelligent self-interest commands that we take full advantage of it.—Alfred P. Ingegno

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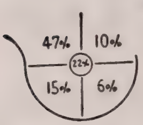
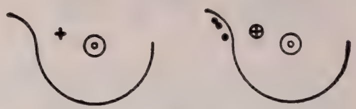


No axillary glands
70 to 80 per cent—
five-year survival

Comparative frequency



Axillary glands or fixation of
tumor 20 to 30 per cent—
five-year survival

TO IMPROVE THE RESULTS OF TREATMENT OF BREAST CANCER

Investigate

*Bloody, serous, grumous discharge from nipple with or without palpable mass.

Tiny lump.

Minimal localized thickening.

Persistent fissure, ulceration and scaling of nipple.

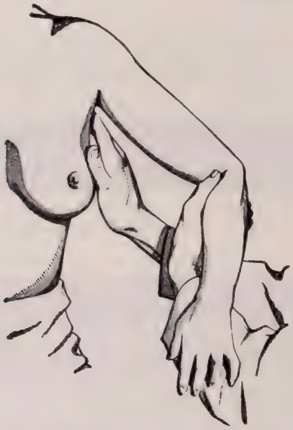
Slightest dimpling of overlying skin.

Nontender axillary gland.

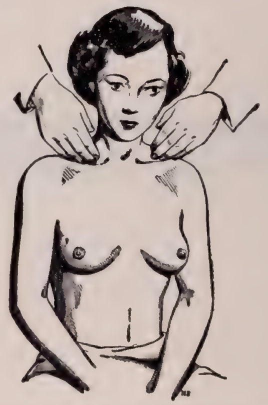
Don't WATCH and WAIT for

OBVIOUS lump.
OBVIOUS fixation or retraction of skin, areola, nipple, or chest wall.
OBVIOUS fixed axillary and supraclavicular nodes.
OBVIOUS ulceration of skin.
OBVIOUS bleeding from palpable duct tumor.
OBVIOUS tense orange peel skin.
OBVIOUS edema of arm.
OBVIOUS pain from metastasis to bone.

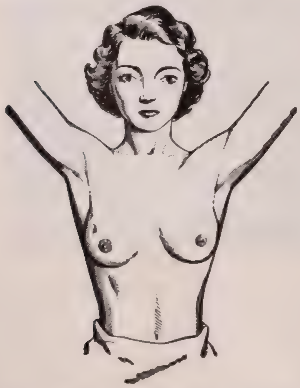
POSITION FOR EXAMINATION OF AXILLA



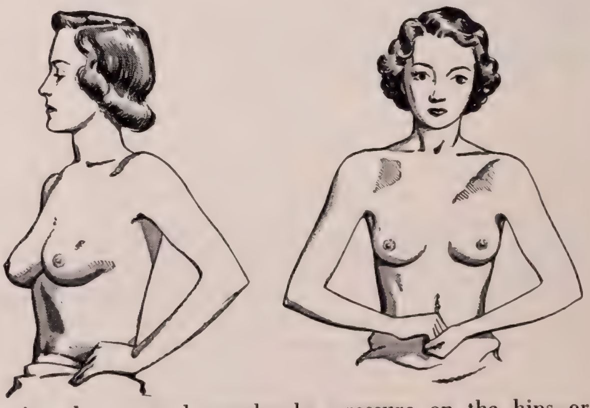
The arm is relaxed so that the examiner can palpate the axilla, apex, lateral chest wall, upper, outer, and lower quadrants of the breast.



The physician should stand behind the patient to examine for supraclavicular nodes and for a breast tumor.



Raising the arms demonstrates the dimpling and fixation of the tumor to the skin.



Tensing the pectoral muscles by pressure on the hips or tightly clasping the fingers shows fixation of the tumor to the skin, pectoral fascia or muscle.

*Express a few drops of discharge from nipple on a glass slide and fix wet slide in mixture of 95 per cent alcohol and ether for cytologic examination.

(Prepared by the Subcommittee on Cancer, Medical Society of the State of New York)

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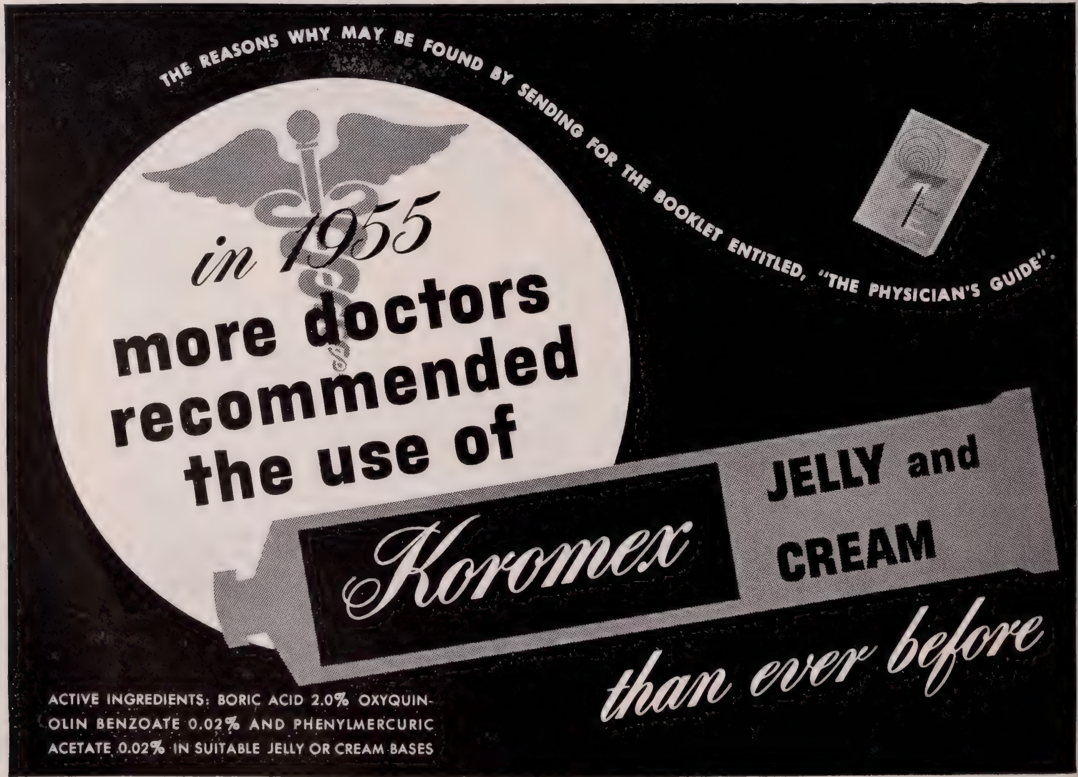

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W.B.	65	12 mg.	200/120	160/90	9
C.L.	50	8 mg.	200/130	160/100	4
R.A.	48	12 mg.	210/125	160/100	3
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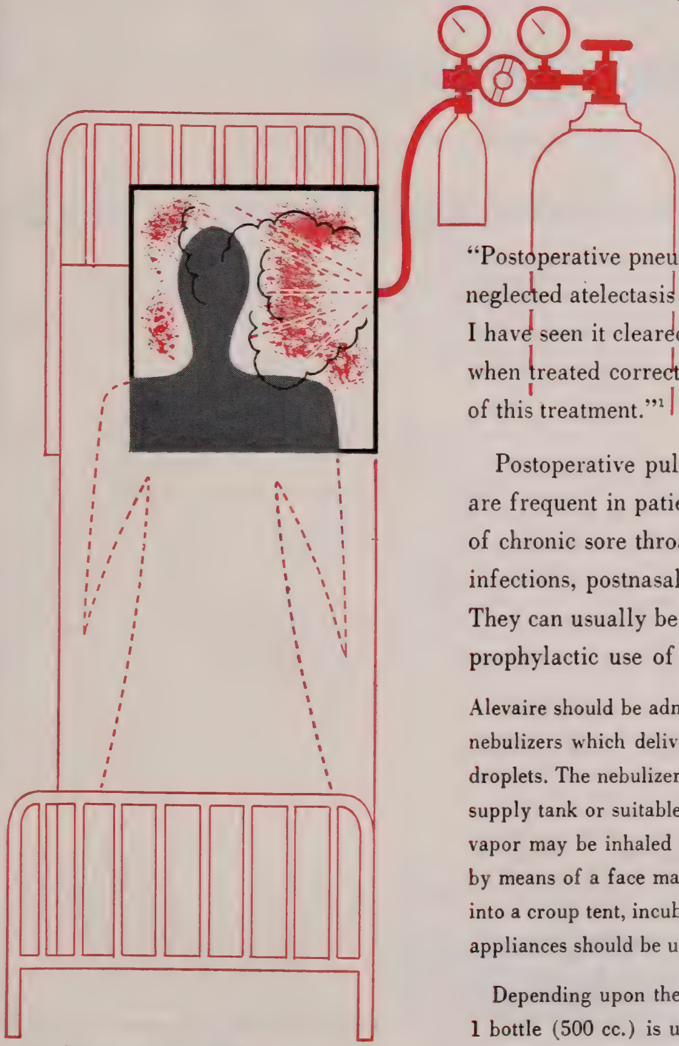

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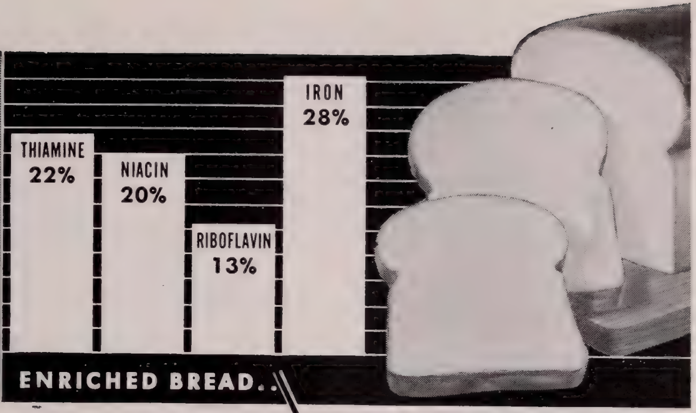

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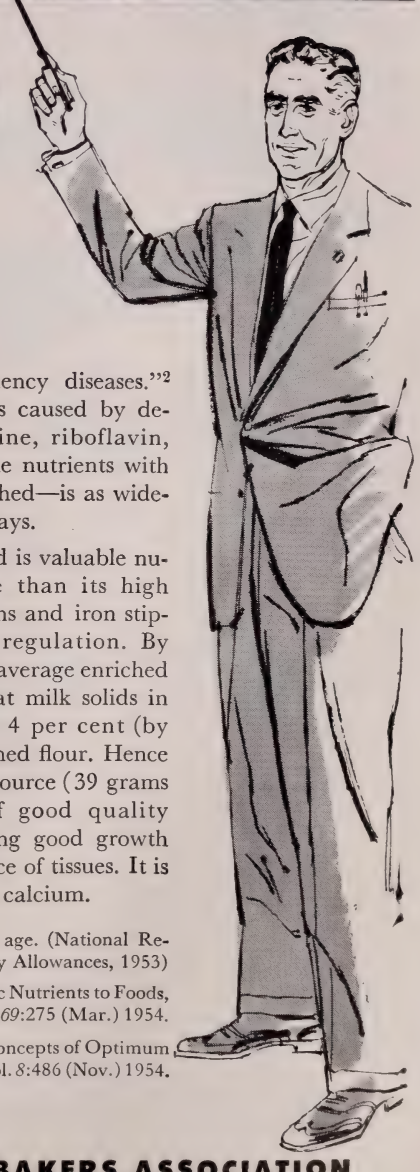
2. King, C. G.: Newer Concepts of Optimum Nutrition, Food Technol. *8*:486 (Nov.) 1954.



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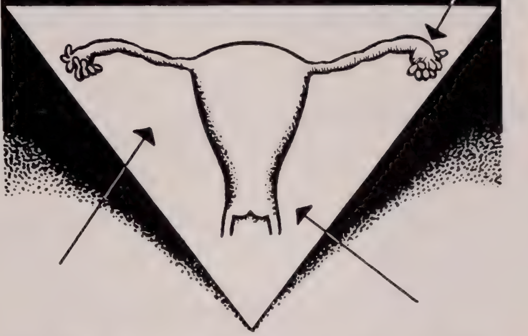

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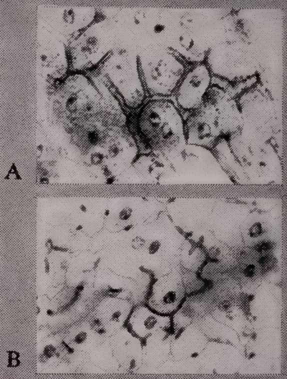

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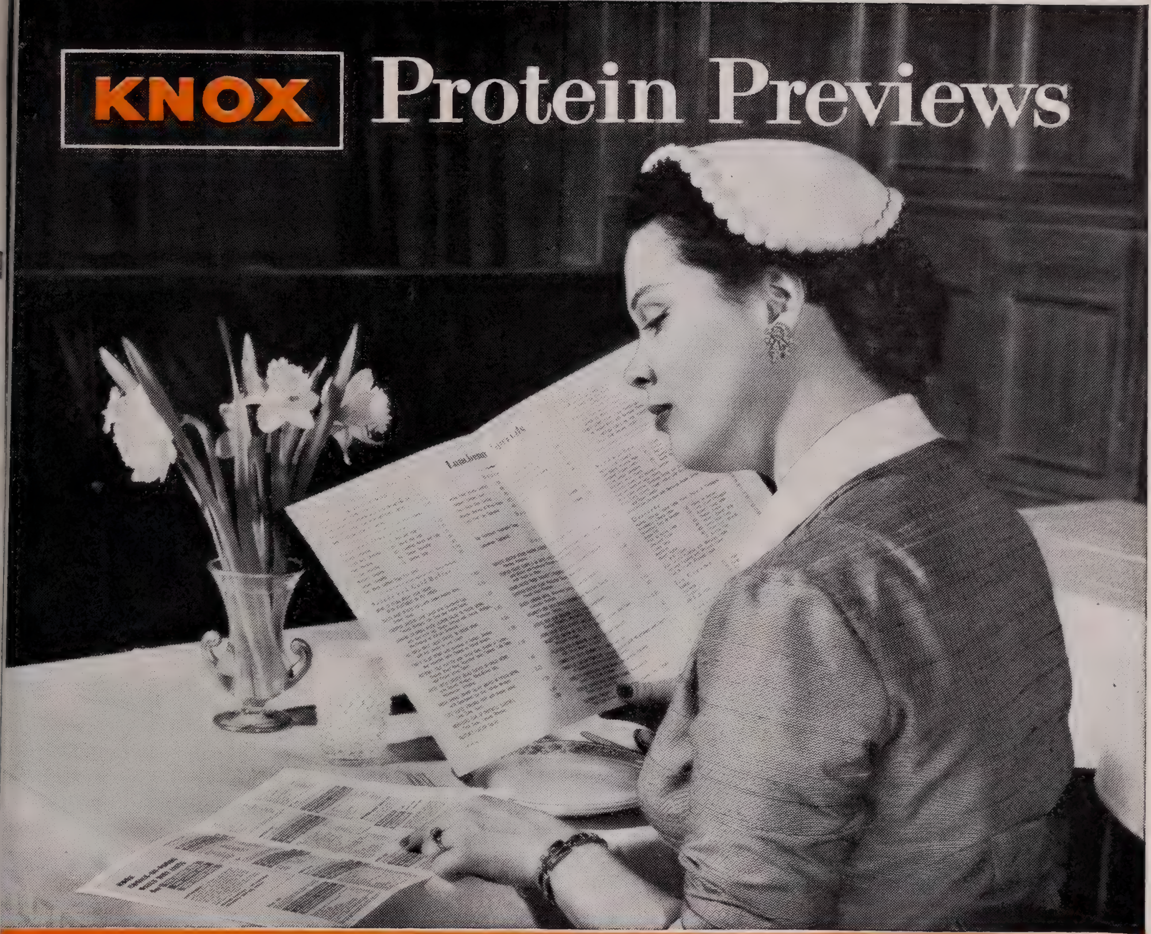

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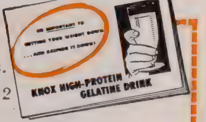

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"combining the traditional with the new!"

R-S-THESODATE

THEOBROMINE SODIUM ACETATE

plus **RAUWOLFIA serpentina**

FOR ESSENTIAL HYPERTENSION

FOR YEARS *Thesodate*, the original enteric-coated tablet of Theobromine Sodium Acetate, has been used extensively for cardiac and circulatory disorders such as coronary artery disease which is often accompanied by hypertension.

NOW COMBINED with the whole powdered root of Rauwolfia serpentina (no single alkaloid or fraction having shown the beneficial effects of the whole crude root), R-S-THESODATE offers a more ideal treatment for essential hypertension whether or not coronary artery disease is present. In most cases, its use should effect gradual but sustained blood pressure reduction and a lowered pulse rate if it has been elevated.

SYMPTOMS OF HYPERTENSION should also be alleviated by the tranquilizing effect of one of Rauwolfia's alkaloids. A sense of well-being usually occurs within a few days after starting the patient on R-S-THESODATE. Shortly after, the normotensive effect becomes more noticeable, and thus in most cases the patients will enjoy both symptomatic and systemic improvement.

R-S-THESODATE TABLETS, enteric-coated to prevent gastric distress, are taken at meals and at bedtime. The bedtime tablet prepares the patient for early morning activities.

●

Each enteric-coated tablet contains:

Theobromine Sodium Acetate (7½ gr.)	0.5 Gm.
Rauwolfia serpentina	50 mg.

Supplied in 100's and 500's

available for

CORONARY ARTERY DISEASE

in following formulas

TABLETS THESODATE
7½ gr. or 3¾ gr.

WITH PHENOBARBITAL
7½ gr. with ½ gr.
7½ gr. with ¼ gr.
3¾ gr. with ¼ gr.

WITH POTASSIUM IODIDE
5 gr. with 2 gr.

WITH POTASSIUM IODIDE AND PHENOBARBITAL
5 gr. with 2 gr. and ¼ gr.

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all formulas
ENTERIC-COATED

Supplied in
100's and 500's

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For samples just send your Rx blank marked 14RTH-12 *for the pain and disability of* **HERPES ZOSTER**

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Improvement is "almost immediate," with "good to excellent results" in four out of five patients, and no postherpetic neuralgia in any patient who responded favorably.

Protamide is a sterile colloidal solution prepared from animal gastric mucosa . . . denatured to eliminate protein reaction . . . completely safe and virtually painless by intramuscular injection.

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in herpes zoster and post-infection neuritis

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BIOLOGICALS • PHARMACEUTICALS
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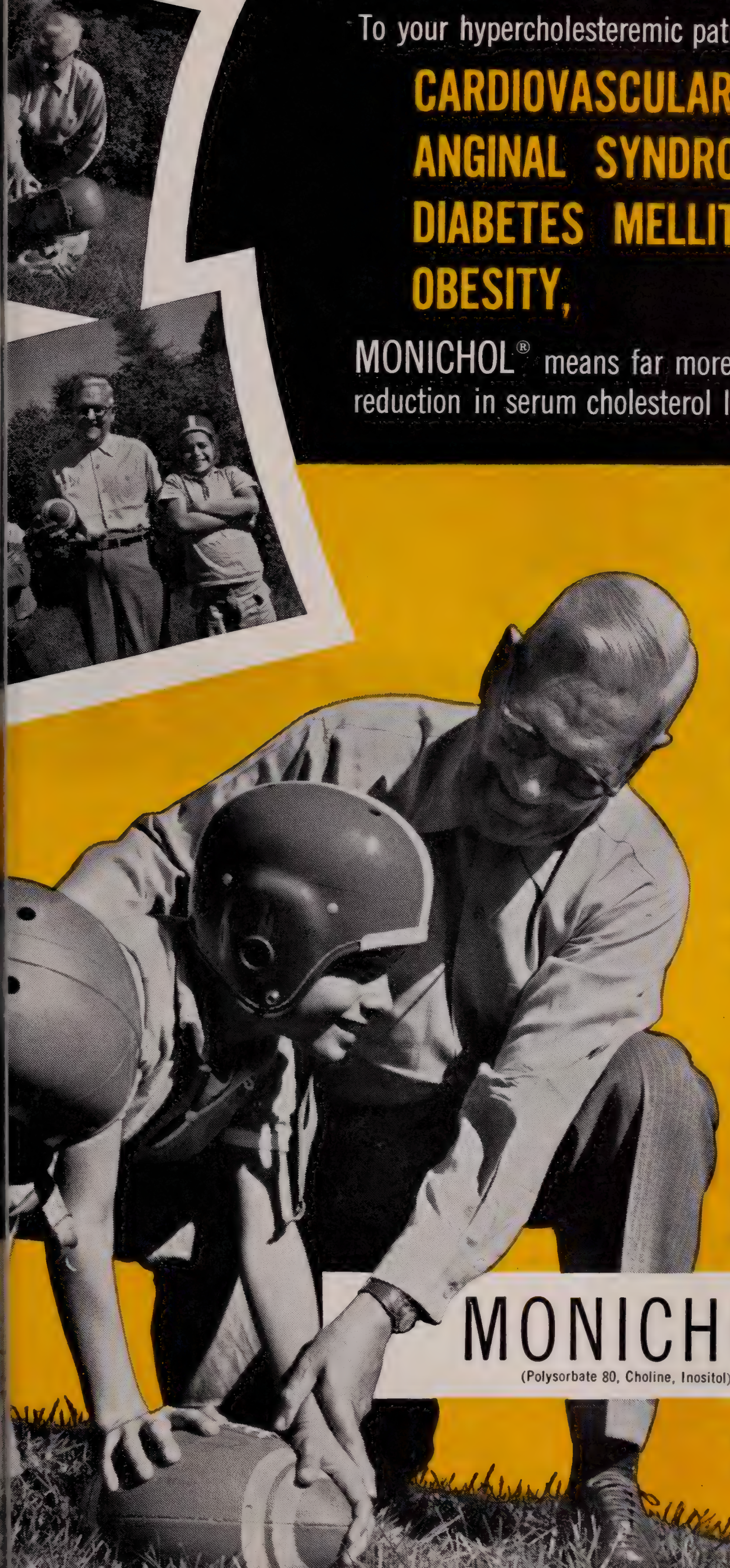
*Combes, F. C. & Canizares, O.: New York St. J. Med. 52:706, 1952; Marsh, W. C.: U. S. Armed Forces M. J. 1:1045, 1950.



To your hypercholesteremic patient with

CARDIOVASCULAR DISEASE, ANGINAL SYNDROME, DIABETES MELLITUS, OBESITY,

MONICHOL® means far more than a striking reduction in serum cholesterol levels

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- relieves anginal pain.[2]
- produces objective and subjective improvement[2] in diabetic, obese hypercholesteremic patients.

---

1. Sherber, D.A., and Levites, M.M.: J.A.M.A. 152:682 (June 20) 1953
2. Albert, A., and Albert, M.: Texas State J. Med. 50:814 (Dec.) 1954

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Supplied: Bottles of 12 fl. oz.
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Dosage forms for every medical requirement

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Hydrochloride
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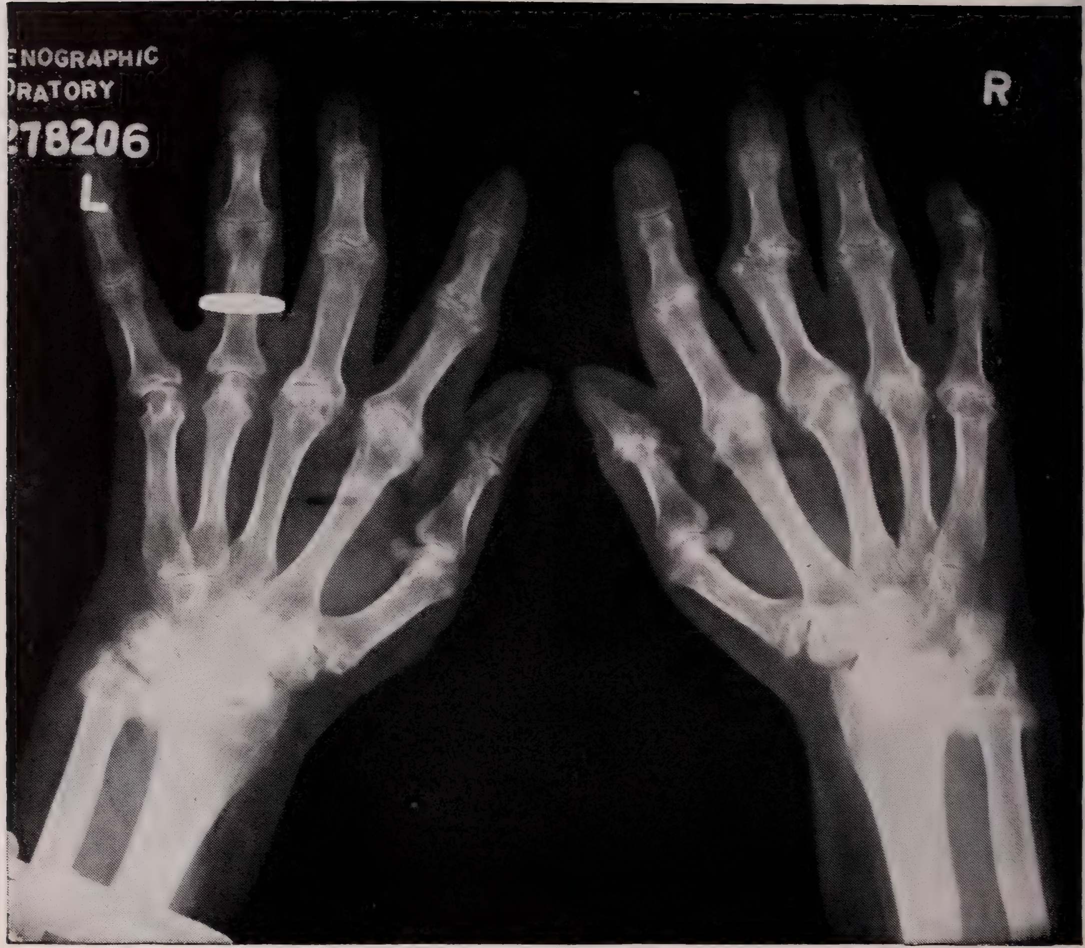

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References: 1. Fremont-Smith, P.: J.A.M.A. 158:386, 1955. 2. J.A.M.A. 141:124, 1949. 3. M. Times 81:41, 1953.

BUFFERIN ACTS TWICE AS FAST AS ASPIRIN
DOES NOT UPSET THE STOMACH

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BACITRACIN-TYROTHRICIN TROCHES WITH BENZOCAINE

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DOES **NOT** CONTAIN ANY ANTIBIOTIC

Does not affect
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ENTIRELY *Safe!* in
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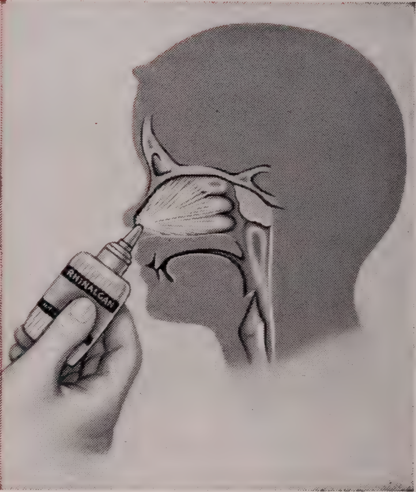

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1. Van Alyea, O. E., and Donnelly, W. A.: E.E.N.&T. Monthly, 31, Nov. 1952.
2. Fox, S. L.: AMA Arch. Otolaryn., 53, 607-609, 1951.
3. Molomut, N., and Harber, A.: N.Y. Phys., 34, 14-18, 1950.
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6. Browd, Victor L.: Rehabilitation of Hearing, 1950.
7. Kugelmass, I. Newton: Handbook of the Common Acute Infectious Diseases, 1949.

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Vitamin B_{12}	1 mcgm.	Ascorbic Acid (C)	50 mg.	Boron (as $Na_2B_4O_7.10H_2O$)	0.1 mg.
Thiamine Mononitrate (B_1)	5 mg.	Vitamin E (as tocopheryl acetates)	10 I. U.	Copper (as CuO)	1 mg.
Riboflavin (B_2)	5 mg.	Rutin	25 mg.	Fluorine (as CaF_2)	0.1 mg.
Niacinamide	15 mg.	Purified Intrinsic Factor Concentrate	0.5 mg.	Manganese (as MnO_2)	1 mg.
Folic Acid	1 mg.	Iron (as $FeSO_4$)	10 mg.	Magnesium (as MgO)	1 mg.
Pyridoxine HCl (B_6)	0.5 mg.	Iodine (as KI)	0.5 mg.	Potassium (as K_2SO_4)	5 mg.
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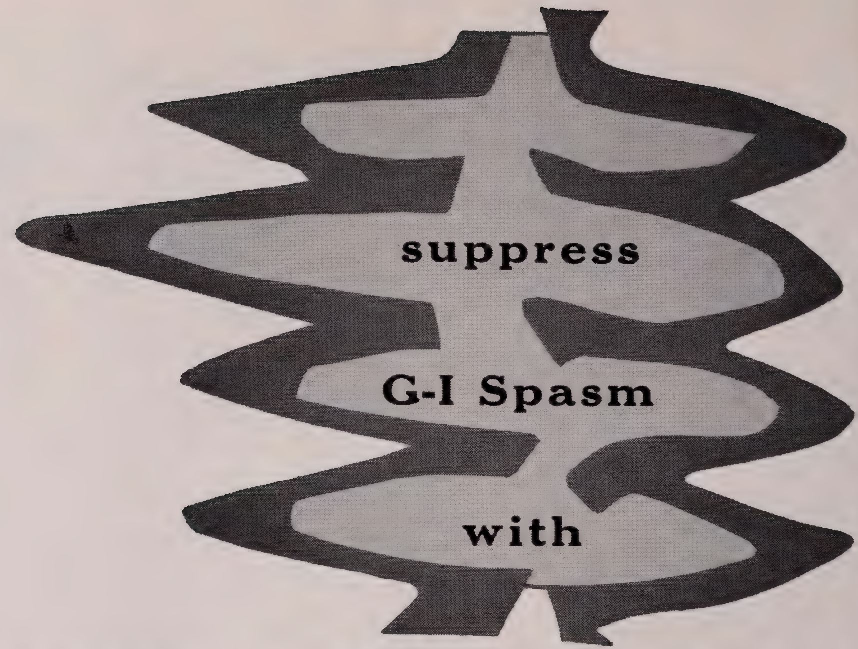

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- Relaxes Smooth Muscle Directly
- Exerts Local Anesthetic Effect on G-I Mucosa
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Without Atropine Side Effects

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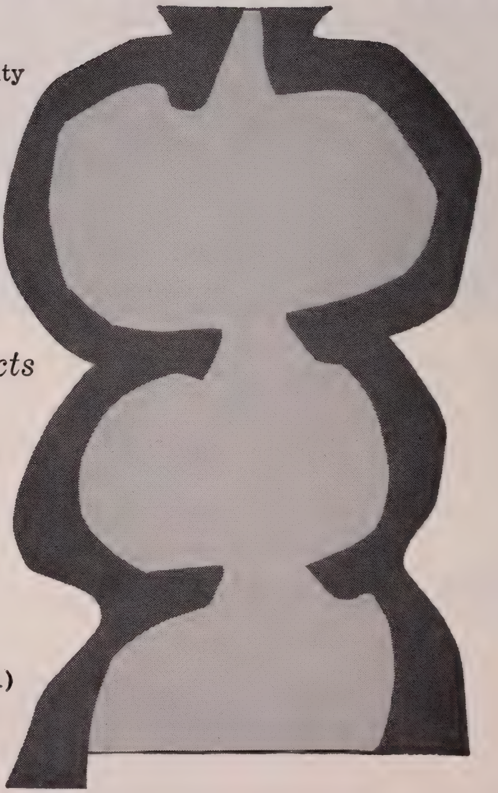

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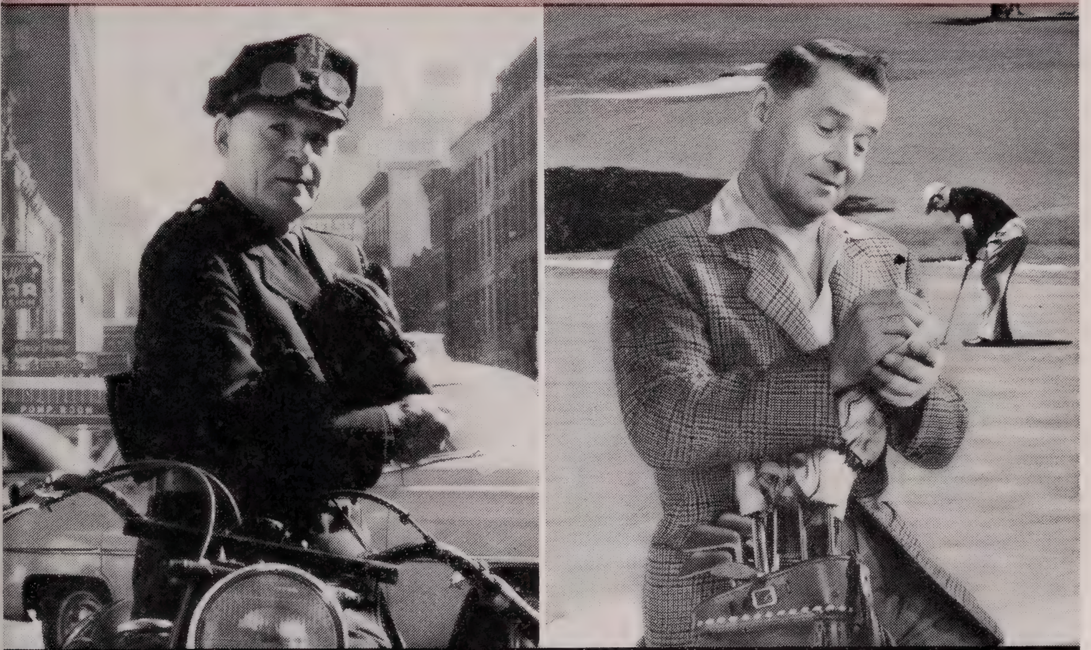
(PHENYLAZO-DIAMINO-PYRIDINE HCI)

Gratifying relief from urogenital symptoms *in a matter of minutes*

MAJOR ADVANTAGES: Nontoxic, soothing urinary analgesic. Rapid and entirely local action. Compatible with sulfas and antibiotics.



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EFFECTIVE—In one series of cases of pyelonephritis, cystitis, prostatitis and urethritis, Pyridium decreased pain and burning in 93% of the patients and promptly relieved urinary frequency in 85% of cases.[1]

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REFERENCE: 1. Kirwin, T. J., Lowsley, O. S., and Menning, J.: Am. J. Surg. **62**:330-335, December, 1943.

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for MIGRAINE complicated by
–Nervous Tension
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SUPPOSITORY

Ergotamine tartrate	*2 mg.*
Caffeine	*100 mg.*
Bellafoline	*0.25 mg.*
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Average Dose: 1 suppository at
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GERIPLEX Kapseals are supplied in bottles of 100 and 500.

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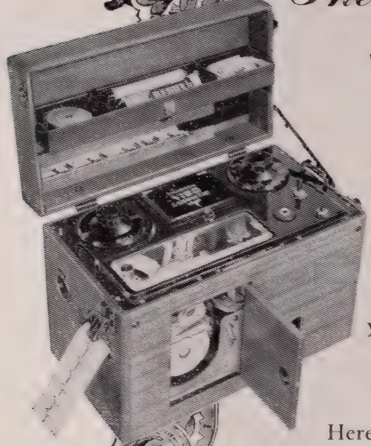

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There can be "extra dividends" on an **ECG** *investment*

If you are considering purchase
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that all makes are "pretty much alike",
since none can do more for you
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® Filmtab—Film sealed tablets; patent applied for.

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1. Eisenberg, et al., Antib. & Chemo., 3:1026-1028, Oct., 1953.

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*DESSERT B	100	2.32	1.89	17.72	76	43	25 (USP)	0.160
*DESSERT C	102	2.4	3.2	16.5	75	69	228	0.110
**RENNET-CUSTARDS (average of seven flavors)	96.5	3.2	3.6	12.7	123	102	175	0.164

*Nationally distributed "ready-to-serve" dessert.
**Made with fresh milk and "Junket" Rennet Powder.

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Makes *Fresh* Milk into Rennet-Custards

"Junket" Rennet Powder: Vanilla, Chocolate, Lemon, Orange, Raspberry, Maple, Strawberry.

"Junket" Rennet Tablets: Not sweetened or flavored.

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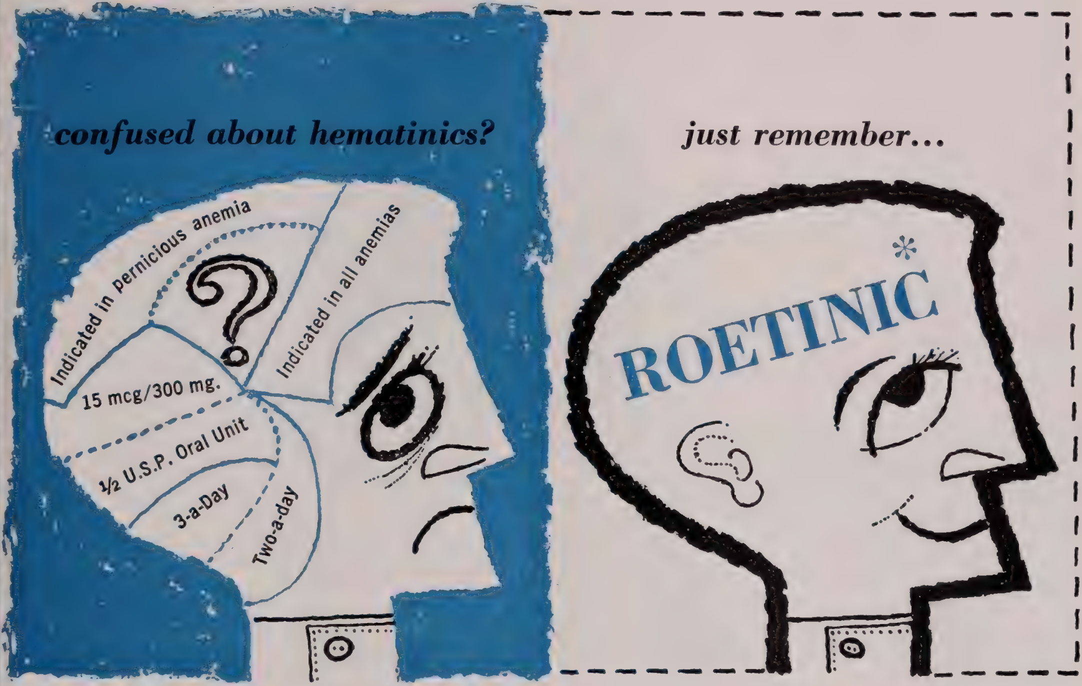
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Two-a-day
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Ferrous Sulfate, Exsiccated	400 mg.
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Molybdenum Oxide (as the Trioxide)	1.5 mg.
Cobalt (as the Gluconate)	0.5 mg.
Copper (as the Gluconate)	0.5 mg.
Manganese (as the Gluconate)	0.5 mg.
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The most potent hematinic your patient can need

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*Schaefer, F. H.: Ohio State M. J. 51:347 (April) 1955.

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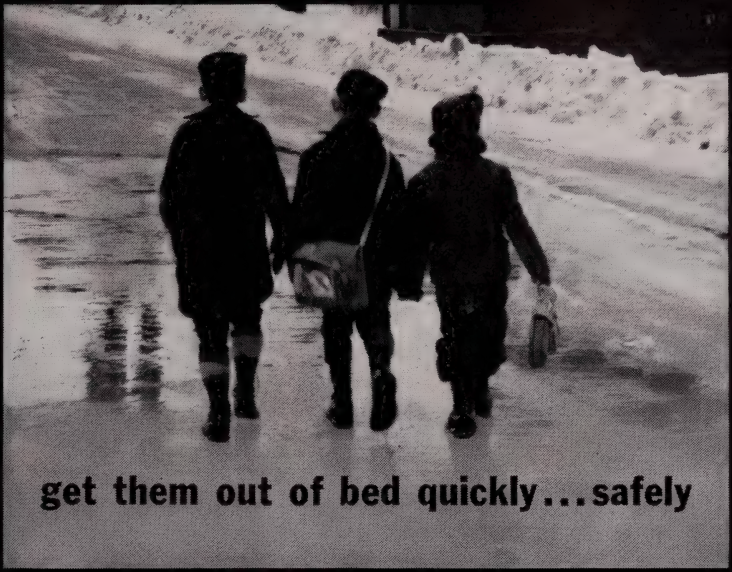
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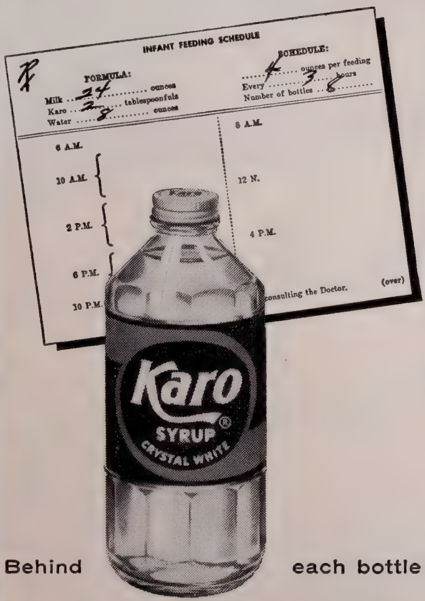

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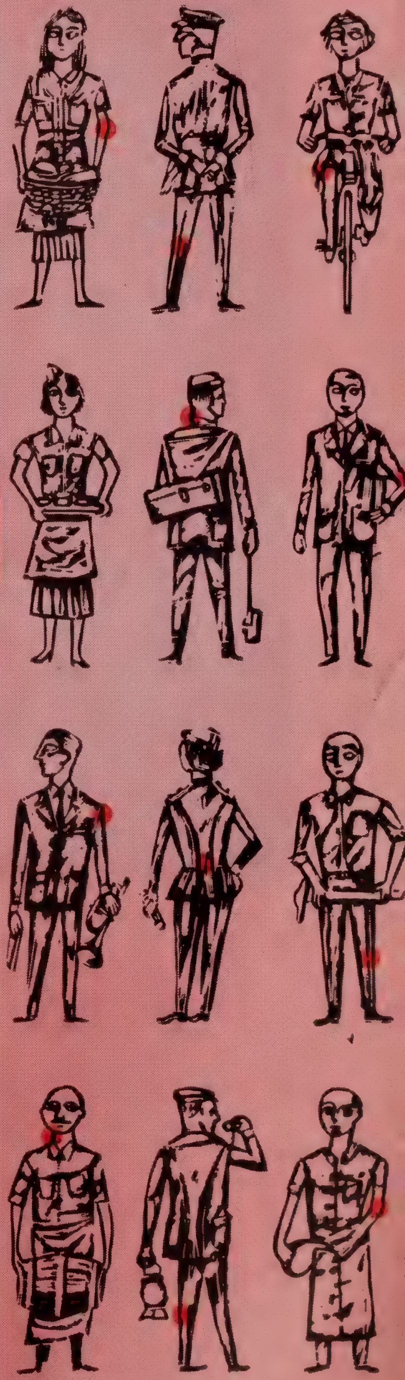

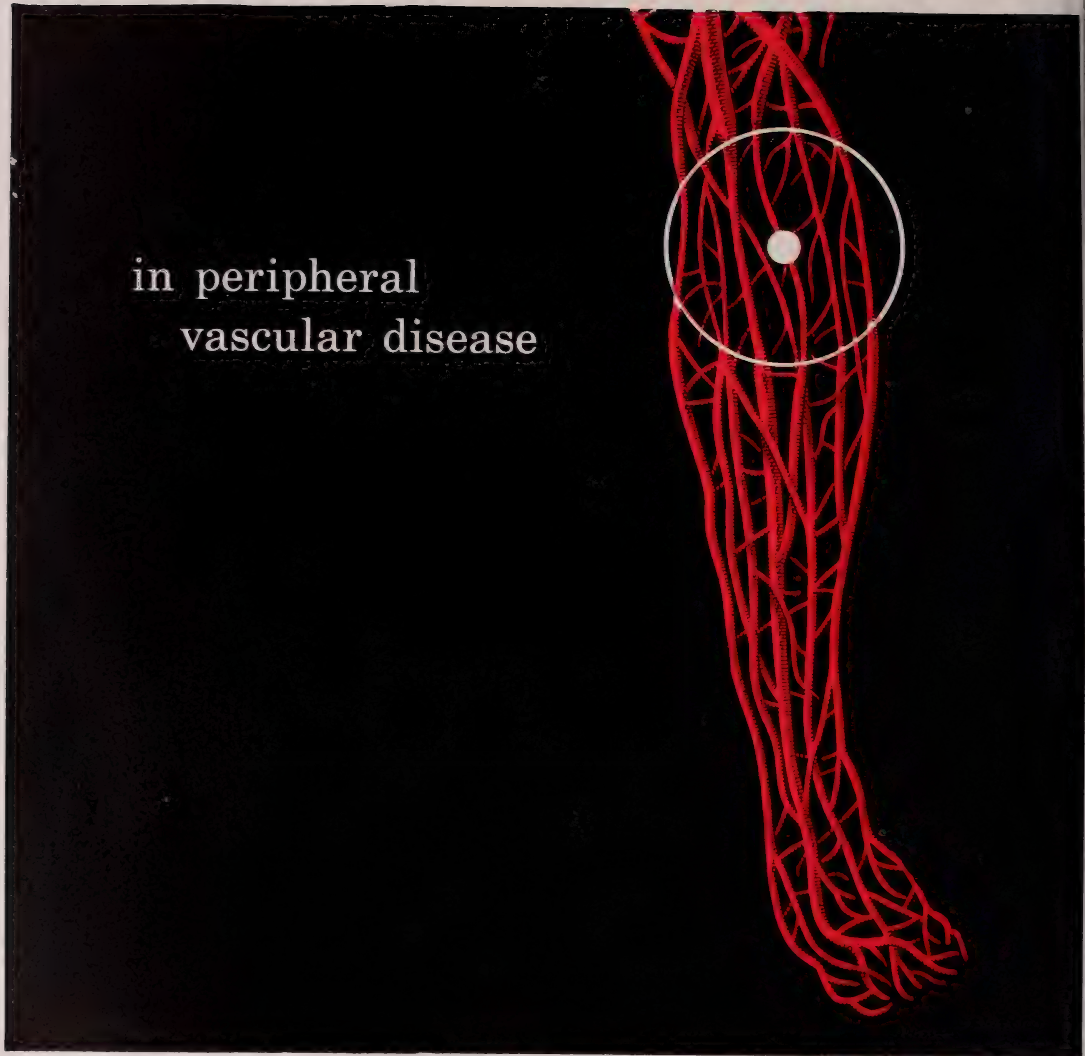

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EDITORIALS

The Season's Greetings

To all our readers wherever they may be, the Publication Committee and the editors of the JOURNAL extend the Season's heartiest greetings. Peace on Earth, Good Will Toward Men appears to be recently the sincere desire of more and more men and women the world over. How shall we attain that goal?

Not only must we have the physical power to increase the productivity of the peoples of the world, we must have the increased spiritual dynamism to direct the leadership of those peoples toward the goal of peace, preceded by learning accompanied by tolerance and followed by understanding.

Medicine is surely in the forefront of those scientific and humanitarian forces which can and do promote these ideals. It is slowly but surely freeing the peoples of the earth from the bonds of physical misery, from the fetters of disease and infirmity which for so many centuries have bound them. It has opened up, through rehabilitation, new opportunities for usefulness to those who had previously been hopeless.

The possibilities of the peaceful uses of atomic energy have scarcely been explored as yet. A whole new field of hopeful research has been opened by the various isotopes, only a few of which have yet been employed for diagnosis and treatment of the disorders of mankind. The whole story of atomic energy's application to medicine, manufacturing, agriculture, and transportation has scarcely yet begun. Surely there lies ahead untold opportunity for man to cultivate the humanities under new conditions of better health and more freedom from backbreaking toil.

Let us then make the most of the expanding opportunities of a dynamic peace to promote increasingly, under God, the brotherhood of man and a heartfelt thankfulness for the privilege of living longer and serving better with a greater knowledge of how to do it.

Intestinal Viruses

We seem on the way to learning that there are as many kinds of intestinal viruses as bacteria. Some of them simply seem to be there because they are resistant to the intestinal ferments and survive passage through the bowel. Others that afflict us elsewhere nevertheless may cause some intestinal symptoms in passing. This may be true of poliomyelitis virus, for many patients have sickened after mild gastrointestinal upsets. And then there are presumably at least two that primarily cause intestinal symptoms.[1] Unfortunately they have not yet been isolated (but who can doubt that they soon will be?). Nevertheless, patient tests in volunteers have taught that they are small enough to pass bacterial filters and do not grow on bacteriologic media. They are at least *like* viruses.

These two are clinically and epidemiologically distinct. The first, which is often responsible for sudden outbreaks in a community, especially closed communities—a hospital for mental diseases, for example—is thought to be spread by fingers and fomites. Some outbreaks have erupted in one part after another in large institutions. The illness is one of few constitutional symptoms and little or no fever but usually causes intense abdominal cramps and many watery stools. The patients are sick for several days, and the incubation period is also a matter of three or four days.

The second form, now proved to be due to a different agent, has a short incubation period, usually only one day, causes marked constitutional symptoms, fever, headache, and nausea. The patients vomit or want to vomit but do not have frequent watery stools, although they feel more miserable than those with the afebrile form. Sometimes they are constipated.

These are common diseases, familiar to most practitioners who see them both as individual cases and as local epidemics, recognize them for what they are, and learn to predict their course and outcome. Yet because no laboratory confirmation of their etiology is available, they cause some uncertainties and at times lead to a search for pathogenic bacteria, searches which are usually fruitless, although hardly unjustified. As laboratory tests become available and clinical diagnoses can be confirmed, the clinical criteria will doubtless sharpen, for there is good reason to suspect that many of these minor virus infections are clinically distinct.

Interestingly the disappearance of the enteric fevers due to bacteria seems to have opened the gate to those caused by viruses, or perhaps now for the first time we have more attention for these minor disorders. As is so often true, shrewd diagnostic suspicions and deductions must first come from the physician who sees the patient. On him falls the responsibility for selecting cases for bacteriologic examination—eventually no doubt for virus examinations and the recognition of the true nature of the disease. He can be very effective with his questions and inspection but no doubt will welcome assurance from the laboratory once it is available.

---

[1] Jordon, W. S., Jr., Gordon, I., and Dorrance, W. R.: J. Exper. Med. 98: 461 (1953).

Air Pollution

Apparently, air pollution, at least with respect to solid pollutants in New York City, is becoming less according to a recent report of the Department of Air Pollution Control. It would appear that city "sootfall," as it is termed, has "almost steadily decreased in the period from 1944–1954." Dr. Leonard Greenburg, commissioner, cautions, however: "When one studies these ten-year data, one must take into account the fact that during the various periods the data have been obtained by different workers in different City agencies, sometimes using different techniques over a long period of years. . . .Nevertheless, it must be stressed that these data are of great value in indicating a general trend which in this case is definitely downward and must be used for such trend indications only."

Soot is collected at various locations in "sootfall jars," open-top gallon jars. Material which falls into the open jars is collected once a month and weighed. From this weight the laboratory computes the sootfall in tons per square mile per month. Sootfall consists of street dusts, pollen, flyash, particles of rubber, and other minute bits of solid material that are present in the city's atmosphere. The report says that although the solid pollutants were on the decrease, the invisible gaseous pollutants might actually be increasing "for, with the increase in population, the increased number of domestic incinerators, the large increase of consumption of fuel oil, and the vast increase in the use of motor vehicles powered by gasoline and diesel fuel, there has been undoubtedly a larger amount of gaseous pollutants discharged in the air than previously."

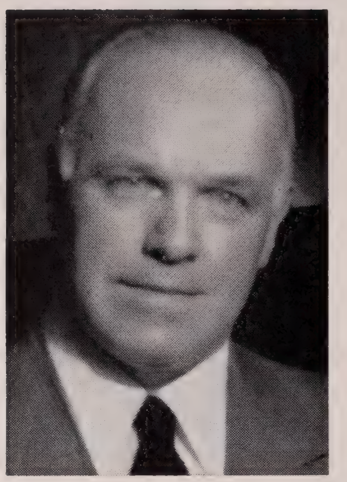
The report concluded that the downtrend in sootfall throughout the city was a result of the following:

1. The growing awareness of the general public of the problem of air pollution, with a consequent attempt by the people to use fuel burning equipment properly.
2. The installation by large users of fuel of smoke abatement equipment and flyash arresting equipment.
3. The increased use of fuel oil and gas.
4. The stepped-up level of enforcement by the Department of Air Pollution Control and its predecessors, the Bureau of Smoke Control, and the Department of Health.

It is to be hoped that continued investigation and research will result in increased public information on the matter of air pollution, better public cooperation in such regulations as may be necessary, and a betterment of the public health in consequence.

If you think you do even a fair job at keeping up with your medical reading, reflect on the fact that about 900 medical books are published in the U.S. each year, along with about 1,400 periodicals.—*Curiosa et Trivia, Missouri Medicine, November, 1955*

PRESIDENT'S PAGE



RENATO J. AZZARI, M.D.

The financial support of the profession as evidenced by contributions to the American Medical Education Foundation in 1955 is interesting if not overwhelming. According to a recent bulletin, although the Foundation's contributors have increased "from 15,111 in the first nine months of 1954 to 16,339 in 1955," income is somewhat less than it was reportedly a year ago. Apparently the Foundation has picked up less than $45,000 in individual contributions this year during the first three quarters. There is still time before the end of the year to equal and, hopefully, to better last year's record. At no time since the formation of the Foundation in 1951 has the need been so great for *individual* financial support of AMEF. The medical profession pledged two million dollars annually in 1951 to assist the nation's medical schools, and AMEF income exceeded one million dollars in 1953 and 1954. Every State Medical Society officer must assume responsibility and see to it that the Foundation's financial story is directed to the *individual* physician. With the wholehearted support of *every* member of the medical profession, the Foundation can achieve its annual goal of two million dollars and maintain high medical teaching standards without Federal subsidies.

There is no doubt that the need is great and the time short for raising the necessary funds to complete this year's quota. Certain tax deductions are available to individuals who give to the Foundation before the end of this year, and it is urged that physicians give this matter consideration in their own interest as well as that of the Foundation. If the money so badly needed is not forthcoming, the inescapable implication is that the individual physician who has not contributed is indifferent to the maintenance of medical education on a free-enterprise basis.

Some may say: I can give only a little. To this I reply: Every little helps. Perhaps the amount is of less significance than the fact that by giving something, every physician contributing casts his vote *against* governmental support of medical education. In the first nine months of 1955 some 16,339 doctors were in the "do it yourself" classification according to latest available figures as this is written. Are we to assume that all the rest of the doctors who have not yet contributed this year are in the "let George do it" class? Such an assumption seems absurd, but. . . . Either they are, or they are not. If they are, it would be of interest to know why. If, in fact, they are not, then they are creating by inference a wrong impression of their attitude on this question. It could be corrected by a contribution to and thus a vote for the objectives of the Fund.

I urge every member of the Medical Society of the State of New York to contribute *now* whatever he can. The hour is late, but there is still time. Send your check to the American Medical Education Foundation, 535 North Dearborn Street, Chicago 10, Illinois.

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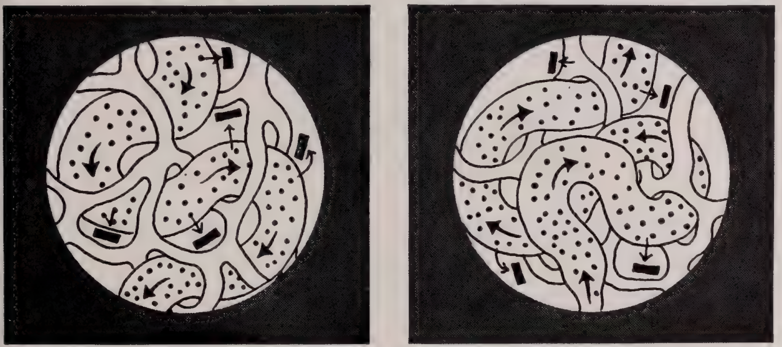

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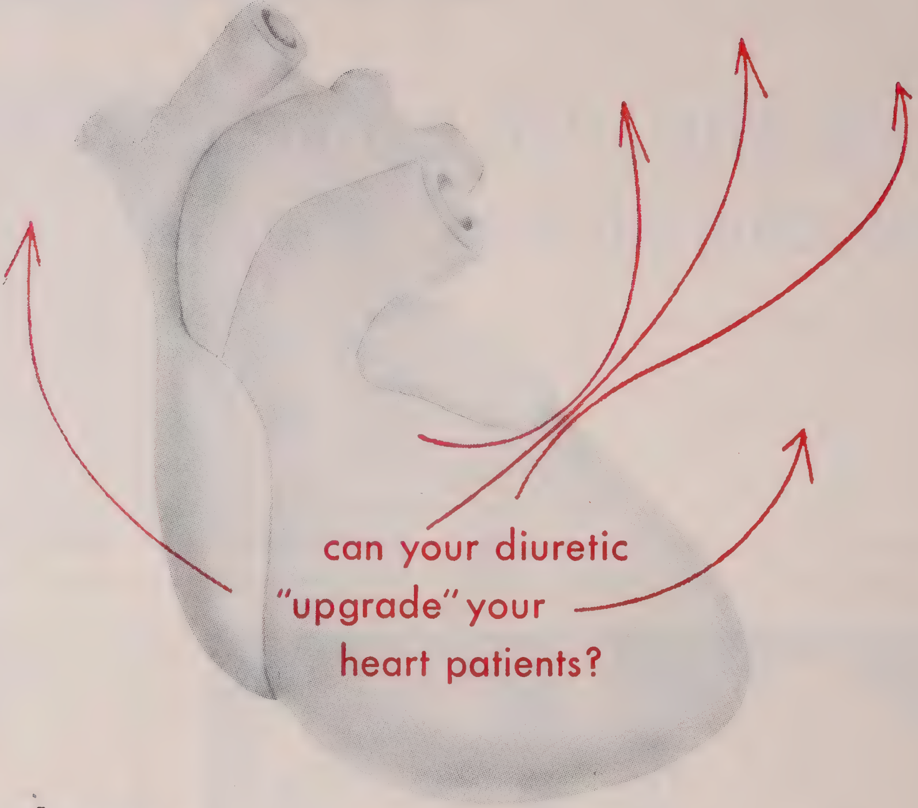

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SCIENTIFIC ARTICLES

Problems of Management of Idiopathic Sprue

DAVID ADLERSBERG, M.D., NEW YORK CITY

(From the Department of Medicine of the Mount Sinai Hospital)

STUDIES of recent years have resulted in better understanding of idiopathic sprue.[1-9] It appears that celiac disease in children as well as tropical and nontropical sprue (idiopathic steatorrhea) in adults represent the same clinical entity, chiefly characterized by intestinal malabsorption (sprue syndrome, malabsorption syndrome). Although the defect of absorption is considered the central clinical abnormality, sprue is more than intestinal malabsorption. In the broader concept of today, sprue is a genetically transmitted, complex metabolic disorder which deserves its place among the other inborn errors of metabolism.[7-11] It may start early in life or remain latent for many years and become manifest at middle age or later. The stress of tropical climates, infections (tropical or nontropical), or malnutrition, as observed among prisoners of war and inmates of concentration camps, must be considered a precipitating factor or trigger mechanism converting a predisposed person with "latent sprue" into a patient with "manifest sprue." Idiopathic sprue occurs often among close blood relatives.[12]

In idiopathic (primary) sprue there are no specific changes in the gastrointestinal tract on gross or histologic examination. In contrast, secondary sprue may mimic the primary form clinically but differs from it in that it is caused by severe organic disease of the small bowel, lymphosarcoma, amyloidosis, intestinal lipodystrophy (Whipple's disease), and certain forms of jejunoileitis.

Diagnostic Criteria

The chief symptoms of sprue are diarrhea and steatorrhea: bulky, tan-colored stools containing large amounts of undigested fat. The associated loss of weight may be considerable. There is anemia, usually macrocytic, resembling the Addisonian type, and there are characteristic lesions of the mouth and tongue.

Other associated abnormalities, important from the diagnostic and therapeutic viewpoint, are often but not always secondary to the disturbed function of the intestine and to defective absorption. Diminished concentration of calcium in the blood in association with tetany may be observed. Severe hemorrhage may develop as a result of malabsorption of vitamin K and resultant hypoprothrombinemia. In some instances pigmentation of the skin may be found, and severe cases of sprue may resemble Addison's disease. Severe hypoproteinemia may develop with the associated signs of edema, ascites, and hydrothorax.[1-4]

All patients with sprue exhibit polyvalent vitamin deficiencies during the active stage. The mouth lesions are evidence of deficiency of factors of the vitamin B complex, probably in combination with protein deficiency, but evidence of the lack of vitamins A, D, E, and K, as well as of ascorbic acid, may be present. Thus, sprue may be associated with scurvy, osteomalacia and/or osteoporosis, hypoprothrombinemia, and pellagra-like symptoms. There may be evidence of hepatic damage, and cases of sprue with icterus, laboratory evidence of hepatic impairment, and characteristic changes in the liver have been observed.[1-4]

Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Gastroenterology and Proctology, May 12, 1955.

The diagnostic criteria and the differentiation of "primary" and "secondary" sprue have been elaborated upon.[1,2] A flat glucose tolerance test after oral administration of glucose, flat vitamin A tolerance test, low serum carotene levels, and high concentrations of fecal fat, especially of fatty acids, are of great diagnostic significance, particularly in atypical or milder cases. In rare instances of sprue the stools may be formed and tan colored and may, nevertheless, contain large amounts of undigested fat ("incomplete sprue"). The mild and atypical cases may escape diagnosis for many years.

The most commonly observed physical findings are evidence of marked weight loss, oral lesions (often painful), and abdominal distention; less often, clubbing of the digits and pigmentation are seen. The diagnosis is confirmed by characteristic results of multiple laboratory examinations. These include studies of the peripheral blood and bone marrow, chemical analyses of the serum for proteins, calcium, and phosphorus, gastric analysis, pancreatic and liver function studies, prothrombin time determinations, glucose and vitamin A tolerance tests, roentgenologic examinations of the gastrointestinal tract and the skeleton, stool cultures, stool examination for occult blood, ova, and parasites, microscopic estimation of the fat in the stool, and quantitative determinations of fecal fat content and fecal fat partition.

Diet Therapy

The standard treatment of sprue is empiric.[11] The dietary therapy consists of a low-fat, high-protein diet with only moderate amounts of carbohydrates, preferably given as monosaccharides. Bananas and strawberries, lean beef, ground or minced chicken, egg whites, and cottage cheese are a good start. The amount of food is gradually increased in proportion to the patient's tolerance. High-protein skim milk and powdered skim milk may be tried, and small amounts of bread and other starches may be added slowly.

Liver extract, vitamin B_{12}, folic acid, and other vitamin concentrates and iron preparations should supplement the diet. In contrast to patients with pernicious anemia, patients with sprue are compelled to adhere to the "sprue diet" for long periods of time since transgressions, i.e., consumption of large amounts of fat and/or starches, even during full remission, may lead to abdominal discomfort and diarrhea.

Thus, limitation of fat and starches remains the characteristic feature of the sprue diet. Strict limitation of carbohydrates to only those found in fruits and to a lesser extent in vegetables has been emphasized by pediatricians for the treatment of celiac disease.[13] Strict adherence to this principle often results in improved tolerance for fats in adults with sprue.

More recently, gluten-free diets have been employed in the treatment of malabsorption in sprue.[14,15] Especially in children with celiac disease, removal of wheat gluten from the diet results in rapid clinical and "biochemical" improvement, whereas reintroduction of wheat flour or wheat gluten causes deterioration. Wheat starch has no harmful effect. It may be well to remember that celiac disease represents a rather mild form of the sprue syndrome in children which responds to a variety of therapeutic regimens.[13] In adults the results of gluten-free diets may be striking,[14,15] especially in patients with moderately severe sprue. In the therapy-resistant form of the disorder, the results, in our observations were limited and transient.

Drug Therapy

It is advisable to combine from the beginning the dietary therapy in sprue with the administration of liver extract, vitamin B_{12}, or folic acid. These preparations, as well as vitamin B complex concentrates, should be administered parenterally in adequate doses for prolonged periods of time to insure absorption and thus proper utilization in the body. With clinical improvement the injections may be reduced to two a week and later to one a week. In our observation remission in sprue can be maintained in many patients by the oral use of folic acid and vitamin B_{12} in large doses.

Folic acid medication is contraindicated in idiopathic sprue in presence of lesions of the central nervous system. These changes are comparatively rare in idiopathic sprue in contrast to Addisonian anemia. Three patients of our series had paresthesias in fingers, toes, and around the mouth as well as objective evidence of peripheral neuropathy. One patient had a severe involvement with absent reflexes, absent vibration sense, and ataxia resulting in a clinical picture of pseudotabes and total invalidism. Increased doses of concentrated liver extract and vitamin B_{12} and improvement of the general condition may lead to regression or disappearance of the milder manifestations of neuropathy. The severe pseudo-

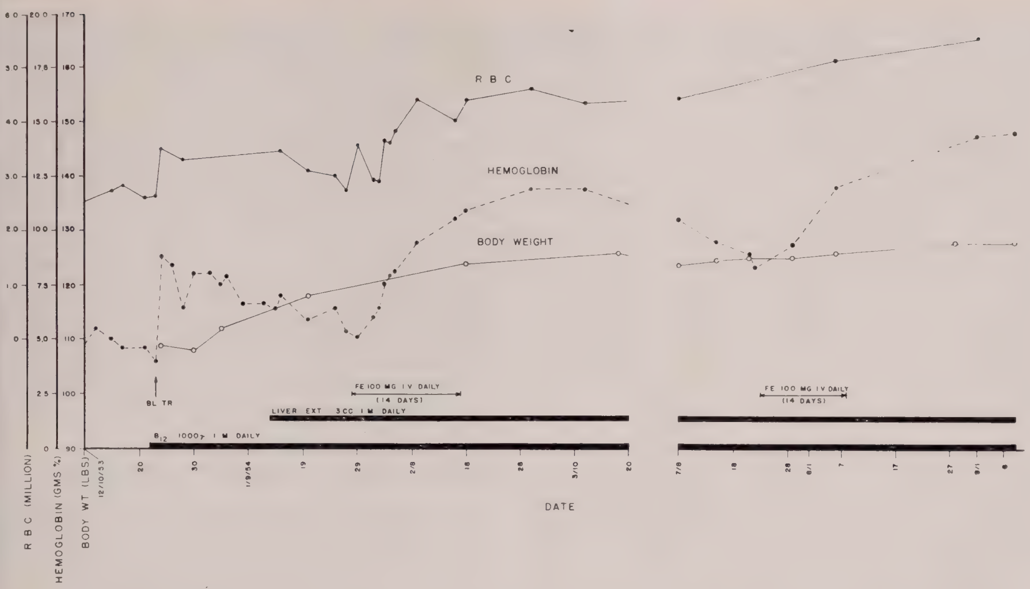

FIG. 1. Effect of intravenous iron therapy in a patient with nontropical sprue and microcytic hypochromic anemia. Note the prompt effect of iron administration (two courses) on the blood count in contrast to that of prolonged parenteral therapy with vitamin B_{12} and liver extract.

tabes of one patient proved to be irreversible despite marked improvement of his general status after daily parenteral administration of very large doses of concentrated liver extract, vitamin B_{12}, and iron.

In many instances of nontropical sprue there is evidence of iron deficiency, resulting in a microcytic hypochromic anemia. There is good evidence that impaired intestinal absorption of iron is the cause of this form of anemia in sprue.[16] Even during full remission one may encounter milder forms of iron deficiency anemia with hemoglobin levels ranging from 10 to 12 Gm. It is understandable that oral iron medication is often ineffective in the treatment of iron deficiency anemia in sprue, whereas adequate doses given parenterally are apt to produce dramatic results. An illustrative case is presented in Fig. 1.

Other complications of idiopathic sprue may require additional therapy. Hemorrhagic manifestations caused by hypoprothrombinemia and vitamin K deficiency may be seen in the skin, mucous membranes, and muscles; these may occasionally assume life-threatening proportions.[1,2] While the response to adequate parenteral vitamin K therapy is usually satisfactory, occasionally, especially if hepatic damage is present, even massive doses of vitamin K fail to raise the serum prothrombin level. Massive blood transfusion may prove lifesaving in such emergencies.

Hypocalcemia and tetany require for correction large doses of calcium salts orally and/or parenterally. Ammonium chloride may be indicated as a therapeutic adjunct.

Marked hypoproteinemia, especially hypoalbuminemia, a feature of severe idiopathic sprue, may represent a difficult therapeutic problem. Large doses of plasma or salt-free albumin given intravenously may have a transient effect only. The dietary intake of protein must be maintained at high levels of 120 to 150 Gm. daily and more. An elevation of serum albumin may result in marked improvement of serum calcium levels and disappearance of tetany.

If evidence of osteomalacia and/or osteoporosis is present, the use of large doses of vitamin D and testosterone or mixtures of testosterone and estrogen are indicated in addition to the high-protein diet.

"Acute episodes" in sprue may be associated with sudden superimposed severe diarrhea, severe loss of water, nitrogen, and electrolytes, calf cramps, asthenia, and other signs resembling Addisonian crisis. Intravenous administration of glucose, electrolytes, and albumin is indicated. Corticotropin or hydrocortisone given by intravenous drip infusion may result in dramatic improvement.

In the group of patients with severe sprue who represent varying degrees of resistance to "standard therapy," transfusions (blood or plasma) may be used with transitory effect. Antibiotics may also exhibit transient beneficial effects.[5,6,17] The administration of opiates, kaolin preparations, aluminum hydroxide combinations, and other symptomatic forms of therapy may be employed, but these medications are of no real value in the management of refractory cases of sprue.

Response to Standard Therapy

Discontinuation of specific medication should be attempted after varying periods of time. In a number of our patients the interruption of specific antianemic therapy was well tolerated. These patients had been receiving regular injections of liver extract and vitamin B_{12} and/or folic acid for months or years parenterally or orally and showed no alteration of their condition after discontinuation of therapy ("arrested sprue").[18] In other instances, however, an attempt to stop specific medication has resulted in complete relapse. The relapse is usually heralded by recurrence of diarrhea, loss of appetite, rather rapid loss of weight, apathy, weakness, and lassitude. Resumption of specific medication will in many instances control the symptoms within several days or weeks. It is advisable to resume medication by using much larger doses of liver extract or vitamin B_{12} or folic acid than those used for maintenance and to reduce the dosage gradually to the previous levels.

The response to standard therapy in idiopathic sprue varies with the patient. In tropical sprue there are apparently many instances of complete cure without relapse.[17] Extensive follow-up observations, including clinical and roentgen studies, are not available, however. Children with "cured" celiac disease and no symptoms may display, years later, objective evidences of persistence of the disorder, such as low serum vitamin A and carotene levels, steatorrhea, and characteristic roentgenologic changes of the small bowel.[7–9] Thus, although the disease goes "underground," the metabolic defect is still evident. Adults with nontropical sprue in complete remission similarly exhibit objective evidences of the disorder; there is only occasional improvement of the roentgen changes of the small bowel or of the vitamin A tolerance test.[18,19] The majority of adults with nontropical sprue, especially those whose symptoms began in early childhood, require continuous specific therapy. Even under these circumstances complete remission often cannot be maintained so that moderate or severe hypochromic anemia, diarrhea and steatorrhea, weakness, underweight, and various signs of avitaminosis are present with consequent inability to lead a normal life. There is a group of patients with sprue who, after many years of satisfactory response to standard treatment, become therapy resistant, and there are others who prove refractory to most intensive courses of treatment even in early phases of the disease.

Management of Intractable Sprue

In cases of resistant sprue the physician feels the need for additional therapy. The possible role of the adrenal cortex in intestinal absorption[20,21] suggested the use of corticotropin and the cortisones in refractory sprue. Even in the absence of a specific effect on intestinal absorption, one should not overlook the possibility that the well-known effects of these hormones on appetite and sense of well-being could exert favorable effects.

A group of 34 patients have been under this form of therapy from six months to five years. Corticotropin, parenterally, cortisone acetate orally or parenterally, and hydrocortisone free alcohol orally do not represent curative therapy in sprue; however, clinical remission, the extent of which varied, was observed in all patients. The important clinical changes were subsidence of diarrhea, increased sense of well-being, improved or ravenous appetite, and often considerable gain in body weight. In some instances there was marked increase in serum albumin and calcium. There was evidence that administration of these hormones in sprue improved, at least in some patients, intestinal absorption of fat and fat-soluble vitamins, indicated by lower fecal fat content, higher serum vitamin A and carotene levels, and occasionally improved vitamin A tolerance tests. Extensive case histories and chemical and roentgen studies have been published previously by us [10,11,19,22,23] and others.[24–27]

Multiple courses of treatment with these hormones resulted in clinical improvement in each case, and with one exception (see below) no resistance to this form of therapy has developed so far. One to six weeks after cessation of hormonal therapy, however, clinical relapse invariably occurred. The duration of remission after cessation of hormonal therapy depended on the dosage previously used. In patients maintained with minimal doses just sufficient to suppress the clinical symptoms, discontinuation of therapy resulted in complete relapse within a few days; in contrast, patients who had been maintained with larger doses of the drug remained in remission for a few weeks. Our policy, therefore, has been to maintain patients with refractory sprue on continuous therapy with minimal effective doses of cortisone, hydrocortisone free alcohol, or corticotropin.[10,11,19,22,23] It might be mentioned parenthetically that hydrocortisone acetate proved to be poorly absorbed and therefore ineffective.[23] For the other hormones the minimal maintenance dose was established for each patient by prolonged "clinical titration." Hydrocortisone free alcohol offered advantages over cortisone in that it was effective in smaller doses without producing undesired side-effects.[23] Similar observations have been made in the use of this steroid in rheumatoid arthritis.[28]

Administration of Hydrocortisone Free Alcohol.—The initial dose was usually 80 mg. daily, given orally in two to four equally divided doses. The original dose was slowly reduced at intervals of one to two weeks by decrements of 10 to 20 mg. Maintenance doses of 20 to 30 mg. daily were given as a rule in one dose half an hour before breakfast. Dietary indiscretion resulted in episodes of diarrhea and occasionally required larger quantities of the drug for a few days. Higher doses were also needed during intercurrent infections, emotional upsets, and other forms of stress. After clinical control was re-established, reduction of the dose to maintenance levels was possible.

Diet.—Patients who were given this form of therapy in the hospital were placed on a low-fat, high-protein diet with limitation of starches; the sodium content was reduced to 500 mg. per day. In ambulatory patients the salt intake was limited. However, when patients had improved satisfactorily to allow for smaller doses of the steroid (20 to 40 mg. daily), the sodium intake was liberalized to permit a more palatable diet. At this stage the restriction of fat and carbohydrate was found unnecessary in most instances, and patients were allowed a bland, low-residue diet with otherwise free selection of foods.

Additional Therapy.—During the treatment period the previous "basic" antianemic therapeutic regimen (liver extract, vitamin B_{12}, and folic acid, all administered by injection) remained unchanged. Potassium salts were administered when indicated in amounts of 3 to 6 Gm. of potassium chloride daily or in 2 to 4 teaspoons (9.8 to 19.6 ml.) of liquid potassium triplex (potassium acetate, bicarbonate, and citrate). Patients with hypocalcemia or marked osteoporosis were given calcium in the form of powdered calcium gluconate. Occasionally ammonium chloride was used for patients with tetany or when gross water retention was present. In the latter instance mercurial diuretics were also used.

TABLE I.—Comparison of Daily Maintenance Doses of Prednisone and Hydrocortisone Free Alcohol in 12 Patients with Idiopathic Sprue (Oral Route)

Case	Maintenance Dose (Mg. per Day)	
	Prednisone	Hydrocortisone Free Alcohol
1	20	40
2	17.5	50
3	25	60
4	20	50
5	15	30
6	20	40
7	10	20
8	10	25
9	20	40
10	17.5	40
11	20	50
12	20	40
Average	18	41
Per cent	44	100

Use of Prednisone in the Treatment of Refractory Sprue

The observations with the new delta-1 analogs of cortisone and hydrocortisone in rheumatoid arthritis and other pathologic conditions[29,30] suggested their use in sprue. Prednisone (1-dehydrocortisone) has been administered orally to 12 patients with therapy-resistant idiopathic sprue who have been maintained for at least six months with oral hydrocortisone free alcohol and whose requirement of the latter had been established by careful "clinical titration" and by various biochemical studies. Prior to hydrocortisone eight of these patients had been treated with prolonged courses of cortisone or corticotropin, while four had received only "basic" sprue therapy. The short period of observation permits only a preliminary summary of the results.

Prednisone affected the patients of this group in a manner similar to the other corticosteroids. It favorably influenced the sense of well-being, appetite, diarrhea, and steatorrhea. The oral dose required varied between 33 to 50 per cent of that of hydrocortisone free alcohol, as is evident from Table I. Patients whose "titrated" maintenance dose of hydrocortisone was 40 to 50 mg. a day were satisfactorily controlled with 15 to 25 mg. of prednisone; those who required 20 to 30 mg. hydrocortisone daily were adequately controlled with 10 to 15 mg. of the new steroid. The average patient of this group required 18 mg. of prednisone instead of 41 mg. of hydrocortisone free alcohol. While oral hydrocrotisone free alcohol was active in our group of patients in doses 20 to 40 per cent lower than those of cortisone acetate, oral prednisone was effective in doses 50 to 67 per cent lower than those of hydrocortisone. Thus prednisone was, milligram for milligram, two to three times as effective as hydrocortisone free alcohol and three to four times as effective as cortisone acetate in the treatment of refractory idiopathic sprue.*

Prednisone offered decided advantages in patients who, with the use of comparatively large doses of hydrocortisone (or cortisone), exhibited signs of water and salt retention (edema). With the new steroid there was usually a loss of 2 to 6 pounds of body weight and a slow increase of body weight thereafter. Because of their milder effects on protein and calcium metabolism in the doses used, the new steroids may prove to be especially indicated in patients with sprue complicated by edema formation, tetany, osteomalacia and/or osteoporosis, and hypoproteinemia and hypocalcemia.

The only adverse effect of prednisone encountered so far was gastric hyperacidity observed in two of our patients. This had not been seen with hydrocortisone in these patients and necessitated the use of large doses of antacids. So far, no peptic ulcer has been seen.

Precautions in Prolonged Steroid Therapy in Sprue

Complications attending the therapeutic use of corticotropin and the cortisones have received considerable attention. Abnormalities in the central nervous system, thromboembolic phenomena, altered cardiovascular dynamics including those caused by salt and water retention, ulcerations with bleeding and perforation of the gastrointestinal tract are perhaps the most important sequelae. The use of the hormones in patients with idiopathic sprue over a period of years has led to observations regarding the possibility of "long-term" complications.

One patient with refractory sprue responded satisfactorily for two years to steroid therapy but later developed complete loss of response to hydrocortisone and corticotropin with fatal termination. The clinical course of this patient presented unusual features: repeated gastrointestinal hemorrhages and episodes of severe abdominal pain with fever and leukocytosis prior to and during steroid therapy. Autopsy revealed findings compatible with the diagnosis of sprue, namely, dilatation and thinning of the wall of the small intestine and the proximal colon. There was atrophy of the adrenals. A striking finding was the presence of multiple ulcerations and erosions of duodenum, jejunum, and ileum. The jejunum, which was the most severely involved part of the small bowel, was the site of a perforated ulcer contiguous with a subdiaphragmatic abscess cavity. There were several areas of marked thickening of the jejunal wall with the microscopic picture of jejunitis in this area. A detailed presentation of this case will be given elsewhere.[31] Whether the ulcerations and perforation were caused or perhaps only enhanced by the prolonged steroid therapy cannot be decided. Under all circumstances one must consider the hazard of ulceration and perforation in sprue as a possible complication of prolonged steroid therapy.

The low resistance of patients with sprue to infections is well known.[1,2] Under corticosteroid therapy the manifestations of infections may be suppressed and masked. We have seen extensive pneumonitis in two instances without the usual signs of fever and leukocytosis. Therefore, full attention must be given even to minor symptoms and signs of infection. The early detection of acute infections by the use of x-ray studies and other technics and the managment of infections in these patients are difficult and challenging clinical problems. It is our rule to take chest films of these patients at six to twelve-month intervals. We have not seen a single instance of reactivated tuberculosis in this group. However, Lepore reported such a case.[27]

Decalcification of the skeleton is a regular feature of advanced sprue.[18] It is usually caused by

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* Since the presentation of this paper, eight patients with refractory sprue have been treated with prednisolone (1-dehydrohydrocortisone). This compound, used orally, appears to be at least as effective as prednisone and perhaps more so. In some instances daily maintenance doses of 5 to 7.5 mg. proved to be adequate.

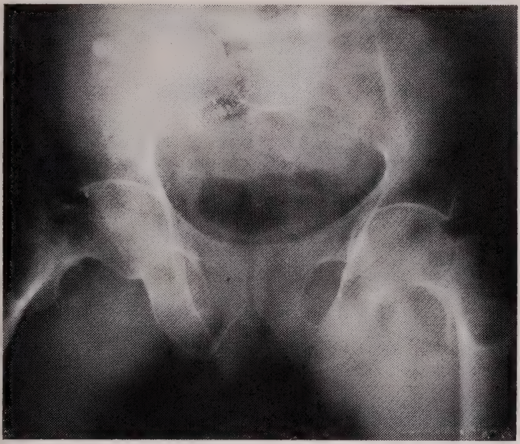

FIG. 2. Infraction of the left femoral neck in a patient with nontropical sprue. Note marked decalcification of bones and dilatation and distention of colon.

osteomalacia and/or osteoporosis. Multiple fractures including compression fractures of the vertebrae may occur. The negative calcium and/or nitrogen balance associated with steroid therapy may result in certain cases in intensification of the bone changes. As stated above, high-protein diet, vitamin D, calcium salts, and testosterone may be employed to counteract these complications. One patient of the group treated with corticosteroids for over four years developed an infraction through the neck of the left femur which required internal fixation by a bolt (Fig. 2).

In at least one instance we had the impression that the degenerative neurologic manifestations, not too frequently encountered in sprue, were enhanced by corticosteroid therapy and were improved by its cessation. Complete relapse of sprue necessitated resumption of steroid therapy. It was then given in combination with massive parenteral doses of liver extract and vitamin B_{12}, a procedure used now in all patients with central nervous system changes who require corticosteroid therapy.

Comment and Summary

There is increasing evidence that idiopathic sprue represents an inborn error of metabolism, the real nature of which is obscure. The predisposition to this metabolic fault is genetically transmitted. While some assume a dominant trait of incomplete penetrance,[7-12] others favor a recessive gene.[32] The latent metabolic defect may become manifest at various ages, during childhood as celiac disease or later in life as tropical or nontropical sprue depending on the occurrence of additional environmental factors ("trigger mechanism"). The defect may change in severity during life; it may become manifest in childhood, go underground for years or decades, and recur with full severity later in life, or it may remain mild or latent through life. Asymptomatic family members of patients with idiopathic sprue may manifest mild instances of the metabolic defect and again may exhibit severe illness when appropriate trigger mechanisms are set off, such as acute intestinal or general infection, dietary inadequacy, and perhaps psychic trauma.

Recent research supports the concept that impaired intestinal absorption of fat, resulting in steatorrhea, is only one of the disturbances observed in idiopathic sprue. The acute gastrointestinal manifestations of idiopathic sprue attracted the attention of those interested in the field and over-shadowed the other important facets of the disorder, such as disturbances in protein, carbohydrate, lipid, iron, and electrolyte metabolism.

In primary sprue no specific changes, gross or histologic, are found in the gastrointestinal canal. Secondary sprue may imitate the primary form in its clinical manifestations but is caused by organic disease of the small bowel such as lymphosarcoma, amyloidosis, and certain forms of jejunoileitis,[1,2,10,11]

The dietary and drug treatment of idiopathic sprue is empiric. It requires flexibility of approach and careful observation of the symptoms and signs of the patients. The results vary with the patient and depend on the duration and severity of the disorder and additional complications such as tetany, hemorrhagic manifestations, and changes in the skeleton.

A group of 34 patients with refractory sprue have been treated with prolonged courses of corticotropin, cortisone, and hydrocortisone for six months to five years. This form of therapy does not cure sprue, but it results in subsidence of diarrhea, improved appetite, often considerable gain in weight, and ability to lead a normal life. In some instances serum albumin and calcium return to normal levels, and there is evidence of improved absorption of fat, fat-soluble vitamins, and perhaps iron.

More recently 12 of these patients have been treated with prednisone. This compound is milligram for milligram two to three times as effective as hydrocortisone free alcohol and three to four times as effective as cortisone acetate in the treatment of refractory idiopathic sprue. Although so far no peptic ulcer was observed, marked gastric hyperacidity was a complicating factor in two patients and required the use of large doses of antacids.

Prolonged corticosteroid therapy in idiopathic sprue requires careful observation of the patients for possible, although rare, complications. They include the hazard of ulceration and perforation, masked infections, bone changes resulting in multiple fractures, and perhaps enhanced degenerative neurologic manifestations.

136 East 64th Street

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Lipoid Pneumonia—Adult Type

The adult type of lipoid pneumonia is found in habitual users of mineral oil, which is not absorbed or assimilated and remains in the lungs indefinitely. Lipoidal (Fougera), used for outlining the bronchial tree in radiology, is acted upon by the body enzymes, is eventually absorbed, and does not cause this condition. Mineral oil, on the other hand, acts as a foreign body and is walled off by a giant cell invasion. The resulting local irritation may, under certain conditions, induce a lipoid pneumonia. The childhood type is an acute, fulminating pneumonitis which may terminate fatally. The adult type is the one seen by surgeons. It is seldom diagnosed preoperatively; it is often mistaken for carcinoma or resolving virus pneumonia. Resection of the involved tissue is usually indicated, however, because of recurrent attacks of bronchopneumonia.

—*James M. Mason, III, M.D., Annals of Surgery, June, 1955*

The Present Status of the Use of Corticotropin, Cortisone, Hydrocortisone, and Prednisone in Dermatology

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FIVE years have already passed since the reports on the uses of cortisone and corticotropin in skin diseases first appeared in the medical literature. Their use has deeply shaken our concepts of therapy, has opened new avenues of study, and has stimulated our thinking about possible new mechanisms of disease. We have learned by trial and error with our own mistakes to control diseases previously unmanageable by therapy. A wide variety of apparently unrelated clinical entities, from urticaria to pemphigus, have yielded to the new therapeutic weapons, suggesting a possible common denominator of apparently different maladies.

Much has been learned in the past five years. Many valuable and careful studies have been published presenting the indications and contraindications of these preparations,[1–11] but the knowledge of the subject is not a static one. Each year brings new compounds and new modalities of application. We have had experience with oral and injectable cortisone, corticotropin in aqueous solution given intramuscularly and intravenously, and corticotropin gel. Oral hydrocortisone appeared and has practically replaced cortisone because of its increased potency without a proportionate increase in toxicity. Whereas topical cortisone was not particularly effective on the skin, hydrocortisone ointment showed itself particularly effective in certain dermatoses. Prednisone, formerly metacortandrasin, is the latest starter in the field and shows signs of replacing hydrocortisone because of its ability to attain the desired therapeutic effect without producing any salt retention and potassium depletion problems. Prednisolone, formerly metacortandralone, is currently under intensive investigation.

With each successive year we have been able to observe both the effects of prolonged therapy (continuous use of corticosteroids for three, four, and five years) and the comparative usefulness of corticotropin and the adrenal corticoids. It is this continuous development which makes us feel that it is neither repetitious nor, we hope, useless to cite the lessons we have learned from our personal experiences in the use of these preparations.

This is a clinical study based on the observation of many hundreds of patients in a 50-bed dermatologic service and from private practice.

Our Guiding Principles in the Use of Corticosteroids

Our use of corticotropin and the adrenocorticoids has been guided by several important principles. Each patient is considered in the light of these principles before therapy is undertaken.

1. The first thought to bear in mind is that corticosteroid therapy is not specific therapy. Although highly effective in the control of symptoms in certain dermatoses, and even lifesaving in others, the corticosteroids remain purely symptomatic medication. Despite the dramatic results which may have been achieved, cortisone is no more effective than aspirin in curing any given dermatologic condition. Temporary suppression of symptoms is not a cure.

2. Another important principle necessarily influences our use of corticosteroids. A knowledge of the natural evolution of the disease process is essential before a decision as to the use of cortisone can be made. What is the duration of the disease process? Are we dealing with an acute or a chronic process? If chronic, are symptoms continuously present; is the disease progressive with continuous deterioration, or are

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* By invitation.

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there periods of exacerbation and quiescence and even periods of complete remission? In short, since corticosteroids do not cure, how long will we have to continue the use of cortisone in any given case? When can we expect a spontaneous cure, thus permitting us to discontinue the cortisone? If there is no spontaneous cure, will we ever be able to discontinue the use of cortisone once it has been started?

3. In making decisions as to the use of corticosteroids, the gravity of the disease process is a corollary of the natural history of the disease. Are we dealing with a fatal disease, with a benign condition that is never fatal, with a benign disease that is totally disabling while it lasts? Is the suffering of the patient such as to necessitate intervention if possible, regardless of the costs and hazards? Is the disability such as to create great economic and psychologic hardships for the patient? Rothman has well stated, "some diseases do not take life, they just ruin it."

4. Naturally, the toxicity (undesirable effects) of the corticosteroids must be weighed against the gravity of the disease. We are all aware of the more serious problems that we may encounter while attaining our therapeutic effects, and this is particularly true of the more prolonged course of therapy and the larger dosages. Activation of a peptic ulcer with perforation, activation of a potential diabetes mellitus, activation of a serious quiescent infection such as tuberculosis, masking of intercurrent infections such as pneumonia, development of septicemia because of the decreased resistance to infection, osteoporosis with fracture, psychotic episodes, hypertension—we have been plagued with all these problems in the management of our patients. Let us not forget one of the most common problems, salt retention with resultant edema and hypopotassemia. This electrolyte imbalance has been particularly troublesome when dealing with patients with heart disease.

We will not attempt to go into a detailed description of all these possible complications and undesired effects of cortisone therapy. We mention the above only because we have had the difficulty of managing patients with pemphigus, exfoliative dermatitis, psoriatic erythroderma, chronic erythema multiforme bullosum, and other conditions with the above complications.

We do not feel that a physician should start a patient on a treatment that may be of long duration unless the benefits to be derived outweigh the risks. This is especially true if the patient can be helped by other means.

We now carefully weigh the benefits to be derived from cortisone therapy of chronic skin conditions against the risks involved and have become more conservative in our approach to such therapy.

5. A last question that we always ask ourselves involves the possibility of substituting topical corticosteroid therapy for the systemic use of cortisone. If the local treatment is practicable and effective, there is absolutely no reason why the patient should be subjected to all the possible complications of systemic therapy. Although we will not discuss topical hydrocortisone or its indications in this paper, its possible use should not be forgotten.

It is obvious at this point that we do not prescribe cortisone for the disease but for the patient who is afflicted with a disease. Each patient is individualized, and the severity, chronicity, and disabling effects of his disease are weighed against the possible dangers of treatment before we come to any decision on the use of the corticosteroids or corticotropin.

Preparation Form and Dosage

Much as each patient must be individualized in the choice of the form of therapy, so must the particular preparation and dosage be individualized for each patient. One cannot state with any precision that so many milligrams of such-and-such a preparation are to be used for this or that particular disease. We have found the variations so great that any exact figures quoted by us may be at complete variance with those of other authors. In our discussion of specific disease later in this paper we will give the preparations and initial dosages employed by us on the basis of our experiences. This starting dose may naturally have to be modified, depending on the response of the patient. Optimum dosage is individual for each patient.

We oppose the tendency of some physicians to give "a touch" of cortisone (often ten tablets, 25 mg. each, to be taken four, three, two, and one in successive days). We believe that when cortisone is indicated, it should be given in doses large enough and for periods long enough to be effective.

We have gradually adopted the following general rules in outlining a program of corticosteroid therapy for a patient:

1. We have found it far more effective to start with a dose high enough in our experience to attain a rapid therapeutic result rather than to start with a low dose and then maintain this dose or gradually increase it to an effective level.

In the case of an acute, short-lived process such as a penicillin reaction of the serum sickness type or an acute rhus dermatitis, the entire disease may have run its course before an effective therapeutic level is attained if one starts at a low dose, thus wasting completely the benefits of the corticosteroid. Even more, we have gained the impression in many cases that giving small amounts has merely kept symptoms partly in abeyance and that a rebound phenomenon occurs when the corticosteroid is discontinued, thus tending to prolong the process beyond the time it would have taken to run its course if there had been no interference with its natural evolution. In these cases we trade severity for chronicity.

In the case of the chronic, severely disabling process or potentially fatal disease we are also desirous of attaining rapid results ordinarily rather than to lose days and even weeks feeling our way up slowly from an initial inadequate dose.

2. In the acute process we maintain a fairly high dose for a period corresponding to the estimated duration of the disease and then taper off rapidly over a period of three or four days.

In the chronic case, after the disease has been brought under control with high doses, we gradually reduce our dosage by small amounts every four days. We thus arrive at a maintenance dosage, i.e., that dose which will maintain the patient with minimal symptoms and still permit him to lead as normal a life as possible. We have found that we frequently can maintain a patient comfortably on minimal dosage but will need far greater doses to eradicate all signs and symptoms of the disease. We had one pemphigus patient maintained with several lesions on 10 mg. of cortisone daily, yet these same lesions persisted even on 100 mg. daily.

When it has been decided to discontinue corticosteroids, we taper off very gradually in the case of patients on long-term therapy. This tapering process can extend over three or four weeks. If the patient has been maintained on cortisone or hydrocortisone, we give the patient a course of corticotropin during the tapering off period, using small doses to stimulate the adrenal cortex.

3. Our choice of preparation is based on the disease, the patient, and the conditions of treatment, whether bedridden or ambulatory, at home or in the hospital. We have given up cortisone completely and are now using hydrocortisone. We have also begun to use the corticotropin gel intramuscularly in place of intravenous corticotropin. We have been using prednisone, formerly metacortandrasin, as a substitute for hydrocortisone in many cases in the last few months. This medication has greatly facilitated the therapy of the ambulatory patient, although careful observation is necessary, especially because of its diabeticogenic properties when given in high doses.

Hydrocortisone offers us a simple, oral preparation which can be taken by the patient under the general supervision of the physician. It obviates the need for injections and is, therefore, ideal for maintenance therapy and also useful in initiating therapy.

Prednisone, formerly metacortandrasin, eliminates the problem of sodium retention and potassium depletion in ordinary therapeutic doses, although one may see edema develop with very high doses. We have been using it as a substitute for hydrocortisone in our patients who also present cardiac problems. We have found it very effective in such cases, but we have gained the impression that the doses needed, as compared with hydrocortisone in the same patient, are greater than we had expected. Our expectations were based on work done on patients with rheumatoid arthritis rather than on patients with dermatologic conditions.

Corticotropin gel is much simpler to use than the intravenous corticotropin, and an effect equivalent to that of 20 units given intravenously over an eight-hour period can be obtained by a single intramuscular injection of 40 to 60 units. The gel is particularly useful in initiating therapy where massive doses of hydrocortisone might be necessary and also, although less practical, in maintenance therapy under similar conditions.

It is worth mentioning that some patients respond better to one medication than another, regardless of the dosage used. One patient with pemphigus responded poorly to corticotropin and cortisone at high doses, only to heal completely with moderate doses of hydrocortisone.

Indications of Specific Dermatoses

The corticosteroids are effective in a certain number of diseases but are not indicated in all of them. We find that these various diseases can be classified into groups according to their evolution and prognosis, and the indication for adrenocortical therapy follows this grouping fairly well. We will discuss these diseases in more detail, grouping them according to this concept. If we omit some condition with cutaneous manifestations, it is because they are not primarily the problem of the dermatologist and are ordinarily not treated by him. Isolated instances of rare skin diseases successfully treated with steroid hormones will not be included.

Diseases Ordinarily Fatal

Pemphigus.—There is almost general agreement that the prognosis of pemphigus has been drastically and favorably altered by the use of cortisone and corticotropin preparations. One of us (O.C.) with Frank C. Combes in a review of 100 cases treated at Bellevue Hospital showed the inefficacy of the treatments previously used.[12]

We fully realize the differences of opinion among experienced dermatologists as to what conditions should be classified as pemphigus. In this paper under the heading of pemphigus, we discuss the patients with the bullous eruption clinically characteristic of this disease in whom a biopsy shows intraepidermic bullae and acantholysis, changes considered by most dermatologists and dermatopathologists to be diagnostic of pemphigus. Cases with somewhat similar bullous eruptions but with subepidermal bullae, called by some benign pemphigus, erythema multiforme pemphigoides (Costello), bullous pemphigoides (Lever), or subepidermobullosis (Director), are discussed under the heading of chronic bullous erythema multiforme.

If the diagnosis was made when the patient had only a few lesions, therapy may be started with hydrocortisone or prednisone, provided a high enough dose is given. In general, 300 to 400 mg. of hydrocortisone and 75 to 100 mg. of prednisone produce a decrease and disappearance of new lesions. In some instances even higher doses are required.

If the patient is seen in a more advanced stage or with extensive mouth lesions, we believe that hospitalization is indicated.

We formerly started treatment with intravenous corticotropin, 40 units over an eight-hour period. At present we have abandoned the intravenous therapy in favor of the gel preparations. After the patient has been without new lesions for a week, the dosage is reduced by 10 units every four days until we reach 20 units daily. We then substitute hydrocortisone, 100 mg. every four days, until we establish a maintenance dose. We have found the maintenance dose to be quite variable, anywhere from 10 to 60 mg. daily, among different patients and in the same patient from time to time.

All through the patient's hospitalization, good nursing care is still an essential part of the management of pemphigus.

In none of our cases have we been able to discard the corticosteroids completely. Some patients have been able to discontinue treatment for months at a time, but none have shown a true cure with permanent disappearance of the bullous eruption.

The management of pemphigus requires knowledge and experience with the treatment of this disease. Corticosteroids have allowed us to keep patients with pemphigus alive and almost free of lesions for over five years. Some of our patients were considered moribund when therapy was started. Complete disappearance of new lesions is not essential in determining the maintenance dose. We should aim to keep the patient as comfortable as possible with a maintenance dose as small as possible. Recently we had excellent results with prednisone as a medication in the maintenance stage. Should a "breakthrough" occur, the dosage should be increased again to a much higher level.

One of the interesting features of cortisone and corticotropin medication in pemphigus is the effect on the clinical forms of the disease. We have seen cases of Senear-Usher syndrome and pemphigus vegetans, which have developed the picture of pemphigus vulgaris, return to their original types under corticosteroid therapy. Pemphigus vulgaris may gradually develop into pemphigus foliaceous. These changes have also been noted by Costello.[13] In these instances increases of the dosage usually meet with failure to eradicate the lesions since they are probably manifestations of increased resistance. This is especially true in pemphigus foliaceous since it is notoriously resistant to corticosteroid therapy.

Acute Disseminated Lupus Erythematosus.—Corticosteroids have been lifesaving in this disease, relieving symptoms and controlling the clinical manifestations and helping patients through periods of acute exacerbation, although they do not alter the ultimate prognosis. The patient should be started on about 200 mg. of hydrocortisone daily, and the dosage should then be reduced to a maintenance dosage of about 40 to 60 mg. daily to be continued at this level for some months and then discontinued, the whole schedule to be resumed in case of an exacerbation of the disease. Corticotropin may be more rapidly effective in the more acute and more severe cases. We do not think it is necessary to maintain the patient indefinitely on hydrocortisone. The use of small doses of atabrine and chloroquine have proved beneficial, especially in the subacute type.

Chronic Incapacitating Diseases

Chronic Bullous Erythema Multiforme.—The line of demarcation between this group and true pemphigus is ill defined and open to differences of opinion. Usually the histologic examination shows a subepidermal bullae. The management of patients of this group is the same as in pemphigus. There is a certain tendency to spontaneous cure, and periodic attempts to discontinue corticosteroids should be made. Some cases respond to antibiotic therapy and others to sulfapyridine, a fact that would indicate that some are a bullous type of Duhring's disease, as suggested by Costello. In one of our cases cortisone was discontinued after nine months (with several intervening unsuccessful attempts to do this). The patient continued to develop a few bullous lesions from time to time for another year and was completely cured two years after the onset of the disease.

Exfoliative Dermatitis.—The effectiveness of cortisone is variable, but in general, the condition can be brought under control and the patient kept fairly comfortable. The severity of the dermatitis and the extent of disability are the controlling factors in the decision to use cortisone. In many cases it is possible to take a man who might be bedridden or confined to his home for a period of six months to several years and transform him into an individual capable of leading a fairly normal life and even earning a living with the judicious use of cortisone. It is essential that an attempt be made to find the underlying cause of the dermatitis. There is no sense in treating with cortisone if at the same time an exfoliative dermatitis due to contact sensitization or hypersensitivity to an ingested drug is being maintained by contact with or ingestion of the offending agent. Likewise the erythroderma of a lymphoma may be controlled, but if the underlying diagnosis is neglected, we may be missing the opportunity for more effective therapy. Unfortunately in many instances all efforts to determine the cause are unsuccessful.

Our regime of therapy has been, in general, to start with about 200 mg. of hydrocortisone daily for four days, 150 mg. for the next four days, then a reduction to 100 mg. daily for four days. We then attempt to establish the maintenance dose by reducing the daily dosage by 10 mg. every four days. One should not attempt to clear the skin completely. A minimal residual symptomatology will act as an indicator of the activity of the process. Disappearance of symptoms would then be a signal that spontaneous improvement is occurring, and an attempt at reduction of dosage and possibly elimination of the hydrocortisone is then in order. Periodic attempts should be made to eliminate the drug. Occasionally a patient will need very large doses of hydrocortisone for relief and yet can be made quite comfortable with 40 units of corticotropin gel daily.

Chronic Exudative Lichenoid and Discoid (Sulzberger-Garbe).—This condition responds favorably to corticotropin and corticosteroids. Because of the chronicity of the disease it presents the same problem of management as exfoliative dermatitis. We reserve the medications for the acute exacerbations but have had some patients on a low maintenance dose for several months without ill-effects. The combined use of local hydrocortisone, Thorazine, and climatic changes are favorable and very often make the use of corticosteroids less essential.

Psoriatic Erythroderma.—The problem is similar to that of exfoliative dermatitis, but we have found that larger doses are necessary to maintain a partial clearing. In general, our results have been very poor with this group, in that no matter how long we have maintained hydrocortisone therapy, a full-blown erythroderma has reappeared as soon as this treatment is stopped. In addition, we have run into many serious problems of intercurrent infection in this group, particularly bacteremias and septicemias. At present we are not in favor of using corticosteroids in this group of patients and often revert to the older methods of therapy. The question to be decided is whether it is preferable to have the patient incapacitated for six months, during which time the erythroderma is possibly converted to an ordinary psoriasis, or whether we should keep the patient on his job for a year with corticosteroids only to have the erythroderma present at the end of this period and to have risked the serious complications we have encountered. The answer to this problem can be reached only after a careful study of the patient, his disease, and his economic status.

Arthropathic Psoriasis.—Hydrocortisone has been of very little value in psoriasis, and we prefer the older forms of therapy. However, the arthritic indications are the same as for rheumatoid arthritis, and we have used hydrocortisone during periods of activity of the arthritis to prevent permanent crippling of the joints.

Scleroderma.—Our results have been disappointing. The patient feels a little more limber occasionally during hydrocortisone therapy, but this is lost as soon as treatment is stopped. The process continues at the same rate regardless of treatment. The symptomatic improvement in most cases is so little that we do not feel that the risk of the prolonged therapy at fairly high doses is warranted. However, each case must be individualized. The severely crippled patient with visceral involvement where a fatal outcome can be expected is entitled to a trial of therapy for symptomatic relief.

Sarcoidosis.—The effect of corticosteroids is often beneficial, but we do not recommend it for routine use. In several cases with pulmonary lesions we have seen the medication activate a pulmonary tuberculosis. The case should be carefully studied before corticosteroids are given. Local injections of hydrocortisone into the cutaneous lesion often produce a temporary improvement.

Dermatomyositis.—Corticosteroids have not been of much help, but they are worth a trial in the acute case where there is danger of a rapidly fatal outcome.

ACUTE INCAPACITATING DISEASES OF SHORT DURATION

Some of these diseases can be controlled within twenty-four hours with hydrocortisone, and the patient can be kept ambulatory and even able to work for the one or two weeks that he would ordinarily be bedridden. The risks involved are so small that the benefits of therapy more than outweigh the risk. Recently we have routinely used prednisone in this group of conditions; its few side-effects make it the drug of choice. The severity of the disease is the primary indication, as is the lack of any other effective form of therapy.

Acute Drug Eruptions.—Severe acute urticarias and serum sickness type of reactions particularly fall in this group, especially if there is any evidence of visceral involvement or generalized, extremely pruritic, erythematomaculopapular or scarlatiniform eruptions. We employ hydrocortisone, 200 mg. the first day, 140 mg. the second day, 60 mg. the third day, all in divided doses. We continue this last dosage for a total of one week and then taper off over three to four days. When prednisone is used, the dosage is 40 mg. the first day, 30 mg. the second, and 20 mg. the third day. Our entire course of treatment lasts for about ten days. Rarely have we seen a recurrence when the hydrocortisone has been continued for this length of time. We have used corticotropin gel as an alternative measure, 40 mg. for the first three days and then 20 mg. with similar good results. It is understood that the offending drug must be discontinued.

Acute Contact Dermatitis.—Differentiation should be made between the single contact, the best example of which is poison ivy dermatitis, and the contact dermatitis usually due to multiple exposures, as, for example, those of occupational origin.

In the poison ivy type, if the eruption is severe and extensive enough to warrant their use, corticosteroids are very effective. The dosage regime, in general, is that of the acute drug eruptions, but the treatment is seldom continued more than seven days.

In our opinion the average contact dermatitis of occupational nature does not require the administration of corticosteroids. This is particularly true in the cases where the offending agent cannot be entirely removed. In these cases the administration of corticosteroids will cause a temporary improvement but will also lead to an unnecessarily extended administration of the medication and often will result in a rebound flareup when the medication is discontinued. We have the clinical impression that these cases then respond more poorly to the standard methods of therapy. We are convinced that most cases of contact dermatitis can be treated satisfactorily following the basic principles of dermatologic therapy without resorting to corticosteroids. In some selected and extensive cases of industrial dermatoses, corticosteroids given for a short time will obtain excellent results, provided the patient is not exposed again to the causative agent.

The local use of hydrocortisone is helpful in the treatment of contact dermatitis, provided it is used according to the basic principles of dermatologic local therapy.

Erythema Multiforme, Stevens-Johnson Type.—This disease usually has an abrupt onset with fever and severe constitutional symptoms. The cutaneous manifestation is a severe vesiculobullous eruption, involving the skin and the mucous membranes of the eyes, mouth, and genitals. Costello[13] has shown that prior to the corticosteroid era this condition had a mortality of 18 per cent. He stated in 1953 that ACTH, 25 mg. intravenously, is an effective and at times lifesaving remedy. At present equivalent doses of gel, hydrocortisone, or prednisone may be preferable. Usually the treatment is very effective and does not have to be continued for more than three or four weeks. Good dermatologic nursing care will help to make the patient more comfortable. Antibiotics should be administered simultaneously.

Acute Urticaria and Angioneurotic Edema.—We use the same regime of hydrocortisone as for the acute drug eruption if the condition is very severe and with the same good results. However, if there is any suspicion that a particular food or drug is at fault, it must be eliminated.

We do not employ hydrocortisone in chronic urticaria.

Miscellaneous Group

There are a few conditions which are not ordinarily incapacitating or fatal and yet may warrant the use of hydrocortisone under special circumstances. There are also some fatal and systemic diseases where hydrocortisone can be used for occasional symptomatic relief.

Atopic Dermatitis, Infantile Eczema.—The favorable effect of corticosteroid on this condition is generally accepted. The question to be determined is when and how long they should be administered. The physician should have a definite plan of treatment in mind before starting corticosteroid therapy. The management of this condition is one of the best examples of the need to individualize the treatment and the value of combining corticosteroids with sound dermatologic therapy. We believe that the corticosteroids should be given in the acute flareup of the disease. They are seldom needed in infantile eczema, and we oppose their use in this type. The judicious use of local therapy, especially of topical hydrocortisone, renders the need for systemic administration of the drug much less acute. Thorazine is helpful to control the pruritus when the dosage of hydrocortisone is being reduced. In some instances it may give equally favorable results.

Sulzberger[14] has shown that adults with this disease can be kept controlled for long periods with small maintenance doses without evidence of acquired drug resistance.

Lymphomas.—We have found hydrocortisone of value in the control of the pruritus of Hodgkin's disease and widespread mycosis fungoides in the plaque stage, although it has no particular effect upon tumors. We have used it only when pruritus has been severe in doses of 40 mg. of hydrocortisone daily.

We are treating one patient with an erythroderma diagnosed histologically as mycosis fungoides. The pruritus is almost completely controlled with 60 mg. of hydrocortisone daily or 30 units of corticotropin gel. The corticosteroids were also helpful in a case with cutaneous manifestations of myelogenous leukemia.

Alopecia Totalis.—Our results agree with those of other investigators. There is a regrowth of hair while the medication is administered. We believe it should be given only in exceptional cases and only after explaining to the patient the limitations and risks of the medication. We do not recommend it in alopecia areata.

Herpes Zoster.—Our results with corticotropin and the corticosteroids have not been startling. We have found them to be ineffective against postherpetic pain. In fact, some of our cases have developed pain while under therapy.

Conclusions

The systemic administration of corticotropin, cortisone, hydrocortisone, and prednisone is extremely useful in the management of a variety of skin diseases.

The physician should have a definite plan of therapy in mind when the medication is given. When indicated, corticosteroids should be given in doses large enough and for periods long enough to obtain the desired effect. The decision as to when to administer the medication, the selection of the variety to be administered, the dosage, and length of administration require, above all, experience in the management of the disease to be treated, a knowledge of its natural course, and expert handling from the standpoint of local therapy. Only with these qualifications can the physician obtain maximum benefit from the suppressive effects of these medications.

The gravity of the disease, its chronicity and disabling effects, the physical condition of the patient, and the possible risks from prolonged therapy should be weighed carefully before embarking on a long-range therapy with corticosteroids. Each patient should be individualized. The dosage to be given at a certain moment cannot be determined by charts or by a slide rule for it is not a mathematic equation. So many factors play a role in the management of a patient with a skin disease that nothing can replace a sound knowledge of dermatology.

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Discussion

Leon H. Griggs, M.D., *Syracuse.*—It has been my observation over a period of years that whenever a new drug or therapeutic method is introduced, there follows an era of its widespread use. After a variable period of time the good and the bad qualities have been more or less determined. It has seemed that almost no preparation has ever quite lived up to its original reputation. In other words, the use of every preparation must go through a period of adolescence.

I agree with the authors that the corticosteroids do not cure any dermatologic condition but only give relief of symptoms. Their point that one must diagnose the disease and understand its course is most important. The patient must be individualized.

The undesirable effects of the corticosteroids must be understood and expected in some cases. The patient must be watched for symptoms of coexistent diseases.

I agree with the authors' outline of dosage. One can always lower the amount of medication as the acute symptoms subside. I have noticed that many physicians have prescribed doses too small to have any therapeutic effect. Many times the preparations have been prescribed without adequate explanation to the ambulatory patient with the result that the patient has often stopped their use quite abruptly. The main effect in many cases has been on the patient's purse. Today, one method of learning the past medication of a patient is to ask the prescription cost.

I do not believe that there is any question as to the value of topical corticosteroid therapy in many localized eruptions. In my office the price of the medication has been a deterrent factor in its widespread use. I do feel that its sale has been overpromoted to the profession at large.

My experience in the more serious dermatologic conditions has been limited to pemphigus, acute disseminated lupus erythematosus, severe acute contact dermatitis, and disseminated neurodermatitis. The authors covered these conditions in an excellent manner.

I have had very little experience with metacortandrasin, but it is apparent that this preparation may have the undesirable salt retention property in the higher dosage range.

In conclusion, I would like to re-emphasize the following points:

1. The prescribing physician must aim for a better understanding of the effects, both desirable and undesirable, of these preparations.
2. These preparations should not be used in relatively minor skin eruptions which can be cleared with simpler methods.
3. It is essential that more and clearer instructions be given to the ambulatory patient.
4. It is possible that in the future many patients may be able to carry on a normal existence while taking a minimal or sustaining dosage of these preparations.
5. In general, it is reasonably established that the corticosteroids have a marked therapeutic value in several dermatologic conditions when administered with proper knowledge.

To most people nothing is more troublesome than the effort of thinking.—James Bryce

Pulmonary Circulatory Dynamics in Acquired Heart Disease

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THE technic of cardiac catheterization[1] has contributed greatly to our understanding of the dynamics of the pulmonary circulation in health and disease. The present paper summarizes studies of pulmonary circulatory dynamics carried out in our laboratory by this technic in patients with acquired heart disease. We shall describe our findings in mitral and aortic valve disease, hypertensive cardiovascular disease and arteriosclerotic heart disease with and without congestive failure, constrictive pericarditis, pericardial effusion, and pulmonary heart disease.

The methods of study have been reported in detail in previous communications.[2–8] Each patient's functional capacity is classified according to the criteria recommended by the New York Heart Association.[9]

Pulmonary Circulatory Dynamics at Rest

One hundred cases of mitral stenosis were evaluated for mitral valve surgery. The pulmonary artery pressure was elevated moderately or markedly in 80 and mildly in 15 and was normal in five cases. High pulmonary artery pressures were associated with high pulmonary resistance, high values for right ventricular work against pressure, and with low values for cardiac output and calculated mitral valve area. The mean pulmonary "capillary" pressure varied from 7 mm. Hg (a normal value) up to 55 mm. Hg. The pulmonary "capillary" pressure did not exceed 35 mm. Hg in most instances, and values above this were usually associated with a disproportionately high pulmonary artery pressure. When the pulmonary "capillary" pressure was 25 mm. Hg or below, it varied with pulmonary artery pressure and with the total pulmonary resistance, which includes the resistance offered by the stenotic mitral valve. At this level the pulmonary "capillary" pressure was not related to pulmonary vascular resistance.

The pattern of pulmonary "capillary" pressure was unreliable in predicting the presence of significant mitral insufficiency. For example, in two patients with pulmonary "capillary" pressures greater than 50 mm. Hg and with peaked V waves in the tracing, suggesting significant mitral insufficiency, a tight mitral stenosis with minimal regurgitant jet was noted at operation. The gradient of mean pressures from pulmonary artery to pulmonary "capillary" is a measure of the degree of secondary anatomic or functional alteration in the pulmonary arteriolar bed. When the pulmonary artery mean pressure exceeded 45 mm. Hg, the gradient was almost always greater than 10 mm. Hg, the upper limit of normal. In general, the more disabled the patient, the higher the mean pulmonary artery to pulmonary "capillary" pressure gradient.

Cardiac output in patients with mitral stenosis was either normal or reduced. In general, the higher the pulmonary resistance, the lower the cardiac output with a resulting decrease in pulmonary blood flow. Most patients with a calculated mitral valve area of 1 square cm. or less had a subnormal cardiac output and stroke volume. This was mainly a result of a restriction of the mitral valve orifice, although right ventricular failure and atrial fibrillation may have been partly responsible in some cases. Right ventricular work against pressure was greater than normal (1.2 KgM/M^2/minute) in about two thirds of the cases. It may be normal in patients of functional classes I and II but is usually increased in patients of class III. The average right ventricular work was slightly lower in patients of class IV than in those of class III, presumably because of right ventricular failure.

Postoperative cardiac catheterization studies showed a reduction in pulmonary artery and pulmonary "capillary" pressures as well as pul-

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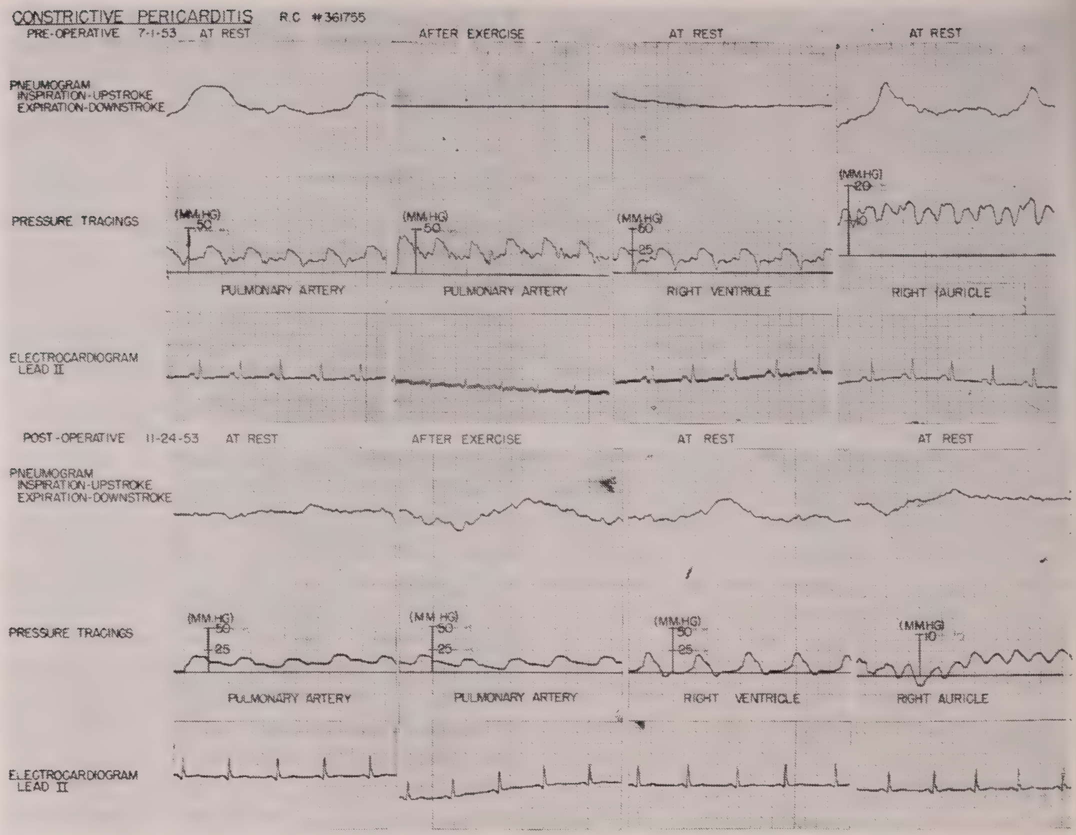
CONSTRICTIVE PERICARDITIS R.C #361755
PRE-OPERATIVE 7-1-53 AT REST
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PULMONARY ARTERY
PULMONARY ARTERY
RIGHT VENTRICLE
RIGHT AURICLE
ELECTROCARDIOGRAM
LEAD II
POST-OPERATIVE 11-24-53 AT REST
AFTER EXERCISE
AT REST
AT REST
PNEUMOGRAM
INSPIRATION-UPSTROKE
EXPIRATION-DOWNSTROKE
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PULMONARY ARTERY
PULMONARY ARTERY
RIGHT VENTRICLE
RIGHT AURICLE
ELECTROCARDIOGRAM
LEAD II

Fig. 1. Preoperative and postoperative pressures in the pulmonary artery, right ventricle, and right atrium in a patient with constrictive pericarditis. Note the characteristic preoperative right ventricular pressure pattern with a diastolic dip and high diastolic plateau which disappeared following a successful pericardiectomy.

monary resistance in most cases. Cardiac output may be much higher or may remain practically unchanged. The mitral valve area calculated by the hydraulic formula was nearly always increased because blood flow was now maintained at a lower gradient of pressure across the mitral valve. In some cases pulmonary circulatory dynamics virtually returned to normal.

Twenty cases of aortic stenosis and insufficiency of rheumatic origin have been studied. Pressures in the pulmonary circuit were usually normal, and the effective cardiac output was normal or slightly reduced at rest. Pulmonary hypertension with elevated pulmonary "capillary" pressure occurred occasionally and might have resulted from concomitant mitral valvular disease or left ventricular failure. This differentiation is particularly difficult if a rumbling diastolic murmur is heard at the mitral area for the Austin Flint murmur occasionally associated with aortic insufficiency may be easily confused with the diastolic murmur of mitral stenosis. Measurement of the left atrial and left ventricular end-diastolic pressures by a percutaneous or intrabronchial approach may be helpful, but these technics are not widely used at the present time. With left ventricular failure both pressures are equally elevated. With concomitant mitral stenosis, however, left atrial pressure exceeds left ventricular end-diastolic pressure. But when pressures in the pulmonary circuit are normal and a mitral diastolic murmur is absent, significant mitral valvular disease can be excluded. Such findings may influence decisions regarding surgical treatment.

With arteriosclerotic and hypertensive heart disease the pressures and the resistances in the pulmonary circuit depend on the state of compensation of the left ventricle. In the absence of failure the left ventricular end-diastolic pressure is normal. In turn, the left atrial, pulmonary venous, and pulmonary capillary pressures are

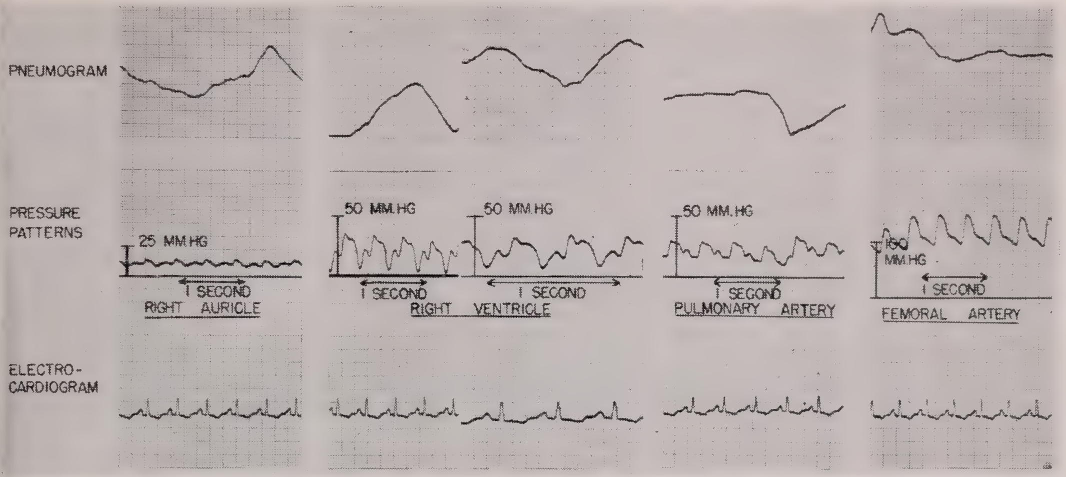

Fig. 2. A case of acute bacterial endocarditis with effusion in a two-year-old boy. The pressure pattern in the right ventricle in this case simulated that seen in constrictive pericarditis. The patient subsequently recovered without pericardiectomy.

normal. Eighteen such patients have been studied. The pressures and resistances in the pulmonary circuit were unaltered in uncomplicated cases. If left ventricular failure was present, both pulmonary "capillary" and pulmonary artery pressures were elevated, although to a lesser degree than in patients with severe mitral stenosis.

The dynamics of the pulmonary circulation in constrictive pericarditis have been studied in several laboratories.[10–15] Both pulmonary "capillary" and pulmonary artery pressures may be moderately elevated, indicating pulmonary hypertension of postcapillary type. Moderate increase in total pulmonary resistance was usual, although pulmonary vascular resistance may have been normal or slightly increased. The pulmonary blood flow was usually reduced. The pressure pattern in the right ventricle was characteristic. An early diastolic dip was followed by a high diastolic plateau, and the diastolic pressure was always more than one third the systolic (Fig. 1).

In pericardial effusion the pressures and resistances in the pulmonary circuit depend on the volume of fluid and the rapidity of its accumulation. With small and slowly accumulating effusion no disturbance in the pulmonary circulatory dynamics may result. With large effusions accumulated rapidly, pulmonary hypertension is common. This is due to restriction of the diastolic filling in the left ventricle, which probably increases the left ventricular end-diastolic pressure and, hence, the left atrial and pulmonary "capillary" pressures. The right ventricular pressure pattern with pericardial effusion usually differs from that associated with constrictive pericarditis, but they may be similar, particularly when pericardial fluid is accumulated very rapidly causing restriction of the diastolic filling and obstruction to inflow to the right ventricle (Fig. 2). Pericardiectomy resulted in disappearance of the pathologic pressure pattern in the right ventricle. Pulmonary pressures and resistance declined, and pulmonary blood flow rose.

With chronic pulmonary emphysema with or without fibrosis, the right ventricle may or may not be enlarged. Variable pulmonary hypertension was demonstrated in more than 60 per cent of our cases. In general, pulmonary artery pressure was directly proportional to the severity of hypercapnia and anoxia and to the ratio of residual volume to total lung capacity. Pulmonary "capillary" pressure was always normal. This clearly indicates that the mean pulmonary artery to pulmonary "capillary" pressure gradient was elevated and that pulmonary vascular resistance was increased.

Pulmonary Circulatory Dynamics Under Stress

The behavior of the pulmonary artery and "capillary" pressures during and following moderate exercise was often characteristic in different groups of patients. In mitral stenosis, constric-

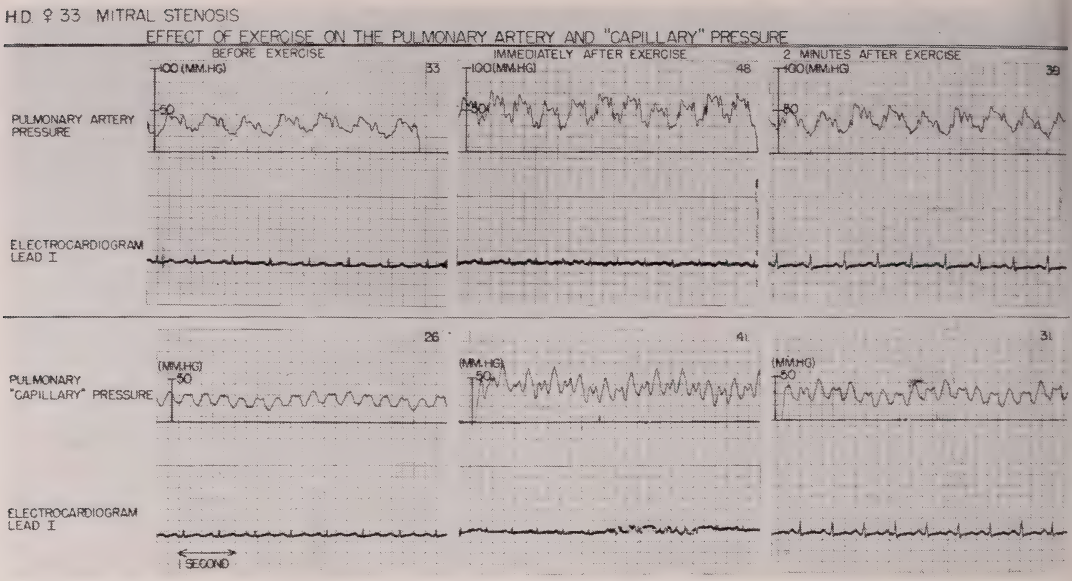
H.D. ♀ 33 MITRAL STENOSIS
EFFECT OF EXERCISE ON THE PULMONARY ARTERY AND "CAPILLARY" PRESSURE
BEFORE EXERCISE
IMMEDIATELY AFTER EXERCISE
2 MINUTES AFTER EXERCISE
100 (MM.HG)
33
100(MM.HG)
48
100(MM.HG)
39
50
PULMONARY ARTERY PRESSURE
ELECTROCARDIOGRAM LEAD I
26
41
31
(MM.HG)
50
PULMONARY "CAPILLARY" PRESSURE
ELECTROCARDIOGRAM LEAD I
1 SECOND

Fig. 3. Effect of exercise on the pulmonary artery and "capillary" pressures in a patient with moderate mitral stenosis. Note the marked rise in the pressures immediately after exercise and failure of pressures to return to the pre-exercise level two minutes after exercise. There was no significant change in the pulmonary artery to pulmonary "capillary" mean pressure gradient.

tive pericarditis, and left ventricular failure, postcapillary pulmonary hypertension may be present with elevation of pulmonary artery and pulmonary "capillary" pressures. Both of the pressures usually increased during and after exercise. This is in contrast to patients with chronic pulmonary disease and precapillary pulmonary hypertension who had an elevated pulmonary artery pressure and a normal pulmonary "capillary" pressure. Exercise in this group of patients resulted in a further increase in pulmonary artery pressure with no associated rise of the normal pulmonary "capillary" pressure. Subjects with no impairment of blood flow through the pulmonary vascular bed, mitral valve orifice, or left ventricle do not have an appreciable increase in the pulmonary artery and pulmonary "capillary" pressures following moderate exercise.

It is possible to quantitate the severity of mitral stenosis in most patients by observing the length of time required for the pulmonary artery and "capillary" pressures to return to the control level following exercise. In mild cases the pressures may rise significantly immediately following exercise, but they usually returned to the control level in one or two minutes. On the other hand, in patients with moderate or severe mitral stenosis, five minutes or more were required for the elevated pressures to return to the pre-exercise level (Fig. 3).

The circulatory effects of hypoxia (breathing 12 per cent oxygen in nitrogen) have been studied in chronic pulmonary disease and mitral stenosis. It has been shown by other investigators[16] that when a group of normal subjects breathe a gas mixture containing only 10 per cent oxygen, the pulmonary artery pressure rises, but the pulmonary "capillary" pressure is unchanged. Similar responses were observed in patients with various cardiopulmonary diseases. It was postulated that acute hypoxia caused vasoconstriction of the pulmonary precapillary vessels and produced elevation of pulmonary artery pressure.

We have found that acute hypoxia in patients with chronic pulmonary disease induced an exaggerated rise in pulmonary artery pressure without change in the pulmonary "capillary" pressure. In a group of 22 patients with mitral stenosis, pulmonary artery pressure rose significantly in 19, and the pulmonary "capillary" pressure was either higher or unaffected (Fig. 4). Cardiac output rose significantly during hypoxia in 13.

This rise in pulmonary artery pressure in patients with mitral stenosis during acute hypoxia may be due to at least two factors:

1. Augmented pulmonary blood flow associ-

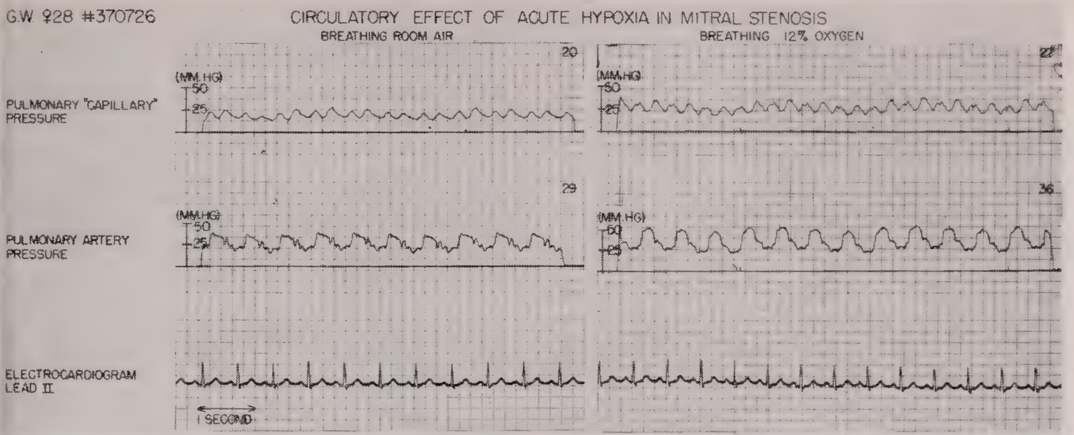

Fig. 4. Changes in the pulmonary artery and "capillary" pressures while breathing 12 per cent oxygen in nitrogen in a case of mitral stenosis. There was a parallel rise in the pressures during anoxia.

ated with increased heart rate and possibly decreased peripheral vascular resistance. Increased pulmonary blood flow may in turn raise the pulmonary "capillary" pressure in the presence of mitral stenosis.

2. Increased pulmonary vascular resistance as a direct action of hypoxia on pulmonary arterioles.

We have studied the circulatory effects of acute hypercapnia (breathing 5.6 per cent carbon dioxide in 20 per cent oxygen and 74.4 per cent nitrogen) in 11 patients with chronic pulmonary disease. Mean pulmonary artery pressure rose significantly in seven patients, associated with variable increases in cardiac output and pulmonary "capillary" pressure. Acute hypercapnia under similar conditions does not affect the pulmonary artery pressure of normal subjects.[17]

Summary and Conclusion

1. Pulmonary hypertension may be classified physiologically as precapillary or postcapillary. The precapillary type exists when pulmonary artery pressure is elevated and the pulmonary "capillary" pressure remains normal. Patients with pulmonary hypertension due to chronic pulmonary disease belong to this group. The increased pulmonary artery pressure in these patients is usually due to a structural reduction in the pulmonary vascular bed or a functional increase in the pulmonary vascular resistance or both.

2. Postcapillary pulmonary hypertension exists when pulmonary artery and pulmonary "capillary" pressures are both elevated. This usually occurs with mitral stenosis, left ventricular failure, or constrictive pericarditis. In most cases of mitral stenosis when the pulmonary "capillary" pressure exceeds 30 mm. Hg, there is often a disproportionate rise in pulmonary artery pressure. Since the cardiac output is no higher in these patients than in those with low pressure, the high mean pulmonary artery to pulmonary "capillary" pressure gradient implies an increase in the pulmonary vascular resistance proximal to the capillary bed. Thus, postcapillary pulmonary hypertension produced initially an impairment of blood flow through the mitral valve and has been called passive pulmonary hypertension. Subsequently a precapillary component is added by a moderate or marked increase in pulmonary vascular resistance as a result of either irreversible pathologic changes in the pulmonary vascular tree or reversible disturbance, such as pulmonary arteriolar constriction, or both.

3. In patients with chronic pulmonary disease the mean pulmonary artery pressure does not vary predictably with pulmonary "capillary" pressure, although these two determinants correlate directly in mitral stenosis.

4. Both pulmonary artery and pulmonary "capillary" pressures increase following exercise in patients with postcapillary pulmonary hypertension. In patients with precapillary pulmonary hypertension, pulmonary artery pressure may rise considerably with no change in the pulmonary "capillary" pressure. Increased blood flow through the restricted pulmonary vascular bed requires a rise in the pulmonary artery but not in the pulmonary "capillary" pressure. Therefore,

when there is an obstruction to blood flow, exercise results in a rise in pressure in the chamber or vessel proximal to the obstruction.

5. The circulatory effect of hypoxia in patients with mitral stenosis and that of hypercapnia in patients with chronic pulmonary disease were presented.

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Discussion

David G. Greene, M.D., *Buffalo.*—Cardiac catheterization is still an important technic for the evaluation of patients with heart disease. Although study of data so obtained has sharpened our clinical methods of evaluation, catheterization is still necessary for accurate estimation of the circu lation in many patients.

I should like to ask Dr. Yu how well his labora tory measurements correlate with his clinical est mates of the patient according to the New Yor Heart Association classification. In a series of pa tients whom we have studied, we have found a roug correlation between the measurements of pressur and flow and our clinical estimations but a dis tressing amount of overlap between various groups

I am not quite ready to abandon pressure change in the left atrium as an indication of the presence o absence of mitral insufficiency. We know that th pressure-volume curve of the left atrium change greatly with the level of the mean pressure. At high pressure a small increment of blood regurgi tating into the left atrium from the left ventricl causes a much higher rise in pressure than a large amount of blood when the mean pressure in the lef atrium is lower. Nonetheless, in spite of thi difficulty we have obtained good correlation between the shape of the left atrial pressure curve an the presence or absence of mitral insufficiency.

I should like to comment on the shape of the righ ventricular pressure curve in pericardial disease. I seems to me that the findings which Dr. Yu has demonstrated fit in well with the observations o Berglund and Sarnoff on the function of the pericardium. These workers have demonstrated that the pericardium is concerned with the regulation and equalization of output between the two ventricles.

Paul N. Yu, M.D., *Closing Remarks.*—Dr. Greene asked about the correlation between the physiologic measurements and functional classification of the patients. I may say that in our series of 100 cases of mitral stenosis, the pulmonary artery pressure, the pulmonary artery to pulmonary "capillary" gradient, and the pulmonary resistances usually increased progressively in patients from class I to IV. When the calculated mitral valve area was 1.0 square cm. or less, the cardiac index was usually subnormal. Almost all the patients of class IV and the majority of class III had subnormal cardiac and stroke indices.

The wheel that squeaks the loudest
Is the one that gets the grease.—Josh Billings

CHEMOTHERAPY IN TUBERCULOSIS

A. *In a Clinic of Nonhospitalized Patients*

IDA LEVINE, M.D., BROOKLYN, NEW YORK

(*From the Brownsville Chest Clinic*)

For years tuberculosis control agencies have been faced with the problem of tuberculous patients who would not accept hospitalization. In New York City forcible removal to an institution is difficult and unsatisfactory; education and persuasion are our usual means of getting the patient to care for himself and, so, indirectly, to care for the community as well. And this method works in a fair number of cases. As an example, we may present the following case report:

Case 1.—H. M., a twenty-seven-year-old, white female, was admitted to the Brownsville Chest Clinic on July 3, 1939, as an asymptomatic contact to her husband. Her x-ray showed an acute bilateral upper lobe lesion (Fig. 1). She refused hospitalization until March, 1940, when she was admitted to the Raybrook Sanitarium. After six months of care she signed out, stating that she felt she could rest just as well at home. She was cooperative, but in spite of sixteen to eighteen hours of bed rest daily, her tuberculosis remained active. In October, 1941, her gastrics became positive for the first time, and in May, 1942, she developed a left mid-lung spread (Fig. 2). She accepted hospitalization at the Kings County Hospital for only ten weeks and again signed out to continue resting at home. Her gastrics remained positive until the middle of 1944, a period of three years time, and her x-rays became stable after 1946, a total of seven years. After this date she was gradually allowed increased activity, and since 1952 she has been working as a drug-supply packer in addition to caring for her husband and her routine household duties (Fig. 3).

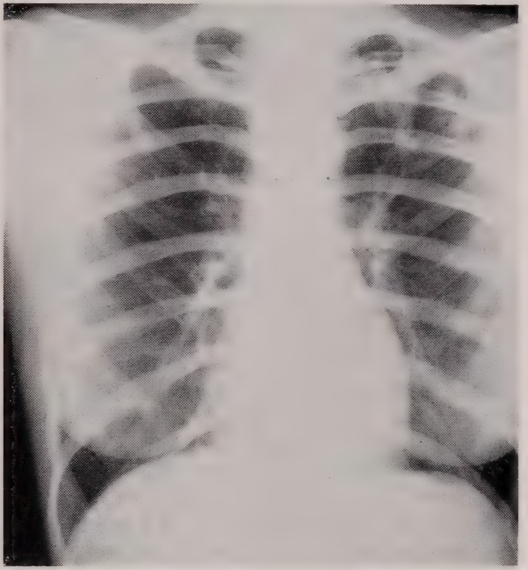

Fig. 1. *Case 1*—Acute bilateral upper lobe lesion (1939).

But it is obvious that the control of tuberculosis cannot be completely satisfactory so long as that control depends entirely on the layman's cooperation and self-discipline. "Bending the law" of quarantine is an almost universal failing, and being disobedient, contrary to one's own best interests, is a characteristic behavior of the emotionally disturbed. Here is another, not unusual clinic experience:

Case 2.—On March 29, 1946, M. F., a forty-one-year-old, white female, was admitted to the Brownsville Chest Clinic complaining of a chest cold. Her x-ray showed a minimal tuberculous lesion; her sputum was negative. She refused hospital care in spite of the fact that her family consisted of a husband and seven children, only one of whom was married and away from the home. The entire family was x-rayed, including the father-in-law, who was a frequent visitor, and it was found that the latter had a bilateral apical tuberculosis. He was

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Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Chest Diseases, May 12, 1955.

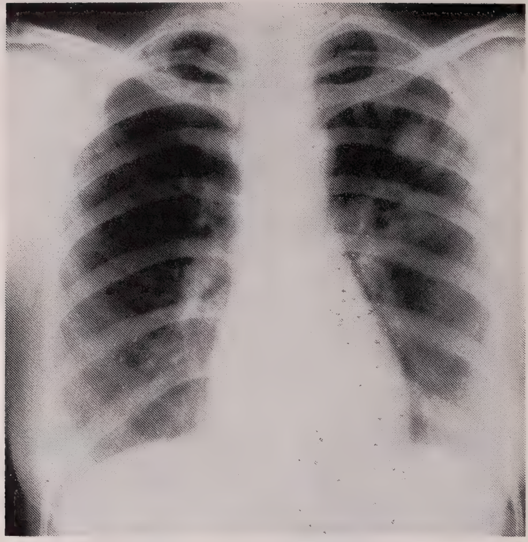

FIG. 2. *Case 1*—Left mid-lung spread (1942).

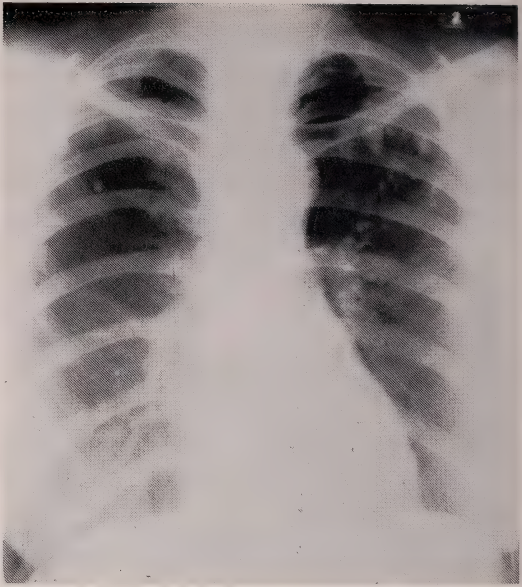

FIG. 3. *Case 1*—X-rays stable after 1946.

asked not to visit the grandchildren (he also had refused hospitalization), but he promptly disobeyed this request with the full consent of the daughter-in-law since he was contributing to the support of the son's family. The mother was an obviously disturbed person who threatened to kill the clinic physicians for telling her she had tuberculosis; the father was an inadequate individual; the children were confused and stubbornly disobedient. Within nine months the daughter Marilyn had developed a moderately advanced tuberculosis with a positive sputum. Since she too refused to stay in a hospital, she moved out of town to live with her sister Shirley, in order to avoid the constant supervision of the Board of Health. Shirley died one year later of far-advanced tuberculosis. The infection of this family can be shown in Table I, but the time and effort spent on that family in visits to the home, to the pastor, to the Society for the Prevention of Cruelty to Children, etc.—all in a vain attempt to stem the dissemination of the infection—cannot be shown so simply.

Looking at both kinds of patient response, one soon realizes that to control tuberculosis more adequately, one would like to be able to reinforce education with other methods. If, in addition to education, one can also destroy an intermediate carrier (as is the tuberculous cow in the control of bovine tuberculosis), or administer a vaccine (as in smallpox control), or give prompt therapy (as in venereal disease control), it is only then that real headway can be made in wiping out a disease. In human tuberculosis man is his own intermediate carrier, BCG vaccine is not yet being used widely, and antimicrobial therapy is not yet bactericidal. Still, out of the knowledge that antimicrobials could often convert a positive sputum quite promptly grew the idea of a therapy program for clinic patients.

In March, 1952, the Bureau of Tuberculosis of the New York City Health Department set up a

TABLE I.—INFECTION OF THE "F" FAMILY WITH TUBERCULOSIS

Member	Born	X-ray 1946	Date Lesion Developed	Present Status
Mae	1906	Minimal tuberculosis	?	Minimal cured
Samuel, Jr.	1901	Negative	May, 1948	Far-advanced, active
Shirley	1926	Negative	Apr., 1948	Died tuberculosis, 1949
Joan	1929	Negative	Apr., 1948	Minimal cured
Marilyn	1933	Negative	Feb., 1947	Moderately advanced, arrested
Kenneth	1935	Negative	None	Negative
Robert	1938	Negative	Jan., 1951	Minimal arrested
Diane	1941	Negative	None	Negative
Bruce	1943	Negative	Dec., 1947	Minimal cured
Samuel, Sr.	1876	Moderately advanced	?	Died 1949

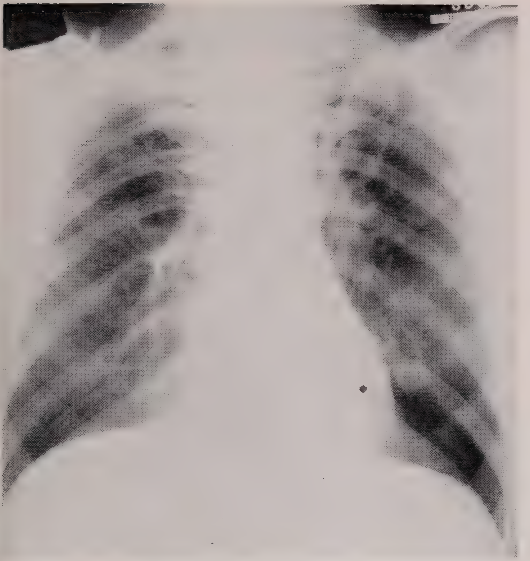

FIG. 4. *Case 3*—Bilateral upper lobe disease (1930).

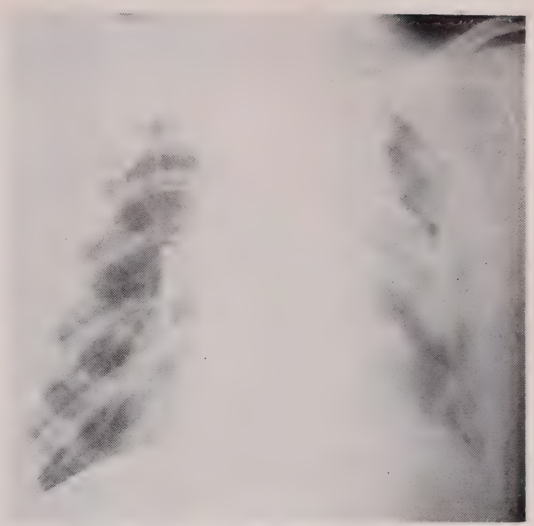

FIG. 5. *Case 3*—Slow bilateral progression up until 1952.

TABLE II.—SUMMARY OF CLINIC THERAPY RESULTS AT 6 AND 12 MONTHS

	6 Months	12 Months
X-ray status		
Number of patients reports are available on	345	361
Improved	39%	49%
No change	55%	38%
Deteriorated	6%	13%
Sputum status		
Number of patients reports are available on	251 positives	266 positives
Became negative	43%	53%

pilot treatment study.[1] When the "trial balloon" proved satisfactory, the Bureau felt justified in continuing and in enlarging the therapy program. Patients were chosen for treatment whenever it was felt that they or the community might benefit thereby. This meant that those patients were started on therapy who had either a positive sputum and/or x-ray evidence of active tuberculosis. About 80 per cent of these people had previously been hospitalized for one or more periods of time; they had either signed out before achieving maximum benefit or had broken down again after a period of arrest and refused to return to the hospital. Recently diagnosed, active cases were not included since we are usually able to persuade the tuberculous unsophisticate to accept hospital care. Medication consisted of 300 mg. of isoniazid and 12 Gm. of PAS in divided doses per day. The condition of the patients after six months of therapy was described by Dr. Robins and his coworkers in December, 1954.[2] A detailed statistical analysis of their status after twelve months of therapy is planned for the near future.[3] But at this time we can summarize the six-month and the twelve-month results very briefly as shown in Table II.

At this point we would like to demonstrate the sort of patient to whom these results refer:

CASE 3.—In November, 1930, N. L., a fifty-five-year-old, white male, was admitted to the Brownsville Chest Clinic for routine follow-up supervision. He had known about his tuberculosis for over fifteen years and had spent short periods of time at the Workman's Circle Sanitarium. His x-ray showed bilateral upper lobe disease (Fig. 4). He was irregular in his clinic attendance between 1930 and 1952 but never became entirely delinquent. He refused hospitalization steadily but compromised by "going to the country" every summer for four or five months. Until 1942 his sputa were irregularly positive but were never negative for more than three months at a time; after 1942 they were consistently positive. His x-rays showed slow bilateral progression (Fig. 5). In 1952 he was included in the pilot therapy study; his sputum did not convert, and his x-rays remained unchanged. In July, 1953, he was started on the present treatment schedule of 300 mg. isoniazid and 12 Gm. of PAS daily. In October, 1953, his sputum became negative and has remained so (on culture); his x-rays show a slight improvement (Fig. 6).

If one keeps in mind the type of patient we are treating, then the fact that about 50 per cent of them will show sputum conversion within the

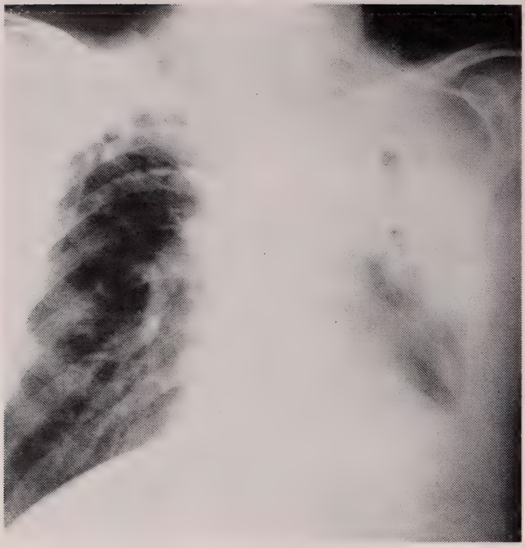

FIG. 6. *Case 3*—Slight improvement in x-rays after chemotherapy (1954).

year is a very hopeful one. Chemotherapy then becomes a definite adjunct to education in tuberculosis control, and this explains why the New York City Health Department now has about 3,000 patients in this program.

In addition to the 50 per cent sputum conversion, we wish to point out another benefit to the patient and to the community which is harder to tabulate. These people felt better under therapy; they gained in weight and in strength and in hope. They now believed that they had concrete evidence that the physicians were interested in them as individuals, and as a result they became less hostile and more receptive to advice about good hygienic care. We do not convert all our sinners into saints; about 15 per cent drop out of the program, but on the whole we have seen a marked improvement in patient cooperation in the therapy group as compared to the nontherapy patients.

Other qualifying statements must also be made. We do not know how long the sputum conversion, which was achieved in half of the cases, will last. These patients are not surgical candidates, for physical or emotional reasons, and so we must wait to see whether antimicrobial therapy can keep a patient sputum negative while he continues to have open cavities. At the moment we know that about 10 per cent of the cases who became negative at six months were positive again within twelve months, but 20 per cent of those positive at six months became negative at twelve months.[3] This of course is a net gain.

Furthermore, we cannot say what degree of danger exists in the fact that the nonconverters are spreading resistant organisms into the environment. We would tend to minimize the importance of this problem, both in hospital and in clinic practice, but time alone can show us the correctness or the fallacy of this belief. We know that about 5 per cent of the newly diagnosed patients now show initial resistance to antimicrobial drugs,[3] but what this means as regards such a patient's response to therapy remains to be studied. At the moment we feel that the possible infection with resistant organisms in a few cases is a calculated risk we must take in view of the obvious benefits of chemotherapy for the majority.

Summary

1. The New York City Health Department is now using antimicrobial therapy as an adjunct to education and persuasion in the control of tuberculosis.

2. The therapy program is used for patients with chronic active tuberculosis who have persistently refused to accept hospital care; it is not used as a substitute for hospital care.

3. In one year's time about 50 per cent of these chronic cases have been made sputum negative and thus noncontagious.

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Jealousy, the jaundice of the soul.—JOHN DRYDEN

B. In Clinics of Posthospitalized Patients

A. ARTHUR GRABAU, M.D., AND DONALD R. McKAY, M.D., BUFFALO, NEW YORK

(*From the Erie County Department of Health and the Edward J. Meyer Memorial Hospital*)

In a paper presented at the 148th Annual Meeting of the Medical Society of the State of New York in May, 1954, a preliminary report of the first few months of operation of two Erie County Clinics for posthospitalized patients was read.[1] The clinic at the E. J. Meyer Hospital was started in 1952, whereas the Drug Therapy Clinic, not connected with the hospital, began its operation in December, 1953. The present paper will include the results of the first thirteen months of operation of the latter clinic and will include data for a longer period at the E. J. Meyer Hospital Clinic.

Drug Therapy Clinic

The present Drug Therapy Clinic was developed under the joint sponsorship of the Erie County Department of Health and the Buffalo and Erie County Tuberculosis Association. Prior to the organization of this clinic, free drugs were dispensed by the Tuberculosis Association through private physicians treating tuberculosis cases at home whenever requested by the attending physician. No clinical supervision was provided at that time. Those patients who were receiving drugs in that manner were absorbed into the Drug Therapy Clinic program, regardless of the fact that they might not have met the eligibility requirements for inclusion in the program which were established for those patients who were to receive treatment after December 1, 1953. I wish to point out, however, that this group of patients is not included in the present report.

The policy in Erie County is to continue to recommend hospital treatment for the newly diagnosed case of tuberculosis since we firmly believe that hospital care is highly desirable for isolation, therapy, and educational reasons. For the past year or more this county has had a surplus of hospital beds available for such treatment, and for that reason it was decided to accept for home management of tuberculosis only those patients who had had a minimum of six months hospital care.

A board of review was established with membership consisting of representatives of the Medical Society of the County of Erie, the Regional Health Office of the New York State Department of Health, the Erie County Health Department, medical directors of both local tuberculosis hospitals, and the Buffalo and Erie County Tuberculosis Association. This board formulated the policies of the Drug Therapy Clinic and developed the operative rules to be followed in accepting or rejecting patients for this clinic. The board of review later met periodically with the clinic director to evaluate problems which arose during the year and to pass on certain cases which did not entirely meet the requirements as set forth below.

The operative rules that were developed and the criteria for selection of cases for home treatment are as follows:

1. The Drug Therapy Clinic is not intended to interfere with, but rather to supplement private medical management. It is not intended to replace hospital treatment. It cannot in any sense be considered a substitute for general medical care.
2. Inasmuch as this is a service offered to private physicians, patients who are referred by such physicians and who meet the criteria for selection will be eligible for care under the clinic program. A patient who has been referred by a private physician to the clinic for drug treatment is expected to see his private physician as often as the physician determines the need and not less often than once every two to three months. The clinic does not provide general medical care.
3. The patient must be a reported case of tuberculosis with adequate clinical and laboratory evidence to substantiate the diagnosis.
4. The patient usually should have as a prerequisite a minimum of six months institutional care because of the benefits of hospital or sanatorium care in being taught a new way of life.

Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Chest Diseases, May 12, 1955.

TABLE I.—CLINICAL STATUS OF POSTHOSPITALIZED PATIENTS

	On Admission to Clinic	End of December, 1954
Active	20	10
Arrested	60	69
Inactive	3	3
Nontuberculous	0	1

5. The patient should have a suitable home environment with consideration given to space, stairs, provision of care, dietary regime, recreation, etc.

6. Protection of others in the household should be considered. This may involve the removal or immunization of children, sanitary precautions, etc.

7. The patient should be the type of case which can be helped by antituberculosis drugs.

During the period covered by this report 159 patients were admitted to the Drug Therapy Clinic. Of this group 39 were carried over from the earlier program, and 83 were new admissions who met the requirements of the protocol as described above. The remaining 37 patients were not accepted for treatment for various reasons which rendered them ineligible. Most of this latter group had not had any previous hospital treatment before applying for free drugs or had had an insufficient length of hospital care and treatment.

Of the 83 patients included in this study, the status on admission to the clinic was as shown in Table I.

The majority of the patients were referred to the clinic by the tuberculosis hospitals in the area. Sixty-five were referred by hospitals, nine by private physicians, and nine by the Health Department or similar agency. Of these 83 patients 60 were discharged from hospitals with consent and advice, 14 with consent against advice (usually for personal or social reasons), and six against advice or for disciplinary reasons. For three patients hospitalization had not been recommended.

In general, the treatment regimens that had been insitituted in the hospitals were continued after the patient was admitted to the clinic. Twenty-four patients were on streptomycin and PAS; 28 on streptomycin and isoniazid; 23 on streptomycin, PAS, and isoniazid; and eight on PAS and isoniazid.

Only two of the 83 patients had positive sputum at any time during the period covered by this report. Both these patients had been discharged from the hospital with permission, having received maximum benefit. One patient has longstanding, chronic, active disease, and the treatment is being continued for psychologic reasons. The other patient is sputum positive on concentration but negative on culture.

Home conditions were investigated in most instances by the public health nurses of the Health Department and were found to be suitable in all but one case. This investigation seeks to determine such matters of interest and information as the following: Does the patient have his own bed or bedroom; what is his rest schedule for the day; are routine hygiene precautions used regularly; have household contacts been examined regularly; have the children in the family had BCG; are there any social problems; does the patient engage in any occupational therapy or rehabilitation activities?

Twenty patients were dropped from treatment during the year for the following reasons: treatment completed, ten patients; readmitted to hospitals, two patients (one for bronchogenic carcinoma and one for cirrhosis of the liver); toxicity, two; moved out of area, two; did not return, two; ineligible, two. These last two patients had been on technical discharge from a tuberculosis hospital with the understanding that they were to return after a six to eight-week period. At the end of that time both patients refused to return to the hospital, and their treatment was continued under the supervision of their private physicians.

Of greatest importance is the fact that not one patient admitted to the clinic since December 1, 1953, who met the requirements for eligibility for treatment, showed any evidence of reactivation of his tuberculosis.

E. J. Meyer Hospital Clinic

Of somewhat longer duration is a clinic established at the E. J. Meyer Memorial Hospital because of bed shortage in 1952. The general rules of operation are not quite so inflexible as those laid down for the previously described County Health Department-Tuberculosis Association Clinic, but with few exceptions the patients attending have spent a minimum of six months in a hospital or sanatorium. Of the 145 persons receiving therapy in this clinic at present, 15 have been in the hospital less than six months. Two of these were young women with glandular tuberculosis; one was a twenty-year-old man with a mini-

TABLE II.—Age of Patients in E. J. Meyer Hospital Drug Clinic

Age by Decades	Number of Patients
10 to 19	8
20 to 29	25
30 to 39	20
40 to 49	27
50 to 59	26
60 to 69	28
70 to 79	10
80 to 89	1

TABLE III.—Age and Sex Distribution in E. J. Meyer Hospital Drug Clinic

Ages	Male	Female	Total
Number under 40	24	29	53
Number over 40	72	20	92*
	96	49	145

* 39 of these patients were over age 60.

TABLE IV.—Types of Disease and Complications Encountered in E. J. Meyer Hospital Drug Clinic

	Number of Patients
Status of disease	
Minimal	9
Moderately advanced	52
Far advanced	79
Other	5
Total	145
Complications	
Diabetes mellitus	9*
Pneumoconiosis	7*
Meningitis and miliary	5
Total	21

* All over age 40.

mal lesion of low activity who chose not to remain in the hospital, and one was a seventeen-year-old girl with moderately advanced nontoxic disease, who left in resentment against hospital regulations. The remainder were persons over the age of forty (mostly over fifty) who for various reasons could not or would not remain in the hospital.

It is interesting to note the age and sex grouping of these clinic patients as shown in Tables II and III.

Types of disease and the more important complications are indicated in Table IV.

With the exception of nine cases the treatment regimen used was triple drug therapy (streptomycin, isoniazid, and PAS). Occasionally one or another of the drugs was discontinued because of reactions. In some cases streptomycin was stopped in the process of tapering off treatment. In this series the average duration of therapy to date is 18.2 months, the longest fifty months and the shortest four months. Drug therapy was continued in conjunction with pneumoperitoneum, surgical collapse, or resection in 22 cases.

If one considers the high proportion of far-advanced disease along with profound social problems involving such conditions as jail sentences, broken homes, etc., the results achieved seem well worth the efforts put forth. Many have returned to household duties or are gainfully employed. The sputum is still positive in 11 cases, but in only one has there been a reversion from the discharge status. All these patients are over forty years of age. In one case admission to a hospital is being arranged because of the presence of a primary lesion recently found in a grandchild. It is in this group of elderly persons that we encounter our greatest public health problems. Their age is often a barrier to surgical therapy, and large open cavities may exist with minimal symptoms. Nonetheless, their acid-fast organisms are just as capable of producing new cases of tuberculosis as those from younger persons. Although difficult to manage for many reasons, the constant therapy and supervision provided them and their family physicians through such clinics alleviate, we believe, much of the harm which may come from the uncontrolled and untreated "open" cases. This would appear to be particularly true in cases complicated by diabetes mellitus, silicosis, etc.

A total of 121 patients of this clinic not herein analyzed, but reported one year ago, have had therapy discontinued. Still under observation, they present results similar to those reported above.

Conclusion

From the experience gained over the past three years in conducting these two clinics for post-hospitalized tuberculosis patients and having obtained such satisfactory results as evidenced by an almost negligible rate of reactivation of disease, we are of the opinion that a period of hospitalization of six months or more is highly desirable. The advantages of early hospital treatment, where careful laboratory and clinical control of the patient is possible, far outweigh the advantages of initiating chemotherapy at home.

We recognize that these patients with their satisfactory results represent a selected group. It can be argued, therefore, that such patients are more likely to have a satisfactory outcome than other patients. However, the argument that patients who are less likely to have a satisfactory result should also be treated on an ambulatory basis seems fallacious since they, more than anyone else, are in need of hospital care.

Among the objectives in establishing this type of facility are (1) to shorten the duration of hospital stay, (2) to improve the likelihood of satisfactory outcome of home treatment, and (3) to furnish an incentive to hospitalized patients to meet the criteria for acceptance in the clinic for home care.

On considering all of these factors, it seems to the authors that this type of service is useful and essential in most communities with a tuberculosis case load of any magnitude. This is particularly true where beds are available to provide initiation of treatment in a hospital prior to treatment of the tuberculous patient at home.

Reference

1. McKay, D. R.: New York State J. Med. **55**: 87 (Jan. 1) 1955.

Discussion

Ezra R. Bridge, M.D., *Batavia.*—Posthospitalized tuberculous patients are classified as either active or arrested with the exception of a few that may be given an inactive classification.

Those discharged with active disease are designated for the most part as having left against medical advice, by absconding, or because of disciplinary action. They are potentially dangerous to family and community. They make up about 50 per cent of all discharges.

In the group with arrested or inactive disease are those who have completed treatment to the point where they are no longer a danger to their associates as long as their lungs remain as they were on discharge. They are discharged with medical advice. They will have had varying degrees of rehabilitation and will have been conditioned to resume life outside the hospital. Patients in this arrested group will have had consistently negative sputum, no lung cavities, stable chest x-rays, no symptoms of tuberculous toxicity, and no physical signs of pulmonary activity. Their chemotherapy may or may not have been completed. There can be no objection to these patients continuing their treatment in a tuberculosis clinic as long as the clinic meets certain requirements, such as arranging for regular visits, taking interval histories, having chest x-rays at each visit unless otherwise indicated, hunting under special conditions for abnormal physical signs, arranging for a conference with social service and the welfare department when the need exists, and, finally, having a physician available for conferences regarding any symptoms of toxicity and for counseling about any worsening or improvement.

This careful watching is necessary because these patients are on home treatment which is never as good as that obtained in a hospital. Time and time again it has been evident that in the home there are many distractions, routine is hard to follow, worries are multiplied, and a sense of false security develops, especially when drugs are being given.

What about the other 50 per cent who left with active tuberculosis? The fact they left against medical advice shows they have an incomplete idea of the significance of the disease. They think they will improve faster at home, but actually this kind of a move makes final healing more difficult and breakdowns more frequent, drugs or no drugs.

Then too there is a community angle to the discharge of these active cases. Their unhealed tuberculosis increases the chances of the public contracting the disease. The number of new cases will go up, control of the disease will be more prolonged, educational efforts will have to be doubled, public health activities increased, and hospitals will have a higher percentage of advanced and desperate cases.

Of course, both groups are entitled to chemotherapy at a clinic if so advised by the physician in charge. The clinic should have an active follow-up program. It should do repeated examinations of sputum or gastric specimens, take regular chest x-rays, and investigate the resistance of the drugs given.

These drugs, such as streptomycin, isoniazid, and para-aminosalicylic acid, are a great help in tuberculous infiltration, gelatinous pneumonia, and tuberculous pneumonia, but there is no convincing evidence that after these areas have resolved, drugs then play an important part in recovery. It is more evident that the curative forces of Nature itself take over and complete what healing is possible.

In some quarters the thought has been expressed that the need for tuberculosis hospitals is not so acute as ten years ago. This appears true at the moment, probably because of a lag between two philosophies of treatment. Our philosophy is to treat the patients in the environment that is the surest for permanent healing and that will recondition them for life outside. This means rehabilitation in the broadest sense with gradual return to four hours of work a day and with a study of the patient's mental ability to help him do better work and earn more money and solve his personality problems. These requirements teach the patients to live with their disease. Hospitals should continue to furnish complete service to people with tuberculosis; they should continue to work in close association with all tuberculosis clinics. The use of chemotherapeutic drugs in tuberculosis clinics under conditions given by Dr. Grabau is commended.

Emotional Aspects of the Aging Process

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THE problem of our senior citizens is becoming more important as the years go by. With each passing year the average life span grows longer, resulting in an ever-increasing population of aging or, perhaps we should say, aged persons.

Since 1940 the people sixty-five years and over have increased by nearly 50 per cent in the United States and now total 13,500,000. Between 1940 and 1950 the entire population of New York State increased 10 per cent, while our sixty-five and over group increased 39.3 per cent. One can not overestimate, therefore, the need for an active program aimed at alleviation of the many facets of the problems involved in the aging process. Such an attack must include not only a physiologic survey of the situation, but also and even more important the psychologic, social, and economic factors involved require attention and consideration.

This paper concerns itself primarily with the psychologic or emotional aspects which, however, are so closely allied to or at least influenced by the social and economic situation that we may occasionally invade those areas as well in this presentation.

We realize, of course, that the general practitioner occupies the leading role in the care of the aged person, especially the disabled, but not infrequently the emphasis is on the physical, while the emotional elements sink into the background. This is quite a natural consequence because the general practitioner is trained to focus his attention on the physical health and to relieve suffering and impairment from organic diseases. The psychiatrist, on the other hand, plays a broader role since it is his duty to study and understand the total personality of his patient and to evaluate the manner in which he reacts to the environment in which he finds himself.

Let us consider first of all, the thoughts and feelings of the aging:

In the involutional phase of the life cycle the ordinarily adequate adjustment between the instinctive force for self-preservation and race preservation breaks down, and a new physiologic adjustment and psychologic attitude are required. At this time of life the instinctive drive for race preservation abates, and the self-preservation drive reasserts itself more consciously. This results in an overawareness of self and a lack of concern for others which at times occasions a most serious problem of adjustment. A change in philosophy is required. If this fails, the person becomes apprehensive and depressed.

He quite often distorts reality and exaggerates his limitations, so that a picture of neuroticism appears. External stimuli lose their zest, and anticipations which formerly gave rise to pleasure cause only a cynical attitude to develop which pervades his whole outlook on life.

Diminution of sensory acuity, especially of hearing and sight, so frequently found, interfere with social acceptability and ability to maintain effective communication with the environment so that the individual tends to isolate himself. Someone has quite aptly applied the term, "social disarticulation," to this particular problem. Such partial isolation leads to misinterpretations and suspicions which, if allowed to go uncorrected, become distorted and result in increasing anxieties, fear, and discouragement. There are, of course, many other physical changes incident to the aging process, but time precludes the possibility of discussing all of them. Suffice it to say that physical changes constitute a real threat to older persons, but the important thing is the manner in which these changes are accepted.

What about the effect of environment on the senior citizen's emotional responses? Perhaps the most devastating attack on the ego is the matter of forced retirement. It is unfortunate that industry has arbitrarily set the age of sixty to sixty-five as the time at which retirement becomes compulsory. When one feels fit and has the desire and capacity to work, it is a serious blow to the ego to be put on the shelf and branded as useless by society. In order that inactivity may not become wearisome and engender dissatisfaction, definite and constructive plans must

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be worked out, preferably long before retirement is imminent; otherwise his feeling of uselessness leads to anxiety, irritability, and tensions which cause discomfort not only for the individual but for those of his immediate environment as well.

I have tried to touch on a few of the emotional reactions we find in the senior citizen. Because of the complexity of the problem of aging, only the most striking situations have been discussed.

One might discuss in detail many other environmental situations which disturb the oldster, such as attitudes of the family and friends, financial insecurity, etc., but the scope of this paper prevents it. However, if we have been able to emphasize the need to study carefully the emotional elements in each case, with the psychiatric viewpoint always in mind, the purpose of this paper will have been fulfilled.

In summary, one might briefly outline some of the main needs of the older person as follows:

1. A chance to be useful, creatively productive.
2. A chance to be active.
3. The need to be loved or wanted.
4. The need for financial security.
5. A chance to be a free human being.

In order that these things may accrue to him, the senior citizen has certain tasks for which he alone can be responsible. Briefly these are as follows:

1. To learn to adjust to declining physical capacity.

2. To learn to compensate for loss of friends and family as inevitable death removes them from the scene.

3. To learn to live happily in spite of reduced income, loss of social status due to loss of useful, respected role in society.

4. To learn to utilize effectively increased leisure time.

5. To develop a basic philosophy toward life for later years.

In amplifying this last statement there should be some discussion of the religious implications involved. If we induce our senior citizens to believe that all change and advancement in life are perfectly timed, perfectly tuned, and harmonized in divine order and good will, they may find the adjustment to advancing years not too difficult to make.

After all, old age is just a state of mind. The philosophy of the candle might prove an inspiration to many an oldster. This couplet, the source of which escapes me, is as follows:

I'll soon be dead, the candle said.
I, inch by inch, decline
But I make light of my sad plight
For while I live, I shine.

1804 State Tower Building

Care and Rehabilitation of Children and Young People

Reduction of mortality at the younger ages as a result of the control established over the infectious diseases makes it possible to focus greater attention upon the care and rehabilitation of the large number of children and young people in the United States who are physically or mentally impaired, according to the statisticians of the Metropolitan Life Insurance Company.

Orthopedic impairments are among the most common defects at the ages under twenty-one, with the more seriously crippled cases probably numbering about 500,000, it is estimated. The largest single category consists of those suffering residual effects from poliomyelitis, with clubfoot ranking second, and crippling due to accidents third.

Other major causes of physical impairment at these ages include heart disease, chiefly of rheumatic origin, cerebral palsy and epilepsy, and defects in vision and hearing, each adding considerably to the total of impaired young lives.

In addition to those physically handicapped, it is pointed out, many children and adolescents have personality defects or mental disorders that are a threat to their future life and happiness.

Thanks to the advances in medicine, surgery, and methods of rehabilitation, according to the statisticians, many of these young people affected by various physical and mental impairments can overcome their handicaps, at least in some degree. Another encouraging aspect, it is noted, is the increasing emphasis being placed on the prevention of various disabilities.

"There is definite need, however, for intensification and expansion of effort in many directions and for broad research into the factors causing some of the impairments," the statisticians declare. "The rapid growth of the child population in recent years gives added urgency to the situation."

Pharmacologic Properties of Various Antimicrobial Agents with Particular Reference to Common Dosage Scheduling

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THE physician has available for common prescription eight antimicrobial agents, each safe for oral or parenteral administration and reasonably nontoxic even when given to the human for long periods. They are penicillin, streptomycin, chloramphenicol, tetracycline, chlortetracycline, oxytetracycline, erythromycin, and sulfonamide. There are many useful preparations of penicillin and the sulfonamides, there are two streptomycins, and there are among the eight many double and triple combinations. There are, in addition, three polypeptides whose places in the therapy of specific infections, although narrow, are unique: polymyxin B, bacitracin, and neomycin. The former two can be given parenterally with caution; all can be used orally or locally on wounds. Four other drugs, para-aminosalicylic acid, viomycin, isoniazid, and pyrizinamide, used exclusively in therapy of tuberculosis, must also be mentioned in this account, but their complete descriptions are not to be included.

Essentially all bacteria capable of causing an infection in the human have, among the 15 agents, a direct antagonist, either alone or in combination with another. Actually most species are inhibited by more than one drug; indeed, in many infections choice of the antagonist may be made by factors other than the actual antibacterial effect. Some viruses, most rickettsial, and a few larger microbial forms are also affected by one or more of the 15 antimicrobial agents. It is the purpose of this review to suggest how and why certain regimens of therapy for human infections offer the patient best aid in the simplest manner.

On administration to the human the antimicrobial agent is absorbed, distributed, and excreted in its own fashion, and in general, the chemical nature of the drug determines these pharmacologic properties. Because there is no easy way to summarize these facts, each drug must be discussed separately.

One pharmacologic fact, however, does deserve a general statement here. The majority of antimicrobial agents are absorbed from the gastrointestinal tract into the blood serum rapidly and reasonably effectively, although there is always a discrepancy between the amount of drug absorbed via oral and parenteral routes. This defect in absorption varies in degree among the drugs; it is usually in a ratio of from 3:1 to 5:1. In prescribing drugs, then, the oral dose should exceed the parenteral by at least twofold or more and vice versa. A few are not absorbed; these are streptomycin, neomycin, bacitracin, and polymyxin B. Obviously the nonabsorbed drugs can be used for therapy of local intestinal tract infections, but to produce levels in serum, they must be given parenterally. Further details of these pharmacologic variations are described in separate sections.

Penicillin G

Penicillin G is a crystalline material and is the most potent antimicrobial agent, although its activity is limited to a relatively few microorganisms (Table I). It is soluble and rapidly excreted; therefore, when it is used in its unadulterated form, frequent priming doses are essential. This need presumes that the most efficient manner to control growth of invading bacteria is to maintain, for the majority of hours each day, concentrations of drug in serum which are maximally effective against the offending organism. A single intramuscular dose of 100,000 units of penicillin results in peak serum concentrations within forty-five minutes, the level attained being approximately 1 to 2 units per ml.

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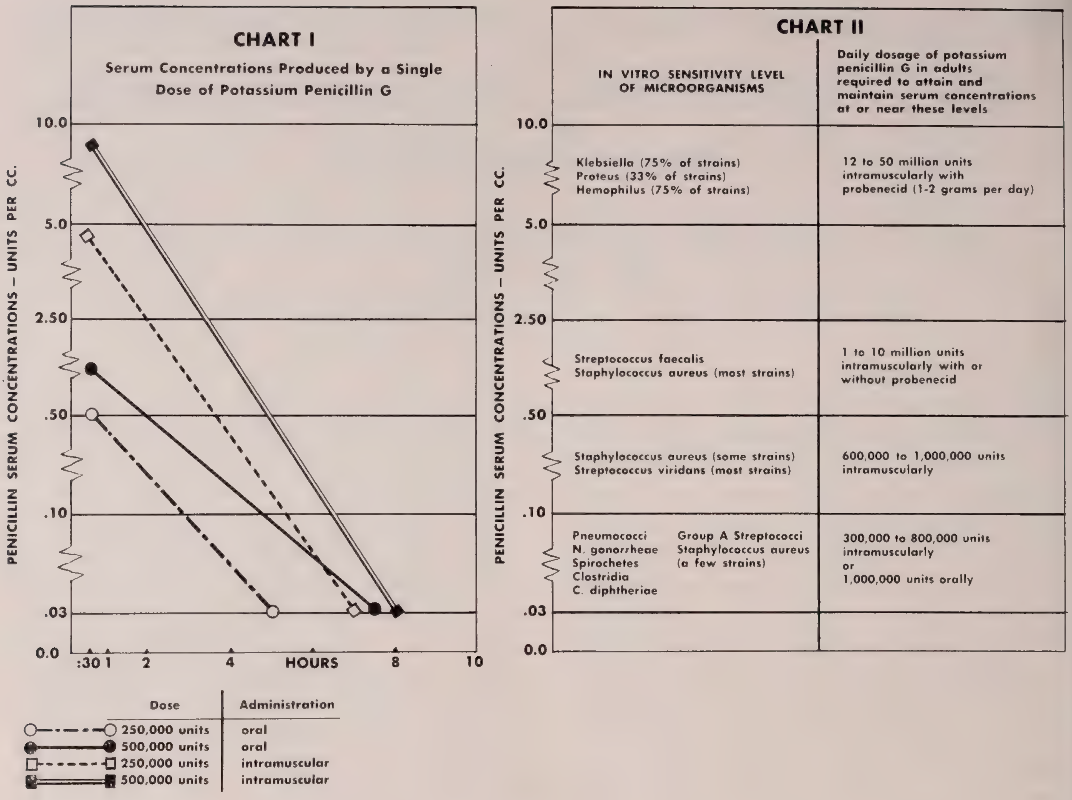

FIG. 1.

of serum. Levels above 0.03 unit per ml. are maintained for from three to four hours (Fig. 1). This latter amount inhibits maximally growth of the most susceptible organisms, e.g., pneumococcus, gonococcus, group A hemolytic streptococci, and others (see next paper). If this amount is used for therapeutic purposes, repeat doses are needed at four-hour intervals for best effect. Larger doses maintain levels for longer periods, and peak concentrations are also higher; 250,000 to 300,000 units provide concentrations above 0.1 unit per ml. for three hours and 0.03 unit or above for about seven hours. Depending on the susceptibility of the infecting micro-

TABLE I.—INFECTIONS IN WHICH PENICILLIN IS DRUG OF CHOICE

Infection*	Preparation	Daily Dose (Units)	Duration of Therapy (Days)	Remarks
Pneumococci—pneumonia	Procaine or aqueous	1,000,000	7 to 10	....
Streptococci (beta hemolytic)—sore throat, scarlet fever, cellulitis, etc	Procaine or aqueous	1,000,000	8 to 10	....
Gonococci—urethritis	Procaine or aqueous	600,000	1 to 3	....
Staphylococci—abscesses, osteomyelitis, etc.	Aqueous	Depends on in vitro sensitivities	7 to 14	Large doses may be required, often in combination with another drug
Fecal streptococci—endocarditis, peritonitis	Aqueous	1,000,000 to 10,000,000	28 to 42	Must be used with streptomycin
Bacillus proteus	Procaine	600,000	10	Must be used with chloramphenicol
Klebsiella—pneumonia	Aqueous	.....	14 to 21	Must be used with streptomycin
Fusospirochetes—trench mouth	Procaine	600,000 to 900,000	5 to 7	....
Syphilis	Procaine and benzathine	.....	...	Depends on the stage

* Also useful in lung abscess, bronchiectasis, diphtheria, clostridial infections (gas gangrene, tetanus).

organism, these larger amounts should be repeated every four to eight hours.

Penicillin penetrates lung, liver, and kidney from serum rapidly and in concentrations approximately equal to those in serum. Infections in these areas thus require no larger doses. Central nervous system, skin, and bone marrow infections, on the other hand, are more difficult of control for there is a barrier to the penetration of penicillin. In such instances vastly greater amounts of penicillin are required to supply the same concentrations as are present in the serum. For example, 100,000 units penicillin every four hours intramuscularly maintains concentrations at or above 0.03 unit per ml. serum continuously. It is, therefore, a good regimen for management of a patient with pneumococcus pneumonia. Ten million units of penicillin daily are needed to attain similar levels in the spinal fluid; adequate therapy for pneumococcal meningitis, then, must be the larger amount to assure maximal benefit to be derived from penicillin.

For infections caused by susceptible bacteria penicillin can and probably should be administered by mouth. With this route there is usually no gastrointestinal upset, and anaphylaxis is less likely to occur. Penicillin is readily absorbed through the gut, but not all of a single dose gets through, so that there is an absorptive defect when compared to a dose given into the muscle. The discrepancy is, however, less than is commonly believed, and actually approximately one half of a single dose generally is absorbed unless there is gastrointestinal pathology. An oral dose of 250,000 units produces a peak level of 0.5 unit within sixty minutes, and levels above 0.03 persist for about five hours (Fig. 1). One-half million units yield peak concentrations of almost 2 units, and effective amounts (for susceptible organisms) persist for seven to eight hours. This long period is comparable to the same dose given parenterally, although the initial peak is lower.

Therapy given orally for infections caused by susceptible organisms then can be designed, using the 500,000-unit doses twice or at the most three times daily. This regimen has proved effective, and many reports confirm its efficacy. Less than twice the needed intramuscular dose is required. For example, approximately 600,000 units of either aqueous potassium penicillin (100,000 units six times daily) or procaine penicillin (300,000 twice daily) intramuscularly are generally prescribed for pneumonia; the oral regimen is 250,000 units four times daily or 500,000 units twice daily.

Despite claims to the contrary, no single oral penicillin preparation yields significantly better blood levels than regular penicillin in tap water or prepared in a simple citrated tablet. There is thus no advantage to using any but the most economical preparation.

Procaine penicillin is relatively insoluble when deposited in muscle (Table II). A single dose consequently is followed by a slower development of peak concentrations and longer periods of assayable penicillin in serum. When suspended in water, a single dose of 300,000 units produces peak concentrations at two hours of 0.5 unit. Levels above 0.03 unit extend for about twenty hours. These figures can be compared with 300,000 units aqueous penicillin whose peak is about 2 units and whose effective serum level persists for only four hours. Doubling the doses of procaine to 600,000 units does not raise the peak level appreciably (0.6 unit versus 0.5 unit), but levels do persist for over thirty-six hours. Consequently, if procaine penicillin is used for therapy of infections, a single daily dose of 600,000 units is recommended, or two doses of 300,000 units given every twelve hours. It must be emphasized that procaine penicillin is simple, effective therapy for infections caused by susceptible microorganisms. It is not proper for infections caused by partially resistant organisms. Irrespective of the size of a single dose, levels above 1 unit are exceedingly difficult to attain and persisting levels above 0.05 unit almost impossible to maintain. There is little cumulative effect with any form of penicillin.

Procaine penicillin suspended in an oil, such as 2 per cent aluminum monostearate, is less soluble than procaine in water. As would be anticipated, peak levels are somewhat lower than procaine in water, but absorption continues for longer periods. Six hundred thousand units result in peak levels of 0.5 unit, and levels above 0.05 unit persist for more than sixty hours. This preparation has certain very real advantages in treatment of some infections, for repeat doses more often than every two days are not necessary. Syphilis, pneumonia, and perhaps some other pulmonary infections not requiring hospitalization can be simply, yet safely managed with infrequent injections.

Some proprietary preparations of penicillin combine aqueous penicillin with procaine peni-

TABLE II.—SUMMARY OF PHARMACOLOGIC DATA ON DOSAGE SCHEDULING OF VARIOUS PENICILLIN PREPARATIONS

Preparation	Single Dose (Units)	Route of Admission	Peak Concentration (Units per Cc.)	Units per Ml. in Serum (Hours After a Dose)		
				4	8	24
Aqueous	250,000	Intramuscular	2.5	0.1	0.02	...
	500,000	Oral	2.0	0.1	0.03	...
Procaine	300,000	Intramuscular	0.6	0.1	0.05	0.02
	600,000	Intramuscular	0.75 to 1.0	0.15	0.06	0.02
Procaine in oil	600,000*	Intramuscular	0.6 to 0.75	0.12	0.06	0.03
Benzathine	300,000†	Intramuscular	0.4	0.05	0.05	0.03
	1,200,000**	Intramuscular	0.5	0.05	0.05	0.03

* Levels between 0.02 and 0.03 unit persist for from 3 to 4 days.

† Levels between 0.02 and 0.025 unit persist for from 9 to 11 days.

** Levels between 0.02 and 0.025 unit persist for from 14 to 21 days.

cillin. In such combinations each penicillin demonstrates its own pharmacologic effect without enhancing the others. The usually added 100,000 units of penicillin G produce the expected peak concentration of about 1.5 units. The 300,000-unit procaine portion extends the low levels for the anticipated eighteen to twenty-two hours. There seems little logic in the popularity of such preparations. The high level is obtained no sooner and does not last longer.

The most insoluble of all presently available preparations is benzathine penicillin (N,N′-dibenzyelthelyene diamine di penicillin or bicillin or benzathecil). Because of its almost complete insolubility, very low serum levels are obtained, but they persist for many days. Peak concentrations after a dose of 300,000 appear at the second hour after parenteral administration (obviously neither this material nor the procaine preparations can be given intravenously) and reach a level of about 0.05 unit per ml. serum. For the next five to seven days levels above 0.025 are detectable. When benzathecil is combined with both aqueous penicillin G and procaine penicillin with aluminum monostearate, peak levels on administration in excess of 1.2 units are attained, and levels above 0.015 are maintained for periods as long as ten or eleven days. These concentrations are dangerously low for dependable results in management of any acute infection with a single dose. With daily dosage, of course, there is some cumulative effect, and levels are observed after the second dose which are adequate to control growth of the most susceptible bacterial species.

Each of these preparations of penicillin has a secure place in therapy of infections, either alone or combined with a second variety. Each has distinctive pharmacologic properties, however, and in no sense are dosage schedules completely interchangeable. In fact, when two or more of the penicillins are combined, each preparation demonstrates its own properties more or less independently of the other. Penicillin remains the best antimicrobial product. In temperate zones it is estimated that it is the drug of choice in almost three fourths of all bacterial infections, and in our own experience this is correct. Commercial houses have made it easy to administer penicillin for its many indications and for many infections caused by bacteria of varying sensitivities to it.

Procaine penicillin retards the rate of absorption from the site of infection, thus prolonging serum levels. Penicillin is rapidly excreted through the urine. Because of this feature, high, sustained serum concentrations are difficult to maintain. Interference with renal excretion prolongs serum levels, and this is done effectively with the concomitant administration of Benemid or probenecid. When given in 0.25 to 0.5-Gm. doses three or four times daily, significant increase (two to tenfold) in both the height and extent of serum levels is accomplished dependably. The adjuvant is nontoxic and is of significant value in making easier the therapy of infections requiring large doses of penicillin. Similarly the oral administration of penicillin is made simpler with Benemid for smaller doses are required. It is our distinct impression that the usefulness of Benemid has not gained the popularity it warrants.

Sulfonamides

By amounts sold at least, the sulfonamides must be placed second in a review of therapy with antibacterial agents. They represent the first of the antibacterial agents in the modern era; they have become cheap to use and are safe for all practical purposes. Their activity against human pathogens is broad, and actually most gram-positive and many gram-negative organisms are inhibited by them. They remain the drug of choice in urinary tract infections and the dysenteries, are a satisfactory substitute for penicillin in prophylaxis against streptococcal infections, and can be used to excellent advantage in all meningococcal infections; in fact, they remain the drug of choice in meningococcal meningitis. A major reason for these latter two indications is that most available preparations, when administered either orally or intravenously, penetrate well into saliva and into spinal fluid; approximately 50 per cent of the free drug level in serum is found in spinal fluid.

There are many acceptable preparations of sulfonamide, each has certain unique pharmacologic properties, but, in general, their usefulness is essentially identical. Sulfadiazine, sulfamerazine, sulfathiazine, Elkosin, Gantrisin, and a triple mixture of sulfapyrimidines containing equal quantities of diazine, merazine, and methazine are the common ones now easily available. A 1-Gm. dose by mouth produces peak blood levels of free drug within five hours (6 to 8 mg. per cent), and for the next four to six hours adequate levels are maintained. To secure blood levels in excess of 10 mg. per cent, as is necessary in the management of meningitis, a minimum of 6 Gm. daily is needed. For the majority of infections 4 Gm. daily supply adequate drug.

Because of the solubility of the newer materials in acid solutions, alkalization of urine is not often required as a part of therapy if adequate amounts of water are given during the therapeutic period. In instances where the urine is unduly acid, perhaps the triple mixtures or Gantrisin or Elkosin are preferable to single sulfapyrimidine such as sulfadiazine. With individuals whose kidney function has deteriorated, sulfonamide must be administered with caution, and perhaps another broad-spectrum agent should be substituted.

Some sulfonamides are not soluble and are not absorbed from the gastrointestinal tract; sulfasuxidine and sulfathalidine are examples. They have a direct usefulness in intestinal infections where the infectious lesion is superficial (not typhoid fever). They also are used in conjunction with the unabsorbable neomycin and/or bacitracin for intestinal antisepsis prior to surgery upon the bowel, particularly the colon. Large doses, in excess of 10 Gm. daily, are needed to produce a significant change in bowel flora.

Sulfonamides have also been combined with other antibacterial agents, particularly with erythromycin and oral forms of penicillin. There are no data suggesting that such combinations enhance or detract from the activities of either material. The combinations might conceivably be of some value in certain complicated, multiple bacterial infections, but their over-all usage must be limited.

Streptomycin

Streptomycin is infrequently administered alone; its major advantage is in combination with a number of other antimicrobial agents. Despite this broad statement streptomycin singly is a powerful drug, capable of killing, and associated with only minor toxicity when given for periods of less than fourteen to twenty days. The sole and simplest reason that streptomycin is not used alone generally is that microorganisms initially sensitive to it become resistant to its antagonism quickly and completely. When prescribed alone consequently, the therapeutic regimen must be a short one, five days or less. With a second agent given with it, the problem of resistance diminishes markedly. Streptomycin has a broad spectrum; it interrupts the growth of the majority of both gram-positive and gram-negative organisms. It is the most powerful agent available (when combined with a less potent second drug) for treatment of tularemia, Klebsiella infections, certain of the dysenteries, brucellosis, and tuberculosis.

Two streptomycins are available—the sulfate and the hydrogenated form, dihydrostreptomycin. The latter preparation is the more simply managed because of its chemical characteristics. It combines easily with penicillin and other drugs and is stable. Streptomycin sulfate, on the other hand, does not combine with penicillin and is a more difficult chemical for general manipulative purposes. Pharmacologically the two are identical; their dosage schedules should be the same, the cost is essentially similar, and for therapy they can be interchanged.

When allergic reactions develop from one, the other can be substituted; there are no cross immune reactions. It is possible, of course, for a single patient to become hypersensitive to both.

The two streptomycins have essentially the same toxic potentials with one major exception. When used for long terms or when an excess of 40 to 50 Gm. have been administered, streptomycin sulfate provokes a paralysis of the vestibular branch of the eighth cranial nerve, and this

TABLE III.—INFECTIONS IN WHICH STREPTOMYCIN IS DRUG OF CHOICE

Infection	Daily Dose (Gm.)	Duration of Therapy	Remarks
Tuberculosis	1 Gm. daily or 3 times weekly	12 months or more	Must be given with PAS or another tuberculostatic agent
Urinary tract infection	1	5 to 8 days	Sulfonamide drug of choice
Peritonitis	1	7 to 10 days	Added penicillin essential
Brucellosis	1	14 to 17 days	Added tetracycline or sulfonamide essential
Fecal streptococcal endocarditis	1	28 to 42 days	Added penicillin in large doses essential
Klebsiella pneumonia	2	10 to 14 days	Added penicillin in large doses essential
Tularemia	2	10 days	....
Dysenteries			
Shigella	4 to 6 oral	10 to 14 days	Tetracyclines and chloramphenicol also effective
Salmonella	1 intramuscular		

may become permanent. Dihydrostreptomycin rarely affects this branch but in a significant number of instances produces deafness on prolonged administration. Because dizziness is preferable to deafness, the dihydrostreptomycin form should never be used in the management of patients with tuberculosis or if more than a 50-Gm. regimen is outlined.

Recently commercial houses have combined the two forms, hoping that all toxic reactions will thus be lessened. If this proves to be the case, the combination would be worthy. At this time it would appear that the eighth nerve toxicity develops at the same rate as anticipated from either alone. For short courses there is merit in using it because of its ease of manipulation.

Streptomycin does not have to be administered more than twice daily. Blood levels following a single dose persist for more than twelve hours, and assayable amounts are present at twenty-four hours. Following 1 Gm. given parenterally, levels of 40 micrograms per ml. appear after the second hour; at twenty-four hours at least 0.5 microgram per ml. is still measurable. From 5 to 20 micrograms per ml. at the two to three-hour peak, 6 micrograms at eight hours, and less than 0.1 microgram at twenty-four hours are attained with a single 0.5-Gm. dose. Organisms are sensitive in the general range of 0.5 to 2 micrograms per ml. (Table III).

In combination, penicillin and streptomycin offer tremendous broad-spectrum activity. Indeed, the combination has become popular and is often first prescribed in the presence of an unknown bacterial infection. Although the usual prescription includes either 0.25 or 0.5 Gm. of dihydrostreptomycin and 300,000 or 600,000 units of procaine penicillin, actually the best combination of the two drugs should include far more penicillin. This applies to the three infections in which the two together offer the most effective therapy—Klebsiella pneumonia, fecal streptococcal endocarditis, and generalized peritonitis—in all of which penicillin must be used in large amounts, i.e., 10,000,000 to 12,000,000 units daily of the aqueous preparation. However, the easily available preparation containing the smaller units of penicillin is useful for a greater number of other infections, and its place in therapy is properly secure.

Other important infections whose treatment should include streptomycin as an integral part are brucellosis and tuberculosis. In the former a combination with any one of the broad-spectrum agents or with the sulfonamides offers best therapy. Standard doses of each ingredient in the combination is needed, i.e., 1 Gm. of streptomycin and 1.5 Gm. of a tetracycline or chloramphenicol or 4 Gm. of a sulfonamide.

Therapy of tuberculosis is somewhat more complicated and cannot be discussed at length. However, streptomycin (not dihydrostreptomycin) in combination with para-aminosalicylic acid (given orally) continues to be a standard regimen, and no other agent alone or in combination with another has excelled it. To be successful, of course, the two drugs must be given for long periods.

Streptomycin together with a broad-spectrum agent probably adds to the efficacy of treatment of Hemophilus infections, tularemia, and at least some of the dysenteries.

Broad-Spectrum Antimicrobial Agents

CHLORAMPHENICOL (CHLOROMYCETIN).—Chloramphenicol has certain advantages in clinical prescription not enjoyed by other broad coverage drugs. Organisms are less apt to become resistant to it on continued exposure; there is no cross resistance with it and other agents, and its action on a few microorganisms is highly specific. Its

TABLE IV.—INFECTIONS IN WHICH EITHER CHLORAMPHENICOL OR ERYTHROMYCIN ARE RECOMMENDED AS DRUGS OF CHOICE OR AS ADEQUATE SUBSTITUTE*

Infection	Drug	Daily Dose (Gm.)	Duration of Therapy in Uncomplicated Cases (Days)	Remarks
Staphylococcal—abscesses†	Chloramphenicol and/or erythromycin	2 to 3 1.2 to 2	7 to 10	The two work well together or with bacitracin in serious cases
H. pertussis—whooping cough	Chloramphenicol	2	21	....
H. influenzae—meningitis	Chloramphenicol	20 mg. per Kg.	10 to 14	Can be used alone, added streptomycin daily may be of advantage in serious cases
B. proteus infections—urinary tract generally	Chloramphenicol	1.5 to 2	7 to 10	Procaine penicillin adds effectively to control of deep infections
Typhoid fever	Chloramphenicol	2	17 to 21	Intermittent therapy probably best. Tetracyclines also effective
Rickettsial infections	Chloramphenicol	2	17 to 21	Tetracyclines also effective

* Both drugs effective in infections caused by pneumococcus, streptococcus, gonococcus, but penicillin is still drug of choice in these.

† In vitro testing of sensitivity is essential before proper drug can be prescribed wisely. Combination probably should be restricted only to more serious infections.

toxicity has received far more unfavorable publicity than it deserves, and in general, it is a safe drug when the indications for its use are proper.

The usual daily dose of orally administered chloramphenicol is 2 to 3 Gm. for adults or 50 mg. per Kg. body weight for children. Most organisms which are inhibited by chloramphenicol fail to grow in concentrations between 0.025 to 3 micrograms per ml. A single 0.5-Gm. dose provides peak concentrations of 4 to 5 micrograms at two hours, and levels above 0.5 persist for six hours. One gram produces peak concentrations of 9 micrograms at three to four hours, and levels above 0.5 mg. are available for from twelve to fifteen hours. Consecutive 0.5-Gm. doses given at six-hour intervals maintain levels of 4 micrograms, which, of course, are adequate for the treatment of the infectious organisms which respond to chloramphenicol. This is the standard prescription, and rarely does it need appreciable change. In children a suspension is tolerable and stable; usually, however, the drug is given in capsule form. Recently a parenteral preparation has become available. Because of the large absorptive defect from the intestinal tract, intramuscular dosages need not be so great as oral. Total daily doses of 0.75 to 1 Gm. are sufficient (Table IV).

Chloramphenicol is active against a wide variety of microorganisms which cause human infections; it is in every sense a broad-spectrum agent. It is useful in infections caused by streptococci A and D, pneumococci, Hemophilus pertussis and influenzae, Brucella, the Cornybacteria, Klebsiella, Neisseriae, the majority of Salmonella, Shigella, and Treponema. Its action, however, does not equal that of penicillin, nor actually, initially at least, of streptomycin. There are, however, five human infections in which chloramphenicol plays a major role in therapy, either alone or in combination with a second drug.

Many penicillin-resistant staphylococci are quite sensitive to chloramphenicol, and our own clinical experience has demonstrated its efficacy in such infections. Although not staphylococcidal enough to control true staphylococcus sepsis, it has proved worthy in the management of abscesses, cellulitis, and other minor infections.

In more serious staphylococcal infections a combination of erythromycin and chloramphenicol, each in standard oral dosage, has proved effective. Explanation for the unexpected value of these two drugs in combination cannot be proffered, but that they work together cannot be denied. It is our experience that the combination offers far more antimicrobial activity than either alone.

Its place in therapy of typhoid fever is also very secure. Intermittent therapy extending five days initially and every other five-day interval thereafter is best. Chloramphenicol is a most valuable ingredient in the prescription of antibiotics for Hemophilus influenzal meningitis and in whooping cough (H. pertussis). It probably should be combined with a second drug, preferably streptomycin or a sulfonamide, but there are favorable reports suggesting that it can be used alone satisfactorily. For the first three or four days of treatment doses of at least 75 mg. per Kg. body weight are needed for there is a

TABLE V.—INFECTIONS IN WHICH THE TETRACYCLINES* ARE RECOMMENDED AS DRUG OF CHOICE OR AS AN ADEQUATE SUBSTITUTE†

Infection	Total Daily Dose (Gm.)	Duration of Therapy in Uncomplicated Cases (Days)	Recommended Adjuvant Therapy and/or Remarks
Pseudomonas aeruginosa—urinary tract generally	1 to 2	5 to 8	Generally no treatment is needed
Bacteroides infections	2 to 2.5	5 to 8	Surgical treatment of necrotic tissue essential
Brucellosis	1 to 2	14 to 17	With streptomycin 1 Gm. intramuscularly daily
Rickettsial infections—Q fever, eastern spotted, etc.	1.5 to 2	10 to 14	Chloramphenicol also effective
Staphylococcal—abscess	1.5 to 2	5 to 8	..............**
H. influenzae—meningitis	20 to 30 mg. per Kg.	10 to 14	With streptomycin intramuscularly 20 mg. per Kg. per day. Chloramphenicol probably drug of choice
Urinary tract infections	1 to 1.5	5 to 8	Sulfonamide probably first drug of choice
Acute respiratory infections—bacterial etiology unknown	1 to 2	5 to 8	Generally no treatment is needed

* Aureomycin, Terramycin, tetracycline are considered equally effective.

† Gonococcal, streptococcal, pneumococcal infections respond to therapy with tetracyclines, but for their treatment penicillin is drug of choice.

** For penicillin-resistant, tetracycline-sensitive organisms. In vitro testing of sensitivity is required. Another drug may be needed; see erythromycin and chloramphenicol.

blood-brain barrier which must be surmounted for best results. Standard dosages are sufficient for the managment of whooping cough.

Chloramphenicol in standard oral dosage given with 600,000 units of procaine penicillin parenterally daily is effective therapy for many infections caused by Bacillus proteus. We have used this combination frequently and with success in management of chronic urinary tract infections due to the Proteus species. There may be failure, for not all species are equally susceptible to the two drugs, albeit our early experience suggests that most will respond.

THE TETRACYCLINES.—Among these are chlortetracycline (aureomycin), oxytetracycline (Terramycin), and tetracycline (Polycycline, Achromycin, Tetracyn, Steclin, Panmycin).

The three analogs of tetracycline are excellent broad-spectrum agents. Their pharmacologic properties, toxicity, and antibacterial usefulness are almost identical, and they can and should be considered together. Although there are minor variations in their activities, it can be stated that if one works, the other two will also; that if an organism becomes resistant to one, it will also be resistant to the others; and if untoward side-effects occur with one, such will follow the administration of another. There are variations, however, which are clear. Chlortetracycline is quite unstable. There is probably a lower incidence of diarrhea and other gastrointestinal symptoms from tetracycline, and some organisms (listerella and Escherichia coli, for example) respond to oxytetracycline but do not respond as well to the other two.

Standard oral dosage schedule is 1 to 2 Gm. daily for adults and from 20 to 30 mg. per Kg. body weight for children. Parenteral doses of any one of the three can be less than one-half the oral dose for there is an appreciable defect in gastrointestinal absorption.

In general, blood levels are like those of chloramphenicol, perhaps somewhat lower but longer. Daily schedules should include at least three doses at eight-hour intervals for maximal effect. Following a 250-mg. oral dose of either oxy- or chlortetracycline, peak levels of 1 to 2 micrograms are attained at one and one-half hours. At six hours 0.8 microgram is measurable and at twenty-four hours less than 0.1 microgram. Intramuscular doses of 100 mg. show a one-hour peak of 2 micrograms and a similar distribution thereafter. Oral doses of 1 Gm. are followed by peak levels of 2.5 micrograms, and 0.5 microgram is present at twenty-four hours (Table V).

In the instance of tetracycline somewhat higher peak levels are attained, i.e., 2 to 3 micrograms, and at six hours there remains 1 microgram. (This is not to be construed, however, that the three drugs deserve separate dosage schedules.)

The tetracyclines do not penetrate the blood-brain barrier and, therefore, when used in meningitis, must be given in larger doses. Susceptible organisms require from 0.2 to 2.5 micrograms per ml. for their inhibition.

It is difficult to define precisely in what instances the tetracyclines are most useful. Their antibacterial activity encompasses most gram-positive and gram-negative organisms, and clinical reports indicate clearly that their usefulness is also broad. At the same time it is the uncommon infection in which they are best or at least one in which another drug is not so effective. Their place in therapy of infections is, however, a secure one and properly so. Perhaps it would be fair to suggest that one or the other of them is used most frequently in therapy of respiratory infections. They are also administered commonly for urinary tract infections. It is our own opinion that the clearest indication for their prescription is in combination with another drug. When given with streptomycin, therapy of brucellosis becomes more effective, and mortality rates from Hemophilus influenzal meningitis are lower. When used with polymyxin B, pyocyaneus infections can be cured. In instances of tetraycline-sensitive staphylococcal infections, its administration with penicillin offers the patient more protection. In each of these situations standard 1.5 to 2-Gm. daily oral doses are satisfactory. (Dosages for the second drug have been recommended in the other sections.)

Used alone, the broad-spectrum tetracyclines are valuable therapeutic weapons in management of patients with syphilis, gonorrhea, pneumococcal pneumonia, and all group A beta hemolytic streptococcal infections. In each of these, however, it is our considered opinion that no one of them should be drugs of choice, for penicillin is more effective, safer, cheaper, and more pleasant to take. In the treatment of the common, uncomplicated urinary tract infections the tetracyclines are valuable. Although our own opinion is that the sulfonamides should be used first, particularly in instances where the precise bacteriologic cause of the infection has not been clearly defined, certainly the broad-spectrum agents are as effective and in many instances better. We choose them for second place because of their expense and their greater potential for causing untoward side-effects. Many penicillin-resistant staphylococcal infections also respond to any one of the tetracyclines. Before prescription, however, in vitro sensitivity tests must be performed since increasing numbers of penicillin-resistant staphylococci are also resistant to the tetracyclines.

Rickettsial infections, typhus, eastern and Rocky mountain spotted fever, Q fever, and psittacosis all respond to the standard dosage of the tetracyclines. Together with chloramphenicol, they are drugs of choice, and their good in these uncommon but dangerous infections is immeasurable. Similarly in bacteroides infections, the four drugs (three tetracyclines and chloramphenicol) offer the patient tremendous benefit. Dosage of drug in this infection must be designed with care, for bacteroides grow only in necrotic tissue and under anaerobic conditions. Distribution of drug into such an area is made difficult. Description of how best to administer it cannot be made simply; each infection must be individualized.

As suggested earlier, the tetracyclines are used most commonly in acute respiratory infections of bacterial origin, but it is our definite opinion that penicillin is the better choice. Perhaps the one advantage of a broad-spectrum agent in therapy of an acute respiratory ailment is that too frequently the bacterial cause is not recognized early in the course, and an agent with broad antibacterial activity would, on the surface, seem more logical to use initially. The advantage of broader coverage exceeding more potent activity cannot be denied, although in our own experience such is neither the case nor necessary. The exigencies peculiar to each locality must then determine drug of choice in therapy of acute respiratory disease. It must be emphasized that no drug has been shown to be effective in nonbacterial or non-Rickettsial respiratory disease. The use of tetracycline routinely in respiratory infections must be condemned unless there is a reasonable doubt as to the etiology of the infection.

Erythromycin

Erythromycin is the newest of the antimicrobial agents. It is active against almost all gram-positive organisms and a few gram-negative cocci and is exceedingly potent in some of them. It has the distinct advantage over the tetracyclines in being less toxic and less capable of inducing untoward gastrointestinal reactions. It is also more palatable according to most people who have had the experience of taking both. On the other hand, it is not so potent as penicillin in therapy of infections caused by bacteria susceptible to both.

Erythromycin can be given parenterally and orally, the latter being the more common route.

Daily dosage ranges in the adult from 1 to 2 Gm., and the total amount should be divided into at least three doses (Table IV).

Peak concentrations in serum are noted about two hours after an oral dose, although measurable and effective levels are attained at one hour. Levels decrease abruptly after the fifth to sixth hour and are absent after twenty-four hours. An adequate regimen of the drug should consequently include at least a 300-mg. dose three times daily. Peak levels after that single amount reach between 0.3 and 15 micrograms per ml.; by the eighth hour less than 0.05 unit remains. Three hundred-milligram doses given every eight hours maintain levels between 0.1 and 5 micrograms. In general, blood levels of erythromycin are somewhat higher than those after the tetracyclines. Erythromycin does not pass the blood-brain barrier in the absence of inflammation, but high concentrations are observed in liver, kidney, placenta, and in ascitic and pleural fluids.

Susceptible organisms are sensitive to erythromycin in the general range of 0.04 to 0.2 microgram per ml.

Erythromycin's activity against penicillin-resistant staphylococci is well known, and it is of a high order. When erythromycin is given in standard amounts of from 1.2 to 2 Gm. daily, infections caused by penicillin-resistant staphylococci generally respond well. Although staphylococci may become resistant to erythromycin, that event does not occur rapidly, and therapy of a single infection can usually be completed. Although we have not chosen to treat serious staphylococcal sepsis with erythromycin alone, its combination with either chloramphenicol or bacitracin or both is now accepted as the best therapy for these otherwise fatal infections, and the results attained are gratifying.

Early and preliminary observations indicate rather conclusively that erythromycin and chloramphenicol together enhance the antibacterial power of each singly. Whether or not actual synergism is demonstrated must await further laboratory studies, but clinically the two work well together making penicillin-resistant staphylococcal infections less dangerous to society and to the patient.

The incidence of staphylococcal infections of the penicillin-resistant variety is reaching impressive proportions, particularly in hospitalized patients. The introduction of an effective antistaphylococcal agent fortunately makes the problem less important. It is emphasized, however, that it is our experience that penicillin remains first choice of drug if the invading staphylococci are sensitive.

In other gram-positive and gram-negative coccal infections, erythromycin has a real place in therapy in those patients not able to take penicillin for some reason.

The Polypeptides: Neomycin, Bacitracin, and Polymyxin B

Each of these agents has certain useful antibacterial characteristics which make their place in therapy of some infections secure and valuable. The single reason for their inclusion as one grouping is that they have similar chemical, biologic, and toxic properties.

They are polypeptides and have an inherent nephrotoxicity which cannot be overlooked or avoided. When used in standard dosage parenterally for more than four days, it is the common experience to observe increases in albuminuria, cylindruria, and other cellular components in the urine of patients, and retention of nitrogenous material inevitably follows. The toxicity is reversible on cessation of therapy. Because of this toxicity neomycin is rarely used parenterally, and regimens utilizing the other two must be carefully designed.

None of the three is absorbed from the intestinal tract. With parenteral administration, peak levels are attained within two hours. They are slowly excreted so that more than four doses daily are not needed, and usually three are sufficient. Bacitracin in excess of 100,000 units daily should not be used, and more than 200 mg. daily of polymyxin B are invariably toxic. In the case of polymyxin, peak concentrations of 4 micrograms are attained. With eight hourly doses (2 micrograms per Kg. per day) levels of 1 to 8 micrograms per ml. are maintained. Similar concentrations follow 20,000-unit doses of bacitracin. Organisms are susceptible in the general range of 0.1 to 2 micrograms per ml.

The three have broad activity. Neomycin and polymyxin B are mostly effective against gram-negative organisms. Bacitracin is particularly useful in infections caused by gram-positive organisms, especially in cases which fail to respond or are resistant to penicillin.

Neomycin is best used as an intestinal antiseptic. Given in full 1-Gm. oral doses for four consecutive hours and thereafter at six-hour intervals, neomycin is capable of altering intestinal flora almost to the point of sterility. Consequently it is useful in preparations for open large bowel surgery.

Polymyxin's major usefulness is in cases of infections caused by Pseudomonas aeruginosa. When given in 25-mg. doses parenterally once daily and in combination with oxytetracycline or tetracycline, pyocyaneous organisms are almost totally eradicated within ninety-six hours. Polymyxin B in full amounts (200 mg. daily) is the drug of choice for most cases of gram-negative bacillary meningitis.

Bacitracin is valuable as the bactericidal agent of choice in staphylococcal sepsis or in other serious staphylococcal infections. Its use of course should be accompanied by a second drug. As local treatment for open wounds and other infected superficial infections, bacitracin is also very effective.

General Toxicity of All Antimicrobial Agents

A description of the usefulness of antimicrobial agents cannot be complete unless a listing of their toxicity in general terms is appended. In the treatment of most bacterial, some viral, and a few fungal infections, there is a useful antagonist. In management of a patient who has a fever without an infection, or a viral infection, or a fungal or mycotic infection, the administration of any one of these agents usually does no good, and in many instances they harm the patient. Under most circumstances man lives in peace with the microbial civilization about and in him. His exposure to a powerful drug designed to interrupt the growth of some but never all of such parasites can be disastrous to the balance between host and parasites. A listing of these unfavorable effects then must be kept in proper perspective. It is the requisite of the physician prescribing drugs to do more good than harm with them. If the patient is infected with a pathogenic microorganism, specific therapy with an antagonist is proper. If the infection is overwhelming and the patient is in danger from it, the administration of even a dangerous drug can be endured.

In general, toxic reactions can be divided into three major groupings: allergic, intestinal, and bacteriologic.

The allergies, ranging from acute and often fatal anaphylaxis to rashes, hives, and fever which are inconvenient and uncomfortable, have been described often. It can be pointed out that orally administered drugs rarely, if ever, result in acute anaphylaxis, even in the most highly sensitized person. All other allergies have been described following the administration of every known antimicrobial agent, regardless of route of administration. Their incidences range from 3 to 5 per cent of those receiving the agent, which is impressive. Higher rates can be expected as more of the population are sensitized to the various agents.

Broad-spectrum agents affect the bacterial flora of the intestinal tract on oral administration. From 10 to 20 or more per cent of patients receiving the tetracyclines, chloramphenicol, and possibly erythromycin develop changes in bowel habits, nausea, vomiting, and other distressful symptoms. Occasionally extraordinarily serious staphylococcal enterocolitis supervenes. Similarly along with the disturbing symptoms due to changes in bacterial flora, there may be alterations in absorption of essential foodstuffs and the possibility of liver disturbance.

One cannot make light of the superinfections which not infrequently develop in patients receiving antibiotics. Often enough the second infection is more serious than the first, and it is always more difficult to control.

Conclusion

Antimicrobial agents are valuable if prescribed wisely. Every one of them has a distinctive place in our therapeutic armamentarium. They will continue to be valuable if their prescription is restricted to their proper indications.

A little sunburnt by the glare of life.—ELIZABETH BARRETT BROWNING

CLINICOPATHOLOGIC CONFERENCE

ALBANY MEDICAL COLLEGE AND MEDICAL CENTER
ALBANY, NEW YORK

Conducted by PAUL R. PATTERSON, M.D.

JANUARY 21, 1954

Case History

An eight-year-old white boy was admitted to Albany Hospital in coma. The child was apparently well until the evening of admission when he suddenly complained of severe headache fifteen minutes after supper and was put to bed. A few minutes later, he no longer responded to vocal or painful stimuli and remained unconscious to the time of admission. There was no history of convulsive seizures. Two years previously, he had fallen and struck his head. He was said to have been unconscious for thirty minutes at that time, but there was no medical investigation of the injury. Thereafter, he frequently complained of headache but had no other symptoms. Three hours prior to the onset of current symptoms, the child had been wrestling with a playmate, was tightly squeezed about the neck, and complained to the other lad that his neck hurt severely.

The patient had been adopted at ten months of age, and nothing was known of his family background. He had had routine immunizations, the usual childhood diseases, and no serious illnesses. Growth and development were described as normal.

On examination at the time of admission pulse rate was 54 and respiratory rate 24 per minute. No temperature was recorded. The child was comatose and unresponsive to painful stimuli. His pupils were widely dilated and fixed (refraction for an eye examination was done three days previously). The left fundus appeared normal except for a small, fresh hemorrhage near the optic disk. The right fundus was indistinct, but the disk margin was clearly outlined and no hemorrhage seen. The neck was supple. There was no lymphadenopathy. The lungs were normal on percussion; on auscultation scattered rhonchi were heard bilaterally, both anteriorly and posteriorly, but there were no parenchymatous rales. No cardiac abnormality was detected. The abdomen was normal. Kernig's sign was absent. The arms and legs were in tonic flexion, and there was sustained ankle clonus bilaterally.

Serologic tests for syphilis were negative. No other laboratory tests were obtained.

Soon after examination the patient had a generalized, clonic convulsion. The pharynx was suctioned and oxygen administered. Intravenous epinephrine and coramine were given. Despite treatment the child died fifty minutes after arriving in the hospital emergency room.

Discussion

Dr. Paul R. Patterson: Today's case is especially interesting since it challenges our ability to reach a diagnosis without the benefit of a variety of laboratory work. In approaching this problem, therefore, Dr. Pesnel will have to fashion his analysis largely from historical and clinical data.

Dr. M. Edwin Pesnel, Jr.: We have here the case of a young boy, apparently in good health, who suddenly complained of severe headache, lapsed into unconsciousness, and died a few hours later. The matter actually boils down to a differential diagnosis of coma. There was no history suggesting diabetes, and no mention is made of air hunger or acetone breath. Spontaneous hypoglycemia is unlikely so soon after supper. Nor is there any history of renal disease. A urinalysis and a blood pressure reading would certainly be of further help in diagnosis. Was the blood pressure taken?

Dr. Patterson: The blood pressure was not recorded. It is stated that an attempt was made, but the patient was too restless.

Dr. Pesnel: There were no signs of edema or albuminuric retinitis in the eyegrounds. The acute episode occurred shortly after supper, but we have no information that any other member of the family was taken ill. I presume they all ate the same food. No mention is made of any drug administration. There was no cardiac dysrhythmia or murmur and no rash to suggest vegative endocarditis and embolic phenomena. A hyperactive carotid sinus reflex may produce unconsciousness with or without convulsions but is uncommon in children and unlikely in this case because the comatose state did not develop until several hours after the patient had had his neck squeezed so violently. Coarctation of the aorta may lead to coma and sudden death due to rupture of the cerebral aneurysm while the individual is participating in violent physical exercise. In our patient the retinal vessels showed no engorgement, and no note is made of diminished or absent femoral pulsations. Acute infections of the respiratory passages ordinarily produce fever and tachycardia. The pulse rate, however, was 54 per minute. This might introduce the unlikely possibility of a partial heart block, associated with diphtheria, or the Stokes-Adams syndrome, attacks of which may occur after excessive muscular effort in children with congenital heart defects or in von Gierke's disease with cardiac involvement. Meningitis and encephalitis appeared unlikely in the absence of meningismus. Acute adrenal hemorrhage with adrenal insufficiency cannot be substantiated without laboratory tests.

The acute onset of symptoms is certainly unlikely for brain tumor. The eyes were examined three days prior to the final illness. I assume that if eyedrops were used, a funduscopic examination was done and that abnormal retinal funduscopic findings would have been noted. The patient had complained of headaches for the last two years. Possibly these were due to tumor with hemorrhage producing the final acute episode. I would expect that a brain tumor causing headaches for two years should produce some localizing symptoms and signs. On the other hand, I am not certain of the speed with which a brain tumor may grow and cause localizing signs. Perhaps Dr. Hesser or Dr. Campbell can tell us whether two years would be long enough. Most intracranial tumors in children occur in the posterior fossa and readily produce signs of hydrocephalus. We have no papilledema in this case. However, papilledema may be a late manifestation of increased intracranial pressure, and its absence is not an argument against the presence of tumor.

The patient was symptom-free except for headaches until the wrestling match three hours prior to the onset of symptoms. Trauma might be a significant factor, therefore, especially with the history of head injury and an episode of unconsciousness two years before. A subdural hematoma of two years duration, however, should have caused more symptoms and headaches, and the wrestling episode apparently did not produce any additional trauma to the head. The picture is not that of subdural hematoma in my estimation.

A subarachnoid hemorrhage could certainly produce the sudden developments seen in this case. Cerebrovascular complications due to purpuric disease would be unlikely with no evidence of peripheral hemorrhage. The commonest cause of subarachnoid hemorrhage in children is a vascular anomaly, either an aneurysm or an angioma. In this apparently healthy boy the sudden onset of neck pain, headache, and coma leads me to feel that he must have ruptured an aneurysm or angioma. Aneurysms are usually in or near the circle of Willis. There may be no symptoms of pressure from an aneurysm, and signs that do develop usually involve the optic fundi or the third, fourth, and sixth cranial nerves. No such localizing information is given, although a small, fresh hemorrhage was noted in the left retina. There was a slow pulse. Subarachnoid hemorrhage will usually produce cervical rigidity and Kernig's sign. Perhaps coma was so deep that these signs were not manifest or were hard to appraise. ***In any event, I'll conclude that the patient had a subarachnoid hemorrhage originating from a ruptured aneurysm or an angioma.***

Dr. Patterson: Are there any questions?

Questions from the Floor: What is the significance of tonic flexion of the extremities and ankle clonus? Why do you suppose the patient's eyes were examined recently? Why would the headaches be intermittent in relation to a cerebral aneurysm?

Dr. Pesnel: I'll try to answer these questions in order. If subarachnoid hemorrhage was large enough—and it must have been massive to cause death in so short a time—there would certainly have been enough diffuse cerebral involvement to give tonic release and ankle clonus. Concerning the patient's recent eye examination, we might assume that this was related to trouble with his vision or that it was done to investigate the cause of his headaches. I cannot explain why the headaches were intermittent unless this case proves to be one of renal disease, which is unlikely.

Question from the Floor: What is the significance of the fall two years ago?

Dr. Pesnel: He was six years old at that time. Most normal six-year-old boys are active, careless, and clumsy enough on occasions to fall while playing. We might assume, however, that he was having an attack of vertigo or an epileptic seizure. The history does not fit the picture of epilepsy. A myoclonic seizure might cause a child to fall but would not be followed by deep coma and death.

Comment from the Floor: When he fell, he struck his head and lost consciousness.

Dr. Pesnel: That's right, and he was not examined at that time. We could assume that he had an accident similar to the one on the day of admission but of milder degree. However, I do not feel that this is epilepsy. The first fall, as well as the final episode, might have been related to hemorrhage.

Dr. Patterson: Thank you, Dr. Pesnel!

Pathologic Report

Dr. Arthur W. Wright: At autopsy the body appeared normal externally. The thoracic and abdominal viscera were also normal except for the thymus which seemed a little larger than usual for a boy eight years of age and weighed over 100 Gm. The viscera in general were congested. There was no evidence of pneumonia. When the head was opened, the brain in situ was obviously under considerable pressure. The convolutions were flattened and the sulci narrowed over the lateral and, particularly, the inferior surfaces of the left frontal and temporal lobes. A small amount of subarachnoid hemorrhage was seen. No subdural hemorrhage, either recent or old, and nothing otherwise indicating injury could be found.

The brain was unusually large for a boy of this age and weighed 1,520 Gm. The left hemisphere felt softer than the right and seemed fluctuant in its anterior portion. During gentle palpation the frontal lobe ruptured, and a large blood clot emerged from what was thought to be the anterior horn of the left lateral ventricle. After hardening the brain was incised. An enormous cavity filled with blood was found in the white matter of the left hemisphere. This cavity was over 5 cm. in length, was fusiform in shape, and extended longitudinally. The blood clot that issued from the frontal lobe while the fresh brain was being examined apparently came from this cavity. In the tissue about the hemorrhagic cavity was an older zone of cystic softening, evidence of impaired circulation to this part of the brain.

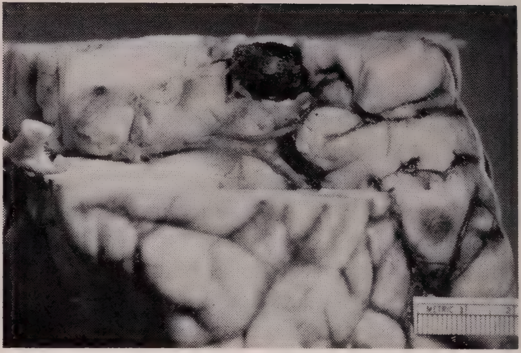

Fig. 1. Berry aneurysm of left middle cerebral artery at a secondary bifurcation of this vessel. A portion of the temporal lobe has been removed in order to demonstrate the aneurysmal sac. Although there was rupture, the blood extended into the intracerebral tissues, and no subarachnoid hemorrhage is present.

The source of the massive intracerebral hemorrhage was a saccular aneurysm of the left middle cerebral artery (Fig. 1). The aneurysm was of the typical congenital "berry" type and was 3 cm. from the circle of Willis. Such peripherally situated aneurysms are found not infrequently and usually are 8 to 12 mm. in greatest dimension. The aneurysm in this case was somewhat larger than usual and measured a little over 1.5 cm. in diameter.

Congenital intracranial aneurysms apparently develop as a result of some defect in the wall of the artery. The majority are close to or actually in the circle of Willis, as Dr. Pesnel has said. A smaller number are located more distally. Most aneurysms associated with the circle of Willis are found on the internal carotid or the middle cerebral artery. The wall of the aneurysmal sac in this case was composed chiefly of rather dense, fibrous tissue and was very thin at some points. The wall in places was thickened and hyalinized, sometimes containing macrophages as a result of tissue breakdown. The neck of the aneurysm showed traces of smooth muscle normally present in an arterial wall. This smooth muscle was defective, however, and was missing from most of the sac wall.

Question from the Floor: How old would you estimate the clots in the brain to be?

Dr. Wright: I would say a matter of several days to a few weeks old.

In summary, then, we are dealing with an eight-year-old boy who had a congenital, saccular aneurysm, quite a large one, on the left middle cerebral artery. This had interfered with the nutrition of the cerebral tissues about it so that softening occurred. The aneurysm eventually ruptured, causing the terminal, fatal hemorrhage.

The complete list of final anatomic diagnoses was as follows: large, congenital, berry type aneurysm of left middle cerebral artery with rupture; massive, progressive encephalomalacia with cyst formation of left cerebral hemisphere; massive hemorrhage into softened focus of left cerebral hemisphere; subarachnoid hemorrhage over left parietal, temporal, and frontal lobes; acute congestion of all viscera; moderate hypertrophy of thymus gland.

Comment

Dr. Patterson: Thank you very much, Dr. Wright. Dr. Campbell, who has done considerable work with intracranial aneurysms, will now comment on this case.

Dr. Eldrige H. Campbell, Jr.: Dr. Patterson has asked me to say something about intracranial aneurysms in children. While this case was being presented, Dr. Leahy leaned over and said, "Don't you remember this child?" I am afraid that I don't, but even if I did, I probably would have guessed wrong. On the basis of my very limited experience with this problem in children, I feel that more aneurysms have been of the arteriovenous than of the saccular type. The aneurysm in this case is particularly interesting in that it occurred not only 3 cm. from the circle of Willis, but at least 1 cm. beyond the main branch of the middle cerebral artery. Most aneurysms are sitting right on the main branch. I think, therefore, that this one would have lent itself to surgical therapy had we known of its existence. Unfortunately, the first symptom in so many of these aneurysms heralds the patient's exitus, and it is then too late to do anything about them.

There are several comments that might be worth making about the history in this case. One concerns the question of injury two years previously. The possibility of a subdural hematoma is always brought up, particularly if there is any medicolegal problem. I have only on the rarest occasions seen a subdural hematoma more than a year old. The patient is either cured or dead long before that time. Rarely one comes across an old calcified hematoma, but this is exceptional. The question relative to recent trauma in this case is also an interesting one, but I don't know how to answer it. Perhaps Dr. Wright can. I asked him about the age of the clot because it would seem to have been present for more than one day. The entire illness in this case was only several hours in duration. No doubt many saccular aneurysms have clots in them from time to time. The fact that an aneurysm fills with a clot doesn't mean that it is going to be cured. Nature has a way of reaming out the clot, so that you are again left with a weakened vessel wall. I have seen one individual whose aneurysmal rupture was quite possibly attributable to trauma. This man had a very large, thin-walled aneurysm of the middle cerebral artery. He sneezed and, in doing so, struck his head very hard against a bench. His first symptoms of leakage appeared immediately afterward. Although the leakage itself might have made him sneeze or fall, it is readily conceivable that the blow on the head established a pressure wave which was transmitted in such a way as to rend the thin wall of an aneurysm. By the same token the squeezing of this child's neck by his colleague may have contributed to the rupture.

The absence of a stiff neck in this case is a matter deserving further comment. Stiffness of the neck may not be evident if a patient is in *profound coma*, regardless of whether he has a purulent meningitis or a sterile meningitis due to subarachnoid bleeding.

Something should also be said about convulsions in relation to brain tumors. Some tumors in children, and particularly in adults, can kill very quickly. As a rule, however, there is an antecedent and characteristic history. The most common location for a tumor which produces rapid death is the posterior fossa. In today's case the fit was clonic and generalized. In general, tumors in the posterior fossa may produce a tonic (decerebrate) seizure but not a generalized, clonic convulsion unless intracranial pressure has become extreme and cerebral compensation is beginning to break.

The arteriovenous anomalies comprise not more than 10 per cent of the aneurysms that one encounters in the adult. Most of them can now be removed, although if they occur in the left frontal lobe, anywhere near the speech area or in the region of the left supramarginal and angular gyri, your hands are pretty well tied.

Dr. Patterson: Thank you, Dr. Campbell. Dr. Hesser, would you care to make any comments from the neurologic point of view?

Dr. Frederick H. Hesser: It might be of interest to review the age incidence of "spontaneous" subarachnoid hemorrhage. Subarachnoid bleeding other than the "spontaneous" variety is commonly associated with head injury in relation to our present-day, high accident rate. Experience has shown that other causes of subarachnoid hemorrhage vary with age and include congenital aneurysm less frequently than we might be led to suspect. In the older age group hypertensive and/or arteriosclerotic cerebrovascular disease frequently leads to rupture of an intracerebral vessel or aneurysm formation followed by subarachnoid leakage of blood. In the young or middle age group intracranial aneurysm or angiomatous malformation is much more common. Less frequently, but at any age, subarachnoid hemorrhage may be associated with a variety of entities, including blood dyscrasia, mycotic aneurysm, and even brain tumor, as Dr. Campbell has already mentioned. Although any highly malignant, rapidly growing, and vascular intracranial tumor may give rise to subarachnoid bleeding, glioblastoma multiforme and metastatic carcinoma seem to be most frequently responsible.

An intracranial aneurysm has become symptomatic somewhere before the age of twenty-four months in two cases described by Dr. Frank R. Ford. One of these children had no further symptoms other than third nerve palsy until the age of twenty when the aneurysm was found to have calcified. I have seen an infant of thirteen months, suspected of having an intracranial aneurysm, whose initial manifestation of subarachnoid hemorrhage eventually was found to be due to cerebral glioblastoma multiforme.

Many things can be observed neurologically when an intracranial aneurysm leaks. The patient may exhibit an oculomotor nerve palsy, headache, stiff neck, restlessness, deepening stupor, convulsions, and sometimes a variable hemiparesis on the opposite side. Fluctuating hemiparetic signs seem to be due to reflex angiospasm occurring proximally in major vessels and resulting from local irritation by the aneurysm or by the hemorrhage itself. Using angiography, we have actually been able to demonstrate angiospasm in the distal, middle cerebral tree on the side of an aneurysm shortly after its rupture. At this time the patient exhibited a variable degree of hemiparesis. After two weeks, when neurologic signs had disappeared, another angiogram showed a normal vascular tree beyond the aneurysmal defect. This would seem to favor the case for performing angiography as soon as possible despite the presence of subarachnoid hemorrhage and for repeating the angiogram several days later if the first attempt at visualization is unsatisfactory.

The time required for calcification to occur in an aneurysm is not clear. At Albany Hospital we have followed one patient whose first symptoms in 1944 were followed by a third nerve palsy. Three years later x-rays of the skull showed some erosion of the posterior clinoids. After a recurrence of headache in 1952 skull x-rays then showed a large, calcified aneurysm lateral to the sella turcica. In this instance, therefore, calcification must have occurred between the third and eighth year after the original symptoms.

A final word concerning the history of intracranial aneurysms, which were described by Morgagni as early as 1761. A case of subarachnoid hemorrhage was then recorded by Biumi in 1778 and was found to be associated with a ruptured aneurysm of the circle of Willis. The frequent concurrence of subarachnoid hemorrhage and intracranial aneurysm was finally emphasized by Gull in 1859. Since that time interest in these congenital defects has waxed and waned depending on our neurosurgical skill in handling them. Under any circumstance the mortality rate remains high, and the effectiveness of surgical treatment in these, as in many other surgical problems, is greatly influenced not only by the promptness of diagnosis, but especially by the location and nature of the defect itself.

Dr. Patterson: Thank you, Dr. Hesser! It might be worth while to single out our apparent lack of interest in the fact that the thymus in this case weighed over 100 Gm. In the past "status thymicolymphaticus" was supposedly a common cause of sudden death in children. Since autopsies were frequently done on chronically ill children whose thymuses had involuted somewhat, the "normal" thymic weight was tabulated erroneously. When a normal and otherwise healthy child died suddenly, a comparatively large (normal) thymus would be found at autopsy and then presumed to have caused death by some mysterious mechanism. Some of you may have visited other institutions which still adhere to the belief in status thymicolymphaticus. I hope, however, that you will bear with us, and the majority of pediatricians and pathologists, that this diagnosis is merely an admission of insufficient evidence or failure to recognize an acute overwhelming infection in infancy as a common cause of sudden death.

I should like to ask Dr. Frawley whether it would be possible to diagnose adrenal insufficiency in a child without the benefit of laboratory facilities.

Dr. Thomas F. Frawley: We often suspect and diagnose adrenal cortical insufficiency by means other than laboratory evidence. In this patient there would have had to be some sort of initiating mechanism in order to produce adrenal hemorrhage. If the previous episode several years ago had been in any way related to adrenal cortical insufficiency, this child would have had lymphadenopathy or some other evidence of lymphoid hyperplasia.

Dr. Patterson: Dr. Campbell has pointed out that he rarely has seen subdural hematomas more than one year old. I wondered if we might extend that observation to cover subdural hematomas in infancy. In that age period many of these children apparently have fluid attracted by membrane osmosis into the subdural clot. We treat these with multiple tapping and sometimes by removing the membrane itself, especially during the first two years of life.

Dr. Campbell: I am glad Dr. Patterson brought up that point. My reference was to older patients whose sutures have closed so that the skull cannot expand. In infants or very young children, the skull can expand, and considerable deformity may even take place over a a period of time. We have had a number of such examples in which the hematoma existed for many months and perhaps two or three years. One little child that I recall was brought in with a very large head; the child was completely blind and had had symptoms for three or four years. A case of that sort is uncommon.

Dr. Patterson: Are there any further comments? If not, we wish to thank all those who have taken part in this interesting conference.

Rooming-In

There are numerous advantages in keeping the newborn infant next to his mother's bed in the hospital room or ward: avoidance of risk of nursery epidemics, facilitation of self-demand for breast and bottle feeding, increase in percentage of breast feeding, and reduction of the possibility of psychologic maladjustments due to separation of the infant from his mother. Dr. Angus McBryde and Dr. Wilburt C. Davison discuss the origins of nurseries and the slow return to rooming-in. Since 1947, rooming-in has been compulsory at the Duke Hospital for all white newborn infants unless the child is abnormal or the mother is infected or in critical condition. In general, it was found that women favor it, with some exceptions. One of the reasons rooming-in is not more widely used is probably conservative obstetric tradition, say the doctors.

The system can be popularized, they suggest, by educating nurses, medical students, interns, residents, and even obstetricians to its obvious medical and economic advantages, as well as the value of a close mother-child relationship.—*North Carolina Medical Journal, May, 1955*

CASE REPORTS

Hyperkalemia Due to the Rapid Infusion of a Potassium Chloride Solution

Report of a Case in an Infant with Associated Electrocardiographic Changes

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THE occurrence of significant hyperkalemia is usually associated with renal disease, especially those types causing "lower nephron nephrosis." This may be seen in cases of shock, severe trauma, intravascular hemolysis, the absorption of substances that are toxic to the renal tubules, such as carbon tetrachloride,[1,2] and in other conditions causing anuria and oliguria. Also, it may occasionally be seen in the terminal stages of nephritis with uremia.[3,4] Less frequently, it occurs from excessive parenteral administration[5] and rarely by the administration of potassium orally.[6] In the pediatric literature, hyperkalemia due to parenteral administration of potassium and the classic electrocardiographic changes associated with it have been infrequently described. However, this must occur more often than is recognized.

We feel that this case is worthy of note for it demonstrates the potential hazard and the extreme watchfulness necessary when one gives an intravenous solution containing potassium to an infant.

Case Report

A four-month-old American Indian male was admitted to the hospital because of cough, wheezing respirations, and fever of one day duration. There was no history of coryza, draining ears, vomiting, or diarrhea. Prior to the onset of the present illness the infant had been well. He was a full-term, normal spontaneous delivery and weighed 6 pounds, 12 ounces at birth. Growth and development had apparently been normal. Except for occasional episodes of postprandial regurgitation, the dietary history was unremarkable. The child had been on an evaporated milk formula with vitamin supplements, and cereals had been started at three weeks of age. No immunizations had been given.

FAMILY HISTORY.—Two older siblings, ages four and three, were living and well but had a history of wheezing occurring with upper respiratory infections. The sister had had an episode of jaundice six months previously, and the brother had had a febrile convulsion about one year prior to the patient's present illness. There was no family history of tuberculosis, syphilis, diabetes mellitus, or proved allergies, although the mother gave a history of wheezing with upper respiratory infections.

PHYSICAL EXAMINATION.—The patient was a well-nourished, well-developed infant weighing 12 pounds, 14 ounces, in obvious respiratory distress with audible expiratory wheezes and tachypneic at a rate of 40 per minute. The temperature on admission was 102 F. His state of hydration appeared to be good. The anterior fontanelle was flat and admitted two fingers. The eyes, ears, nose, and throat were within normal limits with the exception of moderate injection of the posterior pharyngeal wall. There was no significant adenopathy. Examination of the chest did not reveal any subcostal or supraclavicular retractions, but on auscultation bilateral expiratory wheezes without rales were heard anteriorly and posteriorly. There was no inequality of breath sounds. Percussion of the chest revealed no abnormality. The cardiovascular system was negative except for a regular sinus tachycardia of 140 per minute heard at the apex of the heart. Aside from a small umbilical hernia the abdominal examination was negative. The remainder of the physical examination was within normal limits. The initial diagnostic impression was that of an upper respiratory infection and associated bronchospasm with an allergic etiology to be ruled out.

The opinions expressed are those of the authors and do not necessarily reflect those of the United States Public Health Service or the Bureau of Indian Affairs.

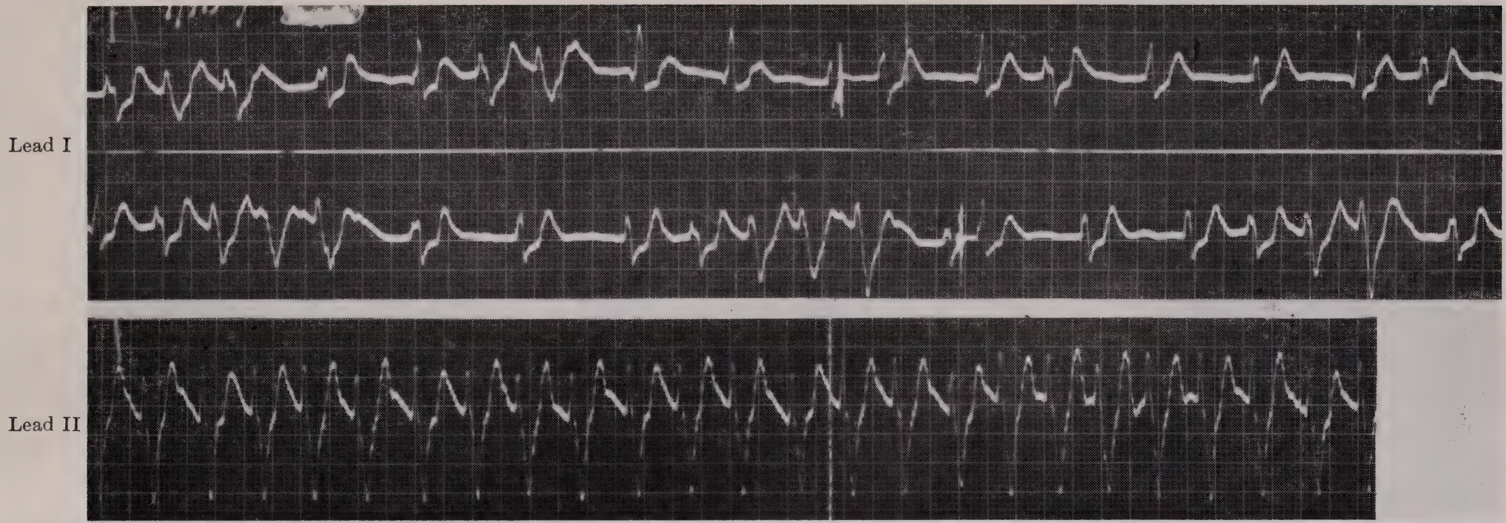

FIG. 1. *Lead I*—Findings of severe hyperkalemia (peaked T waves, S-T wave depression, increased duration of QRS showing intraventricular block, auricular standstill, biphasic curve with progressive delay in ventricular conduction, total arrhythmia, and short runs of ventricular tachycardia). *Lead II*—Ventricular tachycardia.

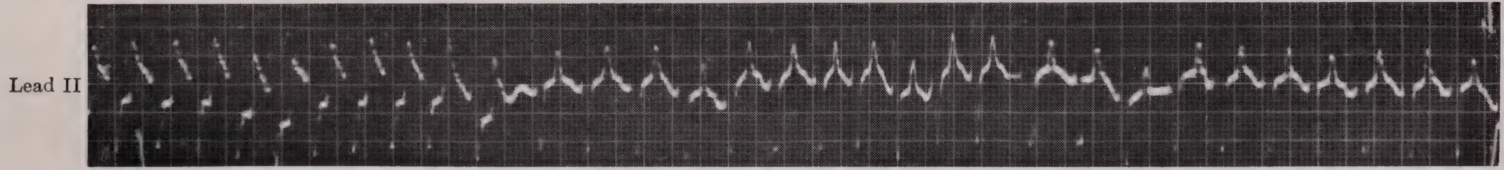

FIG. 2. Lead II ten minutes later—Ventricular tachycardia becoming a supraventricular tachycardia with marked peaking of the T waves.

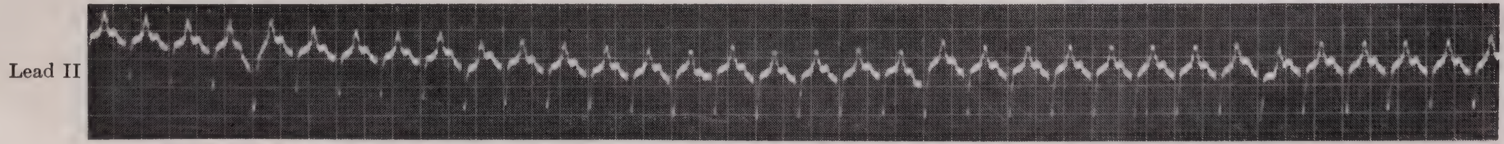

FIG. 3. Lead II two hours after Fig. 2—Supraventricular tachycardia with peaked T waves being less prominent.

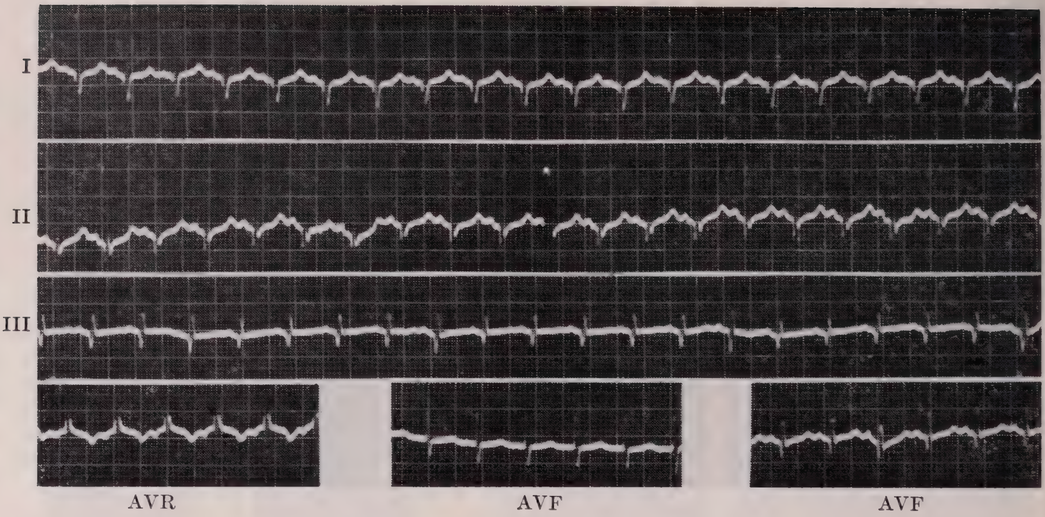

Fig. 4. Three hours and twenty minutes after Fig. 3. Six leads of the electrocardiogram six and one-half hours after the infusion of potassium solution which reveals a normal tracing with a sinus tachycardia.

Course in Hospital.—The patient was started on penicillin, Gantrisin, adrenalin, aminophylline suppositories, and Pyribenzamine. On the second day dyspnea and wheezing had decreased, but vomiting occurred several times. The temperature at this time was 103 F. Although there was no cyanosis, oxygen was begun. On the third hospital day the temperature had risen to 104 F., and the occasional vomiting continued. Examination now revealed evidence of moderate dehydration, but the pulmonary wheezes had decreased. It was felt that dehydration contributed to the fever, and a clysis of 500 cc., one-third normal saline and two-thirds 5 per cent dextrose in water, was given. Gantrisin was discontinued and streptomycin added to the therapeutic regimen. A flat film of the abdomen revealed no evidence of intestinal obstruction.

At 2 a.m. of the fourth hospital day the patient appeared critically ill, was in shock, with gasping respirations, cold extremities, and cyanosis of the lips. He was given adrenalin intramuscularly and 120 cc. of plasma by push transfusion. At this time the upper abdomen was noted to be distended. Bowel sounds were markedly diminished, and a flat plate of the abdomen revealed a generalized ileus. An x-ray of the chest was negative. It was felt these abdominal findings represented a paralytic ileus. Hypokalemia was then considered as a possible cause of the ileus.

A Levine tube was passed, and 500 mg. (6.7 mEq.) of potassium chloride in 100 cc. of 5 per cent dextrose in water were started intravenously. This was to be given over a period of four hours. However, this solution was inadvertently infused in forty minutes. It was then noted that the patient appeared worse, was cyanotic, and had generalized twitchings. The blood pressure was 78/44. An electrocardiogram revealed the findings of severe hyperkalemia as shown in Fig. 1. The potassium solution was immediately discontinued, and a 200-cc. infusion of 5 per cent dextrose in water was given at a rate of 20 drops per minute. Ten minutes later, the electrocardiogram revealed marked improvement but was still abnormal as evidenced by the presence of peaked T waves (Fig. 2). Three hours after this, peaking of the T waves was still present although less prominent (Fig. 3). Blood chemistries now showed a serum potassium 7.7 mEq. per L., sodium 112 mEq., and carbon dioxide combining power 10 mEq. per L. When these results were obtained, 50 cc. of isotonic sodium chloride, 125 cc. of sixth-molar sodium lactate, and 300 cc. of 5 per cent dextrose in water were given to combat the metabolic acidosis and hyponatremia. Six and one-half hours after the rapid infusion of potassium, the electrocardiogram appeared normal (Fig. 4). Four hours after this, the patient was considerably improved, cyanosis was less marked, and the ileus appeared to have diminished.

On the fifth hospital day tachypnea and dyspnea had become more severe, and evidence of bronchospasm had reappeared, although the infant's hydration was good. The urinary output was adequate as it had been throughout hospitalization, but the temperature remained at 103 F. At this time the serum sodium was 126 mEq. per L. and the chloride 82 mEq. per L. The patient's condition became generally worse, and from this point on the course was progressively downhill. He expired on the eighth hospital day. Blood drawn shortly before death revealed a potassium level of 2.1 mEq. per L. A postmortem examination was refused.

Comment

Potassium is primarily an intracellular cation. Estimates of the concentration within the cells range from 112 to150 mEq. per L. of cell water,[7,8] whereas the concentration in serum and extracellular fluid

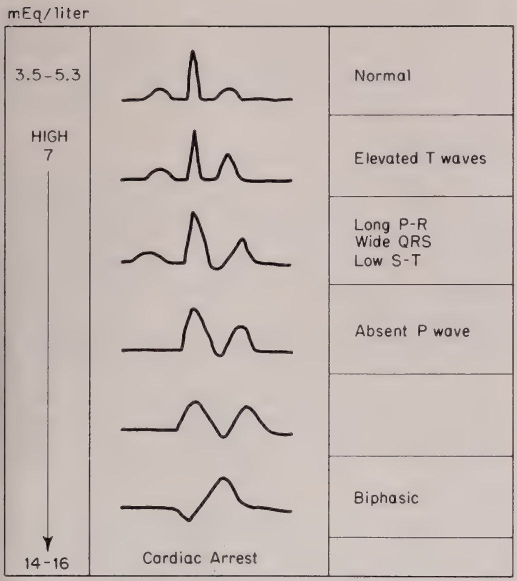

Fig. 5. Schematic diagram of electrocardiographic changes seen in association with increases in the serum concentration of potassium.

is from 3.5 to 5.3 mEq. per L. under normal conditions.[9] The concentration of potassium found in the serum or extracellular fluid at any given time is the resultant value of a state of equilibrium involving cell metabolism, gastrointestinal absorption, and excretion via the urine, bowel, and sweat. The ability of this cation to move either into or out of cells is well known. This may be seen in alkalosis, anoxia, severe muscle contraction, uncontrolled diabetes, diarrhea, starvation, and severe shock.[10-12] Certain hormonal factors enter into the control of the migration of the potassium ion, these being, for example, adrenal corticoids, adrenocorticotropic hormone,[13,14] insulin,[15,16] androgens,[17] and epinephrine.[8] Thus, in certain instances the serum concentration of potassium may be elevated, even though the tissue concentration is normal or low.[10]

The signs and symptoms of hyperkalemia have been well summarized by Darrow.[10] These are (1) listlessness and mental confusion, (2) numbness and tingling of the extremities, (3) cold, gray pallor, (4) bradycardia and occasionally total irregularity of rhythm, (5) peripheral vascular collapse with a fall in blood pressure, (6) in a few patients with uremia, a rapidly ascending flaccid paralysis, and (7) cardiac arrest. When the serum concentration begins to exceed 5.3 mEq. per L., the neuromuscular system in general is involved, but the most serious changes are noted in the conduction system of the heart, as can be demonstrated by the electrocardiogram.

The classic work on dogs by Winkler *et al.*[18] demonstrated the effect of parenteral administration of potassium chloride on the electrocardiogram. Consistent and predictable changes were noted at certain potassium levels. They found alterations in the T waves at a concentration of 5 to 7 mEq. per L., depression of the S-T segments at 8 to 10 mEq., intraventricular block at 10 mEq., P waves disappeared at 11 mEq., and cardiac arrest occurred at 14 to 16 mEq. per L. A schematic representation of these changes is shown in Fig. 5.

In humans similar changes occur but at less predictable levels, as shown by the work of Tarail.[19] He was able to demonstrate that the onset of these changes varied, but they were always found when the serum potassium exceeded 6.8 mEq. per L. Other studies done by Currens and Crawford[20] and Crismon *et al.*[21] have demonstrated the frequently inconsistent correlation between the serum potassium and the electrocardiographic changes. This was attributed to the fact that potassium is mainly an intracellular cation and values of serum potassium were not reflecting that measurement alone. Currens and Crawford feel that the electrocardiogram more closely reflects intracellular content, whereas Darrow[23] has suggested that the gradient of intracellular and extracellular potassium concentration may be the cause of potential differences developing in the cell membranes. This difference cannot be resolved because of the present difficulty in quantitative determination of intracellular potassium. The clinical significance of this is that regardless of whether the electrocardiographic changes are reflecting gradient, intracellular, and/or extracellular concentrations, a serious hazard exists when one gives potassium parenterally at a rapid rate. This may cause an acute rise in the extracellular concentration and assumes prime importance when dealing with a dehydrated infant who has a contracted extracellular volume and resulting impaired renal output.

In this case the child was acutely ill with respiratory distress, fever, and vomiting. The need for parenteral fluids and electrolyte replacement was obvious. Up to the time of the potassium solution infusion there had been no parenteral potassium given, and the intake of this ion was obtained only through the regular diet. This, at best, was poor. The parenteral fluids which were given consisted of dextrose solutions and saline only, and we can assume that the body stores of potassium were low. Since the child became acutely ill shortly after midnight, baseline chemistries could not be obtained. It was felt that potassium was necessary, and inadvertently the amount ordered (0.5 Gm. of potassium chloride or 6.7 mEq. of potassium) was infused rapidly. This quantity could be calculated to give a 3.7 mEq. per L. rise in this child's extracellular fluid (calculated on the basis of 30 per cent of an infant's weight being extracellular fluid). This dose given to an infant with good hydration and normal kidney function could be easily handled, as pointed out by Darrow[10] who gives 3 mEq. per Kg. per twenty-four hours of potassium as a maintenance requirement. Due to the patient's state of shock, severe hemoconcentration, hyponatremia, and the rapidity of infusion, marked signs of potassium toxicity developed, as seen in Fig. 1. This effect was transient, but the chaotic cardiac disturbances produced might easily have been fatal. Blood drawn three hours later revealed a concentration of 7.7 mEq. per L. of potassium, and one can assume that the concentration at the time of the infusion was considerably higher. In the other instance mentioned in the pediatric literature, Govan and Weiseth[5] reported a case with similar electrocardiographic findings with the potassium concentration being 12 mEq. per L. They treated their patient with intravenous calcium and hypertonic glucose, and within two hours the abnormal electrocardiographic changes had subsided. In our case there was spontaneous reversion to normal six hours after cessation of potassium therapy and the infusion of 200 cc. 5 per cent dextrose in water.

The therapy of hyperkalemia of whatever cause has been varied and extensive. Generally, attempts are made in the following directions: (1) decrease exogenous potassium intake, (2) increase potassium excretion by such means as peritoneal and intestinal dialysis, artificial kidney, and exchange transfusions, (3) deposit potassium intracellularly by administering glucose and insulin simultaneously, (4) attempt to neutralize the toxic effect of the ion on the cardiac function by giving calcium, (5) minimize catabolic processes wherein potassium is liberated, such as by diet and testosterone propionate.

Probably the simplest method of therapy available for the treatment of acute hyperkalemia is the following: (1) avoid all exogenous potassium intake, (2) give a high-carbohydrate diet to supply an adequate number of calories so that tissue catabolism with its subsequent liberation of potassium will be minimized, (3) administer glucose and insulin to cause transient passage of potassium into the cells in the formation of glycogen. A suggested dosage schedule is 1 unit of regular insulin to 2 Gm. of glucose, the latter in a 20 to 25 per cent solution given in a volume that one feels the patient can tolerate.[22] If there is no response to the above regimen, calcium can be added to counteract the effect of the potassium ion on the cardiac musculature.

Summary

1. A case of transient hyperkalemia with intoxication due to inadvertent rapid infusion of a potassium solution is presented.

2. The etiology, clinical and electrocardiographic manifestations, and therapy of hyperkalemia are discussed.

3. The danger of the rapid intravenous infusion of potassium is emphasized.

4. The infrequent description in the pediatric literature of the electrocardiographic changes occurring in iatrogenic hyperkalemia is noted.

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The world will never starve for wonders; but only for want of wonder.—GILBERT KEITH CHESTERTON

An Unusual Case of Mondor's Disease

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ALTHOUGH it is generally believed that Henri Mondor described the original cases of the disease bearing his name, review of the literature reveals that in 1922 Fiessinger and Mathieu[1] reported three cases of thrombophlebitis of the thoracoabdominal wall following grippelike infections. Nine years later, Williams[2] described a similar case. Shortly thereafter, Daniels[3] summarized five cases of superficial thrombophlebitis of the lateral chest wall and abdomen as a cause of chest pain. This disease remained in relative obscurity until 1939 when Mondor[4] wrote of an acute type of superficial thrombophlebitis of the anterolateral wall of the thorax and abdomen.

Since Mondor's original paper, a number of articles have appeared, originating mainly from France and Germany. Nylander[5] in 1941 reported five cases of Mondor's disease. In one of his patients a second line, more noticeable than the first, appeared six weeks after the original cord and extended from the breast towards the axilla. Calvet[6] in 1944 and Perrin[7] and Mazingarbe[8] in 1947 reported typical cases of this disease. Leger[9] described 22 cases, including Mondor's original cases. Two of these patients had two cords, 1 cm. apart and parallel to each other, on the anterolateral chest wall. One patient had three small cords running downwards from the breast and diverging below to fan out into the abdominal wall. Ferron[10] in 1949, Kapitanoff[11] in 1950, and Chevrier[12] in 1951 reported cases similar to Mondor's original description. In 1951 Mondor and Bertrand[13] reported ten new cases, five or six of whic hhad two cords on the thoracoabdominal wall. Braun-Falco[14] in 1953 described a case of the Mondor variety of phlebitis in which the thorax, arms, and dorsum of the penis were involved. Weber,[15] Feldman,[16] and Palmer[17] in 1954 reported additional cases.

We wish to present the first reported case of phlebitis of the axilla of the Mondor type.

Case Report

A thirty-six-year-old, white male was seen in the Outpatient Department of the United States Army Hospital, Fort Hamilton, on January 20, 1954, complaining of a thickening in the right axilla which "pulled" him when he raised his right arm. He had first noted it three days previously while taking a shower. There was no history of injury or infection. Past history was noncontributory except for a healed duodenal ulcer.

Physical examination revealed a subcutaneous, moderately tender, cordlike line on the medial, apical, and lateral portions of the right axilla midway between the anterior and posterior walls. It extended for 3 inches along the upper medial surface of the right arm and for 3 inches on the right lateral chest wall. The cord became obvious without palpation when the right arm was elevated. The overlying skin was not reddened, nor was there any lymphadenopathy. The remainder of the physical examination, including complete peripheral vascular study, was normal. Urine, complete blood count, sedimentation rate, and x-rays of the right shoulder and chest were within normal limits.

The lesion slowly disappeared and by February 20, 1954, had completely subsided. Follow-up to October, 1954, has been negative.

Comment

The importance of Mondor's disease lies in its diagnosis. Usually, adult females are affected, and there appears to be a predilection for the left side. It may possibly follow trauma, strain, or operation. However, most often there is no evidence of any existing cause. Physical examination reveals a firm subcutaneous cord of varying thickness. The disease is not associated with adenopathy or respiratory, alimentary, hepatic, or breast disease. The urine, complete blood count, and blood chemistry are usually normal. Generally, the cord disappears within a few weeks or months but at times may persist for years. Excision and careful histologic examinations have often been carried out, and ordinary inflammatory signs of chronic phlebitis and periphlebitis have been evident.[15]

The fact that phlebitis of the Mondor type can occur in positions other than the anterolateral chest wall must be appreciated. Recognition of the malady as a "benign" phlebitis will allay the fears of the patient. Although in no case were there any signs of malignancy, it is recommended that a complete medical workup should be done to rule out the possibility of a hidden neoplasm in a rare case.

Summary

A brief review of the literature describing superficial thrombophlebitis of the Mondor type has been presented. To the best of our knowledge, the first case involving the axilla is reported.

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Therapeutic Abortion Followed by X-ray Sterilization and Resumption of Normal Menstruation After Three Years with Birth of Two Normal Children

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In 1935 Rubenfeld and Maggiò[1] noted that the permanency of radiation sterilization of the female depended in the main on the age of the woman at the time irradiation was administered. The younger the patient, the shorter the period of postirradiation amenorrhea.

It is because of this variability of permanency following radiation sterilization that this method of treatment has not been employed as often as it should. As Gauss[2] properly stated, the crux of radiation sterilization is the establishment of a sufficiently high focal roentgen dose. Failure of sterilization with subsequent pregnancy may occur because one fails to recognize that a latent period is required following completion of therapy for permanent amenorrhea to be established, and if this is not observed, impregnation may occur.

Whether irradiation increases the possibility of genetic damage to offspring of women who become pregnant following x-ray sterilization is still not definitely proved. Muller,[3] however, says that "the damaging of future generations caused by the application of radiation in the gonads is not a controversial question. The only question is how much damage is caused by a given dose." Up to the present, however, no one has been able to demonstrate in the progeny of properly, therapeutically irradiated women the occurrence of genetic abnormalities which are definitely comparable to the genetic injuries noted in experimental animals after irradiation. The Committee on Atomic Casualties of the National Research Council[4] in 1947 reported that in Hiroshima and Nagasaki no adverse genetic effects were noted in the progeny of women who survived irradiation from the atomic bomb explosion, even though the "r" irradiation received by these women was very much greater than the therapeutic x-ray dose in usual practice.

Whether a woman who resumes normal menstruation after a period of irradiation-induced amenorrhea will, if she again conceives, bear a perfectly normal child is unfortunately still a controversial question. However, as yet no one has shown any substantiated evidence that abnormal offspring have been born to women who conceived following irradiation-induced amenorrhea and resumption of normal menstruation. In 1947 Pfahler[5] reported a case which, following irradiation for a fibroid, remained amenorrheic for only six months, and yet, following resumption of normal menstruation, conceived and gave birth to a normal female child; the latter, Pfahler reported, was still a healthy woman at age twenty.

It is well known that the permanency of radiation-induced amenorrhea depends to a great extent on the amount and quality of the x-rays used and the proximity to the menopause period when it is administered. Such sterilization, of course, might at times be only of limited lasting effect, and subsequent possibility of pregnancy cannot be lightly disregarded, especially if conception were to follow immediately or closely after irradiation. Should a long period elapse following irradiation and before conception takes place, however, the likelihood of an abnormal offspring being born is very slight. The following case is illustrative.

Case Report

Mrs. F. P., aged twenty-seven, a professional dancer, was referred on August 23, 1946, for x-ray treatment for spinal arthritis. She was a well-nourished, medium-sized woman. She walked with a stooped-over position of the back, and motion at the hips was extremely painful. She wore an orthopedic back brace. Her menstruation had begun at eleven years of age and appeared regularly at twenty-eight-day intervals. She was married in 1942 at the age of twenty-three and a half. Contraceptives were used for about four years. There was nothing significant in her past history except that she had fallen down stairs in 1936 at the age of seventeen. A sacroiliac injury was diagnosed at that time with pain radiating down the thighs and up along the spine. Rest gave some relief, but pains occurred intermittently and were worse at night. In January, 1946, she conceived and shortly thereafter began to suffer with more severe pains in the lower back and both hips. This prevented her continuing her work as a dancer. Pain and distress increased with the progress of the pregnancy.

Roentgen examination revealed the following: "Lumbar spine—marginal scattering, lipping, and bridging between the twelfth dorsal and first lumbar vertebrae. There is a transitional fifth lumbar vertebra with an anomalous development of the lower sacral segments. A slight left lateral rotary curvature of the lumbar spine is noted." Following the necessary consultation, therapeutic interruption of the pregnancy was advised and carried out March, 1946, when she was two and one-half months pregnant.

Failing to respond to the usual medical procedures following this abortion and pain and distress continuing, although menstruation occurred normally, Mrs. P. was referred for x-ray therapy because there was ample evidence of the efficiency of such therapeusis in the treatment of arthritis.

Before instituting x-ray therapy the patient was told that sterilization would in all probability follow the administration of x-ray therapy, that this might be permanent, and that she might not again be able to have a child. The husband was also informed of these possibilities. Her last period occurred in August, 1946, at the time of this examination.

The patient accepted the terms for treatment, and it was carried out according to the following plan. High-voltage x-rays were employed with the following factors: 200 kilovolts, 0.5 mm. copper plus 1 mm. aluminum filter; 50 cm. distance through 10 by 15-cm. fields. The rays were directed through the anterior and posterior pelvic fields and the dorsolumbar spine and the sacroiliac areas. The dose, measured in air, was 1,200 r to each of the pelvic areas and 2,000 r to the spine. Irradiation was given during the period August to November, 1946. She responded well insofar as relief of pain in the spine was concerned, and ovarian sterilization appeared to be definitely accomplished for she did not menstruate after the last period, which had occurred on November 1, 1946.

She continued to improve and resumed her work. For three years she remained amenorrheic. In May, 1950, she applied to an adoption agency for a child. This apparently was not forthcoming, but earnestly desiring a child, she inquired of me regarding the possibility of stimulating the resumption of menstruation with a chance for pregnancy. In my reply I stated that I doubted my ability to accomplish this feat. Two months later, however, to my surprise, on July 12, 1950, Mrs. P. notified me that she again had started menstruating and already had had her second regular period. She continued to function normally, and on October 31, 1950, she notified me she was two and one-half months pregnant.

The question then arose as to the advisability of her bearing this child because of the possibility of latent genetic damage. She received both favorable and unfavorable advice. Eventually she stated she would abide by my counsel. I suggested that inasmuch as she had had no irradiation since 1946, I doubted if any latent harm was still present in her ovaries; also because she was no longer appreciatively suffering from her arthritic condition, she should carry through her pregnancy. She accepted my guidance and on March 31, 1951, was delivered without difficulty of a perfectly normal baby girl.

On May 28, 1953, she again complained of severe back pain and distress in breathing. Menstruation had been irregular since the birth of her child. In December, 1952, she experienced annoying flushes and went to her doctor who gave her hormone injections with relief, but the menstruation was two weeks late. X-ray of the chest on May 15, 1953, showed no additional abnormalities, and the arthritic condition previously noted was still present. She had a period on May 24, which lasted till May 28, 1953. X-ray therapy was advised and administered on May 28, and June 4, 11, and 18, 1953, to the dorsal spine area. Treatment gave definite relief, and she continued to function normally and regularly. Her first child was progressing normally.

She again conceived and on September 23, 1954, gave birth to a perfectly normal baby boy. Both children, the girl now two and one-half years and the boy five months old, are in excellent health.

Comment

There have been many statements regarding the genetic effects of irradiation. Unfortunately these expressions of possible dire effects of x-rays have been employed in a too general manner. The amount and quality of irradiation, the time of administration, the area treated, the purpose for which it is used, and the age of the patient all play an important role in the subsequent genetic influences.

When irradiation is properly employed for the treatment of female amenorrhea and sterility,[6] abnormal genetic effects on the subsequent second and third generation offspring of such irradiated females have not been demonstrated in humans.

When irradiation is employed for suppression of menstruation and for sterilization, depending on the dose given and the age of the woman, such subsequent amenorrhea may or may not be permanent. If menstrual function is again restored and if pregnancy occurs, that is, at some time a long period after irradiation, such pregnancy should produce a normal, perfect child. This is in accord with the findings of Neel and his coworkers[7] who investigated the effects of the atomic bombs on progeny of exposed Japanese women. They state, "There is no indication from this study of any unusual sensitivity of human genes to irradiation." They also stated that their present extensive data failed to confirm the statement of Bugher (1932) that there was some evidence that gross malformations of parents were slightly more frequent among children of parents exposed to irradiation than children of control parents.

Summary

A case is reported in which three years of acquired amenorrhea followed x-ray therapy; normal menstruation again resumed, and the patient became pregnant and gave birth to two normal, perfect children.

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Congenital Band Strangulating the Gallbladder

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IN THE following case of atypical gallbladder disease a congenital band constricting the base of the cystic duct was found at operation.

Case Report

S. H., a thirty-year-old, white male, was first seen on July 6, 1953, with a history of upper abdominal pain (above umbilicus); there was no localization of the pain, which made him double up and feel faint. He had nausea but no vomiting and no dysuria. Another attack had occurred one year ago. This attack was so severe that the patient had been taken to Columbus Hospital where an injection of morphine sulfate was given and x-rays were suggested, but the patient decided to seek private medical care. He went to his own doctor who examined him carefully and found the abdomen negative.

Physical examination showed heart and lungs normal, blood pressure 120/80, urine negative, rectal examination negative, normal peristaltic sounds, and some muscle guarding in the right upper and lower quadrants. The patient was given Sippy powders and sent home. He returned two hours later with pain in the upper abdomen. Examination now suggested more distinct muscle guarding in the right upper quadrant with slight deep tenderness. He was given another injection of morphine sulfate. Patient vomited but refused hospitalization until morning.

He was admitted on July 7, 1953. A gallbladder x-ray series was done on July 8. Survey films of the right upper quadrant failed to reveal any significant findings. After the oral ingestion of Telepaque the gallbladder failed to visualize. No change was noted after a fatty meal.

Laboratory findings were as follows: Urine was yellow, clear, and negative for albumin and sugar. Red blood cells were 4,930,000, hemoglobin 91 per cent, and white blood cells 8,600 with 62 per cent polymorphonuclears and 33 per cent lymphocytes. Icteric index was 8 units on July 8, 12.5 units on July 14, 9 units on July 16, and 8 units on July 18. Blood sugar was 85 mg. per cent on July 8 and 110 mg. per cent on July 10. Blood amylase on July 8 was 80 mg. per cent.

At operation the gallbladder was found to be enlarged three times normal size with inability to empty itself. The common duct was normal in size and consistency, and no stones were found in the gallbladder or common duct; the cystic duct was also normal in size. However, there was a congenital band running from the porta hepatis region across the neck of the gallbladder region, constricting and strangulating it. This band was ligated and severed. The cystic duct and artery were ligated separately. Following removal of the gallbladder two drains were inserted, one in the foramen of Winslow, which was patent, and the other in Morrison's fossa. The fascia was closed with partially interrupted number 2 chromic sutures, three retention silk sutures were inserted, and the skin was closed with interrupted silk sutures.

Pathologic report on the operative specimen indicated that the gallbladder measured 7 by 3 by 3 cm., and its lumen contained thick, green bile. The diagnosis was cholesterosis of the gallbladder.

The patient was afebrile on the second postoperative day He developed clinical jaundice on July 11, thirty-six hours after operation, which increased until July 13. Patient was out of bed on July 13; he was afebrile, eating well, and had no complaints. Stool was dark, but there was no bile in the urine. Jaundice diminished from July 13 and was completely gone by July 17. Patient was discharged on July 18 with icteric index normal (8 units).

Comment

This case presents an atypical pattern of cholesterosis cholecystitis with accentuation of gastrointestinal signs and few, if any, gallbladder signs and symptoms. The tentative diagnosis, if one excepted gastroenteritis, would be partial intestinal obstruction, due either to congenital band tumor or to vascular accident. History of one previous attack several months previously with nondescript signs and symptoms, which confused rather than clarified the picture, was obtained. There was no history of food or fat idiosyncrasy, alcoholism, or any general constitutional illness or background. Minimal symptoms were present with these meager surgical signs, and these were intensified by a terrified, unusually apprehensive patient.

Diagnosis was made partially by elimination and partially by spasm and slight tenderness over the gallbladder region. X-rays taken revealed an enlarged gallbladder with lack of normal emptying. No evidence of intestinal obstruction or genitourinary pathology was found. The crampy, peristaltic-like pains, simulating partial intestinal obstruction, had a kindred origin in hollow tube obstruction, the blockage of the cystic duct by the compressing, inelastic band coiled on and around it. This constriction prevented the gallbladder from completely emptying. Hence, the residual bile became more thickened and could not escape despite the gallbladder's attempt to empty itself.

With the abnormal pathology of the gallbladder and its environmental relation to the liver and gastrointestinal tract, the premise is suggested that many nonfunctioning, noncalculous gallbladders with atypical symptoms and signs may fall into some classification of mechanical obstruction to bile outflow from the gallbladder similar to the bottleneck blockage described above. A partial explanation of cholesterosis and strawberry gallbladders may be postulated on the basis of some similar anomalous pathology and obstruction to bile outflow from the storing gallbladder.

This band ran from the region of the porta hepatis transversely and slightly upward, crossed the junction of the hepatic ducts at the point of continuity with the common duct, and fused with the gastrohepatic omentum and the connective tissue folds which lie in this area coming off the lesser omental bursa. Whether the anlage of these bands lie in a degenerated artery, frequently found in gastroduodenal omentum, or in an atrophied, aberrant, cystic artery is difficult to determine. Even variations such as degenerated right hepatic arteries coming from the right gastric, right renal, or even superior mesenteric arteries have been reported and may account for this band. Accessory bile ducts and anomalous blood vessels running behind and below the cystic duct are part of the problem of gallbladder pathology in surgery. The most tenable and most frequent of all the anomalies which could cause this band is probably the blood vessel which runs between the duodenum and proximal gallbladder. It is mentioned in pathologic reports as occurring with from 12 to 25 per cent frequency, depending on the author.

Summary

1. A case of gallbladder pathology with bizarre signs and symptoms simulating partial intestinal obstruction rather than a gallbladder syndrome is herewith presented.

2. Transient attacks of pain and intermittent, colicky discomfort in the right upper quadrant with relatively few x-ray findings or clinical signs may be due to a band compression causing partial obstruction of the gallbladder, which releases itself as the inspissated bile passes out of the gallbladder.

6802 Colonial Road

TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

with the cooperation of

Bureau of Cancer Control
New York State Department of Health

Treatment of Bladder Tumor

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Considerable confusion has developed among the members of the medical profession over the wide variety of methods employed by urologists in the treatment of bladder tumors. An explanation for this apparent lack of uniformity rests on the necessity of applying plans of treatment according to the potential danger of the particular tumor or tumors and of modifying them according to the capacity of the patient to tolerate contemplated surgery. There are, however, certain principles which govern the selection of treatment, thereby resolving many illusions of inconsistency.

The protean nature of bladder tumors is such that each tumor must be classified for purposes of predicting its rate and type of growth. The most valued information for prognosis and for the choice of therapy is the degree of penetration into or through the bladder wall. Thus, it may be stated that basically there are two types of bladder tumors: (1) those which are confined to the bladder wall and (2) those which have spread beyond the bladder. The survival rate is excellent to fair in the former and poor in the latter.

It would be fortunate if such a simple classification would suffice, but other important considerations must enter into the diagnosis and plan of treatment. The number, size, and location of the tumors must be ascertained. Further information about the grade of malignancy is gained from biopsy and histopathology. Tumors encroaching on the ureteral or urethral orifices may have compromised renal function. Coexistent and unrelated disease in other organs is not uncommon in this age group, and surgical plans must be modified according to an estimate of the patient's ability to tolerate treatment.

Familiar urologic technics, including cystoscopy, biopsy, urograms, and bimanual palpation under anesthesia, are employed to allow the examiner to reach these decisions as to the diagnosis and the choice of treatment, the severity of which is usually directly proportional to the potential destructiveness of the neoplasm. It would be presumptuous to assume that the subsequently described patterns of therapy are always followed or even universally agreed upon by all urologists, but they represent the main principles upon which correct treatment is largely based.

Treatment of Noninfiltrative Tumors

About one third of the bladder tumors fall into this category, which implies that the basement membrane on which the tumor rests is intact. The designations of benign papilloma or malignant papilloma have been given to these tumors according to cellular structure. These tumors may be multiple or single but have a pedicle or narrow base. Conservative treatment by cystoscopic fulguration is very effective, and the life expectancy of the patient is unaltered if proper treatment is given and periodic re-examination is performed. Tumors that are large or inaccessible by cystoscopic approach are more completely and satisfactorily treated by cystotomy and electrocoagulation with or without the implantation of radon seeds. The proximity of the tumor or tumors to the ureteral or urethral orifices at times introduces difficulties, for electrocoagulation may cause scar and occlusion. Dilatation or reimplantation into the bladder may be required. Cystectomy may on occasion be indicated for multiple recurrent tumors (multiple papillomatosis), but fortunately these lesions, which cover the bladder wall, are rare.

Treatment of Infiltrative Tumors

TUMORS CONFINED TO THE BLADDER WALL.—Tumors having malignant cells in the pedicle or in the bladder wall are included in this group. Subclassification of these tumors has been the subject of much dispute but is attempted by some on the basis of histopathology and whether the tumor is sessile or nodular in form. At the risk of oversimplification it might be stated that papillary carcinomas have a thickened stalk and project intravesically. The more compact, nonpapillary varieties are designated as transitional cell carcinomas and the broad flat tumors as epidermoid carcinomas. The tendency toward infiltration in depth and in lateral directions increases with nodularity and flatness.

The objective of treatment is to remove or destroy all cancer cells in the tumor and in the bladder wall. If such is accomplished, it is immaterial what method is used, but the adequacy of treatment is mandatory. The complete excision of the involved area, together with sufficient tumor-free margins, offers the best hope that all tumor cells are removed. Segmental resection with or without fulguration and interstitial irradiation are possible in the majority of patients harboring such tumors. Reimplantation of one ureter is sometimes required. Cystectomy and urinary diversion may be necessary if both ureters and/or the internal urethral orifice are involved. The five-year survival rate is 60 to 70 per cent of the patient's normal life expectancy. Operative risk is in the vicinity of 2 to 4 per cent, exclusive of cystectomy.

TUMORS EXTENDING THROUGH THE BLADDER AND INTO ADJACENT TISSUE.—The management of this class of tumors is beset with poor results. The fate of the patient may be sealed regardless of the methods employed to treat such tumors. There are always certain patients in any group who succeed in defying what appears to be the inevitable and respond to treatment in a remarkable manner. This unpredictable, yet often discouragingly small minority sustains the courage and determination of the surgeon to preserve despite heavy odds. Palliation and temporary relief may be afforded by cystotomy, excision, and fulguration, but infiltrated viable cancer cells most likely remain. The poor results from such treatment, together with the awareness that metastases are usually confined to the pelvis, invite a trial of more radical surgery. During the past ten or more years cystectomy with and without pelvic lymph node dissection has been widely employed. Complete removal of all pelvic organs has been performed by some to to control the refractory cancer. A large variety of methods have been devised and employed to cope with the problems of required urinary diversion. Ureteral transplantation to bowel, skin, or pouches fashioned from the cecum and ileum have been utilized.

The usefulness and limitations of radical surgery are being appraised, and it is becoming apparent that the end results are not encouraging. The final justification for any complicated treatment as against the simpler methods must inevitably be substantiated by impressive gains in the survival rate. This hope now appears to be frustrated by an initial operative toll of approximately 10 to 15 per cent. Methods to effect satisfactory disposal of urine are fraught with difficulties of renal infection, hydronephrosis, calculi, and metabolic derangements due to absorption of urine from the intestinal wall. These factors leading to renal insufficiency have imposed another burden on the survival rate. The rationale of lymph node dissection has proved disheartening for one clinic has demonstrated that all patients who had positive nodes removed were dead within three years. Therefore, the carefully considered theoretic advantages of radical surgery for advanced bladder cancer promise to be vitiated by the complications incident to its performance, even though such procedures at times might conceivably remove all cancer cells.

The five-year survival rate for cancer of the bladder which has penetrated through the wall is in the 10 to 15 per cent range. A debt of gratitude is due those individuals who have expended extraordinary energy and time in the endeavor to lower this high mortality rate. Further study of radical surgery must be made to evaluate its effectiveness adequately in the ratio of cure of bladder cancer with regional extension. The use of total cystectomy will undoubtedly continue for selected cases of bladder cancer, involving the trigone and bladder neck, which renders partial cystectomy technically impossible.

The majority of urologists have not been impressed with the results of external radiation in the treatment of bladder cancer. The agonizing and prolonged cystitis, which is a sequel of its administration, and the rarity of regression have discouraged many from recommending its use. Modifications of the use of radiation, in the form of isotopes of gold and chromic phosphate and radioactive cobalt in nylon sutures or embedded in urethral catheters, are now undergoing trial.

There are those who believe that surgery has reached its limits of application in the treatment of bladder cancer. Bladder tumors which have heretofore failed to yield to methods presently employed may ultimately be satisfactorily controlled only after research has opened up new methods of treatment. The role of the urinary carcinogens in the development and perpetuation of bladder carcinoma seems to be substantiated by the regression or actual disappearance of bladder cancer following diversion of the urinary stream by ureterocutaneous or ureterosigmoid transplantation. Dogs consistently develop bladder cancer when fed analine dyes. Some investigators have demonstrated partial resolution of experimental transplanted bladder tumors in the laboratory animal by the feeding of various chemical compounds. Hormonal manipulation, utilizing estrogens and deprivation of androgenic steroids, has had very limited trial in the human with some justification for further experimentation.

Summary

One may only speculate on what the future holds, but the fruits of research may very likely complement surgery in reducing the prevailing rate of over 5,000 deaths each year in the United States from bladder cancer.

640 Park Avenue

(*Number fourteen of a series on Treatment of Cancer*)

The Low-Salt Syndrome

The low-salt syndrome, presenting as it does a set of symptoms which might indicate such conditions as internal hemorrhage, concealed infection, protein starvation, or adrenal exhaustion, is now quite regularly identified by an easy method of determining serum sodium by means of the flame photometer. The low-sodium syndrome occurs in two general sets of circumstances: (1) when large water intake dilutes available sodium, decreasing its serum level and (2) when for a variety of reasons there is salt loss from the body. In either case, chemical measurements may be similar, and the answer to the question of whether the condition represents primary water overload or primary salt deficit depends on analysis of the clinical situation. The correct method of treating salt depletion is probably hypertonic salt solution, while restriction of water intake (with certain precautions) is the correct treatment for water overload. The low-sodium syndrome occurs in heart disease, cirrhosis, cerebral injury, and renal disease, and may be present in many complex clinical states characterized by imbalance of water and electrolyte intake and output.

—*Philip Selling, M.D., The Portland Clinic Bulletin, June, 1955*

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Infectious Factors in Asthma

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(*From the Allergy Clinic of New York Hospital*)

THE manifestations of asthma may be initiated by a wide variety of stresses and stimuli.[1] The result has been that the problem of therapy has often resolved itself into the determination and control of the sum total of stimuli combined with drugs for symptomatic relief. In analyzing the individual case of asthma, not only the factors of hypersensitivity to inhalants, such as pollens, molds, animal emanations, and house dust, must be considered, but also the factors of infection, psychosomatic processes, bodily fatigue, and the whole variety of experiences that make for the stress phenomena emphasized by Selye.[2]

In the present discussion the infectious factors comprise the main interest. But it should not be forgotten that the other individual causative factors, including hypersensitivities, psychosomatic processes, and other constitutional tendencies, must be taken into consideration when evaluating the whole picture.

That bacterial products are capable of producing active sensitization is clear from the work of Krause[3] and Dienes[4,5] in tuberculosis. Cooke[6] has described the basis for the belief that in asthma, allergy to bacteria may be important. Much work on the subject of bacterial allergy to allergic disease needs to be done, and it is conceivable that in the future investigation may provide effective means for better management of asthma due to infection along immunologic lines. In this discussion, however, practical considerations in the management of infectious factors will be emphasized based on clinical experience.

In evaluating infectious factors present in the asthmatic the history is important. Asthma occurring predominantly in the winter is apt to be involved with infectious factors. Asthma associated with fever, the expectoration of purulent sputum, leukocytosis with or without x-ray evidence of pulmonary consolidation indicates the importance of infection. A history of purulent nasal discharge or postnasal drip is very suggestive of infection. In children the association of asthma with fever, enlarged cervical glands, earaches, and sore throat points to infection in adenoids and tonsils.

The physical examination of the asthmatic should start with the nose. Here the presence of nasal polyps or pus in the nasal passages usually indicates infection. Adenoid tissue in children, often blocking the pharynx and damming back purulent secretion, is important. Examination of the chest will not necessarily indicate infectious factors since asthmatic wheezes may be similar whether due to infection or hypersensitivity to inhalants, but the purulent character of the sputum and the bacteriologic examination will often show the infectious source of the exudate. Naturally, chronic bronchiectasis, although not common in asthmatics, is a primary indication of chronic infection.

X-rays of the nasal sinuses and expert rhinologic examination should be routine in practically every asthmatic, just as every asthmatic should have a battery of the most important skin tests. Cloudy antra should be irrigated to determine the presence of active infection. The nasopharyngoscope should be used to determine the source of nasal pus. The sphenoid sinuses, often the cause of intractable cough and asthma, should be irrigated if there is any question. In children x-ray evidence of large adenoids confirmed by special nose and throat examination, plus the association of asthma with colds and fever, constitutes strong presumptive evidence that infected adenoids play an important part in keeping the asthmatic state active.

In managing infectious factors in asthma, the antibiotics have an important place. Their chief use is in diffuse bronchial and pulmonary infection. When the hormones, cortisone or ACTH, are given, alertness to the presence of active pulmonary infection and the prompt use of antibiotics may be lifesaving.[7] In general, it is preferable to give antibiotics orally. Occasionally one antibiotic will be found preferable to another by means of cultures and sensitivity reactions with the various antibiotics. Rarely is the use of antibiotics by inhalation indicated over adequate oral administration. Frequently such inhalational procedures do more harm than good by irritating the bronchial mucous membrane. The use of solutions of antibiotics in irrigating the nose and, in particular, infected antra may be a useful procedure. Where adenoids are acutely infected, antibiotics may relieve the acute attack. In most cases, however, the infection is relieved only temporarily, and the acute infection repeats itself until the infected adenoids are removed. But, here again, in many cases this is not the final answer since so many of these children throughout adolescence will have diffuse hyperplasia of the pharyngeal lymphoid tissue with secondary infection after the main body of adenoid tissue has been removed. In these cases repeated use of antibiotics may be useful in keeping resultant infectious bronchitis under control.

Nasal surgery has an important place in the management of infectious factors in the asthmatic. In children infected adenoids and tonsils should be removed. Where septal deviation favors the retention of infection in the sinuses, adequate submucous resection should be performed. Where antra are infected, repeated irrigations may clear up the infection. When improvement does not result, the cutting of a window or permanent opening into the antrum is rarely a rewarding procedure. Here the infection still remains in the antral membranes. The operation of choice is the Caldwell-Luc with exenteration of the infected tissue.

Nasal polyps and the widespread hyperplasia of the nasal membranes throughout the sinuses present a difficult problem and one for which there is no unanimous solution among allergists who are so often confronted with it. It would seem that the best course with nasal polyps is to clear up the infection first by local treatment, suction, the use of local antibiotics, and irrigation of infected antra and sphenoids. Nasal polyps which obstruct the nasal passages, prevent drainage and aeration, and favor the retention of infection should be removed. Many of these cases need the thorough exenteration of the Caldwell-Luc operation. Often tissue studies of the removed membranes will show evidence of active infection; in these cases complete surgery is usually a successful procedure. It must be remembered that nasal surgery in these cases requires the utmost skill and completeness. Many of the bad results attributed to nasal surgery, especially in this category, are due to incompetent and incomplete surgical technic.

Vaccine therapy in the management of infectious factors in asthma is not a substitute for antibotics or surgery when indicated. The greatest usefulness of vaccines, especially autogenous vaccines, is in cases where the most complete surgery possible has been done but, in the maze of tissue in the nasal passages and pharynx, infection still persists.

Climatologic management is helpful in many cases but disappointing in many others. Experience indicates that it is not a substitute for usual management.

Finally, it is important to reiterate that treatment of infectious factors in asthma to the neglect of proper elimination and immunization of hypersensitivity factors is most often the cause of disappointing results. In the treatment of asthma there is no substitute for thoroughness in the complete management of the syndrome.[8]

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(*Number four of a series on Fundamentals of Modern Allergy*)

ANNOUNCEMENT

PRIZE ESSAYS

The Lucien Howe Prize and the Merrit H. Cash Prize will be open for competition at the next Annual Convention of the Medical Society of the State of New York, May 7 to 11, 1956, in New York City.

The *Lucien Howe Prize* of $100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The *Merrit H. Cash Prize* of $100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win a prize automatically becomes the property of the Medical Society of the State of New York, "to be published as it may direct."

All essays must be presented not later than *February 1, 1956,* and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

R. Townley Paton, M.D., *Chairman*
Committee on Prize Essays

SPECIAL ARTICLE

The Costs of Going to Medical School and How They Are Met: State University of New York, 1954

ROBERT STRAUS, PH.D., SYRACUSE, NEW YORK

(*From the State University of New York College of Medicine at Syracuse*)

A SURVEY of the expenditures and financial resources of first-year medical students was conducted early in 1954 by the State University of New York* as one part of a review of the economic problems of its students and its own fiscal policy with respect to students. Data were gathered simultaneously at the University's two medical centers, the Downstate Center in New York City and the Upstate Center in Syracuse.†

Students were asked to provide four types of information: (1) a few descriptive identifying data, (2) estimates of their cash expenditures for school and living expenses during the year starting July 1, 1953, (3) estimates of the source and amount of funds available to meet expenditures during the same period, and (4) some questions about student employment, debts, source of emergency funds, and occupations of father and mother.

Data were gathered by means of a questionnaire administered at each school to the entire first-year class (Fig. 1). In a simple, straightforward explanation stress was placed on the fact that the problems of financing medical education are critical and that this is an area about which many of the simplest facts are not known. Students were asked to provide information which might help in the search for an intelligent solution to some of these problems. Absolute protection of confidence was promised. Returns were received from 150 students at New York City and from 76 at Syracuse. These comprised 100 per cent of the first-year students at each school.

Before considering data on the expenditures of students, mention should be made of one basic difference in conditions at the schools. Admission policies are defined so that the downstate school primarily serves the New York City Metropolitan area, while the upstate school gives preference to applicants from New York State outside of the metropolitan area.* Thus, a high percentage of the students at the downstate school have homes within commuting distance of the school in an area having extensive systems of local transportation. The majority of the students at the upstate school do not have homes in the Syracuse area, nor do they live within commuting distance.

Under these circumstances it is not surprising to find that 73 per cent of the New York City students and only 21 per cent of those at Syracuse reported that they were living with others who were providing part or all of their room and board. Since it was found that board and room constitute roughly a third of the total expenditures of most students, this wide difference in the type of living arrangements can be expected to have a marked effect on over-all budgetary findings for the two schools.

It is not within the province of this report to consider the relative effect which living at home or independent living arrangements while attending medical school may have on the emotional and social adjustment of students. However, the possible advantages of independent living should not be overlooked, even should it be found that those who live at home have far greater ease in balancing their budgets.

In the following analysis the few women students (4 per cent at New York City, 7 per cent at Syracuse) and married students (11 per cent at New York City, 9 per cent at Syracuse) have not been considered separately.

Expenditures of Medical Students

Data on the costs of attending medical school fall logically into two categories: (1) actual school

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Presented at the Eastern Regional Conference on Premedical and Predental Education, New York City, January 7, 1955.

* The study was conducted under the direction of Dr. Philip A. Cowen, Associate Coordinator of Research for the State University of New York. Planning of procedures and technics was undertaken by a committee including Drs. Cowen, James O. Pinkston, and Schuyler G. Kohl from the College of Medicine at New York City and Davis G. Johnson and Robert Straus from the College of Medicine at Syracuse. The questionnaire used in the study was a revision of a form administered in 1952–1953 to medical students throughout the country by Sarah Counts and John M. Stalnaker for the Association of American Medical Colleges in connection with their study "The Cost of Attending Medical School."[1]

† Prior to 1950, the Long Island College of Medicine and the College of Medicine of Syracuse University.

* The student body at each school includes exceptions to these policies and numbers some students living outside the State of New York and some from the areas of the State primarily served by the other school.

STATE UNIVERSITY OF NEW YORK
Albany 1

The Cost of Going to Medical School in 1953–54

PLEASE PRINT

Your name.. Parent or Guardian..
(Last) (First) (Init.) (Last) (First) (Init.)

Permanent home address of parent or guardian..
(No.) (Street) (City or Town) (COUNTY) (State)

Many potential medical students and their parents, teachers, the public and the government need to know what it costs a student to go to medical school today and how the medical student is obtaining funds while in school. The whole matter of financing medical education is a very critical problem area. This is an area in which even the simplest facts are not adequately known and we are seeking your help in obtaining them. Your name and the name of your parents will be held in the strictest confidence. One hundred per cent cooperation is essential to the success of this vital study.

1 Medical school: Downstate........(1); Upstate........(2); 2 Year: 1st........2nd........3rd........4th........

3 Are you married? Yes........(1); No........(2). 4 If so, number of children......................

5 Please indicate your sex. Male........(1); Female........(2).

6 Are you living with others who provide part or all of your board and room, etc.?
Check: Yes........(1), No........(2).

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7 Estimate of Cash Expenditures July 1, 1953—June 30, 1954

Tuition and fees ....
Books, instruments and school supplies ....
Sub-total—School Expenses ....
Living expenses (include family if married)
Rent (cash expenditure only) ....
Meal (cash expenditure only) ....
Clothing ....
Laundry ....
Medical and dental expenses ....
Transportation ....
Insurance ....
Recreational activities (incl. tobacco, liquor and movies) ....
Social activities (incl. organizational dues and fees) ....
Misc. including emergencies ....
Sub-total—Living Expenses ....
Total estimated expenditures ....

8 Source and Amount of Funds to Meet Expenditures for 1953–54

Vacation earnings ....
Current earnings—your own ....
Current earnings—your wife's ....
Gift from parents ....
Gift from other sources including relatives ....
Loan from parents—(Int. rate............%) ....
Loan from school—(Int. rate............%) ....
Loan from other source including relatives—(Int. rate............%) ....
Savings to be used this year only ....
Independent income (e.g. trust fund, insurance, etc.) ....
State scholarship ....
Other scholarship or fellowship ....
G. I. Bill ....
Other.. ....
(Please specify)
Total funds to meet expenditures ....

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9 Approximate gross family income of your parents:
Under $5,000............; $5,000 to $7,499............; $7,500 to $10,000............; Over $10,000............
Please answer questions on other side.

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10 Are you employed? Check: Yes........(1), No........(2). If so, please state place of employment and kind of work.
....

11 Are you borrowing money? Check: Yes........(1), No........(2). If so, how large do you estimate your debt will be when you finish your senior year? ....

12 What would be your source of funds if you had an emergency expense of over $100?
....

13 What is your father's occupation? (Be as specific as possible)..
....

14 Is your mother working? Yes........(1), No........(2). If so, what is her occupation?
....

15 If *total* estimated expenditures is larger than *total* funds to meet expenditures, what plans do you have for balancing your budget? Please write your answer below.

FIG. 1. QUESTIONNAIRE ADMINISTERED TO FIRST-YEAR CLASSES OF THE STATE UNIVERSITY OF NEW YORK COLLEGES OF MEDICINE AT NEW YORK CITY AND SYRACUSE.

expenditures, which include tuition, fees, books, instruments, and supplies and (2) living expenses, which cover such items as rent, meals, clothing, laundry, medical care, recreation, and the like (Fig. 1, item 7).

The charge for tuition (including fees) was standardized at $715 in New York City and $800 in Syracuse.* These were the rates charged at each school under private control and have not been changed by the State University.† Of significance is the fact that 29 students at New York City and four students at Syracuse listed tuition costs other than the set charges. These deviations ranged from an understatement of $100 to an overstatement of $785. Altogether, there were 12 understatements and 21 overstatements of actual cost. It is possible that some of the students who overstated these charges may have included certain fees such as fraternal organization dues for which provision was made elsewhere in the questionnaire. It seems probable, however, that many of these 33 students simply did not know the exact tuition charge of their school. With this much deviation in recording standardized fees, even greater error in judgment can be expected in the recording of other data, most of which are necessarily based on considered estimates. It should be stressed that most of the data of this study are merely estimates, and they should be interpreted in the light of this limitation.

Student estimates of their expenditures for books, equipment, and supplies showed a wide range at each school: from $50 to $720 at New York City and from $100 to $775 at Syracuse. Much of this variation can be attributed to a single item, the microscope. The median expenditure at New York City ($363)** was somewhat lower than at Syracuse ($455). Expenditures of under $200 were reported by 35 per cent of those at New York City compared with only 8 per cent of the Syracuse students, while expenditures of $500 or over were reported by only 15 per cent at New York City and 34 per cent at Syracuse.

TABLE I.—LIVING EXPENDITURES BY ITEM OF EXPENSE

Living Expense	New York City Per Cent Reporting Item	New York City Median Expense	Syracuse Per Cent Reporting Item	Syracuse Median Expense
Rent	43	$ 367	80	$ 299
Meals	75	389	93	566
Clothing	87	150	93	145
Laundry	61	56	83	45
Medical and dental	72	53	78	38
Transportation	93	81	92	72
Insurance	54	75	55	84
Recreation	92	182	93	155
Social	75	44	75	75
Miscellaneous	61	91	64	81
TOTAL	98*	$1,068	100	$1,354

* Not determined for 3 students.

Total school expenses at New York City tended to run about $200 less than at Syracuse with medians of $1,063 and $1,262, respectively.

Under the heading "living expenses", students were asked to include only actual cash expenditures for such items as rent and meals. Thus, many of the students who were living with their parents reported no costs for some of these items. Data on living expenses have been summarized in Table I, showing for each item of expense the percentage of students at each school who reported any expenditure and the median expenditure for all students reporting. In New York City where 73 per cent of the students were living with others who provided part or all of their board and room, only 43 per cent reported any expenditure for rent, compared with 80 per cent at Syracuse. A higher percentage of Syracuse students also reported expenses for laundry and for meals. Actual individual charges for rent reported from New York City were higher than those in Syracuse. Mention should be made of the great range in reported expenditures for every item. For example, expenses for rent ranged from under $100 to over $1,200. The cost of meals ranged under $100 to over $2,000 for one married student and over $1,000 for some single students. Reported clothing costs ranged from under $50 to over $500. Transportation expenditures ran from virtually nothing to over $1,000 for students who included the costs of operation and depreciation on personal automobiles. The distribution of reported living expenditures for students at each college is shown in Table II. The median living expense at New York City was $1,068, at Syracuse $1,354. At New York City 16 per cent of the students reported living expenses of under $500 compared with only 4 per cent at Syracuse. Forty-seven per cent at New York reported expenses of under $1,000 compared with only 20 per cent at Syracuse.

The significance of living at home to estimated cash expenditures is clearly indicated by the follow-

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* The Syracuse tuition charge has since been reduced to $715.

† Gardiner[2] has recently analyzed the charges for tuition and required fees at all of the four-year medical schools in this country. Among the state-supported schools he found a wide range with nearly an eightfold difference between the school with the lowest charges (University of Texas at Galveston, $106 per year) and the highest (State University of New York at Syracuse, $800 per year). The downstate medical school of the State University of New York ranked second highest ($715), far ahead of the third ranking state-supported school (the University of North Carolina, $600). The mean charge for the 30 public medical schools was $450. Among the private medical schools Gardiner found a striking clustering of charges around the $800 figure. Altogether, 11 private schools charged $800, 20 schools exceeded this figure, while only ten had tuition and fees below $800, and only one of these (the Howard University Medical School which is heavily subsidized through Federal Congressional appropriations) fell below $600.

** Medians were computed from range category groupings of data and are therefore approximate.

TABLE II.—Distribution of Living Expenses by Range Categories

Living Expenses	New York City Number of Students	New York City Per Cent	Syracuse Number of Students	Syracuse Per Cent
$ 1 to 499	23	16	3	4
500 to 999	45	31	12	16
1,000 to 1,499	36*	25	33**	43
1,500 to 1,999	19	13	14	18
2,000 to 2,499	9	6	10	13
2,500 to 2,999	8	6	0	...
3,000 to 3,499	2	3	2	3
3,500 to 3,999	1		2	3
4,000 to 4,499	2		0	...
TOTAL	145†	100	76	100

* Median $1,068.
† Not determined for 5 students.
** Median $1,354.

TABLE III.—Distribution of School and Living Expenses by Range Categories

Total Estimated School and Living Expenses	New York City Number of Students	New York City Per Cent	Syracuse Number of Students	Syracuse Per Cent
$ 500 to 999	2	1	0	...
1,000 to 1,499	27	18	0	...
1,500 to 1,999	41	28	8	11
2,000 to 2,499	32*	22	23	30
2,500 to 2,999	23	16	25**	33
3,000 to 3,499	11	8	13	17
3,500 to 3,999	5	3	3	4
4,000 to 4,499	2	4	2	5
4,500 to 4,999	2		2	
5,000 to 5,499	2		0	...
TOTAL	147†	100	76	100

* Median $2,062.
† Not determined for 3 students.
** Median $2,650.

TABLE IV.—Sources of Funds

Source	New York City Per Cent Reporting Item	New York City Median Expense	Syracuse Per Cent Reporting Item	Syracuse Median Expense
Vacation earnings	85	$ 560	88	$ 612
Own current earnings	10	290	6	250
Wife's current earnings	5	3,000	8	2,750
Contributed by parent	76	1,374	82	1,445
Gift from relative or others	21	270	21	300
Loan from parents	5	1,000	13	874
Loan from relatives or others	5*	1,150	14**	550
Savings to be used current year only	23	442	29	650
Independent income	6	324	0	...
State scholarships	11	750	21	350
Other scholarships or fellowships	3	650	4	450
G.I. bill	3	875	5	1,250
Total resources to meet expenditures	98†	$2,127	100	$2,670

* Includes 1 school loan.
† Not determined for 3 students.
** Includes 2 school loans.

ing comparison of medians for total living expenses:

	Living with Others Providing Part or All of Room and Board	Independent Living Arrangements
New York City	$ 816	$1,520
Syracuse	$1,030	$1,375

At New York City the students living at home reported living expenses with a median of $714 less than that of expenses for other students. At Syracuse the median for living expenses was $345 less for those students who were living at home than for those who made their own living arrangements. It should be remembered, of course, that these data represent cash expenditures and that students living at home are incurring an additional cost which, while not factored out from the total household expenses of their families, are quite real and should not be overlooked.

The distribution of total expenditures (both school and living) appears in Table III. Forty-seven per cent of the New York City students reported total expenditures of below $2,000 compared with only 8 per cent at Syracuse. The median at New York City was $2,062 at Syracuse $2,650.

From these data it is clearly seen that it costs the student in the neighborhood of from $2,000 to $2,500 to meet school charges and living expenses during the first year of medical school. For the four-year course, financial resources totaling between $8,000 and $10,000 must be found. Tuition charges represent approximately a third of total expenditures, while room and board contribute another third.

The source of funds available to first-year students will now be considered.

Financial Resources to Meet Expenditures

Data on the estimated funds available from various sources to meet the expenses of medical school have been summarized in Table IV.

Here it is seen that by far the most significant source of funds for students at both schools is their parents. Cash contributions from parents were reported by 73 per cent of the New York City students and 82 per cent of those enrolled at Syracuse. The median contributions at New York City ($1,347) was slightly lower than that at Syracuse ($1,445). The total range of sums received from parents extended from many amounts of about $50 each to one of over $4,500.

The largest percentage of students, 85 at New York City and 88 at Syracuse, reported their own vacation earnings as a resource. Vacation earnings ranged from under $100 to over $1,600 with medians of $560 at New York and $612 at Syracuse. A few students were benefiting substantially from their wives' earnings. About a fourth of the students

TABLE V.—DISTRIBUTION OF TOTAL FINANCIAL RESOURCES BY RANGE CATEGORIES

Financial Resources	New York City		Syracuse	
	Number of Students	Per Cent	Number of Students	Per Cent
$ 1 to 499	1	1	0	. . .
500 to 999	4	3	1	1
1,000 to 1,499	25	17	1	1
1,500 to 1,999	35	24	8	11
2,000 to 2,499	35*	24	20	26
2,500 to 2,999	24	16	25**	33
3,000 to 3,499	7	5	12	16
3,500 to 3,999	8	5	3	4
4,000 to 4,499	2	1	3	4
4,500 to 4,999	4	3	1	4
5,000 to 5,499	2	1	1	
5,500 to 5,999	0	. . .	1	
TOTAL	147†	100	76	100

* Median $2,127.
† Not determined for 3 students.
** Median $2,670.

were drawing on a few hundred dollars in savings during their first year.

Only a few students (10 per cent at New York City, 6 per cent at Syracuse) reported income from remunerative employment while attending school. A few other students performed custodial work or provided companionship in exchange for partial room and board. However, in the face of an academic curriculum which places severe demands on the time and energy of every student, it is both unreasonable and wasteful for some students to be handicapped with the need to work on the side for money or board.

Although school policy dictates that scholarship and loan aid will be granted to first-year students only under unusual and extreme circumstances, school loans were reported by one student at New York City and two at Syracuse, while 16 students at each school held State scholarships. The majority of these were for $750 each at New York City and for only $350 each at Syracuse.

The distribution of total financial resources is shown in Table V. The over-all range of funds available to students extended from under $500 to over $5,000. However, 81 per cent of the New York City students had resources of from $1,000 to $3,000 with a median of $2,127. In Syracuse 86 per cent of the students reported resources between $1,500 and $3,500 with a median of $2,670.

Balancing the Budget

A further analysis of data on source of funds reveals that 17 students at New York City (11 per cent) and 21 students at Syracuse (28 per cent) were borrowing funds in order to finance their medical education. Estimated debts at the end of the four-year course ranged from under $500 to over $10,000 with a median of $5,500. Students who were not borrowing during the first year but who were dipping into savings numbered 31 at New York City (21 per cent) and 17 at Syracuse (22 per cent). Thus, fully a third of the first year students at New York City and a half of those at Syracuse are relying on either loans or depletable savings in order to balance their budgets. Data on total resources in savings were not collected, but a number of students wrote comments noting that when their savings were gone, they would have to seek scholarship aid or loans.

There were seven students at New York City and five at Syracuse whose first-year budgets showed deficits of at least $100,* with no indication of how they expected to achieve a balance.

On the positive side of the ledger, 21 students at New York City and two at Syracuse showed a budget with resources at least $100 greater than expenditures. At Syracuse both of these favorable balances were in the neighborhood of $700, and both students reported resources including vacation earnings supplemented by a $3,000 donation from parents. At New York City surplus resources ranged from just over $100 to one of over $1,000 with a median of about $350. With the exception of two students whose wives were working and one who was working himself, all surpluses were accountable to contributions from parents or other gifts. Since there was no indication of just how long these donations were expected to last and since all students face heavy expenditures for several years to come, it seems more appropriate to label budgets showing a favorable balance not as a surplus, but merely as "absence of immediate hardship."

Several students with no immediate financial problems nevertheless expressed deep concern over their economic security. One student whose wife was earning about $3,500 a year expressed his anxiety as follows: "The adequacy of our income will depend solely on the physical ability of my wife to hold a job. Pregnancy or major illness will be catastrophic."

Data of the study clearly indicate that a vast majority of medical students are primarily dependent on their parents for financial backing in order to pay for their medical educations and that they are receiving substantial sums from their parents (Table IV). Furthermore, when asked what would be their source of funds "in case of an emergency expense of over $100," 61 per cent at each school indicated their parents.†

Ideally, this study should explore the question of financial resources further by considering data on

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* Because of the large sums involved and the fact that so many of the factors were necessarily rough estimates, all budgets on which expenditures and resources were within $100 of each other have been considered as balanced.

† Other sources. New York City—savings 29 per cent, relative 7 per cent, other 3 per cent; Syracuse—savings 30 per cent, relative 3 per cent, other 5 per cent, bank loan 1 per cent.

TABLE VI.—OCCUPATIONS OF FATHERS REPORTED BY STUDENTS AT NEW YORK CITY AND SYRACUSE

New York City		Syracuse	
Occupation	Number	Occupation	Number
Deceased	21	Deceased	8
Retired	6	Retired	4
Unemployed	1	Disabled	2
Unknown	6		
Physician	15	Physician	2
Attorney	3	Attorney	2
Teacher	5	Dentist	1
Minister	1	College teacher	1
Pharmacist	3	High school teacher	3
Civil engineer	1	Optometrist	1
Illuminating engineer	1	Pharmacist	3
C.P.A.	3	Interior decorator	1
Court stenographer	1	Commercial artist	1
Interior decorator	1	Draftsman	1
Newspaper reporter	1	Engineer	1
Manufacturer	4	Cost accountant	1
Business executive	4	Manufacturer	4
Hotel or restaurant owner	2	Commercial financier	1
Stockbroker	1	Hotel or restaurant owner	3
Real estate broker	3	Retail merchant	9
Retail merchant	11	Farmer	3
Wholesale merchant	5	Policeman	1
Plant manager	5	Fireman	1
Officer manager	2	Painting contractor	1
Store manager	2	Plumbing contractor	1
Policeman	1	Builder	1
Trucking business owner	1	Electrician	1
Painting contractor	1	Factory foreman	1
Roofing contractor	1	Steamfitter	1
Heating contractor	1	Commercial photographer	1
Plumber	2	Junk dealer	2
Carpenter	2	Store manager	1
Printer	1	Tailor	1
Tailor	3	Mason	1
Jeweler	1	Baker	1
Barber	1	Skilled factory worker	4
Beautician	1	Semiskilled factory worker	2
Furrier	3	Salesman	2
Milliner	1	Store clerk	1
Dress presser	2		
Salesman	7		
Skilled factory worker	2		
Longshoreman	1		
Truck driver	1		
Mail clerk	2		
Bank guard	1		
Cashier	1		
Store clerk	4		
Office clerk	1		
TOTAL	150	TOTAL	76

TABLE VII.—OCCUPATIONS OF MOTHERS REPORTED BY STUDENTS AT NEW YORK CITY AND SYRACUSE

New York City		Syracuse	
Occupation	Number	Occupation	Number
Physician	1	Social worker	1
Social worker	1	Nurse	3
Teacher	6	Teacher	1
Pharmacist	2	Retail merchant	1
Medical technician	1	Bookkeeper	3
Nurse's Aid	1	Beautician	1
Business executive	1	Dressmaker	1
Retail merchant	1	Telephone operator	1
Real estate broker	1	Office clerk	1
Commercial artist	1	Store clerk	5
Interior decorator	1	Factory worker	1
Bookkeeper or secretary	5	TOTAL	19*
Office clerk or typist	6		
Store clerk	3		
Dressmaker and related skills	7		
Cleaning service	2		
Office manager	1		
TOTAL	41		

* Occupations were not listed for 3 Syracuse mothers who were reported as working.

the financial positions of parents. Although students were asked to estimate the income of their parents, there was substantial evidence that a high percentage either had no information or were not reliably informed on this point.

Some indication of the relative socioeconomic level of parents can be obtained from data on their occupations. The brief descriptions of parents' occupation which were provided by most students were not of sufficient detail to make possible a meaningful classification into socioeconomic categories. For example, there was often no way of determining whether the manufacturer, or the retail merchant, or the plumbing contractor had a small firm in which he personally provided direct services or was the executive of a large enterprise. However, the lists of fathers' occupations shown in Table VI are suggestive of a broad range of background. At least half of the occupations listed for fathers suggest modest incomes. A student who reported that his father managed a small retail store noted, "As it is, I am draining my parents quite a bit. Expenditures are greater than my parents can easily supply, and it will be necessary for me to seek scholarship aid if I am to continue."

The fact that a majority of the students are receiving substantial financial aid from their parents suggests significant long-range saving and sacrifice on the part of many parents. On a few of the questionnaires students noted that their parents were going into debt or mortgaging their homes in order to provide aid. Serious consideration should be given to the impact of such sacrifices by parents on their own ability to cope with illness and old age.

Occupations listed for 60 mothers again reveal many low income and some quite menial types of work (Table VII). Altogether, 27 per cent of the New York City mothers and 30 per cent of the Syracuse mothers were working. From several written comments it is obvious that in a number of instances only the fact that the mother was working made it possible for the family to help finance the student's medical education. One student reported a $500 gift from a widowed mother who was employed in domestic service.

Because parental aid represents such an important factor in the total economic resources of medical students, data of the present study must be supplemented with information on the parents' own financial arrangements. Even most families where the father has a professional or executive type position and incomes are relatively large must plan carefully in order to make $8,000, or $10,000, or even $5,000 available over a four-year period toward a medical education. For families of modest means the sacrifice associated with this financial burden can probably only be truly appreciated by those who experience it. In the light of this obvious burden borne by the family, the need for further study is strongly indicated.

Summary

Data on the costs of going to medical school and resources for meeting these costs have been reported by the entire first year class of medical students enrolled for the year 1953–1954 in the State University of New York's Downstate College of Medicine at New York City and Upstate College of Medicine at Syracuse. While estimated expenditures showed a wide range, the medians for total cash expenditures for the first year, including both school charges and cash expended for living expenses, were $2,062 at New York City and $2,650 at Syracuse. Differences were attributable primarily to the fact that a majority of the New York City students were living with others (usually parents) who provided part or all of their room and board, while a majority of the Syracuse students had to make independent living arrangements. In addition, the tuition charge at New York City was $85 lower than at Syracuse.

The most significant source of funds for meeting the costs of going to medical school were provided by parents, although nearly all of the students were also relying on their own vacation earnings. Debts were being incurred by 17 per cent of the students who estimated total debts at the end of four years at a median of $5,500. Half of the students were either going into debt or relying on depleting savings in order to balance their first-year budgets.

Data on parents' occupations revealed a broad range of socioeconomic levels. Severe economic deprivation by many parents in order to help finance a medical education is implied by the fact that many occupations are of the low income variety and explicitly indicated by a number of comments written into the questionnaires. The present study points to the need for further consideration of the financial arrangements which enable parents to assume this burden.

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ANNOUNCEMENT

SCIENTIFIC EXHIBITS

1956 ANNUAL CONVENTION
MEDICAL SOCIETY OF THE STATE OF NEW YORK

Applications for space for the scientific exhibits should be made directly to the Chairman of the Subcommittee on Scientific Exhibits of the Convention Committee:

William L. Watson, M.D.
340 East 72nd Street
New York 21, New York

The Annual Convention will be held May 7 to 11, 1956, at the Hotel Statler, New York City.

No applications can be considered after January 1, 1956.

There will be two groups of awards:

Group I: Awards in Group I are made for exhibits of individual investigation, which are judged on the basis of originality and excellence of presentation.

Group II: Awards in Group II are made for exhibits which do not exemplify purely experimental studies and which are judged on the basis of presentation and correlation of facts.

W. P. Anderton, M.D., *Secretary*
Medical Society of the State of New York

HISTORY OF MEDICINE in New York State

Editor
FREDERIC D. ZEMAN, M.D.

Editor's Note: *This department is indebted to the author and to Dr. Jacob J. Silverman, editor of the* Richmond County Medical Society Bulletin, *for permission to reprint this valuable contribution to medical history which first appeared in May, 1955, issue of the* Bulletin. *Part I was reprinted in the preceding issue.*
The author is a well-known historian of Staten Island.

History of the Medical Profession of Staten Island

Part II, 1800–1900

LORING McMILLEN, STATEN ISLAND, NEW YORK

(*Vice-President and Director, Museum, Staten Island Historical Society, and Borough Historian and Consultant, Richmondtown Restoration*)

As required by the Medical Act of 1797, at least four doctors filed certificates with the County Clerk: Isaac Stuart, March 5, 1800; Richard Henderson, February 20, 1800; Nicholas Lozier, April 1, 1801; and Richard Channing Moore, May 5, 1806. These certificates "to practice physic and Surgery" are in the manuscript collections of the Staten Island Historical Society. These doctors, together with Dr. Benjamin Parker whose certificate is missing, comprised the medical fraternity of Staten Island in 1800. Dr. Parker and Dr. Lozier were here during the Revolution, and Dr. Henderson had been a surgeon in the British army. After the war he married a Staten Island girl, Maria Journeay, and settled here. His house still stands at Egbertville, a low stone building west of Rockland Avenue. He died December 27, 1830, and is buried at St. Andrews, Richmondtown. Dr. Lozier we know little about, but Dr. Parker lived in Richmondtown and succeeded to the practice of Dr. Thomas Frost who had died in 1794. He was a member of St. Andrews Church and the first president of the Medical Society.

Before the writing of this history, Dr. Moore was known chiefly for his ministry, 1788 to 1808, of St. Andrews Church and his ordination in 1815 as the first Episcopalian Bishop of Virginia. He had received his medical training at Kings College and before entering the ministry had practiced medicine. While the ministry was his main calling, medicine still occupied his attention as attested by his certificate and later membership in the Medical Society.

On June 8, 1802, Dr. Henderson, Dr. Parker, and a newcomer, Dr. I. B. Halsey, subscribed their names to an interesting document reading "We the subscribers, Practitioners of Physic and Surgery (on Staten Island, State of New York) do promise and agree that after this date to strictly adhere to observe the following *Prises* as Rules and directions for our future practice Viz. . . ." Thereafter follows a list for "Visits. The first mile 2/ (25c) the after ditto 1/ ($12^1/_2$c)"; "Emetic pr dose 2/ (25)"; "Caster Oil pr dose 2/"; and many others, as also charges for "Cases in Midwifery" and "Cases in Surgery." The list ended with the statement, "We the Practitioners above mentioned unanimously agree that each or any of us discenting from the above Rules shall be forever expunged from the List of Members and held hereafter in *contempt* and unworthy of being ever *Consulted with* as a Physician in any Case. . . . "

This list of "Prises," which is owned by the Medical Society, is interesting for two historic facts. First, it attested to the integrity of these early doctors, and second, it showed that before the formation of the Richmond County Medical Society in 1806, these doctors, who were to become the mainstay of the Society, had joined together in an informal medical society.

The Medical Act of 1797 evidently was not proving satisfactory, and on April 4, 1806 an act was passed in the State Legislature establishing a State Medical Society and county medical societies. This act placed the regulations and the admittance to medical practice in the hands of the county medical societies. Each society appointed three censors for this purpose who held this power as late as 1880. A modification of this law in 1809 permitted graduates of State medical schools to practice without examination of the censors.

In accordance with this act our old friends, Drs. Parker, Henderson, and Halsey, together with a newcomer Dr. Isaac Stuart, met at the Court House in Richmondtown, July 1, 1806, to form a society. Missing a necessary quorum of five they adjourned until July 10, 1806, when another new name, Dr. John R. B. Rodgers, joined with them to form the Medical Society of Richmond County. They proceeded to elect Dr. Parker, president; Dr. Henderson, vice-president; Dr. Stuart, treasurer, and Dr. Halsey, secretary. The book of minutes, first kept in the beautiful handwriting of Dr. Halsey, is preserved by the Medical Society on permanent loan in the vaults of the Staten Island Historical Society. The second meeting of the Society on July 17, 1806, was devoted to choosing censors according to the law and a committee to draw up a constitution. The third meeting of September 1, 1806, admitted Dr. Richard Channing Moore, Minister of St. Andrews, as a member and approved the constitution presented by Drs. Parker and Halsey.

The constitution, among other matters, provided for quarterly meetings, officers of president, vice-president, treasurer, secretary, censors, and a delegate to the State Society. Only physicians and surgeons could be members and must present evidence of a license or a diploma and be active practitioners.

The Society held meetings, according to this old record book, until January 17, 1832, the date of the last entry. Four years of minutes are missing between April 17, 1823, and April 17, 1827, for as it is recorded, the brother of Dr. Fitz Randolph, "the late secretary," had taken them with him to New Jersey. Evidently Dr. Fitz Randolph, like many secretaries, had taken the minutes but had neglected to enter them in the book.

The record book gives a fascinating history of the medical profession in these early years. The old bill of rates, evidently those of 1802, was continued in 1814. A $3.00 fee for services in midwifery was adopted in 1810 if paid at the visit and $4.00 if not paid and entered on the books of the physician. In 1821, $1.50 was set as the fee for vaccinating. Pupils were recommended to college, and in one case a Mr. Morgan was licensed to practice after a "minute and particular examination by the censors."

In several cases members were expelled for continued absence or derogatory behavior, and in others applicants were refused admission to the Society. Evidently while the purpose of the act of 1806 was to prevent medical practice by unqualified people, it had no means of enforcement. All the Society could do was to refuse membership and association with a nonmember. Examples of disciplinary action were Dr. Isaac S. Griffith, admitted in 1807, expelled in 1809; Dr. James Fountain, permitted to practice in 1812 but refused membership in 1813; Dr. Mathias H. Williamson, admitted as an honorary member in 1807 and expelled in 1827, and Richard Johnson Cunningham, ordered to appear before the Society for practicing without authority.

During the twenty-four years when these records were kept, the following doctors, other than those already mentioned, were admitted to practice: James Talbot Harrison, 1808; John Fitz Randolph, 1809; Gideon Forsyth, from Connecticut, 1810; Freeman Smith, 1810; Benton B. Halsey, 1812, son of the former Dr. Halsey who had left the Island in 1809; Abner Baker, 1813; John P. L. Tonelier, 1819; Crowell Mundy, "late of New Jersey," 1820; Ephraim Clark, of New Jersey, 1823; John S. Westervelt, 1827; Melanthon Freeman of New Jersey, 1827; Charles H. Havens of Long Island, 1828; Samuel R. Smith of Brooklyn, 1828, and David A. Edgar of New Jersey, 1830.

Among these doctors are several who made medical history on Staten Island. Dr. Harrison, born in Rahway, New Jersey, 1784, died 1863, lived near Port Richmond, was assistant, later chief health officer of the Quarantine, was active politically, and was State assemblyman (Fig. 1). Harrison Avenue, Port Richmond, carries his name as well as that of his equally well-known son, Dr. Howard R. Harrison. Dr. Moody practiced in Richmond and died there in 1854, aged fifty-seven years. Dr. Ephraim Clark was born near Rahway, New Jersey, in 1787 and received his medical training at the College of the Medical

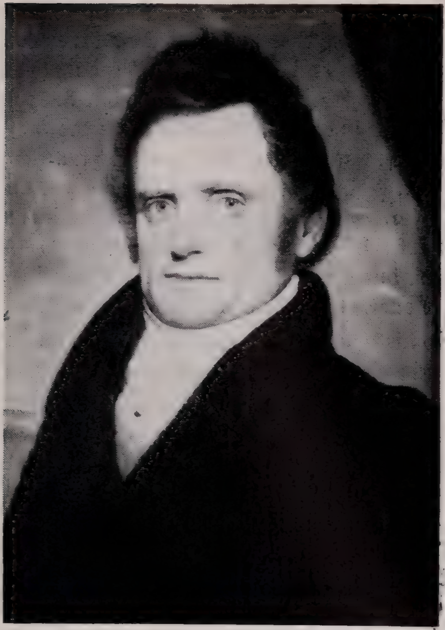


FIG. 1. Dr. James Talbot Harrison (1784–1863)

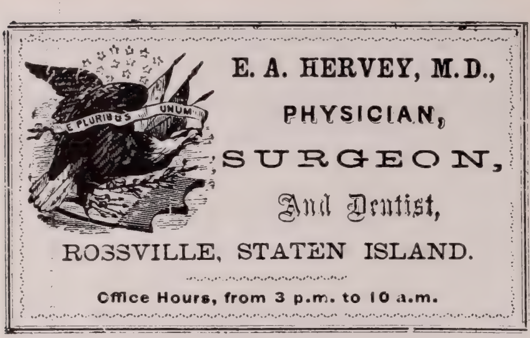
Society of New Jersey. He came to Staten Island in 1820 and in 1824 married Ann Bedell Guyon of an old Staten Island family. They lived in the seventeenth century Guyon homestead on Guyon Avenue, Oakwood, which was torn down in 1925. Dr. Clark soon became a prominent citizen as well as a physician. He was surgeon for the 146th Regiment in 1823 and of the 65th New York State Militia in 1837 and aide-de-camp with rank of colonel on the staff of Major General Van Buren. He was attached to Camp Sprague, New Dorp, during the Civil War. He was first president of the Richmond County Agricultural Society, charter member of Tompkins Lodge 401, Masonic Order, supervisor of the Town of Southfield, and active in the Port Richmond Reformed Church. He died November 20, 1885, at the age of eighty-eight.

Dr. Clark's son, Dr. James Guyon Clark, was equally noted. He was born February 7, 1825, and was graduated from the College of Physicians and Surgeons in 1845. His ledgers covering the period from 1846 to 1892 are among the collections of the Historical Society and present an historical pageant of names and treatments. Dr. James G. Clark lived on Richmond Terrace near Taylor Street in a house only recently torn down. He died April 9, 1915. His son, Dr. Fred E. Clark, carried the Clark name into a third generation of doctors for more than one hundred years of medical service to Staten Island.

Dr. Samuel R. Smith's name stands out in the medical profession of Staten Island with a brilliance undiminished by time. He was born at Waterbury, Connecticut, April 10, 1801. He worked in a book store, later a drug store, in New York while studying medicine. He graduated in 1828 from the University of the State of New York and began practice the same year in Tompkinsville. He was eminently successful for he combined a rare medical skill with a pleasant personality. His generosity to the poor won him many friends among the unfortunate, and his death on December 24, 1851, was universally mourned. The respect in which he was held was shown ten years later when the S. R. Smith Infirmary, now Staten Island Hospital, was named in his honor.

Dr. David Alexander Edgar was graduated from Columbia in 1828 and after two years postgraduate work at Yale came to Staten Island. His home had been in Woodbridge, New Jersey, and his new home was in a house which stood until twenty years ago on Arthur Kill Road, west of Woodrow Road, Greenridge. He served as president of the Medical Society from 1862 to 1874 and rarely missed a meeting in the long years of his membership prior to his death in 1878. In 1856 he was appointed the first county school commissioner. He is undoubtedly the Uncle David, the old country doctor of Greenridge, in Felix Oldboy's whimsical conversation published in the *New York Evening Post* of March 26, 1887: "It has been a hard life. So often have I been called up from sleep, and left my warm bed just as I was enjoying the night's rest, and gone out to the stable, harnessed up the horse with my own hands, driven half-a-dozen miles through a blinding storm, watched the rest of the night at a lonely bedside, prepared the medicine, perhaps cooked a meal for a sick woman or child and then gone back to the plough knowing full well that I should never receive a penny for my labors. . . . But I don't regret it. . . . Only, boy, never make the mistake of speaking of the healing profession as mercenary. That is a vulgar blunder. I believe that when the books are opened on the world's great graduating day, the doctors will not stand far behind the preachers. Good night!"

The last doctor whom we shall note in the old records is John S. Westervelt, born June 15, 1799, and died July 31, 1867. He came to Staten Is-


E PLURIBUS UNUM

E. A. HERVEY, M.D.,
PHYSICIAN,
SURGEON,
And Dentist,
ROSSVILLE, STATEN ISLAND.
Office Hours, from 3 p.m. to 10 a.m.

Fig. 2

land in 1823 as assistant health officer of the Quarantine. He served as health officer from 1829 to 1836 when he entered private practice and became a prominent doctor and citizen of the Island.

In Davis and Leng's *History of Staten Island* mention is made of a Dr. Isaac Fardon whose account book covers the period 1822 to 1826 when the minutes of the Society are missing. The entries and charges are enlightening; a visit and medicine cost 37 cents, for "putting" wife to bed three dollars, for "1 puke and Dr. (drawing) Teeth," also 37 cents. He often took his pay in produce as "75 oysters 18 cents," "7 turkeys and hen, $1.50." Like most doctors of his time, he had more faith in "bleeding and physic" than in medicine. Yet the following medicines are mentioned: aloes, paregoric, laudanum, "cream of tarter," epsom salts, sulfur, opium pills, quinine, assafoedita, and others.

Dr. Fardon's charge for drawing teeth points out that the care of teeth was up to this time at least a part of the doctor's duties. The following advertisement in the "Richmond Republican" for November 24, 1827, also indicates that dental care was not yet generally in the hands of a specialist.

Shaving Hair Cutting
Bleeding and Tooth Drawing by
Francis M. Spong
Adjoining the Masonic Hall
Tompkinsville

As late as 1877, Dr. E. A. Hervey's business card bore the title, "Physician, Surgeon and Dentist, Rossville, Staten Island, Office Hours from 3 P.M. to 10 A.M." (Fig. 2). The doctor evidently reserved five hours to himself!

However, by August 17, 1859, James Garrett, Surgeon, Dentist, advertised in the Richmond County *Gazette* that he had a new invention for dental plates and an "Enamel," a new material for filling teeth. From this time on, the science of dentistry became more and more the function of the dentist, and by 1882 we find ten dentists listed in Webb's Consolidated Directory. Among these are several well-known names including that of Dr. Henry F. Steinmeyer, 40 Canal Street, but a short distance from where his son, Dr. Henry G. Steinmeyer, practices to this day.

No history of the medical profession on Staten Island would be complete without mention of the druggist. The eighteenth century and early nineteenth century doctor was his own druggist, as we have seen in the instance of Dr. Arnest Linde when in 1771 his widow advertised his medicines and shop for sale. Dr. Frost was both doctor and apothecary in Richmondtown before and during the Revolution, and Dr. Ephraim Clark about 1820, according to Morris' *History of Staten Island,* had a drug store on what is now the corner of Richmond Terrace and Taylor Street, West Brighton.

By 1857 the local papers carried the advertisements of Dr. A. G. S. Gale, druggist and dentist (also dealing in slacked lime), Charles H. White, Frederick Gaupp, and William J. Watson. In 1859 and for many years thereafter, the papers carried the interesting notices of J. W. Bassett, Druggist at Tompkinsville. His first notice invited the residents to his "Drug Store at Tompkinsville where may at all times be found a full assortment of the finest quality of Drugs and medicines, together with such fancy goods and miscellaneous articles as are usually found in first class drug stores on Broadway (New York City)."

Mr. Bassett mentions in 1859 that he is a member of the Apothecaries' Co. and Pharmaceutical Society of New York and has been engaged in the business for the last thirty years. The druggist had come into his own and together with Mr. Bassett's assortment of "fancy goods" has been a necessary and established institution ever since.

Between 1832 and 1855 the Richmond County Medical Society was inactive, and the medical history of this period must be gathered from other sources. The period was one of growth and development for business and professional men found the Island an attractive place for their homes. Among them was Dr. Samuel Mackenzie Elliott who arrived about 1830 and, through his exceptional skill as an occulist and a pioneer in this field, brought many famous people to the Island as his patients. He took an active part in his community, and the section where he lived in New Brighton was for many years named Elliottville after him. His avocation was the building of attractive houses made from the grey trap rock quarried at Graniteville, and during his life, which ended in 1875, he built and occupied successively more than 20. His son, Dr. S. R. Elliott, inherited his father's talents and also lived and died on Staten Island.

Dr. Samuel Akerly, born in 1786, was famous for his work as superintendent and physician of the Deaf and Dumb Asylum of New York City and for his contributions to scientific literature. He retired to a farm, the house of which is still standing at Eltingville, to devote himself to the scientific study of agriculture. He died in 1845, and while probably not a member of our medical profession, he will be remembered for his contributions to our scientific and natural history.

Dr. John W. Draper, father of photography, was a resident here for a short time prior to 1847. He was one of the best known physicians, teachers, and scientific writers of his time.

Many other physicians undoubtedly took up residence on Staten Island at this time, such as Dr. William G. Edie, who came as early as 1842 and who was later a member of the Medical Society; Dr. J. Tiebout, who lived on Richmond Road near Concord as early as 1828; Dr. Joseph Q. Warne about the same time, and possibly others, as well as those who were present at the reorganization of the Medical Society in 1855.

On January 17 of this year, a group of physicians met at the Tompkins Lyceum, Tompkinsville, "for the purpose of taking preliminary measures to reorganize the Richmond County Medical Society which was originally established in July 1806." The doctors present were John S. Westervelt, James Harcourt, Isaac Lea, John W. Sterling, William C. Anderson, James R. Boardman, F. Campbell Stewart, Joseph Feeny, E. W. Prendergast, F. Hertzka, C. G. Rotha, H. R. Baldwin, Thos. Walser, J. Cavelti, and Edward C. Mundy. Dr. Westervelt, the only one of the original Society present, was elected chairman.

By recognizing that they were merely reorganizing the Society as established in 1806, the present group wisely guaranteed that they had not ceased to exist in 1832. At the present time this action establishes the Medical Society as the oldest of our time-honored Island institutions.

Although the stated object of the Society was "the promotion of Medical Science and the friendly intercourse of its members," the actual purpose as stated in the act of 1804 was "to regulate the practice of Physic and Surgery." For this purpose three censors were still appointed to pass on applicants for membership. As formerly, rejection of an applicant did not carry any power to prevent his practicing his profession. However, throughout the minutes of the record book, kept from 1855 to 1902, there are many attempts to require nonmember doctors to present their credentials in conformity to the original act and its amendments. In one instance it was proposed to present the names of the unapproved doctors to the District Attorney for action.

The minutes present a continuous history of the medical profession on Staten Island until the present time. They are outstanding for the dignity which was evident at all times, particularly during such trying events as the burning of the Quarantine Station at Tompkinsville in 1858. This station had been established in 1799 when the locality was nothing but farm land. However, by 1858 the thriving village of Tompkinsville had grown and surrounded the Quarantine. Several epidemics of yellow fever had been traced to the quarantine, and for many years the leading citizens of the Island had tried in vain to have the station removed to an isolated location. Finally on the nights of September 1 and 2, 1858, an "organized mob" destroyed by fire the principal Quarantine buildings. While individual members of the Society, particularly the secretary, Dr. E. C. Mundy, health officer of Castleton, were involved, the Society before and after the destruction kept strictly to medical opinion as to the origin of the yellow fever epidemics and their contagious nature. In a notable address before the Society on August 1, 1858, Dr. Anderson, the president, brought out the difference of opinion at this time among the medical profession as to whether yellow fever was contagious and quoted in support of the "contagionists" a letter written by Dr. Richard Channing Moore, former member of the Society (1806–1808). This letter dated October 2, 1806, was published in the *American Medical Register* for July, 1811, and was remarkable for its careful observation of the path of yellow fever. However, while the Medical Society was on the right track, it wasn't until 1881 that the lowly mosquito was suspected as being the carrier of this dread disease.

The meeting of the Society on July 13, 1858, expressed a lighter side when, to quote Dr. Mundy, the secretary, "During recess the Society was invited by Dr. Anderson (president) to retire to the dining room where was prepared a sumptious collation at which woodcock were disected voraciously if not scientifically and viands discussed with marked ability. The stimulating properties of Champagne, Cincinati, and other sparkling wines were also tested and demonstrated to the entire satisfaction of each member of the Society after which the society reorganized."

At a meeting held January 8, 1861, it was resolved "That the room of the Society (corner of Bay and Union Streets, Stapleton) be opened every Saturday from 1 to 2 o'clock P.M. and that one or more members be requested to attend for the purpose of prescribing for the poor who will be furnished with medicine gratuitously." At the meeting on August 2, 1861, Dr. Anderson, who appeared to be a leader in this movement, proposed that the "benefit of gratuitous medical attendance to the poor of Staten Island be extended to providing beds, etc."

The Society was quick to take action on Dr. Anderson's proposal and on April 19, 1861, adopted the "Constitution of the Samuel R. Smith Infirmary, Instituted for the Reception of Indigent Sick, Staten Island, 1861." The first home of this, the first public hospital on Staten Island, was in one of the old repaired Quarantine buildings. It is historically curious that on the same site the British during the Revolution erected probably the first hospital on Staten Island for their sick and wounded, and here between 1799 and 1828 were erected several imposing hospital buildings for the Quarantine station. Also here was established a Civil War Hospital in 1862, and the Medical Society further distinguished itself by offering its services which were accepted.

After occupying several other homes, the S. R. Smith Infirmary in 1889 finally opened the present hospital on Castleton Avenue. In 1917 the name was changed to the Staten Island Hospital. While hospitals were conducted in connection with the Quarantine, Sailor's Snug Harbor, 1832, Seaman's Retreat (Marine Hospital, now the U. S. Public Health Service Hospital) 1834, and other private institutions, the S. R. Smith Infirmary was the only hospital which served the public of Staten Island until 1903 when St. Vincent's was established.

Other notable events in the history of the Medical Society which firmly established it as an enlightened organization were the recommendations in 1876 to the school trustees that they require satisfactory evidence of vaccination of all children, the continued recommendations for local health laws and measures, and the frequent examination of reported health violations in the County Poor House and other institutions.

The list of members between 1855 and 1900 shows a total of 96. The membership in 1896 was 29. Adding possibly 11 nonmembers we find a total of 40 doctors serving a community of 65,000 people. In 1806 there were five doctors serving 5,000 people and in 1855, 20 doctors for 20,000 people. The first women doctors admitted to the Society were Dr. Anna Lutkens of West New Brighton on December 6, 1879, Dr. Alice Avery on July 6, 1881, and Dr. May Rogers Owen on July 2, 1884. There were no others admitted before 1900.

It would be desirable, if space would permit, to give at least a brief biographic sketch of these 96 members as well as some others who served their community well in the period between 1855 and 1900. However, a few might well be mentioned.

Dr. William C. Anderson, president of the Society 1856–1862, was for more than twenty years its leading member. It was he who led the movement for the first hospital and in 1859 published the paper called the "Sepoy" to defend the people of Staten Island against criticism and prosecution for the burning of the Quarantine. He left the Island because of ill health in 1880 and died in Washington, D.C., in 1882.

Dr. Alfred Ludlow Carroll, president of the Society 1880–1882, came to Staten Island in 1870 and died 1893. He was president of the Natural Science Association, editor of the *Medical Gazette*, secretary of the State Board of Health, and translator and author of several scientific works.

Dr. James O'Dea, born September 6, 1837, in Toronto, Canada, came to Staten Island in 1871. He was author of many medical works including *Principals of Criminal Law as Applied to Insanity*.

Dr. Theodore Walser died April 23, 1902, at the age of seventy-seven, was health officer of Village of New Brighton, and, together with his son, Dr. William C. Walser, was active in the Medical Society and a most beloved physician of the north shore of Staten Island.

Dr. R. Henry Golder, president of the Medical Society 1884–1886, was born in 1820 in Philadelphia received his M.D. in 1851, and moved to Rossville, Staten Island the same year. He was superintendent of common schools, commissioner of highways, associate judge, health officer of the Town of Westfield. He died in 1910. He bequeathed his buggy to Dr. Andrew Eagon who continued to drive it until as late as 1930. Dr. Golder had a son, Dr. Valentine Mott Golder, who died in 1879 and was also a member of the Society.

Dr. Eber Ward Hubbard, born October 8, 1797, settled in Tottenville in 1872, had a great interest in Staten Island natural history. His son, Dr. George C. Hubbard, was born June 8, 1831, graduated from New York Medical College in 1859, and served throughout the Civil War and was the leading physician of Westfield. He was physician at Mt. Loretta in 1883, active mason, police commissioner, excise commissioner, and at the time of his death assistant sanitary superintendent of the borough.

Dr. Joseph Feeny was born in Ireland November 19, 1813, and graduated from the College of Physicians and Surgeons in 1850. He taught school and opened a drug store in 1849 in Stapleton. His son, Dr. John L. Feeny, was born at Stapleton May 29 ,1845, graduated from the Medical Department of the University of the City of New York in 1866. Dr. John took an active part in civil affairs and was candidate for borough president in 1898, losing to George Cromwell.

Among other members of the medical profession whose names will long be remembered are Alva D. Decker, Henry E. Earl, Robert M. Ames, Samuel Adams Robinson, Robert Rogerson, J. Walter Wood, Walker Washington, Charles Wilmot Townsend, Thomas J. Thompson, Isaac L. Millspaugh, David M. Coleman, Henry Van Hoevenberg, William Bryan, E. D. Wisely, J. J. Van Renselaer, E. D. Coonley, F. E. Martindale, Alvin Satterthwait, George P. Jessup, Andrew Eagon, Frank Anderson, E. J. Westfall, W. E. Bowne, Gottleib Stein, J. K. Ambrose, Hermann Beyer, Caleb Lyons, H. L. Goodwin, F. DeRevere, John L. Sprague, George Mord.

The end of the nineteenth century closed a chapter in the history of the Medical Society and the medical profession on Staten Island. The nineteenth century had been the days of the horse and buggy, the days of the country doctor who administered more by dignity and character than by medical science and the days of the general practitioner who prescribed for any ailment and had unbounded faith in the cure. The twentieth century opened up a new era of scientific discovery and medical progress, in which the medical profession of Staten Island has participated. That, however, goes beyond the scope of this history.

The author wishes to thank the Staten Island Institute of Arts and Sciences for the portrait of Dr. James Talbot Harrison.

Treatment of Pinworm in Children with Terramycin

The life cycle of the pinworm (Enterobius vermicularis) is completed in the human host, a fact which until recently accounted for the difficulty in treating this infestation. When a second host is involved, as the hog in trichinosis, the life cycle is comparatively easy to interrupt. In pinworm infestation, eggs deposited in the perianal folds are reintroduced into the mouth via the finger nails. Until gratifying results were achieved with Terramycin (Pfizer), therapy was extremely discouraging. Dr. Edward P. Benbow, Jr., reports a series of 78 children treated with varying dosages of Terramycin hydrochloride. Best results were produced in a group given daily divided doses, which, he concludes, is a schedule superior to the single daily dose. In a group given 10 mg. per pound of body weight daily in 4 divided doses, the "cure" rate was 100 per cent.—*North Carolina Medical Journal, May, 1955*

Department of

MEDICAL CARE INSURANCE

Conducted by GEORGE P. FARRELL, *Director*

Benefits paid for doctors' services during the nine-month period ending September 30, 1955, in the New York State Blue Shield Plans, amounted to $29,987,273, covering 808,620 claims as compared to $25,759,760 for the same period in 1954 for 662,311 claims, an increase in benefits of $4,227,513 and 146,039 claims.

During the same period membership increased by 427,936 making a total membership at September 30, 1955, of 5,295,229. Statistical tables follow.

TABLE I.—Comparison of Membership Increases for Nine Months Ending September 30, 1955 and 1954

By Types of Contracts	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown	Totals
Surgical								
September 30, 1955	−21,015	−26,424	20,751	−826	−6,798	...	1,698	−32,614
September 30, 1954	−45,231	−27,380	23,227	−352	−3,816	...	2,612	−50,940
Surgical, In-Hospital Medical								
September 30, 1955	350,767	51,491	...	21,788	11,514	7,850	...	443,410
September 30, 1954	348,660	47,068	...	31,055	5,951	15,318	...	448,052
Surgical-Medical (Home, Office, Hospital)								
September 30, 1955	19,994	...	...	−2,854	...	...	...	17,140
September 30, 1954	15,425	...	...	−3,311	...	...	...	12,114
Grand Totals								
September 30, 1955	349,746	25,067	20,751	18,108	4,716	7,850	1,698	427,936
September 30, 1954	318,854	19,688	23,227	27,392	2,135	15,318	2,612	409,226

TABLE II.—Distribution of Earned Premium Income and Amounts Available for Unassigned Surplus for Nine Months Ending September 30, 1955

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown
Earned Premium Income	$29,591,573 100.00%	$4,105,716 100.00%	$3,320,509 100.00%	$1,367,415 100.00%	$1,295,903 100.00%	$1,742,482 100.00%	$153,360 100.00%
Incurred Claim Expense	$21,407,091 72.34%	$3,037,750 73.99%	$2,520,623 75.91%	$1,103,313 80.69%	$ 980,361 75.65%	$1,353,144 77.66%	$117,159 76.39%
Administrative Expense	$ 4,391,441 14.84%	$ 475,044 11.57%	$ 371,912 11.20%	$ 166,900 12.20%	$ 203,786 15.73%	$ 217,963 12.51%	$ 23,664 15.43%
Provision for Future Maternity Benefits	$ 310,000 1.05%	$ 17,000 0.41%	$ 19,444 0.59%	$ 38,000 2.78%	... ...	$ 7,000 0.40%	$ 6,697 4.37%
Provision for Special Contingent Surplus	$ 1,208,017 4.08%	$ 165,087 4.02%	$ 134,032 4.04%	$ 54,697 4.00%	$ 50,058 3.86%	$ 69,699 4.00%	$ 6,250 4.07%
Increase in Reserve for Unreported Claims	... ...	... ...	... ...	$ 5,000 0.37%	... ...	... ...	... ...
Profit and Loss Items	−$ 48,426 − 0.16%	−$ 7,240 − 0.17%	−$ 4,218 − 0.13%	... ...	$ 3,473 0.27%	$ 2,694 0.15%	... ...
Available for Unassigned Surplus	$ 2,323,450 7.85%	$ 418,075 10.18%	$ 278,716 8.39%	−$ 496 − 0.04%	$ 58,225 4.49%	$ 91,982 5.28%	−$ 410 − 0.26%

TABLE III.—TOTAL MEMBERSHIP AND COMPARATIVE INCREASES FOR QUARTERS ENDING SEPTEMBER 30, 1955 AND 1954

By Types of Contracts	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown	Totals
Surgical								
Total Membership								
September 30, 1955	1,390,754	287,163	362,077	4,068	44,921	...	19,021	2,108,004
June 30, 1955	1,402,975	294,779	353,949	4,244	47,029	...	18,545	2,121,521
Comparative Increase								
September 30, 1955	−12,221	−7,616	8,128	−176	−2,108	...	476	−13,517
September 30, 1954	−1,613	−6,941	11,890	−289	−2,252	...	729	1,524
Surgical, In-Hospital Medical								
Total Membership								
September 30, 1955	2,273,805	225,689	...	123,402*	142,604	223,145	...	2,988,645
June 30, 1955	2,174,393	210,357	...	116,744*	140,725	220,036	...	2,862,255
Comparative Increase								
September 30, 1955	99,412	15,332	...	6,658	1,879	3,109	...	126,390
September 30, 1954	88,312	13,421	...	11,658	3,919	9,544	...	126,854
Surgical-Medical (Home Office, Hospital)								
Total Membership								
September 30, 1955	164,670	...	...	33,910	...	...	...	198,580
June 30, 1955	157,575	...	...	36,449	...	...	...	194,024
Comparative Increase								
September 30, 1955	7,095	...	...	−2,539	...	...	...	4,556
September 30, 1954	3,665	...	...	−2,013	...	...	...	1,652
Grand Totals								
Total Membership								
September 30, 1955	3,829,229	512,852	362,077	161,380	187,525	223,145	19,021	5,295,229
June 30, 1955	3,734,943	505,136	353,949	157,437	187,754	220,036	18,545	5,177,800
Comparative Increase								
September 30, 1955	94,286	7,716	8,128	3,943	−229	3,109	476	117,429
September 30, 1954	90,364	6,480	11,890	9,356	1,667	9,544	729	130,030

* Indicates accumulated members with service type contracts; others in Syracuse plan on an indemnity basis.

TABLE IV.—CLAIM DATA (PAID BASIS)—YEAR TO SEPTEMBER 30, 1955, AND COMPARISON OF CLAIM INCIDENCE, SEPTEMBER 30, 1955 AND 1954

Plan Location and Type of Contract	Earned Premium Income	Claim Cost	Per Cent of Claim Cost to Earned Premium	Number of Claims	Average Cost per Claim	Claim Incidence per 1,000 Members per Annum	
						1955	1954
New York							
Surgical	$ 9,142,099	$ 6,672,470	72.99	115,675	$57.68	109.7	105.0
Surgical, In-Hospital Medical	17,440,010	11,992,137	68.76	225,640	53.15	145.5	134.1
General Medical	3,009,464	2,329,733	77.41	186,834	12.47	1,625.9	1,459.6
Total	$29,591,573	$20,994,340	70.95	528,149	$39.75	...	...
Buffalo							
Surgical	$ 2,067,580	$ 1,564,976	75.69	63,803	$24.53	283.7	276.5
Surgical, In-Hospital Medical	2,038,136	1,427,773	70.05	49,474	28.86	328.8	317.0
Total	$ 4,105,716	$ 2,992,749	72.89	113,277	$26.42	...	...
Rochester							
Surgical	$ 3,320,509	$ 2,490,817	75.01	57,865	$43.04	218.3	214.4
Syracuse							
Surgical*	$ 33,794	$ 33,702	99.73	1,118	$30.14	344.4	314.9
Surgical, In-Hospital Medical	965,828	784,237	81.20	25,354	30.93	293.6	262.7
Surgical-Medical*	367,793	280,704	76.32	14,925	18.81	555.3	522.0
Total	$ 1,367,415	$ 1,098,643	80.34	41,397	$26.54	...	...
Utica							
Surgical	$ 233,174	$ 194,763	83.53	8,018	$24.29	227.7	247.4
Surgical, In-Hospital Medical	1,062,729	733,751	69.04	26,140	28.07	250.9	272.0
Total	$ 1,295,903	$ 928,514	71.65	34,158	$27.18	...	...
Albany							
Surgical, In-Hospital Medical	$ 1,742,482	$ 1,360,475	78.08	31,161	$43.66	189.1	184.0
Jamestown							
Surgical	$ 153,360	$ 121,735	79.38	2,613	$46.59	187.9	168.0
Grand Total	$41,576,958	$29,987,273	...	808,620	...	...	...

NOTE: The variation of Claim Incidence per 1,000 members per annum in plans offering the same type of contract is generally due to additional benefits such as x-ray and anesthesia.

* Contracts on an indemnity basis and not offered to new groups.

TABLE V.—Income, Gain, and Loss for Nine Months Ending September 30, 1955

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown
Earned Premium Income	$29,591,573	$4,105,716	$3,320,509	$1,367,415	$1,295,903	$1,742,482	$153,360
Claims and Expenses Incurred	25,798,532	3,512,794	2,892,535	1,270,214	1,184,147	1,571,107	140,823
Gain from Underwriting	$ 3,793,041	$ 592,922	$ 427,974	$ 97,201	$ 111,756	$ 171,375	$ 12,537
Underwriting Adjustments							
Deferred Maternity Benefits	−$ 310,000	−$ 17,000	−$ 19,444	−$ 38,000	$ ...	−$ 7,000	−$ 6,697
Provision for Special Contingent Surplus	− 1,208,017	− 165,087	− 134,032	− 54,697	− 50,058	− 69,699	− 6,250
Increase in Reserve for Unreported Claims	...	...	...	− 5,000	...	...	...
Profit and Loss Items	48,426	7,240	4,218	...	− 3,473	− 2,694	...
Total	−$ 1,469,591	−$ 174,847	−$ 149,258	−$ 97,697	−$ 53,531	−$ 79,393	−$ 12,947
Net Gain from Underwriting	$ 2,323,450	$ 418,075	$ 278,716	−$ 496	$ 58,225	$ 91,982	−$ 410
Gain from Investments	478,271*	49,472	39,633	8,937	19,396	21,800	1,430
Gain from Underwriting and Investments	$ 2,801,721	$ 467,547	$ 318,349	$ 8,441	$ 77,621	$ 113,782	$ 1,020
Surplus Adjustments							
Provision for Special Security Valuation to Cover Catastrophic and Other Contingencies	...	$ 80,000	...	...	...	...	...
Increase in Unassigned Surplus	$ 2,801,721	$ 387,547	$ 318,349	$ 8,441	$ 77,621	$ 113,782	$ 1,020

* $98,831, provision for additional Special Investment Valuation Reserve, not included in Investment Gain.

TABLE VI.—Surplus Accounts, September 30, 1955

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown
Surplus, December 31, 1954							
Special Contingent Surplus	$ 6,158,073	$ 857,923	$ 559,285	$199,952	$377,318	$336,058	$12,498
Epidemics, Other Contingencies	1,865,318	...	...	...	...	...	...
Special Investment Valuation	357,430	...	...	...	24,000	...	...
Potential Claims for Older Age Subscribers	6,000,000	...	...	...	...	...	...
Additional Claims, Minor Surgery	1,000,000	...	...	...	...	...	...
Total Segregated Surplus	$15,380,821	$ 857,923	$ 559,285	$199,952	$401,318	$336,058	$12,498
Unassigned Surplus	2,249,996	1,061,245	1,142,739	237,792	405,096	409,018	27,753
Total Surplus	$17,630,817	$1,919,168	$1,702,024	$437,744	$806,414	$745,076	$40,251
Credits							
Other Income to Surplus	$ 152,547†	...	$ 11,785	...	...	...	...
Gain from Underwriting*	3,531,467	583,162	412,748	54,201	108,284	161,681	5,840
Net Gain from Investments	577,102	49,472	39,633	8,937	19,396	21,800	1,430
Total Credits	$ 4,261,116	$ 632,634	$ 464,166	$ 63,138	$127,680	$183,481	$ 7,270
Surplus, September 30, 1955							
Special Contingent Surplus	$ 7,366,090	$1,023,010	$ 693,946	$254,649	$427,377	$405,757	$18,748
Epidemics, Other Contingencies	1,865,318	80,000	...	...	...	...	...
Special Investment Valuation	608,808	...	...	...	24,000	...	...
Potential Future Claims, Older Age Subscribers	6,000,000	...	...	...	...	...	...
Additional Claims, Minor Surgery	1,000,000	...	...	...	...	...	...
Total Segregated Surplus	$16,840,216	$1,103,010	$ 693,946	$254,649	$451,377	$405,757	$18,748
Unassigned Surplus	5,051,717	1,448,792	1,472,244	246,233	482,717	522,800	28,773
Total Surplus	$21,891,933	$2,551,802	$2,166,190	$500,882	$934,094	$928,557	$47,521

* Includes Provision for Special Contingent Surplus.

† Realized and Unrealized Capital Gains on Investments.

Department of

WORKMEN'S COMPENSATION

DAVID J. KALISKI, M.D., *Director, Bureau of Compensation*

GERALD D. DORMAN, M.D., *Chairman, Council Committee on Workmen's Compensation*

Medical Society of the State of New York

Importance of Proper Workmen's Compensation Reporting

TIMELY and detailed reporting of workmen's compensation cases is one of the most important functions of a physician who is authorized to treat compensation injuries.

The failure to report on time or in adequate detail may result in failure of the patient to receive compensation on which he may depend for a living. It may also complicate and delay the administration of the claim resulting in increased expense to the employer or insurance carrier. It may also require the doctor to appear at hearings, often at inconvenient times and at a distance from his office, all of which could have been avoided by proper compliance with the Workmen's Compensation Law.

For examples, line 11 of the C-4 form requires the physician to give the condition of the patient *at the time the doctor stops treatment.* In some cases the C-14, line 6, is used for this purpose. In many instances physicians ignore this provision and instead repeat the *initial* diagnosis. This may result in calling in the patient for examination by the employer or carrier to determine the patient's exact condition at the time of discharge, at considerable expense to the carrier and loss of time to the claimant. The carrier may have to delay the closing to obtain a new and more detailed or correct C-4 or C-14 from the doctor. This also causes delay in the payment of the doctor's bill and may even result in the filing of an A-1 Objection Form to the doctor's bill for failure to provide the necessary and pertinent information.

All this may be avoided by attention to details in reporting.

Another example is the use of the C-24 form as a final form after a hernia operation. The C-24 is to be filed not less than eight weeks after a single hernia operation and twelve weeks after a bilateral hernia. The purpose is to determine the exact condition of the hernia at this time and not before. A fee of $10 is paid for this report, and physicians should understand the purpose of the C-24 report and not use it to replace a C-4 report required fifteen days after the original C-4 report.

We know reporting can be an irksome duty, but under the Workmen's Compensation Law of this State patients have the right of free choice, and physicians should willingly assume the duties and responsibilities implied under a law which confers so great a benefit on them and on their patients.

Medical societies too should, at convenient times during the year at meetings or in their bulletins, remind their members of the above and other responsibilities which the law imposes in the interest of highest quality of medical care to injured workers and of good relationships with employers, carriers, and the Workmen's Compensation Board.

The chairman of the Workmen's Compensation Board, Miss Angela Parisi, has been most sympathetic to date in overlooking the failures of physicians to comply with the rules in regard to reporting. However, we are now in receipt of the names of an increasing number of physicians throughout the State who are so-called chronic offenders. Unless prompt action is taken by our workmen's compensation committees to rectify the situation and to persuade the doctors to comply with the law, in the future it will become necessary to enforce rigidly section 13-d-2 concerning failure to comply with regulations about reporting. We hope this will not be necessary.

Bore: a person who talks when you wish him to listen.—AMBROSE BIERCE

OPENINGS FOR PHYSICIANS IN NEW YORK STATE

GENERAL PRACTICE

Albany County

Altamont.—Population approximately 2,300 in 15 to 20-mile radius. Hospitals 9 and 15 miles distant. Privileges immediately available. Positions as village health officer and school physician may be available. Contact Dr. D. W. Sweeney (phone Altamont 4741); Mr. Raymond Brunk (phone Altamont 2371); Reverend C. Meyer (phone Altamont 4981); Miss Marion Keenholts (phone Altamont 4301); Mrs. Van Loon (phone Altamont 3321).

Cayuga County

Cayuga.—Population 500; service area with population 2,000 plus. Two hospitals at Auburn 9 miles distant. Contact Dr. Frank A. Graceffo, Secretary, Medical Society of the County of Cayuga, 9 William Street, Auburn.

King Ferry.—Population 250; eight villages and hamlets within 8 miles with population 1,200. Additional 1,500 in surrounding farm area; summer population adds another 1,500 to 2,000. Radius of 2 to 12 miles. Appointment as school physician available. Town health officer and insurance examiner position may be available. House with office space for sale or rent. Three hospitals within thirty minutes at Auburn and Ithaca. Contact Mr. G. J. Cummings, Box 145, King Ferry.

Chautauqua County

Cassadaga.—Population 700. Two villages within 4 miles; population 600. Additional 1,000 population in surrounding country. Radius to be covered about 5 miles. Industrial-farming community. General hospital at Dunkirk 12 miles; two at Jamestown 25 miles; tuberculosis hospital 3 miles. Position of town health officer available. Contact Mr. Raymond Haines, Mayor, Cassadaga (phone Cassadaga 31–F2).

Chenango County

McDonough.—Population 200; population 1,000 within a radius of 10 miles. Hospital at Norwich 18 miles; Greene 13 miles; Binghamton 32 miles. Contact Mr. J. J. Duell, Town Supervisor, McDonough.

Clinton County

Altona.—Population 2,000. Radius about 15 miles including villages of Ellenberg, Mooers Forks, Sciota, and West Chazy. Two hospitals in Plattsburgh, about 20 miles. Excelsior mill and milk plant. Private residence, rent free for one year. Appointments as school health officer and medical officer for industries available. Contact Mr. Halsey J. Stark, County Clerk, Altona.

Mooers.—Population 500; population 3,000 to 5,000 in 12-mile radius served. Hospitals in Plattsburgh 25 miles. Position of school physician available, possibly town health officer. Contact Mr. M. B. Stewart, Mooers, and Dr. Aaron Davis, 9 Rugar Street, Plattsburgh.

Rouses Point.—Population 1,990 within 2 miles, 3,000 within 5 miles. Dr. Harris Sklaire, only active physician in community, desires a colleague. School, industrial health, and railroad positions will become available. Contact Dr. Harris Sklaire, Rouses Point.

Delaware County

Andes.—Population 500 within 13-mile radius. School physican and health officer positions available. Hospitals 13 miles distant at Delhi and Margaretville. Contact Miss Eleanor W. Palmer, Box 105, Andes.

Essex County

Au Sable Forks.—Population 5,000 in 10-mile area. Hospitals 20 and 27 miles away. Compensation work for large mill. Contact Mr. James Rogers, Mr. Andrew Huntington, Mr. Daniel Manning, or Dr. Joseph Schoot, Au Sable Forks.

Essex.—Population 1,000 plus; about 2,000 in summer in 8 to 10-mile radius. Hospitals at Elizabethtown and Mineville 16 miles and at Plattsburgh 30 miles. Position of town health officer available at $350; also post as school physician. Contact Mr. Leonard E. Dempster, Essex (phone Essex 2-573).

Jefferson

Cape Vincent.—Population 900 in 15-mile radius. Hospitals 27 miles distant with privileges after a few months. Appointments as town health officer and school physician available. Contact Dr.

Charles A. Prudhon, Watertown; Mr. Arthur Parker, Cape Vincent.

Lewis County

Port Leyden.—Population 900; population 5,000 in working area. Temporary replacement desired. Lowville Hospital 18 miles. Positions available as school physician, health officer, examiner for two insurance companies, and compensation doctor for three mills. Well-equipped office and good living quarters available. Contact Mr. Donald Hubbard, Port Leyden.

Madison County

Georgetown.—Population 800 in 10-mile area. Hospital at Hamilton 12 miles distant with privileges at once. Openings for town health officer and school physician. Contact Mr. Edgar Angelo, Georgetown (phone Georgetown 5).

Madison.—Population 2,500; area 100 square miles; five villages. Doctor expecting to come by the day. Hospitals at Hamilton 7 miles, Oneida 20 miles, Utica 25 miles, Syracuse 40 miles. Positions as school physician and town health officer available. Contact Dr. B. L. Rockwell, Oriskany Falls.

Niagara County

Rapids.—Population 150 families in 8-mile radius. Hospitals in Buffalo 25 miles and Lockport 7 miles. Opening as examining physician for school at $1.00 per pupil. Contact Mrs. George W. Dietz, Sr., Route 5, Lockport.

Oneida County

Clayville.—Population 719; 3,800 more population within 6-mile radius in prosperous farming territory. Three industries in Clayville with 525 employes. Hospitals and laboratory facilities in Utica 8 miles distant. Town health officer position probably available. Home and office of former doctor for sale, possibly equipment. Contact Mr. M. Donohue, Real Estate Broker, Sauquoit (phone Utica 7-7383).

Onondaga County

Lafayette.—Population about 2,080, comprising also villages of Pompey, Cardiff, Apulia, and Apulia Station in 10 square mile area rapidly growing. Hospitals at Syracuse 7 miles. When privileges may be obtained is undetermined. Opening September, 1955, for town health officer. Opening available for school physician. Contact Mrs. Marion Leckonby, c/o Dr. Leo E. Gibson, 831 James Street, Syracuse (phone Syracuse 9-2849); Mr. Charles Adsitt, Town Supervisor (phone OR 7-3107); Miss Bernice Amidon (phone OR 7-7562).

South Onondaga.—Population 10,000. Hospitals twenty to thirty minutes distant. Positions of town health officer, $1,500; school physician, $1,100; and physician to Indian reservation may be available at $3,000. Contact Mr. Walter Wheeler, R.D. #1, Nedrow (phone Syracuse 9-2680).

Ontario County

Hall.—Population 300; population 2,000 within surrounding prosperous farming area. Midway between Penn Yan and Geneva, each about 8 miles distant. Fifty-bed hospital at Penn Yan; 80-bed hospital at Geneva. Rochester 45 miles; Syracuse 50 miles. Contact Dr. Ray E. Deuel, Jr., 508 Castle Avenue, Geneva, or Mr. Joseph Robson, Hall.

Honeoye.—Population 1,300; population 4,000 in area. Present doctor leaving to specialize. Hospital at Canandaigua. Positions of local health officer and school physician available. Contact Dr. William J. Meyer, New York State Department of Health, Glens Falls.

Orange County

Unionville.—Population 500; additional 400 population within 8 or 10-mile radius. Hospital at Sussex, New Jersey, 8 miles; two at Middletown, New York, 13$^1/_2$ miles. Contact Mr. A. R. Blanchard, Orchard Street, Unionville, or Mrs. Julia Roche, Postmistress, Unionville.

Walden.—Population 10,000 in 5 to 15-mile radius. Hospitals 5, 12, and 15 miles distant. Privileges almost immediately. Industrial openings available. Contact Dr. Lynne T. Greene, 129 West Main Street, Walden (phone Walden 2-3031).

Oswego County

Altmar.—Population 2,300 to 3,000 in 8-mile radius. Hospitals 38 miles away. Opening for town health officer in Albion and for school physician in Altmar and Williamstown. Contact Mr. Norman B. Spear, Supervisor, Town of Albion, Altmar; Mr. Andrew Ferguson, Altmar; or Mr. Eric Kruepke, Pulaski, and confirm with postal card to Mr. Andrew Ferguson, Secretary, Altmar Chamber of Commerce, Altmar.

Otsego County

Otego.—Population 3,000 in 6-mile radius. Fox Memorial Hospital (95 beds) at Oneonta 8 miles; Mary Imogene Bassett Hospital at Cooperstown 39 miles; a 58-bed hospital in Sidney 16 miles. Positions as local health officer and school physician available. Contact Mr. Albert L. Bonner, Committeeman, Otego Rotary Club, Otego.

St. Lawrence County

North Lawrence.—Township of Lawrence, population about 1,625 in three villages. Radius of approximately 7 miles east to west and 16 miles north to south. Hospitals at Massena 18 miles and at Malone and Potsdam 22 miles. Contact Mr. Robert E. Driscoll, Town Supervisor, Lawrence.

Saratoga County

Mechanicville.—Population 8,000 plus. Hospitals 10 and 15 miles distant. Contact Dr. Claire K. Amyot, Secretary, Medical Society of the County of Saratoga, 54 Greenfield Avenue, Saratoga Springs.

Waterford.—Population 3,000 plus. Hospitals 10 and 15 miles distant. Contact Dr. Claire K. Amyot, Secretary, Medical Society of the County of Saratoga, 54 Greenfield Avenue, Saratoga Springs.

Schenectady County

Pattersonville.—Population about 1,300. Two hospitals at Schenectady and two hospitals at Amsterdam, each about 7 miles distant. Contact Mr. W. Eriksen, R.D. #1, Pattersonville (phone Tulip 7-8776).

Suffolk County

Fishers Island.—Winter population 500; summer 2,000 to 3,000 in 10-mile area. Hospitals one hour via ferry to New London, Connecticut. Openings available for district health officer, town health officer, and school physician. Salary $7,500, house and office guaranteed. Contact Dr. Grant Sanger, Delafield Hospital, 99 Fort Washington Avenue, New York 32 (phone LOrraine 8-7000, extension 231).

Sullivan County

Grahamsville.—Population about 2,500 in radius of 10 or 12 miles, including Neversink, Claryville, Sundown, and Grahamsville. Hospitals at Ellenville 16 miles; two hospitals at Monticello 18 miles; two hospitals at Liberty 14 miles. Contact Mr. Robert Many, Grahamsville (phone Grahamsville 2941).

Narrowsburg.—Population 2,500 in 12 miles. Hospitals at Callicoon 15 miles and Honesdale, Pennsylvania, 15 miles. Contact Mr. Roy V. Sullivan, Narrowsburg (phone Narrowsburg 56 or 28) or Mr. Carl Behling, Narrowsburg (phone Narrowsburg 107R120).

Washington County

Hartford.—Population 1,308. Surrounding territory includes towns of Argyle and Hebron. Posts as school physician and town health officer (New York State Department of Health) will be available. Possibility of bonus from town of Hartford. Contact Mr. Howard Hanna, Town Clerk, Hartford.

Salem.—Population 4,000 in 10-mile radius. Hospitals at Cambridge 12 miles and Granville 18 miles. Immediate privileges available in Granville; after one or two years in Cambridge. Opening for town health officer covering Salem, Hebron, and Jackson; for school physician in Salem; also for physician to Washington County jail. Contact Dr. Gerald Fincke, Salem; Mr. Donald Hanks, Salem; Mr. Julian Orton, Salem; Mrs. Catherine Coutter, Town Clerk, Salem, or Dr. Newton Krumdieck, Cambridge.

Wayne County

Palmyra.—Population 3,800 in 10 to 15-mile radius. Hospitals at Newark 6 miles and Canandaigua 14 miles. Privileges available any time. Contact Mrs. J. R. Hagaman, 145 West Main Street, Palmyra (phone Palmyra 235).

Savannah.—Population 1,500 to 2,000 in radius of 12 to 15 miles. Hospitals at Lyons 12 miles and Auburn 17 miles. Privileges may be obtained at once. Positions of town health officer and school physician available in Savannah. Contact Mrs. R. O. Jackson, Savannah, and Mr. Phil N. Rosekrans, Administrator, Lyons Hospital, 122 Broad Street, Lyons.

Characteristics of the Micrococcal Nasal Carrier State Among Hospital Personnel

Control of carriers of antibiotic-resistant micrococci among hospital personnel is a problem of importance, and one on which the study reported in this paper attempts to shed some light. Repeated nose and throat cultures from 161 ward workers were taken at monthly intervals, 105 of whom were observed for at least six months and 66 for over a year. The first cultures revealed that 59 per cent harbored micrococci of all kinds, and 25 per cent showed coagulase-positive strains. After repeated cultures it was found that each of the subjects carried micrococci on one or more occasions; 76 per cent had at least one coagulase-positive strain. Of the personnel known to have carried micrococci, 66 per cent lost the specific strain within one month. The other third lost the original strain slowly, at the rate of 1 to 1.5 per cent per month.

There was strong evidence that certain persons have a predilection to carry or have implanted in their upper respiratory tracts the more pathogenic microorganisms for periods exceeding a year. This is an indication that they may be most important in the spread of antibiotic-resistant pathogens. The subjects who originally carried coagulase-positive strains continued to carry these strains or implanted new ones more frequently than subjects who originally showed coagulase-negative strains or negative culture. As between those with negative cultures and those with coagulase-negative cultures, the latter maintained these strains and tended to implant new coagulase-negative strains more often than the subjects who were originally free of micrococci.

—Mark H. Lepper, M.D., George G. Jackson, M.D., and Harry F. Dowling, M.D., Journal of Laboratory and Clinical Medicine, June, 1955

THE MONTH IN WASHINGTON

If advance signs mean anything, the Eisenhower Administration next year can be expected to ask Congress for substantially more money for medical research, both direct research by scientists on the U.S. payroll and grants to others.

Currently the Federal government is spending more money on medical research than at any time in history—almost 98 million dollars through the National Institutes of Health alone. In addition, other millions are being spent on medical research in the Department of Defense, Veterans Administration, and other agencies. Much of it is difficult to isolate in the Federal budget.

A special committee named by the National Science Foundation at the request of former Secretary Hobby has been at work for some time on an appraisal of the medical research programs of the Department of Health, Education, and Welfare. Its report, due before the reconvening of Congress, should be valuable to both the administration and the appropriations committees.

A few examples of what is happening this year:

National Cancer Institute has $24,800,000 to spend, about three million more than last year, with two-thirds going out in grants to non-Federal researchers. National Heart Institute also is working on a much more liberal budget, $18,700,000 in contrast to last year's $16,600,000. Because of the spectacular publicity now being given to heart research as a consequence of President Eisenhower's illness, it is a foregone conclusion that next year this institute will get a great deal more money.

The Mental Health Institute is profiting by the largest single increase of any research operation, almost four million dollars, from $14,100,000 to 18 million dollars. Here again the prospects are for a substantial increase next year; problems of mental health are receiving much public attention, a situation that will not be ignored by Congress. Furthermore, the nation-wide survey of mental health problems now about to get under way will point up the shortcomings in mental health research and be an additional argument for more U.S. dollars.

All the other research institutes also shared in last session's Congressional generosity. The Institute of Arthritis and Metabolic Diseases has about $2,500,000 more, $10,700,000 instead of the $8,200,000 of last year. The Institute for Neurological Diseases and Blindness went from $7,600,000 to $9,860,000, the Microbiological Institute from $6,100,000 to $7,500,000, and the Dental Health Institute from $1,900,000 to $2,100,000.

As has been customary with recent Congresses, Senate and House this year actually voted more money for medical research than the Bureau of the Budget permitted Public Health Service to request. That may not be the situation when appropriation bills come up next session. Secretary Folsom of the Department of Health, Education, and Welfare did not take office until Congress was about to adjourn last summer, but since then he has repeatedly gone on the record in favor of even greater U.S. expenditures for research. In October Mr. Folsom declared: ". . . .Today we find new problems and new opportunities. We find that heart disease and cancer and arthritis are taking an increasing toll. And so today as a nation we are changing our lines of battle to fight this increase in chronic and major diseases. All the facts point to one great need. It is the need for more research—to learn how these chronic diseases are started, so they can be prevented; to learn to detect them in the early stages, so they can be cured. . ."

Again in November, addressing a conference on antibiotics, Mr. Folsom struck the same key, only this time more firmly. After noting that the U.S. now is spending over 12 times more on medical research than it was spending in 1946, he declared: "We must seriously consider making even more funds available for medical research to bring even greater benefits to humanity."

Notes

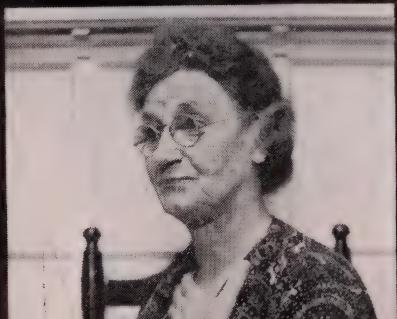
The Joint Congressional Committee on the Economic Report may have some health legislation to offer next year as a result of a study of the problems of the low-income family, including methods of paying hospital, physician, and drug bills.

The medical and criminal problems connected with narcotic addiction have occupied the attention of two Congressional groups between sessions, subcommittees of the Senate Judiciary Committee and the House Ways and Means Committee. The latter is particularly worried over abuses it claims to have discovered in the use of barbiturates and amphetamines.

Dr. Frank B. Berry, assistant Defense Secretary for Health and Medical matters, in his annual report warns that the doctor procurement problem again may become acute despite last summer's two-year extension of the act. He said the Department may not be able to obtain all the older physicians it needs because of the amendment barring the drafting of men over thirty-five if they have applied for a medical commission and been rejected on purely physical grounds. Also, Dr. Berry thinks the ratio of three physicians per 1,000 of troops may be too narrow a margin of safety.

Prepared by the Washington Office of the American Medical Association, Washington, D.C.

"Disillusion and despair
almost robbed
this life-worn widow
of her sanity . . ."



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NECROLOGY

Edward John Bero, M.D., of New York City, died in November at the age of eighty-three. Dr. Bero was graduated from Columbia University College of Physicians and Surgeons in 1898.

Erwin Wallace Buffum, M.D., of East Aurora, died on October 27 in the Buffalo General Hospital at the age of eighty-nine. Dr. Buffum was graduated from the University of Buffalo School of Medicine in 1891. He had been the health officer for the Town of Aurora for about sixty years prior to the health unit's integration into the Erie County Health Department and in the earlier part of the century served as physician to the East Aurora School District for about twenty-five years. Dr. Buffum was a member of the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Samuel E. Cohen, M.D., of Binghamton, died of a heart attack at his home in November at the age of forty-five. Dr. Cohen received his medical degree in 1936 from the University of Zurich Faculty of Medicine. He had been pathologist at Arnot-Ogden Hospital, Elmira, assistant pathologist at City Hospital from 1942 to 1945, and pathologist at Lourdes Hospital since October, 1954. He was also consulting pathologist at Chemung County Sanatorium and pathologist at Tioga County General Hospital, Waverly. Dr. Cohen was a Diplomate of the American Board of Pathology, a Fellow of the College of American Pathologists, a Fellow of the American College of Physicians, and a member of the American Society of Clinical Pathologists, the Broome County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Clement Dorra, M.D., of Clearwater, Florida, formerly of New York City, died recently at the age of sixty-two. Dr. Dorra received his medical degree in 1917 from the University of Bordeaux Faculty of Medicine and Pharmacy. He was a retired member of New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Herman Grad, M.D., of Woodmere, Long Island, died on November 8 at the age of eighty-three. Dr. Grad graduated from New York University College of Medicine in 1894. Retired, he was a former consultant to the Long Beach Hospital and St. Joseph's Hospital, Far Rockaway. He was a Diplomate of the American Board of Obstetrics and Gynecology, a Fellow of the American College of Surgeons, and a member of the New York Academy of Medicine, the Nassau Obstetrical Society, the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

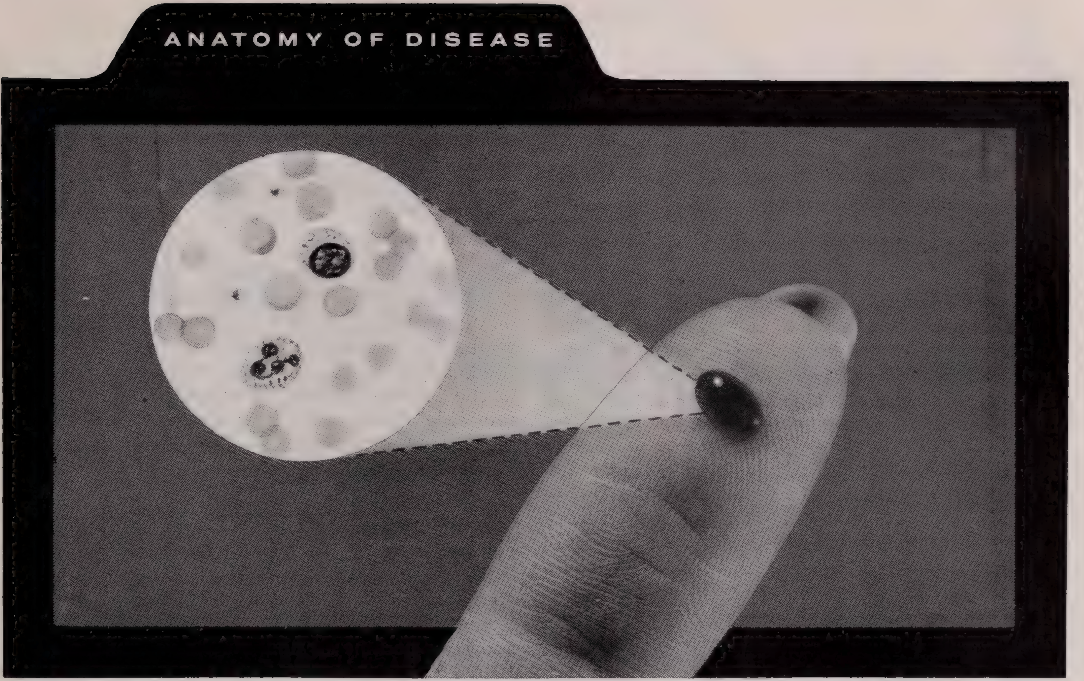
Arthur J. Hearn, M.D., of White Plains, died at his home on November 14 at the age of sixty. Dr. Hearn was graduated from Johns Hopkins University School of Medicine in 1921. He was an associate orthopedic and fracture surgeon at Lawrence Hospital, Bronxville. Dr. Hearn was a member of the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Harry Jacobstein, M.D., of the Bronx, died at his home on November 9 at the age of sixty-eight. Dr. Jacobstein graduated in 1911 from New York University and Bellevue Hospital Medical College and interned at Lebanon Hospital. He was attending physician at the Hebrew Home and Hospital for Chronic Sick and adjunct physician at Lebanon. Dr. Jacobstein was a member of the New York Cardiological Society, the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Aaron Sigmund Kramer, M.D., of Brooklyn, died on November 10 at his home after an illness of several months, at the age of fifty. Dr. Kramer graduated from Tulane University of Louisiana School of Medicine in 1930. He had been on the staff of Kings County and Israel Zion Hospitals and had served with the Medical Corps attached to the 101st Cavalry during World War II. Dr. Kramer was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Ferdinand Frederick Lewkowicz, M.D., of Tannersville, died on October 24 in an automobile accident at the age of forty-six. Dr. Lewkowicz received his medical degree in 1934 from the Jagiellonian University of Cracow School of Medicine. At the time of the German invasion of Poland, Dr. Lewkowicz became a captain in the Polish army, later was a prisoner of war and then put in a concentration camp. After his release he worked in a hospital in Rome, Italy, before coming to New York State. He was a staff member at Memorial Hospital, Catskill, and a member of the Greene County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

[Continued on page 3666]



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Folic acid	1.4 mg.
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[Continued from page 3664]

Max Lipkind, M.D., of Miami Beach, Florida, formerly of the Bronx, died on November 14 at the age of seventy-four. Dr. Lipkind graduated from Long Island College Hospital School of Medicine in 1917. He was a retired member of the Bronx County Medical Society and the Medical Society of the State of New York.

George Waverly Nairn, M.D., of Warsaw, died at his home on October 28 at the age of sixty. Dr. Nairn was graduated from the University of Colorado School of Medicine in 1922. Chief of the medical staff and chief of surgical services at the Wyoming County Community Hospital, in 1926 Dr. Nairn created the Eye, Ear, Nose and Throat Department at the Hospital. He was a Diplomate of the American Board of Ophthalmology, a Diplomate of the American Board of Otolaryngology, and a member of the American Academy of Ophthalmology and Otolaryngology, the Buffalo Ophthalmologic Club, the Wyoming County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Gertrude Rochester, M.D., of New York City, died on November 9, after a long illness, in the New York Hospital at the age of seventy-eight. Dr. Rochester graduated from Cornell University Medical College in 1899, a member of the first graduating class. Dr. Rochester, before retiring due to ill health, was associated with Bellevue, New York Post-Graduate, and Manhattan Eye, Ear and Throat Hospitals.

Frederick Ettore Strozzi, M.D., of Buffalo, died on June 21, at the age of sixty-seven. Dr. Strozzi graduated from the University of Buffalo School of Medicine in 1910. He was an assistant physician at the Meyer Memorial Hospital and a member of the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Henry Wollner, M.D., of the Bronx, died on November 9 at St. Joseph's Hospital at the age of eighty-three. Dr. Wollner graduated in 1896 from New York University Medical College. He was a former medical director of St. Joseph's Hospital and later became an honorary physician there. In 1915 he was associate professor of diseases of the lungs at Fordham Medical School.

MEDICAL MEETINGS

Suffolk County Medical Society

The Suffolk County Medical Society will hold another of its postgraduate lectures on December 17 in Building 95 of the Central Islip State Hospital, Central Islip. Dr. O. Alan Rose, New York City, will speak on "Arrhythmia."

Brooklyn Psychiatric Society

The Brooklyn Psychiatric Society will hold a dinner meeting on January 19, 1956, at which Dr. Sandor Rado, of New York City, will speak on "Patterns of Depression and Their Treatment."

Academy of General Practice

More than 5,000 of the nation's family doctors are expected to attend the eighth annual American Academy of General Practice Scientific Assembly, March 19 to 22, 1956, in the Washington, D.C., Armory.

Subjects ranging from cardiac emergencies to primary wound repair will be discussed. Highlights of the program include two live clinics, a symposium on obstetrics, and an address by Surgeon General Leonard Scheele. Special tours through the National Institutes of Health, Bethesda, Maryland, have been arranged.

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MEDICAL NEWS

International Academy of Proctology—The International Academy of Proctology has announced its annual cash prize and certificate of merit award contest for 1955–1956. The best unpublished contribution on proctology or allied subjects will be awarded $100 and a certificate of merit. Certificates will be awarded also to physicians whose entries are deemed of unusual merit. This competition is open to all physicians in all countries, whether or not affiliated with the International Academy of Proctology. The winning contribution will be selected by a board of impartial judges, and all decisions are final.

The formal award of the first prize and presentation of other certificates will be made at the annual convention dinner dance of the International Academy of Proctology, April 26, 1956, at The Drake, Chicago, Illinois.

The International Academy of Proctology reserves the exclusive right to publish all contributions in its official publication, *The American Journal of Proctology.* All entries are limited to 5,000 words, must be typewritten in English, and submitted in five copies. All entries must be received no later than February 1, 1956. Entries should be addressed to the International Academy of Proctology, 147–41 Sanford Avenue, Flushing, New York.

Jefferson County Medical Society—The annual meeting of the Medical Society of Jefferson County was held on November 15 at the Black River Valley Club. Dr. C. Stewart Welsh, associate professor of surgery at Albany Medical College, spoke on "Diagnosis and Management of Upper Abdominal Hemorrhage."

Essay Contest—The attention of physician medical writers is called to the Mississippi Valley Medical Society annual essay contest. Any subject of general medical or surgical interest including medical economics and education may be submitted, providing the paper is unpublished and is of interest and applicable value to general practitioners of medicine. Contributions are accepted only from physicians who are members of the American Medical Association and who are residents and citizens of the United States. Manuscripts must not exceed 5,000 words and must be submitted in five complete copies, in manuscript style. The winning essay receives a cash prize of $100, gold medal, certificate, and an invitation to address the annual meeting of the Mississippi Valley Medical Society, which is held at the same time and place as the annual meeting of the American Medical Writers' Association (1956 meeting, Hotel Morrison, Chicago, September 26, 27, 28). The Society may also award certificates of merit to physicians whose essays rate second and third best.

Essays must be in the office of the secretary of the M.V.M.S. not later than May 1, 1956. Winning essays are published each year in the January number of the *Mississippi Valley Medical Journal.* Further details may be secured from the Mississippi Valley Medical Society, Dr. Harold Swanberg, Secretary, 209–224 W.C.U. Building, Quincy, Illinois.

New York Academy of Medicine—The New York Academy of Medicine is sponsoring a series of lectures to the laity intended to inform the public of the advances of medicine. The remaining lectures will be held on January 4, January 18, February 1, and February 15, 1956, at the New York Academy of Medicine, 2 East 103rd Street, New York City.

American Heart Association—Approximately 2,000 physicians and medical students attended the American Heart Association's 31st annual meeting and 28th annual scientific sessions in New Orleans, October 22 through 28. It was the largest medical gathering ever sponsored by the Association, as well as the first held independently of any other major medical meeting.

Officers of various councils and sections of the Association include Council on Community Service and Education, Dr. Martin Cherkasky, New York City, chairman, and Dr. Ray E. Trussel, New York City, vice-chairman; Council on Rheumatic Fever and Congenital Heart Disease, Dr. Maclyn McCarty, New York City, chairman, and Dr. George Wheatley, New York City, vice-chairman; and section on cardiovascular surgery, Dr. Frank Glenn, New York City, chairman.

Israel S. Wechsler Lecture—The Israel S. Wechsler lecture was delivered by Dr. John F. Fulton, Sterling professor of the History of Medicine at Yale University School of Medicine, on December 2 at the Mount Sinai Hospital in New York City. Dr. Fulton spoke on "Some Historical Backgrounds of Clinical Neurology."

Society of Medical Jurisprudence—The 692nd regular meeting of the Society of Medical Jurisprudence was held at the New York Academy of Medicine in New York City, on November 14. Dr. George I. Swetlow, F.A.C.P., LL.B., trial counsel, member of the New York Bar, professor of medicolegal jurisprudence at Brooklyn Law School, and consultant neurologist to the Cumberland Street

[Continued on page 3670]

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[Continued from page 3668]

Hospital in Brooklyn, spoke on "The Mind in the Courtroom."

Postgraduate Courses—The Mount Sinai Hospital, New York City, will hold a series of postgraduate courses given in affiliation with Columbia University. Included will be part-time courses of varying length for general practitioners, intensive full-time courses for general practitioners, and courses for specialists, which will run from January through July, 1956. For detailed information and application forms, address the Registrar for Postgraduate Medical Instruction at The Mount Sinai Hospital, Fifth Avenue and 100th Street, New York 29, New York.

St. Francis Hospital—In plans for the reorganization of St. Francis Hospital and Sanatorium, Roslyn, the administration is considering a full-time director of medicine and a full-time director of surgery as well as anticipated affiliation with a medical school.

Dr. Eugene Calvelli, assistant professor of clinical medicine at New York University College of Medicine and director of medicine at Meadowbrook Hospital in Hempstead, is temporary director of medicine. Dr. Gasper A. Gulotta will continue as assistant director of medicine, and Dr. Israel Steinberg of New York Hospital is head of the Department of Angiocardiography. Dr. William J. Noble, director of the Cardio-Pulmonary Laboratory at Brooklyn Hospital, is in charge of the cardiopulmonary service; Dr. Burton B. Butman, president of the Nassau County Society of Anesthesiology and director of the New York State Society of Anesthesiology, is director of anesthesiology, and Dr. Leslie I. Lukash, deputy medical examiner for Nassau County and assistant pathologist at Meadowbrook Hospital, is head of the Department of Pathology.

Highway Safety—Acting at the request of Commissioner Joseph Kelly of the State Bureau of Motor Vehicles, the Council of the Medical Society of the State of New York voted to create an advisory committee to set up criteria and determine procedures to guide the Commissioner in issuing automobile driving licenses to persons who have been or are subject to epileptic seizures.

The committee would set up criteria for the issuing of operators' licenses to epileptics and to review the applications already rejected, making recommendations to the Commissioner. New York is one of five states which require that a person must be free of epileptic attacks for two years and without medication for two years before permission to drive can be given.

The Council voted to appoint the committee requested by the Commissioner and named by President Renato J. Azzari of the Bronx. Dr. S. Bernard Wortis, of New York City, is chairman, to be assisted by Dr. H. Houston Merritt, of New York City, and Dr. Abraham M. Rabiner, of Brooklyn.

Clinical and Experimental Hypnosis—The Society for Clinical and Experimental Hypnosis held its sixth annual scientific meeting at the New York Academy of Sciences, 2 East 63rd Street, New York City, on December 3. Speakers included Dr. Jerome M. Schneck, president of the Society, and Dr. Arthur Shapiro, clinical assistant professor of medicine at State University of New York College of Medicine at New York City.

Medical Electronics—The New York metropolitan area chapter of the professional group on Medical Electronics of the Institute of Radio Engineers held their first meeting on October 26, at the auditorium of the Rockefeller Institute for Medical Research. It was decided to invite the members of the medical profession to join the medical electronics group, to establish a clearinghouse for receiving scientific problems and suggestions, and to collect scientific papers for the forthcoming lectures.

For further information, contact Dr. E. E. Sheldon, acting secretary, 509 Fifth Avenue, New York 17, New York.

Albany Medical Society—The Medical Society of the County of Albany met on November 22 at the Colonie Country Club in Albany. A symposium on "Social Security for the Doctor" was held. Proponent was Professor John W. McConnell, professor, New York State School of Industrial and Labor Relations, Cornell University, and opponent was Dr. James L. Doenges, president, American Association of Physicians and Surgeons.

American College of Gastroenterology—At the American College of Gastroenterology's annual meeting recently held in Chicago, Dr. Frank J. Borrelli of New York City was elected a vice-president. Dr. William C. Jacobson, of New York City, and Dr. Fred H. Voss, Phoenicia, were elected trustees, and Dr. Harry Barowsky, of New York City, was elected governor. Reappointed to the Board of Trustees were Dr. Roy Upham, of New York City, as secretary-general; Dr. Elihu Katz, New York City, treasurer, and Dr. Samuel Weiss, New York City, editor-in-chief of the College's official publication, *The American Journal of Gastroenterology*.

Personalities

Appointed

Dr. Irving Harrison, Scarsdale, as attending psychiatrist at Blythedale, orthopedic hospital and rehabilitation center for children...Drs. Arthur

[Continued on page 3672]

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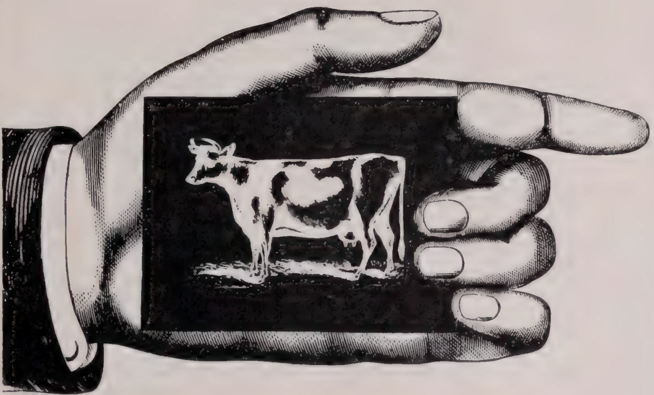

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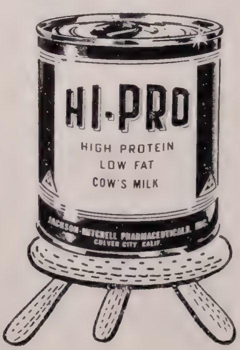

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[Continued from page 3670]

Linksz and Otto Lowenstein, New York City, as editors for the *Survey of Ophthalmology*, a new bimonthly journal. . . Dr. Erwin Neter, Buffalo, as organizer and chairman of a conference on "Epidemic and Endemic Diarrheal Diseases of the Infant" held in New York City on December 8 and 9, by the New York Academy of Sciences. . . Dr. Charles B. Ripstein, professor of surgery at the Albert Einstein College of Medicine, as attending surgeon of Lebanon Hospital, Bronx. . . Dr. Eli H. Rubin, professor of medicine at the Albert Einstein College of Medicine, as consultant in pulmonary diseases at Lebanon Hospital. . . Dr. Allison J. Vosseler, Brooklyn, as director of surgery at the Methodist Hospital of Brooklyn. . . Dr. Marie Pichel Warner, New York City, as delegate of the Women's Medical Society of New York State to the mid-yearly meeting of the American Medical Women's Association in Cincinnati, Ohio, November 11 through 13.

Awarded

Drs. Jane C. Wright and H. Clark Dalton, of New York University; Drs. R. C. Mellors and Olof H. Pearson, of the Sloan-Kettering Institute; Professor A. White, Yeshiva University, the Albert Einstein College of Medicine, and Professor F. C. Steward of the Cornell University College of Agriculture, research grants from the Damon Runyon Memorial Fund for Cancer Research.

Elected

Dr. Russell L. Cecil, New York City, emeritus professor of medicine, Cornell University, as first vice-president of the American Medical Writers' Association for 1956. . . Dr. John H. Dunnington, New York City, to the board of directors of Recording for the Blind, Inc., New York City. . . Dr. A. Wilbur Duryee, professor of clinical medicine at New York University Post-Graduate Medical School and chief of peripheral vascular clinics at New York University and Bellevue Hospital, as president of the New York Heart Association. . . Dr. William H. Godsick, director of the obstetrics-gynecology service at Lincoln Hospital in New York City, as president of the medical board of that hospital. . . Dr. Charles R. Messeloff, as director of medicine at Lincoln Hospital in New York City.

Speakers

Dr. Willis Knighton, New York City, before the Buffalo Ophthalmologic Club in November. . . Dr. Frederick J. Lewy, assistant medical director of the American Heart Association, before the Sullivan County Medical Society on December 14 on "Diagnosis and Prevention of Rheumatic Fever through the Control of Streptococcal Infections" at the Monticello Hospital in Monticello. . . Dr. R. Townley Paton, New York City, before the Nassau Ophthalmological Society on November 28 in Hempstead, on "Keratoplasty". . . Dr. Julius Pomeranze, chief of the Nutrition Clinic and instructor in medicine at the New York Medical College, Metropolitan Medical Center, before the Brooklyn Chapter of the American Academy of General Practice on November 4, on "Recurrent Obesity," and at the Michigan State Chapter of the American Academy of General Practice on November 10, on "Trends in Nutrition". . . Dr. Thomas A. C. Rennie, professor of psychiatry at the New York Hospital in New York City, before the hospital staff of the Veterans Administration Hospital at Northport on November 3, on "The Emergence of Social Psychiatry as a New Branch of Psychiatry: Theory and Research Findings". . . Dr. Howard A. Rusk, director of the Institute of Physical Medicine and Rehabilitation at New York University-Bellevue Medical Center, at the first of the annual Herzstein lectures given under the auspices of the schools of medicine of the University of California and Stanford University, at San Francisco. . . Drs. Walter A. L. Thompson and Frederic D. Zeman, of New York City, before the annual scientific assembly of the Maryland Academy of General Practice in October. . . Dr. Benjamin W. Warner, New York City, before the American Society of Tropical Medicine and Hygiene at the fourth annual meeting in Boston on November 4, on "The Role of the Proctologist in the Diagnosis of Schistosomiasis Mansoni by Sigmoidoscopy and Rectal Biopsy."

Honored

Dr. Adele Franklin, founder and director of New York City's All-Day Neighborhood Schools program, at a testimonial luncheon at the Sheraton-Astor by the Public Education Association. . . Dr. I. C. Rubin, gynecologist from New York City, with the degree of Doctoris Honoris Causa by the University of Paris.

No man is lonely while eating Spaghetti—it requires so much attention—Christopher Morley

After Bread Comes Wine...

The Second Legacy of the Creator[*]

From the very dawn of history, wine, the classic beverage of moderation, has been acclaimed for its appetite-stimulant properties, its role in nutrition, its function as an aperitif.

However, until quite recently no serious attempt was made at a scientific objective study of the rationale of wine as a nutritional or medicinal agent.

Recently, in response to a demand within the medical profession that fact be separated from folklore, the Wine Advisory Board decided to institute a series of studies to determine the true therapeutic niche of wine based on a more accurate knowledge of its chemical constituents, its physiological and pharmacological actions.

The results to date have been most gratifying. For example, we have learned that—

—Wine stimulates olfactory acuity—markedly increasing appetite in anorexia;

—Wine increases appreciably not only the volume but the proteolytic power of gastric juice, thereby encouraging digestion notably in convalescents and older patients;

—Wine serves as a quick-energy food. Its small amount of hexose is speedily absorbed and its moderate content of alcohol is metabolized readily even by diabetics;

—Wine possesses significant vasodilating, diuretic and relaxing properties of value in the field of cardiology;

—A little Port or Sherry at bedtime is a valuable relaxant to the insomniac and may obviate the need for sedative medication.

And wine can help brighten the often unappealing character of special or restricted dietaries—a psychological boost of inestimable value to the debilitated and depressed patient.

We believe you will find "Uses of Wine in Medical Practice" a valuable addition to your files. A copy is available to you at no expense, by writing to: Wine Advisory Board, 717 Market Street, San Francisco 3, California.

[*] Georges Ray, Vins de France, Paris, University Press, 1946 (p. 75).

BOOKS RECEIVED

(The following books were received during the month of October, 1955)

Corticotropin: Its Pharmacologic Effects in Man and Practical Therapeutic Utilization. By Gordon B. Myers, M.D., and William Q. Wolfson, M.D. Octavo of 76 pages, illustrated. Detroit, Wayne University Press, 1955. Paper.

Respiratory Problems in the Premature Infant. Report of the Fifteenth M & R Pediatric Research Conference. Octavo of 87 pages, illustrated. Columbus, M & R Laboratories, 1955.

Operative Technic in General Surgery. Edited by Warren H. Cole, M.D. With 67 contributing authors. Second edition. Octavo of 973 pages, illustrated. New York, Appleton-Century-Crofts, 1955. Cloth, $20.

Preventive Medicine in World War II. Volume II. Environmental Hygiene. Editor in Chief, Col. John Boyd Coates, Jr., M.C.; Editor for *Preventive Medicine,* Ebbe Curtis Hoff, M.D. Quarto of 404 pages, illustrated. Washington, D.C., Office of the Surgeon General, Department of the Army, 1955. Cloth, $3.50.

Group Processes. Transactions of the First Conference, September 26, 27, 28, 29, and 30, 1954, Ithaca, New York. Edited by Bertram Schaffner, M.D. Octavo of 334 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1955. Cloth, $5.50.

Recueil Périodique de l'Encyclopédie Médico-Chirurgicale. Paraissant cinquante-quatre fois par an, à raison de deux cahiers pour chacune des matières. Section #35–36, Pédiatrie and Section #37, Dermatologie. Folio. v.p. Paris, Editions Techniques, 1955.

Present-Day Psychology. An Original Survey of Departments, Branches, Methods, and Phases, Including Clinical and Dynamic Psychology. Edited by A. A. Roback, Ph.D. With the collaboration of forty experts in the various fields. Octavo of 995 pages, illustrated. New York, Philosophical Library, 1955. Cloth, $12.

An Introduction to Psychiatry. By Max Valentine, M.D. Duodecimo. v.p. Illustrated. Edinburgh, E. & S. Livingstone (Baltimore, Williams & Wilkins Company), 1955. Cloth, $3.75.

A Textbook of Clinical Pathology. Edited by Seward E. Miller, M.D. Fifth edition. Octavo of 1,208 pages, illustrated. Baltimore, Williams & Wilkins Company, 1955. Cloth, $11.

The Shoulder and Environs. By James Bateman, M.D. Drawings by Louise Gordon. Quarto of 565 pages, illustrated. St. Louis, C. V. Mosby Company, 1955. Cloth, $16.25.

Mental Hygiene in Public Health. By Paul V. Lemkau, M.D. Second edition. Octavo of 486 pages, illustrated. New York, The Blakiston Division, McGraw-Hill Book Company, 1955. Cloth, $8.00. (McGraw-Hill Series in Health Science)

Self-Help Devices for Rehabilitation. A co-operative service project made possible by The National Foundation for Infantile Paralysis and conducted by the New York University-Bellevue Medical Center, Institute of Physical Medicine and Rehabilitation. Quarto. N.p. Illustrated. New York, The Institute, n.d.

Understanding Surgery. Edited and compiled by Robert E. Rothenberg, M.D. Illustrated by Sylvia and Lester V. Bergman. Sextodecimo of 620 pages, illustrated. New York, Pocket Books, 1955. Paper, 50 cents.

The Year Book of Medicine (1955–1956 Year Book Series). Edited by Paul B. Beeson, M.D , Carl Muschenheim, M.D , William B. Castle, M.D., Tinsley R. Harrison, M.D., *et al.* Duodecimo of 711 pages, illustrated. Chicago, Year Book Publishers, 1955. Cloth, $6.00.

The Surgical Clinics of North America. Nationwide Number. October, 1955. Octavo. Philadelphia, W. B. Saunders Company, 1955. Published bimonthly, six numbers a year. Cloth, $18 net; paper, $15 net.

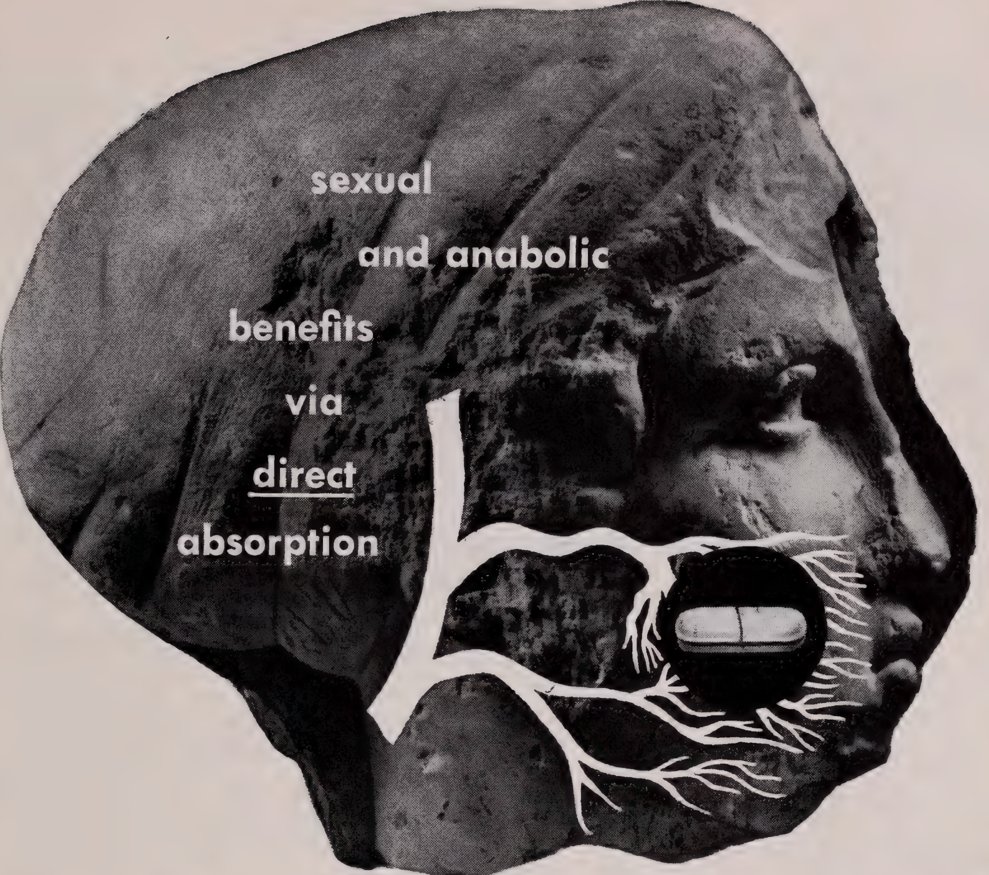
The Thyroid. A Fundamental and Clinical Text. With sixty contributors. Sidney C. Werner, M.D., Editor. Octavo of 789 pages, illustrated. New York, Paul B. Hoeber, Medical Book Department of Harper & Brothers, 1955. Cloth, $20.

Textbook of Occupational Therapy. With Chief Reference To Psychological Medicine. By Eamon N. M. O'Sullivan, M.B. Octavo of 319 pages, illustrated. New York, Philosophical Library, 1955. Cloth, $10.

The Expression of the Emotions in Man and Animals. By Charles Darwin, M.A. Octavo of 372 pages, illustrated. New York, Philosophical Library, 1955. Cloth, $6 00.

Die Uberfunktion der Nebennieren. By Rudolf Chwalla. Octavo of 330 pages. Vienna, Verlag für Medizinische Wissenschaften Wilhelm Maudrich, 1955. Cloth, $11.52.

[Continued on page 3676]



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[Continued from page 3674]

Annual Report, The Harvard School of Public Health, 1953–1954. Octavo of 243 pages, illustrated. Cambridge, The University, 1955.

89th Annual Report, St. Barnabas Hospital for Chronic Diseases. Octavo of 69 pages, illustrated. New York, The Hospital, [1955].

The President's Review from The Rockefeller Foundation Annual Report, 1954. Octavo of 145 pages, illustrated. New York, [The Foundation], n.d.

Cardiac Diagnosis. A Physiologic Approach. By Robert F. Rushmer, M.D. Quarto of 447 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $11.50.

Henry Ford Hospital. International Symposium on Cardiovascular Surgery. Studies in Physiology, Diagnosis and Techniques. Proceedings of the Symposium held at Henry Ford Hospital, Detroit, Michigan, March, 1955. Edited by Conrad R. Lam, M.D. Octavo of 543 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $12.75.

Basic Surgical Skills. A Manual With Appropriate Exercises. By Robert Tauber, M.D. Quarto of 75 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Ring-binding. Cloth, $3.75.

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgement of receipt will be made in these columns and deemed sufficient notification. Selections for review will be based on merit and interest to our readers.

Good Results in Cancer of Lip and Skin

Of 140 patients treated with radium for cancer of the lip and skin, 139 have remained free of the disease from one to five years. The single recurrence was treated by surgery. This report on radium therapy was made in the September, 1955, issue of *Am. J. Roentgenology,* by Dr. B. L. Feuerstein of Bayshore, New York.

"This very higher percentage of cures can be explained. . . Patients are appearing with lesions at a much earlier stage, due to the public awareness of cancer. . . and are prone to seek medical care early," Dr. Feuerstein pointed out.

"There are types of cases, in which one of two methods (x-ray or radium) is preferable and can be expected to produce a superior end result. Such cases may be therapeutic problems if only roentgen radiation, or radium is available; if both modalities are available, the problem case may become a simple one," he added.

Some of his other conclusions: Most cases of cancer of the skin can be cured by roentgen rays or radium. However, treatment can often be simplified and better cosmetic results obtained in certain types of lesions if one is adept at both methods. Radium therapy usually gives a better cosmetic result and is preferred where high depth dose is to be avoided and in small early lesions so frequently seen today. Roentgen therapy is preferred in less accessible areas, such as near the eye and in large bulky lesions.

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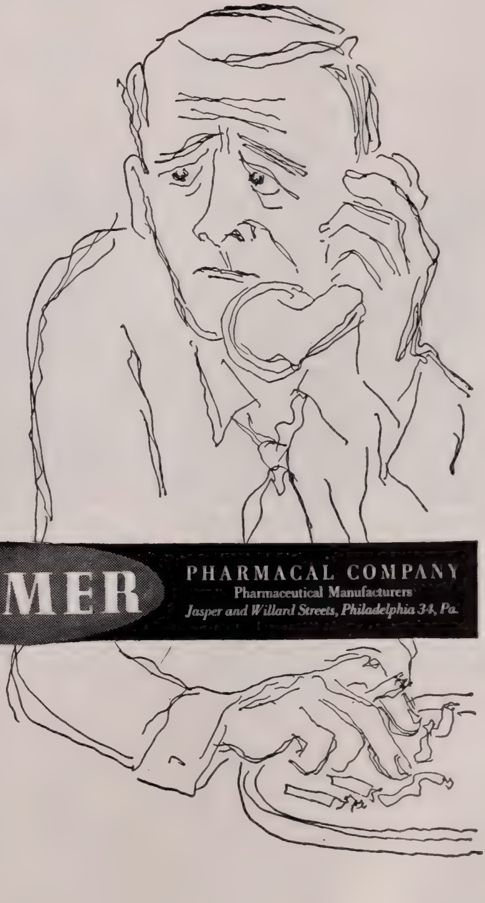

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1. Krantz, J.C. & Carr, C.J.: Pharmacological Principles of Medical Practice, Williams & Wilkins Co., Baltimore, Md., 1951.

2. Goodman, L. & Gilman, A.: The Pharmacological Basis of Therapeutics. The Macmillan Co., New York City, 1941.

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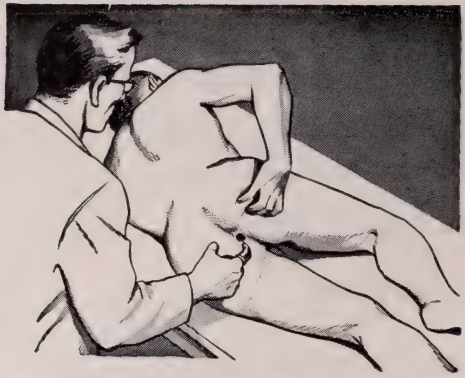
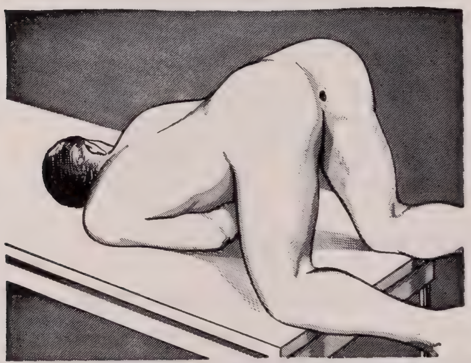
DETECTION OF RECTAL, RECTOSIGMOID, AND COLONIC POLYPS AND CANCER

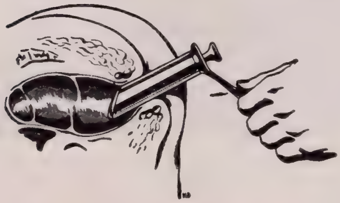


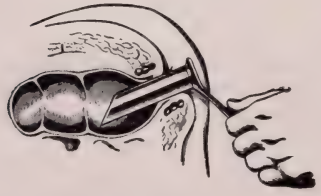
Sims position for digital and anoscopic examination, right knee across and in front of left thigh.



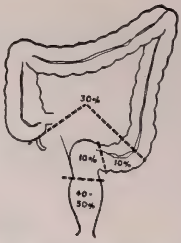
Shoulder-chest position on ordinary table for proctoscopic and sigmoid examination. Thighs slightly apart, at right angles to edge of table. Left shoulder under chest, face to right.

Anorectal examination — digital and anoscope or proctoscope.





After gentle digital examination of the walls of the rectum, the well-lubricated anoscope or proctoscope with its obturator is inserted within the anal canal in the direction of the table. The obturator is withdrawn and air enters the rectum, permitting a view beyond the length of the proctoscope.

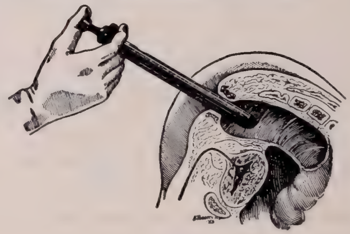


40 to 50 per cent within reach of digital and proctoscopic examination.

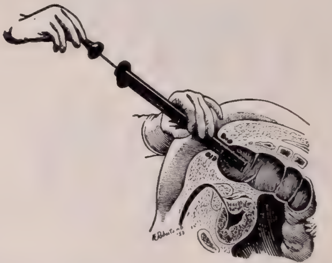
40 to 70 per cent within reach of proctoscopic and sigmoidoscopic examination.

The sites of COLONIC POLYPS PARALLEL the SITES OF COLONIC CARCINOMA. BARIUM ENEMA, EXPULSION, and AIR CONTRAST FILMS will detect polyps and carcinoma proximal to rectosigmoid.

Sigmoidoscopic examination, with the patient in the knee-chest position.



Introduction of sigmoidoscope with obturator *just beyond the sphincter.*



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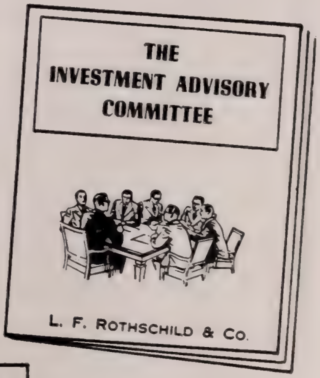

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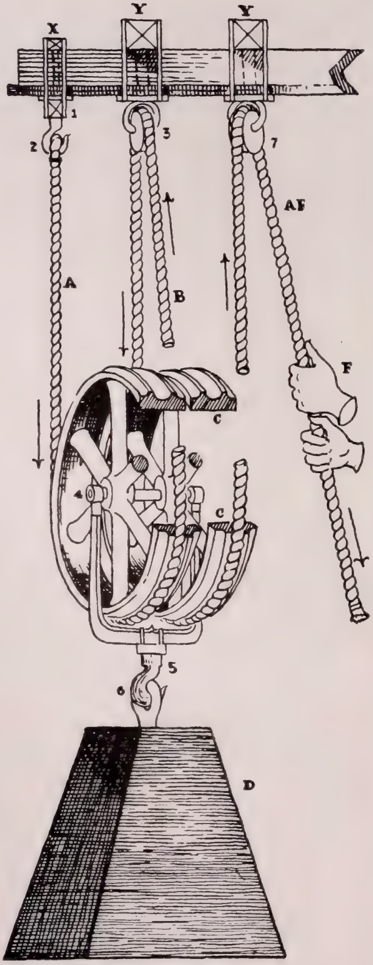

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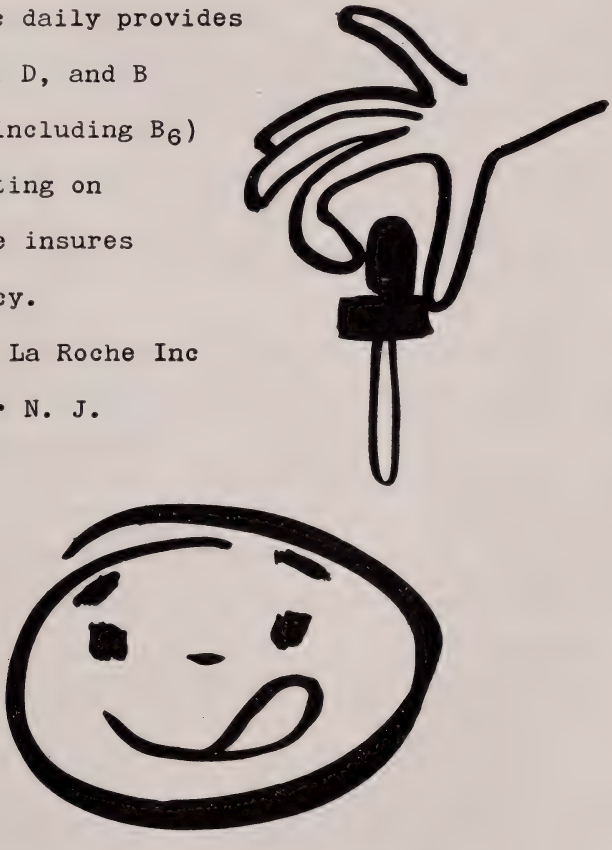

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EDITORIAL

Minutes of the House of Delegates, 1955

Once again the Publication Committee is pleased to bring to the membership the minutes of the House of Delegates at its 149th meeting, held in the Hotel Statler, Buffalo, New York, May 9 to 11, 1955, as Part II of the September 1 issue of the New York State Journal of Medicine. Yearly the detailed work of transcribing the material, its editing, and verifying commence immediately following the session. This onerous task is accomplished during the summer months by the secretary's office of the Society in conjunction with the editorial staff of the Journal. The systematic processing of such a large volume of material in addition to the ordinary routine business of both staffs is the result of long training and skill. Because of it the September 1 issue of the Journal, Part II, brings to the membership on time a complete transcript of the proceedings, accurate and well indexed, to be added to those volumes of previous years that form an invaluable historical record and reflect the continuing policy of the Society.

The membership is earnestly requested to preserve these minutes from year to year. If it becomes necessary, any member can find the origin, the action taken, and the disposition of any resolution. Except by attending the sessions of the House of Delegates, which it is the privilege of any member to do, there is no other way than by studying the proceedings by which a member can follow the fate of a resolution introduced by his own or another county society.

It is the hope of the Publication Committee that the membership will preserve the supplements from year to year for handy reference. Questions constantly arise as to the policy of the Society on many topics. By consulting the index in this volume, the answer may be found readily in the action taken by the House on the particular topic under consideration.

This volume is the official record. Much time and effort have gone into its preparation and distribution. Newer members of the Society, particularly, will, it is hoped, study it to familiarize themselves with the methods of procedure as well as the legislative content.

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Medical Society of the State of New York

HOUSE OF DELEGATES

MINUTES OF THE ANNUAL MEETING

May 9 to 11, 1955

THE 149th Annual Meeting of the House of Delegates of the Medical Society of the State of New York convened at the Hotel Statler, Buffalo, New York, on Monday, May 9, 1955, at 10:10 A.M.: Dr. Frederic W. Holcomb, *Speaker;* Dr. Frederick W. Williams, *Vice-Speaker;* Dr. W. P. Anderton, *Secretary;* Dr. Ezra A. Wolff, *Assistant Secretary.*

SPEAKER HOLCOMB: The House will please come to order.

I will now ask the secretary for a report from the Reference Committee on Credentials.

Section 1

Report of Reference Committee on Credentials

SECRETARY ANDERTON: Dr. McCarty will make the report, sir.

DR. CHARLES F. MCCARTY, *Kings:* There were 168 registered at 10 A.M.

SPEAKER HOLCOMB: Thank you, Dr. McCarty.

Mr. Secretary, are there no disputed delegations? All on the rolls are entitled to vote?

SECRETARY ANDERTON: Yes, sir.

SPEAKER HOLCOMB: I now declare the 149th Session of the House of Delegates open for the transaction of any business that may come before us.

Section 2

Memorial Observance

SPEAKER HOLCOMB: At this time I would like to pay tribute to our deceased members: Dr. Nathan Van Etten, Bronx, past-president, 1925–1926; Dr. George W. Kosmak, New York, formerly managing editor of the NEW YORK STATE JOURNAL OF MEDICINE and past treasurer and trustee, and the recent loss of one of our Bronx men, who has served the House for several years, Dr. Philip Ladin. I would like to ask the House to stand for a moment of silence in their memory.

. . . The members arose and stood for one minute with bowed heads in memory of their departed confreres . . .

Section 3

Invocation

SPEAKER HOLCOMB: We have always in the past opened our meeting with a prayer for divine guidance in our deliberations in the next few days and after that. The Right Reverend Monsignor Eugene Loftus, pastor of St. Mark's Church, of Buffalo, has very graciously consented to pronounce the invocation this morning. Monsignor Loftus.

RT. REVEREND MONSIGNOR EUGENE LOFTUS: Let us pray! Almighty and Eternal God, spoken by Thy revealed word, where two or more gather in Thy name Thy Spirit hovers in the midst of them, and whereas Thou hast also declared, "Ask and you shall receive," humbly we ask Thy inspiration upon the deliberations of this delegate body of this distinguished profession which is herein represented.

Give strength to our thinking, proficiency to our skill, and may Thou, who wast a Man of sorrows and suffering, also help us to conceive new methods by which we shall be able to sustain life and preserve living.

May Thou too, O Lord, help us as we bring better health to the entire world and to our own beloved nation to enable us to understand so that characters may be strengthened.

Make us worthy of the reward, exceedingly great, Thou hast reserved for those who love and those who serve.

We pray Thee for the living in this gathering. We remember, too, those who have departed, particularly those who were at the last session of this House of Delegates, so in the end as we live, so, too, we shall be taught how to die.

We ask this blessing in the name of the Father, the Son, and the Holy Ghost. Amen!

Section 4

National Anthem

SPEAKER HOLCOMB: The next on our order of business, ladies and gentlemen, is our National Anthem.

. . . The National Anthem . . .

Section 5

Approval of Minutes of the 1954 Session

SPEAKER HOLCOMB: The next on our order of business is the approval of the minutes of the 1954 session. These minutes have been published in Part II of the NEW YORK STATE JOURNAL OF MEDICINE of September 1, 1954. If there are no corrections, deletions, or objections, we will approve them as so published. Are there any objections or deletions? Do I hear any objections, deletions, or corrections to the minutes as published? If not, I declare them approved as published.

Section 6

Reference Committees

SPEAKER HOLCOMB: The appointments to the reference committees were published. We have had to make several changes. The corrected list follows:

CREDENTIALS

Charles F. McCarty, *Chairman*, Kings
John H. Wadsworth, Third District Branch, Schoharie
Henry J. Barrow, Bronx
E. Gordon MacKenzie, Dutchess
George F. Nevin, Cortland

PRESIDENT'S REPORT

Philip M. Standish, *Chairman*, Ontario
Dwight V. Needham, Onondaga
Meyeron Coe, Queens
John L. Edwards, Columbia
Philip D. Allen, New York

REPORTS OF SECRETARY, JUDICIAL COUNCIL, AND DISTRICT BRANCHES

Frank A. Gagan, *Chairman*, Dutchess
Joseph G. Zimring, Nassau
Charles W. Frank, Bronx
Roland E. Stevens, Monroe
Aaron Kottler, Kings

REPORTS OF TREASURER, TRUSTEES, BUDGET COMMITTEE, AND WAR MEMORIAL

Alfred P. Ingegno, *Chairman*, Kings
John F. Mosher, Albany
John F. Rogers, Ninth District Branch, Dutchess
George Himler, New York
Stephen A. Graczyk, Erie

PLANNING COMMITTEE FOR MEDICAL POLICIES

Christopher Wood, *Chairman*, Westchester
James M. Blake, Schenectady
John F. Kelley, Oneida
Benjamin M. Bernstein, Kings
Herbert Berger, Richmond

MALPRACTICE INSURANCE AND DEFENSE BOARD, LEGAL COUNSEL

Samuel Sanes, *Chairman*, Erie
Norton S. Brown, New York
Frank LaGattuta, Bronx
David W. Beard, Schoharie
Stanley B. Folts, Seneca

CONSTITUTION AND BYLAWS COMMITTEE OF COUNCIL

Joseph H. Cornell, *Chairman*, Schenectady
Clyde L. Wilson, Chautauqua
John G. Masterson, Kings
Harry P. Smith, Section Delegate, New York
Edward S. Platt, Cayuga

COUNCIL—PART I
POSTGRADUATE EDUCATION
MEDICAL DEFENSE
INHALATION THERAPY

Adelaide Romaine, *Chairman*, New York
George Burgin, Herkimer
Anthony A. Mira, Queens
Olin J. Mowry, Oswego
Charles H. Loughran, Kings

COUNCIL—PART II
PUBLIC HEALTH ACTIVITIES A: MATERNAL AND CHILD WELFARE, SCHOOL HEALTH

R. Scott Howland, *Chairman*, Chemung
William J. Orr, Erie
Peter G. Denker, New York
Waring Willis, Westchester
Thomas S. Cotton, Steuben

COUNCIL—PART III
PUBLIC HEALTH ACTIVITIES B: INDUSTRIAL HEALTH, RURAL MEDICAL SERVICE, GENERAL PRACTICE, PROBLEMS OF ALCOHOLISM

John M. Galbraith, *Chairman*, Nassau
Kenneth F. Bott, Greene
Abraham D. Segal, Kings
Norman C. Lyster, Chenango
Thomas R. Cummins, Essex

COUNCIL—PART IV
PUBLIC HEALTH ACTIVITIES C: CANCER, BLOOD BANKS, HEART DISEASE, MENTAL HYGIENE, FILM REVIEW

Frederick A. Wurzbach, Jr., *Chairman*, Bronx
Alfred Angrist, Queens
Harry Golembe, Section Delegate, Sullivan
Alfred L. George, Genesee
Frank J. McGowan, New York

COUNCIL—PART V
PUBLIC HEALTH ACTIVITIES D: PHYSICAL MEDICINE AND REHABILITATION, GERIATRICS, DIABETES, CEREBRAL PALSY, HARD OF HEARING AND THE DEAF

C. Stewart Wallace, *Chairman*, Tompkins
Herbert S. Ogden, New York
Donovan M. Jenkins, Monroe
Henry E. McGarvey, Westchester
Elton R. Dickson, Broome

COUNCIL—PART VI
ECONOMICS, PUBLIC MEDICAL CARE, MEDICAL LICENSURE AND MEDICAL SERVICE, HOSPITAL AND PROFESSIONAL RELATIONS, AD HOC COMMITTEE ON PRACTICE OF LABORATORY MEDICINE

Guy S. Philbrick, *Chairman*, Niagara
Robert Hewson, Orange
Robert F. Warren, Kings
Carl G. Merkel, Franklin
Sol Axelrad, Queens

COUNCIL—PART VII
MEDICAL CARE INSURANCE

William B. Rawls, *Chairman*, New York
Walter S. Bennett, Washington
Joseph A. Lane, Monroe
E. Kenneth Horton, Nassau
Joseph A. Wintermantel, Cattaraugus

COUNCIL—PART VIII
LIAISON WITH VETERANS ADMINISTRATION, AMERICAN MEDICAL EDUCATION FOUNDATION

Leonard J. Schiff, *Chairman*, Clinton
Richard P. Doody, Rensselaer
Sol Shlimbaum, Suffolk
Solomon Schussheim, Kings

Frank J. Borrelli, Section Delegate, New York

COUNCIL—PART IX
LEGISLATION

Samuel Z. Freedman, *Chairman*, New York
Thomas M. Watkins, St. Lawrence
Eugene F. Galvin, Ulster
Sydney L. McLouth, Eighth District Branch, Genesee
Charles Sandler, Bronx

COUNCIL—PART X
WORKMEN'S COMPENSATION

James A. Lynch, *Chairman*, Bronx
Harold W. Grosselfinger, Rockland
Gilbert M. Palen, Sixth District Branch, Delaware
Thomas H. McGavack, New York
John C. Brady, Erie

COUNCIL—PART XI
PUBLICATION, PUBLIC RELATIONS, HISTORY

Walter W. Street, *Chairman*, Onondaga
John E. Lowry, Queens
Floyd C. Bratt, Section Delegate, Monroe
Orin Q. Flint, Delaware
Edwin A. Griffin, Kings

COUNCIL—PART XII
CONVENTION, NURSING EDUCATION, WOMAN'S AUXILIARY, OFFICE ADMINISTRATION AND POLICIES, ETHICS, BELATED BILLS

E. Dean Babbage, *Chairman*, Erie
William T. Boland, Chemung
William E. Pelow, Onondaga
A. Wilbur Duryee, New York
Moses H. Krakow, Bronx

MISCELLANEOUS BUSINESS A

George J. Lawrence, Jr., *Chairman*, Queens
Edward P. Flood, Bronx
Arthur F. Gaffney, Oneida
Charles A. Prudhon, Vice-President, Jefferson
Peter M. Murray, New York

MISCELLANEOUS BUSINESS B

Walter T. Heldmann, *Chairman*, Richmond
Edward F. Shea, Ulster
George E. Anderson, Kings
Reid R. Heffner, Westchester
James H. Arseneau, Wayne

Miss Lewis, as I have stated in the past, will edit resolutions and will act in her always capable manner of clearing these resolutions to the various chairmen of the committees and to be sure that those are signed.

Again, I wish to ask the reference committees to be sure that their reports are signed when they are brought up for presentation to the House.

Section 7

Reference of Reports and Supplementary Reports

Secretary Anderton: Mr. Speaker, I move that reports and supplementary reports of officers, Council, Trustees, legal counsel, and district branches that have been published and distributed to the members of the House be referred to the respective reference committees without reading. I would also like to add to that further that the supplementary reports that are being handed in to the House today be similarly referred.

Dr. Samuel Z. Freedman, *New York:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 8 (See 135)

Secretary's Supplementary Report Regarding "Principles of Professional Conduct"

To the House of Delegates, Gentlemen:

Dr. Thurman B. Givan, chairman of the Council Committee on Questions of Ethics, has requested me to supply you with the following.

On October 14, 1954, the Council voted: ". . . that because the changes in the *Principles of Professional Conduct* have given rise to numerous questions by members of our profession in this State and because many of our members consider them to be ambiguous, this Council recommends to the county societies that these changes be not activated until the next meeting of the House of Delegates," referring to the changes voted in 1954, which are the following:

"1. Chapter I, Section 4, of the *Principles of Professional Conduct* reads as follows:

> Advertising
>
> '*Section 4.* Solicitation of patients, directly or indirectly, by a physician, by groups of physicians, or by institutions or organizations is unethical. This principle protects the public from the advertiser and salesman of medical care by establishing an easily discernible and generally recognized distinction between him and the ethical physician. Among unethical practices are included the not always obvious devices of furnishing or inspiring newspaper or magazine comments concerning cases in which the physician or group or institution has been, or is, concerned. Self-laudations defy the traditions and lower the moral standard of the medical profession; they are an infraction of good taste and are disapproved.'

"It is recommended that the following clarification be added:

> 'It should be understood that any medical care plan, company, or organization which advertises for subscribers and directs such subscribers to a restricted panel of physicians for medical care is advertising for the benefit of the physicians involved.'

"2. Chapter III, Article VI, Section 3, reads as follows:

> Contract Practice
>
> '*Section 3.* Contract practice as applied to medicine means the practice of medicine under an agreement between a physician or a group of physicians, as principals or agents, and a corporation, organization, political subdivision or individual, whereby partial or full medical services are provided for a group or class of individuals on the basis of a fee schedule, or for a salary or for a fixed rate per capita.

> 'Contract practice per se is not unethical. Contract practice is unethical if it permits of features or conditions that are declared unethical in these *Principles of Professional Conduct* or if the contract or any of its provisions causes deterioration of the quality of the medical services rendered.'

"It is recommended that in the first paragraph the words 'duly licensed' be inserted before the words 'physician' and 'physicians.'

"It is recommended also that the following sentence be added to the second paragraph:

> 'A contract with a hospital, organization, or political subdivision which is supported in whole or in part by public funds or by solicitation of private subscriptions, to diagnose and treat patients, is ethical only when such diagnosis and treatment is for a patient who is a public charge.'

"3. Chapter III, Article VI, Section 4, reads as follows:

> FREE CHOICE OF PHYSICIAN
>
> '*Section 4.* The right of the patient freely to choose his doctor must be preserved and maintained. Nothing in any individual or group method of practice must be permitted to interfere with this right.'

"It is recommended that the following clarification be added:

> 'Free choice of physician is defined as the unrestricted freedom of a patient to choose his own physician. The interjection of a third party who has a valid interest, or who intervenes between the physician and the patient, does not per se cause a contract to be unethical. A third party has a valid interest when, by law or volition, the third party assumes legal responsibility and provides for the cost of medical care and indemnity for occupational disability.
>
> 'If, however, the third party be an organization or corporation which agrees to provide medical and/or surgical services through the medium of individual or group practice, payment to the physicians under contract being either on an indemnity or a per capita basis, a requirement restricting choice of physician to either the individual or group practitioners under contract vitiates the subscriber's right to free choice of physician. This is against the best interests of the public and of the medical profession.'

"4. The following is a proposed additional section of Chapter III, Article VI:

> PRORATION OF FEES
>
> '*Section 7.* It is not unethical for a fee to be prorated between two or more physicians when such physicians actively participate in the rendering of medical and/or surgical care, and the fee therefore be commensurate with the services rendered; and the patient to whom such care shall have been rendered shall be advised of the participation and of the distribution of the fee through an itemized combined statement or separate statements. Such proration would be considered ethical if it was limited to instances where a contracted fee payment for a service has been made by an insurance company.' "

The last item above, "Proration of Fees," was made law in New York State in 1954.

Respectfully submitted,
W. P. ANDERTON, M.D., *Secretary*

Section 9 (See 84)

Supplementary Report of Judicial Council

To the House of Delegates, Gentlemen:

The Judicial Council of the Medical Society of the State of New York have completed hearings on the appeal of Dr. Godfrey E. Arnold from the decisions, findings, and recommendations of the Membership Committee, Comitia Minora, and membership of the Medical Society of the County of New York, in connection with the application of Dr. Godfrey E. Arnold for membership in the Medical Society of the County of New York.

The Judicial Council after reviewing the records, testimony, and evidence submitted in connection therewith, and after hearing counsel for the appellant and for the respondent, rendered the following decision:

1. The decision of the membership of the Medical Society of the County of New York made at a stated meeting of said society on January 24, 1955, in excluding Dr. Godfrey E. Arnold from membership in the said county society is reversed.
2. It is the further decision of the Judicial Council that the findings and recommendations of the Membership Committee and Comitia Minora of the Medical Society of the County of New York, recommending that Dr. Godfrey E. Arnold be admitted to membership in the said county society, is affirmed.
3. It is the further decision of the Judicial Council that the secretary of the Judicial Council is directed to transmit the aforesaid decision to the secretary of the Medical Society of the County of New York for action by the said society not inconsistent with the foregoing decision.

Respectfully submitted,
EDWARD T. WENTWORTH, M.D., *Chairman*

Section 10 (See 95)

Supplementary Report of the Council, Part III: Public Health Activities B, Industrial Health

To the House of Delegates, Gentlemen:

The Council Committee on Industrial Health has the following membership:

Peter J. Di Natale, M.D., *Chairman*	Batavia
Anthony A. Lanza, M.D.	New York City
Melvin N. Newquist, M.D.	New York City

We wish, at the beginning, to apologize for the length of this report. In order properly to acquaint the members of the Council and the members of the House of Delegates, it is necessary to review at this time the several actions of the Council, House of Delegates, Planning Committee, Industrial Health Committee, and Board of Trustees.

The report of the Committee on Public Health and Education presented to the Council at its meeting on April 10, 1952, contained a recommendation, "that a Council Committee on Industrial Health be established with the full prerogative of such a Council committee, set up according to the Bylaws of the Medical Society of the State of New York; also that a sufficiently large appropriation of funds be authorized to permit the employing of a full-time executive to carry out the work of this committee."

The Council approved this recommendation in principle and referred it to the Planning Committee for study.

Two reference committees made reports about this industrial health Council committee at the 1952 session of the House of Delegates.

1. Dr. Joseph Cornell, chairman, reporting: "The reference committee looks with favor on the recommendations of the president that there be established a Council Committee on Industrial Health. The reason stated in his report adequately substantiates the need for this . . . We recommend that the House support this action and refer it to the Council for further development."

2. The late Dr. Morris Weintrob, chairman, reference committee on workmen's compensation, reported approval, in principle, of the establishment of a Council Committee on Industrial Health.

The Planning Committee studied this problem, and because this could mean the establishment of another bureau, proceeded slowly and cautiously. Following comprehensive study, late in 1952 the Planning Committee recommended to the Council that a Council committee on industrial health be established with full Council committee authority, the understanding at that time being to carry out the intent of the Public Health and Education Committee's recommendations.

In December, 1952, the president, Dr. Wentworth, appointed the Council Committee on Industrial Health.

This committee, in reporting to the House of Delegates in 1953, stated in part:

"A. We are sure that our State Society should assume its proper place in this ever-increasing, important phase of the practice of medicine.

"B. Our State Society should take the initiative and not sit idly by while management and labor establish industrial health programs without consulting those that should be most vitally interested, organized medicine.

"C. We desire for the American worker the best medical care possible.

"D. Perhaps the most important part of this new program is the appointment of a competent experienced man, if possible, to head the bureau of industrial health.

"E. In New York State under the Workmen's Compensation Law, industrial medical practice plays an important role, and because of the free choice principle, which allows doctors to participate in industrial medical practice, it is very important that our State Society assume and maintain a more important role in carrying out its provisions.

"F. Therefore, in order to implement this important phase of medical practice, your committee wholeheartedly recommends to the House of Delegates the establishment of a bureau of industrial health with a full-time director and proper personnel to carry out adequately proper duties and functions of such a bureau."

The Reference Committee in 1953 in reporting stated: "Your committee approves the recommendation but also recommends that the Council study the feasibility and possibility of integrating such a bureau with the Society's Workmen's Compensation Bureau. It is our feeling that the possibility of having one director in charge of both departments but at the same time keeping the departments separate might lead to a more economical and just as effective means of operation, especially since it is estimated that the cost of this new bureau would be approximately $25,000. By combining such departments, the cost should not exceed $15,000, whereas it would be considerably higher if the new bureau was a separate department entirely." This report was accepted.

Following this the president, through the Council, asked the Committee on Industrial Health for a proposed plan for an industrial health bureau, including recommendations regarding director, such assistance or clerical help as it might need, and possibly a budget for the bureau's operation and, most important, to plan a program of activities for the bureau.

Consultations held in person and by letters with numerous leaders in industrial medicine and with representatives from the American Medical Association Council on Industrial Health aided us in our studies.

Following this, this Council Committee reported: "It was the consensus of opinion that a full-time director be employed, with a secretary; that is a minimum that will be needed. Proper space for the bureau to be allocated in Society's quarters. Salary of the director to be set by the Office Management and Policies Committee or Council or Board of Trustees. Salary must be geared to director's knowledge of industrial medicine, experience, and/or other qualifications that may be set up by the State Society."

Council amended the recommendations of the Committee on Industrial Health as follows: "That it be the consensus of opinion of this body that the Industrial Health Bureau and the Workmen's Compensation Bureau be under one director until such time as the need for two directors be shown."

Following this action of the Council, attempts were made to obtain a part-time man for the position of Industrial Health Director, but not much success was encountered, the main reason being salary or lack of same.

A meeting of the Industrial Health Committee was held, attended by your chairman and members Newquist and Lanza, with Drs. Mellen and Kaliski.

The committee suggested to the Council that a sum of $15,000 be used as a talking point in attempting to obtain a director. This suggestion was approved by the Council for action by the Board of Trustees.

The Reference Committee of the House of Delegates session of 1954, after stating that they spent a great deal of time with members of the referring committees and other interested parties, reported that the report of the Council Committee on Industrial Health and the supplementary report of the Board of Trustees on the Bureau of Industrial Health—they are much the same—and your reference committee approved them both and recommended their adoption with the recommendation that the director need not necessarily be a medical man.

We urge the reference committee to read the report of the Council Committee on Industrial Health in the April 1, 1954, New York State Journal of Medicine, pages 1009 and 1010. Supplementary report of the Board of Trustees on the Bureau of Industrial Health is also available and should be read.

It has been contended by some that the recommendation, "the director need not necessarily be a medical man," meant that only a nonmedical man was to be considered for part of director or assistant to director of the industrial health bureau. This is not the feeling of the Council Committee on Industrial Health. We feel strongly that an M.D. alone can best understand the problems of industrial health, education, workmen's compensation, etc. We strongly urge that an M.D. be employed if and when such employment takes place.

A subcommittee of the Planning Committee met on October 12, 1954, to discuss the problem of integrating the bureau of industrial health, Workmen's Compensation Bureau, and the Bureau of Medical Care Insurance. Much discussion took place, and it was finally unanimously agreed to recommend to the Council that the Bureau of Workmen's Compensation and the industrial health bureau be combined into one department and that an M.D. be its head. On this we also were strongly in accord.

This action was recommended to and approved by the Council, but this was apparently not enough. So, on October 28, 1954, Dr. Dan Mellen, president, appointed a special committee regarding the combining of the Workmen's Compensation Bureau and an industrial health bureau: P. J. Di Natale, chairman, Drs. Dattelbaum, Dorman, Kaliski, Mellen, and Anderton (ex officio), and Mr. Thomas Alexander, adviser.

There had been some preliminary consultations with Dr. Anthony Lanza, former chairman of the American Medical Association Council on Industrial Health, regarding the possibility of Dr. Lanza being employed on a part-time basis to get the industrial health bureau started, and he was agreeable to a salary of $5,000 per year on a part-time basis. Some correspondence had taken place, and a tentative agreement had been reached with Dr. Lanza.

Based somewhat on these preliminary negotiations with Dr. Lanza, the special committee on November 11, 1954, made the following recommendations to the Council. Dr. Peter J. Di Natale, chairman, stated:

> The integration of the Workmen's Compensation Bureau and the Industrial Health Bureau was originally referred to the Planning Committee. Instead Dr. Mellen appointed a special committee to study this matter, consisting of Dr. Di Natale, chairman, Dr. Anderton, Dr. Dorman, Dr. Mellen, and Mr. Alexander as adviser.
>
> A meeting was held yesterday morning at the Society's offices. It was felt that there should be one bureau combining the Industrial Health with the Workmen's Compensation Bureau and, of course, maintain the two Council committees, the one on industrial health and the other on workmen's compensation.
>
> We were asked to prepare for your consideration a budget, and the following is proposed.
>
> We are asking that a consultant on Industrial Health be appointed as an assistant to Dr. Kaliski, whose fee will be $2,500 for the first six months of the coming year. We are asking that this proposal be activated on January 1, 1955."

Dr. Di Natale then read the proposed budget:

Period Ended June 30, 1955

Item		
1.	Consultant (based on annual salary of $5,000)	$2,500
2.	Pamphlets and bulletins—printing	1,000
3.	Pamphlets and bulletins—postage	750
4.	Travel	1,000
5.	Telephone and telegraph	300
6.	Postage and express	100
7.	Stationery and supplies	250
8.	Insurance	50
9.	Payroll taxes	125
10.	Repairs and services	50
11.	Dues, subscriptions, books	100
12.	New equipment	400
13.	Sundry	100
	Total	$6,725

> The establishment of this bureau in cooperation with the Workmen's Compensation Bureau apparently is long overdue. The House has repeatedly voted for this bureau, and the Industrial Health Committee, along with the Planning Committee, has for two years and a half, I think, studied this problem. One of the items that the House of 1953 asked was that a pilot study be done patterned after the so-called Pennsylvania Plan or any other plan suitable to our needs and our resources. That has been in the foreground of our discussions repeatedly."

The special committee report was accepted by the Council. At last we felt that finally, after two and a half years, something was to be done about the Industrial Health Bureau.

However, we again were in for disappointment, and when Dr. Lanza was contacted for employment, it was found that while attending a meeting in Geneva, Switzerland, he became ill. It was decided to postpone employment until he could return to the United States of America.

On February 11, 1955, Dr. Lanza was advised by the Board of Trustees that because of the delay in initiating the proposed bureau of industrial health, there should be no employment in connection therewith at this time.

So again, on March 22, 1955, through the Board of Trustees came a letter from the secretary advising the Industrial Health Committee that on account of delay in employing a consultant for the industrial health bureau, there should be no employment at this time and the entire matter be referred back to the Council. Action in this matter was "deferred for one month and no longer," and it was stated "that we should have some very definite recommendations from the Industrial Health Committee as to what to do."

We, of the Industrial Health Committee, desire to make the following comments for your consideration:

1. We regret that the original recommendations of the Public Health and Education Committee have been so emasculated that they are hardly recognizable at this late date.

2. This House of Delegates approved recommendations that "pilot studies" on industrial health, modeled after the so-called "Pennsylvania Plan," in one or two counties of our State be conducted.

The Industrial Health Committee cannot and will not conduct "pilot studies" until proper personnel is available.

3. Dr. Kaliski stated at a Planning Committee meeting on February 9, 1955, page 122 of Planning Committee minutes of that date: "Anyway we are assisting the doctors in this State in collecting 40 million dollars a year under the Workmen's Compensation Law. I think that is a very large sum of money and that it is a conservative estimate of the amount of money that the doctors collect for the treatment of compensation claims each year."

Let us not forget that without industrial medical practice and the free choice principle, there would be no 40 million dollars in compensation medical fees.

We believe that the industrial health bureau should be the horse and not the cart of any plan to improve our industrial medical practices, for without industry there are no compensation medical fees.

Management and labor unions, either separately or together, are setting up health centers to furnish some type of medical care for their employes. In the vast majority of cases, perhaps all, no help is sought from organized medicine in setting up the same.

May we again sincerely apologize for the length of this report. We feel it was necessary to inform you properly as to what has been taking place. Believe us, much has been left out.

Respectfully submitted,
Peter J. Di Natale, M.D., *Chairman*
Council Committee on Industrial Health

Section 11 (See 128)

Report of the Special Committee to Study Hospital and Professional Relations

To the House of Delegates, Gentlemen:

Your Special Committee to Study Hospital and Professional Relations consists of the following:

Louis H. Bauer, M.D., *Chairman*	Rockville Centre
James Greenough, M.D., *Co-Vice-Chairman*	Oneonta
Harold F. Brown, M.D., *Co-Vice-Chairman*	Buffalo
Andrew A. Eggston, M.D.	Mount Vernon
John C. McClintock, M.D.	Albany
James R. Reuling, M.D.	Bayside
Floyd S. Winslow, M.D.	Rochester
Edward R. Cunniffe, M.D.	Bronx
Christopher Wood, M.D.	White Plains
W. P. Anderton, M.D., *ex officio*	New York City

The committee has held four meetings, two of them with representatives of the Hospital Association of New York State. These meetings were held in an atmosphere of utmost cordiality and a very apparent desire on the part of all to reach a solution of what has been a most vexatious problem for both the hospitals and the medical profession for many years.

As a result of these meetings your committee now recommends the adoption by this House of Delegates of the Agreement* entered into between your committee and the representatives of the Hospital Association of New York State.

While your committee has no illusions that the adoption of this Agreement will act as a "cure-all" for the present situation, nevertheless, it feels that it will go a long way toward removing friction and setting up a method of handling grievances. The Agreement is general in nature, but any agreement on a State level must be general, particularly at first. After we have had time to see how this method works, it may be necessary to develop an agreement in greater detail. Your committee is of the opinion that attempts should be made to solve the vast majority of problems on a local level and that only when such attempts fail, should there be resort to a higher level.

Your committee cannot urge too strongly that the House of Delegates formally ratify this Agreement. Such ratification by both organizations will, we believe, inaugurate an era of better relations between the medical profession and the hospitals with great benefit to the public. We also urge that patience be exercised by all since it will take time for the proposed system to function smoothly.

Because problems not envisaged at present which will involve policy decisions may arise, the committee recommends the establishment of a permanent joint committee of representatives of both organizations.

The resolution introduced in 1954 by Dr. Aaron Kottler, of Kings, was referred by the Council to this committee. This resolution advocated that the State Society institute legal action challenging the right of a hospital to practice medicine.

In view of the Agreement which has been reached and the fact that both parties to the Agreement feel that no legislative action should be taken at this time, the committee recommends that no action be taken on this resolution.

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* Wherever the word "Agreement" appears in this report, it refers to the "Proposed Agreement and Statement of Policy" between the Medical Society of the State of New York and the Hospital Association of New York State.

A resolution introduced by Dr. Himler, of New York, in 1954 and referred to this committee recommended that the State Society enter into negotiations with those hospitals engaged in the practice of medicine in an effort to bring about discontinuation of such practice as rapidly as possible.

In view of the Agreement which has been reached with the Hospital Association, the committee feels that no further action is warranted at this time and that the resolution should be tabled until after the result of the new agreement becomes apparent.

A resolution on tenure of staff appointments introduced by Dr. Brown, of Monroe, in 1953 was also referred to this committee. In view of the section in the Agreement relative to medical staff tenure, the committee feels that no action on this resolution is necessary at this time.

A resolution was introduced by Dr. Wolff of the First District Branch in 1954 and was referred to this committee. This resolution requested the State Society to take appropriate action to cause cessation of the custom in certain New York City hospitals whereby fees received from compensation cases and voluntary insurance organizations are diverted to the hospitals instead of being paid to the physicians rendering the services.

The committee has not had opportunity to study this resolution but has devoted its time to perfecting a general agreement with the Hospital Association. The general agreement between the Medical Society and the Hospital Association may help to solve the problem raised in this resolution to a certain extent, but how much cannot yet be foreseen. Hence, the committee recommends that further study be given this resolution by the Council after the proposed Agreement has had proper opportunity to demonstrate its effectiveness.

We wish to express our thanks to the representatives of the Hospital Association of New York State, who collaborated with us in drafting this Agreement.

The Agreement is attached hereto.

Respectfully submitted,
LOUIS H. BAUER, M.D., *Chairman*

Proposed Agreement and Statement of Policy between the Medical Society of the State of New York and the Hospital Association of New York State

The representatives of the Medical Society of the State of New York and the Hospital Association of New York State have agreed on the following:

The six principles agreed upon by the House of Delegates of the American Medical Association and the House of Delegates of the American Hospital Association in 1953 are accepted in their entirety by both groups (*see Appendix A*).

They also agree to the following principles:

FISCAL RELATIONS OF PHYSICIANS WITH HOSPITALS

A. The practice of anesthesiology, pathology, physical medicine, and radiology are the practice of medicine. The staff appointments and reappointments of these specialists shall be governed by the same principles as the appointments and reappointments of other staff members.

B. The financial arrangements, if any, between a hospital and a physician properly may be placed on any mutually satisfactory basis, but a physician shall not dispose of his professional services to any hospital, lay body, organization, group, or individual by whatever name called, or however organized, under terms or conditions which permit exploitation of the patient, the hospital, or physician.

C. The above principles shall apply in all cases, whatever the purpose of the financial arrangement may be, including the remuneration of a physician for teaching, research, and charitable services.

D. The chief of a hospital department shall have an opportunity to obtain financial reports regarding the operation of his hospital.

MEDIATION PROCEDURE

1. Any member of a hospital staff who feels that he has a grievance against his hospital shall first attempt to obtain adjustment of the situation within the institution through the administrator, the medical staff, and the governing body. Failing in this, he shall be free to present his case before the Joint State Committee mentioned below, without prejudice to his position in the hospital.

2. The administrator of any hospital shall similarly be free to present any grievance against a staff member to the Joint State Committee without prejudice to his position as an administrator, provided he has failed to obtain adjustment of the situation within the institution through the medical staff and the governing body.

3. The Joint State Committee shall consist of two members from the Medical Society of the State of New York who shall be appointed by the president of that Society, and two members from the Hospital Association of New York State, who shall be appointed by the president of that association. These four shall select a fifth member who shall be chairman. He shall be neither a physician, a hospital administrator, nor a member of a hospital governing body. The decision of this committee shall be reported to both parent bodies and shall be final unless and until provision is made for appeal to the national level.

PERMANENT POLICY COMMITTEE

There shall be established a Permanent Policy Committee of the two organizations to consider matters of policy and any other matters not properly falling within the purview of the Joint State Committee established to handle mediation.

HOSPITAL MEDICAL STAFF TENURE

Appointments and reappointments of hospital medical staffs shall be governed by the Rules and Regulations of the Joint Commission on Accreditation of Hospitals (*see Appendix B*). Pending issuance of regulations of revocation of appointments by this same commission, complaints shall be handled in the same manner as provided under the section on "Mediation Procedure" in this Agreement.

Approval of these recommendations by the Medical Society of the State of New York and by the Hospital Association of New York State will mean that each organization will use its influence to secure their adoption and practice in good faith by all members of the Medical Society of the State of New York and by all hospitals in the Association.

Pending consideration of these recommendations by the respective governing bodies of the two organizations, each organization is urged to refrain from any legislative action. The representatives of both groups are of the opinion that the problems concerned cannot be satisfactorily solved by legislation and that to attempt to enact any such legislation at this time would jeopardize any agreement between the two bodies.

For the Medical Society of the State of New York

Louis H. Bauer, M.D., *Chairman*
James Greenough, M.D., *Co-Vice-Chairman*
*Harold F. Brown, M.D., *Co-Vice-Chairman*
Edward R. Cunniffe, M.D.
Andrew A. Eggston, M.D.
John C. McClintock, M.D.
James R. Reuling, M.D.
Floyd S. Winslow, M.D.
Christopher Wood, M.D.
W. P. Anderton, M.D., *ex officio*

For the Hospital Association of New York State

Bernard A. Watson, M.D., *Chairman*
James A. Bordley, III, M.D.
J. Russell Clark
August Groeschel, M.D.
Arnold A. Karan, M.D.
William Kelly, M.D.
Fraser D. Mooney, M.D.
Christopher Parnall, Jr., M.D.
Charles M. Royle

APPENDIX A

Principles agreed upon by a Joint Committee on Hospital-Physician Relationships of the Boards of Trustees of the American Medical Association and the American Hospital Association, March 21, 1953.

Approved by the House of Delegates of the A.M.A. June 3, 1953.

Approved by the House of Delegates of the A.H.A. August 30, 1953.

1. The general purpose of hospitals and physicians is to aid each other in the delivery of the best possible medical care to patients. To attain such a purpose requires full cooperation among medical staffs, governing boards, and administrative heads of hospitals. One important method of attaining this objective is that duly designated representatives of the medical staff shall have free and direct access to the governing board with due consideration to the position of the administrator as chief executive officer of the hospital. The various methods by which the medical staff may have access to the hospital governing board follow. These methods are not listed in the order of their desirability, and there may be other acceptable liaison plans developed depending upon local conditions.

(*a*) The executive committee of the medical staff and a committee of the governing board with the hospital administrator can serve as a joint committee.

(*b*) Representatives of the medical staff can serve as members of the medical staff committee of the governing board with the hospital administrator.

(*c*) Representatives elected by the medical staff can attend meetings of the hospital governing board.

(*d*) Members of the medical staff can be members of the hospital governing board.

2. The professional evaluation of chiefs of service and members of the medical staff should be the responsibility of the medical profession. The method of selection of these individuals must be subject to local arrangement and local conditions. In any such arrangement, however, the principle of the freedom of the staff to make recommendations, subject to the approval of the hospital governing board, should be recognized.

3. The medical profession and the hospitals recognize that certain special services, such as anesthesiology, pathology, radiology, and physical medicine, are integral parts of the practice of medicine and of the services necessary for hospital patients. Physicians in these fields should have the professional status of other members of the medical staff. Chiefs in these specialties must assume also the administrative responsibilities and relationships customarily associated with such positions.

4. The right of an individual to develop the terms of his services on the basis of local conditions and needs is recognized, but such contractual arrangements should in all cases ensure (*a*) the policy of professional incentive for the physician and (*b*) progressive development of the hospital departments involved, in order that increasingly improved services to patients may be rendered. Moreover, a physician shall not dispose of his professional attainments or services to any hospital, lay body, organization, group, or individual, by whatever name called, or however organized, under terms or conditions which permit exploitation of the patient, the hospital, or the physician.

5. The chief of a hospital department may have access to financial information regarding his department.

6. It is desirable that means should be provided at local, state, and national levels for review of problems of individual hospital-physician relationship by organized medical and hospital groups.

APPENDIX B

Excerpt from Bylaws, Rules and Regulations Suggested by the Joint Commission on Accreditation of Hospitals

HOSPITAL MEDICAL STAFF TENURE

Section 1. Qualifications

The applicant for membership on the medical staff shall be a graduate of an approved medical school, legally licensed to practice in the State of New York, qualified for membership in the local medical society, and practicing in the community or within a reasonable distance of the hospital.

Section 2. Ethics and Ethical Relationships

The code of ethics as adopted by the American Medical Association and the American College of Surgeons shall govern the professional conduct of the members of the medical staff. Specifically, all members of the medical staff shall pledge themselves that they will not receive from nor pay to another physician, either directly or indirectly, any part of a fee received for professional services.

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* Dr. Harold Brown dissents from Item B of "Fiscal Relations."

SECTION 3. TERMS OF APPOINTMENT

Subsection 1. Appointments shall be made by the governing body of the hospital and shall be for the period of one year or until the end of the fiscal year of the hospital. At the end of the fiscal year the governing body of the hospital may reappoint all members of the medical staff for a further period of one year, provided the medical staff has not recommended that any specific appointment shall not be renewed. In such case all other reappointments may be made.

Subsection 2. In no case shall the governing body take action on an application, refuse to renew an appointment, or cancel an appointment previously made without conference with the medical staff.

Subsection 3. Appointment to the medical staff shall confer on the appointee only such privileges as may hereinafter be provided.

SECTION 4. PROCEDURE FOR APPOINTMENT

Subsection 1. Application for membership on the medical staff shall be presented in writing, on the prescribed form, which shall state the qualifications and references of the applicant and shall also signify his agreement to abide by the bylaws, rules, and regulations of the medical staff. The application for membership on the medical staff shall be presented to the administrator of the hospital who shall transmit it to the secretary of the medical staff.

Subsection 2. At the first regular meeting thereafter the secretary shall present the application to the medical staff, at which time it shall be either recommended for rejection or referred to the credentials committee.

Subsection 3. The credentials committee shall investigate the character, qualifications, and standing of the applicant and shall submit a report of findings at the next regular meeting of the medical staff or as soon thereafter as possible, recommending that the application be accepted, deferred, or rejected. In no case shall this report be delayed for more than three months.

Subsection 4. When determining qualifications, the credentials committee shall also assign privileges in accordance with the following:

1. Classification of Privileges: Privileges granted to physicians who have been appointed to the medical staff shall be recommended by the credentials committee.

2. Determination of Privileges:

(*a*) The determination of initial privileges shall be based upon the applicant's training, experience, and demonstrated competence.

(*b*) Determination of extension of further privileges shall be based upon the applicant's training, experience, and demonstrated competence which shall be evaluated by review of the applicant's credentials, direct observation by the active medical staff, and review of reports of the medical records and tissue committees.

Subsection 5. On receipt of the report of the credentials committee, the medical staff shall immediately recommend to the governing body that the application be accepted, deferred, or rejected and, if accepted, the privileges to be granted.

Subsection 6. The recommendation of the medical staff shall be transmitted to the governing body of the hospital through the administrator.

Subsection 7. The governing body shall either accept the recommendation of the medical staff or shall refer it back for further consideration stating the reasons for such action.

Subsection 8. When final action has been taken by the governing body, the administrator of the hospital shall be authorized to transmit this decision to the candidate for membership and, if he is accepted, to secure his agreement to be governed by these bylaws, rules, and regulations.

SECTION 5. EMERGENCY AND TEMPORARY PRIVILEGES

Subsection 1. In case of emergency the physician attending the patient shall be expected to do all in his power to save the life of the patient, including the calling of such consultation as may be available. For the purposes of this section an emergency is defined as a condition in which the life of the patient is in immediate danger and in which any delay in administering treatment would increase the danger.

Subsection 2. The administrator of the hospital after conference with the chief of staff shall have the authority to grant temporary privileges to a physician who is not a member of the medical staff. The chief of staff shall give an authoritative opinion as to the competence and ethical standing of the physician who desires such temporary privileges, and in the exercise of such privileges he shall be under direct supervision of the chief of staff. Temporary privileges may not be granted to attend more than four patients in any one year, after which the physician to whom temporary privileges have been granted shall be required to become a member of the medical staff before being allowed to attend additional patients.

Section 12 (See 123)

Supplementary Report of the Council, Part XI: Public Relations

To the House of Delegates, Gentlemen:

The following is a supplementary report of the Subcommittee on Cooperation with Media of Information of the Council Committee on Public Relations, appointed by the president to draw up a code of cooperation between the medical profession, the press, radio, TV, and photographers. The subcommittee consists of the following:

John C. McClintock, M.D., *Chairman*	Albany
Henry I. Fineberg, M.D.	Jamaica
John D. Naples, M.D.	Buffalo

As the result of discussions between the subcommittee and representatives of radio, the press, TV, photographers, and other groups, two services were organized for the benefit of the media of public information. Through the cooperation of Dr. Theodore J. Curphey, chairman, Council Committee on Public Health and Education, an arrangement has been made whereby the names of authoritative consultants in all fields of medicine are provided for the use of the director of the Bureau of Public and Professional Relations. Requests for information reaching the bureau are channeled to appropriate doctors, who can be quoted by name if necessary. An increasing number of such requests have been received by the bureau since the publication of the Guide.

Those who write for magazines indicated the desirability of having a board of review to check the accuracy of scientific articles prepared for lay magazines. Through the efforts of Dr. Henry I. Fineberg, subcommittee member, the executive committee of the Coordinating Council of the Five County Medical Societies in Metropolitan New York City has created a Medical Article Review Board. Requests for reviews of manuscripts are referred to the director of the Bureau of Public and Professional Relations, who in turn obtains a review on medical or scientific accuracy of the manuscripts from a member or members of the review board. In the interest of good public relations, this board must never alter text, even though it be critical of the profession. Its sphere of influence, however, should be apparent if its function is strictly followed.

In keeping with the promise made in the original issue of the Guide, that it would be "reviewed and renewed annually or more often if necessary," in March of this year the subcommittee held a series of meetings with representatives from the media of public information, hospital association, and representatives from the State Medical Society. The hypercritical attitude of the press generally was not only absent this year, but it was unanimously agreed that a major advance had been achieved in the solution of mutual problems. The subcommittee humbly rejoiced over the following requests:

1. Help from physicians in persuading hospitals to provide lists of official spokesmen for the press. Such aid immediately was promised by representatives of the hospital associations.
2. Cooperation of the medical profession in having doctors observe and then constructively criticize the many radio and television programs dealing with health and medicine that are broadcast and telecast today.
3. Assistance to the press in its effort to create an atmosphere in which it might find solutions to similar problems with other groups.

These incidents are cited to indicate that a willingness to work together and intelligent compromise of difference within the ethics of both groups, if pursued diligently, can result in better understanding of mutual problems, to the end that combined service to the public may be augmented.

It is of the utmost importance that the Guide be reviewed and renewed annually by conferences with representatives from the many facets of the news gathering and disseminating organizations. To accomplish this the Subcommittee on Cooperation with Media of Information of the Council Committee on Public Relations should be continued. Its budget is essential to successful fruition of its objectives.

The program of educating the medical profession to fulfill its obligations and responsibility under the Guide must continue. The services of the Public and Professional Relations Bureau of the State Society are invaluable in this regard.

Consultations with the Council Committee on Public Health and Education are desirable to broaden the scope and increase the effectiveness of the services provided for the media.

Mutual respect and understanding have reached a point where constructive criticism can safely be made by the medical profession. Examples of the dereliction of the press or of unfavorable articles are, therefore, requested by the subcommittee. Sound and reasonable suggestions must be a part of every such critique.

Respectfully submitted,
FLOYD S. WINSLOW, M.D., *Chairman*

Section 13 (See 89)

Report of the Planning Committee for Medical Policies

To the House of Delegates, Gentlemen:

The makeup of the Planning Committee for the current society year, 1954–1955, is as follows:

Peter J. Di Natale, M.D., *Chairman, Eighth District Branch*......................Batavia
*Frederick A. Wurzbach, Jr., M.D., *First District Branch*............................Bronx
Charles C. Murphy, M.D., *Second District Branch*........................Bay Shore
Edward F. Shea, M.D., *Third District Branch*.....................................Kingston
Leonard J. Schiff, M.D., *Fourth District Branch*...............................Plattsburgh
Arthur Gaffney, M D., *Fifth District Branch*..Clinton
Norman S. Moore, M.D., *Sixth District Branch*.......................................Ithaca
Theodore B. Steinhausen, M.D., *Seventh District Branch*........................Rochester
John F. Rogers, M.D., *Ninth District Branch*...................................Poughkeepsie
Dan Mellen, M.D., *President*............Rome
Renato J. Azzari, M.D., *President-Elect*...Bronx
W. P. Anderton, M.D., *Secretary*.New York City
Frederic W. Holcomb, M.D., *Speaker*...Kingston
Walter W. Mott, M.D., *Trustee*....White Plains
John J. Bourke, M.D., *Adviser*..........Albany

This is the twelfth annual report of this committee, the fifth by the present chairman. The previous chairmen have been Drs. Louis H. Bauer and J. Stanley Kenney.

The Planning Committee is a special committee of the House of Delegates, and that body sets up the personnel of this committee. One member is selected by each district branch and the other members are president, president-elect, secretary, speaker, and one trustee.

The Planning Committee was originally set up with the specific purpose of developing long-range policies for our State Society.

The committee was to consider among other things:

1. The distribution of physicians.
2. Educational requirements for licensure.
3. Voluntary insurance plans for decreasing the costs of medical care.
4. Socializing influences.
5. Relationships of the medical profession with government agencies, commercial laboratories, and vendors concerned with any phase of medicine.

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*As of February 18, 1955.

6. The relationship of hospitals and the practice of medicine.

7. Relationship with and the status of the nursing profession.

8. Such other matters as the committee deems important from the standpoint of protecting the public and the medical profession from attempts to bring about inadequate medical care and unwarranted interference by outside agencies, with the practice of medicine.

From the stated eight points one can readily see that a goodly number of the problems confronting the medical profession are in the forefront in the studies and discussions of your State Society.

We of the Planning Committee earnestly urge that any member of the State Society, through his local county or district society, who has any constructive ideas about long-range medical policies, please forward them (ideas) to secretary, Dr. W. P. Anderton. Suggestions will be given due consideration and study.

Again let us state that many meetings have been held by the Planning Committee since its formation; many topics have been discussed, and in the State Medical Society's office copies of the minutes of those meetings can be inspected.

The Planning Committee, this current Society year, has held three meetings. An attempt is made to have as few meetings as possible and still accomplish work assigned or planned. This may not be possible at all times, and perhaps more meetings may be necessary in the future. District meetings can be held, and/or more subcommittee meetings can be held to accomplish and complete studies.

This current Society year your Planning Committee has considered the following:

1. Approval or suggestions for change in the constitution and bylaws of the "Joint Commission in New York State for the Improvement of Care of the Patient."

2. Integration of county, State, and A.M.A. dues and memberships.

3. Referred by Council: "The proposal regarding the integration of the Bureau of Medical Care Insurance, the Bureau of Workmen's Compensation, and the Industrial Health Bureau."

4. Referred by Council: "That the Planning Committee take up the possibility of increasing memberships through contact with the county societies."

5. Study and report on the "Committees of this State Society. It was understood that this study would be undertaken from the standpoint of the number of committees, the size of committees, the expense of committees, etc."

6. Later in the Society year, February 23, 1955, "advisability of changing the age of eligibility for retired membership's status in the State Society and county society from seventy to sixty-five years was referred to the Planning Committee for study."

Subject 1.—Your Planning Committee studied the constitution and bylaws of the Joint Commission in New York State for the Improvement of Care of the Patient, copy of which is on file with the secretary. After studying the constitution and bylaws, the committee made the following report to the Council, which report was accepted: "That the State Medical Society's function is primarily to approve or disapprove constitution and bylaws of constituent county medical societies or district branches. We can and do approve only in principle but have no definite recommendations for any changes; that is not our function. We too approve purposes, objectives of the Joint Commission. We desire to aid interested organizations in promoting good medical care."

Subject 2.—Your Planning Committee wishes to note that throughout the A.M.A. and constituent associations there are listed 32 various names for membership classifications. As can be seen, much difficulty will naturally arise in integrating these various associations; as far as membership reclassification, considerable study need be done without arbitrarily setting up only several classifications and state that we wish all to comply with these several classifications.

In the various county societies of our State, there are about 13 types of memberships: active, associate, honorary, junior, life, retired, corresponding, hospital, resident, intern, student, senior, and members. It would seem that right in our own State Society some study need be done to get some uniformity in membership classification. We realize the problems involved; for example, in a large county many various designations may be a necessity, and those same designations would not be needed in a small county.

In our State Society we have four classifications: active, retired, junior, and honorary. Some felt that these four are all that are necessary.

The A.M.A., in pamphlet of November 28, 1953, states in attempting to clarify eligibility of A.M.A. memberships:

> It is suggested that (1) the term "active member" be adopted by the constituent associations to designate the dues-paying member who has the right to vote and hold office; that (2) the term "emeritus member" be used for the member who pays no dues, or pays reduced dues, but retains the right to vote and hold office; that (3) the term "associate member" then be reserved by the constituent association for dues-paying members who do not have the right to vote and hold office; and (4) possibly the term "affiliate member" be used to designate the remaining nonpaying classifications, such as nonresident members and distinguished out-of-state physicians who cannot vote and hold office. The physicians in groups 3 and 4 would be eligible only to associate membership in the A.M.A.
>
> Obviously, the foregoing proposal is not so easy to adopt as it sounds. Some of the classifications have been in use for decades and have meaningful connotations to the medical profession in the area. Nevertheless, it is hoped that each constituent association will carefully consider this proposal in the light of providing the greatest good to the greatest number and actively participate in the movement to standardize membership terminology.

Study is continuing and the above is for information only at this time.

Subject 3.—Regarding the integration of the Bureau of Medical Care Insurance, Bureau of Workmen's Compensation, and the Industrial Health Bureau, following study your Planning Committee recommended that the Bureau of Workmen's Compensation and the Industrial Health Bureau be integrated into one department. We feel that these bureaus have much in common. Your Planning Committee believes further and recommended to the Council that an M.D. should be at the head of the combined bureaus. We feel that only an M.D. competent in industrial medical practice, if possible to obtain such an individual, can properly represent us in medical compensation practice, in educational activities for industry, labor, and the medical profession.

Your chairman believes that for the combined bureaus, if possible in the future, a physician with sufficient industrial medical background and an attorney with experience in handling compensation medical procedures could be to our advantage. This latter belief bears some further study, perhaps when the financial situation of our Society has improved.

Your Planning Committee believes that the Bureau of Medical Care Insurance has nothing in common with the Bureaus of Workmen's Compensation and Industrial Health and should not be combined in this setup.

This House of Delegates has previously affirmed the desire to combine the Bureaus of Industrial Health and Workmen's Compensation.

Subject 4.—"That the Planning Committee take up the possibility of increasing memberships through contact with the county medical societies."

It has been reported that there are approximately 32,000 physicians practicing in New York State; only about 23,800 are members of the Medical Society of New York State; of the latter about 17,800 are members of the A.M.A.

We of the Planning Committee believe that only on a local county level can real work be done to increase membership.

We believe that at the county level alone can information be obtained as to who does not belong to his county medical society and perhaps why he does not belong.

Are the nonmembers in Government service such as the V.A.? Are the nonmembers in service in public health activities or in service in State hospitals or other State institutions?

We feel that it is each local county society's duty and responsibility to educate and stimulate interest of members in medical society activities. At the same time nonmembers could also be contacted and invited to attend meetings of organized medicine.

The State Society too can continue county society ideas to educate the members and nonmembers as to value of belonging to the organized medical profession.

Should membership in the A.M.A. be made compulsory for county and State members? As was noted previously, about 6,000 State Society members are not members of the A.M.A.

This merits considerable discussion and study. We recommend this study. We realize its problems.

Subject 5.—"Study of committee setup of our Society from the viewpoint of the number, size, and expense of these committees, etc."

For many years past, various presidents of our Society have spoken about the committee setup of our Society. Various committees have talked about size, expense, etc. From time to time committees have been added to. There never seem to be deductions. Committees get bigger and bigger. Activities and expenses necessarily increase.

Your Planning Committee has attempted to obtain information and suggestions from members of our Society. Each president and secretary of all component county societies received a letter from the committee asking for suggestions about our State committee setup.

Committee chairmen and subchairmen were asked for ideas and suggestions.

Your committee has received a number of answers from the various individuals. These answers have not been completely analyzed at this time. Much time will be needed.

Your committee had appear before it representatives from the Legislation Committee, Workmen's Compensation Committee, Public Health and Education Committee, Public Relations Committee, and from the business office for information about the JOURNAL and the *Directory.* We feel that these are the most expensive of our committee setup.

We of the Planning Committee are desirous of obtaining suggestions and ideas from all the delegates who care to give to our committee comments about the above committees mentioned and any other committee of our State Society.

We feel that much discussion about the State Society activities takes place at county society meetings, in doctor's room at most hospitals of our State, etc. Here is an opportunity for each delegate to voice his opinion, give his ideas about affairs of our Society. We urge you to present your ideas to the chairman of the Planning Committee, either in person or by mail, or to the secretary, Dr. Anderton. Your suggestions will be given the utmost consideration.

Subject 6.—The "advisability of changing the age of eligibility for retired membership status in the State Society and county society from seventy to sixty-five years."

This matter was received late in the Society year, and at this time your Planning Committee has no report to make. Study will continue.

Your Planning Committee also discussed communication from Monroe County: "That the Planning Committee on Medical Policies study the possible revisions of representation at the A.M.A. level which would tend to make Society representation more compatible with county and regional autonomy."

At the present time we have 18 delegates. The apparent solution is two from each district. But we believe that it is not that simple. With 61 county medical societies, the solution is not so easy.

Your Planning Committee feels that the present method of electing delegates—the Nominating Committee selecting 18 and the highest nine are delegates and the remaining nine alternate delegates, and nomination allowed from the floor and then voting by ballot by the delegates—is the most feasible at this time. However, we feel that study of the problem can be undertaken because from the available list of delegates for 1955 and 1956, only four out of 18 are listed as delegates from upstate so called, and much comment is received about this.

I wish to express sincere thanks to Dr. W. P. Anderton, his staff, Mrs. Grimm, and members of the Planning Committee who attended meetings and helped in any way possible.

Respectfully submitted,
PETER J. DI NATALE, M.D., *Chairman*

Section 14 (See 82, 83)

Supplementary Report of the Secretary

To the House of Delegates, Gentlemen:

At its meeting on April 12, 1955, the Council voted two new items of policy regarding legal defense against malpractice suits and claims against members who do not carry malpractice liability insurance.

Chapter I, Section 2(b), of the Bylaws of our Society states: "A member whose dues and assessments are unpaid after May 31 of any current year is not in good standing. He is in arrears for dues. He has lost his right to malpractice defense by counsel of the Medical Society of the State of New York for any acts upon which suit may be predicated during the period of his arrearage. This last is not recoverable, even when he becomes reinstated. Immediately upon payment of dues during the current year, his right to malpractice defense by counsel of the Medical Society of the State of New York shall be restored from that date."

The Council voted (1) that "we should make every effort to charge the individual with out-of-pocket expenses for the defense of this case if he is not insured," and (2) that "if an uninsured member has more than three cases against him, his name be referred back to the Malpractice Insurance and Defense Board for appropriate action."

Since last reporting to the Council, your secretary has busied himself with his usual duties, such as supervising preparations for the annual meeting, with the help of Dr. John H. Iselin, Jr., conducting correspondence, and the secretary has attended a meeting of the Board of Trustees, several committee and subcommittee meetings, and with Dr. Walter W. Mott, trustee, represented our Society at the annual meeting of the Connecticut State Medical Society at Stratford, Connecticut, April 26. Your secretary substituted for President Mellen at a dinner in honor of Dr. William Bierman given by the Society for Physical Therapy and Rehabilitation of New York City, the following evening.

Executive committee meetings of the Second, Third, and Ninth District Branches have commenced plans for the fall meetings. Other district branch executive committee meetings should be scheduled in the near future.

Respectfully submitted,
W. P. ANDERTON, M.D., *Secretary*

Section 15 (See 104, 143)

Supplementary Report of the Council, Part IX: Legislation

To the House of Delegates, Gentlemen:

Since submitting the annual report on January 15, 1955, in order that it would be printed in the JOURNAL on April 1, the Committee and the Legislation Bureau have been very active.

On February 10 and March 11 the Special Subcommittee of Psychiatrists, Drs. Harold R. Merwarth, Curtis T. Prout, and Irving K. Sands, met with Dr. Carrol V. Newsom, Associate Commissioner of Education; Dr. James A. Brussell, Assistant Commissioner of Mental Hygiene; and four psychologists, Drs. Harry Bone, Stewart A. Cooke, Raymond A. Katzell, and Herbert Zucker. The chairman of the Legislation Committee was also present, and Dr. Anderton attended one of the meetings.

A proposed bill to license psychologists was discussed and finally drawn up in a form satisfactory to all those present. It is attached hereto. This bill, which will probably be introduced in the 1956 Legislature, would license psychologists with adequate training and, it is believed, would do much to correct the abuses now present in the practice of psychology. Great appreciation is due to the Subcommittee of Psychiatrists who devoted much time and thought to the matter under discussion. With their cooperation and approval the Medical Society should feel that its interests have been thoroughly considered. I wish to thank Drs. Merwarth, Prout, and Sands for their assistance in this controversial subject.

The executive committee, Drs. Kottler, Lawrence, Lochner, Lynch, and Greenough, met for four hours in Albany, February 27, with Dr. Mellen, Dr. Anderton, Dr. Harold B. Smith, and Mr. Beasley to discuss the legislative situation. No meeting of the entire Committee on Legislation was held during the session. There were few, if any, controversial matters to discuss, and, therefore, with the consent of the committee the expense of such a meeting and the inconvenience to the members were avoided. Constant communication was maintained with the members, and the program received their hearty cooperation. Each member promptly furnished assistance whenever asked.

Activities of the committee for the study of the laws relating to the disposition of dead bodies and the long-range study of the Medical Practice Act had to be suspended during the legislative session due to press of work.

Your chairman participated in the meetings of the Special Committee on Hospital and Professional Relations, headed by Dr. Louis Bauer, with representatives of the Hospital Association whose report and proposed agreement will be presented to the

House of Delegates. The proposed agreement would appear to be a long step toward settling many of the points of disagreement and far better than attempts at correction by legislation.

The following is a report of the results of the legislative program of 1955:

The Committee caused the introduction of seven bills as directed by the House of Delegates and one bill suggested and requested by the Eighth District Branch and the Medical Society of the County of Erie:

S1166.—To amend the insurance law so that prepayment medical care plans must allow free choice of physician or dentist.

S981; A1559.—To amend the insurance law to allow subscribers, part or all of whose premium for medical expense or hospital service be paid by a municipality, choice of plan.

S1717; A2724, A2682.—To amend the workmen's compensation law to arbitrate bills in the county in which services were rendered.

S1292; A1724.—To amend the workmen's compensation law to abolish medical practice committees in counties with a population over one million.

S1895; A3378.—To amend the education law to allow the Attorney General power of injunction against violators of the law.

S2867; A3163.—To amend the vehicle and traffic law to require an action to recover damages for any act or omission on the part of a physician in the course of withdrawing blood at the request of a police officer for the purpose of determining the alcohol content, shall be against the State or a political subdivision except where bad faith is charged.

S2240; A2570.—To amend the public health law to allow one next of kin to authorize autopsies.

S1513, S2266; A2134, A2617.—To amend the general municipal law to cause municipal corporations to save harmless any intern or resident in a public institution from damages for malpractice.

The first six were killed in committee in spite of intensive efforts to obtain passage. Number 7, the autopsy law, was ably presented in the Assembly by Mrs. Strong of the Public Health Committee. We had obtained the cooperation of the Hospital Association and funeral directors on this bill. When brought up for passage, it was unexpectedly denounced by several Assemblymen as contrary to their religious beliefs, although we had ascertained beforehand that the amendment in fact was contrary to no religious faiths. The argument became so furious that Mrs. Strong voluntarily recommitted the bill to Rules Committee rather than provoke a split in the Assembly on religious grounds, and the bill died there.

The eighth bill, protecting interns and residents in municipal hospitals from malpractice liability, passed both houses. It was vetoed by the Governor.

Since the outlook for passage of the free choice bills appeared poor, we registered our approval of S1697, A2308 to amend the general city law to allow contract with a nonprofit membership corporation to furnish medical and surgical services and hospital service to its employes or officers. This was amended by inserting after "corporation" the words "of the subscriber's choice." These bills reached the Rules Committee, but there were violently opposed by a medical indemnity plan and could not be brought to the floor with the free choice amendment.

The committee also approved the following bills:

S1077; A1365.—To amend the workmen's compensation law to allow payment from the special fund to physicians attending hearings, when appropriate.

S753; A917.—To amend the education law to include soliciting of patients as a violation of the law.

These two bills were not reported out of committee. Our committee also approved:

S1613.—To amend the public health law to increase the compensation of health officers from 15 to 25 cents per annum per inhabitant. This bill passed the Senate, but the Assembly bill did not get out of committee.

S1319; A1560.—To amend the public health law to include county health officers in those held immune from suit or liability in any act done or omitted in good faith or ordinary discretion pursuant to the regulations or ordinances or the sanitary code. This bill passed both houses and was signed by the Governor.

S2338; A2837.—Late in the session S2338, A2837 were introduced to amend the general business law to authorize the Attorney General to investigate and restrain unfair trade practice for the protection of honest competition. The committee registered strong approval of these bills. Neither bill got out of committee.

Twenty bills introduced in the 1955 session were opposed by the Committee on Legislation. A164 would create a commission to study the licensing of all those except doctors who prescribe or sell hearing aids. This was opposed since such a licensing law would interfere with, rather than aid, the processes which lead to supplying a patient with a proper hearing device. This bill died in committee.

S778; A952.—To amend the education law to license chiropractors were opposed as contrary to the best interests of the public health. Both bills reached the floor but did not reach a vote.

S1016; A1062, A1176.—To amend the mental hygiene law to eliminate the requirement that a director of any school for mental defectives be a physician were opposed on the grounds that many of the children in these schools are sick and should be under a director trained in medicine. The bills did not get out of committee.

S904.—To amend the education law to liberalize the sale of certain drugs was opposed (as directed by the House of Delegates) since it would permit unlimited distribution of potentially dangerous drugs without supervision by the Education Department. The bill died in committee.

S984; A1221.—To amend the public health law, requiring turning x-ray plates over to the patient when no longer needed, were opposed since x-ray plates are part of a patient's record, and the physician sells a diagnosis, not x-ray plates. They did not get out of committee.

S1079; A1337.—To amend the workmen's compensation law allowing subpoena of physician for a hearing to be served by mail were opposed since personal service is the general rule and should apply to physicians. The bill did not get out of committee.

S1345; A1599.—To amend the education law establishing a State board of physiotherapy examiners were opposed since the basic concept of the original licensing law was that physiotherapists should function as auxiliaries to, and under the supervision of, the medical profession. Therefore, examination, licensing, and discipline should remain with the medical examining board and grievance committee. The bills did not get out of committee.

S1610; A1941.—To amend the civil practice act changing the statute of limitations for malpractice suits to run for two years from the discovery of the act or omission instead of two years from such act or omission were opposed since they would practically eliminate any statute of limitations in malpractice actions. The bills died in committee.

S1626; A2245.—To amend the education law to license naturopaths were opposed as contrary to the best interests of the public health and died in committee.

S1646, S2987; A2153, A2215, A3396.—To amend the workmen's compensation law to establish rehabilitation clinics were opposed as unnecessary. Miss Mary Donlon has pointed out that employers and insurance carriers are not taking advantage of present opportunities for rehabilitation under the law, which she considered adequate. All these bills were killed or died in committee.

S1863, S2281; A3112.—Would repeal the Hatch-Metcalf law allowing certain laboratories to use animals for scientific tests and experiments. They were opposed since such testing and experimenting is of great benefit to medical science, and they either died or were killed in committee.

S1909.—To amend the public health law and the vehicle and traffic law requiring reporting of epilepsy and forbidding driving licenses to epileptics. The companion bill passed the Assembly, but this bill died in the Senate.

S2008; A2421.—To amend the education law to license x-ray technicians were opposed since the present certification of technicians by x-ray societies would advance their educational standards better. The bills died in committee.

S2262; A2604.—To amend the education and public health laws to license nonmedical clinical bioanalysts and clinical bioanalytic laboratories without medical supervision were opposed since diagnostic laboratory procedures are within the province of medicine and should remain under the supervision of a duly licensed physician. The bills did not get out of committee.

S2126; A2681.—To amend the social welfare law to extend approval to private proprietary hospitals, nursing homes, infirmaries, institutions for convalescents, aged, or indigent persons, and lying-in homes operated for profit were opposed in view of the critical report of Attorney-General Nathaniel Goldstein with resepct to proprietary hospitals and the wisdom of extended study of the problem by qualified persons. The bills died in committee.

S869; A820.—To amend the village law to allow village boards of trustees to license and regulate businesses and occupations were opposed since it would delegate unjustifiably broad powers to villages, possibly permitting the licensing of quasiprofessional activities within the healing arts. The bills died in committee.

S2503; A2915.—To provide a system of prepaid medical and hospital care were opposed as a form of socialized medicine. The bills died in committee.

S2835; A3047.—To amend the education law to allow the sale of magnifying spectacles in any store without prescription were opposed since it would endanger eyesight. The bills did not get out of committee.

S986; A1318.—To amend the education law to allow unlicensed interns and residents holding certificates of eligibility to take the licensing examination, to practice in proprietary hospitals were opposed strongly since it would allow private proprietary hospitals to practice medicine for profit through unlicensed persons. The bill was amended to eliminate unlicensed interns, but the Committee on Legislation still registered disapproval. These bills passed both houses and went to the Governor. Opposition was registered with the Governor's counsel, and it was vetoed by the Governor.

S2263; A2606.—To amend the insurance law to allow payment by medical expense indemnity plans to privately operated bioanalytic or clinical examinations are within the province of medicine and payments should be made to physicians or hospitals. Although S2262, A2604 were killed in committee, S2263, A2606 companion bills passed both houses. Again opposition was registered with the Governor's counsel. The Governor signed the bill.

In summary, the Committee on Legislation introduced eight bills. One passed the Legislature and was vetoed by the Governor. In addition, six bills which were introduced were approved by the committee; one passed the Legislature and was signed by the Governor. The committee opposed 20 bills. Eighteen were defeated in the Legislature. Two were passed by the Legislature and sent to the Governor. One was signed by the Governor, and one was vetoed.

Respectfully submitted,
James Greenough, M. D., *Chairman*

Suggested Law to License Psychologists

(Revision of April 22, 1955)

AN ACT

To amend the education law, in relation to the practice of psychology, and making an appropriation to the education department for expenses in connection therewith

The People of the State of New York, represented in Senate and Assembly do enact as follows:

Section 1. The education law is hereby amended by inserting therein a new article ________________, to read as follows:

ARTICLE———
PRACTICE OF PSYCHOLOGY

Section—01. Definitions.
—02. Qualifications for practice.
—03. Board of examiners.
—04. Advisory council.
—05. Licenses; examinations.
—06. Registration.
—07. Revocation or suspension of licenses.
—08. Violations.
—09. Construction.
—10. Disclaimer clause.
—11. Privileged communications.
—12. Disposition of fees, fines and penalties.
—13. Department supervision.
—14. Separability clause.

#—01. *Definitions.* As used in this article:

1. "Board" means the state board of examiners of psychologists.

2. "Psychologist" means a person licensed to engage in the practice of psychology. A person practices psychology, except as hereinafter in this article stated, who holds himself out to the public as a psychologist and who, in addition, for a fee or any thing of value, represents himself as being able to or undertakes to employ psychological procedures in dealing with any person, corporation or association.

3. "Council" means the advisory council in psychology, pursuant to section ________________ four of this article.

#—02. *Qualifications for practice.* Any person who shall have received a certificate as a licensed psychologist from the department under the provisions of this article, shall be known as a "psychologist." Except as hereinafter provided, no other person shall use a title incorporating the words "psychologist," "psychological," or "psychology," or shall hold himself out as engaged in the practice of psychology.

#—03. *Board of examiners.*

1. There shall be in the department a state board of examiners of psychologists consisting of seven members who shall be appointed by the regents upon the recommendation of the commissioner and whose function it shall be to examine applicants for license to practice psychology.

2. Each member of the board shall be a citizen of the United States, a resident of this state at the time of appointment and a licensed psychologist, except for the members comprising the board as first appointed who shall be persons who have been engaged in the practice, teaching or research in psychology for a period of at least five years. To assure adequate representation of the diverse fields of psychology, the board shall at all times, except for vacancies, have two members representing the training institutions in psychology, three members who engage in the practice of psychology and two members who devote a majority of their time to the practice of psychology. The term of office of each member of the board shall be for three years, provided, however, that of the members first appointed three shall be appointed for terms of one year, two for terms of two years, and three for terms of three years. The regents may remove any member of the board for misconduct, incompetency or neglect of duty, after being given a written statement of the charges and an opportunity to be heard thereon. Any vacancy in the membership of the board occurring otherwise than by expiration of term shall be filled for the unexpired terms. Each member of the board shall receive a per diem allowance as determined by the regents for attending sessions of the board and for the first time spent in examining applicants for the license of psychologist under this article and in necessary travel and shall be reimbursed for all proper traveling and incidental expenses in carrying out the provisions of this article.

3. The board shall hold a regular annual meeting at which it shall select from its members, a chairman and a vice-chairman. Other regular meetings shall be held at such times as the rules of the board may provide and such special meetings as may be necessary or advisable in the judgment of the board or a majority thereof, or upon the call of the department. Notice of such meetings shall be given in such manner as provided in the rules. The board shall have the power, subject to the approval of the regents, to make rules not inconsistent with law, as may be necessary in the performance of its duties. A quorum of the board shall consist of a majority of its members. The secretary of the board shall be appointed by the regents, shall hold office during their pleasure, and shall receive an annual salary in an amount fixed by the regents, within the amount available therefor by appropriation, and shall have such powers and shall perform such duties as are prescribed by the department.

#—04. *Advisory council.*

To aid in the formulation of policy under this article. there shall be an advisory council in psychology of not less than twelve nor more than eighteen members, to be appointed by the regents upon recommendation of the commissioner and one of whom shall be designated as chairman. The council shall be broadly representative of psychology by membership from such areas including, but not limited to general psychology, clinical psychology, analytical psychology, social psychology, industrial psychology, school psychology and counseling. One-fourth of the membership of the council shall consist of the representatives of the professional training centers, and three-fourths of its membership shall be broadly representative of psychologists engaged primarily in practice. The term of office of each member of the council shall be for three years; provided, however, that of the members first appointed one-third of their number shall be appointed for terms of one year, one-third for terms of two years and one-third for terms of three years and provided further, however, that in the event of increase or decrease in the number of members of the council from time to time, new members shall be appointed for terms of one, two or three years, as determined by the regents, so that as nearly as may be the terms of one-third of all of the members of the council shall expire each year. The members of the council shall serve without compensation, but they shall receive a per diem allowance for attending sessions of the council and in necessary travel, and they shall be reimbursed for all their proper traveling and incidental expenses in like manner as is provided in this article with respect to members of the board.

The council shall meet at least once each year. Meetings may be held at any time and place designated by the commissioner or the chairman of the council or of the board. The council shall advise with the department concerning any and all matters that come within the purview of this article and the enforcement thereof.

#—05. *Licenses; examinations.*

1. The department shall issue a license as psychologist to any person who pays a fee of forty dollars, who passes a satisfactory examination in psychology, and who submits evidence verified by oath and satisfactory to the department that he:

(*a*) Is at least twenty-one years of age.
(*b*) Is of good moral character.

(*c*) Is a citizen of the United States or has legally declared his intention of becoming such a citizen.

(*d*) Has received the doctoral degree based on a program of studies whose content was primarily psychological from an educational institution having a graduate program registered by the department, or its reasonable equivalent in both subject matter and extent of training.

(*e*) Has had at least two years of supervised experience in the practice of psychology of a type satisfactory to the department.

2. Examinations for the license as a psychologist shall be held by the department twice each year. Subject to the approval of the department, the board shall determine the subject and scope of the examinations. Written examinations may be supplemented by such oral examinations as the department shall determine upon recommendation of the board. If an applicant fails to obtain a license as a result of his first application or examination, he may make a second application and may be submitted to a second examination within six months of the taking of the preceding examination and may be admitted to a second examination upon the payment of an additional fee of forty dollars.

3. Upon payment of the usual fees, any person who is at least thirty years of age and who has been engaged in the practice of psychology for a period of at least five years before July first, nineteen hundred fifty-seven, and who meets the requirements of paragraphs (*b*) and (*c*) of subdivision one of this section, and who applies prior to July first, nineteen hundred fifty-seven, may be licensed without examination as a psychologist notwithstanding any other provision of this article, provided that such a person can satisfy the board that the extent and quality of his professional experience qualify him to practice as a licensed psychologist. In the case of a person who is an honorably discharged veteran of the armed forces of the United States, the effective date for meeting the foregoing requirements is extended to July first, nineteen hundred fifty-eight.

4. The board may recommend the granting of a license without examination to any person who, at the time of application is licensed or certified by a board of examiners of another state, territory or district, whose standards, in the opinion of the department, are not lower than those required by this article.

#—06. *Registration.*

As soon as practicable after the time this article takes effect and in any event, not later than February first, nineteen hundred fifty-seven, the department shall mail to each person licensed under this article an application blank for registration under this article, which shall contain space for the insertion of his name, office and home address, date and number of his license and such other information as the department shall deem necessary. Upon receipt of such application blank, he shall fill out, sign and swear to the accuracy of the same before a notary public or other officer duly authorized to administer oaths, after which he shall forward same to the department, together with a fee of six dollars. Upon receipt of such application and fee, the department shall issue a certificate of registration for the period expiring on the thirtieth day of April, nineteen hundred fifty-nine.

2. On or before the first day of February of each odd-numbered year, commencing in nineteen hundred fifty-nine, the department shall mail to every licensed psychologist registered in this state an application blank for registration, which shall contain space for insertion of information as required for the application blank under subdivision one of this section, addressing the same in accordance with the post office address given at the last previous registration. Upon receipt of such application blank a registrant shall fill out, sign and forward the same to the department, together with a fee of six dollars. No such application, after the issuance of the first certificate of registration, with respect to any licensed psychologist, need be verified. Psychologists being duly licensed, subsequent to May first, nineteen hundred fifty-seven, to practice their profession in this state after the first year of the biennial registration period shall have expired shall pay a fee of three dollars. Upon recept of such application and fee, the department shall issue a certificate of registration, for the period commencing May first of the year of issue, and expiring on the thirtieth day of April in the year ending the biennial registration period during which such certificate shall have been issued.

3. Applications for renewal of registration therefore must be made biennially on or before the first day of May and if not so made, an additional fee of one dollar for each thirty days of delay beyond the first day of May and up to the first day of September shall be added to the regular fee. Should any psychologist who has failed to register continue to practice psychology beyond the first day of September thereafter, he or she shall be counted as an illegal practitioner and his or her license may be suspended or revoked by the department, in accordance with the provisions of section __________ __________ seven.

4. Upon the first day of September of each odd-numbered year, or within twenty days thereafter, the department shall publish and cause to be mailed to each psychologist registered under this article in this state, a list of the duly registered psychologists in this state. On or before the first day of September in each even-numbered year, or within ten days thereafter, the department shall publish and cause to be mailed to each psychologist registered under this article a supplemental list of psychologists duly registered since the date of publication in the preceding year, together with a list of those psychologists whose addresses have been changed since the last date of registration.

#—07. *Revocation or suspension of licenses.*

1. The license of any licensed psychologist may be suspended or revoked by the commissioner upon proof that the licensee: (*a*) has been convicted of a felony by any court; the conviction of felony shall be the conviction of any offense which, if committed within the state of New York, would constitute a felony under the laws thereof; (*b*) has been guilty of fraud or deceit in the practice of psychology or in securing admission to such practice; (*c*) has engaged in the practice of psychology beyond the privileges and rights accorded to him in his license; (*d*) is an habitual drunkard or addicted to the use of morphine, opium, cocaine, or other drugs having a similar effect; (*e*) has aided or abetted in the practice of psychology a person not licensed to practice psychology in this state; (*f*) has been guilty of unprofessional conduct in accordance with rules established by the Board of Regents.

2. No license shall be suspended or revoked until after a hearing had before the commissioner or an employee of the department designated by the commissioner upon notice to the psychologist of at least ten days. The notice shall be served either personally or by registered mail and shall state the date and place of the hearing and set forth the ground or grounds constituting the charges against the psychologist. The psychologist shall be heard in his defense either in person or by counsel and may produce witnesses and testify in his behalf. A stenographic record of the hearing shall be taken and preserved. The hearing may be adjourned from time to time. The person conducting the hear-

ing shall make a written report of his findings and a recommendation to the commissioner. The commissioner shall review such findings and recommendations and, after due deliberation shall issue an order accepting, modifying, or rejecting such recommendations and dismissing the charges or suspending or revoking the license. For the purpose of this section, the commissioner and such employe of the department designated by him may administer oaths, take testimony, subpoena witnesses and compel the production of books, papers, records and documents deemed pertinent to the subject of the investigation.

3. The action of the commissioner in suspending, revoking, or refusing to issue or renew a license may be reviewed by a proceeding brought under and pursuant to article seventy-eight of the civil practice act.

#—08. *Violations.*

Except as hereinafter in this article provided, after July first, nineteen hundred fifty-eight, any person not a licensed psychologist who shall hold himself out to the public as a psychologist or as engaged in the practice of psychology, as defined in this article, or who shall violate any of the provisions of this article relating to psychology, or having had his license suspended or revoked shall continue to engage in the practice of psychology, or who directly employs, permits or authorizes an unlicensed person to engage in the practice of psychology, shall be guilty of a misdemeanor and, upon conviction, shall be punishable by imprisonment for not more than six months, or by a fine of not more than five hundred dollars, or by both such fine and imprisonment, and each violation shall be deemed a separate offense.

#—09. *Construction.*

Nothing in this article shall be construed to limit:

1. The activities, services, and use of official title on the part of a person in the employ of a federal, state, county or municipal agency, or a duly chartered educational institution, insofar as such activities and services are a part of the duties in his salaried position.

2. The activities and services of a student, interne, or resident in psychology, pursuing a course of study approved by the department as qualifying training and experience for purposes of licensing under the terms of this article, provided that such activities and services constitute a part of his supervised course of study.

#—10. *Disclaimer clause.*

Nothing in this article shall be construed as permitting the administration or prescription of drugs or in any way permitting the practice of medicine as defined in the laws of this state.

#—11. *Privileged communications.*

The confidential relations and communications between licensed psychologists and client are placed on the same basis as those provided by law between attorney and client, and nothing in this article shall be construed to require any such privileged communications to be disclosed.

#—12. *Disposition of fees, fines and penalties.*

All fees, fines, penalties and other moneys derived from the operation of this article shall be paid to the department and on the fifth day of each month shall be paid by the department to the state treasury.

#—13. *Department supervision.*

The provisions of this article shall be administered subject to the provisions of section two hundred eleven of this chapter.

#—14. *Separability clause.*

If any section of this article, or any part thereof, shall be adjudged by any court of competent jurisdiction to be invalid, such judgment shall not affect, impair or invalidate the remainder or any other section or part thereof.

SECTION 2. The sum of forty thousand dollars ($40,000), or so much thereof as may be necessary, is hereby appropriated to the education department out of any moneys in the state treasury in the general fund to the credit of the state purposes fund and not otherwise appropriated, to defray the expenses of the department, including personal services, operation and maintenance, in carrying out the provisions of article ______ ____________ of the education law, as added by this act. Such moneys shall be payable from the state treasury on the audit and warrant of the comptroller on vouchers certified or approved in the manner prescribed by law.

SECTION 3. This act shall take effect immediately.

SPEAKER HOLCOMB: There is attached to the Supplementary Report of the Council, Part IX: Legislation, the last part of the report, a proposed bill to license psychologists, which you have before you. Your Speaker wishes to refer this portion of the Supplementary Report of the Committee on Legislation to the Reference Committee on Report of the Council, Part IV, of which Dr. Frederick A. Wurzbach, Jr. is chairman. That has to do with mental health, mental hygiene, and that portion will be referred to that reference committee.

Section 16 (See 70, 72, 88, 94, 141)

Supplementary Report of the Council Committee on Public Health and Education

To the House of Delegates, Gentlemen:

Your Council Committee wishes to make the following report as a supplement to its regular annual report, submitted in February, 1955.

Subcommittee on Cancer.—A meeting was held on March 2, 1955, on the occasion of an "open house" at the Roswell Park Memorial Institute in Buffalo. The principal order of business was the consideration of a proposed questionnaire to be distributed to cancer prevention detection centers.

Subcommittee on Diabetes.—At its meeting on April 12, 1955, the subcommittee discussed with Dr. Frank W. Reynolds, the new director of the State Health Department's Bureau of Chronic Disease and Geriatrics, the philosophy of State participation in diabetes detection. It was his belief that the State Health Department should have a role, with the American Diabetes Association and the Medical Society, in trying to discover unknown diabetics. Several members of the committee viewed the entrance of the State into this field as infringement on the private practice of medicine and contended that the reasons given by Dr. Reynolds were already being covered by the American Diabetes Association.

There was discussion of the value of the detection drive as now carried on by the subcommittee, where it attempts to stimulate county medical societies to conduct drives during Diabetes Week each November and where the A.D.A. provides publicity and testing materials. The number of counties participating has been a disappointment. Dr. Schiff requested the members to inform him whether the subcommittee should undertake an educational program for the patient, the public, and the physician next fall, as well as continue the present efforts in detection.

Subcommittee on General Practice.—Through the efforts of the chairman, Dr. Floyd C. Bratt, financial backing was finally procured for the mailing of sample Health Examination Forms to the Medical Society members in eight counties remaining uncirculated. These were sent out last week to New York, Bronx, Kings, Queens, Richmond, Nassau, and Westchester Counties through the cooperation of R. J. Strasenburgh, Inc., a pharmaceutical concern in the Rochester area.

Subcommittee on Maternal and Child Welfare.—There were present at the meeting on April 22,1955, regional chairmen in obstetrics and/or pediatrics from eight of the 12 districts of the State, as well as six committee members. It was agreed, in view of the ready availability of transcripts of maternal and perinatal death certificates, to conduct a regional investigation of each case of maternal death, using the information for educational purposes and exchanging it with all other districts, preserving complete anonymity.

It was also decided to investigate perinatal deaths as related to cesarean section. A comprehensive study will be inaugurated in three pilot areas, with any other regions free to conduct such studies as they might wish.

There was considerable discussion of the importance of initiating a program of study of deaths of newborns in which the pathologists would be invited to take an active part. Interest would also have to be stimulated in the keeping of better correlated records concerning the placenta, length of labor, analgesia, and complications.

It was agreed that closer integration of the regional personnel is desirable and plans are being laid to effect this.

State Department of Health.—At a joint meeting of this Council Committee with representatives of the State Department of Health on April 13, 1955, a report was given by Dr. Granville W. Larimore, Deputy Commissioner, of the convocation at Ann Arbor, Michigan, the previous day when the announcement was made of the result of the field trials on the Salk Vaccine. Commissioner Hilleboe appeared before the Council on April 14 after having conferred with Governor Harriman the day before on the New York State program. Subsequently a joint statement was drafted by your chairman and Dr. Larimore and was later approved by a representative of the New York State Pharmaceutical Association. The statement was sent out on April 15 to the presidents of the county medical societies. Another memorandum went to them on May 5 incorporating the recommendations arrived at by the New York State Advisory Committee on the Allocation of the Salk Vaccine, of which your chairman is a member and which met in Albany on May 3.

Dr. Larimore, at the joint meeting on April 13, referred to this committee a letter from the regional representative of the U.S. Department of Health, Education, and Welfare appealing for recruits among the membership of the State Society for the Reserve Corps of the U.S. Public Health Service. The Council, at its April 14 meeting, approved the sending of a letter by President Mellen to the county society presidents, which was forwarded May 2 together with copies of the Program for Professional Personnel in National Emergencies.

Respectfully submitted,
Theodore J. Curphey, M.D., *Chairman*

Section 17 (See 117)

Supplementary Report of the Malpractice Insurance and Defense Board

To the House of Delegates, Gentlemen:

The Malpractice Insurance and Defense Board has to submit the following supplementary report.

The attached letter has been received from Dr. W. Alex Newlands, president of the Medical Society of the County of Westchester. Realizing that this request requires action by the House of Delegates, this Board has taken no action except to submit it to the House.

The Board recommends that this request be not approved for the following reasons:

The figures quoted in the letter appear to be correct except that for the metropolitan area, excluding Westchester, which should be $97.72 instead of $97.12 as shown.

These figures show that to transfer Westchester County from the metropolitan to the upstate area would produce a rate increase for the members in all of the other counties of the State. For this reason the Board does not feel that it can support the proposal. Furthermore, the proposal would recognize the principle of rating by counties, and this cannot be admitted if a State Group Plan is to be maintained.

Obviously, there are wide differences in cost, not only between counties in the same rating area but also between districts in the same county. In some of the upstate counties, there have been no losses at all for a long period of time. In the metropolitan area the doctors most adversely affected are those in the rural communities located near upstate counties as, for example, northern Westchester. To recognize these differences and to attempt to adjust rates on the basis of them would be impossible. Certainly, it would increase dissatisfaction and probably eventuate in the dissolution of the Society's Group Plan.

It is possible that such a transfer could be made if the loss experience of one of the metropolitan counties were reduced to and maintained over a period of years at a level equal to or below that of the upstate average. So long as such a transfer did not increase the cost of the upstate counties, objections to it could not be made by them. Any departure from the established territorial classifications could not be made unless the loss cost had been confirmed by three or four years experience and only after a careful study of the effect of the increasing trend toward urbanization of the counties contiguous to New York City.

Respectfully submitted,
John F. Kelley, M.D., *Chairman*

Medical Society of the
County of Westchester
171 East Post Road
White Plains, New York
April 16, 1955

Colonel H. F. Wanvig
2 Park Avenue
New York City

Dear Colonel Wanvig:

We want to thank you for your assistance and cooperation in providing information and making the actuarial survey, loss voucher records, and other data available to Mr. Roseberry and our accountant, Mr. Maffucci, when they visited your office.

The figures and data presented at the April meeting of our Comitia Minora were of great interest to members of the board since we had never before known exactly how the Westchester experience compared with that of the upstate and metropolitan areas. At times we had been told we were almost as bad as the rest of the metropolitan area, but many of our members have felt we were helping to carry New York City.

The figures for the relative "calculated pure premiums" based on the years 1951, 1952, and 1953 were presented as follows:

Upstate area	$58.04
Metropolitan area including Westchester	$95.57
Westchester alone	$68.19
Metropolitan area excluding Westchester	$97.12
Upstate area including Westchester	$59.41

In view of the fact that the $68.19 pure premium is so much closer to the $58.04 upstate calculation than to the $95.57, it was unanimously agreed that we are justified in requesting transfer of Westchester County to the upstate area with its lower premium rates.

This reasoning was based on several factors, one of which was that Dr. McGarvey had been assured that if our experience was good, it would be possible for you to make such a transfer. Another factor was the deduction that if the entire upstate pure premium is $58, including all the rural counties where there are probably relatively few malpractice actions, then urban areas upstate such as Erie County and possibly Monroe and Onondaga would probably have a pure premium as high as, if not higher than, that of Westchester County.

Members of our board are fully aware of the fact that the basic principle of insurance is that of "spreading the risk," but if this was followed consistently, then the risk should be spread evenly through the entire State. They do not see why Westchester, if it has a rate as good or better than Erie County, for example, should help carry the New York City losses merely because of geographic proximity.

By action of the board, therefore, we officially request a transfer from the metropolitan area premium classification to what is known as the upstate classification.

We would be very glad to discuss this matter with you further at some appropriate time in the near future.

Sincerely yours,
W. Alex Newlands, M.D., *President*

Section 18 (See 82)

Supplementary Report of the Board of Trustees

To the House of Delegates, Gentlemen:

During the past year the Board of Trustees has operated under a recent amendment to the Bylaws in which the fiscal year began July 1 and ended June 30 of each calendar year. At first the Board felt that this was a satisfactory change. However, it was found that there were certain difficulties in this procedure. It necessitated more clerical work during the period of summer vacations and in this way caused an increased expense. It is also the case that a final audited report cannot be presented to the House of Delegates until the ensuing calendar year. For the sake of better understanding, reports for this year include an audited report ending December, 1954, and an additional report for the period to end June 30, 1955.

At its meeting on April 14, 1955, the Board of Trustees voted to present notice to the House of Delegates of the following proposed amendment to the Bylaws, Chapter V, Section 2, last sentence, which at present reads, "The fiscal year shall begin July 1 and end June 30 of each calendar year," to be amended to read, "The fiscal year shall begin January 1 and end December 31 of each calendar year."

It will be noted from the annual report that the trustees for the past few years have set up an employes' beneficial fund reserve. At present pension funds are being paid out of our current dues income. The Board of Trustees has been interested to learn more about a pension system for employes. The financial obstacles to these plans are great. At its meeting on April 14, 1955, the board voted to write the Chase National Bank, Manufacturers Trust Company, and Pate & Robb, our insurance brokers, to submit to us figures on retirement insurance. The Office Administration and Policies Committee reported it was decided to receive at the June meeting of the committee a revised schedule of job classifications and salary ranges.

The Board of Trustees appointed a committee to study the question of the expense of defending malpractice suits against uninsured members. The committee called in consultation Mr. William F. Martin, counsel for the Society, and followed this with a thorough discussion of the subject. The committee of the Board of Trustees approves the action of the Council taken April 14, 1955, to the effect that hereafter it would be the policy of the State Medical Society that (1) no out-of-pocket expenses for the defense of uninsured cases should be borne by legal counsel of the State Society and that (2) members of the State Society who were uninsured in the Group Plan who had multiple suits within a given period of time should be reported.

In the annual report of the trustees presented for printing February 15, 1955, reference was made to the support given to the Blood Banks Association by the Medical Society of the State of New York. The final figure of the loan to date, as given by the treasurer, is $67,000, which includes guarantee of the lease for rental of the Blood Banks Association quarters at $625 per month until September 30, 1955.

Respectfully submitted,
HERBERT H. BAUCKUS, M.D., *Chairman*

Section 19 (See 89)

Supplementary Report of the Planning Committee for Medical Policies

To the House of Delegates, Gentlemen:

The Planning Committee for Medical Policies realizes that at the conclusion of the Medical Society of the State of New York's year of activities, many reports must of necessity be made for the information and action by the House of Delegates.

We note, too, that many of these reports are very lengthy, and we believe that quite frequently the reports may not be read in their entirety because of their length.

We have been informed that in other medical societies the reports are succinct and to the point—many times not more than a page in length.

We recommend to the president of the State Medical Society that when he makes his committee appointments for the next Society year that he mandate the chairman to summarize his full report for the presentation to the House of Delegates.

Respectfully submitted,
PETER J. DI NATALE, M.D., *Chairman*

Section 20

Announcements

SPEAKER HOLCOMB: At this time I wish to announce that the reference committee tables will be in the Ballroom Foyer.

Remember that each report must have nine copies.

Again, your speaker wishes to ask those who are interested in any of the various reference committees to appear before those committees and discuss your views with them. This is asked in the matter of conservation of time of the House of Delegates. There are many matters that need discussion. We want you to go before the reference committees and give them your views because you cannot incorporate views after those matters are brought to the House of Delegates in the reports of the reference committees.

I also wish that the officers, the Council, and the Council committees will hold themselves in readiness to appear before the various reference committees if their services and advice are needed.

Section 21

Address of the Speaker

SPEAKER HOLCOMB: In my opening remarks to the House I will be brief and very much to the point.

Speaking in behalf of our genial, capable vice-speaker, who, as many of you have heard, has recently joined the ranks of the Benedicts (*applause*), I might tell you that when I called him from Kingston to discuss a matter with him a few days ago, a very charming feminine voice answered the phone and remarked that it was Mrs. Williams. I had not heard about this happy event, and I will admit it took me several minutes to think of extending my best wishes, but I think Mrs. Williams will, perhaps, also tell you that I was a bit doubtful as to whether to extend best wishes or add a bit of sympathy. I might say that Dr. Williams and I both appreciate the honor that you have bestowed upon us in being able to preside over the sessions of this House. We are looking forward to it with rather mixed feelings. We hope that everyone will bear in mind the terrible travail and sorrow that we passed through at our last session that extended almost far into the evening of the third day. Again, I offer my plea for the avoidance of repetitious debate in the interest of the conservation of the time of the House.

At this time your speaker has a very pleasant duty to perform. We feel that there are several new members of the House of Delegates who are making their initial appearance before us, and I would like to have you meet them, and not have them introduce themselves as we did in the past, but I am going to ask them to stand as I call their names. I will ask also the House to reserve their applause until all have been recognized and introduced.

Bronx
Charles W. Frank

Chemung
William T. Boland

Erie
Antonio F. Bellanca

Jefferson
Howard F. Drayer

Kings

The name is very well known to us:

John G. Masterson

Young Dr. Masterson. I might say we now have two Doctors Masterson.

Monroe
Henry B. Crawford
Eli A. Leven
Roland E. Stevens

Nassau
Gerard V. Farinola

New York
Peter G. Denker
Henry T. Randall
Theresa Scanlan
Charles F. Stewart
David M. Weeks

Onondaga
Donald E. Moore

Orleans

Angelo F. Leone

Queens
Albert H. Douglas

Richmond
Frank Tellefsen

Saratoga
Webster M. Moriarta

Schenectady
Donald C. Walker

Steuben
Thomas S. Cotton
Maynard W. Gurnsey

Suffolk
Philip J. Rafle

Sullivan
Sirkka E. Vuornos

Tioga
Frederick K. Shaw

Second District Branch
Leo T. Flood

Sixth District Branch
Gilbert M. Palen

Section on

Allergy
Harry Leibowitz

Gastroenterology and Proctology
Lester S. Knapp

General Practice
Floyd C. Bratt

Industrial Medicine and Surgery
C. Douglas Sawyer

Medicine
Thomas R. Frawley

Some of our Section Delegates, perhaps, have not arrived as yet.

Neurology and Psychiatry
Harold R. Merwarth

Obstetrics and Gynecology
Albert W. Van Ness

Ophthalmology
Franklin R. Webster

Orthopedic Surgery
Frederick Lee Liebolt

Pediatrics
Harold W. Dargeon

Surgery
Edward J. Donovan

Urology
Oscar J. Oberkircher

We extend our welcome to the newly elected delegates and hope that you will participate in the debate and make yourselves known. (*Applause*)

Dr. Wentworth, may I ask you to escort our president, Dr. Mellen, to the platform?

. . . The delegates arose and applauded as Dr. Edward T. Wentworth escorted Dr. Dan Mellen to the platform . . .

Section 22 (See 78)

Supplementary Report of President

Dr. Dan Mellen, *President:* Mr. Speaker and delegates, I just spoke to Fred, and I told him that I was glad to have him get married, but I hated to see the membership of my club shrinking. (*Laughter*)

At this time one year ago in New York City, I appeared before the House of Delegates to address you as your president-elect. In the course of my remarks on that occasion I promised to dedicate myself to the task of discharging the arduous duties of my position. This I have done to the best of my ability and, I hope, to your complete satisfaction.

On this May morning in 1955, I again come before the House. At this time, however, my principal purpose is simply and humbly to express my thanks to you for the opportunity I have had of serving my Society in its highest elective office. I wish also to acknowledge publicly my heartfelt appreciation for the splendid cooperation rendered by countless persons both inside and outside of the State Medical Society. Among these were members of the House; my fellow officers, particularly Dr. Azzari, my successor; the members of the Council; the Board of Trustees; members of the various committees; the Woman's Auxiliary; staff personnel; State Health Department officials, and many others too numerous to mention.

During my term of office I was privileged to preside at the monthly meetings of the Council. So impressed was I with the work of its members that I wish to remind this House and our membership at large that we owe these men a debt of gratitude. Bear in mind that the Council acts as the State Medical Society's governing body, similar to this House, between sessions of this group. In spite of numerous and complicated activities, administration is carried on with a minimum amount of difficulties. Perhaps this is one reason—namely, the absence of trouble—why the workings of the Council month after month attract little or no attention. For devoting many hours of intensive work to our affairs at great personal and financial sacrifice, a vote of thanks and confidence is due to the members of the Council.

It is not my purpose this morning to take up the valuable time of the House in reviewing our accomplishments of the past year. This I already have done in my annual report, published in the April 1 issue of our Journal, reprints of which are available to you. Allow me, however, to urge you to consider carefully my report in any plans formulated during this session of the House for future activities of our State Society. Remember that the lessons learned from experiences of the past can throw much light on what should be done in the future!

One important lesson that should be borne in mind is the fact that we must adjust our thinking to conform to present conditions in regard to financial matters. From the numerous activities I have reviewed in my report, it is obvious that the scope of our Society's functions is constantly increasing. As a result, additional personnel must be employed from time to time both on the administrative and on the executive levels. More office space is naturally needed, and perhaps some day we will have our own building. Also on the increase are the number of necessary meetings of our various committees. These involve travel expenses and other financial considerations. We must, therefore, face reality and accept the facts that substantial sums of money must be expended to carry on our necessary activities.

Another lesson that may be taken from my report is that extreme caution should be exercised in altering the basic structure of our Society. The discontinuance of the district branch meetings would be such a change. As I have stated many times, the meetings still serve many useful purposes. Permit me to name only a few. They cement the bond between our State Society and the county societies. They permit local societies to exchange ideas and discuss mutual problems. They encourage individual physicians to mingle with fellow practitioners in other counties of the State. The activities of several of our important Council committees are intimately linked with the district branch setup. Once the district branch meetings have been discontinued, it may be most difficult, if not impossible, to revive them as may be desirable in the future. In this problem and all other matters concerning our Society's structure, let caution be our watchword lest hasty action cause irreparable damage.

As physicians, we are inclined to dismiss from our minds cases which have been completely cured or satisfactorily arrested. Any other philosophy would create for ourselves a needless worry. We ought not, however, to carry the same line of reasoning into medical economic spheres. Many of us, for example, no longer worry about "socialized medicine" because the issue appears to have been, so to speak, "satisfactorily arrested." Allow me to point out that the problem is far from solved. As recently as last March, the *New York Sunday Times* magazine carried a story about Sweden's new compulsory health insurance system, which began this year. Here is what the author said in part: "The operation of this plan undoubtedly will have repercussions in the United States. Our own medical situation will be resurveyed in the light of Sweden's experiment. Some of the basic questions that have been the subject of debate in this country—such as the benefits or defects of compulsory health insurance, which organized medicine here oppose—will again be argued. Therefore, it is useful to examine the Swedish plan and to consider whether any of its principles can be applied in the United States."

It should be clear to every member of this House and to all our members that in regard to the issue of compulsory health insurance and all medical economic matters, we should be constantly on the alert for the resurrection of old problems as well as the birth of new difficulties.

Before concluding my remarks, allow me to point out that although we are practitioners of a science, we should never allow the scientific aspects of medicine to outweigh the human elements. As true scientists, let us keep the scales in proper balance. This can be done by treating the person as well as his disease. We have gained great recognition for our ability to conquer disease. At the same time we have lost some of our prestige as humane healers of sick minds, hearts, and souls. We can regain a great deal of our patient's confidence if we allow our hearts as well as our heads to influence the practice of medicine in 1955.

And now the hour of my departure is at hand. To say "good-bye" is inappropriate because it is my intention to serve my Society, as every member should, for many years to come. Instead, permit me to paraphrase an old Irish expression in these words—"May God save all here and may He guide you in all your deliberations and decisions during this important session of the House." (*Applause*)

Speaker Holcomb: Thank you, Dr. Mellen.

The next order of business is the appearance of our incoming president, Dr. Azzari, and I will ask two of our very valuable delegates from Bronx County, Dr. LaGattuta and Dr. Wurzbach, to escort Dr. Azzari to the platform.

. . . The delegates arose and applauded as Dr. Frank LaGattuta and Dr. Frederick A. Wurzbach, Jr., escorted Dr. Renato J. Azzari to the platform . . .

Section 23 (See 78)

Address of President-Elect

Dr. Renato J. Azzari; *President-Elect:* Mr. Speaker and members of the House, within a brief span of time, we shall celebrate the 150th anniversary of the Medical Society of the State of New York. Since its birth in 1807, there has been a long line of distinguished physicians who have served the Society as presidents of our organization. It is, therefore, with a feeling of humility that I, as your president-elect, bring you our Society's greetings to this 1955 session of the House. Personally, I find it most difficult to express adequately my gratitude for the distinctive honor you have conferred upon me.

I consider the mandate you have given me to serve as the head of one of the largest medical societies in the world as an outstanding opportunity to show my appreciation for what the medical profession has meant to me. Whatever burdens this office may entail during the coming year, I assure you that I shall do all in my power to deserve the trust you have placed in me. My term shall be dedicated to emulating the accomplishments of my distinguished predecessor, Dr. Dan Mellen, and the long line of presidents who preceded him.

Now is the time to make definite plans to honor in 1957 the outstanding achievements of our past leaders and their colleagues during the last century and a half. I am well aware that the special Sesquicentennial Commission, headed by Dr. A. H. Aaron already has swung into action and is making excellent progress. I desire, however, this morning to remind this House and the membership at large that every county medical society and every individual member should play an active role in the preparatory phase as well as in the actual celebration. All of us should think about how well we can demonstrate the remarkable progress the medical profession has made in the State in the development of service to the people, for one of our fundamental purposes has been, and should always be, "To promote the betterment of public health."

To protect not only the medical profession but above all to guard the best interests of the people of this State, we must continue to keep a watchful eye on legislation. On the State level we are in debt to our Committee on Legislation, headed by Dr. James Greenough, and Dr. Harold Smith, our executive officer, for a job well done. We cannot, however, rely solely on these men. In the first place there must be continuous personal contact with the legislators at the county level. Our views must be brought home to them in August as well as in January—not merely by a letter or a phone call but by a face-to-face meeting. In the second place, as professional men, we should treat our legislators as professional men. Blunt demands for a particular bill on the basis that we have an inviolate right to its passage must be avoided. Legislators are intelligent, well-qualified individuals, many of whom are lawyers, who must be approached with reason, not with emotion or anger. The presentation of facts supported by logical reasoning in carefully considered and systematic statements is the key to more productive legislative results. We also should be prudent in our public evaluation of legislators' decisions after they have examined the facts. As persons of high standing they resent any actions on our part that can be construed as reflections upon their judgments.

Our efforts in behalf of the principle that a patient must be allowed to choose freely his own physician must not be relaxed. Time has proved that this principle of free choice is the best guarantee of the highest standards of medical care for the people. The intervention of a third party, be it the government or a private organization, results in the deterioration of medical standards. "Free choice of plan" and "free choice of physician" laws must remain primary objectives in our legislative campaign.

On the national level we are obligated to be equally diligent in preventing harmful legislation and promoting good laws. For example, we should oppose the Health Reinsurance Bill and favor the Jenkins-Keogh Bill. Reinsurance can never be a panacea for the country's health insurance needs. It cannot make an uninsurable risk insurable, nor can it provide funds to purchase health insurance for persons who cannot afford such insurance. The Jenkins-Keogh Bill would allow physicians and other self-employed persons to set aside certain sums each year free of tax, for the purpose of providing for their old age outside of the Social Security Law.

In brief, at all legislative levels our Society should take an active interest in matters pertaining to health. While it is unfair to label all proposed laws not acceptable to us as "socialized medicine," it is equally foolhardy to assume the attitude that the issue is "dead and buried." Our policy should be one of objective analysis followed by prudent judgment of every proposed law pertaining to health, while continuing to be ever watchful for the revival of compulsory health insurance in the guise of well-meaning social welfare legislation.

Another field in which our work needs to proceed with unabated vigor is medical public relations. A word of commendation is due to Dr. Floyd S. Winslow and his committee for the progress made during the past year, particularly in the realm of press relations. The "Guide for Cooperation," prepared by its subcommittee and approved by the House last year, has proved to be a momentous step forward in press relations, yet much has to be done if the goal of improved public relations is to be realized. Every member of our Society should become familiar with its common-sense approach to publicity. Every county medical society can improve press relations by holding meetings with reporters and editors to discuss the Guide's application locally. Our chief hope in preventing erroneous published statements which mislead the public and discredit medicine is our sincere cooperation with representatives of the various information media through personal contacts. We on the State level have done much in this area and urge the county societies to follow suit.

The task of preventing disease belongs primarily to our profession. In these modern times, however, we need the assistance of many groups in carrying out our obligations. One of our best allies in this work has been, and I am sure will continue to be, the State Department of Health. All of us are cognizant of the fine results obtained through the cooperative effort of our Public Health and Education Committee, sparked by Dr. Theordore J. Curphey, and Commissioner Herman E. Hilleboe and his associates. Our mutual objective of better health for more people can best be attained through continued mutual understanding of each other's problems.

For a few moments I have been discussing our "outside interest" problems, such as laws, public relations, and health agencies. Allow me to turn to our "family" obligations. I would be amiss if, at the outset, I omitted to pay tribute to our Council, trustees, committee members, staff personnel, and others who so capably manage and execute our numerous activities. They have performed a difficult assignment with commendable zeal and success.

From past experience we know that all of them will diligently pursue their appointed tasks in the year ahead. We should, however, take constructive measures to inspire our executive and staff personnel to greater efforts and continued loyal service. One of these should be the establishment of a suitable retirement income plan. Most successful organizations, whether they are classified as business, educational, scientific, philanthropic, or otherwise, are providing guaranteed retirement income plans for their employes in this modern era. The establishment of such a plan would assure our employes of our sincere interest in their welfare and ourselves of their permanent faithful service. In the competitive market of today we need such a plan to attract capable help as well as to improve relationships with our existing loyal personnel.

Whenever we act as a Society, concerning retirement plans or any other matters, we always should act according to democratic principles, for our Society is a truly democratic organization. It is important, therefore, that our policies represent the will of the majority. At the same time it is just as important that the minority be willing to implement the majority's decisions. In all our deliberations, moreover, we will be wise to keep in mind the expense necessarily involved in projects mandated by the House. Too often in the past, we have voted approval to projects which could not be carried out because of the prohibitive amount of money involved. Before we vote, therefore, on any activity involving finances, let us have an estimate of the actual cost involved.

One of the great traditions of the medical profession has been the adherence of the vast majority of physicians to ethical principles. I venture to say, no profession as a whole has dedicated itself through the centuries so religiously to its obligations as has our profession. If we are to preserve this valuable heritage, our present *Principles of Professional Conduct* must be strictly enforced with justice as well as charity. We cannot afford to lower our standards to protect a few weakling members. On the contrary, we must weed out the rare offender. Mediation committees, properly administered and adequately publicized, are our best weapons. At the present time 56 county medical societies have such groups while in three counties the board of censors and others function as mediation committees. These groups allow our patients, for whose protection the *Principles of Professional Conduct* basically were designed, to call to our attention violations which might easily escape our notice. With the help of properly functioning mediation committees, we can preserve our birthright of ethical medical practice, while at the same time improving relations between our physician-members and their patients in every part of the State.

We are all well aware of the fact that we are living in rapidly changing times. Medicine has been caught in this tide of change, a fact which we have to accept whether we like it or do not like it. One of the criticisms leveled at the medical profession from time to time is that we are afraid of change. It is true that our scientific training and experience compel us to be cautious. We must not, however, be overcautious. Whenever sound reasoning and practical experience indicate that a change is necessary for the welfare of the people and the medical profession, we should not hesitate to change unless ethical principles are clearly violated. We should, nevertheless, be evolutionary rather than revolutionary in any actions which we may take. We should proceed carefully but not timidly in keeping the practice of medicine abreast of modern developments.

Changing times are challenging times. Unless science is to remain stagnant and perhaps even to retrogress, we must accept the challenges of 1955. We must not be afraid to change. I am certain that if we follow the philosophy of ethical, evolutionary change dictated by sound reasoning and practical experience, the practice of medicine in this State will continue its forward march of progress and reach new heights in scientific achievements.

My job of addressing this House as your president-elect is almost completed. I assure you that speaking to you has been a pleasant and rewarding experience. Your job of formulating policy that will guide the future destinies of our Society is just about to begin. To this all-important task I leave you with the fervent hope that your difficulties will be few and your accomplishments great. (*Applause*)

SPEAKER HOLCOMB: Thank you, Dr. Azzari.

Section 24

Presentation of Scroll Citation to Dr. George G. Deaver

SPEAKER HOLCOMB: The next on our order of business this morning is the presentation of a scroll citation to Dr. George Deaver. It is a citation for outstanding service to the physically handicapped. Is Dr. Deaver in the House? Perhaps Dr. Deaver is detained. We will put this on the agenda later.

(*Since Dr. Deaver erroneously had not been notified when to attend the House, it was necessary to send him the scroll by mail.*—Secretary.)

Section 25

Presentation of Scroll Posthumously to the Distinguished General Practitioner of the Year

SPEAKER HOLCOMB: The next on our order of business is the presentation of a scroll for the outstanding general practitioner of the year. This, as many of you know, was posthumously awarded to Dr. Pisani since his death occurred almost at the time the award was made. We have with us this morning, I believe, three of Dr. Pisani's sons, whom we are honored to have with us. He has three sons who are all in the medical profession, Dr. Bernard J., Dr. Anthony J., and Dr. Joseph M.

I would like to review just briefly something about Dr. Pisani's career in New York. I can recall very well that one of my uncles—we called him uncle; he was a distant cousin—practiced on Broome Street around 1880, and he knew Dr. Pisani quite well and mentioned him to me. They were apparently great friends. He spoke of him with a great deal of affection. Dr. Pisani is the father of three physicians and a daughter with a Ph.D. and a law degree. Dr. Pisani for a half century had carried on his general practice from the same office location on Oliver Street in the teeming crossroads of Chatham Square where such noted places as Little Italy, Chinatown, and the Bowery fuse. He was the son of an immigrant shoemaker, born in 1872 in the then notorious five-point section of lower Manhattan. He received his medical degree from Columbia University College of Physicians and Surgeons in 1896. Before he became a doctor, he served a pharmacist apprenticeship and had been graduated from the New York City College of Pharmacy.

Dr. Pisani was a visiting physician at Columbus Hospital for thirty-three years and was closely associated with Mother Cabrini, founder of the hospital, who was destined for sainthood. From 1942 to 1944 he was a member of the medical board of Columbus Hospital. For his unselfish work to promote educational standards and opportunities among children of immigrants, Dr. Pisani was honored in 1913 by Victor Emanuel III, King of Italy, who conferred upon him the title of Chevalier of the Crown of Italy.

I would like to have Dr. Pisani's sons come to the rostrum for the presentation of the citation.

. . . Drs. Bernard J., Anthony J., and Joseph M. Pisani received their father's citation amid applause . . .

Section 26 (See 33, 146)

Introduction of Representatives from Other State Societies

Speaker Holcomb: At this time, members of the House of Delegates, we would like to welcome some of our distinguished guests from neighboring states.

Is there any representative from the State of Connecticut in the House?

. . . There was no response . . .

Speaker Holcomb: I believe Dr. Harrold A. Murray, trustee of the Medical Society of the State of New Jersey, is here. Will Dr. Kenney please escort Dr. Murray to the rostrum.

. . . Dr. J. Stanley Kenney escorted Dr. Harrold A. Murray to the rostrum amid applause . . .

Dr. Harrold A. Murray: Mr. Speaker, Dr. Mellen, and members of the House of Delegates, it is my happy privilege and honor to represent New Jersey here today and to extend to you the greetings of our Medical Society.

About two years ago Dr. Kenney spoke to me, and he wondered if we could get a liaison committee between the New York and New Jersey State Medical Societies. We have many interests and many problems and programs in common. Again, two weeks ago at our annual meeting Dr. Kenney reminded us of that unaccomplished fact. He said he will never be satisfied until it is accomplished. I told him the story about this great actor who portrays Lincoln so successfully in the movies, in the theater, and on television. I told him how in order to do it so successfully he really lives the life of Lincoln. When he gets home from his work, he dresses like Lincoln used to; his whole house is built up on memories of Lincoln, the appointments are in that era, and everybody knew that. One day this summer he decided he would be very brave and put on a high hat, frock coat, striped trousers, and he walked out in the street thus attired, up and down. As he did, one of the neighbors who was familiar with him leaned over to his companion and said, "You know that guy will never be satisfied until he has been assassinated." (*Laughter*) I told Kenney he must not be too anxious, that we love him and want him here.

I know your deliberations will be very successful as they have been in the past. Any time you see Bill Orr's name on the Arrangements Program that means a fine program.

Thank you!

Speaker Holcomb: Is Dr. William F. Costello, from New Jersey, in the House?

. . . There was no response . . .

Speaker Holcomb: I wanted to recognize him if he was with us.

The Chair wishes to state that Dr. Dudley P. Walker, who is president of the State Society of Pennsylvania, we hope will be with us Wednesday morning when I trust I will have the honor and the pleasure of introducing him to the House at that time.

One of our very pleasant visitors, one that we look forward to greeting, is a man from Vermont by the name of Dr. D. Dexter Davis, whom we all remember and think very kindly of. One of the members of our Council, Dr. Denver Vickers, has represented the State Society at the Vermont annual meeting for I think several years now. I believe that these two men have something in common. They are both trout fishermen. I have never been able to figure whether Dr. Vickers spends all his time at the meeting or whether the two of them sneak off a bit and go trout fishing. I know since they are trout fishermen they are truthful. I am going to ask Dr. Vickers to escort Dr. Davis to the rostrum. Where is Dr. Davis?

Voice: Fishing. (*Laughter*)

Speaker Holcomb: What happened to him? Is he fishing?

Dr. Samuel Z. Freedman, *New York:* He has hooked onto something.

Speaker Holcomb: Has anybody here seen Dr. Davis?

. . . There was no response . . .

Speaker Holcomb: We have with us this morning two men in the administrative field, who I am going to grant a few moments to appear before the House of Delegates. I might say that their statement will be one for information only. The Chair will not recognize nor allow debate or questions from the floor. In the interest of conserving the time of this House, as I stated before, their statements are for the information of the House and are not to be debated or discussed.

Dr. Kenney, will you introduce our guests this morning?

Dr. J. Stanley Kenney, *Trustee:* They are both upstairs. If you will allow me a few minutes, I will notify you when they get down here.

Speaker Holcomb: It seems to me we are having a lot of trouble losing our distinguished guests this morning.

The Speaker will now entertain the introduction of any supplementary reports. I believe some of the supplementary reports have been referred to their respective reference committees. Are there further supplementary reports?

. . . There was no response . . .

Speaker Holcomb: I believe I should call on the counties as we have done in the past for the introduction of resolutions.

I might state at this time that we have, through the general office of one of the publishing houses, been presented, the State Society has been presented, with what I call a folder and which we hope you will keep. They have gone to considerable expense in having them made up. They are similar to the ones that are used I believe in the American Medical Association. I have never gone to the American Medical Association, but it is the same idea. In presenting the resolutions that are contained in your folder I will ask the men who introduce the resolutions not to read the whereases. It will certainly not be necessary to read the whole resolution since you have it before you for your information. I mean the "resolved" is the part that should be read, and not the "whereases."

Albany

Has Albany County any resolution?

Allegany

Bronx

For the information of the House of Delegates, you will notice these resolutions are numbered at the top, for instance, Number 55-12. The number 55 we will use in the future as to the year of introduction of that resolution so that it will be much easier to have that year as an identification number.

Section 27 (*See 115*) Resolution 55-1

Organization of County Society Malpractice Discussions

Introduced by Dr. Samuel Wagreich, *Bronx*

Whereas, the cost of malpractice insurance has been increasing; and

Whereas, the only solution is a decrease in the number of claims brought against the physician; and

Whereas, education of the physician concerning the pitfalls of malpractice cases is considered essential; and

Whereas, the proper place for dissemination of such knowledge is at the county society level; and

Whereas, a similar mode of action has proved helpful in reducing the errors leading to maternal mortality; therefore be it hereby

Resolved, that the Medical Society of the State of New York go on record urging that component county societies organize such activity and hold meetings as frequently as deemed necessary, depending upon the material (cases) on hand, such action to consist of presentation and discussion of malpractice cases with the view toward emphasizing the pitfalls and methods of avoiding them.

Speaker Holcomb: That will be referred to the Reference Committee on Reports of the Malpractice Insurance and Defense Board and Legal Counsel, of which Dr. Samuel Sanes, of Erie, is chairman.

Section 28 (*See 116*) Resolution 55-2

Settlement of Malpractice Suits Out of Court

Introduced by Dr. Frederick A. Wurzbach, Jr., *Bronx*

Whereas, the cost of malpractice insurance has increased again this year, and it is expected that still greater increases in cost will be necessary; and

Whereas, there is a limit beyond which the physician cannot afford to pay and the insurance company cannot be expected to go; and

Whereas, without this protection it would be impossible to practice medicine; and

Whereas, the number of malpractice suits settled out of court has increased to such an extent that this practice undoubtedly increases the number of suits; and

Whereas, the 1954 report of the Malpractice Insurance and Defense Board stated, "In a very real sense . . . it is the losses caused by insured members of the Society which make our rates" [New York State J. Med. **54:** 14 (Sept. 1, Part II) 1954], and again, "Raising our rates from year to year is no cure; this will merely price our protection out of the market" [*ibid.*, p. 16], and again, "The sum of these (losses and loss reserves) together with a minimum addition for operating expenses represents the total cost of our insurance" [*ibid.*, p. 17]; and

Whereas, a resolution adopted by the 1954 House of Delegates stated, "Whereas, the premium rates of the Group Malpractice Insurance and Defense Plan of the State Society reflect actual costs plus losses" [*ibid.*, p. 116]; and

Whereas, these quoted statements make it seem that the counsel and carrier are not greatly upset by the course of events; and

Whereas, the measures taken up to this time have been a complete failure in lowering or even holding the premium rates; and

Whereas, the only way that this continued rise in costs can be stopped is by decreasing the amount of monies paid by settlement out of court and by making each suit a court case as often as possible; therefore be it hereby

Resolved, that no malpractice suit be settled out of court unless a majority of the malpractice committee in the county society of which the sued doctor is a member shall determine that the case is not medically defensible; and be it further

Resolved, that if a doctor settles out of court against this action of the county malpractice committee, the Malpractice Insurance and Defense Board of the Medical Society of the State of New York shall have the right to withdraw from such member the privilege of renewing his insurance in the group plan.

Speaker Holcomb: That resolution is also referred to the Reference Committee on Reports of the Malpractice Insurance and Defense Board and Legal Counsel, of which Dr. Samuel Sanes, of Erie, is chairman.

Section 29 (*See 120*) Resolution 55-3

Identification in Journal of State Society Officers by Counties

Introduced by Dr. Charles W. Frank, *Bronx*

Whereas, the Medical Society of the State of

New York is made up of component county medical societies; and

WHEREAS, officers of the Medical Society of the State of New York hold membership through membership in such component county societies; therefore be it hereby

Resolved, that all elective officers of the Medical Society of the State of New York be identified according to their respective component county medical societies on the officers pages of the NEW YORK STATE JOURNAL OF MEDICINE.

SPEAKER HOLCOMB: That resolution will be referred to the Reference Committee on Report of Council, Part XI—Publication, Public Relations, History, of which Dr. Walter W. Street is chairman.

Is that all from the Bronx?

DR. FREDERICK A. WURZBACH, JR., *Bronx:* That is right.

SPEAKER HOLCOMB: Are there any resolutions from:

Broome
Cattaraugus
Cayuga
Chautauqua
Chemung

Section 30 (See 102) Resolution 55-23

Poll on Participation in Social Security

DR. WILLIAM T. BOLAND, *Chemung:* I have one which I would like to introduce on behalf of the Medical Society of the County of Chemung.

SPEAKER HOLCOMB: This points out the advisability of sending in your resolutions so that we can go over them before the meeting of the House of Delegates. I believe this resolution was passed about two weeks ago. If Dr. Williams, Dr. Anderton, and I had had an opportunity to read this, you would not have a delay in allocating it to the proper reference committee. I am sure you can all realize it is not very easy to pick out one of 15 reference committees that it exactly applies to.

DR. BOLAND: Sometimes it is impossible to get these things in.

SPEAKER HOLCOMB: We would like to read it before we get here on the morning of the House of Delegates meeting.

WHEREAS, there are a number of physicians in New York State who have expressed an interest in some form of Social Security; and

WHEREAS, progress on the Jenkins-Keogh Bill seems to be at a standstill; and

WHEREAS, there are no accurate figures of the wishes of the majority of the members of the Medical Society of the State of New York in regard to Social Security; therefore be it hereby

Resolved, that the secretary of the Medical Society of the State of New York be instructed to poll the members in writing on their desires in regard to Social Security; and be it further

Resolved, that the results of this poll be published in the NEW YORK STATE JOURNAL OF MEDICINE and referred to the Council for appropriate action.

SPEAKER HOLCOMB: Thank you, Dr. Boland.

That will be referred to the Reference Committee on Miscellaneous Business A, of which Dr. George J. Lawrence, of Queens, is chairman.

Section 31 (See 145)

Statements of Representatives of Greater New York Hospital Association

SPEAKER HOLCOMB: The Chair at this time will interrupt the introduction of resolutions for a few minutes until Dr. Kenney introduces our guests of the House for brief statements which, as I said, will not be debatable, nor will any questions be permitted to be asked thereon at this time.

DR. J. STANLEY KENNEY, *Trustee:* Mr. Speaker and gentlemen of the House, in introducing these two gentlemen I just want to take up about one minute of your time because unless I do acquaint you very briefly with why they are here, their remarks will be completely out of place perhaps.

In connection with the development of the Blood Banks Assurance Program in New York City, we have run into some very perplexing problems and difficulties. Part of them arose through certain factors in the program which were not acceptable at the time to the Hospital Association in New York State.

We have been conducting a series of negotiations now for several months, and we are very happy today—I am particularly—that these two gentlemen who represent the physicians in the Greater New York Hospital Association have taken the time and the trouble to come up here to acquaint you with their attitude toward the program.

The gentleman who will present the program is Dr. August H. Groeschel, associate administrator of Cornell-New York Hospital Medical Center and chairman of the Medical Relations Committee of the Greater New York Hospital Association. The other gentleman who will follow him is Dr. John F. Connorton, well known to all downstate delegates for he was Deputy Administrator in the Mayor's Office on loan from the Association for the past year and now returned to the organization as executive director of the Greater New York Hospital Association.

At this time I take great pleasure in introducing Dr. August H. Groeschel.

DR. AUGUST H. GROESCHEL: Thank you very much, Dr. Kenney.

Ladies and gentlemen in the House of Delegates, it is my privilege and pleasure to bring to you this morning, at the invitation of Dr. J. Stanley Kenney, president of the Blood Banks Association of New York State, a brief message outlining the position of the Greater New York Hospital Association with respect to the Blood Assurance Program and the Blood Exchange Program of the Blood Banks Association.

The Hospital Association's position is based on the study of the two programs which has extended over the past seven months and in connection with which the medical relations committee and the Board of Governors of the Hospital Association have had a number of conferences with representatives of the Blood Banks Association.

It should be made clear at the outset that in presenting the position of the Greater New York Hospital Association I am speaking only for the membership of that Association, which includes 100 voluntary nonprofit hospitals and 33 municipal hospitals located in the Greater New York area, including New York City, a portion of Westchester County, and Nassau County.

Our meetings with the representatives of the Blood Banks Association have been conducted in an environment of mutual understanding and cordial cooperation which augurs well for the coordination of the efforts of both groups in the period which lies ahead.

The Greater New York Hospital Association is in complete agreement with the Blood Banks Association in the matter of objectives:

1. A sound and workable system whereby individuals can, by donating blood when they are well, assure themselves of blood at a later date if they should need it—*a Blood Assurance Program.*

2. A system providing for the exchange of blood between banks in the system to the end that blood will be readily available wherever and whenever it is needed within the area covered by the system—*a Blood Exchange Program.*

The Greater New York Hospital Association commends the Blood Banks Association for recognizing the very real need for programs with these objectives and for its initiative in undertaking the establishment of these programs in the interest of the health and welfare of the community.

The Greater New York Hospital Association does not in any way express itself on the soundness and acceptability of the Blood Banks Association's Blood Assurance Program and its Blood Exchange Program insofar as hospitals outside the Greater New York area are concerned. However, the Association finds these two programs unacceptable as far as the hospitals of Greater New York are concerned. At the same time the Hospital Association is pledged to work with physicians in the development of a community-sponsored and community-controlled blood program in the Greater New York area which can be coordinated with the Blood Assurance Program and the Blood Exchange Program of the Blood Banks Association of New York State.

The factors on which the Hospital Association's position is based may be summarized briefly as follows:

1. The Hospital Association feels that in the Greater New York area any blood program, if it is to be succesful, must be based on the community; it should be community sponsored and community controlled, in our opinion. The reason for this is that such a program is essentially a problem of community organization to provide a continuing recruitment of blood donors. The Hospital Association feels that such a community organization is best achieved and continued by the community itself; in our opinion it cannot be done successfully by the physicians alone any more than it could be done by the hospitals alone. On the other hand, physicians and hospitals are closest to the problems and most sensitive to the needs which arise out of inadequate planning and organization for blood procurement and distribution. As the hospitals see it, the role of the physicians and hospitals is to present the problem to the community, urging the community to accept its responsibility and then to provide technical assistance and advice in the professional matters of correct technics and procedures for the collection, storage, and distribution of blood.

The Hospital Association looks forward hopefully to active and positive participation with the physicians representing the State Medical Society and the Blood Banks Association in presenting the problem to the community of Greater New York to the end that a sound community blood program may be inaugurated in that area which could be coordinated with the Blood Banks Association's programs in the rest of the State.

2. The second factor on which the Hospital Association's position is based is its feeling that certain serious public relations problems must be resolved before the program could, in our opinion, be successful in the Greater New York area. These problems include:

(*a*) The matter of the small percentage of the public which could participate in the existing Blood Assurance Program; it is estimated that only 10 per cent of the community could be issued certificates within a given year before the annual blood needs of the city, estimated at approximately 300,000 pints, would be surpassed. What provision can be made for the remainder of the community which might desire to participate but could not be accepted?

(*b*) The matter of the utilization of the blood. On the basis of the Blood Banks Association's own figures only 20 per cent of the blood collected at most would be required to satisfy the needs of the donors who gave the blood. The disposition of the surplus is something in which the donors can be expected to be very much concerned. We realize that at the outset this problem must be approached very cautiously from an actuarial standpoint. At the same time we feel that more must be done in this area if essential community confidence in the program is to be gained and maintained.

3. The third factor on which the Hospital Association's position is based is this: The Blood Assurance Program, as it now exists, in effect puts each hospital whose blood bank would bleed donors and issue certificates—it would put these hospitals in the insurance business. The legality of the hospitals' position under such circumstances is subject to question, and as I understand it, this matter is currently being studied at the behest of the Blood Banks Association. It may very well turn out that this constitutes no problem. However, at the present time it is a matter of substantial concern to member hospitals of the Greater New York Hospital Association.

In addition to the three factors mentioned, there are a number of technical and procedural matters which give hospitals concern. Among them are the following:

4. The responsibility for transportation of blood from one hospital in the exchange program to another, under the existing program, rests with the hospital providing the blood. The hospitals would prefer this to be the responsibility of the Exchange Program in Greater New York.

5. The disposal of any surplus blood collected by an individual bank is also a matter of concern, principally because the blood is usable for only a restricted period of from two to three weeks. The matter of disposal of surplus is also related to the question of processing outdated blood for derivatives. As mentioned initially, this whole matter of disposal of surplus could, if not managed properly and carefully, give rise to serious public relations problems for any participating hospital blood bank.

6. On the reverse side of the coin to the matter of disposal of surplus is the question of coinsurance provisions to protect the individual blood bank in the event of an unexpected demand upon the bank by the donors holding blood assurance certificates. The hospitals question the adequacy of the Blood Resources Fund to provide protection for individual hospital blood banks under such circumstances.

7. Standardization of blood banking and blood storage equipment, which currently differs somewhat from one hospital blood bank to another, is another practical question which has been raised by member hospitals in connection with the two programs.

So much for the essential factors which give rise to the Greater New York Hospital Association's present position.

Of far greater importance at this time, we believe, is the very substantial reservoir of agreement and understanding as to basic objectives which now exists between the Greater New York Hospital Association and the Blood Banks Association.

Let me emphasize that the member hospitals of our association wish to join *actively* and *positively* with the physicians of the State Medical Society and its Blood Banks Association without delay in the presentation of the blood procurement problem to the community of Greater New York and in the development of a soundly conceived community-sponsored and community-controlled blood program tailored to the needs of Greater New York and coordinated with the Blood Assurance Program and the Blood Exchange Program of the Blood Banks Association. When such a community program is established, it is our feeling that serious consideration might be given by the community of Greater New York to the financial obligations assumed by the Blood Banks Association of New York State in initiating the development of a blood program for the City of New York.

In closing, let me express on behalf of the Greater New York Hospital Association our sincere thanks to Dr. J. Stanley Kenney and his associates of the Blood Banks Association for their cordial cooperation and their very real willingness to understand our problems in connection with blood procurement and distribution.

As a member of the Medical Society of New York County and of the State of New York, let me bespeak my own very real pleasure and privilege in being permitted to address this House of Delegates this morning.

Thank you very much!

DR. JOHN F. CONNORTON: Mr. President and delegates, I came along with Dr. Groeschel, who is chairman of our Medical Relations Committee, just to emphasize and reiterate the main points made by him. The negotiations that have been going on between the Medical Society and our Association have been in the hands of our Medical Relations Committee, of which Dr. Groeschel is chairman.

You will note, I think, that our Medical Relations Committee is composed of doctors, who, I think, are all members of your own Society.

We are very hopeful for the future that this great project initiated by you will come to fruition in the City of New York. I think, however, also because of the size of the population and the complexity of the population and various types of structure, labor, management, voluntary organizations, etc., that our problems are for some time unique. I know you sympathize with us on these problems. Many of those around the State say New York is a great place to visit and never live in.

We are trying to convey to you today our deep appreciation for all that you have done in starting this great progress. We feel, however, that the big problem for us in the city is getting donor support. We tell you from the basis of our experience that the only way we can really get donor support to make this the great success it should be is to organize along the lines of community support.

As I stepped in this morning, I was reminded of the story of Pat who had fallen into an excavation. The walls were falling all around him. He was up to here with dirt (*indicating neck*). The rest of the wall was just about to fall in so they sent for a clergyman to give him the last rites. The priest came and gave Pat the last rites, and then as he was about to leave because the other workmen were urging him to get out before the walls fell in, the priest said, "There are two questions I want to ask, 'Do you love the Lord with all your soul?'"

"Yes, I do."

"Pat, do you renounce the devil and all his works?"

"Oh, Father, dear, this is a bad time to be making enemies." (*Laughter*)

I don't think I have to draw a diagram to give you the appropriate part of the message here. Just because in some of the preliminary negotiations we have had a few ideas different from your own, I know that you will fully understand that we are in no way disagreeing with the main objectives of your plan. Also we want to commend you for the spirit with which your representatives, Dr. Stanley Kenney and the others, have dealt with our very great problem.

We are very hopeful for the future. We think that we should get firmly and strongly behind you in selling this program, if you will, to the various segments of our very complex community, and we are very certain that really outstanding success will take place if some of these minor problems are solved. I think Dr. Groeschel's statement in all of its various ramifications you have been most sympathetic with. You have given it a very fair hearing.

Thank you, ladies and gentlemen, for listening to me and to Dr. Groeschel. (*Applause*)

Dr. Kenney: I want to express on behalf of the directors of the Blood Banks Association and Blood Banks Commission our gratitude for the efforts that these two gentlemen have made in coming up here at their own expense to present their attitude on this very important problem.

I hope that the Speaker will refer these remarks to the appropriate reference committee, and since that committee meets this afternoon, these gentlemen have expressed a willingness to appear before the committee and clarify anything further that they can. They have to go back tonight. I hope that the reference committee will find time to meet this afternoon.

Speaker Holcomb: Thank you.

Dr. Anderton will refer to and clarify various motions of reference that you passed earlier.

Section 32

Reference of Various Supplementary Reports

Secretary Anderton: In clarification of the motion passed by the House referring committee reports, the report marked 55-A in the folder, the first one on top that you received, is to be referred to the Reference Committee on Report of Planning Committee for Medical Policies, of which the chairman is Dr. Christopher Wood; Supplementary to Council Report on Legislation, numbered 55-C, would normally go to the Reference Committee on Report of the Council, Part IX, Legislation, of which the chairman is Dr. Samuel Z. Freedman (the Speaker had referred the part which is a Suggested Law to License Psychologists to Reference Committee on Report of Council, Part IV, of which Dr. Frederick A. Wurzbach, Jr. was chairman); and the Supplementary Report of the Council on Public Health and Education which is numbered 55-D would be cut up among several committees. The first part of the report of the Subcommittee on Cancer would go to the Reference Committee on Report of the Council, Part IV, of which Dr. Frederick A. Wurzbach, Jr., is chairman; the portion of the report dealing with the Subcommittee on Diabetes should go to the Reference Committee on Report of the Council, Part V, of which Dr. C. Stewart Wallace is chairman; the part with regard to the report of the Subcommittee on General Practice is to be referred to Reference Committee on Report of Council, Part III, of which Dr. John M. Galbraith is chairman; the part of this report dealing with the report of the Subcommittee on Maternal and Child Welfare would go to the Reference Committee on Report of Council, Part II, of which Dr. R. Scott Howland is chairman; and, last, the paragraphs dealing with the State Department of Health would go naturally to the Reference Committee on Report of Council, Part II, which has to do with Maternal and Child Welfare and School Health under the chairmanship of Dr. R. Scott Howland.

Mr. Speaker, the Secretary's Supplementary Report, which was in the folder, marked 55-B, ought to go to the Reference Committee on Report of the Malpractice Insurance and Defense Board because it has to do with malpractice insurance and defense.

Speaker Holcomb: Dr. Sanes is chairman of that reference committee.

Section 33 (See 26)

Introduction of Representatives from Other State Societies

Speaker Holcomb: At this time we have located Dr. Davis from his fishing trip, and I will ask Dr. Vickers if he will escort him to the platform.

. . . Dr. Denver M. Vickers escorted Dr. D. Dexter Davis to the rostrum amid applause . . .

Dr. D. Dexter Davis: Mr. Speaker, members of the House of Delegates, ladies and gentlemen, once again it is a great pleasure to be here at your yearly meeting. I expect to hear throughout the halls now and then, "Is he here again?," because every year practically since I left this good State of New York and went to Vermont I have been back at this meeting, but I really enjoy it.

You know in the past I have always been able to tell you people about something, but all I can say at the present time is that Vermont is still Republican, that when they say things up in that state, they mean something, and they mean it and really mean it. I happened to be just up north of us the other day in a little country town. I stopped to see a friend of mine who had bought a house. He had come from New York recently. We stopped to see another old friend, a farmer down the road, and talked to him. As we sat there talking, I looked down and saw cut in the side of the door were two holes just large enough to let a cat out. I, being a Vermonter by this time, was discreet, but my friend came right out to the old farmer and said, "What are the two holes cut in the door for? You have only got one cat."

The old farmer looked at him a minute and took a spit out of the side of his mouth and said, "Say, neighbor, dammit, when I say scat, I mean scat." (*Laughter*)

I just want to take one second—I know you are busy—to tell you fellows about something that I think you would be interested in. You sit here working on the problems of medicine, and listening and talking, and get pretty tired by the end of the day. I know what it is, but after the last world war this body voted to take care of the sons and daughters of men who belonged to this Society who died in the service overseas and give them a college education. I would just like to tell you, without mentioning any names—I hope it will make you feel as good as it does me—that right now in my town we have a girl who is going to Colby College; we have a boy next year that is six feet two, captain of his basketball team in high school, and he is going to Yale next year. That is all at your expense, and if it had not been for what you fellows did here, they would not be enjoying that college education. I think it is a wonderful thing.

I wish you the best of success in this meeting, and I trust I can get to see you all as I have in the past.

I thank you! (*Applause*)

Speaker Holcomb: Thank you, Dr. Davis. We always enjoy greeting you and hearing from you.

We will now resume the introduction of resolutions. As you recall, in the past we have gone by a roll call of counties. This year with this innovation of our new system, we naturally don't expect it to go completely as it should. I have suggested that in calling the counties when the man who introduces the resolution comes to the rostrum, that he first give the number of that resolution, then wait a moment or two until you can pick it up from your file, and then continue. I think that will be, perhaps, somewhat of a compromise and give you a chance to locate that particular resolution that you have numbered.

Are there any resolutions from:

Chenango
Clinton

Section 34 (*See 137*) Resolution 55-11

Questionable Advertising of Medical Books Written for the Laity

Introduced by Dr. Leonard J. Schiff, *Clinton*, as an individual

> Whereas, books written by physicians and purporting to have been published in the interest of medical science are being freely advertised to the general public throughout this State by the publishers, in such a manner as to appeal to lewd and lecherous curiosity rather than scientific study; and
>
> Whereas, the physicians who have written these books undoubtedly did not intend them to be advertised in such a fashion; and
>
> Whereas, this type of advertising tends to bring discredit on the medical profession; therefore be it hereby
>
> *Resolved,* that the Council of the Medical Society of the State of New York be requested to investigate and study this problem and to take any necessary and appropriate action.

Speaker Holcomb: That will be referred to the Reference Committee on Report of the Council, Part XII, of which Dr. E. Dean Babbage, of Erie, is chairman.

Columbia
Cortland
Delaware
Dutchess
Erie

Section 35 (*See 136*) Resolution 55-15

Amendment to "Principles of Professional Conduct"

Introduced by Dr. John D. Naples, *Erie*

> Whereas, some physicians make it a practice to charge a fee in addition to their fees for professional services for completing medical care insurance claim forms for patients; and
>
> Whereas, this practice lowers public esteem for the medical profession and is harmful to the maintenance of good public relations; therefore be it hereby
>
> *Resolved,* that the *Principles of Professional Conduct* of the Medical Society of the State of New York be amended by adding after the sentence beginning with the words "He should receive" and ending with the words "Article VI, Section 3, of Chapter III," the following sentence to Section 6, Chapter I: "Especially should a physician refrain from demanding or requesting remuneration from a patient for completing current medical care insurance claim forms."

Speaker Holcomb: Thank you, Dr. Naples.

This resolution introduced by Dr. Naples will go to the Reference Committee on Report of the Council, Part XII, dealing with Ethics, of which Dr. E. Dean Babbage, of Erie, is chairman.

Section 36 (*See 99*) Resolution 55-24

Establishment of a Section on Physical Medicine and Rehabilitation

Introduced by Dr. Stephen A. Graczyk, *Erie*

> Whereas, the division of the scientific work of the Medical Society of the State of New York does now provide for a Session on Physical Medicine and Rehabilitation but not a Section; and
>
> Whereas, physical medicine and rehabilitation is a recognized and important field of specialty practice, large enough to merit recognition as a section; and
>
> Whereas, there is a growing and continuing interest in this field of scientific work; therefore be it hereby
>
> *Resolved,* that a Section on Physical Medicine and Rehabilitation be established in place of the Session on Physical Medicine and Rehabilitation now in existence.

Speaker Holcomb: The Chair again calls attention to the fact that having these introduced beforehand facilitates matters considerably.

Thank you, Dr. Graczyk. That resolution will be referred to the Reference Committee on Miscellaneous Business B, of which Dr. Walter T. Heldmann, of Richmond, is chairman.

Are there any more resolutions from the County of Erie? Hearing no response, are there any from:

Essex
Franklin
Fulton
Genesee

Section 37 (*See 129*) Resolution 55-9

Extension of Time Limitation on Reports to Department of Social Welfare

Introduced by Dr. Alfred L. George, *Genesee*

> Whereas, the "forty-eight-hour limitation" for

initial reporting to the Department of Social Welfare of medical care rendered was originally proposed by the Medical Society of the State of New York; and

WHEREAS, the said time limit has proved to be difficult and often impossible for doctors and hospitals to adhere to; therefore be it hereby

Resolved, that the Medical Society of the State of New York request the State Department of Social Welfare to alter this forty-eight-hour limitation to a "five-day limitation."

SPEAKER HOLCOMB: Thank you, Dr. George.

That will be referred to the Reference Committee on Report of Council, Part VI, of which Dr. Guy S. Philbrick, of Niagara County, is chairman.

Are there any resolutions from:

Greene
Herkimer

Section 38 (See 109) Resolution 55-12

Workmen's Compensation Medical Practice in Veterans Administration Hospitals

Introduced by DR. GEORGE A. BURGIN, *Herkimer*

WHEREAS, the Workmen's Compensation Law of the State of New York specifically states that all physicians of the State doing compensation surgery be registered through their county medical societies with the Workmen's Compensation Board; and

WHEREAS, the salaried physicians of the Veterans Administration hospitals are largely not so registered or authorized to do compensation surgery; and

WHEREAS, the Veterans Administration is authorized *only* to care for veterans with service-connected conditions or those veterans who are indigent and financially unable to pay for medical services related to nonservice-connected conditions; and

WHEREAS, cases of veterans with nonservice-connected conditions compensable under the New York State Workmen's Compensation Law have been treated in Veterans Administration hospitals by surgeons not authorized by the Workmen's Compensation Board; and

WHEREAS, the insurance carriers have been billed for hospital care and fees for services; and

WHEREAS, this practice constitutes a violation of the New York State Workmen's Compensation Law and is in direct competition with the authorized surgeons of the State of New York; therefore be it hereby

Resolved, that the Medical Society of the State of New York take immediate action to stop this illegal practice by the Veterans Administration and thus protect its individual members from this completely unjustified and illegal raid on their private practice; and be it further

Resolved, that the various insurance carriers be advised that they cannot legally or morally be held financially responsible for the care or treatment of individuals with compensable conditions where such care and treatment has been given in Veterans Administration hospitals.

SPEAKER HOLCOMB: I believe it will be wise to refer this resolution to Reference Committee on Report of Council, Part X, Workmen's Compensation, of which Dr. James A. Lynch is chairman.

The next is:

Jefferson
Kings

Section 39 (See 138) Resolution 55-13

Matter of Dr. Ben E. Landess vs. Queens County Medical Society and Medical Society of the State of New York

Introduced by DR. AARON KOTTLER, *Kings*

WHEREAS, the House of Delegates of the Medical Society of the State of New York at its annual convention in May, 1954, upheld the decision of its Board of Censors in the matter of Dr. Ben E. Landess; and

WHEREAS, such action was taken by the House of Delegates after due processes as prescribed by the Constitution and Bylaws of the Medical Society of the State of New York; and

WHEREAS, Dr. Ben E. Landess was adjudicated as being unethical in that he violated Section 4 of Chapter 1 of the *Principles of Professional Conduct* of the Medical Society of the State of New York; and

WHEREAS, Article VI, Section 10, of the Constitution of the Medical Society of the State of New York reads as follows: "Section 10. The House of Delegates shall consider and decide the appeal on the data submitted to it, and may affirm, modify, or reverse the decision so appealed from. Such decision of the House of Delegates shall be final and binding"; and

WHEREAS, said member appealed to the Judicial Council of the American Medical Association; and

WHEREAS, said council reversed the decision of of the Medical Society of the State of New York; and

WHEREAS, such action is in violation of the Constitution and Bylaws of the Medical Society of the State of New York; therefore be it hereby

Resolved, that the Medical Society of the State of New York take such necessary action as to enforce its Constitution and Bylaws.

DR. KOTTLER: There should be a period at the end of "Bylaws."

SPEAKER HOLCOMB: Thank you, Dr. Kottler.

That resolution is referred to the Reference Committee on Report of Council, Part XII, having to do with Ethics, of which Dr. E. Dean Babbage, of Erie, is chairman.

Section 40 (See 101) Resolution 55-4

Establishment of Medical Hall of Fame

Introduced by DR. BENJAMIN M. BERNSTEIN, *Kings*, as an individual.

Resolved, that a Medical Hall of Fame be established with headquarters suitably housed either in Chicago, Illinois, or in the nation's capital at Washington, D.C.; and be it further

Resolved, that a committee with nation-wide representation be formed for the purpose of selecting candidates for inclusion in this Hall of Fame; and be it further

Resolved, that the ceremonies of election be given the widest possible publicity; and be it further

Resolved, that the delegates from the Medical Society of the State of New York to the House of Delegates of the American Medical Association be instructed to sponsor this project at the next meeting of the American Medical Association in June, 1955.

SPEAKER HOLCOMB: Thank you, Dr. Bernstein! That resolution will be referred to Reference Committee on Miscellaneous Business A, of which Dr. George J. Lawrence, Jr., of Queens, is chairman.

Are there any further resolutions from Kings County? Is that all from Kings County?

Are there any resolutions from:

Lewis
Livingston
Madison

Section 41 (See 130) Resolution 55-10

Denial of Free Choice of Physician to County Welfare Patients

Introduced by DR. FELIX OTTAVIANO, *Madison*

> WHEREAS, the Madison County Welfare Department has refused to honor payment for immunization of county patients by private physicians; and
>
> WHEREAS, the Madison County Welfare Department has refused to honor payment for work done for county patients by private physicians wherever State facilities are available in the vicinity, in spite of the fact that the patient chose to go to a private physician; and
>
> WHEREAS, this refusal of payment constitutes abrogation of the right of free choice of physician; and
>
> WHEREAS, the Madison County Welfare Department is subject to direction by the New York State Department of Social Welfare and and other State agencies; and
>
> WHEREAS, this resolution has been unanimously adopted by the Medical Societies of the Counties of Madison, Oneida, and Herkimer; therefore be it hereby
>
> *Resolved*, that the appropriate officials or bodies in the Medical Society of the State of New York be directed to take definite action aimed to secure the elimination of this deplorable situation.

SPEAKER HOLCOMB: Thank you, Dr. Ottaviano. That resolution will be referred to the Reference Committee on Report of Council, Part VI, of which Dr. Guy S. Philbrick, of Niagara, is chairman.

Monroe

Section 42 (See 103) Resolution 55-22

Participation in Federal Social Security Program

DR. CHRISTOPHER PARNALL, JR., *Monroe:* This resolution is the result of a poll taken by mail and a general vote of the membership of the county society.

> WHEREAS, it is desirable for physicians to participate in the Federal Social Security plan; and
>
> WHEREAS, such participation would provide, in addition to retirement benefits, survivors benefits for the physicians' widows and children; therefore be it hereby
>
> *Resolved*, that the Medical Society of the State of New York approve the participation of its members in the Federal Social Security program; and be it further
>
> *Resolved*, that the delegates from the Medical Society of the State of New York to the American Medical Association be instructed to introduce a similar resolution at the next meeting of the American Medical Association.

SPEAKER HOLCOMB: Thank you, Dr. Parnall.

This resolution will be referred also to Reference Committee on Miscellaneous Business A, of which Dr. Lawrence, of Queens, is chairman, since there is another resolution which is somewhat similar in character.

Are there any further resolutions from Monroe County?

Montgomery
Nassau

DR. E. KENNETH HORTON, Nassau: Our resolution is being mimeographed, according to the regulations.

SPEAKER HOLCOMB: Next is the County of New York.

Section 43 (See 121) Resolution 55-7

Addition to Guide for Cooperation

Introduced by DR. SAMUEL Z. FREEDMAN, *New York*

> WHEREAS, the Guide for Cooperation created in 1954 by the Medical Society of the State of New York has served an excellent purpose in improving press relations of the medical profession; and
>
> WHEREAS, the Guide for Cooperation states that it shall be reviewed annually; therefore be it hereby
>
> *Resolved*, that the House of Delegates of the Medical Society of the State of New York approve the addition of the following paragraph to the Guide for Cooperation: "Excepting only articles or stories originated on an exclusive basis by a writer, editor, or photographer, all information to media of public information should be distributed by medical societies fairly and equally to all."

SPEAKER HOLCOMB: Thank you.

55-7 will be referred to the Reference Committee on Report of Council, Part XI, having to do with Public Relations, of which Dr. Walter W. Street, of

Onondaga, is chairman.

Section 44 Resolution 55-14

Illegal Practice of Medicine; Commending State Education Department and Assistant Attorneys General

Introduced by Dr. Samuel Z. Freedman, *New York* as an individual

Whereas, on Saturday, May 7, 1955, the press carried a story of the third conviction of one Raymond N. Sabourin of Queens County for illegal practice of medicine; and

Whereas, these repeated violations are but an example of multitudinous and egregious flouting of the law by chiropractors; therefore be it hereby

Resolved, that the Medical Society of the State of New York heartily commend Education Commissioner Lewis A. Wilson, Messrs. Newcombe, Kildough, Bardo, Tartikoff, Celanese, and others in his department for their successful efforts in behalf of the protection of the health and welfare of the people of the State of New York; and be it further

Resolved, that the secretary of the Medical Society of the State of New York be requested to send a copy of this resolution to Commissioner Wilson and Attorney General Javits.

Speaker Holcomb: I believe that resolution, Dr. Freedman, is a very fine one, and I would move that it be passed without being referred to a reference committee, or accept such a motion rather.

Dr. Harry Golembe, *Section Delegate:* I so move.

Dr. Samuel Z. Freedman, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Henry E. McGarvey, *Westchester:* Most of those words are misspelled, and they ought to be corrected.

Speaker Holcomb: I accept that, with the correction of the spelling. That is passed by acclamation.

Section 45 (See 98) Resolution 55-6

Proposed Bricker Amendment to the United States Constitution

Introduced by Dr. George Himler, *New York*

Whereas, Senator John W. Bricker of Ohio has introduced in the 84th Congress Senate Judiciary Resolution 1, identical with Senate Judiciary Resolution 181, introduced in the second session of the 83rd Congress, and popularly known and herein referred to as the "Bricker amendment"; and

Whereas, the House of Delegates of the American Medical Association on June 3, 1953, supported in principle the first Bricker amendment not only by a unanimous vote but without the expression of any contrary or minority view by any of the delegates present at that session; and

Whereas, the executive secretary of the Committee on Legislation of the American Medical Association has recently informed the Medical Society of the County of New York that it is contemplated that action taken by his committee and by the Board of Trustees of the American Medical Association on the current Bricker amendment will be submitted in June to the House of Delegates of the American Medical Association for its approval; and

Whereas, it therefore becomes appropriate to re-examine at this time our position relative to the Bricker amendment for the following reasons:

1. The Bricker amendment deals with the over-all power of the executive branch of the Federal government to conduct the foreign relations of the United States through the execution of appropriate agreements and treaties;
2. The American Medical Association is properly concerned with the conduct of foreign relations only insofar as the medical profession and public health are specifically affected thereby;
3. The American Medical Association has ample means and resources for opposing a particular or specific treaty, agreement, or implementing legislation which might be undesirable to the medical profession or to the public health; and

Whereas, it is therefore submitted that on this particular legislative proposal, concerning, as it does, concepts and theories of government above and beyond purely medical issues, an expression of favorable or unfavorable opinion by the American Medical Association, either through its House of Delegates or by any of its national officers speaking in their capacity as official representatives of the Association, is of questionable propriety and cannot be justified by any clear need; therefore be it hereby

Resolved, that the House of Delegates of the Medical Society of the State of New York hereby authorize its delegates to the House of Delegates of the American Medical Association to propose that the American Medical Association refrain from taking any official position on the current Bricker amendment, either in its present form or in amended form.

Speaker Holcomb: Thank you, Dr. Himler! That resolution will be referred to the Reference Committee on Miscellaneous Business B, of which Dr. Walter T. Heldmann, of Richmond, is chairman.

Section 46 (See 58, 135) Resolution 55-8

Rescinding of Proposed Changes in "Principles of Professional Conduct"

Introduced by Dr. Ely Elliott Lazarus, *New York*

Whereas, a resolution to make four changes in the *Principles of Professional Conduct* was approved by the House of Delegates of the Medical Society of the State of New York on May 12, 1954; and

Whereas, subsequently, the Council of the Medical Society of the State of New York recommended that because these changes "have given rise to numerous questions by members of our profession in this State and because many members consider them to be ambiguous," they be considered again at the next meeting of the House of Delegates; therefore be it hereby

Resolved, that last year's approval of these four changes in the *Principles of Professional Conduct* is hereby rescinded; and be it further

Resolved, that the above-mentioned four 1954 changes in the *Principles of Professional Conduct* be submitted to the Judicial Council of the American Medical Association for comment and advice.

Speaker Holcomb: Thank you, Dr. Lazarus.

That resolution will be referred to the Reference Committee on Report of the Council, Part XII, of which Dr. E. Dean Babbage, of Erie, is chairman.

Dr. Benjamin M. Bernstein, *Kings:* May I have a point of order?

Speaker Holcomb: State your point of order.

Dr. Bernstein: I rise to a point of order on this resolution. The *Principles of Professional Conduct* contain no provision for their amendment or clarification. It therefore seems obvious that any action taken by this House last year would automatically become effective. I would, therefore, question the propriety—good as it must have been—of the Council of this Society who recommended reforms in that direction. It would seem to me that the Council is sort of providing a veto power over this House of Delegates when they object to these clarifications. We can change them only in one way, it seems to me, and that is by another amendment, without provision for it in these rules or *Principles of Professional Conduct.*

If you look at this resolution as presented, resolved number one says it should be rescinded; resolved number two says it should be referred to the Judicial Council of the American Medical Association for comment and advice. If perchance you should find it fit to rescind these regulations, then there would be no necessity, or need, or requirement, or authority for sending these on to the Judicial Council for their opinion. It has appeared to me—and I think it might appear to me now—that with the dualism of membership as now exists between the State Society and the American Medical Association, I would again question the veto power of the Judicial Council of the American Medical Association on any action taken by this House of Delegates now.

In view of the importance of these clarifications, whether you like them or not—that is not going into the merits; I don't intend to nor may I—it seems to me that this resolution to rescind should be declared out of order, and instead ask your county society to submit a resolution as an amendment, which should take the usual course, in order to provide the membership of this House with another year of opportunity to discuss these things and act upon them intelligently.

Speaker Holcomb: Thank you, Dr. Bernstein.

Dr. Bernstein did not make a point of order, as I can gather it. I think his discussion was for the information of the House.

Dr. Ezra A. Wolff, *Queens:* I have a point of order, if I may.

Speaker Holcomb: The Chair recognizes Dr. Ezra A. Wolff.

Dr. Wolff: Mr. Speaker, I have the minutes of the Annual Meeting of last year, and under the report of the Reference Committee on Report of Council, Part XII, concerning Ethics, as reported by Dr. Flood, it states, and I read from the minutes, "We approve a recommendation of the Council that Chapter XVII, Section 1, of the Bylaws be amended so that following the word 'Bylaws' there be inserted the words 'or the *Principles of Professional Conduct,*' so that Chapter XVII would then read:

'*Section 1.* Amendments to these Bylaws and the *Principles of Professional Conduct,* except such as are obligatory by law, shall be made only at an annual meeting of the House of Delegates.

'*Section 2.* Notice of the proposed amendment shall be given at a previous annual meeting of the House of Delegates, and before the same can be acted upon, it shall be published once before the annual meeting in the official bulletin or journal of the Society.' "

I, therefore, suggest, sir, that anything which relates to amendment of the code of ethics has to be handled in the same manner as amendments to Bylaws and has to lay over until next year.

Speaker Holcomb: Thank you! That is out of order.

Voices: What is the ruling?

Speaker Holcomb: Do you want a ruling?

Dr. Aaron Kottler, *Kings:* Yes, a ruling on the point of order. Is it in order or out of order?

Speaker Holcomb: This resolution which is numbered 55-8 we were going to refer to Dr. Babbage's reference committee, but since it is rescinding proposed changes in the *Principles of Professional Conduct,* the Chair will rule that this resolution will have to lay over for a year for action at the next House of Delegates.

Dr. Leo F. Schiff, *Trustee:* Just to throw in another point of order, Mr. Speaker and gentlemen, the matter of which Dr. Wolff just spoke is a proposed amendment to the Bylaws, which has not yet been acted upon, and it will be acted upon at this meeting so that the Bylaws stay as they were until the amendment has been passed; therefore, the *Principles of Professional Conduct* are not included. You will find that in your handbook on page 1035 at the bottom of the left hand column.

Speaker Holcomb: Thank you, Dr. Schiff!

Dr. Schiff: I mean page 1035 of the Annual Reports, excuse me.

Speaker Holcomb: The Chair will rule that the resolution has to do with rescinding the proposed changes in the *Principles of Professional Conduct* and is out of order.

Section 47 (*See 97*) Resolution 55-5

Advocating Session on History of Medicine in American Medical Association

Introduced by **Dr. Frederic D. Zeman**, *New York*

Whereas, knowledge of the history of medicine has long been considered an important part of the equipment of the well-trained physician, and eminent clinicians of the past have made noteworthy contributions in this field; and

Whereas, familiarity with the history of medical ideas brings a broader outlook and increased understanding to both undergraduates and practicing physicians; and

Whereas, medical educators today stress the importance of knowledge of the humanities in the preparation of medical students and in the training of physicians; and

Whereas, the Medical Society of the State of New York has for the past twenty years held a successful Session on the History of Medicine at its annual convention; therefore be it hereby

Resolved, that the delegates of the Medical Society of the State of New York to the House of Delegates of the American Medical Association be and hereby are instructed to propose by resolution that the American Medical Association institute at its annual scientific meeting a session on the history of medicine to stimulate interest and encourage study of this important subject on a national level.

Speaker Holcomb: Thank you, Dr. Zeman.

This resolution will be referred to the Reference Committee on Miscellaneous Business B, of which Dr. Walter T. Heldmann, of Richmond County, is chairman.

Are there any further resolutions from New York County? If not, are there any resolutions from:

Niagara
Oneida
Onondaga
Ontario

Section 48 Resolution 55-21

Proposing Dr. Charles F. Nieder and Dr. Harlan J. Q. Howe for Retired Membership as of January 1, 1954

Introduced by **Dr. Philip M. Standish**, *Ontario*

Whereas, Dr. Charles F. Nieder and Dr. Harlan J. Q. Howe, both of Geneva, and members in good standing of the Ontario County Medical Society and the Medical Society of the State of New York, passed the age of seventy on January 1, 1954; and

Whereas, proposing them for retired membership in the Medical Society of the State of New York was inadvertently omitted at the 1954 meeting of the House of Delegates of the Medical Society of the State of New York; therefore be it

Resolved, that the two aforesaid active members be and hereby are elected to retired membership in the Medical Society of the State of New York; and be it further

Resolved, that their 1954 annual assessments be refunded to them by the State Society.

Speaker Holcomb: Thank you, Dr. Standish.

This is a noncontroversial and routine matter. The Chair will entertain a motion.

Dr. Standish: I would make such a motion.

Dr. Thomas M. d'Angelo, *Assistant Treasurer:* We had a similar proposition arise in Queens County only within the past month, and we in Queens voted against it. We felt that if a person wanted to be made a retired member, it was his privilege to ask to be made a retired member, and now we are going all the way back and making retired members as of January 1, 1954. Why can't they just be retired members as of this year?

Dr. Standish: In answer to Dr. d'Angelo, these gentlemen are both very ill and relatively destitute physicians. They have been dropped from the rolls of the county society, and we would like to see their dues remitted because of financial embarrassment.

Dr. d'Angelo: That is perfectly all right, but I hope it does not set a precedent.

. . . The motion was seconded, and as there was no further discussion, it was put to a vote and was unanimously carried . . .

Speaker Holcomb: Continuing, are there any resolutions from:

Orange
Orleans
Oswego
Otsego
Putnam
Queens

Dr. Benjamin F. Glasser, *Queens:* Queens is having a resolution prepared, and it will be ready soon.

Speaker Holcomb: Are there any resolutions from:

Rensselaer
Richmond
Rockland
St. Lawrence

Section 49 (See 110) Resolution 55-19

Revision of Workmen's Compensation Fee Schedule

Introduced by **Dr. Henry Vinicor**, *St. Lawrence*

Whereas, the medical fee schedule of the New York State Workmen's Compensation Board is completely inadequate and unrealistic; and

Whereas, a new medical fee schedule should be promulgated; therefore be it hereby

Resolved, that the Workmen's Compensation Committee of the Medical Society of the State of New York arrange to meet with the chairman of the New York State Workmen's Compensation Board and/or other interested bodies, as soon as practicable, to revise the present schedule.

Speaker Holcomb: Thank you, Dr. Vinicor.

That resolution will be referred to the Reference Committee on Report of Council, Part X, of which Dr. James A. Lynch, of the Bronx, is chairman.

Section 50 (See 131) Resolution 55-20

Forced Donations by Physicians to

Hospital Drives

Introduced by Dr. Henry Vinicor, *St. Lawrence*

Whereas, a relatively new and insidious bug that is pathogenic only to physicians has slowly entered our State in the last few years; and

Whereas, this organism is called "hospital drives" in which the hospital medical staff is asked (told) to donate large sums of money to the hospital; and

Whereas, the hospitals are said to be the "doctor's workshop," and we are said to "make all our money there"; and

Whereas, this has become a case of "donate" or else, possibly, find yourself without staff affiliation; and

Whereas, this could be interpreted as a form of implied blackmail; therefore be it hereby

Resolved, that the Medical Society of the State of New York investigate this situation (before it becomes an epidemic); and be it further

Resolved, that if this investigation shows this to be a State-wide condition, measures be taken to alleviate the situation.

Speaker Holcomb: Thank you, Dr. Vinicor. That will be referred to the Reference Committee having to do with Hospital and Professional Relations, Council, Part VI, of which Dr. Guy S. Philbrick, of Niagara, is chairman.

Continuing:

Saratoga
Schenectady
Schoharie
Schuyler
Seneca
Steuben
Suffolk
Sullivan
Tioga
Tompkins
Ulster
Warren
Washington
Wayne
Westchester

Section 51 (See 105, 149) Resolution 55-18

Amendment to New York State Education Law

Introduced by Dr. Henry E. McGarvey, *Westchester*

Whereas, the New York State Education Law specifically provides that a practitioner of dentistry, dental hygiene, or podiatry may be censured, reprimanded, or otherwise disciplined, or his license suspended, revoked, or annulled upon due hearing in any of the following cases: "That the practitioner has advertised for patronage by means of handbills, posters, circulars, stereopticon slides, motion pictures, radio, television, newspapers, magazines, or other articles, or any other printed publications, or mediums, etc.," but does not apply the same restrictions to practitioners of osteopathy, physiotherapy, or medicine, who are considered conjointly by the statute; and

Whereas, this limitation of the statute's purview leaves osteopathy, physiotherapy, and medicine, the father of all the healing arts professions, with no recourse against this form of cheap commercialism despite the fact that their practitioners deem advertising or solicitation for patronage in any form whatsoever to be highly objectionable, improper, and unethical; therefore be it hereby

Resolved, that the Medical Society of the State of New York foster legislation to amend Section 6514, Subdivision 2 (d) of the New York State Education Law to read as follows: (d) "That a physician, osteopath, or physiotherapist, offered, undertook, or agreed to cure, or treat, disease by a secret method, procedure, treatment, or medicine, or that he treat, operate and prescribe for any human condition by a method, means or procedure which he refuses to divulge upon demand to the Committee on Grievances; or that he has solicited, or advertised for patronage, by means of handbills, posters, circulars, letters, stereopticon slides, motion pictures, radio, television, newspapers, magazines, display advertising in telephone directories, or by other articles, or by any other printed publications, means or mediums"; and be it further

Resolved, that fosterage of the proposed amendment by the Medical Society of the State of New York be in the form of a mandate to its Committee on Legislation which shall include the following behests:

(*a*) That a bill, or comprehensive memorandum, be drafted for introduction to the forthcoming session of the New York State Legislature which would, if approved by that body, effectuate the desired amendment;

(*b*) That a determined effort be made to maintain and further the sympathetic and supportive liaison with the New York State Societies of Osteopathy and Physiotherapy, already established by the Medical Society of the County of Westchester regarding this mutually beneficial legislative effort;

(*c*) That as soon as the bill is introduced to the lawmakers, the proper officials of the component county medical societies, of organized osteopathy and physiotherapy, and of the Woman's Auxiliary be alerted so that they may employ every facility at their disposal to influence the legislators from their respective districts and all involved committees to vote the proposed measure favorably; and be it further

Resolved, that a copy of this resolution be sent to the Chancellor of the Board of Regents and the Commissioner for Professional Education of the University of the State of New York.

I would like to have one minute of your time.

SPEAKER HOLCOMB: Yes.

DR. McGARVEY: I think that now a doctor may solicit patronage in the newspapers without the fear of the Medical Grievance Committee. This resolution proposes to amend the State Education Law so that practitioners of medicine who are guilty of this unethical procedure can be properly dealt with.

SPEAKER HOLCOMB: Thank you, Dr. McGarvey. This resolution is referred to Reference Committee on Report of Council, Part IX, Legislation, of which Dr. Samuel Z. Freedman is chairman.

Section 52 (See 89A) Resolution 55-17

Mandatory Membership in the American Medical Association for All Members of the Medical Society of the State of New York

Introduced by DR. DAVID FERTIG, *Westchester*

> WHEREAS, the maintenance of a national medical organization is incontrovertibly essential; and
>
> WHEREAS, there is now a national medical organization known as the American Medical Association; and
>
> WHEREAS, adequate financial support of such an organization is necessary to enable it to maintain its services to the profession and to the public; and
>
> WHEREAS, all physicians benefit directly or indirectly from these varied services; and
>
> WHEREAS, members of the Medical Society of the State of New York can now be elected delegates to the American Medical Association without actual membership in the national organization; therefore be it hereby
>
> *Resolved*, that membership in the American Medical Association should be made a mandatory requisite for all members of the Medical Society of the State of New York.

SPEAKER HOLCOMB: Thank you, Dr. Fertig.

This I believe should probably be referred to the Reference Committee on Report of the Planning Committee as it has to do with long-range policy. That will be referred to the Reference Committee on Report of the Planning Committee, of which Dr. Christopher Wood is chairman.

Section 53 (See 85) Resolution 55-16

Discontinuance of the Annual Scientific Meeting of the Ninth District Branch

Introduced by DR. HOLLIS K. RUSSELL, *Westchester*

> WHEREAS, the proximity to Metropolitan New York of the various counties in the Ninth District Branch makes teaching facilities and talent available to members of these county medical societies and as a result there is not sufficient interest in the annual meeting of the Ninth District Branch to justify the expenditure involved; therefore be it hereby
>
> *Resolved*, that the annual teaching session of the Ninth District Branch be discontinued; and be it further
>
> *Resolved*, that officers of the Ninth District Branch be elected annually at a special meeting of the delegates representing the membership of the five counties that constitute this branch.

SPEAKER HOLCOMB: Thank you, Dr. Russell.

That will be referred to the Reference Committee on Reports of the Secretary, Judicial Council, and District Branches, of which Dr. Frank A. Gagan, of Dutchess, is chairman.

Are there any resolutions from:

Wyoming

Yates

Section 54 (See 111) Resolution 55-25

Elimination of the Medical Practice Committee

SPEAKER HOLCOMB: Dr. Ottaviano, do you have your resolution ready to bring up?

DR. FELIX OTTAVIANO, *Madison:* Mr. Speaker, I should like to apologize for the lateness of this resolution and also state to the House that the copies have not yet been distributed. I should like your indulgence to read the whereases; they will be distributed later.

SPEAKER HOLCOMB: I will direct Dr. Ottaviano not to read this. It is too long. Will you read the resolved portion?

> WHEREAS, the appointment of a Medical Practice Committee to operate in counties of one million or more population was a departure from the plan of the New York State Legislature in 1935 to invest the county medical society with the function of passing judgment on the actions of members of the medical profession; and
>
> WHEREAS, the Medical Practice Committee during the past ten years, in our opinion, has not acted in the best interests of the public or the medical profession; and
>
> WHEREAS, the Medical Practice Committee does not carry out true arbitration of disputes on medical bills as is the case in counties of less than one million population; and
>
> WHEREAS, the committee functions by permitting one member to settle disputes on medical bills and other important problems which in other counties are considered by a board composed of five physicians; and
>
> WHEREAS, the Medical Practice Committee, in our opinion, does not have the confidence of the insurance companies, employers, or the medical profession; and
>
> WHEREAS, the functions now carried out by the Medical Practice Committee can be performed more efficiently by the county medical society even in the larger cities, without expense; and
>
> WHEREAS, the Medical Practice Committee cannot by itself determine the professional qualifications of applicants for authorization as specialists but must largely depend upon the county society for assistance; therefore be it hereby
>
> *Resolved*, that the Medical Society of the State of New York again introduce and vigorously pursue legislation to abolish the Medical Practice

Committee as now constituted and to restore to the counties having one million or more population the function that now devolves on the compensation committees of the other county medical societies throughout the State.

Speaker Holcomb: The Chair believes this resolution has mainly to do with, and is mainly concerned with, workmen's compensation, and I would refer this to the Reference Committee on Report of Council, Part X, Workmen's Compensation, of which Dr. James A. Lynch is chairman.

Is Nassau County ready with its resolution?

Section 55 (*See 79*) Resolution 55-26

Additional Beneficiaries Under War Memorial Fund

Introduced by Dr. Joseph G. Zimring, *Nassau*

Whereas, the original resolution to establish a living war memorial had its inception in the Nassau County Medical Society, it therefore seems appropriate that Nassau County Medical Society introduce this supplementary resolution; and

Whereas, "The 1954 House of Delegates suggested to the War Memorial Committee that it consider the possibility of including in our list of beneficiaries children of members who died in action or as a result of wounds or disease connected with their service in the Korean conflict"; and

Whereas, the War Memorial Committee at the present time does not know "whether the remaining total will be sufficient to provide for the children of members who lost their lives in the Korean conflict"; therefore be it hereby

Resolved, that children of members who lost their lives in the Korean conflict be included in the list of beneficiaries to the War Memorial Fund; and be it further

Resolved, that members who have joined the Society since the assessment for the War Memorial be assessed, as were the 1948 membership, the sum of $12 per member, these funds to be added to the present fund.

Speaker Holcomb: That resolution, number 26, will be referred to the Reference Committee on Reports of Treasurer, Trustees, Budget, and War Memorial, of which Dr. Alfred P. Ingegno is chairman.

Are there any further resolutions?

Dr. Frank J. Cerniglia, *Queens:* May I introduce a resolution by title? It will be ready in about five minutes.

Speaker Holcomb: I would rather have you present the resolution.

The vice-speaker has just reminded me this would be an excellent time to remind the members about their dinner tickets. Be sure and get them as soon as possible.

The Chair will give a five-minute recess for a respite.

. . . Recess . . .

Speaker Holcomb: The House will please come to order.

Your speaker at this time wishes to welcome a very, very good friend of the medical profession, one that we think a great deal of. I would just like to have him come up for a moment to say hello to us, Dr. Herman Hilleboe, Commissioner of Health of New York, also a member of this House of Delegates.

Section 56

Remarks by Dr. Herman E. Hilleboe

Dr. Herman E. Hilleboe: Mr. Chairman and members of the House of Delegates, I appreciate very much this opportunity to express publicly my deep appreciation for the fine help we have had from the medical profession in the critical days since April 12, 1955. I think we are out of the woods and that our joint program is going ahead and will be a satisfactory one to all of you. I did want you to know that even though I stayed in Albany until eleven o'clock last night on the "little" problem of polio vaccine and drove in this morning, I am delighted to be here. Thank you very much. (*Applause*)

Speaker Holcomb: The Chair recognizes Queens County at this time that has one more resolution to introduce.

The number of this is 55-27. It has not been distributed to the members; therefore, I shall ask Dr. Angrist to read the whereases as well as the resolved portions.

Section 57 (*See 106*) Resolution 55-27

Revision of Autopsy Law and Creation of a Commission to Clarify the Laws Dealing with the Dead Human Body

Introduced by Dr. Alfred Angrist, *Queens*

Whereas, the recently suggested changes in the New York State Autopsy Law have failed of enactment; and

Whereas, the necessary incidental publicity given to the present Law of Consent for Autopsy has further complicated the task of pathologists, hospital administrators, and medical boards and in the maintenance of required licensure standards of autopsy percentage by hospitals; and

Whereas, the autopsy continues to be of outstanding importance in improving medical service, medical knowledge, and medical education; and

Whereas, the cross currents revealed in discussions within our own Legislation Committee and during the last session of the State Legislature establish further the complexities and the ambiguities of the existing legal status and the mores dealing with the dead human body; therefore be it hereby

Resolved, that this House of Delegates endorse the proposed revision of the autopsy law and actively promote its passage at the coming legislative session and further exert every effort to obtain the support of the executive branch of our State government in support of such legislation;

and further be it

Resolved, that the work of our Legislation Committee, so well initiated by its chairman, but now lying fallow in its subcommittee, be expedited and the final report of the Legislation Committee be made directly to the Council of the Medical Society of the State of New York as early as possible; and be it further

Resolved, that the Council implement this report to include, if indicated, a petition to His Honor, the Governor, and the sponsoring of legislation to favor the appointment of a legislative commission to remove existing conflicting contradictions and, in general, clarify ambiguities in the laws dealing with the dead human body, including questions of definitions of the autopsy consents, death certification, jurisdiction, and the like.

SPEAKER HOLCOMB: Thank you, Dr. Angrist.

This resolution will be referred to the Reference Committee on Report of Council, Part IX, Legislation, of which Dr. Samuel Z. Freedman is chairman.

Section 58 (See 46, 135)

Reversal of Former Ruling on Rescinding of Proposed Changes in "Principles of Professional Conduct"

SPEAKER HOLCOMB: The Chair at this time wishes to ask your cooperation in stating that I would like to reverse my ruling on the resolution submitted by Dr. Lazarus, entitled "Rescinding of Proposed Changes in *Principles of Professional Conduct.*" In changing my ruling, I would like Dr. Dorman to explain some of the implications and some of the reasons why he feels that this should be referred to a reference committee. I will again also ask that any discussion following this be on the floor after the reference committee has studied this. I believe we will save a great deal of time rather than start a long argument as to the rather complicated situation involved and will ask the members to refrain from discussing this now.

Dr. Dorman, will you kindly come to the rostrum?

DR. GERALD D. DORMAN, *Councillor:* This is in reference to number 55-8 introduced by Dr. Lazarus, of the Medical Society of the County of New York, rescinding of proposed changes in *Principles of Professional Conduct.*

As you know, the Council recommended to the individual societies that these provisions be held in suspense until this House of Delegates met. The reason for that is one of the clarifications of the *Principles* is such that it makes it unethical for any physician who is partly paid by government funds to treat anyone who is not treated for free. In other words, if there is any charge involved, the person is automatically unethical.

This reflects unfortunately on most of our public health services, most of our public health officers of this State, and it would be very unfortunate to declare that they were unethical.

I would, therefore, urge that this be referred to one of the reference committees for discussion, evaluation, and recommendation to the House of Delegates at a later date.

SPEAKER HOLCOMB: Thank you, Dr. Dorman!

Your speaker will refer this to the Reference Committee on Report of Council, Part XII, of which Dr. E. Dean Babbage, of Erie, is chairman, and which has to do with Ethics.

I will at this time ask the members of the various reference committees to meet their chairmen, and I would like to have them come to the front of the House if they will and have Dr. Williams brief them.

Resolutions numbered 25, 26, and several others have been distributed.

The reference committees will meet in the foyer this afternoon.

The House stands adjourned until tomorrow morning.

. . . The session adjourned at 1:10 P.M. . . .

Morning Session

Tuesday May 10, 1955

The session convened at 9:24 A.M.

SPEAKER HOLCOMB: The meeting will please come to order.

Section 59

Announcing Death of Dr. William H. Ross

SPEAKER HOLCOMB: Members of the House, your speaker wishes to announce the death of one of our very beloved members, Dr. William H. Ross, of Brentwood, Long Island, who passed away early yesterday morning at Brentwood. At my request, Dr. Anderton prepared a telegram of sympathy to the family, which I shall ask him to read, and then the Chair will entertain a motion that the House vote that this be sent to his family.

SECRETARY ANDERTON: Mr. Speaker, the telegram reads as follows:

> Mrs. H. E. Chauvin, Mrs. Randall J. LeBoeuf, Jr., Brentwood, Long Island, New York
>
> House of Delegates, supreme executive body Medical Society of State of New York, extends deep sympathy upon death of your honored father—long beloved, admired, and ever appreciated for statesmanship and wisdom.
>
> FREDERIC W. HOLCOMB, *Speaker*
> W. P. ANDERTON, *Secretary*

Mr. Speaker, I move this telegram be sent.

DR. JAMES R. REULING, *Trustee:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried. . .

SPEAKER HOLCOMB: I will ask the House to stand for a moment in respect to his memory.

. . . The delegates arose and stood for one minute in silent memory of their departed confrere. . .

Section 60

Telegram from New York Convention Bureau

SPEAKER HOLCOMB: I have another telegram, which I will read:

> May I extend my best wishes for a most successful convention this year. We are looking forward to your meeting next year here in New York.
>
> ROYAL RYAN, *Executive Vice-President*
> New York Convention Bureau

Section 61

Announcements

SPEAKER HOLCOMB: Another announcement is this: that the reference committee reports will be heard insofar as possible in the order that they are received and presented to Miss Dougherty, Dr. Wolff, or Dr. Anderton, whichever may be free at that moment.

May I also remind the chairmen that the reports are to be properly signed, not by two members or three, but if possible by the entire membership of each committee.

The first order of business this afternoon following the recess for luncheon will be the report of Dr. Aaron's Special Committee on Constitution and Bylaws. I have arranged this after talking to Dr. Aaron and some of our members. We feel that after lunch perhaps everyone will be quite keenly alert and ready to go over the sometimes rather tedious process of passing on the changes in the Constitution and Bylaws. That is no reflection, by the way, on Dr. Aaron and his committee.

The speaker is now ready to receive any additional resolutions which are in order.

Dr. Anderton is recognized.

Section 62 Resolution 55-28

Congratulations to Blue Cross on Its Twentieth Anniversary

Introduced by DR. W. P. ANDERTON, *Secretary,* as an individual

> WHEREAS, this week marks the 20th anniversary of Associated Hospital Service of New York, Blue Cross, the nonprofit voluntary hospitalization plan serving 5,800,000 members in the New York City area; and
>
> WHEREAS, Associated Hospital Service of New York has removed the financial consideration from hospital care for millions of New Yorkers, thereby assisting both the hospitals and the medical profession in raising health standards; therefore be it hereby
>
> *Resolved,* that the Medical Society of the State of New York commend Associated Hospital Service for its major contribution to the public welfare and for the example it has set in advancing the American way of life through the voluntary efforts of individuals and leaders of industry, labor, and commerce.

I would suggest that this resolution, numbered 28, be not sent to a reference committee but be acted on immediately.

DR. SAMUEL WAGREICH, *Bronx:* I so move.

DR. SAMUEL LEO, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 63 Resolution 55-31

Combating Juvenile Delinquency

Introduced by DR. IRVING J. SANDS, *Kings*

> WHEREAS, there is an acknowledged increase in juvenile delinquency; and
>
> WHEREAS, many of these youthful offenders are emotionally disturbed and mentally ill and are

therefore sick young people; and

Whereas, it is the responsibility of the medical profession to treat sick people; therefore be it hereby

Resolved, that the House of Delegates of the Medical Society of the State of New York pledges its cooperation with all governmental and civic agencies and offers the collective experience of its members in combating this serious problem.

Vice-Speaker Williams: I don't think this needs to be referred to a reference committee.

Dr. Moses H. Krakow, *Bronx:* I move it be adopted by this House.

Dr. Samuel Wagreich, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 64 Resolution 55-29

Proposed Dissolution of the District Branches

Introduced by Dr. Richard Cuthbert, Jr., *Fifth District Branch*

Whereas, in view of the continued and progressive decrease in attendance at the district branch annual meetings and the apparent lack of interest in same; and

Whereas, these meetings are a continued expense to the Medical Society of the State of New York; and

Whereas, the Fifth District Branch at its annual meeting in 1954 voted to request the Medical Society of the State of New York to consider the dissolution of the district branches; therefore be it hereby

Resolved, that the Bylaws of the Medical Society of the State of New York be changed so as to eliminate the district branches.

Vice-Speaker Williams: This resolution I think should be referred to Dr. Aaron's Special House of Delegates Committee on Constitution and Bylaws, concerning as it does delegates and involving the Bylaws of the Medical Society of the State of New York, and be held over for next year.

Are there any further resolutions?

. . . There was no response . . .

Vice-Speaker Williams: The speaker requests me to announce that the deadline for any resolution introduction will be twelve o'clock today.

The Reference Committee on Report of Council, Part VIII, is ready. The Chair recognizes Dr. Schiff.

Section 65

Report of Reference Committee on Report of Council, Part VIII: Liaison with Veterans Administration

Dr. Leonard J. Schiff, *Clinton:* Your reference committee has reviewed the excellent report of the Liaison Committee with the Veterans Administration, which is also a report of the Veterans Medical Service Plan of New York, Inc. This report summarized the history and operation of the Plan since its inception in 1946.

It is noted that, due to factors beyond the control of the Liaison Committee, payments to doctors for hometown medical care have decreased from $613,360 in 1953 to $526,392 in 1954. It should be kept in mind, however, that the Plan is still responsible for the payment of over half a million dollars per year to local physicians. Unless some other way can be devised to continue these payments, we recommend continuation of the Liaison Committee. The returns, although admittedly diminishing, well justify the cost. We have just learned that the contract with the Veterans Administration has been renewed for another year.

Dr. Bauckus and his committee are to be commended for their continuing efforts in the face of increasing difficulties. We wish to record our support of the views of the committee in advocating free choice of physician and hometown care for veterans.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. Gerald D. Dorman, *Councillor:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 66

Report of Reference Committee on Report of Council, Part VIII: American Medical Education Foundation

Dr. Leonard J. Schiff, *Clinton:* Your reference committee has carefully reviewed the report of the Special Committee on American Medical Education Foundation. We earnestly recommend that the statistics presented in this report be brought to the attention of the county medical societies by their delegates.

We note, with regret, that only 10 per cent of our members made donations to the foundation in 1954 and that the average donation was about $13. A five-dollar donation from 100 per cent of our members would raise $125,000, and an average donation of $10 would meet our quota of $250,000.

The trustees were unable to include a donation for $25,000 in the budget for 1954. It seems unlikely that they will be able to do so in 1955. This year our county society billings to members include an item for voluntary contribution. We urge the members of this House to carry the message of need, as presented in Dr. Rausch's report, back to their fellow physicians.

Dr. Rausch and his committee are to be commended for an excellent report of work done in an extremely difficult field.

Mr. Speaker, I move the adoption of this portion of the report and the report as a whole.

Vice-Speaker Williams: Is there a second?

Dr. Arthur E. Lamb, *Kings:* I second it.

Dr. Benjamin F. Glasser, *Queens:* This report is probably correct in its entirety so far as the figures are concerned of what we do for the medical schools because many of us contribute to the local schools without ever recording any of the sums given. I am sure if that were noted in the report or if some notation can be made whereby the member is to state to the American Medical Association he does contribute to his own school, you will find that our portion of contribution is much greater than what the report indicates.

Vice-Speaker Williams: Do you want to make an amendment to this report to so state?

Dr. Glasser: I would do so, yes.

Vice-Speaker Williams: Is there a second to the amendment that the report be amended to include that doctors do make donations to medical schools directly that are not reflected in this report?

Dr. Frank J. Cerniglia, *Queens:* I second it.

Vice-Speaker Williams: Is there any discussion on the amendment?

Dr. William Rausch, *Albany:* That is included in my report. If the doctor will reread it, he will find out that it is mentioned that the alumni in New York State had donated almost $700,000 to their schools.

Vice-Speaker Williams: If this is true, the amendment is not necessary. Will the second withdraw his second?

Dr. Cerniglia: Yes.

Dr. Thomas M. d'Angelo, *Assistant Treasurer:* May I ask a question?

Vice-Speaker Williams: Surely.

Dr. d'Angelo: The report of the committee averaging the contributions at $13 per member—does that include then the money donated by the various members of medical schools without going through the process of the Medical Society? I know that the American Medical Association will immediately assign any money that has been donated to a particular medical school to that fund from that particular state.

Vice-Speaker Williams: No.

Dr. Leonard J. Schiff: No, it includes only sums that went to the Education Foundation.

Vice-Speaker Williams: I think we have to refer this portion of the report back to include in it some statement as to how much money would be included outside.

Dr. Leonard J. Schiff: Would it be satisfactory, sir, if we included Dr. Rausch's statement that he just made, that is, in his report, include the statement that despite this we note with pleasure that doctors individually contributed to their medical schools $700,000? Will that be acceptable? If so, I will move that that be included in my report.

Vice-Speaker Williams: Does this meet with your satisfaction?

Chorus: Yes.

Vice-Speaker Williams: With this inclusion the motion before you is to accept this portion of the report as amended.

Dr. d'Angelo: May I add possibly that that $700,000 does not include one year? It probably includes from the inception of the program. I am sure that we have not contributed $700,000 from New York State in one year. I think we can clarify it better than that.

Vice-Speaker Williams: Dr. Rausch, can you clarify that for us?

Dr. Rausch: No.

Vice-Speaker Williams: Is there someone here who can clarify it for us?

Dr. Leonard J. Schiff: That was in 1954 according to this report.

Dr. Louis H. Bauer, *Ex-President:* I am sorry, Mr. Speaker, I was out of the room. They asked me to go before a reference committee. I did not hear the first part of the report. I just came in and heard the item of $700,000. Am I to understand that $245,000 was said to have been contributed by the physicians of New York?

Vice-Speaker Williams: Not officially through this method. It is an estimated amount donated by the men in New York, the physicians of New York, to the medical schools, including what they gave directly but not through the American Medical Education Foundation.

Dr. Bauer: That is quite erroneous for one year, because the total amount contributed by all the physicians of the United States directly in 1954 was only something over a million and one half, and half of it certainly did not come from New York. Had I known the figures were going to come up, I could have had them with me because I happened to receive the report two weeks ago on the total amount contributed for 1954 from all sources, so that $700,000 I am certain is not 1954 alone.

Vice-Speaker Williams: Dr. Rausch, can you clear up the $700,000 item for us?

Dr. Rausch: I will do the best I can. If you will notice in my report, New York State leads all others in direct donations to our medical schools. The annual gifts in 1954 amounted to almost $700,000 as an estimated figure from the deans' reports to this committee. I have with me most of the deans' reports. For instance, Columbia University received $145,118.71 from the dean's report; Albany, New York, Medical College, $19,000; School of Medicine, University of Buffalo, $242,279.86; Bellevue Medical Center $55,000. So you see it comes pretty close to $700,000 when you total it up. That is where I derived that figure. Now those donations were given to the schools, some of it for building purposes, not all for direct education. Does that clarify the picture?

Vice-Speaker Williams: I think so.

Is there any further discussion on the adoption of this portion of the report, as amended?

. . . The question was called, and the motion was put to a vote and was unanimously carried . . .

Vice-Speaker Williams: Now make a motion on the report as a whole, as amended.

Dr. Leonard J. Schiff: I make a motion for the adoption of the report as a whole, as amended.

Dr. Solomon Schussheim, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Leonard J. Schiff: You chose this committee with regard to the alphabet, but I would like to thank Dr. Shlimbaum and Dr. Schussheim for their assistance in the preparing of the report.

Vice-Speaker Williams: Thank you, Dr. Schiff.

Dr. Benjamin M. Bernstein, *Kings:* May I present a resolution?

Vice-Speaker Williams: Yes.

Section 67 Resolution 55-30

Salk Vaccine Distribution Program

Introduced by Dr. Benjamin Bernstein, *Kings*

> *Resolved*, that the House of Delegates of the Medical Society of the State of New York, representing most of the doctors in New York State, pledge its support and cooperation in the planned distribution and usage of the Salk vaccine for the prevention of poliomyelitis, so that every individual deserving protection shall receive it according to agreed procedure and no one shall be denied its advantages regardless of ability to pay.

Vice-Speaker Williams: The vice-speaker feels that this does not need to be referred to a reference committee but could be acted upon directly by the House. Do I hear a motion?

Dr. A. W. Martin Marino, *Kings:* I so move.

Dr. Irving J. Sands, *Kings:* I second it.

Dr. George J. Lawrence, Jr., *Queens:* If the House feels we must join on the bandwagon, I move to amend the resolution to delete the words "representing most of the doctors in New York State."

Dr. Bernstein: I will accept that.

Dr. Edwin A. Griffin, *Kings:* I second the amendment.

. . . There being no discussion, the amendment was put to a vote and was unanimously carried . . .

Vice-Speaker Williams: Now on the original motion as amended, is there discussion?

. . . The question was called, and the motion as amended was put to a vote and was unanimously carried . . .

Vice-Speaker Williams: The chair recognizes Dr. Beverly C. Smith, of New York, who has an announcement concerning Physicians' Home.

Section 68

Statement of Dr. Beverly C. Smith Regarding Physicians' Home

Dr. Beverly C. Smith: Mr. Speaker and members of the House of Delegates, on behalf of the board of directors and the trustees, including myself personally, I am very grateful for this opportunity of these few minutes to tell you something about the Physicians' Home. At the end of my short discourse, if by chance you have some questions that you might like to ask me, I shall attempt to answer them. If you have any suggestions as to how the Physicians' Home may function better and more usefully in your community or in your county, I would be very happy to receive them either at my own address—you will find it in the Blue Book—or through the State Society office in New York.

For several years it has been my privilege to explain the purposes, aims, and policies of Physicians' Home to members of the State Society at a number of State, county, and district meetings. Although many of the Society's members contribute annually to Physicians' Home, I have been impressed by the fact that so few actually know about its functions and administration. Dr. Redway, editor of the State Journal, has made similar observations and has kindly offered the use of these columns as a proper channel for better acquainting the Medical Society's members with Physicians' Home.

Physicians' Home is a corporation organized in 1919 by 16 founder members as a charitable organization under the Membership Corporation Law of the State of New York, for the purpose, among others, of giving financial aid and other assistance to aged and indigent physicians and their wives, and needy minor children, subject only to the provisions of its bylaws and the policies in that regard established by its board of directors.

Although it was originally contemplated at the time of formation that Physicians' Home might maintain its beneficiaries in a physical home, it does not now maintain one. Twice in the past, and during its early history, it endeavored to maintain a physical home, but both experiences were abandoned. These experiences convinced the directors that in most cases elderly physicians and dependents did not desire to live segregated and necessarily somewhat regimented lives in such a home but were much happier when maintained in familiar surroundings, with relatives and in the communities in which they had lived and practiced. For years now the efforts of Physicians' Home have been directed toward the granting of beneficial aid in the form of financial assistance given monthly directly to the beneficiaries.

The members of the corporation consist of those individuals who make contributions to the corporation, of which its voting members are those who make regular annual contributions as prescribed by the bylaws. The general management of its business and affairs is conducted by its board of 27 directors, each of whom has a three-year term of office and one third of whom are elected annually by the members. The care, custody, and management of the property of the corporation are the responsibility of a board of five trustees, each of whom has a five-year term of office and one of whom is elected annually by the members. Directors are chosen from among individuals approved for the purposes by the Council of the Medical Society of the State of New York. An enthusiastic working board of directors meets monthly, and its executive committee and trustees meet as required. The Hanover Bank is the consultant and adviser of the trustees on financial matters, and the accounts of the corporation are audited annually by Price-Waterhouse and Company. Directors and trustees, as such, serve without compensation.

The income of the corporation is derived from annual contributions received directly from members, two-dollar per annum voluntary contributions collected from certain members by the county medical societies, annual contributions from woman's auxiliaries, and bequests under wills. Expenditures of the corporation consist primarily of beneficial aid extended to its beneficiaries, known as guests, with a relatively small expense for necessary administrative, legal, and accounting services. Generally speaking, the ordinary income of the corporation from contributions and from interest and dividends derived from its endowment fund is used up each year in extending beneficial aid to guests and defraying administrative expenses, and its extraordinary income from bequests has been set aside in an effort to build up an endowment fund. Its endowment fund now amounts to nearly $300,000, and it is anticipated that in the very near future it will be greatly increased as a result of a substantial bequest.

In the light of provisions of the charter and bylaws and the traditions of the corporation, the directors have always maintained the clear conception that its benevolence was intended for, and only for, the benefit of physicians who have spent a considerable portion of their lives in the practice of medicine in the State of New York. To that end and in order that its benevolence should not be applied to purposes beyond its limited resources, the corporation adheres to certain basic policies in the granting of beneficial aid:

> (*a*) That it should be extended only to a physician who is a citizen of the United States of America, who continuously resided in New York State for ten consecutive years, and who had continuous membership in a county medical society of New York State for ten consecutive years, or to the wife, widow, or dependent child of such a physician;
>
> (*b*) That it should be extended for the purpose of providing shelter, food, maintenance, and necessary living requirements and to enable maintenance in a moderate and reasonable style of living, but not to the extent of maintaining beneficiaries in their former or customary style of living, nor to enable beneficiaries to continue to practice or to enter into new enterprises; and
>
> (*c*) That it should not be extended, except in exceptional circumstances, to individuals in cases requiring institutional treatment of custodial care, in cases of positively diagnosed mental disease, or in cases in which the result would be a lessening of the responsibility to those individuals of other proper welfare agencies.

Any person may propose a beneficiary or guest for the consideration of Physicians' Home, and recommendations in that regard should be addressed to it or in care of the State Society's office in New York City. All applications are referred in the first instance to the secretary of the local county society for recommendations and in most cases are investigated through a local social service organization. Thereafter, the application and any recommendations and supporting data are reviewed by the executive committee and by the board of directors, and appropriate action taken thereon, depending upon the results of the review and investigation.

From meager resources and small income in its early years, the annual income and endowment fund have progressively increased, until today, within the limitation of its financial means, Physicians' Home is making a significant social contribution within the profession. This has been due primarily to the continued interest and support of the members of the State Society and to the faithful and loyal service as directors and trustees of many prominent physicians and other professional men. As a result of the expected substantial addition to the endowment fund mentioned above and their assurance of the continued interest and support of members of the State Society, the directors and trustees are confident that the benevolence of Physicians' Home will in the years to come be broadened and its aid become available to a progressively larger number of eligible and meritorious members of the profession in their declining years.

VICE-SPEAKER WILLIAMS: Thank you very much, Dr. Smith. In behalf of the House let me extend to you and the members of the board our sincere thanks for the work you have done through the years. (*Applause*)

There is a Supplementary Report for the Planning Committee for Medical Policies, which we wish to refer to Dr. Wood of Westchester and his reference committee.

The Chair now recognizes Dr. Romaine, of New York, to report on the Reference Committee, Report of Council, Part I, Postgraduate Education, Medical Defense, and Inhalation Therapy.

Section 69

Report of Reference Committee, Report of Council, Part I: Postgraduate Education

DR. ADELAIDE ROMAINE, *New York:* Your Reference Committee on Report of the Council, Part I, has reviewed the report submitted by the Council Committee on Public Health and Education, of which Dr. Theodore J. Curphey is chairman.

We note that since submitting its annual report for 1953–1954, the committee has arranged several types of postgraduate instruction. It arranged lecture series, symposia, or single lectures for 40 groups with a total of 179 speakers participating. It continued to furnish speakers for medical organizations not identified with a particular county or city and also for Cornell University farm and home week. Finally, regional meetings and regional teaching days (one-day sessions) accounted for 30 additional lectures.

Two round table discussions will be held at the Annual Meeting. The first, presented by the Subcommittee on Heart Disease, is entitled "The Cardiac in Industry"; the second, arranged by the Subcommittee on Mental Hygiene, will be devoted to "Psychiatric Implications in Medical Problems."

The *Course Outline Book* was revised, and the present edition includes a series of panels directed towards the problems of the general practitioner.

The Council Committee continued its joint meetings with Dr. Hilleboe and his staff to discuss problems which are of concern to both the State Health Department and the Medical Society of the State of New York. It is evident from the report that these meetings have been carried on in a spirit of cooperation and helpfulness, and that a great deal of benefit has been derived from this mutual assistance. Among the items discussed were problems of ionizing radiation, health conditions in migrant labor camps, school health services, inspection problem of sick and diseased poultry offered for sale, the establishment of a commission to survey the problem of continuation medical education in the State, polio vaccine problem, and retrolental fibroplasia.

The chairman of the Council Committee attended the annual meeting of the Citizens Health Council and also addressed the Tompkins County Medical Society.

This report shows evidence of a tremendous amount of time, planning, and effort. Your reference committee wishes to commend the chairman and his committee members, together with his assistants, for the excellent opportunities they afford the physicians in New York State for postgraduate medical education and also for their successful coordination of efforts with the State Health Department.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. Gervais W. McAuliffe, *New York:* I second the motion.

. . .There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 70 (See 16)

Report of Reference Committee on Report of Council, Part I: Medical Defense

Dr. Adelaide Romaine, *New York:* The report of the Special Committee on Medical Defense has been reviewed by your reference committee. Dr. Hiss continues as chairman of the committee.

Its function is essentially that of cooperation with the Office of Medical Defense, which is a part of the State Department of Health, with implementation of its policies. Most policies were formulated when the committee was first established.

Dr. Hiss and Dr. Masterson (past chairman of the committee) participated in the National Organization of County Medical Society Defense Organizations which met in Chicago in October, 1954. This committee urges that the county medical societies take a more active part in the above organization, inasmuch as Monroe County was the only one represented.

We recommend that this committee continue to function and that its deliberations be disseminated in the New York State Journal of Medicine and in the *Newsletter*.

I move the adoption of this portion of the report.

Dr. Charles H. Loughran, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 71

Report of Reference Committee on Report of Council, Part I: Inhalation Therapy

Dr. Adelaide Romaine, *New York:* The report of the Special Joint Committee on Inhalation Therapy has been reviewed by your reference committee.

This special committee, which was established as a result of the resolution adopted by this convention on May 11, 1954, has held an organizational meeting, and subcommittees have been formed to study the specified objectives. We anticipate the receipt of a more detailed report pending further operations of this committee.

Your reference committee recommends continuation of this committee.

I move the adoption of this portion of the report.

Dr. A. W. Martin Marino, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Romaine: I move the adoption of the report as a whole.

Dr. George A. Burgin, *Herkimer:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Romaine: I wish to extend my sincere thanks to my committee who gave me excellent cooperation, Dr. George A. Burgin, Dr. Anthony A. Mira, Dr. Olin J. Mowry, and Dr. Charles H. Loughran.

Vice-Speaker Williams: Thank you, Dr. Romaine.

Section 72 (See 16)

Report of Reference Committee on Report of Council, Part V: Public Health Activities D—Diabetes

Dr. C. Stewart Wallace, *Tompkins:* The Council Committee on Postgraduate Medical Education by its own definition lists one of its functions "To coordinate the work of its various subcommittees with that of the Society as a whole and to present to the Council and House of Delegates the recommendations of these committees regarding matters of policy and contemplated action in their respective fields of interest . . ."

Your Reference Committee on Report of the Council, Part V, addresses its attention to five of the subcommittees of the Council Committee on Postgraduate Education. The reference committee notes that only two committees, the Subcommittee on Diabetes and the Subcommittee on Hard of Hearing and Deaf, held a formal meeting.

Diabetes: Action by the Subcommittee on Diabetes was directed toward alerting both professional and lay groups to the importance of drives in the field of diabetic detection. It is worthy of note that the subcommittee's work has stimulated interest in diabetic detection and education on the part of the New York State Department of Health. Further progress is noted in recruiting diabetic detection committees in those county societies not having such committees.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. Herbert S. Ogden, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 73

Report of Reference Committee on Report of Council, Part V: Public Health Activities D—Physical Medicine and Rehabilitation

Dr. C. Stewart Wallace, *Tompkins:* Although the Subcommittee on Physical Medicine and Rehabilitation has held no meetings, the chairman has been active in bringing the subject of rehabilitation to governmental and professional groups. The committee's influence on legislation providing for professional temporary licensure for physiotherapists is to be commended at this time when the supply of physiotherapists is inadequate and licensure legislation is in a confused state. Both this phase of the committee's work and that part pertaining to workmen's compensation fee schedule for specialists in physical medicine and rehabilitation call attention to the need for more integration with other Council committees.

I move the adoption of this portion of the report.

Dr. Elton R. Dickson, *Broome:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 74

Report of Reference Committee on Report of Council, Part V: Public Health Activities D—Geriatrics

Dr. C. Stewart Wallace, *Tompkins:* Likewise, the work of the Subcommittee on Geriatrics should, in the opinion of your reference committee, be better coordinated with the Subcommittees on General Practice, Mental Hygiene, Heart Disease, and Physical Medicine and Rehabilitation, and such Council Committees as Economics and Medical Care Insurance.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. Henry E. McGarvey, *Westchester:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 75

Report of Reference Committee on Report of Council, Part V: Public Health Activities D—Hard of Hearing and the Deaf

Dr. C. Stewart Wallace, *Tompkins:* Your reference committee wishes to commend the Subcommittee on Hard of Hearing and the Deaf for what appears to have been a very active year. The committee has done much to stimulate programs of detection for hard of hearing and the deaf. They have also cooperated to a great extent with government, school, legislative, and lay organizations for the hard of hearing program. Individual members of the committee are also to be commended for their activities in their own communities. More cooperation and interest on the part of county medical societies would be helpful to the program. Your reference committee concurs with the belief of the subcommittee that the position of Commissioner of the Deaf should be created by the State.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. Edwin A. Griffin, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 76

Report of Reference Committee on Report of Council, Part V: Public Health Activities D—Cerebral Palsy

Dr. C. Stewart Wallace, *Tompkins:* Cerebral palsy is of primary importance and interest to a large segment of our population. Nowhere is lay creation of specialty medical clinics progressing so rapidly nor legislation so charged with emotion as in the field of cerebral palsy. Nevertheless, no meeting of the Subcommittee for Cerebral Palsy was deemed necessary. Your reference committee is of the opinion that many matters of importance in this area of medicine are here for organized medicine to deal with. These lay groups are in urgent need of counsel and guidance lest their efforts become misdirected or even deleterious. Your reference committee feels that the State Society should take more interest in this activity and that the subcommittee's efforts should be coordinated with those of the Legislation Committtee and the Committee on Public Relations.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. Herbert S. Ogden, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wallace: Your reference committee commends the work of those individuals who have recorded their opinions, especially those members who have taken their assignments seriously and who have discharged them conscientiously. Your reference committee urges more interest in the work of the subcommittees and calls attention to the possibility of amalgamating many committees with overlapping functions and related spheres of interest.

I move the adoption of this portion of the report, and the report as a whole.

Dr. Arthur E. Lamb, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wallace: Mr. Speaker, I would like to thank the members of my reference committee who have been very cooperative in the preparation of this report, Henry E. McGarvey, Herbert S. Ogden, Elton R. Dickson, and Donovan M. Jenkins.

Vice-Speaker Williams: Thank you, Dr. Wallace.

Section 77

Report of Reference Committee on Report of Council, Part VII: Medical Care Insurance

Dr. William B. Rawls, *New York:* Mr. Speaker and members of the House, with your permission, Mr. Speaker, I believe I will read this whole report through to save the time of the House as I don't believe there are any controversial matters in this report.

Your committee has reviewed in detail the report of the Subcommittee on Medical Expense Insurance. They have noted the amount of work done and reported upon, and while agreeing in principle with the report, there are one or two things we would like to emphasize and draw to the attention of this House.

It has been an important consideration that voluntary health insurance agencies be able to write coverage on a national basis. Medical Indemnity of America could accomplish this, but, although started four years ago, it has not been licensed to date—but we have reasonable assurance this will be corrected in the near future. This prevents the local Blue Shield plans in New York State from participating in any of the coverage at the local level and local rates. Your committee believes it is very important to have Medical Indemnity of America licensed in New York State as early as possible.

The subcommittee noted that a State-wide service contract could not be issued because two plans objected to this plan. Your reference committee is fully aware of the complexity of this problem but believes some method should be found to issue a State-wide contract. The committee is in favor of a combination of indemnity and service contracts, with ceiling levels for the service contracts and indemnity above this level. Your reference committee, however, would like to point out that the raising of these ceiling levels during the past few years has brought more and more subscribers into the service contract.

Your reference committee noted the report on Dr. Newland's resolution requesting a further study for ways and means to pay so that voluntary health insurance could be continued during unemployment. Also the comment of Mr. Haley, supervisory examiner, State of New York Department of Insurance, that if this matter is further considered, it be well studied in advance. Your reference committee heartily endorses this statement. Your reference committee is in no position to make recommendations for solving this problem but believes it is our responsibility and further believes that whether it involves social legislation or otherwise, we should make every effort to solve this problem.

Your reference committee is in full agreement with the subcommittee as being opposed to having podiatrists included as those eligible to render service to Blue Shield subscribers.

Your committee wishes to commend the subcommittee for working out a universal claim form which will simplify the work of the doctors.

On recommendation of the subcommittee, a poster developed by United Medical Service inviting the subscriber to discuss frankly with his or her doctor any question regarding the fees or services rendered was approved by the Council, and this poster now bears the seal of the Medical Society of the State of New York. Your reference committee believes this a forward step and is in full agreement.

Your committee has read with interest the many activities of the director of the Bureau of Medical Care Insurance.

Your committee endorses without reservation the testimony of Blue Shield representatives that they believed in and were in favor of fee for service and that the doctor be compensated in proportion to service rendered.

Because there has been much publicity concerning the President's reinsurance program and realizing that most of us do not have time to read all the reports, we believe it worth while to quote from the director's report:

> Mr. E. A. Van Steenwyk of Philadelphia, speaking for the Blue Cross Commission, said that it would be difficult to see how a reinsurance corporation under government auspices could be of much help. However, it might be a good idea to set up a corporation on a limited experimental basis. Working with voluntary plans, it might inquire into such as (1) accepting local responsibility for the hospital needs of the aged, (2) providing hospital care for subscribers during unemployment, and (3) granting extended coverage in catastrophic medical insurance.

At the 1954 annual conference of Blue Shield plans the conference adopted the basic objectives of the President's message to Congress on health insurance matters and also stated that they believed in the encouragement of experimentation and expansion in the field of voluntary health insurance.

With these premises the Blue Shield plans gave careful consideration to the Administration's reinsurance proposal and arrived at the conclusion that it may be unnecessary, particularly with respect to Blue Shield plans, for the following reasons:

1. An outstanding characteristic of Blue Shield plans is that they have experimented and pioneered in a totally new concept of medical protection and have demonstrated their ability to stand financially.

2. Since their inception Blue Shield plans have been underwritten and hence, in fact, reinsured by the physicians who sponsor them. Customarily there is either a written or implied agreement that sponsoring physicians will accept a pro rata reduction in fees paid by the plan, should it become necessary for them to do so. Several of the most successful Blue Shield plans in operation today were subsidized in this manner by their sponsoring physicians during early days of experimentation in an unexplored field.

3. In a few years Blue Shield plans have made remarkable progress in both extension of enrollment and extension of benefits. At present Blue Shield plans have an enrollment of over 29 million people. Having come through the early critical period, there is no reason to expect that they will now need to rely upon anything other than their own resources as they continue to expand their operations in accordance with the reasonable expectations of the public.

It is interesting to note that 85 per cent of the people with medical care insurance are insured under a plan that offers a service contract.

Your reference committee wishes to commend the subcommittee for their work and offer thanks to the director of the Bureau of Medical Care Insurance for his work during the past year.

Mr. Speaker, I move the approval of the report as a whole.

Dr. Walter S. Bennett, *Washington:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Rawls: I would like to offer thanks to my committee for their cooperation in preparing the report, Walter S. Bennett, Joseph A. Lane, Joseph A.

Wintermantel, and E. Kenneth Horton.

VICE-SPEAKER WILLIAMS: Thank you, Dr. Rawls.

Section 78 (See 22, 23)

Report of Reference Committee on Reports of President and President-Elect

DR. PHILIP M. STANDISH, *Ontario:* Dr. Dan Mellen has given a comprehensive report on the forward progress of the Medical Society of the State of New York, giving a great deal of credit to the hard work of the committees.

He has recommended that the district meetings are most beneficial to the members of the various counties and should be maintained. The committee concurs in the president's comments on the district branch meetings and feels that they should be continued.

The committee commends the president on his progress report of the State Society and congratulates him on his excellent stewardship as president of the Medical Society of the State of New York. The various comments under the headings of malpractice insurance, workmen's compensation, industrial medicine, legislation, STATE JOURNAL, planning committee, woman's auxiliary, medical economics, public health and education, public relations, veterans administration, *Directory,* etc., will be adequately considered in their appropriate committees and, therefore, need no more discussion.

The committee reviewed the address of the president-elect, Dr. R. J. Azzari, and approves the items in his message.

We recommend the adoption of this portion of the report, and we recommend the adoption of the report as a whole.

DR. DONALD E. MOORE, *Onondaga:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

DR. STANDISH: I wish to thank the members of my committee, Donald E. Moore, Meyeron Coe, John L. Edwards, and Philip D. Allen, for their support.

VICE-SPEAKER WILLIAMS: Thank you, Dr. Standish.

Section 79 (See 55)

Report of Reference Committee on Report of War Memorial Committee and on Additional Beneficiaries Under War Memorial Fund

DR. ALFRED P. INGEGNO, *Kings:* Mr. Chairman and gentlemen, I would like to depart from the usual procedure for a moment and thank my committee ahead of time since it might slip my mind by the time I am through. The members of my committee were George Himler, John F. Mosher, Stephen A. Graczyk, and John F. Rogers. I would like to commend them for their faithfulness in attending the meetings, and I would like to thank those who appeared before the committee and helped it in its work.

The first report, Mr. Speaker, is on the report of the War Memorial Committee and also on resolution 55-26, "Additional Beneficiaries Under War Memorial Fund," introduced by Dr. J. G. Zimring, of Nassau County Medical Society.

The War Memorial Committee continues its efficient and humane management of this cherished project of our Society. Sixteen children of members who were World War II casualties are currently receiving financial help in attaining college educations. In all, 23 have been thus aided.

Your reference committee agrees with the Board of Trustees that the present rule ending benefits at age twenty-five would be unfair to those who served in the Armed Forces before that age. We, therefore, recommend that any beneficiary who serves in the Armed Forces before attaining the age of twenty-five shall be eligible for benefits for an additional period beyond age twenty-five equivalent to the length of time served.

I move the adoption of this portion of the report.

DR. STEPHEN A. GRACZYK, *Erie:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

DR. INGEGNO: The possible inclusion of children of our colleagues who were Korean War casualties, as suggested by last year's reference committee and House of Delegates, and by resolution 55-26, introduced by Dr. Joseph G. Zimring at this meeting of the House of Delegates, is being carefully studied. If there is 80 per cent utilization, and if June 30, 1974, is the latest date on which any beneficiaries would receive benefits, the projected balance at that time is estimated at $95,984, consisting of $84,000 in securities and $11,984 in cash. This estimate presumes a $2^1/_8$ per cent interest on securities. Possible losses on sales of securities cannot be predicted.

Whether the projected balance of $95,984 will be sufficient cannot be estimated until the number of our members who were Korean War casualties is known, as well as the number of their surviving children. These data are now being obtained and will be presented to the House in the future, and we recommend no action until that time.

I move no action at this time.

DR. JOHN F. MOSHER, *Albany:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

DR. INGEGNO: The War Memorial Committee, consisting of Dr. Cunniffe, chairman, and Drs. Mott, Schiff, and Dattelbaum, together with their most efficient secretary, Miss Mollie Pesikoff, deserve our heartiest thanks for their splendid management.

I move the adoption of the report as a whole.

DR. JOSEPH P. ALVICH, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 80

Report of Reference Committee on Report of Budget Committee

DR. ALFRED P. INGEGNO, *Kings:* This committee (budget) formerly the Finance Committee, consists of Dr. Dattelbaum, chairman, and Drs. Holcomb and d'Angelo. These gentlemen bring years of wisdom and experience to the matter of budget preparation and review. They have not hesitated to recommend budgetary reductions when necessary, even so painful a one as the elimination of the $25,000 contribution to the American Medical Education Foundation. In spite of everything, however, a budget loss of $45,292 is anticipated for the fiscal year ending June 30, 1955. It is perfectly obvious that further instructions to meet this problem will be necessary, and suggestions regarding this will be made in the report of Reference Committee on Report of Trustees. Your reference committee feels that not only should the House of Delegates declare a moratorium on any new items of major expense for the coming year, but that reductions in certain present expenditures are imperative.

I move the adoption of this report as a whole.

Dr. John F. Rogers, *District Delegate:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 81

Report of Reference Committee on Report of Treasurer

Dr. Alfred P. Ingegno, *Kings:* The report of our treasurer, Dr. Dattelbaum, has been carefully reviewed. This report, and those of the Budget Committee and Board of Trustees, taken together, give an excellent projection of the past, present, and anticipated financial status of the Society.

Your reference committee was dismayed to learn that, in spite of an increase in dues income of $112,700, and a net income of $71,544 in 1954, it is anticipated that there will be a deficit of $45,292 for the fiscal year ending June 30, 1955. Our treasurer is forced to suggest consequently that a drastic reduction in service or another increase in dues will be necessary. This matter will be referred to again in the comments on the report of the Board of Trustees.

Particular consideration was given in the treasurer's report to the matter of pensions for employes of our Society who retire after long years of faithful and efficient service. Obviously, if such pensions are to be granted, their financial impact upon the Society may be expected to increase. Cumulative expenditures of this sort cannot logically be met from current income. Your reference committee, therefore, is in hearty agreement that a fund large enough to cope with this program should be created if possible. The treasurer suggests that this could be done in the form of a single assessment as was done with the War Memorial Fund. A beginning in this direction was made with the setting aside of a special "Employes Beneficial Fund Reserve." This could well be augmented to sufficient size by a single assessment of appropriate magnitude. Your reference committee suggests that the House of Delegates instruct the Board of Trustees to prepare an estimate of anticipated annual pension expenditures, of the magnitude of fund necessary to permit such annual expenditures, of the details of any proposed pension plan, and of the amount of assessment necessary, if any, to permit its creation, and to present this report in form appropriate for action to the 1956 House of Delegates.

I move the adoption of this portion of the report.

Dr. Edwin A. Griffin, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Ingegno: We wish to compliment our treasurer, Dr. Dattelbaum, for his long, faithful, and efficient service to our Society.

I move the adoption of this report as a whole.

Dr. John F. Rogers, *District Delegate:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 82 (See 14, 18)

Report of Reference Committee on Report of Board of Trustees

Dr. Alfred P. Ingegno, *Kings:* Your reference committee cannot praise too highly the judicious management which our distinguished Board of Trustees brings to the financial affairs of our Society. That our Trustees have been able to conserve and maintain the financial stability of our Society, in an era of rising costs and in the face of a tremendous number and variety of spending pressures, is an accomplishment which deserves our most sincere thanks and appreciation.

It has been already suggested in the reference committee report on the report of the treasurer that the Board of Trustees bring to the House of Delegates necessary information regarding the establishment of an adequate fund to meet pension costs.

The Board of Trustees has found that a fiscal year beginning July 1 and ending June 30 necessitated more clerical work during the period of summer vacations, increased expense, and delayed the presentation of a final audited report to the House of Delegates. The trustees, therefore, present notice to the House of Delegates of the following proposed amendment to the Bylaws, Chaper V, Section 2, last sentence, which at present reads, "The fiscal year shall begin July 1 and end June 30 of each calendar year"; to be amended to read, "The fiscal year shall begin January 1 and end December 31 of each calendar year." This committee approves of this proposed amendment to the Bylaws.

I would like to move adoption of this portion of the report.

Vice-Speaker Williams: This is the first reading of the amendment. Is there a second to that motion?

Dr. Stephen A. Graczyk, *Erie:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Ingegno: Your reference committee has considered the issues involved in the expense of defending malpractice suits against uninsured members and in accordance with the spirit of the recommendation of a committee of the Board of Trustees approves the action of the Council taken on April 14, 1955, and recommends that (1) no out-of-pocket expenses for the defense of uninsured cases shall be borne by the State Society, but that such expenses shall be borne by the uninsured member, and that (2) members of the State Society who were uninsured in the Group Plan and who had multiple suits within a given period of time shall be reported to the Malpractice Insurance and Defense Board. This in no way interferes with the present practice of providing legal defense for uninsured members of the State Society.

I move the adoption of this portion of the report.

Dr. Samuel Z. Freedman, *New York:* I second it.

Vice-Speaker Williams: Is there discussion?

Dr. Benjamin F. Glasser, *Queens:* Mr. Speaker, ladies and gentlemen, I am fully in accord with the sentiment presented in this resolution that out-of-pocket expense should be borne by the man involved, but I am wondering whether we cannot make some sort of a statement regarding the amount of expense involved. I don't know what the answer would be, but I think some reassurance should be made to the doctor that these expenses will not be excessive. That is the point I would like to bring up.

Vice-Speaker Williams: Is there any further discussion?

Dr. William B. Rawls, *New York:* I will ask one question. He read one thing that is wrong. In reading this you said out-of-pocket expenses by the insured. I think you meant to say by the uninsured.

Dr. Ingegno: It reads "for the defense of uninsured cases."

Vice-Speaker Williams: The printed page does carry "uninsured cases." Is there any other discussion?

. . . The question was called, and the motion was put to a vote and was carried . . .

Dr. Ingegno: Mr. Speaker, with your permission, I would like to read through this next portion of the report which contains several recommendations, and then ask for their approval one by one.

Vice-Speaker Williams: Very good!

Dr. Ingegno: In spite of a $5.00 increase in dues last year, it is anticipated that there will be a $45,292 deficit in the fiscal year ending June 30, 1955. On February 10, 1955, the Council passed a resolution to ask the House of Delegates to increase the yearly dues by $5.00. Your reference committee looks with jaundiced eye on this request for still another increase in dues. Your committee feels that our membership will not only be unwilling to shoulder this increase in dues but will demand that no additional items of major current expense be assumed and that severe cuts in certain present expenditures be effectuated.

To this end we recommend:

1. That the Council and Board of Trustees be authorized to defer action on any new item of major current expense for the coming year pending further study of Society expenditures; and

2. That any future resolution voted upon by the House of Delegates requiring the expenditure of money include a statement of the amount of money that may be expended for the purpose and source of appropriation;

3. That a committee of the trustees and Council review present expenditures and advise this House at its 1956 meeting regarding the possible sharp curtailment of such expenditures. It is suggested that such a committee give particular thought to:

a. The possibility of reducing administrative expense by the use of more efficient methods and equipment.

b. Reducing to a necessary minimum public and professional relations activities.

c. Eliminating the Legislation Bureau and pinpointing activities of this sort to the actual legislative session and to the obtaining of special counsel for specific projects as required.

d. Reduction of expenses of the Workmen's Compensation Bureau and of the Bureau of Medical Care Insurance, and with respect to the latter, consideration as to whether or not expenses of the Bureau of Medical Care Insurance may not be properly contributed to by the various Blue Shield plans.

e. Reduction of travel expenses and consideration of the possibility of arranging for some committee meetings and conferences by telephone hook-up with the various county medical societies.

f. Careful scrutiny of commitments to the Blood Banks Association of New York, Inc. Indeed, at this very session, the House of Delegates should instruct the Board of Trustees specifically as to the extent it should commit funds of the Society to this project.

g. Issuance of the *Medical Directory* at longer intervals than every two years, but with brief interval supplements.

4. In view of the foregoing your reference committee advises that the request for additional dues be disapproved.

Your committee feels that it will do little good for us to grumble about dues if we continue to demand services that inevitably magnify the budget. Let us resolve here and now to make no additional expensive demands and to be ruthless in trimming all expenses beyond those absolutely necessary.

Mr. Speaker, I would like to move that the Council and Board of Trustees be authorized to defer action on any new item of major current expense for the coming year pending further study of Society expenditures.

Dr. Aaron Kottler, *Kings:* I second it.

Vice-Speaker Williams: Is there any discussion?

Dr. Glasser: In a number of items recommended where monies can be saved I note, and just possibly it was an omission or possibly I did not quite hear it correctly, there are several bureaus of the State Society which collect funds for the benefit of the individual physician. These funds could never be collected by these physicians without a fee, and I think the membership at large could note that any physician whose funds are collected through the aid of the Society should be willing to pay a minimal sum for such collection. I notice, for instance, the Workmen's Compensation Bureau collects fees for doctors, and when they do that, the doctors should be willing to pay some of the fees. The Compensation Board collects a lot of fees for doctors on services which they could not collect otherwise or as readily, and they pay no fee for such service. It is true that in the State Society we should help all physicians, but it is also true that we are not organized primarily to collect fees for the benefit of the doctor and leave other activities aside because of lack of funds.

Thank you!

Vice-Speaker Williams: The Chair recognizes Dr. Dorman. This is in discussion of the first recommendation.

Dr. Gerald D. Dorman, *Councillor:* In discussion of the first recommendation on the question of new projects, there are and have been certain projects recommended by past Houses such as the Industrial Health Bureau, and I would like it spelled out specifically to the Council, does that mean that this House does not want the Industrial Health Bureau to go forward? Is that a new project, or is that an old project which would be carried on?

Vice-Speaker Williams: Will the chairman please read the first item?

Dr. Ingegno: That the Council and Board of Trustees be authorized to defer action on any new item of major current expense for the coming year pending further study of Society expenditures.

Vice-Speaker Williams: Would the Industrial Health Bureau be included as a new item?

Dr. Ingegno: If it involves a new major expenditure, I am afraid it would. However, this does not compel or demand that the trustees defer those expenditures. It merely authorizes them to do so if in their judgment such be wise.

Dr. Peter J. Di Natale, *Councillor:* This House of Delegates in 1952 approved in principle the establishment of a Council Committee on Industrial Health, with the full prerogatives thereof, and to employ a full-time executive to carry out the duties and functions. Two reference committees reported on the same: one by Dr. Joseph Cornell, approving it; another one by the late Dr. Morris Weintrob, approving the idea. It was referred to the Planning Committee for study.

The Planning Committee, I think in its wisdom, studied it thoroughly for approximately six months before we made a recommendation that the Council committee be set up. In December, 1952, Dr. Wentworth appointed the committee. That committee reported to the House that something be done about establishing an Industrial Health Bureau. The reference committee in 1953 reported as follows: that in view of the fact that there might be the possibility of spending $25,000 for this bureau that they merge it with the Compensation Bureau so that in all probability it would cost approximately $15,000. Since that time more denuding has taken place so that in March, 1955, the Industrial Health Committee asked the Council to ask the Board of Trustees if they would appoint an assistant to Dr. Kaliski at the grand salary of $4,500 per year for six months, also to include a budgetary allowance—Mr. Alexander made out the budget for us—of $2,500, not $4,500, so it came to slightly over $6,000 for six months.

I know of nothing that has been referred, referred, and rereferred like the Industrial Health Committee in trying to establish, at least now, a part-time Bureau of Industrial Health. I feel that this bureau—I am sorry, it is not a bureau, not a part of a bureau—is old business, and it should remain on the agenda as such.

Vice-Speaker Williams: Is there any further discussion?

Dr. Thomas M. d'Angelo, *Assistant Treasurer:* Mr. Chairman and members of the House, I am going to ask the speaker for a little indulgence in the fact that my remarks will not be completely pertinent to this particular portion of the report for the simple reason—

Vice-Speaker Williams: Is it pertinent to any other item on this?

Dr. d'Angelo: Yes.

Vice-Speaker Williams: You feel it important to take it up now and not when we discuss those items?

Dr. d'Angelo: Yes, because this is the package that the reference committee is presenting. It is a whole package. By discussing it item by item it is a very good idea, but at the same time we may lose sight of the entire package.

As assistant treasurer of this Society, with Dr. Dattelbaum and with Speaker Holcomb, we have gone over the affairs and the financial condition of the Society with a fine-tooth comb, and I ask you gentlemen to realize that present budget has a deficit of something like $42,000. However, that is not the whole picture because I don't know whether the reference committee has been cognizant of the fact that we have also been working on a deficit, an annual deficit of approximately $45,000 which we incurred about eight or nine years ago, and that has been carried on the books so that by the time October or November comes about we have to go around borrowing money and to pay back that borrowed money with the following year's dues.

Now it is perfectly well for us to try to save money. I have no objection to that. However, as I said, your Budget Committee has cut things to the bone. If you think there are certain activities of our Medical Society that can be completely eliminated without doing any damage, well then your Budget Committee is ready to eliminate them on the advice of the Council and the House of Delegates; but in these times if you are going to have an efficient working medical association in the State of New York, with controversial issues coming up monthly and yearly all the time to plague us, by curtailing its funds you are going to make the work of your Society inefficient. So before you decide to curtail all these activities, I believe you should think very, very seriously about this matter. You can't sit down here and say, "We don't want a Legislation Bureau in Albany, we don't want a Public Relations Bureau, cut in half the administrative department, cut salaries," etc. If you do, gentlemen, you are going to cut yourselves out completely.

Dr. Herbert H. Bauckus, *Trustee:* Mr. Chairman, I would like to point out that the Board of Trustees have omitted from payment certain items that probably are quite as important as this question of industrial health. For example, the $25,000 that was to be given to the American Medical Education Foundation fund we felt this year, in view of our financial stress and the fact that the physicians generally were contributing, that it would be unnecessary to donate this amount. At the time that the Industrial Health Bureau in 1952 and 1953 was brought about, we did not have a large loan to the Blood Banks Association in our favor or against us, and there are some other things, too. I think it should be said that this year the Council did authorize an assistant to Dr. Kaliski or a part-time man in the Industrial Health Bureau. We were ready to employ such a person. We were ready to have him begin when unfortunately he became ill and has not been able to accept the appointment. When this took place—it was some time in November or December—we referred the question back to the Council, and also stated that we would have difficulty in finding a man to take this job at the amount of money we felt could be spent.

Further, it is difficult to find a person experienced in teaching industrial health. Dr. Dorman is chairman of the Workmen's Compensation Committee who had charge of this Bureau, and he said it should be a well-trained physician. For the amount of money that we set up we could have secured this part-time man who was a retired specialist in industrial health. That apparently is no longer available, and I believe should be explained to the House.

Dr. Maurice J. Dattelbaum, *Treasurer:* Mr. Speaker and members of the House of Delegates, you are the policy-forming committee of the State Society, and when you are not in session, the Council must do the work. I am glad to see that someone had the strength and the courage to get up and say we should cut a lot of things which you have proposed and have asked to have done.

Chorus: Can't hear.

Vice-Speaker Williams: Speak in the microphone, please.

Dr. Dattelbaum: This is a very good, healthy situation. I am in full approval with the chairman of this committee that we cut down our expenses and live within our budget, and if the Industrial Health Bureau cannot function this year—I understand from your suggestion that it is only for this year; that is the only power you have—we should limit our expenses, and if next year we have the money, we will go ahead. Thank you!

Vice-Speaker Williams: Is there any other discussion of the first item?

Dr. Benjamin M. Bernstein, *Kings:* I am sure you all know—and Dr. Wood, chairman of my reference committee, will forgive me if I sort of jump the gun for a moment—we have a committee on planning, the Planning Committee for Medical Policies instituted by this House of Delegates. What this committee has done in the past, what it has done recently, what it should do, you will hear about from him very soon. It might surprise you the things you will learn and hear, and, as far as the policies of the Society over a long-range point of view, to say that no project shall be given money at the present time regardless of its merits would hamstring certain projects and ideas perhaps which this Planning Committee and the reference committee deem wise. I will urge, therefore, that you not say no project be given any money regardless of how good or how bad it might seem to you at the present moment, but that we rather wait perhaps until the Planning Committee give their report, from which you will find that there are many projects now being pursued by the Council and the State Society as a whole which can be curtailed, which can be eliminated perhaps, and which might save us a great deal of money, with greater efficiency for all concerned.

Vice-Speaker Williams: I would ask the chairman of the reference committee to again read item 1 so everyone in the House knows what we are discussing.

Dr. Ingegno: I would like to make clear it merely grants authority; it does not demand that all items of expenditure be cut out. Our recommendation is that the Council and Board of Trustees be authorized to defer action on any new items of major current expense for the coming year pending further study of Society expenditures.

Vice-Speaker Williams: An authorization to defer action on new expenditures.

. . . There were calls for the question, and the motion was put to a vote and was unanimously carried . . .

Dr. Ingegno: Number 2, we recommend that any future resolution voted upon by the House of Delegates requiring the expenditure of money include a statement of the amount of money that may be expended for the purpose and source of appropriation.

I move the adoption of this recommendation.

Dr. Dorman: I second it.

. . . There being no discussion, the motion was put to a vote and was carried . . .

Dr. Ingegno: Mr. Speaker and gentlemen, the reference committee also recommends that a committee of the trustees and Council review present expenditures and advise this House at its 1956 meeting regarding the possible sharp curtailment of such expenditures. It is suggested that such a committee give particular thought to:

a. The possibility of reducing administrative expense by the use of more efficient methods and equipment.

b. Reducing to a necessary minimum public and professional relations activities.

c. Eliminating the Legislation Bureau, and pinpointing activities of this sort to the actual legislative session, and to the obtaining of special counsel for specific projects as required.

d. Reduction of expenses of the Workmen's Compensation Bureau and of the Bureau of Medical Care Insurance, and with respect to the latter, consideration as to whether or not expenses of the Bureau of Medical Care Insurance may not properly be contributed to by the various

Blue Shield plans.

e. Reduction of travel expenses and consideration of the possibility of arranging for some committee meetings and conferences by telephone hook-up with the various county medical societies.

f. Careful scrutiny of commitments to the Blood Banks Association of New York, Inc. Indeed at this very session, the House of Delegates should instruct the Board of Trustees specifically as to the extent it should commit funds of the Society to this project.

g. Issuance of the *Medical Directory* at longer intervals than every two years, but with brief interval supplements.

Mr. Chairman, I would like to point out that the suggestion is that the committee consider these matters, not that the House approve that all these things be done.

I move adoption of this portion of the report.

Dr. Stephen A. Gracyzk, *Erie:* I second it.

Dr. James Greenough, *Councillor:* While I realize this is only a suggestion as to the Legislation Bureau, and not a request that the House abolish it, as chairman of your Legislation Committee for the last two years, I would like to point out that if the Legislation Bureau is abolished, you will be left unprotected. The Legislation Bureau two years ago cost $31,000. That has been pared down now so it costs $26,000. Every effort will be made to save expenses. That is about one dollar per member. While the results of legislation work may not be apparent, I would like you to look at my supplementary report wherein I pointed out that our Legislation Committee and the Legislation Bureau opposed 20 bills which were very detrimental to public health and to the medical profession and succeeded in stopping them. Without a Legislation Bureau such action would be impossible if we are going to protect the Society and the public from legislative mistakes. It is a major job.

Dr. Leo F. Schiff, *Trustee:* Mr. Speaker and members of the House, before we possibly get into a wrangle all over the lot on what we are voting, may I ask, Mr. Speaker, if you would consider it within your power to rule that what we are voting on is the first sentence of Dr. Ingegno's recommendation, and that the suggestions are not actually a part of the motion?

Vice-Speaker Williams: That is exactly what the chairman of the reference committee said: These are just suggestions. I will repeat it, sir: What we are discussing and what we are to vote on here is the recommendation of the reference committee which reads as follows: "That a committee of the Trustees and Council review present expenditures and advise this House at its 1956 meeting regarding the possible sharp curtailment of such expenditures," and then the committee has made some suggestions to that.

. . . There were calls for the question . . .

Vice-Speaker Williams: Does everybody know what we are now voting on?

Chorus: Yes. Question!

. . . The question was called, and the motion was put to a vote and was unanimously carried . . .

Dr. Ingegno: Mr. Speaker, in view of the foregoing, your reference committee advises that the request for additional dues be disapproved. I so move.

Dr. Moses H. Krakow, *Bronx:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Ingegno: I move the adoption of the report as a whole.

Dr. John F. Mosher, *Albany:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Ingegno: I should again like to thank the members of my committee, John F. Mosher, John F. Rogers, George Himler, and Stephen A. Gracyzk.

Vice-Speaker Williams: I am sure the members of the House thank them, too. Thank you, Dr. Ingegno.

Section 83 (See 14)

Report of Reference Committee on Report of Secretary

Dr. Frank A. Gagan, *Dutchess:* Your committee on Reports of Secretary, Judicial Council, and District Branches has reviewed the reports of the secretary and supplementary report. It is our privilege to commend the secretary for a splendid summary of the year's activity. We also desire to compliment him for his part in organizing the excellent and highly informative gathering of the county society secretaries held in Albany, November 17, 1954. The success of this gathering is a tribute to his interest and ability.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. Scott Lord Smith, *Councillor:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Vice-Speaker Williams: That was passed unanimously, Mr. Secretary.

Secretary Anderton: Thank you, sir.

Dr. Gagan: In regard to the proposed change of the annual meeting place, it is significant that the A.M.A. meeting in 1957 will be held in New York City, which year would be poorly chosen to establish a precedent. There is also afforded an academic opportunity for members in the western part of the State at the annual meeting in Buffalo that cannot be ignored regardless of some budgetary encroachment. Provision is being made at this time to enhance the facilities for exhibitors. Considering these factors and pending subsequent evaluation, your committee recommends that action on the proposed change of the annual meeting place be deferred until 1958.

I move approval of this portion of the report.

Dr. Charles W. Frank, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 84 (See 9)

Report of Reference Committee on Report of Judicial Council

Dr. Frank A. Gagan, *Dutchess:* The reports of the newly constituted Judicial Council, as well as its supplementary report, were also reviewed. Your committee was sharply cognizant of its jurisdictional limitations. The reports are approved without comment.

Mr. Chairman, I move approval of this portion of the report.

Dr. Joseph G. Zimring, *Nassau:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 85 (See 53)

Report of Reference Committee on Reports of the District Branches and on Discontinuance of the Annual Scientific Meeting of the Ninth District Branch

Dr. Frank A. Gagan, *Dutchess:* Regarding the reports of the district branches, your committee was in accord with the resolution of the Ninth District Branch relative to discontinuance of its annual scientific meeting. We recommend approval of this resolution. I so move.

Dr. Gervais W. McAuliffe, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Gagan: The reports of the Fifth, Sixth, and Ninth District Branches are such that your committee further recommends that the functions of the district branches as provided for in our Constitution and Bylaws be referred to and reassessed by the Council.

I move approval of this portion of the report.

Dr. Aaron Kottler, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Gagan: I move approval of the report as a whole.

Dr. A. W. Martin Marino, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Gagan: I should like to express my approval to various members of my committee, Dr. Joseph G. Zimring, Dr. Charles W. Frank, Dr. Roland E. Stevens, and Dr. Aaron Kottler, for their kind cooperation.

Vice-Speaker Williams: Thank you, Dr. Gagan. I am sure the House appreciates it.

Section 86

Announcements

Vice-Speaker Williams: Are there any other reference committee chairmen ready to report? If not, I suppose I will have to announce again that the dinner tickets are on sale.

We will declare a five-minute recess.

. . . Recess . . .

Speaker Holcomb: The House will please come to order.

We still have a lot of resolutions and things to come before us, and I know you are all anxious to avoid meeting any longer than necessary.

Section 87

Report of Reference Committee on Report of Council, Part II: Public Health Activities A—Maternal and Child Welfare

Dr. R. Scott Howland, *Chemung:* Your reference committee has studied carefully the report and the supplementary report of the Subcommittee on Maternal and Child Welfare under the chairmanship of Dr. Charles A. Gordon of Brooklyn.

As in previous years, it is noted that there is close cooperation between the subcommittee and the State Department of Health. Dr. Alfred Yankauer of the State Department of Health is to be commended for his efforts.

The Subcommittee on Maternal and Child Welfare through its regional chairmen of obstetrics and pediatrics is now carrying out three different problems:

1. Maternal death investigations on a regional basis;
2. A program of study of perinatal deaths in which the pathologists would take an active part;
3. A pilot study in three areas of perinatal deaths associated with cesarean section.

Your reference committee strongly approves this program. It does suggest that it might be instructive to publish yearly in the Journal the incidence of maternal deaths and perinatal deaths by county or by region. These statistics are available but are not usually seen by the average members of this Society.

I move the adoption of this portion of the report.

Dr. Waring Willis, *Westchester:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 88 (See 16)

Report of Reference Committee on Report of Council Part II: Public Health Activities A—School Health

Dr. R. Scott Howland, *Chemung:* Your reference committee has also studied the report of the Subcommittee on School Health.

It was noted that the Council approved a resolution of the New York State Association of School Physicians which suggested:

1. That the New York State Department of Education establish and maintain a separate Division of School Health; and
2. That such a division be headed by a duly qualified and licensed practitioner of medicine in the State of New York.

Your reference committee approves this action of the Council. However, it has been noted that in three cities, New York, Buffalo, and Rochester, school health is a problem of the Department of Health, but in the rest of the State it is the problem of the Division of Health of the Department of Education. Your committee wonders if this is the correct approach to this problem and suggests that possibly a Council committee in the future should study this more carefully.

I move the adoption of this portion of the report.

Dr. William J. Orr, *Erie:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Howland: The report of the Council committee with representatives of the State Department of Health in relation to the Salk vaccine has been studied. Your reference committee commends these two groups for their cooperative effort in what is yet an unsettled situation.

I move the adoption of this portion of the report.

Dr. A. W. Martin Marino, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Howland: I move the adoption of the report as a whole.

Dr. Orr: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Howland: I would like to thank the members of my reference committee, Dr. William J. Orr, Dr. Peter G. Denker, Dr. Waring Willis, and Dr. Thomas S. Cotton for their work.

Speaker Holcomb: Thank you, Dr. Howland.

Section 89 (See 13, 19)

Report of Reference Committee on Report of Planning Committee for Medical Policies

Speaker Holcomb: The speaker would like to announce that next on the agenda is the report of the Reference Committee on Report of the Planning Committee for Medical Policies, which will be given by Dr. Wood. There are several questions here which require close attention, and I will ask the House to listen carefully to Dr. Wood's report.

Dr. Christopher Wood, *Westchester:* The Planning Committee for Medical Policies is a special committee of the House of Delegates, and that body has specified the personnel of this committee. One member is selected by each district branch, and the other members are the president, president-elect, and secretary of the Medical Society of the State of New York, the speaker of the House of Delegates, and one member of the Board of Trustees.

For the current Society year, 1954–1955, the Planning Committee has submitted a report concerning the following six subjects referred to it for study and recommendation:

1. Approval or suggestions for change in the constitution and bylaws of the "Joint Commission in New York State for the Improvement of Care of the Patient."
2. Integration of county, State, and A.M.A. dues and memberships.
3. The proposal regarding the integration of the Bureau of Medical Care Insurance, the Bureau of Workmen's Compensation, and the Industrial Health Bureau.
4. The possibility of increasing memberships through contact with the county societies.
5. Study and report on the committees of the State Society from the standpoint of the number of committees, the size of committees, the expense of committees, etc.
6. The advisability of changing the age of eligibility for retired membership status in the State and county societies from seventy to sixty-five years.

Subject 1.—The Planning Committee studied the constitution and bylaws of the Joint Commission in New York State for the Improvement of Care of the Patient and reported to the Council substantially as follows: The State Medical Society's function is primarily to approve or disapprove the constitution and bylaws of constituent county medical societies or district branches. We can and do approve in principle, but it is not our function to make definite recommendations for changes in the constitution and bylaws of other organizations. We approve the purposes and objectives of the Joint Commission, and we desire to aid all interested organizations in promoting good medical care.

Your reference committee agrees with these statements. Mr. Speaker, I move approval of this portion of the report.

Dr. John F. Kelley, *Oneida:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wood: *Subject 2.*—In its report on the integration of county, State, and A.M.A. dues and membership the Planning Committee has centered its attention on the types and classifications of membership, pointing out that throughout the A.M.A. and constituent associations there are listed 32 membership classifications, and in the various counties of our State there are about 13 types of membership, and indicating the great need to standardize membership terminology. However, the report makes no mention of dues or dues payment.

Your reference committee suggests that this subject was presented for study primarily because of the dissatisfaction with the present time-consuming and cumbersome method of paying A.M.A. dues, and because of the possible confusion and embarrassment resulting from the present permissive character of A.M.A. membership. Many A.M.A. members are considerably annoyed at having to wait several months for their membership cards after having paid their A.M.A. dues to their county societies. In addition, under the present situation delegates in this House may not be members of the A.M.A. and yet have voice and vote in matters affecting A.M.A. policy and procedure, and in addition, in nominating delegates to the A.M.A., the question is frequently heard, "Is he an A.M.A. member?"

Your reference committee feels that membership in the A.M.A. should be required of all members of this House of Delegates. Your reference committee has every confidence that regardless of types and classifications of membership, the very able Planning Committee will find a solution to this vexing problem.

Mr. Speaker, I move approval of this portion of the report.

Dr. Henry T. Randall, *New York:* I second it.

Dr. Benjamin F. Glasser, *Queens:* Mr. Speaker and members of the House, I think this problem should not be passed over lightly, in view of the many implications involved. In the first place, the

American Medical Association calls itself an autonomous organization, and we call ourselves an autonomous organization, and each county society thinks it is autonomous. Now we have had no request from the American Medical Association to force our membership to become members of the American Medical Association. We are now undertaking to build up the American Medical Association without consulting our own county societies because anything passed by this State Society automatically becomes obligatory on the county societies. I say that this problem of forcing us to become members of the American Medical Association when the American Medical Association has not requested it, just because there is a question of complicated mathematics in collecting dues, should not be taken lightly. I think it should be referred to the county societies for their opinion as to whether they wish to be members of the American Medical Association. In view of the fact that the American Medical Association does not force us to do so, I think the question deserves more consideration than just a quick vote.

Speaker Holcomb: I would like to point out to the speaker that your reference committee simply feels that membership in the American Medical Association should be required. They do not say that they demand it. Isn't that true? It is simply a recommendation. I don't think that the reference committee has asked that this House vote that everyone should be a member of the American Medical Association. They simply feel that way. That is their sentiment.

Dr. Wood: That refers, gentlemen, only to members of this House.

Dr. Glasser: May I then say that if every member of this House must be a member of the American Medical Association, and your county members are not required to be members of the American Medical Association, then some men that are elected as representatives here by the membership could not hold office or could not attend this meeting because they are not members of the American Medical Association.

Voices: That is right.

Speaker Holcomb: Is there any further discussion?

Dr. Solomon Schussheim, *Kings:* Mr. Speaker and members of the House, this is not a question that has been brought up for the first time. A number of years ago we had the same problem confronting us, and I spoke at length against it and reminded the House that there would then be two classes of membership in the county societies; those that can be elected as delegates to the Medical Society of the State of New York and those that cannot. In other words, you are going to disenfranchise a good portion of your memberships of your county societies, and you have no right to do that. I would, therefore, respectfully request that this recommendation be withdrawn.

Dr. Wood: May I comment on that?

Speaker Holcomb: Dr. Wood will comment on that matter.

Dr. Wood: I fear the intent of this is misunderstood. In other words, we are not disenfranchising any members because when we send delegates to the American Medical Association, they must be members of the American Medical Association. That is proper procedure. No person should take part in the business of an organization who is not a member of that organization. Similarly, when we have people come to this House to take part in deliberations which concern American Medical Association policies and procedure, we feel that it is improper for them to take part in these proceedings unless they are members, and I cannot understand why this would in any sense or any way disenfranchise any member of any county society.

Speaker Holcomb: Is there any further discussion?

Dr. Kelley: I want to reiterate what Dr. Wood has already said. If you are a member of this House of Delegates, you are potentially a delegate to the American Medical Association, and you may be elected as a delegate to the American Medical Association. How can you go to the American Medical Association as a delegate if you don't belong to it? It is just clearing up a point; you are not disenfranchising anybody.

Speaker Holcomb: Dr. Schiff is recognized, a member of the Board of Trustees.

Dr. Leo F. Schiff, *Trustee:* Mr. Speaker and gentlemen, I am not entirely clear as to what we are voting on, and would ask Dr. Wood to state the specific recommendation, not your belief but just the recommendation.

Dr. Wood: Do you wish me to reread it?

Speaker Holcomb: Reread the last paragraph. I read that a moment ago. Please read that again, your last sentence.

Dr. Wood, "Your reference committee feels that membership in the A.M.A. should be required of all members of this House of Delegates." That is the point at issue.

Dr. Leo F. Schiff: That is the point. It is not a question of approving the action of the Planning Committee who said that the study is continuous.

Dr. Wood: Following that statement then this is the conclusion, "Your reference committee has every confidence that regardless of types and classifications of membership, the very able Planning Committee will find a solution to this vexing problem."

Dr. Leo F. Schiff: I think one of our difficulties, Mr. Chairman, is that there has been no clear-cut recommendation. The reference committee has expressed a thought, and some of our members have taken the expression of that thought and the approval of this report to mean a definite procedure being established. I wonder if it would not be better for the reference committee to be asked to amend that report or change it in some way so that it will end with a definite recommendation as to whether they want us to vote on this A.M.A. membership or whether they simply are suggesting it, and when we are voting that we are simply voting to bring it back to the Planning Committee for further study and report to this House again.

Speaker Holcomb: Dr. Di Natale is recognized, and the Chair would also again remind the members that I feel this is simply a recommendation; that is, it is not a mandate to this House but simply reflects the sentiment of the committee. It says it recommends further study by the Planning Committee.

Dr. Peter J. Di Natale, *Councillor:* Mr. Speaker and members of the House, the Planning Committee in its annual report made the statement following a note that there are approximately 32,000 physicians in New York State, 23,000 and some odd hundred of whom are members of our State Society and 17,000 some odd are members of the American Medical Association. Your Planning Committee noted as follows: "Should membership in the A.M.A. be made compulsory for county and State members? As was noted previously, about 6,000 State Society members are not members of the A.M.A. This merits considerable discussion and study. We recommend this study. We realize its problems."

Dr. Leonard J. Schiff, *Clinton:* Mr. Speaker, point of information, we cannot change the membership in this House as to qualification of membership without changing the Bylaws. Therefore, it seems to me we are wasting our time.

. . . The question was called, and the motion was put to a vote and was carried . . .

Dr. William B. Rawls, *New York:* There is no question that there is no definite recommendation on that, no question.

Speaker Holcomb: This is simply a recommendation.

Dr. Rawls: It is not a recommendation. It says, "Your reference committee feels."

Speaker Holcomb: I stated that, Dr. Rawls. The Chair said that this was simply a sentiment of this group, that it required further study. The Chair does not see why the debate should continue.

Dr. Rawls: I don't either.

Speaker Holcomb: All right, it will be referred for further study.

Dr. Rawls: There is no question at all.

. . . The motion was again put to a vote and was carried . . .

Speaker Holcomb: The "ayes" have it. Your recommendation or sentiment is carried—let me put it that way—expression of sentiment.

Continue with number 3, Dr. Wood.

Dr. Wood: *Subject 3.*—Regarding the integration of the Bureau of Medical Care Insurance, the Bureau of Workmen's Compensation, and the Industrial Health Bureau, the Planning Committee recommended that the Bureau of Workmen's Compensation and the Industrial Health Bureau be integrated into one department, since these bureaus have much in common, and that a physician direct the combined bureaus, if possible a physician competent in industrial medical practice who can properly represent us in medical compensation practice and in educational activities for industry, labor, and the medical profession. The Planning Committee felt that the Bureau of Medical Care Insurance has nothing in common with the Bureaus of Workmen's Compensation and Industrial Health and should not be combined with them.

Your reference committee is in agreement with these recommendations. I move approval of this portion of the report.

Dr. Benjamin M. Bernstein, *Kings:* I second it.

Dr. Thomas M. d'Angelo, *Assistant Treasurer:* Again I speak in the role of assistant treasurer. You are now dividing the three bureaus, taking two and putting them in one bureau and taking another one and putting it in another bureau. The appointed committee has given a complete outline of the expenditures necessary to provide for two bureaus, three bureaus, and for one bureau. I think the committee should give considerable thought to the savings in money in the combination of the three bureaus. This House went on record today in no uncertain terms that they want to see money saved in the Medical Society's budget. Here is a chance to save it. I think the committee should study very carefully putting it all under one group.

Dr. Felix Ottaviano, *Madison:* The Planning Committee worked for a couple of years on those things. I would like to read the last sentence of the Planning Committee's report: "This House of Delegates has previously affirmed"—in no uncertain terms I may add—"the desire to combine the Bureaus of Industrial Health and Workmen's Compensation to save the Society some money." I would, therefore, like to see this House defeat the recommendation and go on with the original plan. It took three years to work it out.

Speaker Holcomb: Is there any further discussion? If not, are you ready for the question? Those in favor of your reference committee's recommendation, which is that they are in agreement with the recommendation, will say "aye"; opposed, "no." I will call for a standing vote on that. The Chair is in doubt. All those in favor of the reference committee's recommendation will stand.

Delegate: Point of information, when we vote for the affirmative, do we vote for approval of the merger?

Speaker Holcomb: You vote for approval of the merger of the Workmen's Compensation and Industrial Health, but not the inclusion of the Medical Care. There is no question in the mind of the speaker that the "ayes" have it. Thank you, Dr. Anderton.

Are you ready for Subject 4?

Dr. Wood: *Subject 4.*—Relative to the possibility of increasing membership through contact with the county societies, the Planning Committee noted that of approximately 32,000 physicians practicing in New York State, 23,800 are members of the State Medical Society and of the latter 17,800 are members of the A.M.A. (I might interpolate, gentlemen, that Dr. Di Natale quoted these figures when he just recently spoke to you.) The Planning Committee feels that it is the duty and responsibility of each county society to educate and stimulate interest in medical society activities of members and nonmembers alike, that only at the county society level can accurate information be obtained concerning nonmembers and active effort be made to interest them in membership. The Planning Committee raised the question as to whether or not membership in the A.M.A. should be made compulsory for county and State Society members and states that this merits considerable discussion and further study.

Your reference committee believes that an increase in membership can best be obtained through county society effort and planning, but that the State Society should continue to assist in every manner possible and should, through a continual periodic survey, stimulate to a greater degree those counties having a larger percentage of nonmembers. As stated previously, your reference committee feels that membership in the A.M.A. should be required of all members of this House of Delegates. However, although one hundred per cent membership in the A.M.A. would be ideal, it is extremely doubtful that compulsion should be employed. Persuasion is a much more desirable method, and the A.M.A. itself could and should make a more active and concerted effort to increase its membership. Your reference committee recommends that this study be continued, with a possibility that all-inclusive dues be established for county, State, and A.M.A. membership of a total sum less than the present separate dues.

I move approval of this portion of the report.

Dr. Peter G. Denker, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wood: *Subject 5.*—The Planning Committee is continuing its study of the committees of the State Society from the viewpoint of number, size expense, etc. Information and suggestions have been obtained from many members. The president and secretary of each county society have been contacted and asked for their suggestions. Committee and subcommittee chairmen were asked for ideas and suggestions. Representatives from the Legislation Committee, Workmen's Compensation Committee, Public Health and Education Committee, Public Relations Committee, and from the business office relative to the Journal and the *Directory* all appeared before the Planning Committee. The material and information thus received have not been completely analyzed at the present time. The Planning Committee is desirous of obtaining ideas and suggestions from every delegate or member who would like to voice his opinions and requests and urges that these comments be presented to the chairman or to the secretary.

Your reference committee recommends that this study of committee complexity and expense be continued but cautions against overemphasizing expense. Each committee has essential work assigned to it; a committee doing little work or idling along creates little expense; a busy committee large or small causes more expense. Increase in our Society's work and activities is desirable and healthy.

Mr. Speaker, I move approval of this portion of the report.

Dr. Kelley: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wood: *Subject 6.*—The Planning Committee has not had sufficient time to study and report on the advisability of changing the age for retired membership status from seventy to sixty-five years. In other words, there is no report on that subject.

The Planning Committee also considered a communication from Monroe County requesting a possible revision of representation at the A.M.A. level which would tend to make Society representation more compatible with county and regional autonomy. The Planning Committee feels that the present method of electing A.M.A. delegates is the most feasible at this time but will give this question further study since for the years 1955 and 1956 only four of the 18 A.M.A. delegates represent the so-called upstate area.

Your reference committee recommends that this study also be continued. I move approval of this portion of the report.

Dr. Ben A. Borkow, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wood: Your reference committee has received the following letter for its consideration, addressed to Dr. Holcomb, the speaker, from Dr. Norman Moore. This letter is being read to you in its entirety with the knowledge and consent of Dr. Moore and Dr. Di Natale. It is somewhat long. I will do my best at reading it to you clearly, but your committee would appreciate it very much if you would give it close attention.

Dr. Frederick W. Holcomb
188 Fair Street
Kingston, New York

Dear Fred:

I address this letter to you as speaker of the House of Delegates for I feel that you are the person most concerned with its content. My subject is the Planning Committee for Medical Policies.

Originally (and as far as I know, it still is a committee of the House of Delegates), it was created in 1943 by a resolution of Dr. Louis H. Bauer, who felt that the House of Delegates should have a committee for the study of long-term policy. Six members appointed by the Speaker and several ex officio members made up the committee. Members of the committee elected their chairman who reported to the Speaker of the House. I consider myself fortunate in being one of the original members, for I learned much during the early years.

At the first meeting Dr. Bauer was elected chairman. Each member of the committee was assigned one of the areas of possible influence on the practice of medicine cited in the original resolution and was directed to become fully familiar with all the ramifications of that area for which he was responsible. For example, I was given the subject of nursing. I spent four days interviewing supervisors, directors of nurses, and nurse educators in New York, Boston, Baltimore, and Washington before I rendered my report to the committee. This is the kind of footwork which Dr. Bauer had in mind for committee members. A large reference list of source material was collected and cataloged by the chairman. The first year of study consisted of the committee becoming familiar with the areas of influence which might have a possible effect on the course of medical practice. No business from the Council was referred to it; only long-term policies were discussed.

When Dr. Bauer left the chairmanship, the original concept was lost. Dr. J. Stanley Kenney became chairman. I think the first year he was elected by the members. Later the committee assumed the that I feel this is simply a recommendation; that is, it is not a mandate to this House but simply reflects the sentiment of the committee. It says it recommends further study by the Planning Committee.

Dr. Peter J. Di Natale, *Councillor:* Mr. Speaker and members of the House, the Planning Committee in its annual report made the statement following a note that there are approximately 32,000 physicians in New York State, 23,000 and some odd hundred of whom are members of our State Society and 17,000 some odd are members of the American Medical Association. Your Planning Committee noted as follows: "Should membership in the A.M.A. be made compulsory for county and State members? As was noted previously, about 6,000 State Society members are not members of the A.M.A. This merits considerable discussion and study. We recommend this study. We realize its problems."

Dr. Leonard J. Schiff, *Clinton:* Mr. Speaker, point of information, we cannot change the membership in this House as to qualification of membership without changing the Bylaws. Therefore, it seems to me we are wasting our time.

. . . The question was called, and the motion was put to a vote and was carried . . .

Dr. William B. Rawls, *New York:* There is no question that there is no definite recommendation on that, no question.

Speaker Holcomb: This is simply a recommendation.

Dr. Rawls: It is not a recommendation. It says, "Your reference committee feels."

Speaker Holcomb: I stated that, Dr. Rawls. The Chair said that this was simply a sentiment of this group, that it required further study. The Chair does not see why the debate should continue.

Dr. Rawls: I don't either.

Speaker Holcomb: All right, it will be referred for further study.

Dr. Rawls: There is no question at all.

. . . The motion was again put to a vote and was carried . . .

Speaker Holcomb: The "ayes" have it. Your recommendation or sentiment is carried—let me put it that way—expression of sentiment.

Continue with number 3, Dr. Wood.

Dr. Wood: *Subject 3.*—Regarding the integration of the Bureau of Medical Care Insurance, the Bureau of Workmen's Compensation, and the Industrial Health Bureau, the Planning Committee recommended that the Bureau of Workmen's Compensation and the Industrial Health Bureau be integrated into one department, since these bureaus have much in common, and that a physician direct the combined bureaus, if possible a physician competent in industrial medical practice who can properly represent us in medical compensation practice and in educational activities for industry, labor, and the medical profession. The Planning Committee felt that the Bureau of Medical Care Insurance has nothing in common with the Bureaus of Workmen's Compensation and Industrial Health and should not be combined with them.

Your reference committee is in agreement with these recommendations. I move approval of this portion of the report.

Dr. Benjamin M. Bernstein, *Kings:* I second it.

Dr. Thomas M. d'Angelo, *Assistant Treasurer:* Again I speak in the role of assistant treasurer. You are now dividing the three bureaus, taking two and putting them in one bureau and taking another one and putting it in another bureau. The appointed committee has given a complete outline of the expenditures necessary to provide for two bureaus, three bureaus, and for one bureau. I think the committee should give considerable thought to the savings in money in the combination of the three bureaus. This House went on record today in no uncertain terms that they want to see money saved in the Medical Society's budget. Here is a chance to save it. I think the committee should study very carefully putting it all under one group.

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At the first meeting Dr. Bauer was elected chairman. Each member of the committee was assigned one of the areas of possible influence on the practice of medicine cited in the original resolution and was directed to become fully familiar with all the ramifications of that area for which he was responsible. For example, I was given the subject of nursing. I spent four days interviewing supervisors, directors of nurses, and nurse educators in New York, Boston, Baltimore, and Washington before I rendered my report to the committee. This is the kind of footwork which Dr. Bauer had in mind for committee members. A large reference list of source material was collected and cataloged by the chairman. The first year of study consisted of the committee becoming familiar with the areas of influence which might have a possible effect on the course of medical practice. No business from the Council was referred to it; only long-term policies were discussed.

When Dr. Bauer left the chairmanship, the original concept was lost. Dr. J. Stanley Kenney became chairman. I think the first year he was elected by the members. Later the committee assumed the pattern of other Council committees, and Dr. Kenney, appointed by the president, remained chairman until he became president, when another Council member, Dr. Peter Di Natale, took over; I suppose on the appointment basis inasmuch as he was not elected by the members.

I am informed—this is interpolating into the report—that that is not quite correct, that Dr. Di Natale was elected by the Council.

Peter has worked hard, but he cannot win with the Council's attitude toward the committee and the insufficient funds he has for staff work. Neither can any future chairman be successful if the committee has no stronger platform than it now has.

About five years ago because of somebody's brainstorm (I think Dr. Williams of Rochester), the House changed the manner of membership of the committee so that it would be representative of the nine districts. Whether members are appointed by the Speaker or elected by the districts seems immaterial as long as they are qualified men, willing to work, and can serve long enough to give continuity to the committee.

For the past few years this committee has received for the most part short-term projects referred to it from the Council. These problems have occupied the committee's attention for two or three meetings a year. The chairman usually reports to the Council after each meeting. Also, he writes a report to the House of Delegates without much help from the members.

This year a long-term project of merit came along (committee structure of the State Society), and with it came a pitiful demonstration of the inability of the committee to cope with a long-term problem of this magnitude. In order to carry on a study such as the committee is now undertaking there must be excellent committee organization, much staff work, well-organized meetings held *only* after enough staff work has been completed to make a meeting productive. Anyone who has read the medical task force report of the Hoover Commission can see at a glance that the Planning Committee needs more than anything else good staff work. It isn't fair for the chairman to work so hard and then take such a beating as he does because of lack of help. The present committee is not organized for individuals to work, and there is no staff member except Walter Anderton, who is an administrator for the Society and not a staff member in the sense that I mean. The hearings which have taken place have not been coordinated and were incomplete. Some of the meetings have registered only prejudices, one-sided testimony, unconscious and conscious defense of modus operandi. On some questions there has been noticeable resentment on the part of a committee spokesman. No one could have been around Society affairs long and not be aware of the inconsistencies said in good faith but nevertheless inaccurately by some of the people heard.

I came away from the last meeting resolved to write you that in my opinion you would do great service to the Medical Society and become a speaker who would be long remembered if you would get this mess of the Planning Committee straightened out. If it cannot be reconstructed (as I doubt it can be during the present budget crisis), serious consideration should be given to putting the committee in moth balls until such a time as the Society can afford to reinstate it as it should be. Unfortunately, a committee of this kind reporting to the House of Delegates, properly staffed and with carefully selected members, could probably do more to safeguard Society policy from bad influence of the present budget crisis than any committee of the Society. However, I fear that if it continues on the path that it is now on, the committee will compound the crisis and add to the confusion of issues. The bureaucratic tendency of the Society has got to be slowed up before members begin to balk at continually rising dues and the law of diminishing returns begins to operate seriously. Peter Di Natale deserves to have a few productive years with the committee for the hard work and devotion he has given it against many odds in the past.

I say these things to you, Fred, because I have made the decision not to be a candidate for re-election from my district. Being one of the two original appointed members remaining (Walter Mott is the other), I consider it my obligation to speak out before I throw in the sponge.

With reaffirmed faith in the wisdom of Louis Bauer's original concept and with confidence in your ability and foresightedness as speaker, I call to your attention the problem of the Planning Committee with hope that with your help it can be resolved.

Cordially,

Norman S. Moore, M.D.

Your reference committee is in general agreement with the content of this letter and wishes to stress the great need of much more staff work, adequate funds, complete autonomy (the Planning Committee to select its sphere of activity), and the return to consideration of long-range matters of policy only. To fail to provide adequate staff and funds will inactivate this Planning Committee, which is undoubtedly one of the most important—and could be one of the most effective and productive—of all of our committees.

Your reference committee recommends that the Planning Committee be implemented and returned to the sphere of policy consideration for which it was originally formulated.

I move approval of this portion of the report.

Dr. Gervais W. McAuliffe, *New York:* I second it.

Speaker Holcomb: Members of the House of Delegates, I would like at this time, since this letter came to me, to speak. After Dr. Di Natale had read it, I thought this had better be brought to the attention of the House of Delegates, and with Dr. Moore's permission and Dr. Di Natale's, they agreed that that could be done and incorporated as part of the report. I felt it was very constructive. It is one of the best communications I have received as speaker. The only way that it could be brought to the attention of the members, I felt, was to have it incorporated in this report. I think it is constructive and that it carries with it a great deal of thought that you can carry home with you and think over. It is not anything that you have to act on right at this moment.

I think the Planning Committee of this Society should not have to deal with such matters. As I recall, one resolution that was dumped into our laps was to the effect that the M.D. automobile license plates of physicians should be withdrawn, and we had to make a study of that and have hearings on it, so we will all agree, I believe, that it certainly has failed in its original concept when we have to decide matters of that kind.

Is there any discussion?

Dr. Bernstein· As a member of the reference committee, may I address myself to you very, very personally? It has been said that he who will not think is a fool, that he who cannot think is a bigot, and that he who dares not think is a slave. I ask that you think very carefully the intention of and the implications behind this report. We have given it many hours of consideration, with much thoughtful consideration. If you will think for just two minutes, you will realize what Dr. Holcomb just said to you is so very true. This committee should be, and is, the most important committee the Society has under its jurisdiction. As I said before, fifteen or twenty minutes ago, it can do more to save money for the Society than any other one agency. If you will recall just one sentence in the report: "This year a long-term project of merit came along (committee structure of the State Society), and with it came a pitiful demonstration of the inability of the committee to cope with a long-term problem of this magnitude." That is where we stand when we have these long-term projects and don't have the staff to work for us, don't have the funds which are necessary. I think Dr. Di Natale told us he had a budget of $1,000 last year. What can one do with $1,000 when so much research work has to be done, so much study has to be done on all the problems involved, not only our present little problems, but those problems, sometimes little and sometimes even great, involving a long-time planning which we as medical men must entertain each day if we are not to be swayed by demagogues or corrupted by people who wish to destroy us. We are hit on all sides because we don't think sometimes to have a long-term range of view to meet the problems even before they arise. We in medicine have been balked in proposing things involving long-time planning and have had to swallow some bitter pills. I urge that you give the Planning Committee all the help in staff and in finances that it needs, and it will redound to our credit.

Speaker Holcomb: Is there further discussion?

Dr. Di Natale: I am sorry, and I apologize for getting up so much. I am in agreement with a good deal of the things that were said in the letter.

I want to correct another error that the chairman of the reference committee did not correct, that I write the reports alone. That is true. However, when I was first elected chairman of the committee, by the members of the committee, I asked if I could appoint a committee to help me write the report. What do you think they said? "Go ahead, Pete. You go ahead and write the report. We have confidence in you, and we will trust you to write the report." That is just what was said, so they were not asked again because I expected the same answer.

This Planning Committee, as you know and as you have heard frequently, is your committee, a committee of the House of Delegates. I wonder if you all have a copy of the Planning Committee's report. Among the things that were to be considered originally by Dr. Bauer's group were—just to name a few—the distribution of physicians (I wonder how the Planning Committee could help in that); educational requirement for licensure (I stated at the Planning Committee meeting, as you know, that I thought some of the things that were the original objectives maybe could either be deleted or forgotten and perhaps new things added to it). I repeatedly asked each year that we urge any member of the State Society through his local county or district society who had any constructive ideas about long-range medical policies please to forward them, any such ideas, to the secretary, Dr. W. P. Anderton, and that such suggestions would be given due consideration and study. When I was first made chairman, I asked Dr. Kosmak, the late Dr. George W. Kosmak, if he would give us a little editorial in the Journal stating that very fact. There appeared an editorial in the Journal asking for ideas about long-range programming because, believe me, I have not all the ideas, thank God. I have asked for help repeatedly. Up to this moment (that was March 15, 1951), not one suggestion has come in. The best suggestions that I have had have been in Dr. Ingegno's report today, and believe me they will be given consideration if you so desire.

Speaker Holcomb: Members of the House, I feel and again repeat, as I have said before, I don't think there is anything but praise for Dr. Di Natale's work. I don't think there is any implied criticism that is in the least way adverse to him. We all know he worked under many difficulties. Are you ready for the question?

. . . There were calls for the question . . .

Delegate: What is the question?

Speaker Holcomb: The question is that your reference committee's recommendation is that the Planning Committee be implemented and returned to the sphere of policy consideration for which it was originally formulated.

. . . The question was called, and the motion was put to a vote and was carried . . .

Dr. Wood: We also have just a bit more, ladies and gentlemen.

The Planning Committee for Medical Policies made a supplementary report which we received last evening. It is very short, so I will read it:

> The Planning Committee for Medical Policies realizes that at the conclusion of the Medical Society of the State of New York's year of activities, many reports must of necessity be made for the information and action by the House of Delegates.
>
> We note, too, that many of these reports are very lengthy, and we believe that quite frequently the reports may not be read in their entirety because of their length.
>
> We have been informed that in other medical societies the reports are succinct and to the point—many times not more than a page in length.
>
> We recommend to the president of the State Medical Society that when he makes his commit-

tee appointments for the next society year that he mandate the chairman to summarize his full report for the presentation to the House of Delegates.

Your reference committee recommends adoption of this report, and I so move.

Dr. Bernstein: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 89A (See 52)

Report of Reference Committee on Report of Planning Committee for Medical Policies: Mandatory Membership in the American Medical Association for All Members of the Medical Society of the State of New York

Dr. Christopher Wood, *Westchester:* One resolution, number 55–17, was referred to this reference committee, the resolved portion of which is as follows:

> *Resolved,* that membership in the American Medical Association should be made a mandatory requisite for all members of the Medical Society of the State of New York.

Your reference committee recommends no action be taken on this resolution for reasons previously stated in this report, until the Planning Committee completes its study and reports on the integration of county, State, and American Medical Association dues and memberships.

I so move the approval of this recommendation of the reference committee.

Dr. Benjamin M. Bernstein, *Kings:* I second it.

Speaker Holcomb: Is there discussion?

Dr. Herbert Berger, *Richmond:* As a member of this committee, I think it might be expedient to suggest at this time that this resolution of Dr. Fertig's be adopted. On the other hand, I think it is imperative that each of you bring back to your respective county societies the excellent thought embodied in it. It is important that we bring to our county membership such points as these, first, that if we are outside of the American Medical Association, we can't argue in it. We in this State Society have lost already six delegates to the American Medical Association. If every member of the State Society were a member, we would have those extra delegates. Their importance in the delineation of the American Medical Association policy needs no emphasis. I think it is important to point out to our membership at the county level that these dues or taxes are equitable. I think it is important for us to emphasize that other professional and nonprofessional groups pay a great deal more in dues than this. Union members, architects, and lawyers have dues greatly in excess of the amount requested of us. It is understandable, and beyond question, that the American Medical Association performs many useful functions, even though you may disagree with some of them. Now since each of us then is the beneficiary of those useful functions, it seems remiss if we do not pay our share towards the fulfillment of those activities. We in medicine are in the habit of dispensing charity, not accepting it. When we are not A.M.A. members, other people, our fellows, are paying the share of those who are not members. I think it is possible that A.M.A. dues might be lower if every member of the State Society were a member of the A.M.A. I believe most physicians would be reluctant to lose membership in either the State or county societies were A.M.A. membership mandatory. I think the A.M.A., State Society, and local society are inextricably linked together and cannot very well be separated. You heard here a few moments ago the problems we have in trying to elect delegates to the A.M.A. Many of us have a tendency to object to Federal taxation upon any level. We all see what we get out of dues in the local society just as we see the benefits of education, fire protection, etc., by the paying of local taxes in our local subdivision, but many of our members don't see easily the benefits to be obtained and activities that are done for them by the A.M.A. These are not idle surmises made by one who has just thought about this subject. Richmond County, a relatively small county, with some two to three hundred members, a couple of years ago rewrote our constitution and made A.M.A. membership mandatory upon our members. I would like to emphasize, gentlemen, that we have not lost one member by this activity. Each of you, then, return to your own county and on that level try to seek fuller A.M.A. membership.

Speaker Holcomb: Thank you, Dr. Berger.

Is there further discussion?

Dr. David Fertig, *Westchester:* As the proposer of this resolution, I would like to say a few words first to Dr. Berger in having effectively pointed out the necessity of coordinating membership throughout the three levels of the hierarchy. It seems very unreasonable to me for one to join his county society but not be willing to join either the State Society or the A.M.A. It seems to me that the three are indivisible. It might also be pointed out that State Medical Society membership is mandatory. I don't know that anyone has a choice as to whether or not he joins the State Medical Society; since the A.M.A. is the parent of the three groups, there is no reason why he should have a choice of joining that. It seems to me that either one belongs to organized medicine or one does not, and one has to support the thing all the way through. Whether one disagrees with the policies at the higher level or not is not the point. The only way one can correct or change policies is by taking an active part and participating in the voice and expression of that organization.

Speaker Holcomb: Thank you, Dr. Fertig.

The reference committee's recommendation is that no action be taken on this resolution.

Dr. Ezra A. Wolff, *Assistant Secretary:* May I ask a question?

Speaker Holcomb: Yes.

Dr. Wolff: Does this not constitute a suggested change in the Bylaws, and if so, should it not properly be held over in the regular manner in which such suggested changes are held over?

Speaker Holcomb: This is simply that no action be taken on the resolution.

Dr. Wolff: The proposition itself would require a change in the Bylaws for its implementation. Under those circumstances it could not then be discussed now or acted upon now. I ask that you inform us whether that is the case.

Voices: We can't hear you.

Speaker Holcomb: I think that the reference committee's recommendation is in order. It recommends no action be taken.

. . . The question was called, and the motion was put to a vote and was carried . . .

Dr. Wood: I move approval of the report as a whole.

Dr. John F. Kelley, *Oneida:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wood: I would like to take another moment to express our thanks and appreciation to all of those who appeared before us and assisted us in our long, tedious deliberations.

I would like particularly to thank the members of the committee for their devotion and constant attendance at the sessions in the work, Dr. James M. Blake, Dr. John F. Kelley, Dr. Benjamin M. Bernstein, and Dr. Herbert Berger.

Speaker Holcomb: Thank you, Dr. Wood, for a very excellent report, very well presented, and very well worked out.

I will now recognize Dr. Schwartz, of the Bronx, who has a short resolution, which will probably not require reference for action.

Section 90 Resolution 55-32

Commendation for Introduction of Delegates Portfolios

Introduced by Dr. George Schwartz, *Bronx*

> Whereas, the innovation of supplying to all members of this House of Delegates a portfolio containing copies of all resolutions introduced; and
>
> Whereas, this system has contributed immeasurably to the orderly and rapid consideration and disposition of the business before this House; therefore be it hereby
>
> *Resolved,* that the secretary and the Council of the Medical Society of the State of New York be commended for introducing this very effective measure to "streamline" deliberations.

Mr. Speaker, I move that this body act as a committee of the whole and adopt this.

Dr. Charles Sandler, *Bronx:* I second it.

Secretary Anderton: May I move an amendment in the form of an additional "resolved," that the secretary of the Society is hereby instructed to express the thanks of this House of Delegates to W. B. Saunders and Company.

Speaker Holcomb: Will you accept that, sir?

Dr. Schwartz: Yes, we will accept that.

. . . There being no discussion, the motion as amended was put to a vote and was unanimously carried . . .

Speaker Holcomb: We have had a very busy morning with only a short recess. The chair will call a recess at this time until two o'clock, which will give you an hour and thirty-five minutes for luncheon.

. . . The meeting recessed at 12:25 p.m. . . .

Afternoon Session

Tuesday, May 10, 1955

The session convened at 2:15 p.m.

Speaker Holcomb: The House will be in order. Our first order of business this afternoon will be the report of Mr. Joseph Linder, the actuary for the Malpractice Insurance and Defense Board. He is giving a report which is for information only. It is not debatable at this time. Any of the members who wish to make notes and bring up the questions before the Reference Committee on Report of the Malpractice Insurance and Defense Board may do so. Mr. Linder has been put on a bit early, and I will ask the House not to request that they be heard on any matter, question, or debate.

Section 91 (See 118)

Report of Actuary

Mr. Joseph Linder: Mr. Speaker, ladies and gentlemen, again it is my privilege to present to the House of Delegates the results of our examination of your Group Plan of Malpractice Insurance and Defense.

The original of our report has been filed with the secretary of your Society and with the Malpractice Insurance and Defense Board. This report indicates that no increase in rates is required this year. Although we noted a small increase in cost in the upstate counties, there was an offsetting decrease in the metropolitan area which left the over-all average substantially the same as that noted for the previous period.

The present classification system adopted by your Society and which now rates the business in three classes, i.e., major surgery, minor surgery, and nonsurgery, in an effort to distribute the cost of protection more equitably in accordance with the nature of the hazards involved, seems to be a step in the right direction. This, however, may require some revision in the light of the additional experience which will be gained during the forthcoming year.

We have previously pointed out that rates for liability insurance are determined as a product of claim frequency, i.e., the ratio of claims to policyholders and claim severity as represented by the average cost of disposing of claims. We have also stated that while it is not possible to measure the present severity factor, due to the long delay in realizing actual settlements, it is possible to measure with reasonable accuracy the current frequency factor.

A study of the frequency of claims over the past four policy years indicates that for 1953, the last completed policy year for which data are available, there was a decrease of 5 per cent under 1952. Probably the slight decline in frequency in 1953, more than any other factor, resulted in the maintenance of the present rates for another year. This, however, should not be a cause for self-congratulation when consideration is given to the existing rates. Expressed plainly, for policies issued in 1953, 14,490 doctors paid more than $2,000,000 to the insurance carrier, of which more than $1,500,000 is for the settlement of claims which have been made or will be made. It seems to us that an annual total of this amount should not be borne without exhausting every effort to reduce the number of suits and claims filed.

Frequency of claim is to a certain degree controllable, while severity, which has undoubtedly risen and will probably continue to rise, is to a large degree uncontrollable. It would, therefore, appear that the largest field for cost reduction lies in the field of a reduced number of claims, either by education of present policyholders or by ruthlessly weeding out flagrant offenders.

We are advised that a substantial number of county societies have organized advisory committees to assist your Malpractice Insurance and Defense Board in the analysis and disposition of suits and claims in their communities. It would seem to us most appropriate to encourage and extend this movement as far as possible.

To those members who are inclined to regard your present rate levels as excessive, we would like to point out that it is a mistake to compare them with those of the past. Their true measure can be found only in a comparison with the high level to which your loss costs have risen. In this light and at the same time recognizing the advantages which your Society has under its Group Plan, we regard them as entirely reasonable.

Although there is little new material we can present to the House of Delegates this year, I would be glad to answer any question the delegates may have in mind.

Speaker Holcomb: Thank you, Mr. Linder.

Next on the agenda is the report of Dr. Aaron's Special Committee on the Revision of the Constitution and Bylaws, and since our vice-speaker, Dr. Fred Williams, has been on the Council Committee on Constitution and Bylaws, I feel that he can very ably take care of this, so I am going to turn this part of the meeting over to Dr. Williams.

Section 92

Report of Special Committee on Constitution and Bylaws

Vice-Speaker Williams: So the delegates can follow in your reprint of the annual reports, turn to page 1033, Report of the Special Committee of the House of Delegates on Constitution and Bylaws. That is on page 1033 in the printed brochure of annual reports. It is well presented here in typographic form so you can follow the present and proposed changes. Dr. Aaron!

Dr. A. H. Aaron, *Erie:* Mr. Speaker and members of the House, your Special Committee on Constitution and Bylaws takes pleasure in reporting on amendments proposed at the 1954 House of Delegates.

The first amendment concerns the Constitution, Article XI, Section 2, in reference to district branches which you may see on page 5 of your Constitution and Bylaws, and for the original material see page 43, Section 31, of the proceedings of the House of Delegates of last year, introduced by Dr. J. Frederick Sarno, of the Fourth District Branch.

The present section reads as follows:

> "Section 2. Each district branch may adopt a constitution and bylaws for its government and may amend the same; but before becoming effective they shall be approved by the Council. They shall be consistent with the Constitution and Bylaws of this Society, and they must provide that the district branch president shall have first served as a president of a component county society."

The proposed alteration is to delete the words, "and they must provide that the district branch president shall have first served as a president of a component county society," and it will then read as follows:

> "Each district branch may adopt a constitution and bylaws for its government and may amend the same; but before becoming effective, they shall be approved by the Council. They shall be consistent with the Constitution and Bylaws of this Society."

Your committee recommends the adoption of this amendment, and I so make a motion.

Vice-Speaker Williams: You have heard a motion for the adoption of this change in the Constitution. Is there a second?

Dr. Edwin A. Griffin, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Aaron: This item concerns the Bylaws, Chapter I, Membership, Section 2(*a*). The original material is on page 57, Section 62, of the proceedings of the House of Delegates of last year, introduced by Dr. Ezra A. Wolff, of Queens; see page 7 of the Constitution and Bylaws.

The present section, as amended and passed in 1954, reads:

> "Section 2. The term 'good standing' is hereby defined as:
>
> "(*a*) A member is in good standing when his dues to his county society and the assessment of the State Society have been paid when they are due and payable. The dues year shall coincide with the calendar year January 1 to December 31."

The proposed section would read:

> "A member is in good standing when his dues to his county society and the assessment of the State Society have been paid when they are due and payable. The dues year shall coincide with the calendar year January 1 to December 31."

Add:

> "A member in good standing shall have the right to malpractice defense by Counsel of the Medical Society of the State of New York for any acts upon which suit may be predicated during the period of his good standing."

Your committee recommends that action on this amendment be deferred because the matter is under study by a committee of the Board of Trustees, the trustees, and the legal counsel.

I so move.

Dr. James A. Lynch, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Aaron: The next item concerns the Bylaws, Chapter I, Membership, Section 6. See page 56, Section 59, of the proceedings of the House of Delegates of last year, page 9 of the Constitution and Bylaws. This was introduced by Dr. A. Wilbur Duryee, of New York.

The present Section 6 reads:

> "Section 6. A member in good standing in his component county medical society, reaching seventy years of age or if permanently disabled, may *ipso facto* have the privilege of applying for retired membership in the State Society. All such applications shall be signed by the president and the secretary of the county society of the applicant and then sent to the secretary of this Society for presentation to the House of Delegates for approval. An active member desiring to become a retired member shall apply for such membership to the component county society of which he is a member. Such application shall be governed by the constitution and bylaws of the component county society relative to active membership. Retired members shall not be subject to dues or assessment but shall be accorded all the rights and privileges of active membership except voting and holding office."

The proposed alteration, Chapter I, Section 6, of the Bylaws be amended by adding to the end of said Chapter 1, Section 6, the following pargraph:

> "In the event a member in good standing reaches his seventieth birthday too late for consideration by the Annual Meeting of the Medical Society of the State of New York held in the same year, and too late to be recommended for retired membership by his component county society, he may be considered at the next Annual Meeting of the State Society and on the recommendation of the component county society, remain a member in good standing until that time without paying dues or assessments to the State Medical Society."

Your committee recommends that this amendment be not accepted because it is unnecessary. The House has covered such contingency by electing a man to retired membership retroactively with remission and refunding of dues. It seemed to the Committee on Constitution and Bylaws that we must be careful not to clutter the Constitution and Bylaws with material that really should be interpreted by the officials.

I so move.

Dr. Samuel Wagreich, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Aaron: Page 1033 of your annual reports, Bylaws, Chapter III, I am reading an action that took place in the House of Delegates last year. A resolution submitted to the committee by Dr. Leo F. Schiff according to the following Section 167, on page 147, of the proceedings of the House of Delegates:

> **Announcement of Intention To Propose Amendment of Bylaws, Chapter III**
>
> Speaker Holcomb: Dr. Schiff is recognized.
>
> Dr. Leo F. Schiff, *Trustee:* Mr. Speaker, in the footsteps of the late, illustrious, and never-to-be-forgotten James Rooney, I take this opportunity to give notice under the provisions of the Bylaws that I propose to produce within the required legal time an amendment to Chapter III of the Bylaws having to do with the election of delegates to the American Medical Association.
>
> Speaker Holcomb: Thank you, Dr. Schiff.

The amendment is to delete Sections 6 and 7 of Chapter III of the Bylaws, which appear on page 16 of the Constitution and Bylaws, and substitute the following:

> "Section 6. Delegates to the American Medical Association shall be elected in accordance with the constitution and bylaws of that body for a term of two years beginning with the annual meeting of the American Medical Association in the calendar year following their election. The member elected to be president-elect of this Society shall be considered also to have been elected to be a delegate of the American Medical Association."

This now following is a rewording of the first sentence of Section 7:

> "SECTION 7. The balance of the delegates to the American Medical Association shall be voted for in two separate groups, to be designated group I and group II. Group I shall consist of active members of the First District Branch of the State Society; group II of the balance of the active members of the State Society. To each group shall be assigned one half of the total number of delegates to the American Medical Association to be elected in any given year; except that when such total number is an odd number, group I shall have one more delegate assigned to it than group II.
>
> "SECTION 8. Nominations for each group shall be made from the eligible membership of that group and shall be for at least double the number of delegates to be elected to that group. The nominees in each group shall be declared elected delegates in the order of the number of votes received, beginning with the highest numbers, until the number of delegates allocated to that group shall have been chosen. A corresponding number of nominees in continued order of number of votes received shall be declared alternate delegates for that group.
>
> "SECTION 9. When a duly elected delegate to the American Medical Association is not available for attendance at a meeting of the American Medical Association, his place may be filled by any available elected alternate in the following order of groups and in the order of election in each group:
>
> (*a*) an alternate of the same group and year,
>
> (*b*) an alternate of the same group—but alternate year,
>
> (*c*) an alternate of the other group—same year, or
>
> (*d*) an alternate of the other group—alternate year.
>
> When no such alternates are available, the president shall appoint and certify a sufficient number to fill the quota."

The foregoing Sections 7, 8, and 9 shall not take effect until after the annual meeting of the State Society in 1955.

> "SECTION 10. Delegates and representatives may be elected to other medical societies or similar bodies as the interests of the Society may require, and credentials shall be issued to all delegates and representatives, signed by the president and secretary."

Your committee, after very careful study, does not recommend the adoption of these amendments on the following bases:

1. They are too cumbersome.
2. It sets up a division in the Medical Society of an upstate group and a downstate group. This is a dangerous procedure as we have stated before. The activities of the Medical Society of the State of New York should be for the physicians as a whole, and representation should be in a similar manner.

This amendment requires considerable thought and discussion. It brings up the problem of proportional representation, which possesses certain dangers in bringing about a division of sentiment of the State Medical Society into an upstate and downstate organization. It brings up the point of a delegate representing a certain number of paid members. Also, we are unable to see anything seriously wrong with the present method, which has supplied outstanding delegates to the American Medical Association, as evidenced by their choice on important committees and in official positions. Nevertheless, such a momentous question should not be settled by a committee of three, and while we have recommended certain action, we are sure the final decision must be made by the House with the information that we have and they possess.

Your committee has noted the dangers of such a division in the two main political parties in the State of New York, upstate or downstate, and would dislike very much to see a similar situation evolve in the Medical Society of the State of New York.

It is their opinion that a study of the composition of the delegates to the American Medical Association will always find all parts of the State amply and proportionately represented. The total number of members of the Medical Society of the State of New York is approximately 24,000; 17,000 represent the metropolitan area, and 7,000 represent the rest of the State's physicians. This is roughly the way the delegates to the American Medical Society have been running in past years: In 1950, 15 out of 24 came from the metropolitan area; in 1951, 12 out of 23; in 1952, 12 out of 20; in 1953, 12 out of 17; in 1954, 11 out of 17; and in 1955, 13 out of 18.

Your committee deems it unwise to legislate these proposals into the Bylaws. We believe the House of Delegates has shown excellent judgment in selecting representatives of the House of Delegates to the American Medical Association from the Empire State.

VICE-SPEAKER WILLIAMS: The adoption of this recommendation has been moved, which is to refuse to adopt this proposal. Do I hear a second?

DR. EDWIN A. GRIFFIN, *Kings:* I second it.

VICE-SPEAKER WILLIAMS: Is there any discussion?

DR. LEO F. SCHIFF, *Trustee:* May I come up to the podium, sir?

VICE-SPEAKER WILLIAMS: Surely!

DR. SCHIFF: I have to talk more than a minute or two, and I want something to lean against.

I hesitate to appear in opposition to our Council committee or rather our Committee on Constitution and Bylaws, men who have served our Society well and have the interests of the Society at heart, men whom I greatly respect and admire, but with those opinions I cannot always agree.

Those of you who have been in this House for enough years back will recall that some years ago we did not have a Nominating Committee. The late James Rooney proposed that we should have because our elections were beclouded with a certain political taint. We won't go into that now. Needless to say, the House agreed that the Nominating

Committee would be a better thing, and we find that we are getting along very nicely with it, but the appointment of the Nominating Committee alone did not cure all of the evils in the situation. All of you know that there is considerable horse trading going on today in the matter particularly of the election of delegates to the American Medical Association.

In order to go at this thing in some understandable manner, let me try to answer the objections of the committee. I happen to wonder offhand why suddenly we went from this two-column setup, which was so pretty, and got this thing out in a single-column setup, but let us try, at the bottom of page 1034 in the annual report books, first column to the left, to answer the bases of the failure to recommend the adoption of these proposed amendments:

"Number 1, they are too cumbersome." Well, I will admit that I was unable to get them any shorter than that. I tried hard, and when I sent them on to the committee, they had my approval to alter them in any way they saw fit, so long as they did not change the basic sense of the thing, but apparently they were not able to condense them either.

The reason for this cumbersomeness is that we are trying to pinpoint a procedure. It may not happen again for a long time, but at one time when I was a delegate, I know that one of our delegates was unable to be present at a certain meeting. There was a duly elected alternate who had come to the meeting—it was in California—at his own expense and who thought as long as the regular delegate was absent that he as an alternate and on the spot would be appointed by the president, or the secretary, or whoever does it, to take the absent delegate's place. However, it seemed, although it was not so written in the Bylaws, that the interpretation of the situation was that another delegate, another alternate, who was at that time in the East, had to be contacted by wire and gotten out there in a hurry, and the other man who was there just was not a delegate. I don't say that was not the right procedure; it probably was, but had it been pinpointed in the Bylaws, no one could have taken any objection.

I do now think that possibly the first sentence of subsection (d) in Section 9 might be omitted, but that won't reduce by much the cumbersomeness of this particular group—only by about 12 words.

"2. It sets up a division in the Medical Society of an upstate group and a downstate group. This is a dangerous procedure.... The activities of the Medical Society of the State of New York should be for the physicians as a whole, and representation should be in a similar manner." That is fine. I can heartily agree with our committee, but let us not blind ourselves to the facts of life. For good reasons it has been common in most legislative bodies of any size to reduce the proportional representation of those areas that have a dense population, so they are not actually represented in the same proportion as the smaller, less densely populated areas. You will find that out of roughly 185 delegates to be elected to the State Society there are 78 elected from the First District Branch. That does not represent the physician-membership population when we take into consideration the concentration factor, and so on. It still is a good representation, and 78 members out of the total—not a total membership, I am speaking only of elected delegates, leaving out the officers, sectional delegates, etc.—78 members form quite a bloc. Whether we like to talk about it or not, those are practical things, and such a bloc can control, to a great extent by just a little horse trading, the votes.

I will just call your attention to one more thing: On page 11 of your blue book, the program, you will find listed the delegates elected in 1953 and 1954. While it is true that so-called upstate members were elected in fairly large numbers, of the ones that were elected delegates, which is the column on the left, seven out of eight were from the First District Branch. The other large number is of men who were elected as alternates. In 1954, seven out of the nine delegates elected were from the First District Branch. Of the alternates eight out of nine were from other than the First District Branch, the one being from the First District Branch.

These things point out something that is going to continue and continue and which can easily be changed by adopting the Bylaw amendments that I have suggested. I have gone over the whole thing, taken out of all the counties, thought of proportional representation, dividing them up corner by corner. That thing was too complicated, but you could see the big difference in the delegation from the First District Branch as compared with the delegates from so-called upstate. Gentlemen, I don't mean to imply that there are not just as good brains and perhaps better brains in New York City and its surrounding areas as there are upstate, but it just does not seem to me that it can be a coincidence. We say in the discussion that the final decision must be made by the House, and the final decision is made by the House, but it does not seem to me that it is purely coincidence that the House happened to think that the men they wanted most for delegates were eight out of nine of them and in another instance seven out of eight men from the First District Branch, when there was a list of nominees presented by the Nominating Committee which was roughly divided fifty-fifty.

When you come to this, I hope we won't get into too much of a row over it. It is not worth while, but I feel convinced unless we protect the situation—and it will not be hard if you read these proposed bylaws carefully to put it into effect and the nominations are made by the Nominating Committee. They will simply state nominations for Group 1 and nominations for Group 2, nominating nine for Group 1, or ten rather, and eight men for Group 2, and they are voted upon by all of the membership just as we vote for whatever other officers we have to vote for in their respective blocs, and the ones receiving the highest votes in each particular group are the delegates, and the ones receiving the lower number of votes become the alternates. In that way we will assure ourselves in each case of having a certain number of delegates representing the nonmetropolitan area of the State.

In conclusion, let me call your attention to one thing at the top of column one on page 1034 of the annual reports. In the first place we have asked for deletion of Sections 6 and 7 as they now stand, and the last sentence says that the member elected to be president-elect of the Society shall be considered also to have been elected a delegate. That was put in there because somebody pointed out that some years the president-elect comes from the metropolitan area and sometimes he comes from the upstate area, and it would be just too bad if we can't have our president on our delegation. There is a simple way. When we elect him president-elect, we elect him for two years. His term begins immediately as president-elect. He will be the president the following year, and he will be a delegate also when he is president. The following year when we elect another president-elect, the same thing goes on. That will take care of one delegate, and we would not have to ask one of our presidents to run and possibly be defeated for delegate—and it has happened that the president of the Society has not been elected a delegate but only an alternate. (*Applause*)

I don't know whether you are clapping to get me off the platform, but it is all right.

Then it is proposed that the balance of the delegates be elected half and half, and if there is a surplus delegate, he be assigned to the First District Branch. I have no objection to their assigning two as long as there is some recognition, but that was put that way, nine delegates to be elected, the president-elect is automatic, and the balance of the delegates divided into two, and if there is an extra one, that is for the metropolitan group.

Finally, there is possibly an error on my part or an error in copying, which I think should be corrected, and that is almost at the bottom of this small print, where it says, just above Section 10, "The foregoing sections 7, 8, and 9," it means Sections 6, 7, 8, and 9. I think that can be corrected by unanimous consent if this thing goes through, "shall not take effect until after the annual meeting of the State Society in 1955," which means that this year's election goes on the same old way, and nothing will happen until next year, even if you do adopt these Bylaw changes, and I sincerely hope you will.

VICE-SPEAKER WILLIAMS: Is there any further discussion?

. . . There were calls for the question . . .

VICE-SPEAKER WILLIAMS: If not, ladies and gentlemen, you have before you the recommendation of the Committee on Constitution and Bylaws, which means you do not approve these amendments. Are you ready for the question?

. . . The question was called, and the motion was put to a vote and was carried . . .

VICE-SPEAKER WILLIAMS: The recommendation of the Committee has been carried. The recommendation of the Committee is approved. Continue!

DR. AARON: Page 1034 of your annual reports book; see page 63, Section 75 of the proceedings of the House of Delegates of last year, and page 35 of the Constitution and Bylaws. The following proposed amendment was presented by Dr. Charles F. McCarty, of Kings County, to the Bylaws, Chapter XI, Special Committees, Section 4, which at present reads:

> "SECTION 4. The Nominating Committee shall comprise 11 members, one member to be chosen from each district branch and two additional members at large to be nominated to this committee by the president, in conformity with Chapter VII, Section 1, of these Bylaws. It will be the duty of this committee to propose and nominate members of the Society for all vacancies to be filled at the annual meeting of the House of Delegates succeeding their appointment. These recommendations shall be made to the House of Delegates in the same manner as prescribed in Chapter X, Section 2, of the Bylaws."

so that the proposed amendment in the first sentence of Chapter II, Section 4, shall read—

VICE-SPEAKER WILLIAMS: Chapter XI.

DR. AARON: Chapter XI, pardon me:

> "The Nominating Committee shall comprise 13 members, one member to be chosen by the president from each county in the First District Branch, and one from each of the remaining district branches, in conformity with Chapter VII, Section 1, of these Bylaws."

Your committee recommends rejection of this proposed amendment, because the Nominating Committee has functioned satisfactorily as at present constituted. It has each year been wisely chosen to consist of members of sound judgment not only representative of the district branches but also of the State as a whole, and the "two members at large" have always come from the metropolitan area.

I so move.

DR. ELTON R. DICKSON, *Broome:* I second it.

VICE-SPEAKER WILLIAMS: Is there any discussion? A vote of "aye" approves the recommendation of the committee to disapprove this amendment. Are you ready for the question?

. . . There were calls for the question, and the motion was put to a vote and was carried . . .

DR. AARON: Page 1035 of the annual reports booklet, see pages 57 and 58, Section 64, of the proceedings of the House of Delegates of last year, and page 38 of the Constitution and Bylaws. This was introduced by Dr. George J. Lawrence, Jr., of Queens. Bylaws, Chapter XIV, Component County Medical Societies, Section 2, paragraph one, as amended in 1954, it reads:

> "SECTION 2. Whenever an active member in good standing or a retired member in any component county medical society removes to another county in this State, his name upon his request shall be transferred to the roster of the component county medical society of the county to which he removes, without cost to him, provided that he files a certificate with the secretary signed by the president and secretary of the component society from which he removes as to his good standing in such society, and provided his application for membership has been acted upon favorably by the members of the society of the county to which he has removed. No member, however, shall be

> an active member of more than one component county society, nor shall any component county society accept a physician residing in another county in any other way than in accordance with the law governing transfers."

The proposed amendment is that Section 2 of Chapter XIV of the Bylaws of the Medical Society of the State of New York be amended by adding to the first sentence:

> "and provided he is found acceptable by the county medical society to which he is requesting transfer."

Your committee recommends that this proposed amendment be not adopted, because it is already covered in the last phrase in the first sentence by the words, "and provided his application for membership has been acted upon favorably by the members of the society of the county to which he has removed."

I move the adoption of the committee's recommendation.

Dr. Moses H. Krakow, *Bronx:* I second it.

Vice-Speaker Williams: You heard the recommendation of the committee. Is there any discussion?

... There were calls for the question ...

Vice-Speaker Williams: You realize that if you approve, that the recommendation of the committee is not to adopt this amendment.

... The motion was put to a vote and was carried ...

Dr. Aaron: In your annual reports book, page 1035, Bylaws, Chapter XVII, Amendments, Section 1, it is unnecessary that we act upon this because in 1953 Dr. Reuling introduced a motion before this House to the effect that practically the contents of this resolution should be adopted. It appears in a recommendation of a committee of which Dr. Flood was chairman, and it was adopted in 1954. Therefore, this is unnecessary and should not appear in our transactions and activities of this year.

I move the recommendation of this portion of the report.

Dr. Gerald D. Dorman, *Councillor:* I second it.

... There being no discussion, the motion was put to a vote and was unanimously carried ...

Dr. Aaron: Page 1035, Bylaws, Chapter IV, Council, Section 10, of your annual reports book; see page 140 of the proceedings of the House of Delegates of last year. The Reference Committee on the Report of the Council, Part IX, Legislation, approved the recommendation of the Committee on Legislation that consideration be given to amending the Bylaws so the chairman of the Committee on Legislation should not necessarily be a Council member.

This would require amending Section 10, Chapter IV of the Bylaws adding (*i*) to the list of the activities in the second sentence.

Your committee does not recommend the adoption of this. The chairmen of all important committees should be members of the Council. They should be chaired by experienced personnel, but more important such person should be a Council member since he must attend the meetings of the Council and be prepared to participate in the discussions that relate to the special activities of that committee and offer recommendations. If the policy of having non-Council members as chairmen of the committees was adopted, it would weaken the entire structure of our form of procedure.

I move the adoption of this recommendation of the committee.

Dr. Edwin A. Griffin, *Kings:* I second that.

... There being no discussion, the motion was put to a vote and was unanimously carried ...

Dr. Aaron: Mr. Speaker, the material that now appears before you is suggestions for alterations in the Constitution and Bylaws which should, and will, be acted upon next year.

I should like to move, if it is the pleasure of the House, Mr. Speaker, that the publication of these in the Journal be considered the first reading, and that we do not read these at this time so as not to take up your time, in view of the fact that they are available to you, will appear once more published next year, and will be acted upon next year. I so move.

Dr. Samuel Wagreich, *Bronx:* I second that.

... There being no discussion, the motion was put to a vote and was unanimously carried, the material referred to being as follows:

To bring our Bylaws up to date your committee recommends the following changes:

Chapter III

Section 2.—The third paragraph should be deleted. It reads: "In 1950, four councillors shall be elected for three years, one for two years, and one for one year."

Section 3.—The second and third phrases should be eliminated, leaving a comma after the words, "One trustee shall be elected annually for a term of five years," to be followed by the present second sentence after changing the word "Thereafter" to the word "but." This eliminates division which was necessary in 1950. This is no longer necessary. Deleting the words "but in 1950 one trustee shall be elected for five years, one for four years, and one for three years," the section will then read:

> "One trustee shall be elected annually for a term of five years, but whenever the terms of two trustees expire in the same year, two trustees shall be elected each for five years. In the event of a vacancy, a trustee shall be elected for the unexpired term. A person to be eligible for election as trustee shall have served at least two years as an officer, or at least three years as a member of the Council, or at least five years as a member of the House of Delegates."

Section 4.—Since part of the first sentence is a repetition of the first sentence in Section 1, we recommend deleting the following:

> "The first order of business at the last scheduled session of each annual meeting of the House of Delegates shall be the nominations and elections for officers of the Society and other members of the Council, a member or members of the Board of Trustees, delegates to the American Medical Association, and"

We recommend that this section read as follows:

> "After the appointment of a sufficient number of tellers by the speaker, and after all nominations have been made, the secretary shall cause to be displayed in full sight of the delegates a list of nominees for each office arranged in alphabetical order, and shall also cause to be distributed a sufficient number of blank ballots for the use of the House of Delegates. These ballots shall have printed or stamped thereon the appropriate headings for each office with spaces thereunder in which may be written the name of the candidate or candidates to be voted for."

Chapter IV

Section 1(b).—The executive committee now meets regularly the afternoon before the Council meeting. It considers correspondence and perhaps other matters. It reports the next day to the Council, and thus saves time for the Council. It would seem wise, therefore, to insert before the last sentence in this section a comma followed by the words "and it shall at all times assist the Council." The section would then read:

> "The Council shall establish an executive committee to be composed of the president, the president-elect, the secretary, the treasurer, and three additional members of the Council appointed by the president with the approval of the Council. This committee shall be appointed by the president immediately upon his assumption of the office of president and to serve during his tenure as president only. The executive committee shall have the authority to take action in case of emergency arising in the interim between the meetings of the Council in order to protect the interests and purposes of the Medical Society of the State of New York as set forth in this Constitution and Bylaws. In times of such emergency, the executive committee shall have all the powers and duties which are conferred upon the Council, and it shall at all times assist the Council. Any action taken by the executive committee shall be reported in full to the Council at its next meeting."

Chapter VII

Section 7.—Although allowed by custom to sign checks, no allotment of such power and responsibility to either the assistant secretary or assistant treasurer is made. Mr. Alexander, our accountant and office manager, feels it advisable to have this contingency covered in the Bylaws. Your committee, therefore, recommends that there be inserted in the first sentence of this section after the words "the secretary" the words "or assistant secretary." That would necessitate a period after the first "Society" and commence the second sentence after that "Society," with the words, "The secretary."

A sentence in this section is obsolete and should be deleted: "He shall supply each county society with the necessary blanks for making its annual report to this Society."

Section 7 will then read:

> "The secretary or assistant secretary shall countersign all checks issued by the treasurer on funds of the Society. The secretary shall be the custodian of the seal of the Society, and of all books of records and papers belonging to the Society, except such as properly belong to the treasurer, and shall keep an account of and promptly turn over to the treasurer all funds of the Society which come into his hands. He shall provide for the registration of the members at all sessions of the Society. With the aid and cooperation of the secretaries of the county societies, he shall keep a proper register of all the registered physicians of the State by counties. He shall aid the officers of the district branches in the organization and improvement of the county societies and the extension of the power and influence of the Society. He shall conduct the official correspondence, notifying members of meetings; officers, councillors, trustees, and board members of their election, and committees of their appointments and duties. He shall affix the seal of the Society to all credentials issued to members of the Society elected by the House of Delegates and to such other papers and documents as may require the same. He shall make an annual report to the House of Delegates. Acting in cooperation with the Council, he shall prepare and issue all programs. He shall be a member of the Council. He shall be ex officio a member of all boards and committees without vote. He shall record the name and date of admission of each member of the Society. He shall be in complete charge of the administration of the headquarters of the State Society."

Section 8.—Continuing about the signing of checks, in this section, after the first three words, there should be added "may countersign checks drawn by the treasurer on funds of the Society, he"; the section will then read:

> "The assistant secretary may countersign checks drawn by the treasurer on funds of the Society, he shall aid the secretary in the work of his office, and, in the absence or disability of the latter, he shall perform the duties of the office until the secretary resumes the work, or, in the case of a vacancy, until a successor shall be elected."

Section 9.—In the same vein we advocate that there be inserted in the second phrase of the first sentence the words "or assistant treasurer" after the word "treasurer." Also in that same phrase, following the word "secretary," the words "or assistant secretary" should be inserted. This sentence would then read:

> "The treasurer shall keep accurate books of accounts of all moneys of the Society which he may receive and shall disburse the same when duly authorized, but all checks drawn by the treasurer or assistant treasurer upon the funds of the Society shall be countersigned by the secretary or assistant secretary of the Society. He shall collect, on or before the first day of June in each year, from the treasurer of each component county society the State per capita assessment. He shall at the expense of the Society give a bond for the faithful performance of his duties, which shall be approved by the Council as to amount, form, and surety. He shall make an annual report to the House of Delegates and monthly reports to the Council. He shall be a member of the Council."

Chapter XI

Section 2.—To be up to date, we recommend that the second sentence be deleted and that the present first sentence have its period changed to a comma, followed by the words "each for a term of five years." The section would then read:

> "A special committee, to be known as the Malpractice Insurance and Defense Board, consisting of seven members, including a chairman, shall be appointed by the president with approval of the Council, each for a term of five years, annually at

> expiration of term of office of a member. Vacancies for any other cause shall be filled for the unexpired term by appointment by the president with the approval of the Council. The secretary, treasurer, legal counsel, and indemnity representative shall be ex officio members of the committee with voice but without vote. It shall be the duty of the committee to study and supervise, on behalf of the Society, all matters having to do with malpractice insurance and defense."

Chapter XII

Section 1.—We advocate the insertion of the words "and vice-chairman" after the word "chairman" in the second sentence. The section would then read:

> "The scientific sections designated by the House of Delegates shall each organize by the election of a chairman, vice-chairman, and secretary. The chairman and vice-chairman shall be elected annually; the secretary for such term as the section may deem fit."

Section 3.—The policy has been established for each section to meet once instead of twice as formerly at the annual convention. Therefore, the first sentence in Section 3 should be deleted as well as the words "and must have recorded his name and address in the section registry." No particular section registry is kept by a section; rather each member records his section affiliation on the registration card when he registers at the annual convention. Section 3 would then read:

> "To participate in the election of any section a member must be registered with such section."

Chapter XIV

Section 1.—Paragraph (*b*) is no longer needed. We therefore recommend that "(*a*)" after the words "Section 1" be eliminated as well as paragraph (*b*).

Section 2.—It is provided in the last sentence of this section that dues may be remitted on account of illness. This is the only permission in the Bylaws for dues remission. The House of Delegates has instructed the Council that it may remit dues on account of temporary service in the armed forces and financial hardship. The American Medical Association allows remission of dues for age over seventy, financial hardship, and temporary service in the armed forces or U.S. Public Health Service. It is, therefore, recommended that the last paragraph of Chapter XIV be amended to read as follows:

> "The dues of any member of the Medical Society of the State of New York may be remitted for the current year on account of illness, financial hardship, temporary service in the armed forces or in the U.S. Public Health Service, when the request is made by the member's component county medical society."

VICE-SPEAKER WILLIAMS: Thank you, Dr. Aaron.

DR. AARON: Mr. Speaker, I move the adoption of the report of the Committee on Constitution and Bylaws as a whole. In view of the fact that no amendments or alterations have been suggested, it is not necessary to include a qualifying phrase.

DR. GERVAIS W. MCAULIFFE, *New York:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

DR. AARON: Mr. Speaker, it would be impossible to present a report of this type and character without the sincere and excellent advice and the experience of Dr. Thomas O. Gamble, Dr. James R. Reuling, and Dr. Walter P. Anderton. In compiling the report we were also benefited by having called to our attention this year a portion of the Constitution and Bylaws by Dr. Ezra A. Wolff, which was important and appreciated by us. Therefore, may I move that this committee be thanked for its report submitted to you today.

VICE-SPEAKER WILLIAMS: The vice-speaker would like to amend that to include a vote of thanks to the chairman as well.

DR. A. W. MARTIN MARINO, *Kings:* I make such an amendment.

DR. GRIFFIN: I second it.

. . . There being no discussion, the motion as amended was put to a vote and was unanimously carried . . .

VICE-SPEAKER WILLIAMS: Thank you very much, Dr. Aaron.

Section 93

Reference Committee on Report of Council, Part III: Public Health Activities B— Rural Medical Service

DR. JOHN M. GALBRAITH, *Nassau:* The first part of the Reference Committee on Report of Council, Part III, Public Health Activities B, concerns rural medical service.

Dr. Denver M. Vickers' Subcommittee on Rural Medical Service has given a thorough appraisal of the activities in this field. The committee has pointed out that the American Medical Association Council on Rural Health has an excellent unofficial motto of "Helping the community to help itself to better health."

The activities of the Committee on Rural Health of the New York State Academy of General Practice are especially commendable.

The problems of securing satisfactory coverage in x-ray, laboratory, nursing, and hospital care in rural surroundings are gradually being solved by cooperation of interested local citizens, the medical societies, and the State Department of Health.

A safety educational program as outlined to prevent injuries among farmers seems highly desirable. The committee also reminds us that Blue Cross and Blue Shield coverage must be extended more thoroughly into the rural communities.

I move the acceptance of this portion of the report.

DR. KENNETH F. BOTT, *Greene:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 94 (See 16)

Reference Committee on Report of Council, Part III: Public Health Activities B— General Practice

DR. JOHN M. GALBRAITH, *Nassau:* The Subcommittee on General Practice, headed by Dr. Floyd C. Bratt, has shown excellent activity. This has centered around the following problems:

1. Hospital relations.

2. Cooperation with various groups of organized medicine.
3. Continued educational opportunities.
4. Support of public health programs.
5. Health examinations and cancer detection.
6. Public relations and community affairs.

The health examination form to facilitate comprehensive physical examinations and to assist in cancer detection are helpful in this field, and the distribution of this form should be continued.

The supplementary report is highly commendable in that Dr. Bratt secured the physical examination forms from R. J. Strasenburgh, Inc., for distribution to the downstate counties.

I move the adoption of this portion of the report.

DR. NORMAN C. LYSTER, *Chenango:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 95 (See 10)

Report of Reference Committee on Report of Council, Part III: Public Health Activities B—Industrial Health

DR. JOHN M. GALBRAITH, *Nassau:* The establishment of an Industrial Health Bureau in cooperation with the Workmen's Compensation Bureau apparently is long overdue. The House of Delegates has repeatedly voted for this bureau. The Industrial Health Committee along with the Planning Committee has for two and one-half years studied this problem.

In the meantime the problem has become more crucial since management and labor unions, either separately or together, are setting up health centers to furnish some type of medical care to their employes. In the majority of the cases no help is sought from organized medicine in setting up these health facilities.

The problem, in the opinion of your reference committee, rests with the Council and the Board of Trustees to obtain a properly qualified expert to run the Bureau of Industrial Health with the funds that are available.

I move the adoption of this portion of the report.

DR. ARTHUR E. LAMB, *Kings:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 96

Report of Reference Committee on Report of Council, Part III: Public Health Activities B—Problems of Alcoholism

DR. JOHN M. GALBRAITH, *Nassau:* There was no report submitted from the Committee on Problems of Alcoholism.

I move we accept this portion and the report as a whole.

DR. ABRAHAM D. SEGAL, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

DR. GALBRAITH: I now wish to thank the members of my reference committee, Drs. Kenneth F. Bott, Abraham D. Segal, Norman C. Lyster, and Thomas R. Cummins.

SPEAKER HOLCOMB: Thank you, Dr. Galbraith.

Section 97 (See 47)

Report of Reference Committee on Miscellaneous Business B: Establishment of a Session on History of Medicine by the American Medical Association

DR. WALTER T. HELDMANN, *Richmond:* The first resolution considered by your committee was number 55-5 introduced by Dr. Frederic D. Zeman, of New York County, pertaining to the establishment of a session on history of medicine by the American Medical Association.

SPEAKER HOLCOMB: Gentlemen, this resolution is number 55-5.

DR. HELDMANN: The resolved portion of which reads:

> *Resolved*, that the delegates of the Medical Society of the State of New York to the House of Delegates of the American Medical Association be and hereby are instructed to propose by resolution that the American Medical Association institute at its annual scientific meeting a session on the history of medicine to stimulate interest and encourage study of this important subject on a national level.

Your committee, after careful consideration, was of the opinion that the experience of the Session on the History of Medicine of the State Society warrants the extension of this phase of the scientific program to a national level, and, therefore, we approve of this resolution.

I move the adoption of this portion of the report.

DR. SAMUEL Z. FREEDMAN, *New York:* I second it.

SPEAKER HOLCOMB: Is there any discussion on this recommendation having to do with the establishment of a session on the history of medicine for the American Medical Association?

SECRETARY ANDERTON: Mr. Speaker, just a moment, the word "session" is used here. The A.M.A. has "sections." I, therefore, take the liberty of offering an amendment that the word "session" be changed to "section."

DR. LOUIS H. BAUER, *Ex-President:* Mr. Speaker—

SPEAKER HOLCOMB: Pardon me! Is this amendment seconded?

DR. MOSES H. KRAKOW, *Bronx:* I second the amendment, Mr. Speaker.

DR. BAUER: The American Medical Association never adopts a section until after they have had experience with a session, so I think the recommendation is quite in order as it is. You may never hope to adopt an additional section until they have first had sufficient experience with a session.

SECRETARY ANDERTON: Under those circumstances, would the speaker please allow me to withdraw my amendment?

SPEAKER HOLCOMB: The amendment is withdrawn. We are now voting on the original recommendation of the reference committee. Is there any discussion?

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 98 (*See 45*)

Report of Reference Committee on Miscellaneous Business B: Proposed Bricker Amendment to the United States Constitution

Dr. Walter T. Heldmann, *Richmond:* Your reference committee considered the resolution number 55-6 introduced by Dr. George Himler for the Medical Society of the County of New York concerning the proposed Bricker Amendment to the United States Constitution.

Speaker Holcomb: That is 55-6.

Dr. Heldmann: The resolved portion of which reads as follows:

> *Resolved,* that the House of Delegates of the Medical Society of the State of New York hereby authorize its delegates to the House of Delegates of the American Medical Association to propose that the American Medical Association refrain from taking any official position on the current Bricker amendment, either in its present form or in amended form.

After a lengthy conference with one of the cosponsors of this resolution and with several interested and informed members of the State Society and American Medical Association, your committee concluded that we should unequivocally approve of the general principle embodied in the Bricker amendment.

While we may concede that there is some merit in the stand taken in this resolution, that the broad scope of the proposed amendment in relation to certain aspects of foreign policy is entirely unrelated to medicine, nevertheless your committee feels the Bricker amendment is the only available implement at hand at the present time to forestall the introduction into this country through the back door of a system of medical practice entirely foreign to the traditions and principles of American medicine.

Furthermore, your committee believes that the intensive study and resultant active support given to the Bricker amendment by the American Medical Association deserves our unqualified approval.

Therefore, your committee recommends disapproval of this resolution.

I move the adoption of this portion of the report.

Dr. George E. Anderson, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was carried . . .

Section 99 (*See 36*)

Report of Reference Committee on Miscellaneous Business B: Establishment of a Section on Physical Medicine and Rehabilitation

Dr. Walter T. Heldmann, *Richmond:* The last resolution referred to your committee was number 55-24 introduced by Dr. Stephen A. Graczyk, of Erie County, pertaining to the establishment of a Section on Physical Medicine and Rehabilitation.

Your committee approves in principle of this resolution but has taken the liberty of changing the original text to the extent of deleting the words "and Rehabilitation" wherever they appear in order to conform with the current title of this division of the scientific program of the Medical Society of the State of New York, the amended resolution to read:

> Whereas, the division of the scientific work of the Medical Society of the State of New York does now provide for a Session on Physical Medicine but not a section; and
>
> Whereas, physical medicine is a recognized and important field of specialty practice large enough to merit recognition as a section; and
>
> Whereas, there is a growing and continuing interest in this field of scientific work; be it hereby
>
> *Resolved,* that a Section on Physical Medicine be established in place of the Session on Physical Medicine now in existence.

Your committee recommends the approval of the resolution as herein amended.

Dr. Edward F. Shea, *Ulster:* I second it.

Speaker Holcomb: Does anyone wish to discuss this recommendation which calls for the adoption of the resolution as amended?

Dr. Gerald D. Dorman, *Councillor:* Could we have an estimate of the cost to this Society of doing that?

Speaker Holcomb: I second it.

Dr. Heldmann: We spoke to several members of the Society whom we thought could give us that information. They were of the opinion that there would be very little, if any, additional cost to changing it from a session to a section.

. . . There being no further discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Heldmann: I wish to move the adoption of the report as a whole.

Dr. Edwin A. Griffin, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Heldmann: I would like to take this opportunity to thank the members of my reference committee, Dr. Edward F. Shea, Dr. Reid R. Heffner, Dr. James H. Arseneau, and Dr. George E. Anderson, for their help in compiling this report.

Speaker Holcomb: Thank you, Dr. Heldmann.

Section 100

Recognition of Ex-President Arthur J. Bedell

Speaker Holcomb: The Chair wishes to recognize one of our past presidents who, as I remarked this morning, when I attended his classes back in 1914 or 1915 looked practically the same as he does today as far as I can remember. I remember he also disapproved of certain things we did at this time; nevertheless, we all loved him. Dr. Bedell! (*Applause*)

Dr. Arthur J. Bedell, *Ex-President:* Mr. Speaker and members of the House, I come before you because Dr. Winslow spoke to the chairman and said, "Get Bedell up there, and give him ten minutes so he can slam the report and the work of the Public

Relations Committee." Coming from the head, I assure you I do, but further than that I would like to take a minute.

Fifty years ago I was first elected to this Society. Very few of you know that in those days you had to be elected a delegate to the House for two consecutive terms. You may, if you read over your minutes, find that that particular year the two societies, the Medical Society and the Medical Association decided to join hands once more and live in peace and harmony. It was a very important occasion.

I am amazed at the continuing expenditures. I am absolutely shocked to think that this great organization should deliberately go into the red. I can't appreciate it.

Mr. Chairman, thank you for the opportunity of coming before you and expressing my disapproval of red finance. (*Applause*)

Section 101 (*See 40*)

Report of Reference Committee on Miscellaneous Business A: Establishment of a Medical Hall of Fame

Dr. George J. Lawrence, Jr., *Queens:* Your reference committee considered the resolution introduced by Dr. Benjamin M. Bernstein of Kings County concerning the establishment of a Medical Hall of Fame.

Delegates: What number?

Dr. Lawrence: Number 55-4.

Speaker Holcomb: Are you ready for him to proceed?

Delegates: Yes.

Dr. Lawrence: Your committee approves this resolution in principle but feels that the idea is a new one requiring much exploration and study. Such a project must necessarily be nation-wide in its scope. Your committee, therefore, recommends the substitution of the following resolution for that submitted by Dr. Bernstein:

> *Resolved,* that the House of Delegates of the Medical Society of the State of New York approves the idea of the establishment of a Medical Hall of Fame; and be it further
>
> *Resolved,* that the delegates of this Society to the House of Delegates of the American Medical Association be instructed to introduce a resolution at the coming meeting of the American Medical Association House of Delegates proposing a study by the American Medical Association, which study would have as its object the establishment of such a Hall of Fame.

I move approval of this part of my report.

Dr. Edward P. Flood, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 102 (*See 30*)

Report of Reference Committee on Miscellaneous Business A: Poll on Participation in Social Security

Dr. George J. Lawrence, Jr., *Queens:* This is on resolution number 55-23.

Your reference committee considered the resolution introduced by Dr. William T. Boland, of the County of Chemung, concerning a poll of our members on participation in Social Security. Your committee unanimously approves this resolution with the recommendation that the following questions be asked on a returnable ballot which shall be mailed to every member:

1. Do you favor participation by self-employed physicians in Social Security under its present compulsory form?

Yes ______
No ______

2. If not, would you be in favor of Social Security if some form of voluntary participation could be worked out?

Yes ______
No ______

3. Would you favor the passage of the Jenkins-Keogh Bill rather than passage of Social Security for physicians?

Yes ______
No ______

4. If the Jenkins-Keogh Bill were enacted into law, would you favor Social Security for physicians?

Yes ______
No ______

5. Are you now covered by Social Security?

Yes ______
No ______

6. Your age?______________
7. Your county?______________

Your committee has been informed by Dr. Dattelbaum and Mr. Alexander that the cost of printing and mailing these ballots, plus the cost of tabulating the returns, would approximate $1,600.

We, therefore, recommend to the House that Dr. Boland's resolution be approved and that the poll be conducted as suggested by your committee.

Mr. Speaker, I move the passage of this portion of the report.

Speaker Holcomb: Is there a second?

Dr. Arthur F. Gaffney, *Oneida:* I second it.

Speaker Holcomb: Is there discussion?

Dr. Dattelbaum is recognized.

Dr. Maurice J. Dattelbaum, *Treasurer:* The expense attendant on that may be $1,600, or it may be $2,000, with the time that will have to be taken up by our clerical help, which may be two or three instead of one. I say then this can be conducted on a local level through the county medical society, and we will tabulate their results. The county medical society can send out 100 letters at 3 cents apiece and return. It won't hurt them. Even if it is a larger society, they can spend that money. I know a poll has been undertaken by the Bronx Medical Society, so this is a reduplication. Therefore, I would like to amend this, Mr. Speaker, by proposing that this be undertaken on a local level by the county medical societies and the report given at the next session.

Speaker Holcomb: Is there a second to that amendment?

Dr. Moses H. Krakow, *Bronx:* I second that amendment.

Dr. Gerald D. Dorman, *Councillor:* I would like to speak against the amendment. In our county it costs us more than $100 to send out letters to close to 7,000 members. In addition, there is also the tendency to increase our clerical cost by sending out another referendum in our county. Because of the excess costs to the county medical society, I feel that this, being a State inquiry and a matter of State interest, should be borne by the State Society.

Dr. Louis H. Bauer, *Ex-President:* Mr. Speaker, I don't think that the questionnaire is going to be worth very much unless you are sure that the people who are filling out the questionnaire know what the provisions of the Social Security Bill are and what the provisions of the Jenkins-Keogh Bill are. I doubt if you were to ask for a show of hands in this room that more than 50 per cent of the members of this House could tell you what the Jenkins-Keogh Bill comprises. I also doubt that not many more could tell you just what the provisions of the present Social Security Act are. Unless you send out some statement along with the questionnaire which will give a brief summary covering what the provisions of both these bills are, I don't think the questionnaire would be worth very much.

Speaker Holcomb: Thank you very much, Dr. Bauer.

Dr. Solomon Schussheim, *Kings:* We, in Kings County, had such a questionnaire sent to all our members after they had been spoken to by the Honorable Mr. Keogh and a number of articles written and published in the *Bulletin of the Medical Society of the County of Kings.* We received the answers, and I can assure you that with the answers we don't know what the men want, and we feel very confident that the men don't know what they want. It will be a complete waste of money.

Speaker Holcomb: Is there further discussion on the resolution as amended, the amendment having to do with the county societies conducting the poll.

Dr. Arthur J. Bedell, *Ex-President:* I move an amendment to the amendment.

Speaker Holcomb: There is only one amendment, and that was Dr. Dattelbaum's.

Dr. Ezra A. Wolff, *Assistant Secretary:* He wants to make an amendment.

Dr. Bedell: I am sorry. I move that the whole matter be tabled.

Dr. Krakow: I second it.

Speaker Holcomb: Dr. Bedell moves that the whole matter be tabled, and it has been seconded.

Dr. Lawrence: The motion is not clear: the whole matter of social security or the matter of poll by the county societies?

Dr. Bedell: The question of the poll. I believe we were working on that. That is what the amendment was.

. . . The motion to table was put to a viva voce vote, and since the Chair was in doubt, it was put to a standing vote and was lost, with 89 voting in favor and 99 voting against . . .

Dr. Bedell: Point of information, I do not know how many are registered.

Speaker Holcomb: We have all honorable men in our group.

Dr. Bedell: I am sorry, but I doubt everybody in politics.

Speaker Holcomb: The Chair will call on Dr. McCarty to tell us whether those present are duly elected and qualified to vote.

Dr. Charles F. McCarty, *Kings:* As far as I know, they are, sir. Something over 200 have registered.

Speaker Holcomb: The Chair has another announcement to make: that the tellers, Dr. Anderton and Dr. Wolff, whom we regard as men of great integrity, have assured the Chair that they only counted those who wore badges.

Do you wish to discuss Dr. Dattelbaum's amendment?

Dr. William B. Rawls, *New York:* Right.

Speaker Holcomb: Dr. Rawls is recognized. The matter now under discussion is Dr. Dattelbaum's amendment which will throw the poll over on the county societies.

Dr. Rawls: Dr. Dattelbaum's amendment was that the county societies be directed to conduct this poll. This Society cannot direct, I believe, county societies to hold a poll. They can suggest—and suggest only—to a county society that it conduct a poll.

Speaker Holcomb: Is that true?

Dr. Benjamin M. Bernstein, *Kings:* I agree with Dr. Bauer. Very few men know what the Jenkins-Keogh Bill is or even what the provisions of the Social Security Act are. I would like to amend the amendment to the effect that this material concerning the Jenkins-Keogh Bill and the Social Security Act be published in the State Journal and then ask them voluntarily to send in their opinion, either signed or unsigned. It costs no money to publish it in the Journal, and I think the men would be willing to send it in at their own expense and sign it if they wish to, and if they don't want to, that is all right too. I so move. I am moving that as an amendment.

Speaker Holcomb: Is there a second?

Dr. Edwin A. Griffin, *Kings:* I second it.

Dr. Rawls: You can't amend an amendment. It is out of order.

Speaker Holcomb: The Chair announces that after due deliberation and consultation with our parliamentary authorities, the Chair will have to declare Dr. Dattelbaum's motion out of order, so therefore your vote is on the resolution.

Dr. Lawrence: I would like to discuss this further. Your reference committee discussed all these things that have come out on the floor. We spent a little time on it. We felt that enough literature has been published in the Journal, in the county society bulletins, and in the A.M.A. *Journal,* so that anyone who is ever going to be aware of this problem is aware of it now and is as conversant with it as he probably ever will be. We did not feel there was any great advantage to sending along literature.

We did think there was a danger of coloring anything we might send too much on one side or the other. Therefore, we did not make any such recommendation.

We did discuss the format of this ballot. It can be done on a returnable post card which can be folded in half. All of these questions can be included on one side of the post card, and of course it does not have to be signed by anyone. All that is necessary and that one has to do is to mark yes or no and answer the questions as indicated.

SPEAKER HOLCOMB: Is the House ready for the question?

DR. WILLIAM T. BOLAND, *Chemung:* I want to explain why my county directed its delegates to put this resolution before the House. It was done after one man in the county society had been instructed, and he agreed to do it, to take the Social Security Act as it is now and another man to take the Jenkins-Keogh Bill and present both sides of this question, so the men who voted would know what they were voting on. That is how it came about. After due deliberation and a great deal of study on it, they had two months to do it, and the man who was to do the A.M.A. even got all the literature that they had, which was a great pile, and he took pains to go through it all. That is how that thing came about. I think if every county would do that much, we would have some idea, the members of the State Society would have some idea, of what they are balloting on if the poll goes out.

SPEAKER HOLCOMB: Thank you!

DR. ALFRED P. INGEGNO, *Kings:* Mr. Speaker, I think it would be of interest to the House to know, as Dr. Schussheim mentioned, that our county went through this procedure. This morning we all expressed throbbing sentiments about saving the Society money. I would like to point out that so much depends upon a questionnaire word. If you have, as has been indicated by the chairman of the reference committee, a question whether social security is acceptable to you as it is or whether you would like it to be voluntary, obviously if asked whether you would like it to be compulsory or voluntary, most men are going to say they prefer it to be voluntary. Then when Congressman Keogh before our medical society tells us that there is not a chance in the world of Congress ever accepting any such setup, that is another thing to be considered. So, Mr. Chairman, I still think that an amendment is in order, and I would like to propose that this questionnaire be submitted to the county societies and that they be asked to determine the feeling of their members in whatever way seems best suited to their particular situation, and to report those findings to our State Society.

SPEAKER HOLCOMB: Is there a second?

DR. SCHUSSHEIM: I second it.

SPEAKER HOLCOMB: Is there any discussion on Dr. Ingegno's amendment?

DR. DATTELBAUM: Instead of my dissertation being an amendment, I would like to put it in the form of a substitute motion. That is in order.

SPEAKER HOLCOMB: You already have an amendment on the floor now.

DR. DATTELBAUM: You said it was out of order, an amendment was out of order.

SPEAKER HOLCOMB: Your previous amendment was out of order.

DR. DATTELBAUM: A substitute motion is in order?

SPEAKER HOLCOMB: Dr. Ingegno's amendment at this time is open for discussion.

DELEGATE: What is that amendment?

SPEAKER HOLCOMB: That this matter shall be referred for information to the county societies, which implies apparently no particular expense to the State Society. That is open for discussion. Does anyone wish to discuss the amendment of Dr. Ingegno?

. . . There were calls for the question, and the amendment was put to a vote and was carried; then the motion as amended was put to a vote and was carried . . .

SPEAKER HOLCOMB: The motion as amended has been passed.

Section 103 (See 42)

Report of Reference Committee on Miscellaneous Business A: Participation in Federal Social Security Program

DR. GEORGE J. LAWRENCE, JR., *Queens:* Your committee also considered the resolution introduced by Dr. Christopher Parnall, Jr., of Monroe County concerning participation of physicians in the Federal Social Security Program (resolution number 55-22) and recommends that no action be taken on this resolution until the results of the poll can be tabulated and evaluated. Dr. Parnall is in agreement with the committee in this recommendation.

I move the approval of this part of the report.

DR. EDWIN A. GRIFFIN, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

DR. LAWRENCE: That concludes my report. I move approval of the entire report, as amended.

DR. PETER M. MURRAY, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

DR. LAWRENCE: Mr. Speaker, I would like to take this opportunity to thank the members of my reference committee, Dr. Edward P. Flood, Dr. Arthur F. Gaffney, Dr. Charles A. Prudhon, and Dr. Peter M. Murray.

SPEAKER HOLCOMB: Thank you, Dr. Lawrence.

Section 104 (See 15)

Report of Reference Committee on Report of Council, Part IX: Legislation

DR. SAMUEL Z. FREEDMAN, *New York:* The activities of the Committee on Legislation fell into two categories: liaison work with local groups of the State Society and advocacy of legislative matters.

As for the former it held many meetings with chairmen of legislation committees and others interested in this phase of our activities. The main purpose was to acquaint these members with our executive officer, Dr. Harold Smith. The results were apparently fruitful.

The main activity of the committee was its attempt to carry out the mandates of the House of Delegates in introducing and trying to pass bills in Albany. In baseball parlance its batting average was poor. To draw a conclusion from this one fact, however, is to overlook the facts of political life. Your reference committee's deliberations were enlivened by a frank and thorough discussion by the chairman of its Legislation Committee, Dr. Greenough; the executive officer, Dr. Smith; our legal adviser, Mr. Beasley, and some members of the House of Delegates who in previous years have been most active in advocating many legislative matters. The result of this was a meeting of minds on this important point, namely, that certain desired changes in the economic practice of medicine are beyond the reach of legislative action in Albany. It was agreed that our only hope in that field lies in activity on a local level, particularly in New York City, and even there results can only be obtained in concentrating our efforts in spheres outside of legislative halls.

Your reference committee has been made aware of the political realities of the day and is forced to conclude that as our profession has been pulled down into the market place, we do not now hold any aces in the game of legislative maneuvering. Our numbers are not large enough, nor our voting homogeneous enough to compete on equal terms with the strength of groups who are our figurative opponents. We must concentrate our efforts in other fields.

In the light of this, your reference committee is of the opinion that your Legislation Committee has done as well as can be expected.

I move for the adoption of this portion of the report.

Dr. Gervais W. McAuliffe, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 105 (See 51, 149)

Report of Reference Committee on Report of Council, Part IX: Amendment to New York State Education Law

Dr. Samuel Z. Freedman, *New York:* This other part of the report has to do with two resolutions, the first of which is resolution 55-18.

Vice-Speaker Williams: The report is now being made on resolution 55-18. Do you all have it?

Dr. Freedman: The subject of this resolution, introduced by Dr. Henry E. McGarvey, Medical Society of the County of Westchester, has to do with an amendment to the New York Education Law to make it illegal for members of the medical profession to advertise. I will not read the resolution but will come to the conclusion of the committee.

The reference committee disapproves this resolution because this matter is being studied in another committee, which is studying the entire matter of the Medical Practice Act, and also because the Board of Regents is considering the matter of unprofessional conduct.

I move you that this part of the report be accepted.

Dr. Charles Sandler, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 106 (See 57)

Report of Reference Committee on Report of Council, Part IX: Revision of Autopsy Law and Creation of a Commission to Clarify Laws Dealing with the Dead Human Body

Dr. Samuel Z. Freedman, *New York:* The second resolution is numbered 55-27, introduced by Dr. Alfred A. Angrist, Medical Society of the County of Queens, subject, "Revision of Autopsy Law and Creation of a Commission to Clarify Laws Dealing with the Dead Human Body."

Your reference committee approves the resolution in this form:

> Whereas, the recently suggested changes in the New York State Autopsy Law have failed of enactment; and
>
> Whereas, the necessary incidental publicity given to the present Law of Consent for Autopsy has further complicated the task of pathologists, hospital administrators, and medical boards and in the maintenance of required licensure standards of autopsy percentage by hospitals; and
>
> Whereas, the autopsy continues to be of outstanding importance in improving medical service, medical knowledge, and medical education; therefore be it
>
> *Resolved*, that this House of Delegates endorse the proposed revision of the Autopsy Law and actively promote its passage at the coming legislative session, and further exert every effort to obtain the support of the executive branch of our State government in support of such legislation; and be it further
>
> *Resolved*, that the Council implement this report to include, if indicated, a petition to His Excellency, the Governor.

I move the adoption of this part of the report.

Dr. Irving J. Sands, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Freedman: I move the adoption of the report as a whole.

Dr. Gervais W. McAuliffe, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Freedman: I wish to thank the members of my reference committee, Dr. Eugene F. Galvin, Dr. Sydney L. McLouth, Dr. Charles Sandler, and Dr. Irving J. Sands.

Vice-Speaker Williams: Thank you, Dr. Freedman.

Section 107

Report of Reference Committee on Report

of Council Committee on Constitution and Bylaws

Dr. Joseph H. Cornell, *Schenectady:* Mr. Chairman, this is the Council Committee on Constitution and Bylaws, whereas Dr. Aaron's committee was of the State Medical Society. This pertains to local county medical society amendments to their constitutions and bylaws. It reads:

Your reference committee approves of the Council committee's reports of changes made by the Counties of Albany, Franklin, Genesee, Otsego, and Wayne. While the committee's report is brief, it represents a considerable amount of work by its members.

I wish to thank my committee for their work, Drs. Clyde L. Wilson, John G. Masterson, Harry P. Smith, and Edward S. Platt.

Vice-Speaker Williams: Do you move the adoption of the report?

Dr. Cornell: Yes, I move the adoption of the report.

Dr. John G. Masterson, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Vice-Speaker Williams: Thank you, Dr. Cornell.

Section 108

Report of Reference Committee on Report of Council, Part X: Workmen's Compensation

Dr. James A. Lynch, *Bronx:* This is the report of the Reference Committee on Workmen's Compensation, the report of the Council Committee on Workmen's Compensation and also the Bureau of Workmen's Compensation.

Your reference committee has read the report of the Committee on Workmen's Compensation and of the Bureau of Workmen's Compensation with much interest. As usual, the report is replete with valuable information concerning the Workmen's Compensation Law and of the activities of the bureau during the past year.

Your committee commends the bureau for its cooperation with the officials of the Moreland Commission, especially with Mr. Archie Dawson, commissioner. His investigation was thorough and constructive and resulted in much good. The hearing procedures have been simplified and ample means provided to consider promptly, by means of the C-8.1, carrier's form, any difficulties between physicians, carriers, or employers as to medical care. Your committee supports the Workmen's Compensation Committee and Bureau in drawing to the attention of physicians the right to request hearings promptly before referees in the event carriers object to medical care when they believe it is necessary. Your committee also agrees that physicians should comply with requests to cooperate fully and appear before referees in order to facilitate hearings and cut down the number of postponements.

We note that the investigation of the Moreland Commission revealed certain irregularities on the part of hospitals and physicians with respect to payments for treatment of compensation cases and are gratified that these matters have been successfully cleared up. We urge county medical society compensation committees to be vigilant in fulfilling their obligations under the Workmen's Compensation Law with respect to medical care of compensation cases in hospitals and in investigating any evidence of improper conduct on the part of either hospitals or physicians on the staffs of same.

We approve the sentiments of the committee on the whole question of rehabilitation. We believe the profession through the county societies should by every means bring to the attention of the profession the advisability and value of *early* rehabilitation. We call upon the carriers to authorize promptly such rehabilitative procedure as a part of or in addition to the attending physician's services and to pay for same. Programs from time to time devoted to the discussion of rehabilitation, in order to make the profession more conscious of its value, should be encouraged. We agree with the report that the program of rehabilitation can only be a success if the attending physician retains contact with his patient. We are confident that the opinion of the bureau that rehabilitation can be instituted now without any change in Section 13 is correct. We deplore any attempt to weaken the free choice principle through the use of unnecessary rehabilitation legislation or by playing on the fears of employers or carriers that penalties for improper transfer prevent the referral of a patient for rehabilitative procedures by carriers, if such procedures are necessary, and the physician fails to comply.

Mr. Chairman, I ask that this part of the report be approved.

Dr. Harold W. Grosselfinger, *Rockland:* I second that.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Lynch: We strongly support the recommendations in the report that panels of specialists be provided to determine medical questions in controverted compensation claims. We also support the committee in recommending that so-called impartial specialists be nominated by the Medical Society on the basis of their professional qualifications rather than appointed solely by the chairman of the Workmen's Compensation Board.

We strongly recommend that a compensation claimant be regarded as a private patient and not a ward or charity patient and that semiprivate accommodations, and all the privileges of a semiprivate patient including free choice of physician, be assured compensation claimants. If the rate allowed for the hospitalization of compensation claimants is not adequate to provide such accommodation, the rate should be increased. We approve the sentiments of Mr. Archie Dawson, Moreland Act Commissioner, as cited in the report, with respect to the patient's right to semiprivate hospital accommodations and feel that the hospital per diem rate should be sufficient to provide semiprivate care without any additional fee payable by the claimant. In this respect the same principle should apply as with medical care where the fee paid the physician covers fully the doctor's bill without any payment by the claimant.

We again recommend that a more vigorous attempt be made to restore to the counties having a population of one million or more the functions that are exercised by other counties and that the Medical Practice Committee be abolished. Innumerable complaints concerning the way in which the Medical Practice Committee functions justify a change to the status quo before 1944. The functions carried out by the Medical Practice Committee can be better administered by the county societies with no expense to the State and to the carriers or employer.

We approve all the recommendations of the Workmen's Compensation Committee on the following:

1. To arbitrate disputed medical bills in the county in which the medical service was rendered rather than in the county in which the claimant resides.
2. To create panels of specialists rather than single experts now appointed by the chairman.
3. To amend Section 13-c-2 which restricts x-ray examinations to specialists in x-ray only, disregarding general practitioners and other specialists who properly use x-rays within the limits of their qualifications and specialty.
4. To amend Section 10-a of the Labor Law and the Workmen's Compensation Law to give the Medical Appeals Unit full power in appeals rather than advisory power only.

Mr. Speaker, I move that this part of the report be adopted.

Dr. John C. Brady, *Erie:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Lynch: On the subject of fees, we are fully in accord with the report and its recommendations as to fees and urge the chairman of the Workmen's Compensation Board to take steps to carry out the recommendations of the bureau. Fees should be at least equal to those paid in private practice by persons of a like standard of living. At present workmen's compensation fees are not generally in line with these, especially the fees of general practitioners. The additional services rendered in reporting and in complying with other administrative functions under workmen's compensation demand higher fees. Also fees for attendance at hearings and for mileage should be adjusted. We are happy to learn that the new chairman of the Workmen's Compensation Board, Miss Angela Parisi, has already taken the first steps to comply with the suggestions of the bureau in many of these matters, and we commend her for her fine spirit of cooperation. We in return call upon our membership fully to support the new chairman in her onerous work.

The plea of the committee for greater activity on the part of the county medical societies, through their workmen's compensation committees, should be taken to heart. The county committees on workmen's compensation should make every effort not only to carry out the duties imposed upon them but also to make every effort to improve the quality of medical care rendered; to stimulate programs to make their members fully aware of the value of rehabilitation, especially early, even in the so-called less severe or minor injuries. They should encourage local cooperation between the profession and insurance carriers, employers, and the Workmen's Compensation Board on workmen's compensation matters generally by means of meetings, conferences with respect to mutual problems, especially disputes over medical care and medical bills, as the report recommends. It is not too much to expect that our societies will devote increasingly more time to questions of professional qualifications and competence, to raising the quality of medical care to injured workers. Proved advances in medical science should be utilized in actual practice in an attempt further to reduce disability and restore function to the fullest extent and as early as possible.

We also approve the recommendation that a representative of the Council Committee on Workmen's Compensation and members of workmen's compensation committees be invited to appear not only at local society meetings but also at district branch meetings to discuss all phases of workmen's compensation as it affects the profession and those other interested parties with whom we must share responsibility in the treatment of compensation claimants and the prompt adjudication of their claims.

In closing, we wish to commend heartily the Workmen's Compensation Committee and its chairman, Dr. Gerald D. Dorman, for their comprehensive report and for their good work accomplished during the past year.

The director of the bureau, Dr. David J. Kaliski, has for over two decades skillfully and energetically represented the Society and the profession in all aspects of workmen's compensation. We heartily thank and congratulate him for the contribution and able manner in which he has carried out his duties.

Mr. Speaker, I move that this portion of the report be adopted.

Dr. Edwin A. Griffin, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 109 (See 38)

Report of Reference Committee on Report of Council, Part X: Workmen's Compensation Medical Practice in Veterans Administration Hospitals

Dr. James A. Lynch, *Bronx:* Resolution number 12 was referred to our committee and had to do with—

Vice-Speaker Williams: Resolution 55–12.

Dr. Lynch: This has to do with the treatment of compensation cases in Veterans Administration hospitals. We approve in principle the resolution that veterans hospitals should not treat compensation cases. Workmen's compensation claimants are not indigents. They should not consciously be admitted to veterans hospitals. Every effort should be made by the administrators of veterans hospitals to exclude compensation cases since they are neither service-connected nor indigent. While a licensed physician on the staff of a veterans hospital would be permitted by law to treat a compensation case admitted in error, he would not be permitted to transfer or divide the fee for such treatment with the hospital under penalty of violation of both the Education and Workmen's Compensation Laws.

We recommend that the Council through the Bureau of Workmen's Compensation determine the extent to which veterans hospitals are treating compensation cases, and that the Society make every effort to abate any abuse of the Workmen's Compensation Law that may exist.

I move the adoption of this portion of the report on resolution number 55-12.

Dr. Thomas H. McGavack, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 110 (See 49)

Report of Reference Committee on Report of Council, Part X: Revision of Workmen's Compensation Fee Schedule

Dr. James A. Lynch, *Bronx:* Resolution number 55-19. Our committee was asked to consider resolution 55-19 having to do with the fee schedule. In view of the fact that the Workmen's Compensation Committee and the Workmen's Compensation Bureau are already in contact with the new chairman of the Workmen's Compensation Board in connection with a revision of the medical fee schedule and also because the report of the Council Committee on Workmen's Compensation again advocates an upward revision of the fee schedule and is taking steps to effectuate such revision, it seems unnecessary to act on this resolution, although we approve it.

I move the adoption of this portion of the report.

Dr. Harry Golembe, *Section Delegate:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 111 (See 54)

Report of Reference Committee on Report of Council, Part X: Elimination of the Medical Practice Committee

Dr. James A. Lynch, *Bronx:* Our committee was also asked to consider resolution number 55-25. This has to do with the abolition of the Medical Practice Committee.

The provisions of this resolution have long been advocated by the Workmen's Compensation Committee, endorsed by previous Houses of Delegates, and have again been recommended for action in this year's report of the Workmen's Compensation Committee. We express the hope that we may obtain the support of the new chairman of the Workmen's Compensation Board this year.

We urge the House again to recommend the introduction of the necessary legislation to effectuate the provisions of this resolution at the coming session of the Legislature.

This resolution meets with the hearty approval of your reference committee.

I move the adoption of this portion of the report.

Dr. John C. Brady, *Erie:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Lynch: I now move that the report as a whole be adopted.

Dr. Edwin A. Griffin, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Lynch: I also wish to thank the members of my reference committee who were so helpful, Dr. Harold W. Grosselfinger, Dr. Gilbert M. Palen, Dr. Thomas H. McGavack, and Dr. John C. Brady, and also, of course, the director of our Bureau of Workmen's Compensation, Dr. Kaliski.

Vice-Speaker Williams: Thank you, Dr. Lynch.

Section 112

Announcement Regarding Registration of Delegates

Vice-Speaker Williams: I have been given a note here to report to the House, and Dr. Bedell especially, that all but three of the elected delegates or their alternates have registered. There are 240 delegates registered in the House this year.

The Chair has had a short resolution referred to the House, which will be presented at this time. Dr. Fertig will now read it, but there has been a bit of a delay in having it distributed. However, after it has been referred, I am going to give a ten-minute recess. Please don't stray too far. I feel we have two hours of pretty steady work that we have accomplished, and perhaps it might do us all good to let up for a few minutes. Will you keep your seats until Dr. Fertig reads his resolution?

Section 113 Resolution 55-33

Membership in American Medical Association

Introduced by Dr. David Fertig, *Westchester*

> Whereas, the American Medical Association is the recognized and established body of the medical profession which speaks for and directs policy of organized medicine at the national level; and
>
> Whereas, many members of the Medical Society of the State of New York are not members of the American Medical Association, for various reasons; and
>
> Whereas, these members are still affected by the activities of the American Medical Association; and
>
> Whereas, these same members receive the benefits of membership in the American Medical Association without belonging to this organization; therefore be it hereby
>
> *Resolved*, that the necessary amendments to the Constitution and/or Bylaws of the Medical Society of the State of New York be made so that all members of county medical societies become members of the American Medical Association.

Speaker Holcomb: That has to do with a change or amendment to the Constitution and Bylaws.

Referred for action next year to the House Committee on Constitution and Bylaws.

The Chair declares a ten-minute recess.

. . . Recess . . .

Section 114

Report of Scientific Awards Committee

Speaker Holcomb: The first order of business is the report of Dr. Charles D. Post, who is chairman of the Committee on Scientific Awards. Dr. Post! (*Applause*)

Dr. Charles D. Post, *Chairman:* Mr. Chairman and members of the House, the Committee on Scientific Awards wishes to make the following report:

Scientific Research

First Award

"The Treatment of Gastric Cancer"
George T. Pack, M.D.
Gordon P. McNeer, M.D.
Kathleen E. Roberts, M.D.—*By invitation*
Douglas A. Sunderland, M.D.
L. Ortega, M.D.
Thomas Randall, M.D.—*By invitation*
Memorial Center for Cancer and Allied Diseases, New York City

Honorable Mention

"Inhibitions of Experimental Venous Thrombosis and Clinical Applications"
Irwin D. Stein, M.D.
Mount Vernon Hospital, Mount Vernon

Clinical Research

First Award

"Focal Hemosiderosis in Rheumatic Heart Disease"
John A. Evans, M.D.
Michael J. Esposito, M.D.—*By invitation*
New York Hospital-Cornell Medical Center, New York City

Honorable Mention

"Roentgen Abnormalities of the Large and Small Intestine Associated with Prolonged Cathartic Ingestion"
Normal Heilbrun, M.D.
Charles Bernstein, M.D.
University of Buffalo School of Medicine, Buffalo

I wish to express my very great appreciation to Dr. Morris Maslon and Dr. Harold F. Brown for their valuable assistance. (*Applause*)

I move that this report be accepted.

Dr. Frederick A. Wurzbach, Jr., *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 115 (See 27)

Report of Reference Committee on Reports of Malpractice Insurance and Defense Board, and Legal Counsel: Organization of County Society Malpractice Discussions

Speaker Holcomb: The next order of business will be the report of the Reference Committee on Reports of Malpractice Insurance and Defense Board and Legal Counsel, by Dr. Samuel Sanes, of Erie County. The Chair realizes quite well that there are perhaps controversial issues which might be brought up during the rendering of this report. The Chair hopes that the comments will be constructive and not assume a too greatly personal aspect.

Dr. Samuel Sanes, *Erie:* Mr. Speaker and members of the House of Delegates, this is the report of the Reference Committee on Reports of the Malpractice Insurance and Defense Board and Legal Counsel.

This reference committee also considered two amended resolutions, which I shall present now.

The first is an amended resolution (55-1) introduced by Dr. Samuel Wagreich, of the Bronx, entitled "Organization of County Society Malpractice Discussions." To save time I shall not read the whereases. There have been no amendments in the whereases, so I will get down to the resolved portion:

> *Resolved*, that the Medical Society of the State of New York go on record urging that component county societies organize Malpractice Insurance and Defense Advisory Committees to hold meetings as frequently as deemed necessary depending upon the material (cases) on hand, such action to consist of presentation and discussion of malpractice cases with a view to emphasizing the pitfalls and methods of avoiding them.

After discussion the amended resolution was approved.

Mr. Speaker, I move the adoption of this part of the report.

Dr. Frank LaGattuta, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 116 (See 28)

Report of Reference Committee on Reports of Malpractice Insurance and Defense Board, and Legal Counsel: Settlement of Malpractice Suits out of Court

Dr. Samuel Sanes, *Erie:* The seconded amended resolution (55-2) was introduced by Dr. Frederick A. Wurzbach, Jr., of the Bronx, and entitled "Settlement of Malpractice Suits Out of Court." I will read the entire amended resolution because some changes have been made in the whereases:

> Whereas, the cost of malpractice insurance has increased again this year, and it is expected that still greater increases in cost will be necessary; and
>
> Whereas, there is a limit beyond which the physician cannot afford to pay, and the insurance company cannot be expected to go; and
>
> Whereas, the 1954 report of the Malpractice Insurance and Defense Board stated, "In a very

real sense. . .it is the losses caused by insured members of the Society which make our rates" [NEW YORK STATE J. MED. **54:** 14 (Sept. 1, Part II) 1954], and again, "Raising our rates from year to year is no cure; this will merely price our protection out of the market" [*ibid.*, p. 16], and again, "The sum of these (losses and loss reserves) together with a minimum addition for operating expenses represents the total cost of our insurance" [*ibid.*, p. 17]; and

WHEREAS, a resolution adopted by the 1954 House of Delegates stated, "Whereas, the premium rates of the Group Malpractice Insurance and Defense Plan of the State Society reflect actual costs plus losses" [*ibid.*, p. 116]; and

WHEREAS, the measures taken up at this time appear to have been unsuccessful in lowering or even holding the premium rates; therefore be it hereby

Resolved, that the defendant physician be requested to appear before his local county society malpractice committee to discuss his case as to the medical defensibility of the case.

After discussion the amended resolution was approved.

Mr. Speaker, I move the adoption of this part of the report.

DR. JOHN J. FLYNN, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 117 (See 17)

Report of Reference Committee on Supplementary Report of Malpractice Insurance and Defense Board

DR. SAMUEL SANES, *Erie:* The committee had studied and considered separately the supplementary report of the Malpractice Insurance and Defense Board. This report has to do with a request received in a letter from Dr. W. Alex Newlands, president of the Medical Society of the County of Westchester, dated April 16, 1955, that the Medical Society of the County of Westchester be transferred from the metropolitan area premium classification to what is known as the upstate classification in the Group Malpractice Insurance Plan. The request was based on figures for the relative "calculated pure premiums" based on the years 1951, 1952, and 1953, which show that Westchester's pure premium of $68.19 was much closer to the $58.04 upstate calculation than to the $97.72 for the metropolitan area, excluding Westchester.

The reference committee feels that the Medical Society of the County of Westchester has justification in its request. Further, the matter which the Westchester County Medical Society raises in its request may affect other counties. The committee recommends that the decision on the request from the Medical Society of Westchester County be postponed for the present. It further recommends that a State-wide survey be made of the malpractice experience and cost at a county level on a sound actuarial basis, with a view to the feasibility of formulating reclassifications for premium purposes other than the present geographic classification.

Mr. Speaker, I move the adoption of this part of the report.

DR. NORTON S. BROWN, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 118 (See 91)

Report of Reference Committee on Report of Malpractice Insurance and Defense Board

DR. SAMUEL SANES, *Erie:* The committee has studied and considered the report of the Malpractice Insurance and Defense Board. The report gives expression to the great amount of time, effort, and thought the Board has given to its work and also the great importance of that work. The report includes information and discussion on new and closed cases, financial reports, rate changes (no increase in our present rates will be needed next September), advisory committees on malpractice insurance and defense, panel of experts, classification system, members insured in the group plan, etc.

The committee supports and approves the recommendation made by the Board in its report under the heading, "Panel of Experts," that the House of Delegates withdraw the 1954 directive—authorizing the formation of a panel of outstanding physicians and surgeons throughout the State whose members would be available to assist the board and legal counsel in the preparation of effective defenses and appearing as witnesses—until such time as the board and legal counsel can determine how a State-wide panel can be used to better advantage than appears possible at present. The committee wishes to express appreciation to the board for its conscientious work.

Mr. Speaker, I move the adoption of this part of the report.

DR. EDWIN A. GRIFFIN, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

DR. SANES: The committee received for information and reference the actuarial survey and discussed the survey with Mr. Linder.

Section 119

Report of Reference Committee on Report of Legal Counsel

DR. SAMUEL SANES, *Erie:* The committee reviewed the report of the counsel. I will pick out a few things here to save time.

Our counsel calls attention that work has increased considerably in the year, principally as a result of the activity of county malpractice insurance and defense committees. His report gives a comprehensive discussion of the functions and uses of such committees. A total of 297 law suits were commenced in the calendar year 1954 which are being defended by your counsel. There is an additional mass of threatened litigation consisting of close to 300 claims against doctors which arose in 1954. Presently, there is a backlog of close to 1,000 law suits in the office because of accumulation of past work. The report of counsel makes no specific recommendations. The committee commends Mr. Martin and his staff for their interest, concern, and work in behalf of the members of the medical profession of the State of New York.

Mr. Speaker, I move the adoption of this part of the report.

Dr. Frank LaGattuta, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Sanes: I move adoption of the report as a whole.

Dr. W. Walter Street, *Onondaga:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Sanes: At this time I would like to thank personally the other members of the committee, Dr. Norton S. Brown, Dr. Frank LaGattuta, Dr. David W. Beard, and Dr. Stanley B. Folts, for their cooperation. (*Applause*)

Speaker Holcomb: Thank you, Dr. Sanes. A very good report!

Section 120 (*See* 29)

Report of Reference Committee on Report of Council, Part XI: Identification in Journal of State Society Officers by Counties

Dr. W. Walter Street, *Onondaga:* There were two resolutions which were presented to the committee. One was 55-3:

> *Resolved,* that all elective officers of the Medical Society of the State of New York be identified according to their respective component county medical societies on the officers' pages of the New York State Journal of Medicine.

This was discussed with the editor of the Journal, who said if we wished it to be done that way, it was very easy to do. The reference committee recommend approval of this resolution, and I so move.

Dr. Edwin A. Griffin, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 121 (*See 43*)

Report of Reference Committee on Report of Council, Part XI: Addition to Guide for Cooperation

Dr. W. Walter Street, *Onondaga:* Resolution 55-7, which recommended an additional paragraph to the Guide for Cooperation, the handbook for such media as television, radio, etc.:

> *Resolved,* that the House of Delegates of the Medical Society of the State of New York approve the addition of the following paragraph to the Guide for Cooperation: "Excepting only articles or stories originated on an exclusive basis by a writer, editor, or photographer, all information to media of public information should be distributed by medical societies fairly and equally to all."

The committee found the language a little involved and was not sure of the intent. In talking with the introducer of this resolution, we found that he was not the originator and that the originator was not present to clarify it. Therefore, our recommendation is as follows: Because the language of this resolution is involved, according to our interpretation of the intent of the resolution, the committee feels that it should be resubmitted in a better form. Therefore, the committee disapproves of this resolution.

Dr. Edwin A. Griffin, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 122

Report of Reference Committee on Report of Council, Part XI: Publication Committee

Dr. W. Walter Street, *Onondaga:* Study of the report of the Publication Committee reveals that this body has continued the same untiring, progressive activity which characterized it the year before. Arrangements were successfully completed for a full-time editor as recommended last year. Under his leadership the associate editorial board was increased to 24 members with the object of improving the critical review of submitted scientific papers for publication in the Journal. As a result the quality of the published articles in 1954 has noticeably improved. Better typography and improved appearance of the Journal have been accomplished. Not satisfied with the quality of material submitted, the editor and his associates instituted a campaign of promotional effort to receive better scientific articles. The improvement resulting from these efforts is quite apparent and deserves the hearty commendation of this House for these accomplishments.

The Journal goes again this year to some 600 senior medical students in the nine medical schools of the State as a gesture of good will by this Society. It is recommended by the Publication Committee that this practice be continued during the next succeeding academic year.

It was also recommended that the Publication Committee be continued as at present constituted.

Your reference committee approves both of these recommendations.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. Edwin A. Griffin, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Street: The New York State Journal of Medicine—There is a detailed report of the various activities and coordinated procedures passing through the office of the editor necessitated by the expanded program for ever improving the Journal. You all should read this in detail to appreciate the effort and teamwork that goes into this publication.

A financial statement is included showing a final net income of $22,012.

A section on the history of medicine in New York State, under the editorial supervision of Dr. Frederic Zeman, chairman of the Subcommittee on the History of Medicine in New York State, has been published in the JOURNAL from time to time. In view of the approaching sesquicentennial of the Society, the editors hope that much more data may be obtained and especially that the older members write of their memoirs of important historical events in their own memory, perhaps not elsewhere recorded, so that these may be preserved for posterity.

The 1955 *Directory* is expected to be received from the printer by June 1. A brief financial statement is included.

Your reference committee feels that this House should express to Dr. Laurance D. Redway, editor, and his staff thanks and deep appreciation for the excellent service which they have rendered. Likewise, the same should be expressed to Dr. John J. Masterson, chairman, and his committee which has worked hand in hand with them.

Mr. Speaker, I move the adoption of this portion of the reference committee's report.

DR. JOHN E. LOWRY, *Queens:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 123 (See 12)

Report of Reference Committee on Report of Council, Part XI: Public Relations

DR. W. WALTER STREET, *Onondaga:* Public Relations—For the past year the bureau has concentrated on four main positive objectives:

1. Gaining the good will of the people, thereby creating a favorable attitude toward the individual doctor and his county and State Medical Society.
2. Cementing and improving the doctor-patient relationship in its numerous facets.
3. Inspiring and assisting county medical societies in the development of effective basic and supplemental public relations programs.
4. Encouraging individual physicians and their county medical societies to cooperate with voluntary prepayment health insurance plans.

The bureau carried on its activities in two general fields: (1) internal professional relations, involving the individual physician and his county society, and (2) external public relations, concerning the public, press, radio, TV, and other media. In the field of internal professional relations the field representatives were the principal instrument used.

The annual conference of county medical society public relations chairmen is always a valuable means of disseminating methods for effective public relations to the various county groups.

Interest has continued to grow in the establishment by county units of emergency medical service programs and mediation committees. Publicizing these latter committees to the public is important.

The report details the many facets of activities of this bureau including exhibits, news releases, advisory service to press and TV, and distribution of new brochures. The *Newsletter* has continued to be a popular and very useful publication.

The maintenance of liaison with the A.M.A. is a very important one and has apparently been very well done. The many functions of this bureau outlined in the report give evidence of its ever-expanding activity. The program for 1955 as outlined in the report is an ever more ambitious one than that of the year just passed, but its satisfactory execution is anticipated.

In conjunction with the Subcommittee on Cooperation with Media of Information of the Council Committee on Public Relations, a Guide for Cooperation was worked out and approved by the House last year. This has proved to be a useful instrument in this field.

Mr. Speaker, I move adoption of this portion of the report.

DR. GERVAIS W. MCAULIFFE, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

DR. STREET: Supplementary Report of Council Committee on Public Relations—This report points out that as a result of discussions with representatives of radio, press, TV, photographers, two services were organized for the benefit of media of public information:

1. Through the cooperation of Dr. Theodore J. Curphey, chairman, Council Committee on Public Health and Education, arrangements have been made whereby the names of authoritative consultants in all fields of medicine are provided for the use of the director of the Bureau of Public and Professional Relations. Requests for information reaching the bureau are channeled to appropriate doctors.
2. Medical Article Review Board which will review, at the request of the director of public and professional relations, medical or scientific manuscripts prepared for lay magazines.

As recommended a review of the Guide was done in March of this year in a series of meetings with representatives from media of public information, Hospital Association, and the State Medical Society. It is gratifying to note that the previous hypercritical attitude of the press was not only absent, but there was a unanimous feeling that a major advance had been achieved in the solution of mutual problems.

It is of the utmost importance that the Guide be reviewed and renewed by such conference annually. To this end the Subcommittee on Cooperation with Media of Information, of the Council Committee on Public Relations, should be continued, and your reference committee so recommends.

Mr. Speaker, I move the adoption of this part of the report.

DR. EDWIN A. GRIFFIN, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

DR. STREET: In conclusion, the chairman wishes to thank Drs. Masterson, Redway, Moore, Zeman, Winslow, and Mr. Miebach and others who helped to supply the data on which this report is based. I would also extend my sincere thanks to the members of my committee who attended faithfully and cooperated in the formulation of this report, Drs. John E. Lowry, Floyd C. Bratt, Orin Q. Flint, and Edwin A. Griffin.

Mr. Speaker, I move the report as a whole be accepted.

Dr. A. W. Martin Marino, *Kings:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: Thank you very much, Dr. Street.

Members of the House, we have made fairly good progress so far; in fact, I am quite astonished. We have three more reference committee reports to present. One of them is Dr. Philbrick's, who is ready now, on the Economics and Medical Licensure. Then we have also Dr. Babbage's report on Ethics and Dr. Wurzbach's report on Blood Banks. Now the question arises, it is very difficult for the Chair to determine just how long it is going to take, but would the group care to take up the two reports tonight or would you rather stick it out and grit your teeth and sit here and take three more reports, or would you rather have a recess and come back this evening?

Chorus: No.

Speaker Holcomb: Those in favor of having an evening session, will say "aye," contrary "no." I think the "ayes" have it.

Dr. Thomas M. d'Angelo, *Assistant Treasurer:* May I suggest there being nothing else tomorrow morning except elections, we could have reports then.

Speaker Holcomb: One objection raised to that is there are several of these issues that seem to be perhaps controversial, and many of the delegates would like to be present. After the election a great many men are out as tellers. If we consider that, we feel it would be unfair to that group.

Are you ready to go ahead? We are ready to stay along with you, and then you will be through tomorrow morning.

Section 124

Report of the Reference Committee on Report of Council, Part VI: Economics

Dr. Guy S. Philbrick, *Niagara:* Mr. Speaker, ladies and gentlemen of the House, the report of the Council Committee on Economics, Dr. Azzari, chairman, was studied by your reference committee.

We find that this report is entirely informatory on the provisions of the Federal Health Reinsurance Bill as introduced in the 83rd Congress, stating that major medical expense insurance programs have been in operation for several years. Representatives of both commercial and Blue Shield plans feel that it would be inadvisable to enter into a program whereby they would be subsidized by the Federal government. It was pointed out that reinsurance can never be a panacea for the country's health insurance needs and it cannot make an uninsurable risk insurable, nor can it provide funds to purchase health insurance for all of the people who cannot afford to do so.

No recommendations were made.

I move the adoption of this portion of the report.

Dr. Sol Axelrad, *Queens:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Philbrick: The Committee on Economics further reported on the revised health insurance plan for Federal employes as proposed by the President in his special message to Congress on January 11, 1955. The details of the plan were discussed in the committee report, but again no recommendations were made.

I move the adoption of this portion of the report.

Dr. Edwin A. Griffin, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Philbrick: The Economics Committee reiterated its approval of the Jenkins-Keogh Bills which have been introduced into the 83rd Congress, pointing out that the House of Delegates of the Medical Society of the State of New York approved this type of legislation in May, 1953.

I move the adoption of this portion of the report.

Dr. Samuel Z. Freedman, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 125

Report of Reference Committee on Report of Council, Part VI: Public Medical Care

Dr. Guy S. Philbrick, *Niagara:* The report of the Subcommittee on Public Medical Care, of the Council Committee on Economics, Dr. Scott Lord Smith, chairman. Your reference committee commends the close cooperation of this committee with the Department of Social Welfare.

It was brought out that the Welfare Department was acceding to the request of the State Society for an over-all increase in the rate paid to the doctor for services rendered welfare patients, such rates to be approximately $66^2/_3$ per cent of the rate granted by the Workmen's Compensation Board. This was obtained, not by a percentage increase, but by a flat addition to each physician's call of 50 cents, whether house or office visit.

Your reference committee approves this portion of the report, and I so move.

Dr. Charles W. Mueller, *District Delegate:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 126

Report of Reference Committee on Report of Council, Part VI: Medical Licensure and Medical Service

Dr. Guy S. Philbrick, *Niagara:* The Council Committee on Medical Licensure and Medical Service, Dr. Leo E. Gibson, chairman—The committee considered the names of six doctors for the General Practitioner's Award and decided to name Dr. Antonio Pisani of New York County as a candidate for the award. Dr. Pisani died the morning of the committee's report, and it was decided to confer the award posthumously and that Dr. Mary J. Ross be again nominated to the American Medical Association.

Your reference committee approves this part of the report, and I so move.

Dr. Gervais W. McAuliffe, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Philbrick: Statutes of Licensure in New York State—The report of the Council Committee on Medical Licensure and Medical Service is entirely informative but contains some high lights which your reference committee feels should be commented upon.

The admission of graduates of foreign medical schools has undergone considerable change since the war. All continental European medical education after 1939 is considered unapproved, and all graduates who completed their education after the fall of 1939 must submit petitions to the Board of Regents. Of the total of 1,545 physicians licensed last year, 454 passed the examinations; 877 represent National Board Certificates endorsed; 175 represent licenses of other states endorsed, and 39 endorsed by the Board of Regents.

The average failure rate of foreign graduates was 65 per cent.

Supplementary education has been an added factor since 1951. Two plans are now in operation: (1) one full year of comprehensive course involving a full academic year in basic medical science, and (2) a two-year course involving a full year of academic medical science and a full year of clinical training. Those who have taken the courses admit that the experience has given them a good medical training for the first time in their career, and they are acutely aware of the vast difference between what American medical education represents compared to the concepts of other countries.

The most important consideration in licensure is the maintenance of high standards of medical education and professional competence. About one third of all foreign applicants are denied admission to examinations, and those who are admitted have to meet additional educational qualifications in the majority of instances. The regents make a sharp distinction between ordinary hospital experience and approved formal study under competent medical educators. It is an accepted concept that until the plane of medical education is raised to an acceptable standard throughout the world, unapproved medical education must be supplemented by further study.

Your reference committee approves this portion of the report, and I so move.

Dr. Edwin A. Griffin, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 127

Report of Reference Committee on Report of Council, Part VI: Ad Hoc Committee on Practice of Laboratory Medicine

Dr. Guy S. Philbrick, *Niagara:* The report of the Ad Hoc Committee on Practice of Laboratory Medicine, John J. Clements, chairman, was studied by your reference committee. This committee met on December 21, 1954, and prepared a report which was discussed with and adopted by a joint meeting of the Council Committee and representatives of the State Health Department.

Some of the high lights of this report were that the State aid provided originally had encouraged the development of the public health laboratory at a local level, and many local laboratories which otherwise might not have been founded were established. In recent years the growth of non-State-aided laboratories has been greater than State-aided laboratories. Frequently the State-aided laboratories' major activities have not been in fields of medical laboratory service which were closely related to or a part of public health service. Also many more State-aided laboratories were providing public health laboratory service.

The assessments of fees by the State-aided laboratories had been left to the discretion of the local boards of laboratory managers. As a result the fees paid by private patients for clinical pathology, hematology, serology, chemistry, and similar tests had almost been sufficient to meet the total expense of the laboratory.

Other boards of laboratory managers of State-aided laboratories have decided to give complete clinical laboratory service without fee. This resulted in a very inequitable distribution of State funds.

The committee believes that these defects should be corrected by a more equal distribution of State aid to local laboratories by restricting State aid to public health procedures.

A reappraisal of New York State program of State aid to local laboratories is in order. Government units, both local and State, in conjunction with their public health departments should provide public health laboratory service without fee.

It was recommended that the Council of the State Society designate a committee to advise local boards of managers regarding these policies. The Council approved the report and voted "that a committee be appointed to meet with the local boards of managers to channel this to the grass roots."

Vice-Speaker Williams: May I call your attention to what I think is a typographic error. Is that not Dr. John J. C-l-e-m-m-e-r rather than C-l-e-m-e-n-t-s? Before you move the approval, would you accept that?

Dr. Philbrick: I will. Your reference committee recommends approval of this part of the report, and I so move.

Dr. Sol Axelrad, *Queens:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 128 (See 11)

Report of Reference Committee on Report of Council, Part VI: Report of the Special Committee to Study Hospital and Professional Relations

Dr. Guy S. Philbrick, *Niagara:* 1. Report of the Special Committee to Study Hospital and Professional Relations, Dr. Louis H. Bauer, chairman—Your reference committee has studied this excellent report of Dr. Bauer and his committee. As a result of their many meetings and deliberations with a similar committee of representatives of the Hospital Association of New York, a working agreement has been drawn up. This "Agreement," when ratified by the Hospital Association of New York State and by this House of Delegates, will go a long way to help in settling many of our mutual problems and to reach an amiable solution for the same. Dr. Bauer and his committee do not feel that this is a cure-all for our difference of opinions with the New York State Hospital Association, but it is a start in the right direction. This "Agreement" is general in nature, but any agreement on a State-wide level must be general at first. It is the opinion of the committees that most of the problems which arise can and should be settled on a local level.

2. Three resolutions were referred to Dr. Bauer's committee during the 1954 meeting. The first introduced by Dr. Aaron Kottler, of Kings, advocated that the State Society institute legal action challenging the right of a hospital to practice medicine.

In view of the "Agreement" which had been reached and that both parties to the "Agreement" feel that no legislation should be undertaken, no action should be taken on this resolution.

A resolution introduced by Dr. Himler, of New York, in 1954 was referred to this committee recommending that the State Society enter into negotiations with those hospitals engaged in the practice of medicine in an effort to bring about a discontinuance of such practice as soon as possible.

In view of the "Agreement" which had been reached by Dr. Bauer's committee, no further action was felt warranted at this time, and it was recommended that the resolution be tabled until after the result of the new "Agreement" becomes apparent.

3. A resolution on tenure of staff appointments, introduced by Dr. Brown, of Monroe, in 1953 was referred to this committee. In view of the section in the "Agreement" relative to medical staff tenure, Dr. Bauer's committee felt that no action on this resolution is necessary at this time.

A resolution was introduced by Dr. Wolff, of the First District Branch, in 1954 and referred to this committee. This resolution requested the State Society to take appropriate action to cause cessation of the custom in certain New York City Hospitals whereby fees received from compensation cases and voluntary insurance organizations are diverted to the hospitals instead of being paid to physicians rendering the services.

Dr. Bauer's committee did not have the opportunity to study this last resolution but ventured the opinion that the general "Agreement" between the Medical Society and the Hospital Association may help to solve this situation.

4. As far as the compensation is concerned, your reference committee wishes to remind you that the findings and recommendations of the Moreland Commission with the cooperation of the chairman of the compensation committee put a stop to all payments to hospitals for care of compensation cases. Attached to Dr. Bauer's committee report was the "Proposed Agreement and Statement of Policy Between the Medical Society of the State of New York and the Hospital Association of New York State" together with Appendix A, principles agreed upon by a joint committee on hospital physicians relations of the Board of Trustees of the American Medical Association and the American Hospital Association, as adopted March 21, 1953. Your reference committee wishes particularly to draw attention to mediation procedure in the agreement providing that a staff member may have his grievances presented and, if necessary, referred to a Joint State Committee of five members whose decision will be final unless and until provision is made for appeal to a national level.

5. Your reference committee also wishes to call atttention to the recommendation for the establishment of a permanent policy committee of the two organizations to consider matters of policy and any other matters not properly falling within the purview of the Joint State Committee established in this "Agreement."

Your reference committee, with one exception noted below, recommends the adoption of Dr. Bauer's committee report and the proposed "Agreement" between the Medical Society of the State of New York and the Hospital Association of New York State, feeling that it has a great deal of merit and offers an opportunity for further negotiation and clarification of the relationships of hospitals and physicians. We recommend that the negotiations continue.

The exception noted above consists of Section B of the proposed agreement and Section 4 of Appendix A which have unfortunate implications which might be conducive to the corporate practice of medicine. Your reference committee suggests the following change in the wording of the last phrase in both Section B and Appendix A (4) "under terms or conditions which permit exploitation of the patient, the hospital, or the physician" be changed to read "under terms or conditions which permit the sale of the services of that physician by such agency for a fee."

This wording is taken from the "Guides" for conduct of physicians in relationships with institutions, as approved by the House of Delegates of the American Medical Association in 1951.

Your reference committee again wishes to compliment Dr. Bauer on his excellent work and the work of his committee.

I move the adoption of this portion of the report.

Dr. A. W. Martin Marino, *Kings:* I second it.

Vice-Speaker Williams: Is there any discussion?

Dr. George J. Lawrence, Jr., *Queens:* Could I have that portion reread that they changed?

Vice-Speaker Williams: The question is to have the portion reread that you changed, Dr. Philbrick, the third paragraph at the bottom of your page 5, beginning "The exception noted above."

Dr. Philbrick: It seemed with the men who appeared before our committee that the only difference of opinion was in the—

Vice-Speaker Williams: Can you hear him?

Chorus: No.

Speaker Holcomb: He wants it reread.

Vice-Speaker Williams: Reread that paragraph.

Dr. Philbrick: As I started to explain that, the only disagreement with this report was the clarification of the word "exploitation," and the exception noted above is Section B of the proposed agreement and Section A (4) of the Appendix A, which have unfortunate implications which might be conducive to the corporate practice of medicine. Those two sections are almost identical.

Vice-Speaker Williams: The question was for you to read it.

Dr. Philbrick: "Your reference committee suggests the following change in the wording of the last phrase in both Section B and Appendix A (4), 'under terms or conditions which permit exploitation of the patient, the hospital, or the physician,' be changed to read, 'under terms or conditions which permit the sale of the services of that physician by such agency for a fee.' "

Vice-Speaker Williams: Does that answer your question, Dr. Lawrence?

Dr. Lawrence: Yes.

Vice-Speaker Williams: Is there any other discussion?

Dr. Christopher Parnall, Jr., *Monroe:* I know that the State Hospital Association has some difficulty, I have heard, getting this "Agreement" accepted by its council or what is comparable to our Council. I think if you throw in any amendments that may make it difficult for them to consider it further, and I would urge you very much to pass it unamended as prepared by the original committee headed by Dr. Bauer.

Vice-Speaker Williams: Is there any further discussion?

Dr. Felix Ottaviano, *Madison:* I would like to disagree with the last speaker for the very reason that the committee at the meeting at which I was present discussed this quite fully, whether they would accept it or not. It concerns them to know what we are willing to have them accept. This is not an amendment to that report at all; it is really a rewording of a word requested by a good many men who know what they are talking about. I suggest we go on and accept it as corrected; it is not an amendment.

Vice-Speaker Williams: Is there any further discussion?

Dr. Solomon Schussheim, *Kings:* Mr. Speaker and fellow delegates, we all looked forward to this report of Dr. Bauer in the hope that it would be the answer to a problem that has been vexing the medical profession, and when we read this B which reads that the financial arrangements, if any, between a hospital and a physician properly may be placed on any mutually satisfactory basis, it was a blow to the very hopes that we had. That particular phrase put the relationship between the hospitals and the medical profession back again to where it was when we first introduced the Friedman Bill to prevent hospitals from practicing medicine. This particular phrase would have meant even greater exploitation than has occurred up to the present, and it is about time that we of the Medical Society back up the men of the ancillary professions who have been looking to us to maintain their dignity in the practice of medicine.

Vice-Speaker Williams: Is there any further discussion?

Dr. Louis H. Bauer, *Ex-President:* Mr. Speaker and members of the House, as I said in the report, this has been a very vexatious problem for a great many years. It started I think through the fault of some of the medical profession, and it has continued to be enlarged until it has become a tremendous problem. I think part of the trouble has been on the part of the hospitals, part of it has been on the part of some individual doctors, and part of it has been due to the fact that the medical societies have not backed up some of their individual members in their relationship. It does not make any difference what the cause of the situation is. We are faced with it. Nothing concrete has been done about it.

I was very reluctant to take the chairmanship of this committee because of so many other commitments. I only did it for two reasons: First, I felt there was no more pressing problem before the medical profession, and I wanted to do what I could to help solve it. The second was that having given up the practice of medicine personally nearly two years ago, the thing does not affect me personally, and I could not be accused of being a party to any procedure.

I said it would take a year. We did not have quite a year. We accomplished nothing. I said we would take it on for another year. I felt we had made great progress. We at least got together with the hospital people, and that is the first time in history that that has been done. People who tried to solve it by legislation for ten years got nowhere. I question whether you can ever solve it by legislation, but whether you can or not, it is far better to solve it by negotiation, by agreement between the two organizations, than by any other way.

As to Dr. Schussheim's saying it puts us back right where we were, that sentence is taken directly from the agreement between the American Medical Association and the American Hospital Association and also taken from the agreement of the Massachusetts Hospital Association and the Massachusetts Medical Agreement, an agreement which, by the way, is very similar to the one we have proposed here except ours is a little less complicated procedure on hearing grievances, and that has worked out to the satisfaction both of the hospitals and doctors in the State of Massachusetts.

We realize that the whole success or failure of this particular paragraph depends upon the interpretation of the word "exploitation." Both sides of the committee, the Hospital Association and the Medical Society, agree that there must be further negotiation on that before we could have the whole thing entirely satisfactory. We know this is not going to solve all the problems. We felt we had set up a mechanism that could hear complaints and solve them on a higher level.

It has been said that the majority of these should be solved on the local level. I would agree with that, but I also feel that a great many of them never will be solved on a local level because the thing has progressed too far to have them heard without prejudice on the local level. That is why many of them, to begin with, will have to be referred to a State level.

I would have preferred if it had been possible for the committee to recommend adoption of the report with the understanding that further negotiations would go on. Since the committee did not feel that it could go that far, I have acceded and told the committee I would not be opposed to their making a recommendation that that paragraph be the subject of further negotiation. I don't know, of course, what the Hospital Association will do about it. I feel that we have made great progress, more than perhaps had been possible before, and I don't feel that we put anything back at all. I think we have taken a long step ahead.

VICE-SPEAKER WILLIAMS: Thank you, Dr. Bauer.

DR. VINCENT J. COLLINS, *Section Delegate:* Mr. Speaker and members of the House, we who are most concerned with this problem feel a great deal has really been accomplished, particularly with the amended or suggested amendment to item B and Appendix A, Section 4, where the spelling out of "exploitation" by the phrase that the reference committee chairman has stated will clarify the issue for us thoroughly and for future negotiations with respect to those two paragraphs. I feel that most of us in these ancillary specialties will be completely satisfied and no objections.

VICE-SPEAKER WILLIAMS: Thank you, Dr. Collins.

DR. AARON KOTTLER, *Kings:* Mr. Speaker and members of the House, Dr. Bauer has told you that they were not able to sit down with the Hospital Association in the past ten years, and I believe it is going to take maybe another ten years before we get another satisfactory answer from them. I don't think you are going to settle the issue by legislation, the Friedman Bill, because I don't think we know how to put across legislation. I think the only way you could settle this situation is through litigation. We know that in 36 states in this union the attorney-generals have given statements that the corporate practice of medicine by hospitals is illegal. If you want some of those decisions, they are lying in that bag there. However, under the Compensation Law, as you heard your chairman of the reference committee state, the same practice to which we object under the Education Law was stopped by the Moreland Commission by the report of Colonel Archie Dawson, and immediately a cease and desist order was issued to the hospital, and you heard your chairman state such practices have stopped.

There is no difference between such practices under the Compensation Law and such practices under the Education Law. There should be no distinction, and what applies to the Compensation Law should apply to the Education Law, and I say that the only way you are going to settle this issue is through litigation.

DR. PARNALL: A question of Dr. Philbrick: Does his rewording of the part that he reworded mean that a hospital would be unable to employ a pathologist or an x-ray man full-time or to have any part in the charging of a patient a fee which it might share in with the pathologist or x-ray man?

DR. PHILBRICK: I simply felt, and I am sure that my committee would back me up, that the person, the laboratory man, x-ray or physiotherapy man, whatever it might be, is entitled or will be entitled to make his own charge in this regard. Certainly the hospital in many locations send out their bills on the doctors' billhead. They have an agreement, which is perfectly satisfactory, whereby there is a certain amount of the funds set aside for bad debts. It is on a percentage basis.

DR. PARNALL: Does not your rewording mean that it would be impossible to employ a physician full-time?

VOICES: No.

DR. PHILBRICK: I don't think so.

DR. PARNALL: Does your rewording say that no agency can in effect be a party to any fee charged the patient for professional services?

DR. PHILBRICK: The rewording says, as it has been changed to read, "under terms or conditions which permit the sale of the services of that physician by such agency for a fee."

DR. PARNALL: If you employ a pathologist full-time, you are selling his services in effect, aren't you? Therefore, your rewording would make it impossible for a hospital to employ a pathologist full-time, in which case you might just as well forget the whole thing.

DR. PHILBRICK: Our purpose simply was to continue negotiations with this committee.

DR. PARNALL: I don't think you can do it because your rewording implies that a hospital or any other agency cannot hire a pathologist or any other doctor full-time. If that is the case, you need not have the procedure because there would not be anything left to mediate.

DR. PHILBRICK: You would prefer to come back to the exploitation term then rather than the rewording?

DR. PARNALL: I think you would have to go back to the original wording of the agreement as Dr. Bauer's committee and the State Hospital committee set it up; otherwise we have lost all the maneuvering that they have gone through and all of the conversations that they have gone through, because the language you have used to reword it in my own opinion means literally that the hospitals cannot hire any physicians full-time, and I am sure that would not be acceptable to the State Hospital Association, and you would be right back where you started.

VICE-SPEAKER WILLIAMS: Is there any further discussion?

DR. ALFRED P. INGEGNO, *Kings:* Mr. Chairman, I am in agreement with the previous speaker. Obviously if the hospital cannot charge for the services, they cannot hire a man full-time. My suggestion would be—I have two amendments to offer—one is—

VICE-SPEAKER WILLIAMS: The Chair will accept one amendment at a time.

Dr. Ingegno: One is that the wording be, "which permit the sale of the physician's services at a profit to the agency." I don't have to present it formally at this time, but in this report the one point, the gimmick, says that the six principles agreed upon by the House of Delegates of the American Medical Association and the American Hospital Association are accepted in their entirety, and that is Appendix A—and a very good point—that anesthesiology, pathology, radiology, and physical medicine are the practice of medicine. But when we turn to the A.M.A. agreement, we find that there is a little kicker at the end of the sentence regarding the practice of anesthesiology, pathology, radiology, and physical medicine. It says that they are integral parts of the practice of medicine, and then it says, "and of the services necessary for hospital patients." Now that is talking out of both sides of your mouth at one time, and I believe I will present, after you act on the first amendment, an amendment which would suggest that we do not approve that particular portion of the agreement between the A.M.A. and the A.H.A.

Vice-Speaker Williams: Will you be good enough before you leave the microphone to restate your amendment.

Dr. Ingegno: I would like to move that this report be amended to indicate that in paragraph B the wording be changed to read "by whatever name called, or however organized, under terms or conditions which permit the sale of that physician's services at a profit to the agency."

Vice-Speaker Williams: Is there a second to that amendment?

. . . The amendment was seconded by several . . .

Vice-Speaker Williams: Is there any discussion of the amendment?

Dr. Scott Lord Smith, *Councillor:* I want to discuss the amendment. "The sale of services for a profit" is another vague phrase that can't be nailed down. The attorney for the State Medical Society has told us several times emphatically that a nonprofit association cannot make a profit, so cannot hide behind that kind of a dodge. You never get anywhere when you are talking a profit in dealing with a nonprofit organization, so I urge that this amendment be defeated and we go back to the Guides of 1951 as laid down by the House of Delegates of the American Medical Association and the similar phrase which we adopted ourselves in June of 1952, "the sale of services for a fee." I urge that this amendment that has just been made be defeated.

Dr. Benjamin M. Bernstein, *Kings:* It seems to me the problem involved is very simple: Shall the hospital be permitted to practice medicine? The hospital that employs a full-time radiologist, anesthesiologist, surgeon, or medical man and pays him a salary, which salary comes from fees which the hospital collects—isn't that practicing medicine? If we permit a man to make an arrangement or contract with a hospital which is mutually satisfactory, will that stop the hospital from being engaged in the practice of medicine? I don't think so. We have a clause in our code of ethics which says that no third person shall come between the doctor and his patient in the practice of medicine. Here we are permitting the hospital to make contracts with these men, whatever their specialty might be, on mutually satisfactory terms without exploitation. Exploitation of whom? Of the doctor himself, exploitation of the patient, or exploitation of the other doctors who are in the neighborhood or who might be on the staff with him? There are many full-time surgeons employed by hospitals. Do such surgeons get fees? The hospital gets the fees; such a man gets a salary. He competes with the other surgeons on that staff. Is that fair? Is that the sort of thing that we want in the practice of medicine? That is the sort of thing we have been trying to get away from all these years, and with all respect to Dr. Bauer's committee I think they have accomplished absolutely nothing at all. To go with their hat in their hand to a hospital and then say this is the first time in three years they were willing to talk to us means nothing. Who are they? Who is providing the medical care to patients—they or we? It is about time that we realized that we have the power to control the practice of medicine if we but use it. I would say this is ruinous in toto.

Dr. Harold F. Brown, *Erie:* I am against all amendments of the report that was brought in, and I want to say here that I think definite progress has been made. I happen to be a member of this committee. I know the situation that existed up until two years ago, and I feel that there has been definite progress made. The report that has been brought in as far as I am concerned—and this is nothing personal; I have disagreed with one section of it as you know if you have read the report—however, I think the reference committee has done a fine job, and I am against all amendments that have been made. I think we should support the original report of the reference committee as read to us a while ago and that we should throw out all the amendments, because I think that that is an accomplishment and will give us time to work out these problems that we agree should be worked out. We can't throw everything overboard. We can't take all the progress and just cast it aside. This is a happy solution that is offered to us by Dr. Philbrick and his committee, and I hope we approve of his original report.

Dr. Ingegno: With the permission of the House, I would like to withdraw my amendment.

Vice-Speaker Williams: Does the seconder withdraw his second?

Voices: Yes.

Vice-Speaker Williams: The amendment has been withdrawn. Now, before you, you have the recommendation of the reference committee, which you are now discussing.

Dr. Ezra A. Wolff, *Assistant Secretary:* May I ask a question?

Vice-Speaker Williams: Yes.

Dr. Wolff: Is this committee going to be a continuing committee?

Voices: Louder.

Vice-Speaker Williams: Use the microphone, please, Dr. Wolff.

Dr. Wolff: My question is whether this committee, Dr. Bauer's committee, will be a continuing committee, or will it end with the submission of this report? This is a special committee of the House of Delegates, and I should like to know if this is a continuing committee and whether we will not have the opportunity to have them negotiate further and possibly help to clarify some of these points?

Dr. Bauer: This is not a continuing committee. This is not a House of Delegates' committee but a committee appointed by the Council. These matters were referred to the Council, and the Council appointed a special committee, and it is up to the Council to determine what committee will go on.

In the report we recommended setting up a permanent policy committee jointly by the two organizations to consider things of this character. As far as the committee is concerned, I can be assured of one thing anyway. May I ask Dr. Philbrick if I am clear as to just what his committee recommended? Is it my understanding that they approved the report with the exception of Section B and that they suggested a different wording for that subject to negotiation but that that wording was not necessarily final, that the committee would be authorized to negotiate for a satisfactory wording and not necessarily following the exact wording of his committee? Am I correct in that or not?

Vice-Speaker Williams: That is a suggestion?

Dr. Philbrick: Yes. We approved the adoption of your report and the proposed "Agreement" with one exception.

Vice-Speaker Williams: And with that exception it says your reference committee suggests the following change in the wording of the last phrase in Section B and Appendix A (4). The committee suggests; evidently the committee does intend to recommend further negotiation, when they make a suggestion, don't they?

Dr. Philbrick: Yes.

Voices: We call for the question.

Vice-Speaker Williams: The discussion is completed. You have before you the recommendation of the reference committee which accepts the report with the suggestion of one change and does recommend further negotiations. Is that so?

Dr. Philbrick: That is right.

Vice-Speaker Williams: Does every delegate have that clear in his mind? Are you ready for the question?

. . . The question was called, and the motion was put to a vote and was carried . . .

Dr. Irving J. Sands, *Kings:* Mr. Speaker, it is six o'clock. Many are tired. The next report will probably take more than an hour. I, therefore, would suggest that we reconsider the motion of prolonging this session.

Vice-Speaker Williams: It was not really a motion, sort of a voice appeal to the House to stick it out.

Dr. Philbrick: I have reports on three more resolutions that were referred to us.

Vice-Speaker Williams: Let us finish Dr. Philbrick's report and then discuss whether we will take a recess for dinner or continue.

Dr. Philbrick, will you continue?

Section 129 (See 37)

Report of Reference Committee on Report of Council, Part VI: Extension of Time Limitation on Reports to Department of Social Welfare

Dr. Guy S. Philbrick, *Niagara:* Resolution number 55-9, introduced by Dr. Alfred L. George, Medical Society of the County of Genessee, subject, "Extension of Time Limitation on Reports to Department of Social Welfare":

> Whereas, the "forty-eight-hour limitation" for initial reporting to the Department of Social Welfare of medical care rendered was originally proposed by the Medical Society of the State of New York; and
>
> Whereas, the said time limit has proved to be difficult and often impossible for doctors and hospitals to determine the eligibility for welfare assistance; therefore be it hereby
>
> *Resolved*, that the Medical Society of the State of New York request the State Department of Social Welfare to alter this forty-eight-hour limitation to a "five day limitation" or until liability by the Welfare Department has been assumed.

Your reference committee approves this resolution as amended and recommends its referral to the Subcommittee on Public Medical Care of the Council Committee on Economics for further negotiations with the Department of Welfare.

I move the adoption of this report.

Vice-Speaker Williams: As speaker, I wonder whether the reference committee can direct which committee it goes to. It must go through the Council, and you suggest to the Council that they refer this to the Subcommittee on Public Medical Care.

Dr. Philbrick: I will accept that revision.

Dr. Sol Axelrad, *Queens:* I second it.

. . . There being no further discussion, the motion was put to a vote and was unanimously carried. . .

Section 130 (See 41)

Report of Reference Committee on Report of Council, Part VI: Denial of Free Choice of Physician to County Welfare Patients

Dr. Guy S. Philbrick, *Niagara:* Resolution number 55–10, introduced by Dr. Felix Ottaviano, Madison County Medical Society, subject, "Denial of Free Choice of Physician to County Welfare Patients." (*See Section 41*)

Your reference committee approves and recommends referral to Subcommittee on Public Medical Care of the Council Committee on Economics for further study and appropriate action. I so move.

Dr. Arthur E. Lamb, *Kings:* I second it.

. . .There being no discussion, the motion was put to a vote and was unanimously carried. . .

Section 131 (See 50)

Report of Reference Committee on Report

of Council, Part VI: Forced Donations by Physicians to Hospital Drives

Dr. Guy S. Philbrick, *Niagara:* Resolution 55-20, introduced by Dr. Henry Vinicor, St. Lawrence County Medical Society, subject, "Forced Donations by Physicians to Hospital Drives." (*See Section 50*)

Your reference committee is fully in sympathy with the intent of this resolution but disapproves of the resolution as written and offers the following substitute motion instead:

> Whereas, there is a relatively new and insidious practice in hospital fund-raising campaigns in which the staff doctors are told how much they are expected to contribute; and
>
> Whereas, physicians generally are willing to assume their full responsibility in contributing to community projects of all kinds; and
>
> Whereas, in many instances no consideration is given to the doctor's financial ability or his future commitments in educating four or five children; and
>
> Whereas, the doctor feels his staff affiliation may be jeopardized by refusing to contribute the amount asked for; therefore be it hereby
>
> *Resolved,* that the Medical Society of the State of New York investigate this situation; and be it further
>
> *Resolved,* if this investigation shows this to be a State-wide condition, that measures be taken to alleviate the situation.

I move the adoption of this substitute motion.

Dr. Gerald D. Dorman, *Councillor:* I wonder if doctors can be given a quota of four or five children?

Vice-Speaker Williams: I think I will have to rule that out of order.

Dr. Arthur E. Lamb, *Kings:* I second the substitute motion.

. . .There being no discussion, the motion was put to a vote and was unanimously carried. . .

Dr. Philbrick: I move that the report be adopted as a whole.

Dr. A. W. Martin Marino, *Kings:* I second that.

Dr. Solomon Schussheim, *Kings:* As amended?

Dr. Philbrick: As amended.

. . .There being no discussion, the motion was put to a vote and was unanimously carried. . .

Dr. Philbrick: I wish to thank the members of my committee for their full cooperation, Dr. Carl G. Merkel, Dr. Robert J. Hewson, Dr. Sol Axelrad, and Dr. Robert Warren.

Vice-Speaker Williams: Thank you, Dr. Philbrick. (*Applause*)

Gentlemen, it is now six o'clock. We have two committee reports still to hear. One is Dr. Babbage's, which involves quite a few resolutions involving ethics, and the other one is Dr. Wurzbach's reference committee that has to deal with the problems of blood banks. What is your pleasure? Shall we adjourn until eight o'clock for an evening session?

Voices: Eight-thirty.

Voices: Eight.

Vice-Speaker Williams: Now, gentlemen, let us not get facetious. We have got serious business to perform here tonight. If we allow too much time for the cocktail hour, we will never get through tonight. Let us say 8:15. The House is recessed until 8:15.

. . .The House recessed at 6 P.M.. . .

Evening Session

Tuesday May 10, 1955

The session convened at 8:35 P.M.

Speaker Holcomb: The delegates will please come to order.

Dr. Williams has just requested me to announce that the dinner dance tickets are still on sale.

The first business on the agenda is the Report of the Reference Committee on Council, Part XII: Convention, Nursing Education, Woman's Auxiliary, Office Administration and Policies, Ethics, Belated Bills, of which Dr. E. Dean Babbage, of Erie County, is chairman. The Chair would like to announce too that now that we have had a respite, everybody seems to be in a much better humor and more receptive than they were at six o'clock tonight. I will ask the House to pay attention to the business so that we can finish promptly.

Section 132

Report of Reference Committee on Report of Council, Part XII: Nursing Education

Dr. E. Dean Babbage, *Erie:* Nursing Education—The chairman, Dr. McKeeby, reported on a meeting of his committee held at the request of Dr.

Stiles D. Ezell, secretary of the New York State Board of Medical Examiners, to discuss the perennial problem, shortage of professional nurses.

It will be at least five years before there will be an increase in the number of potential students enrolling for an R.N. degree. Meanwhile, hospitals will be forced to solve their nursing problems with three classes of individuals: (1) the graduate nurse whose main function will be to supervise the auxiliary workers, (2) the practical nurse, and (3) the nurses' aides and orderlies.

The plea was made by Dr. McKeeby for the individual members of the staffs of hospitals to build up morale among all such workers. This probably should be emphasized most among those in the category of practical nurses. No specific recommendations were made concerning the two-year training courses except that they were being watched.

A suggestion was made by one of the members of the Board of Regents, Dr. Maurillo, that in the metropolitan area a revision of the nursing curriculum be provided along these lines:

1. The students live at home.
2. Attend school from 9 A.M. to 5 P.M.
3. First two years' tuition free.
4. Classroom instruction in the morning.
5. Laboratory and ward practice in the afternoon.
6. Internship in third year as a staff nurse with a salary.
7. At the end of third year, awarded a degree of Associate in Applied Science.

It is the recommendation of this reference committee that this proposal of Regent Maurillo be given grave consideration by the Board of Regents.

I move the adoption of this portion of the report.

DR. MOSES H. KRAKOW, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 133

Report of Reference Committee on Report of Council, Part XII: Office Administration and Policies

DR. E. DEAN BABBAGE, *Erie:* In his report Dr. Masterson stressed that this is a committee of "top management." He expressed appreciation for the loyalty of all members of the staff, including the genial secretary and general manager, Dr. Walter P. Anderton.

One of the duties of this committee was to establish a pension for a most loyal and devoted employe, Miss Elizabeth Wheeler. This reference committee commends this action and recommends the investigation of a pension plan for all members of the office staff. Dr. Masterson mentioned that the amount received from the American Medical Association for handling of the dues collected for that organization was not sufficient to cover the expenses involved. There should be no expense to our State Medical Society for this. The American Medical Association should pay the total cost. This reference committee recommends that the delegates to the American Medical Association introduce such a resolution at the forthcoming session in June.

I move the adoption of this portion of the report.

DR. MOSES H. KRAKOW, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 134

Report of Reference Committee on Report of Council, Part XII: Woman's Auxiliary

DR. E. DEAN BABBAGE, *Erie:* The Council Advisory Committee to the Woman's Auxiliary has as chairman, Dr. Andrew A. Eggston. He gave a very comprehensive report of their many activities of the year. He paid great tribute to the energy which the president, Mrs. Arthur L. Bennett, put into this very worth-while organization. The auxiliary's sponsorship of three State-wide activities is to be commended: nurse scholarship, recruitment, and Future Nurses Clubs; exhibits at the State Fair; and the health poster contest.

The chairman, Dr. Eggston, deplored the fact that there are still 16 counties that do not have an auxiliary. He urged such counties to cooperate with the State Auxiliary organization to form such groups. He also urged all county society presidents to utilize to the fullest the assistance which the local auxiliaries can provide.

I move the adoption of this portion of the report.

DR. MOSES H. KRAKOW, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 135 (See 8, 46, 58)

Report of Reference Committee on Report of Council, Part XII: Ethics

DR. E. DEAN BABBAGE, *Erie:* Dr. Thurman B. Givan, chairman of the Committee on Ethics, mentioned that his committee had very few matters referred to it during the year. Most of the matters were interpretations of *Principles of Professional Conduct.* It would seem that most questions of ethics could be handled by the board of censors of the local county medical societies. This is where most of them should be settled. At the 1953 meeting of the House of Delegates of this Society, it was moved and passed that changes or amendments to the *Principles of Professional Conduct* be handled in a similar manner to amendments to the Constitution and Bylaws, namely, that such amendment or amendments be read at the annual meeting of the House of Delegates one year and acted upon at the next meeting of the House. This was passed at the 1954 meeting of the House of Delegates.

At the same meeting of the House of Delegates four changes in the *Principles of Professional Conduct* were proposed, acted upon, and passed:

1. Classification of Chapter I, Section 4, under the heading of Advertising.
2. Addition of a sentence to Chapter III, Article 6, Section 3, under the heading of Contract Practice, also adding "duly licensed" before the words "physician" and "physicians."

3. Classification of Chapter III, Article 6, Section 4, under the heading of Free Choice of Physician.

4. A proposed additional section to Chapter III, Article 6, making it Section 7 under the title, Proration of Fees. This latter was made a law in New York State in 1954.

On October 14, 1954, the Council voted, "that because the changes in the *Principles of Professional Conduct* have given rise to numerous questions by members of our profession in this State and because many of our members considert hem to be ambiguous, this Council recommends to the county societies that these changes be not activated until the next meeting of the House of Delegates."

A resolution, number 55-8, concerning these four changes was introduced by Dr. Ely Lazarus, of New York County, the subject, "Rescinding of Proposed Changes in *Principles of Professional Conduct.*" This resolution and the four changes were discussed by many interested members of this House of Delegates, including two members of the Council. The main discussion centered around that portion titled "Contract Practice." The consensus was that interpretation of this chapter implied that local health officers, especially in upstate areas, were guilty of unethical practice.

This reference committee recommends that:

1. The resolution of Dr. Lazarus, number 55-8, be disapproved.

2. The Council again request of the individual county medical societies that such changes be not activated until the meeting of the House of Delegates in 1956.

3. The Council temporarily interpret that portion on Contract Practice that it not apply to local health officers.

4. That the Council prepare or cause to be prepared changes covering these four features, couched in language that is not ambiguous, these to be presented to the meeting of the 1956 House of Delegates.

Speaker Holcomb: Will you accept a correction from the Chair? The first word of the first and third changes which was inadvertently given as "Classification" should be "Clarification." Will you accept that correction?

Dr. Babbage: Yes.

Speaker Holcomb: We are ready for a motion.

Dr. Babbage: I move adoption of this portion of the report.

Dr. Moses H. Krakow, *Bronx:* I second that.

Speaker Holcomb: Is there discussion?

Dr. Ezra A. Wolff, *Assistant Secretary:* If I may, sir, the recommended action of the reference committee is to disapprove a resolution which in effect is a suggestion to change the code of ethics by a deletion, by deleting the four clarifications which had been properly approved at a previous meeting. I submit, Mr. Speaker, that under those circumstances, this represents an attempt to amend the code of ethics and, therefore, cannot be acted on now, but the resolution should properly be laid over until next year for any action to be taken.

Speaker Holcomb: The Chair will rule that Dr. Wolff's objection is well founded and will sustain him.

Dr. Babbage: That pertains to the resolution, that the resolution be disapproved and not be acted on until next year.

Voices: No action.

Dr. William B. Rawls, *New York:* For information only, I would like to ask did the doctor say that this resolution in fact would be tantamount to accusing public health officers of unethical conduct? If so, why? I am not opposing the recommendation. That is a question for information.

Speaker Holcomb: Dr. Dorman brought that question up. I might state to the House of Delegates that this has been passed back and forth with a great deal of comment in the reference committee, and your Speaker was questioned about it. He felt the better thing to do was to allow it to be passed over until next year. There has been a question asked. My suggestion was to the reference committee that they refer it to the counsel for legal advice. Apparently that was not acted upon, but I believe in it. Since the reference committee did not take my suggestion, I believe I could accept Dr. Wolff's suggestion that it be laid over until next year.

Dr. Rawls: My point was New York County had no intention by bringing in a resolution that might insinuate that the health officers were guilty of unethical practice. We want to know why and how.

Speaker Holcomb: I will leave it to the members of the House that last year you will remember this resolution was passed in the last one or two hours with a very tired House, and within forty-eight or seventy-two hours thereafter I had several calls from health officers in this State wanting to know if they were unethical. Apparently, it was noted very quickly and very promptly, so the Chair will again sustain Dr. Wolff's recommendation that it be laid over until next year.

Dr. Rawls: The question was for information only.

Speaker Holcomb: Thank you, Dr. Rawls.

Dr. Babbage: Would the House like to have the chapter on Contract Practice read, or do they fully understand it?

Voices: We understand it.

Dr. Babbage: I move the adoption of this portion of the report, as amended.

Dr. Krakow: I second the motion.

. . . There being no further discussion, the motion was put to a vote and was carried . . .

Section 136 (See 35)

Report of Reference Committee on Report of Council, Part XII: Amendment to "Principles of Professional Conduct"

Dr. E. Dean Babbage: Next is resolution number 55-15, which was introduced by Dr. John D. Naples, of Erie County, subject, "Amendment to *Principles of Professional Conduct.*" This must lay over to next year for action.

Section 137 (See 34)

Report of Reference Committee on Report of Council, Part XII: Questionable

Advertising of Medical Books Written for the Laity

Dr. E. Dean Babbage, *Erie:* The next is resolution number 55-11, introduced by Dr. Leonard J. Schiff, subject, "Questionable Advertising of Medical Books Written for the Laity." This reference committee approves this resolution.

Speaker Holcomb: Just a minute! Have the members had time to check this resolution number 55-11? Its subject is "Questionable Advertising of Medical Books Written for the Laity." I don't think it needs a great deal of discussion. However, if anybody wishes to discuss it, he may. Is there a second to the recommendation of the reference committee to approve this resolution first?

Dr. Moses H. Krakow, *Bronx:* I second it.

Dr. Babbage: It reads:

> Whereas, books written by physicians and purporting to have been published in the interest of medical science are being freely advertised to the general public throughout this State by the publishers in such a manner as to appeal to lewd and lecherous curiosity rather than scientific study; and
>
> Whereas, the physicians who have written these books undoubtedly did not intend them to be advertised in such a fashion; and
>
> Whereas, this type of advertising tends to bring discredit on the medical profession; therefore be it hereby
>
> *Resolved,* that the Council of the Medical Society of the State of New York be requested to investigate and study this problem and to take any necessary and appropriate action.

Speaker Holcomb: The chairman of the reference committee recommends approval of the resolution. Is there any discussion?

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 138 (See 39)

Report of Reference Committee on Report of Council, Part XII: Matter of Dr. Ben E. Landess vs. Queens County Medical Society and the Medical Society of the State of New York

Dr. E. Dean Babbage, *Erie:* This resolution, 55-13, was introduced by Dr. Aaron Kottler, of Kings County, subject "Matter of Dr. Ben E. Landess vs. Queens County Medical Society and the Medical Society of the State of New York."

This was discussed for at least one hour. Among the discussants was Mr. Martin, counsel for the State Medical Society.

This reference committee, after consultation with Dr. Kottler and Mr. Martin, has changed this resolution. The last "whereas" has been deleted. This reads,

> Whereas, such action is in violation of the Constitution and Bylaws of the Medical Society of the State of New York.

The "resolved" has likewise been deleted. It now reads,

> *Resolved,* that the Medical Society of the State of New York requests that the Judicial Council of the American Medical Association reconsider this matter so that an opportunity may be had to present additional information in regard to the ethics involved.

This reference committee approves this resolution as it now reads. I so move.

Dr. Aaron Kottler, *Kings:* I second that.

Speaker Holcomb: Is there any discussion?

Dr. George J. Lawrence, Jr., *Queens:* I would like to discuss this. Mr. Speaker and members of the House—

Dr. Meyeron Coe, *Queens:* Should this be in executive session?

Dr. Lawrence: I don't think that it should be. I think he was out of order. The delegation from Queens County feels there is some explanation to the House of Delegates due from Queens County. As you remember, last year we voted ourselves out of the discussion and the voting on the appeal that Dr. Landess made to this House. Since that time, since the House upheld the Medical Society of the County of Queens and the censors of the State Society, many things have happened of which we feel this House is not aware, and we would like you to know what has happened.

First of all, in the fall we were informed by our counsel that Dr. Landess had appealed to the Judicial Council of the American Medical Association from the decision of this House. We were later informed by our counsel that he had written to the American Medical Association Judical Council explaining his reason why this appeal was not within the jurisdiction of the Judicial Council of the American Medical Association. This was with the permission of our comitia minora. Later we were again informed by our counsel that the counsel for the State Society had written a contrary opinion to the Judicial Council of the American Medical Association. We believe that if the counsel for the State Society had rendered the same opinion as that of our counsel, the counsel of the Queens County Medical Society, the Judicial Council of the American Medical Association would probably not have assumed jurisdiction in this case.

We have also been given to understand that counsel for the State Society had sent in this opinion to the American Medical Association without any official "O.K." by the Council of the State Society.

For these reasons our comitia minora wrote to the counsel of the State Society asking that a committee be appointed to coordinate the activities of our county and the State Society in presenting our arguments to the Judicial Council when it heard the appeal of Dr. Landess.

The committee was appointed and recommended to the Council of the State Society that the counsel for the Queens County Society present the arguments for both the State and county societies to the Judicial Council.

The counsel for both State and county societies then argued the case before the Judicial Council merely on the point that the Judicial Council had no jurisdiction in this case. He did not argue the case as it was argued in this House.

You all know the decision of the Judicial Council of the American Medical Association.

We, therefore, feel that the present proposal by the reference committee should be amended, and I would like now to amend it in this way: That this resolution be referred to the Council and that the Council make a careful study of the decision of the American Medical Association Judicial Council in order to answer the following questions and take appropriate action:

1. Should lawyers be allowed to attend hearings before the Judicial Council of the State Society and the American Medical Association?
2. Should the Judicial Council of the American Medical Association act in appeals when the question is one to be decided by the courts?
3. Should the Judicial Council limit the appeal to questions of procedure leaving out consideration of the facts?
4. The Council should also study whether the threat of action by the Justice Department of the Federal government concerning possible antitrust law violations is threatening the free and honest opinion of the Judicial Council of the American Medical Association in questions of ethics.

Speaker Holcomb: You have heard the amendment. Is it seconded?

Dr. Frank J. Cerniglia, *Queens:* I second it.

. . . There being no discussion, the amendment was put to a vote and was carried; the question was then put on the motion as amended, and it was unanimously carried . . .

Section 139

Report of Reference Committee on Report of Council, Part XII: Belated Bills

Dr. E. Dean Babbage, *Erie:* The next has to do with belated bills. It is the recommendation of this reference committee that the following bills be paid:

1. Dr. C. S. Wallace, treasurer of Sixth District Branch—$9.85
2. Dr. Moses H. Krakow, treasurer of First District Branch—$214.57

I so move.

Speaker Holcomb: Kings County is interested in that last statement. The reference committee recommends that both belated bills, one amounting to $9.85 from the treasurer of the Sixth District Branch and the second one from Dr. Moses H. Krakow, the treasurer of the First District Branch, amounting to $214.57, be approved. I feel that the committee has been very diligent, and I am sure they have investigated the bills very carefully. Is there a second to the motion?

Dr. Charles F. McCarty, *Kings:* I second it.

Speaker Holcomb: Is there any debate or discussion on the matter?

. . . The question was called, and the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: The payment of those bills is approved.

Dr. Babbage: All I can say is that Dr. Krakow was a member of this reference committee.

Section 140

Report of Reference Committee on Report of Council, Part XII: Convention

Dr. E. Dean Babbage, *Erie:* The last item has to do with convention.

Dr. Thomas d'Angelo, chairman, rendered a very comprehensive report of the 148th convention held in New York City, May 10 through May 14, 1954. Over 6,000 were in attendance, including 3,901 physicians. Attendance figures at various sections and sessions were broken down. It is interesting to note that the number in attendance at the General Sessions on Thursday afternoon reached 400.

Chairman d'Angelo paid tribute to the Languild Convention Service. He feels that this should be publicized far in advance of the convention date, should it again be utilized.

I move the adoption of this portion of the report.

Dr. Thomas H. McGavack, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Babbage: I move the adoption of the report as a whole, as amended.

Dr. Moses H. Krakow, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Babbage: At this time I would like publicly to thank Dr. William T. Boland, Dr. William E. Pelow, Dr. Moses H. Krakow, and Dr. A. Wilbur Duryee for their cooperation.

Speaker Holcomb: Thank you very much. That was a very interesting report. I would like to compliment Dr. Babbage on it. He had a very busy time.

The Chair will recognize Dr. Wurzbach, of the Bronx, on the Report of the Reference Committee on Report of Council, Part IV, having to do with Blood Banks, Cancer, Heart Disease, Mental Hygiene, Medical Film Review. I will ask his colleague, Dr. Williams, to take the chair.

Vice-Speaker Williams: I am sort of an associate member of Westchester. This definitely looks like bad public health activities. (*Laughter*)

Section 141 (See 16)

Report of Reference Committee on Report of Council, Part IV: Public Health Activities C—Cancer

Dr. Frederick A. Wurzbach, Jr., *Bronx:* Your reference committee has reviewed the work and reports of the Subcommittee on Cancer and feels that this is an active and worth-while part of the Society's activities. The close cooperation between the State Medical Society, the American Cancer Society, represented by Charles D. Cameron, M.D., the Bureau of Cancer Control of the New York State Department of Health, represented by Paul R. Gerhardt, M.D., and the Department of Health, of the City of New York, represented by Assistant Commissioner Theodore Rosenthal, M.D., is heartening in this great battle to control cancer.

All these agencies have done well, working together in the three phases of the campaign: (1) service to the public and the profession, (2) education of both the public and the profession, and (3) stimulation of research.

The symposium on "Diagnosis of Cancer" in the NEW YORK STATE JOURNAL OF MEDICINE was a well-prepared and informative group of articles of great value to both the specialist and the general practitioner. We are happy to state that this forward-looking committee has prepared a symposium on the "Treatment of Cancer" which will start in the June issue of the NEW YORK STATE JOURNAL OF MEDICINE.

The statistical studies and the committee records in the field of tumor clinics and cancer detection clinics will be invaluable to further research.

Your reference committee commends this subcommittee under the able chairmanship of Dr. Irwin E. Siris for the aggressive and productive approach to their problem.

I move the adoption of this portion of the report.

DR. ALFRED A. ANGRIST, *Queens:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 142

Report of Reference Committee on Report of Council, Part IV: Public Health Activities C—Heart Disease

DR. FREDERICK A. WURZBACH, JR., *Bronx:* The Subcommittee on Heart Disease has met with the representatives of the Industrial Health and the Workmen's Compensation Committees to consider implementation of the action of the House of Delegates (May, 1954) when it voted "The problems arising from the employment of persons with cardiac impairments be referred to the cardiac committee of the Public Health and Education Committee."

This is a big problem, and your reference committee commends the work of investigation and organization that has been performed in planning for future study. There can be no "short-cut" to a quick solution. This committee believes that the presentation of this problem to industry, labor, and insurance should not be delayed. We recommend immediate unified action. I move the adoption of this portion of the report.

DR. HARRY GOLEMBE, *Section Delegate:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 143 (See 15)

Report of Reference Committee on Report of Council, Part IV: Public Health Activities C—Mental Hygiene

DR. FREDERICK A. WURZBACH, JR., *Bronx:* Your Subcommittee on Mental Hygiene has been active during the past year, especially in advising the county societies concerning the new Community Mental Health Services Law.

On approval of the Council (November 11, 1954) the following recommendations were sent to each county society:

1. That on the mental health board the two physician members actually represent the views of the county medical society.
2. That the mental health board be autonomous.
3. That the medical profession as represented by the county medical society lead in the medical policy-making of such community health project.
4. That the community health board serve as a center from which education of the general physician in the recognition and management of incipient mental disease may be conducted.

This reference committee commends the subcommittee for these "down-to-earth" statements and for demanding that medical care be at the level of the individual physician and control of the plan at the level of his local county medical society.

The committee recommends that the suggested law to license psychologists be not opposed by the Medical Society provided this approval is concurred in by our Council.

I move the adoption of this portion of the report.

DR. EDWIN A. GRIFFIN, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 144

Report of Reference Committee on Report of Council, Part IV: Public Health Activities C—Medical Film Review

DR. FREDERICK A. WURZBACH, JR., *Bronx:* Your reference committee finds that the Subcommittee on Medical Film Review has been very active. It has reviewed 26 films, rejected 15 and advised that 11 be added to the film library of our Society. Your committee joins with Dr. John L. Norris, chairman, in thanking Dr. Kenneth B. Olson of Albany for having done most of the committee work during the past year.

I move the adoption of this portion of the report.

DR. ALFRED L. GEORGE, *Genesee:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 145 (See 31)

Report of Reference Committee on Report of Council, Part IV: Public Health Activities C—Blood Banks

DR. FREDERICK A. WURZBACH, JR., *Bronx:* Last but not least, we have arrived at the Blood Banks Association.

Your reference committee met for four hours yesterday afternoon and three to five hours this morning. We heard statements, had discussions, asked questions, and received answers. We met with members of the board of directors of the Blood Banks Association of New York State; the president of the association, Dr. J. Stanley Kenney; the treasurer of the association, Dr. James R. Reuling; the treasurer of the State Society; the two representatives of the Greater New York Hospital Association;

many interested physicians, and the lay manager of the association.

Your reference committee realizes that the problem of the Blood Banks Association is divided into two parts: that of its use, necessity, and public relations value and the financial requirements. In many ways these two factors must be considered together.

We would like to bring back to your attention the original constitution of the Blood Banks Association as adopted by the House of Delegates in the 1952 session. This stated the purpose of the association to be: (*a*) to federate into one organization the blood banks of the State of New York, (*b*) to foster cooperation between blood banks, (*c*) to encourage the development of blood banks where needed, (*d*) to extend medical knowledge and advance the science and art of blood banking, (*e*) to enlighten the public in regard to the problems of blood banking, and (*f*) to plan for needs in time of disaster. The Blood Assurance Program began in 1953. Concerning use of the Blood Assurance Program, the committee was informed that up to May 1, 1955, there were about 1,700 certificates of assurance in force, covering about 6,000 to 6,500 individuals.

We all admit that to stop the program at this moment would be very bad public relations. Your committee was told that the future depended on mass writing of certificates through union or other groups on a 1:5 or 1:10 basis. There have been presented no figures of comparative costs as the base is extended. The $3.00 initial fee, if for 25,000 members, would be an income of $75,000, which would still be $50,000 short of the 1955 budget. A base of 40,000 members is needed to give an equivalent of the 1955 budget, but this does not take into consideration the problem of increased expenses. The budget of the Blood Banks Association was projected with the objective of 40,000 members by the end of 1955.

Concerning necessity of the Blood Assurance Program, we were told that for the year ending February 28, 1955, only 75 pints of blood were paid against certificates of assurance in force. Concerning public relations, this plan is more or less in indirect competition with the American Red Cross. Let us also remember that the Red Cross is willing to spend millions of dollars a year to run its blood program. Our experience to date shows that we have issued about 1,700 certificates of assurance meaning that about 1,700 pints of blood were drawn. The total blood drawn remains with the local blood bank for local use or subject to clearinghouse call.

This plan in its present form is not acceptable to the Greater New York Hospital Association and is not a part of the United Medical Service. Negotiations are still continuing with these bodies who give all indications of willingness to cooperate with us.

Concerning finances—as of January 1, 1954, the Blood Banks Association, Inc., had a deficit of $4,341. For the year ending December 31, 1954, the total income from all sources was $14,098. Total expenditures for the same period were $44,357, making a net loss for the year of $30,259. The total deficit on December 31, 1954, amounted to $34,600.

For the first four months of 1955, the deficit is $24,628. The management of the association hopes, admittedly by them very optimistically, that there will be only about $18,000 further deficit for this year. This figure can only be held at this point if 3,500 pints of blood are drawn (3,500 holders of new certificates) and $10,000 be obtained from other sources, such as gifts and grants. This means as of now the deficit is $59,228 and at least $18,000 more by the end of the year, a total of $77,000 in the red.

We should repeat at this point that the officers of the Blood Assurance Program feel that a goal of 40,000 new certificates can be reached by the end of the year, and as I stated before, the budget was based on 40,000 membership.

The committee believes that the cost of this program has been excessive, that the results shown to date do not merit such expenditures. In justice, it must be recognized that to initiate such a comprehensive program the early cost must be high. The officers themselves have frankly admitted that mistakes of judgment have been made, and personnel and administrative difficulties have greatly increased the cost and delayed progress.

The directorship has stated that reductions in cost have been instituted, and the budget has been reduced. A reorganization of plan and personnel is now under way. It is hoped that the further deficit by December 31, 1955, can be held to an additional $18,000. The monies so far expended and shown as deficits are described as loans in the financial reports.

The additional costs, as presented above and certain to be expected, are a very great drain on the financial structure of the Society, especially at a time when a raise in dues is requested to be approved by this House of Delegates. This your reference committee fully realizes.

The committee has shown the cost to date and the expected future costs. This is the picture: We voted the Blood Assurance Program into being in 1953, and your reference committee has given these problems long study. The abrupt discontinuance of the program at this time would be unwise and a serious blow to our prestige and would be harmful in our relations with the public. We believe that all effort should be expended to reach a working agreement with the United Medical Service, Greater New York Hospital Association, and other agencies.

Your committee recommends—now, gentlemen, with the permission of the assistant speaker I will read the entire list of recommendations as one, and then I believe it would be better if we came back and handled each individually. Would that be proper, Mr. Speaker?

Vice-Speaker Williams: Quite in order, Mr. Chairman.

Dr. Wurzbach: Your committee recommends:

1. That the original Blood Banks Association be continued in its original intent under the supervision of the Blood Banks Commission.

2. That the national blood clearinghouse program be under the control of the Blood Banks Association. Many state medical societies are already part of this program.

3. Study and report to the Blood Commission

by the Blood Assurance Program of the advisability of raising the $3.00 per pint fee to a proper cost estimate fee.

4. That the blood assurance program be continued with the following controls:

(*a*) Support must show a minimum of 25,000 certificate holders by January 1, 1956.

(*b*) Economies must be shown to the Blood Banks Commission to have been effected by July 1, 1955.

(*c*) Evidence of reorganization must be shown to the Blood Banks Commission by July 1, 1955.

(*d*) The limit of deficit by January 1, 1956, must not exceed the estimated $18,000 deficit as described in this report.

5. We recommend that if these recommendations (4 *a*, *b*, *c*, and *d*) are not met:

(*a*) That the blood assurance program be discontinued.

(*b*) That no further certificates of assurance be issued.

(*c*) That certificates of assurance then in effect be continued to their expiration date and then not renewed.

(*d*) Claims of blood be arranged to be paid by blood banks at the local level at a fee to be arranged between these blood banks and the Blood Banks Association, Inc.

(*e*) That no additional loans be made to the Blood Assurance Program after this date.

(*f*) That sufficient funds be allocated to close out these Blood Assurance Program debts.

(*g*) That the Council and trustees be authorized to carry out these recommendations.

Vice-Speaker Williams: Come back to your first recommendation and consider each one by one, and we will approve them individually.

Dr. Solomon Schussheim, *Kings:* With the permission of the speaker, would it not be advisable to discuss this problem a little more in detail before we take up each individual item of recommendation of this reference committee? Let us discuss the over-all picture before we sit down to discuss the probable solution of the problem.

Vice-Speaker Williams: The Chair will recognize that this is an over-all problem. This is not a specific resolution being moved and voted. This is general discussion of the over-all problem.

Dr. Schussheim: Mr. Speaker and delegates, as the chairman of the executive committee of the Blood Assurance Program of the metropolitan area, I have been in this problem. For the past year we have been confronted with this entire situation in the matter of bringing this Blood Assurance Program and the Blood Banks Association out of the red through the efforts that were asked of us in the metropolitan area. We were asked to go out into the field, among industry, capital, and the general public, and to bring to their attention the value of blood for yourself when you donate a pint of blood. It was an interesting problem to us. We felt very keenly about it. We were very happy in the beginning to go along with this problem. The committee after a number of meetings began to understand a little bit more of this problem. They began to realize that the Blood Banks Association was not an integral part of the activities of the Medical Society of the State of New York. It was an independent membership corporation with no direct responsibility to the Medical Society of the State of New York with the exception of being a borrower from our treasury. We learned that the Medical Society of the State of New York was a bank loaning money.

Now at this point we find that the Blood Banks Association and its subsidiary are bankrupt. They owe a great deal of money, and they even have not the paper to cover it. We in the metropolitan area were asked to get the paper for them. We were confronted with the many problems which we will discuss a little later. The important question at present is, will the Medical Society of the State of New York, as the banker, foreclose on this loan? Will it wipe it off, write it off the books as a bad loan, or pour more money into it? That is the most essential point of this entire discussion.

Gentlemen, we are up against a stone wall right now in the metropolitan area. You have heard Dr. Groeschel and Dr. Connorton give the attitude of the Greater New York Hospital Association. It has been said to us that without the cooperation of the Greater New York Hospital Association, the Blood Assurance Program cannot keep going because it will only go further and further in the red.

Gentlemen, you must decide tonight, are you going to liquidate this entire project, or are you going to step in and change the directorate and continue putting money into it? And, second, if you are to continue it, what will be your attitude toward the Hospital Association of Greater New York? That is the problem that your executive committee of the metropolitan area is vitally interested in.

Thank you!

Vice-Speaker Williams: Thank you, Dr. Schussheim!

Is there any further discussion of the whole general problem?

Dr. Herbert H. Bauckus, *Trustee:* Yes.

Vice-Speaker Williams: Dr. Bauckus, chairman of the Board of Trustees.

Dr. Bauckus: Mr. Vice-Speaker and chairmen of the House, this serious question has, of course troubled the Board of Trustees all during the year. The treasurer tells me the amount of loan we have now made to the Blood Banks Association—and I understand all of that has not been called for or used —is $67,000 since the beginning of our loan. That is a serious question to us because it represents about 10 per cent of your entire capital. We were to some extent in a dilemma, trying to keep up this question of promoting the Blood Banks as you wished, and as the Council wished, and at the same time feeling that we had very poor security for this loan. However, it was felt that we should continue until the House of Delegates met. From the time in November and December, I have very carefully studied much of this subject, and especially the proposed budget and some of the work of the Blood Banks Association. I hope it may be continued, as it has been said, to keep this alive, but I do not think the present resolution or the present acceptance of what is proposed would change matters very much.

I am not a blood banks expert, but I believe from studying this in the Board of Trustees that this plan is not sound in its present form financially, and I myself do not believe—I hope I am wrong—it could succeed without changing it. I do not believe that the $3.00 we have spoken of, that we will receive from donors, will be the means of having it self-sustaining. I do not believe from the standpoint of public relations that taking blood from a person once a year and charging $3.00 is quite fair to the donor. It appears that the assurance should continue a much longer time than that. I do not believe that the present organization and the present association without great change is going to be able to carry this on successfully, much as I admire some of their efforts.

I also would like to point out that all of the people that you assure are covered for a period of a year, and while it is the Blood Banks Association, also the Medical Society of the State of New York has an obligation that you have to consider is yours for a period of a year after this plan may stop.

It has been suggested that there will be a limit of $18,000. Do I understand that that is the amount of money that is a ceiling on what you would expect the Board of Trustees to give the Blood Banks Association as a loan? I myself do not believe that this amount of money, according to our past experience, will be sufficient. If you would say to the Board of Trustees or say to the Council and the Board of Trustees that that is the limit, well that lets us out to a certain extent, but I do not believe that that is a good solution of the problem.

I know that this large program has only to do with the metropolitan area. I would be the last one to try to interfere with anything in that area that is wanted there. As has been stated this morning, this is to some extent a community proposition.

I believe there are better ways of keeping this alive. I think that we should do that. I think that we should have a certain budget in the State Medical Society that we control. We have nothing to do with the control of this except probably in the loan of the money. If we stopped loaning the money, of course, the project would not continue. So it has been very difficult, and as I see it, you have not done very much so far to make it less difficult.

If it is felt—and, by the way, I have been talked to about this so many times; I am much worried about it—if it is really felt by these counties that they want to endorse this plan, the seven or eight counties out of the 61—I realize in the metropolitan area it has a great number of the population—if they are really in need of it, I would like to see more demand or plea than we have had. We have not had very much of that. Many ask us to go into this area and produce donors and talk about the blood supply, but I want to say that I think it would be a great mistake to stop the present attempt to keep alive the blood bank system. We must have something sooner or later. They are making other changes, but nevertheless it will require dollars to set them up. I think we ought to improve over what the reference committee proposes.

Dr. Benjamin M. Bernstein, *Kings:* We are in the business of buying and selling blood. I don't recall anybody in this House ever having made a motion suggesting that a loan be made to a business organization. I don't recall that the Council or the Board of Trustees, either or both, ever were expected to lend money to a business organization. If that was done either on the behest or at the request of this body, it never has been made public. We have been placed in a business, which whether profitable or not, we never should have done in the first place, and now they come in in a mess—and it is a mess undoubtedly. I don't see how we can lose any public relations by deciding that we have failed in something we should never have been in right from the start. The sooner we get out of this thing completely, a liquidation, the better off we will be, instead of throwing good money after bad. As I said before, we should never have gone into it in the first place.

Vice-Speaker Williams: Is there any other discussion first on the general over-all problem?

Dr. Christopher Parnall, Jr., *Monroe:* As I understand it, the program was approved in 1953. The Council and the Board of Trustees we place our confidence in, to handle our finances. I believe they handled it quite properly. I should like, as a single delegate, to express my confidence in the way the officers and the representatives of the State Society handled it.

It seems to me that the over-all recommendations of the committee are the result of long deliberation and a good deal of thoughtfulness, and, in general, I certainly, as a single individual, approve of them.

Dr. Theodore R. Proper, *Orange:* In Orange County we have a plant, DuPont Laboratory. That plant employs 700 people. Every single member of that plant has contributed blood to the Blood Assurance Program in Orange County. The Blood Assurance Program has gone over 100 per cent. It has been a great thing for our county. It can be a great thing for other counties in the State of New York.

Regarding cost, any new project costs money. This thing was started without any yardstick to measure it. I think the primary cost must be discounted; the over-all cost is what counts and the good that the program will fulfill. I hope that this Society will continue the Blood Assurance Program and that they will follow the recommendations of the reference committee.

Dr. J. Stanley Kenney, *Trustee:* I would like the speaker to accord the privilege of the floor to Dr. Robert S. Jenks, a surgeon, of Batavia, New York.

Vice-Speaker Williams: Whom?

Dr. Kenney: Jenks, Robert Jenks, a member of this Society. I would like the privilege of the floor extended to him.

Vice-Speaker Williams: With the consent of the House, the Chair extends the privilege of the floor to Dr. Jenks.

Dr. Robert S. Jenks: There have been a few statements made which show evidence of misunderstanding or misinterpretation of true facts of the program as it stands. This is entirely understandable. Even those of us who have studied the thing for three years don't understand it yet. It is very complex and a very difficult matter, as anyone who has studied any kind of insurance program that pertains to any part of medical care can well understand. I am sure Dr. Wertz's experience with the Blue Shield when they worked on those plans is such that he will attest to the fact. It is a very difficult matter to please your insurees as a doctor.

First of all, the Blood Assurance Program is not an independent society without any control by the Medical Society of the State of New York. The Blood Banks Association of New York State is directly under the Medical Society of the State of New York; in fact, it was incorporated by the Medical Society of the State of New York by its counsel. It is under the direct control of the Blood Banks Commission which was appointed I believe by chairman or the president of the Society. Therefore, the Blood Banks Association is not independent, does not act independently in any way at all. It is directly under the control of the Medical Society of the State of New York.

I would like to point out to you that six members of the board of directors of the Blood Banks Association are members of the Council and members of the Board of Trustees of the Medical Society of the State of New York. That represents half of the board of directors. There are interlocking directors, which should convince you that this society is not independent of the State Society.

I would like also to bring to your attention that Dr. Reuling in our early deliberations in this thing was very insistent that this be carried on in this fashion to avoid this very criticism. He insisted right straight along that this association be mostly under the control and supervision of the Medical Society of the State of New York because he felt that if we were to ask for any funds, it would necessarily have to come under the direct control of the Medical Society of the State of New York, and that has been carried out from the start. There has been no money received from any donor at any time. There is no charge to any donor who enters this program. There is a charge to the bank for the certificate, for the insurance certificate, which covers certain services offered, which we won't go into now. There is no charge to the insured at the time the blood is collected or at the time he receives his benefit.

There has been criticism of the fact that the benefits are limited to one year. We felt when this thing was started, it had to be started on a very conservative basis so there would be no danger of having the program fail because of shortsightedness of planning benefits; therefore, conservatism had to dictate in the early phases of the program. We realize now that those benefits can be extended, and I feel sure the board of directors will do so.

Again, I beg you to remember that this thing has had very little chance to operate. After all, it was I think about seven or eight years after the Blue Shield was in operation in our area that our doctors were having to be paid three or four months late, but not a doctor pulled out of Blue Shield. He believed it was a good thing in the service of the medical profession to the public.

I believe the same thing is true of this program. I believe it is going to cost us all some money, and some time, and some effort, and if we don't believe in it, of course it won't succeed.

Neither the Medical Society of the State of New York nor the Blood Banks Association of New York State is engaged in the business of buying and selling blood. If you say the opposite, you are repeating false statements which have been made in the newspapers and popular magazines because they were misinformed. Also the Blood Banks Association of New York State owns no blood, it sells no blood, it buys no blood. It acts as an exchange that is carried out on a paper basis. If you want a pint of blood, you can call the clearinghouse, who will try to locate it for you and will effect the transfer.

Gentlemen, whenever I get started on something maybe I do speak too long. Perhaps I do it because I feel there is a great deal that is misunderstood about the whole thing, but there is no buying and selling of blood. The Medical Society of the State of New York has not gone into the business of buying and selling blood, and it does not intend to. I hope that will do for a while.

VICE-SPEAKER WILLIAMS: Thank you, Dr. Jenks.

DR. EZRA A. WOLFF, *Assistant Secretary:* Mr. Speaker and members of the House, I first must qualify myself as to why I should speak about this program. I am a member of the board of directors of the Blood Banks Association. I might say that the previous speaker mentioned that there were six members of the Council who were members of this board of directors. Of those six members Dr. Reuling was one of them. He has resigned. Dr. Anderton was one; he has resigned. I announced my intention of resigning and was dissuaded from doing so until after this meeting of the House. I still intend to resign.

We have been deluded by a pipedream. The initially projected program called for 40,000 certificates to be issued in a year. To date, gentlemen, there have been 1,700 certificates issued. These 1,700 certificates include the very successful program in Genesee County, of which there are 1,100 to 1,200. The 700 donors in the Newburgh plant are not too many actual donors but are only promissory. They have promised to give blood. At my last tally there were some 50 or 60 that had given blood; the rest were on tap and going to. They may or may not. In any event that leaves very little for the grandiose New York City Assurance Program which is the total of 40,000 by the end of the year. We have some four to five hundred today, gentlemen, and pretty near half a year is gone.

The predicated maintenance of an $18,000 deficit includes an item which says that gifts and grants of $10,000 will have to be obtained. The previous speaker said that nothing had been given to this association to date. Where do they expect they are going to get $10,000?

The reference committee has stated, as one of its recommendations, the program must show a minimum of 25,000 certificate holders by January 1. This is an impossibility. There is no way in the world that this program will realize 25,000 certificate holders by January 1. Under those circumstances I say that to continue the program knowing that it cannot possibly succeed will be making it an ostrich. We will be putting in $18,000 minimum, and that of course is what was suggested as the probable deficit. I would venture a guess it would be more if you run the program to the end of the year.

I might further say that a lot of these paper promises that don't materialize are somewhat symbolized by the mention of United Medical Service. There is the implied promise that United Medical Service is going to do something about this program in some way, help it out, take it over, make it work. I have not only sat with the board of directors of Blood Banks Association; I have sat with the board of directors of United Medical Service. I have never heard one word which suggested that there would be any practical connection between United Medical Service and the Blood Banks Association with regard to the selling of blood assurance certificates. It is a vague idea that has been toyed with. There is no implementation and no immediate idea that it will be implemented, so that I want to clear up that misconception.

Further, I might say that the report says that reductions in cost have been effected. The amount of those reductions has not been put into the report. I would like to know what those reductions amount to. If they amount to $1,000, I will say they are a lot more than my expectation. That is pin money. The reductions in cost will in no way affect your ultimate deficit.

Gentlemen, I feel that this is a good principle. I feel that this House has mandated the Society to establish a Blood Assurance Program so that in all fairness it is at our very hands that we have accomplished this piece of work. However, the organization at present I believe is wrong. I can see no way in which it will work out. We heard some very concrete and sensible suggestions from representatives of the Greater New York Hospital Association. I feel that blood can be distributed to the community on an insurance basis. I think it is an excellent program by which we can supply our civilian blood needs. We are not competing with Red Cross in that. We are supplying normal civilian needs. Certainly in New York City the Red Cross does not do that to the extent that will make us self-liquidating. As far as our blood assets are concerned, this I am convinced will do it, give us a reservoir of new donors, of people who will supply their own blood, who will protect their families. It must be done, as was suggested, as a community project. Our board of directors is completely medical at the moment. That is bad. It contains, among other people, men who run the blood banks, and willynilly they have a vested interest in what is going on, and their determination of policy in large extent will be favorable to the operation of blood banks more than it will to the public at large. I say this not in criticism of anything that has been done but simply because all of us are human, and we will watch out for our own interests.

I say that if this is to succeed, it must be truly a community project, that the board of directors must not be medically dominated but lay dominated. Let our doctors be in on it. Let them be technical medical advisers. Let them tell how blood should be collected, how it should be used, all of the ramifications that go with the handling of blood, but let businessmen, let people who know about distribution, about salesmanship, about professional public relations, do the job of directing this organization. Then it will succeed. It will be a credit to medicine and a help to the community.

Dr. Theodore J. Curphey, *Councillor:* Mr. Speaker and members of the House, I feel a very definite responsibility to the Medical Society on this problem because at the insemination of the idea our committee had a part, one of our subcommittees had a part, the Subcommittee on Blood Banks. I think it is wasteful of the time of the House to go over the facts, but one or two points do stand out.

This matter of blood has been a difficult problem throughout the country as a whole. The Medical Society has faced it, wrangled about it, we made attempts at approaching the problem, and we sailed right into the center several years ago to see whether we could solve it. There is no question at all that we admit—I admit, if you will, frankly as a member of the board of directors—we made a mistake. I am disappointed to hear my good friend, Ezra, who has been on the board the last three months, speak with so much emphasis on something which (I hope he will pardon my saying so) his knowledge is not great.

I would like to rise in defense of the gentlemen of the metropolitan area who are involved in this blood banking program. I happen to be a laboratory man myself with a very sketchy experience in the blood banking game. The men that we have in the metropolitan area are the outstanding men in the nation, and I would like to resent for them the inference that our good friend, Ezra, makes. I do not believe that to be true. I don't know much about blood banking, but I think I have lived long enough to know a little bit about people, and in the last three years—not three months—I have seen these men work, actively work, at the expense of their personal interests. I could cite one man only two or three weeks ago who sat in a session from about nine o'clock in the morning until two in the afternoon, had to leave to give a transfusion or two, and came back until six o'clock. Gentlemen, if that is a measure of selfishness, then I guess we are all very selfish, but after all, that is beside the point.

We have got a very definite problem to face. I think all of us admit that there is some soundness in the approach. I admit personally I was sold on the gimmick on the basis of the psychology of the moment on a voluntary health insurance program in which blood could be one of the packages in the medical care parcel, and I still believe that is true. I still believe it is the responsibility on the part of the medical people to carry a part of that package.

On the logistic side, of course, we ran into that. There are men here from Genesee that will tell you that the program works there. I am convinced if the Society gets behind it in the State outside of the metropolitan area, if it is run on a county-to-county basis, it will succeed. It was the decided opinion—in retrospect, probably the opinion of part of the board—to invade the metropolitan area. I would say, gentlemen, something like this: If you had a show that you were rehearsing, and you started out in one or two of the small towns, and you did not feel that you had a good enough performance or a polished enough performance, you certainly would not risk going on Broadway. We did. I think we made an error. We counted without our opposition. In Genesee County, as the men here will tell you, there was no question whatever of the willingness of the hospitals to participate in the program, but when we got to New York we frankly—I should not say "we"; I will say I—I frankly did not dream that there would be any active opposition or even lethargy, if you choose, on the part of these hospitals to come into the program as soon as we began to tune up for the metropolitan area. However, we found that as the hospitals were approached at the county medical society level—I would like to emphasize that the board made every attempt to follow the pattern that was laid down to the counties in the State as a whole—the counties soon found in the metropolitan area that the hospitals were not ready to go in without getting the green light from the New York Hospital Association. That is what stymied the program. According to the plan of operation we expected to roll on the first of February in the metropolitan area, and we have not.

Dr. Wolff emphatically denies that it will be possible to get so many thousand donors. If he pardons my dissent, I have some question as to the accuracy of his opinion. I think if the thing is properly sold to these large groups on what might perhaps have to be a compromise basis, where we would be the sharp bargainers for labor, and what not, and have to compromise within the limits of actuarial safety, we can capture large groups of workers through the unions, and it should not be difficult with the concentration of labor in the greatest metropolis in the world to capture that many and probably more. So I am not nearly so pessimistic as our neophyte on the board, as Dr. Wolff is.

I would like to point out very strongly that there is a chance to salvage this. We have made mistakes. If we get the support of the Hospital Association—and I can assure you for one, gentlemen, that I shall not sell out to the Hospital Association; again if I am any judge of people, I would say from the experience that we have had with the Hospital Association I don't think they are trying to take us over a barrel; I personally have faith in their integrity, gentlemen—I think we can work out a deal with the Greater New York Hospital Association to put the program over.

Dr. Alfred L. George, *Genesee:* I am also on the reference committee that battled this thing out for ten hours. I was interested in Dr. Wolff's comments that the Blood Assurance Program to be successful must be a community program. Gentlemen, we had a pilot project in Batavia, in Genesee County, and you seem to forget the lessons that we learned in that pilot project. We learned one thing, that it is very easy to procure blood on an insurance principle, and second, we did the very thing that Dr. Wolff suggested. We made it a community project. It was strictly a community project.

Perhaps the experience of Genesee County may not be applicable to New York City. I, myself, personally think the Blood Assurance Program went into New York City a little prematurely, and I frankly don't believe because of the troubles that they had in New York City getting started that it should be cut off at this moment. I know that if they worked it out in some other counties in upstate New York, this program would be infinitely far more successful at this present moment. The gentleman from Orange County just mentioned the fact that they had 100 per cent cooperation. The figures for Orange County are not included in this report.

The experience in the pilot project in Genesee County: as far as my knowledge is concerned, the Blood Assurance Program put in $6,000. That included, of course, costs for publicity and everything and, second, all help from the office in New York. For this $6,000 that they expended they got 1,200 donors, which represents $3,600. Starting our renewal program this year, it does not cost us that much. The cost is very minimal; as a matter of fact, the program is so successful that people are calling up to know when they can renew their certificate, and we have to hold them off because we don't know what to do with the blood. Now if you are crying for blood in New York and we have got enough here, what is the trouble? Gentlemen, I think the program is an excellent program. It just has got to be made to work, and it can be made to work in every county if every county medical society gets behind it.

Dr. Gerald D. Dorman, *Councillor:* I want to support the report of the reference committee on this blood program. I do not approve of the Council or the State Society dropping anywhere up to $67,000 a year on this. From that point of view I think we have to reconsider it. On the other hand, gentlemen, I think there is not a man or a woman in this House who objects to the theory of a blood clearinghouse. I don't see how anyone can object to the basic philosophy of blood assurance. Now if we fix our eyes on that objective, then the question of how we arrive at that objective is something that we can tackle and we can definitely straighten out. That is our objective, and let us keep our eyes on that.

The publicity that would ensue if this House voted to discontinue a blood assurance program would have repercussions for a very long time. I claim to be even more of a neophyte on blood banks than Ezra Wolff. Like some of you I gave some in medical school. When our unit was overseas, like many of you, we received blood that was badly needed. In 1947 in New York City the Red Cross set up its blood program, and I was on the committee from New York County to straighten out some of the problems with the Red Cross, and believe me they were problems, and those problems kept us awfully busy for over two years before we got things straightened out. We did not at that time dwell upon the differences; we were dwelling on the points on which we agreed and where we were going.

I think that in this program we have got to keep our eyes on our objectives and on those objectives on which we all agree. It is true it is going to cost us some more money for the rest of the year. Whether it is $18,000 or whether it is $29,000—I leave it to Mr. Alexander, our accountant, to give us the exact details—I think we owe it to this program which we have started, and which we are putting up money to support, to go ahead and dig down for that amount in our pockets to see if we cannot make a go of this thing. In New York City things are very different from upstate New York in many ways. There are problems down here that fortunately you gentlemen, many of you, never will have, such as parking, and so on. So when we get into blood assurance, there are problems down here which will not be met in upstate societies.

One of the mistakes I think that was made in New York was taking the Genesee plan and thinking that it would work automatically in the downstate counties. In New York the method of doing it has to be worked out and modified, the objectives, and I ask you to keep in mind the objectives of blood clearance and blood assurance, which is something that we must all strive for and that we will take credit for having backed when the final chips are down. Thank you! *(Applause)*

DR. THOMAS M. D'ANGELO, *Assistant Treasurer:* Mr. Speaker and members of the House, I will only be a minute. First of all, I think it would be a very bad policy if this State Society let down the Blood Banks Association. However, the report given by the reference committee, gentlemen, is a very, very pessimistic one. From the start I was always of the opinion that in New York City the entire program would fail unless we had the cooperation of the hospitals. The reference committee told us that two gentlemen representing the Greater New York Hospital Association appeared before their committee. However, they did not elaborate on their remarks, and I feel definitely if the chairman of the committee feels from the remarks of the gentlemen that some program can be worked out between the Hospital Association and the Blood Banks Association, I am sure that our objectives will be met.

May I ask the chairman then of that committee whether or not in his deliberations with these gentlemen there seems to be at least a good possibility that such a program can be worked out?

VICE-SPEAKER WILLIAMS: Dr. Wurzbach, will you answer the question from the floor?

DR. WURZBACH: The answer to that question is that these two gentlemen were very polite and to us seemed to be very willing to cooperate. They came here especially to present the feelings of their association. They went out of their way to be here to give us this information. They tried to be helpful, and whether or not their directors' board would go along, except as they have outlined in the speech, with a considerable amount of changes in the project and the approach I cannot answer. I do think that these gentlemen appeared very willing to try to be helpful.

DR. CHARLES SANDLER, *Bronx:* Mr. Speaker and members of the House, I sit on the executive committee of the Blood Assurance Program as a representative from Bronx County. One thing should be made very clear to all of you here: The pilot project in Genesee County was such a great success, it had worked in the manner that the State Society set it up under the control of the physicians of Genesee County. We in New York City have been confronted by a situation where a block was set up months ago, a block that was very evident to the directors of the Blood Assurance Program. We kept asking again, and again, and again at every single meeting of the executive committee of the Blood Assurance Program, "What is being done about getting the hospitals to come along, to make it possible for the blood to be drawn, and for us to go into production?," and the answer was always, "We seem to have a little difficulty with the New York Hospital Association."

As you all know, the Blood Assurance Program was sold to us on the principle that this was to be run by the doctors as a nonprofit organization. Nobody was to make any money from it. Nobody was to make any profit on the blood that was to be drawn. The slogan of it was to be, "Your blood that is drawn is for the protection of your family."

Now we are confronted by a situation in which in desperation the directors of the Blood Assurance Program in the New York City area have finally consented to do as follows: They have consented to allow the New York Hospital Association directors, in order to bail themselves out, in order to make the program work at all, in order to make available that the hospitals should be used for the drawing of blood, to come in with us among our physician directors of the Blood Assurance Program. Not only that, gentlemen, there is one further gimmick: These people have dictated to us and stated, "We will not go in unless you make it palatable to the public. You are drawing so much blood that we must make it very evident to the union leaders that this will not be a program where you will assure drawing blood for your own families. It will have to be changed somewhat. Blood will be drawn, a certain percentage of it, from the union members, and it will then be an assurance program not for you, not for your family, but for the union as such."

Of course, in order to induce the union members to come into this program, one little thing will be necessary. The leaders of these unions will have to be taken into your directorate, and not only will you have the managers of the Greater New York Hospital Association come in, and not only will the union leaders be required to be admitted as directors among us, but of course the ticket, the price, the tab for this whole operation, which so far is $77,000 in the red, will continue to be picked up by the Medical

Society of the State of New York.

As a member of the executive committee, I feel that the Blood Assurance Program in New York City at least is not what it is in Genesee County. It is not the Blood Assurance Program that we supported so enthusiastically two years ago when it was proposed. It is not the Blood Assurance Program that I, to my embarrassment today, must acknowledge that I stood up in the home of Ezra Wolff, where he and his lovely wife so graciously entertained the presidents of the county medical societies, and where we so thoroughly pledged our allegiance to that program—we would do everything we could to further the Blood Assurance Program—and pledged to support. I am ashamed I must admit that I pledged the support of Bronx County, and Bronx County has been able to do precisely nothing because we could not induce a single hospital in Bronx County to go into the matter of drawing blood without the approval of the Greater New York Hospital Association. So now we are confronted by the situation where the Blood Assurance Program of New York City is not the Blood Assurance Program of Genesee County, and so the gentlemen from upstate who are so enthusiastic and so correctly and properly enthusiastic about the program there are not talking about the same program that we have. They do not have a proposed addition to their directorate of hospital directors, nor do they have the specter of union leaders sitting down with them and telling us doctors who are paying for the whole procedure just what we can do.

I submit, gentlemen, that we have thrown $77,000 down a rathole. I sat last Tuesday night, one week ago tonight, at the meeting with the executive committee of the Blood Assurance Program, and I heard the accountant state, "Well, it is true we could with skimping get by with $29,000, of which $19,000 of course would have to come from the State Society." They think they can get by with $19,000, not the $18,000 mentioned here. I guess they pared another $1,000 off there. Again $10,000 would have to come from donations from somewhere. It seems to me they are going to put the pressure on somebody somewhere to get the additional $10,000 to make up the $29,000, which will last until the first of January. After that, I submit, gentlemen, that your Blood Assurance Program of New York City will be a very dead and foul-smelling article.

Dr. James R. Reuling, *Trustee:* Mr. Speaker and members of the House, I think it is highly important that the membership of this House keep in mind when we are discussing this matter that there are certain facts over which this House of Delegates has no control. There have been some misstatements made. Some of them I will make an attempt to correct; others I will not. But I first want to call your attention to the original action of this House, and I am reading from the report of the reference committee: "The purposes of the association to be: (*a*) to federate into one organization the blood banks of the State of New York, (*b*) to foster cooperation between blood banks, (*c*) to encourage the development of blood banks where needed, (*d*) to extend medical knowledge and advance the science and art of blood banking, (*e*) to enlighten the public in regard to the problems of blood banking, and (*f*) to plan for needs in time of disaster." That, gentlemen, is from the report, and if you can find any place in there where this House has voted to go into a large operating blood banking affair, a blood assurance program, then I have not been so diligent in my attendance in the House as I thought I was. This House has not voted at any time that I know of to go into a Blood Assurance Program, and I suspect, gentlemen, that it won't be the Medical Society of the State of New York, but it will be the State Insurance Department that will say eventually that the Blood Assurance Program is insurance. You may have been there when the Blood Banks Association of New York State, Inc., was born. You may have fathered it, I don't know. I know I fought definitely to keep this under the State Medical Society and not let it get out, without success. I maintain that none of the original desires of the House has even been attempted.

I would like now to speak as a trustee who has had to vote the $67,000. I think that I can truthfully say that comparatively few requests have come from the Blood Banks Commission through the Council. They have usually come right into the Board of Trustees, "We are going to have to fold up. We can't pay the employes. Can't you give us more money this afternoon?" I am telling you, yes, the Board of Trustees have sweat blood over this thing.

I will tell you one other thing that was said erroneously, something about the cost being 10 per cent or so of our assets. Gentlemen, I have fought consistently in the Board of Trustees that this not be taken out of our capital, but you have not put anything into it in the last ten years. It has taken a hundred years to build that up. This money is coming out of your annual dues, out of your 1954 dues and out of your 1955 dues, and as long as I am a trustee, that is where it is going to come from. If you want to keep this assurance program going, I think that you should be ready to raise your dues.

Now there are good things connected with this. The exchange program is a good program. A rare type of blood is needed in one part of the State, and they go through the clearinghouse and get that type of blood, and for that service they pay $1.00. It costs the State Society $2.34.

I have been and I was a director and treasurer of the Blood Banks Association of New York until April 4, at which time I resigned. I resigned, and I told the Board that I would not permit my name to continue on it unless changes were made at that time, and they were not made, and I resigned as a director and as treasurer on April 4. In my letter of resignation I agreed to continue signing checks because it takes two signatures, and there are only two men that can sign, so I am still signing checks, but the board of directors of the Blood Banks Association of New York, Inc., tomorrow and as soon as they can get new bank signatures, I will not sign any more checks.

Vice-Speaker Williams: Thank you, Dr. Reuling.

Dr. Andrew A. Eggston, *Past President:* Mr. Speaker and members of the House, it has been some time since I have spoken to you. This proposed program has been going on about two and one-half years. I have been in the blood banking business for some time and in the transfusion specialties. This is a complicated program. This is not the place where we should call each other names and accuse people of doing wrong and talk about bringing out falsehoods. People should not say such things when they don't know what they are talking about. It is a program that deserves sane deliberation, and it is a good program. If you get cooperation, it will be a success. If you do not get it, of course, it will be a failure. Like everything else you cannot fight for it alone. We have got to understand it or try to understand it and make it work.

Again, it is not my proposition. It is not my baby. I was brought into it because I wanted to at that time and in the Council I voted that the State Society would have control of this organization, and that is the only reason why I am staying in it. I am not going to desert a sinking ship. I can understand that the Board of Trustees feel very badly about it. They feel very badly about the money, but they don't feel any worse about it than we do internally and mentally about the way things are going.

I assure you, because I am concerned, money is not going to be spent uselessly. It was in the past, I think, because of lack of experience. This business of charging the donors $3.00 is absurd. They don't pay anything. They pay a pint of blood to get all the blood they want for themselves and their families.

Another thing—we don't sell, we don't handle blood. The clearinghouse does not handle money; it just clears a check through the bank. That is what the clearinghouse does in this program, and by the way it has been of tremendous service to me in having to supply you, and you, and the other fellow blood when he wants it. Believe it, there are a lot of times when blood banks have not got a rare type, and it has been a godsend to me and to the doctors and to the patient to be able to call up the clearinghouse and within a couple of hours have 5 or 6 pints of a rare blood. That is service to the doctor, and it is service to the people, and if it does cost $2.00 more than you get out of it, I think it is something that the Medical Society is doing for the people. If you run a blood bank, you know how much difficulty you have at times to get the blood.

I certainly think the reference committee report is a very reasonable one. If I have anything to do with it, I will certainly try to live within the premises and the requests they make. I have my doubts as to whether we will get 25,000 donors by the first of the year. I sometimes am gullible and believe certain beautiful pictures, but they don't always materialize. However, I think in time that it will work.

As far as the Greater New York Hospital Association is concerned, I am quite sure that after they meet with us two or three times—I have spent a lot of time on this program as well as feeling pretty well chagrined and hurt about the whole thing including the disappointment in the volume, but that is a personal thing—I feel pretty sure that the hospitals are going to come into this. Why? Because they get a pint of blood for $3.00. Ordinarily they have to pay $12 or $15 for it. There will be a lot of bookkeeping to do, and we will have to agree to give that person blood or get it for that particular person if he needs it. There will be maybe about a 15 to 20 per cent call on that blood, so, as in any insurance program, there will be a balance and a surplus. Of course, blood does not last long, only two weeks. You cannot keep it a long time, and some of it has to be disposed of one way or another. That happens in every blood bank. A lot of blood is thrown away. It is not used. We rue the day when we have to do that because it is outdated, particularly when we need blood. This problem may not be your problem. You don't come up against it face to face like the fellow does who has to procure the blood. I will tell you right now if a patient is dying and needs blood, you don't care and that family does not particularly care where it comes from, and they don't mind paying for it.

I think local option, so to speak, in certain counties where they need the blood and where they need the program, will be a godsend to them. We in Westchester County have about 12 blood banks. We have a clearinghouse there, and when we need blood in one place and have not got it, we call another hospital, and then another hospital, and usually we have been able to supply the county, but that has been going on for a number of years. There are instances when we can't even get it there, and we will have to buy a certain amount of blood. Any blood bank can hardly get over 35 per cent replacement, even from the family to whom the blood is given unless the doctor himself insists on the family getting donors in and having blood available. If they have to be operated on, that is not always practicable, so the blood has to be gotten. If we only get 50 per cent replacement—we are doing better now than we did—the blood has got to come from some other source. It is not available all the time, so it is a public service, which we can do. I don't think we ought to spend as much money as we are. I think we have to use reason. I don't think the program should be killed. I don't think you can collect a fee or a certain part of it, and you cannot wipe out the bad feeling that the public would have if it is discontinued, so I certainly am in favor of the reference committee's report.

Vice-Speaker Williams: With the consent of the House, the Speaker will close the general discussion with one more recognition from the floor. Dr. Wolff wants one minute. Then we will proceed to the recommendations of the reference committee. Does that meet with the approval of the House?

Dr. Kenney: Mr. Speaker—

Dr. Felix Ottaviano, *Madison:* I don't want to take a minute from Dr. Wolff, but as long as he is closing the discussion, we want to have a word on the whole subject before Dr. Wolff is going to talk.

Vice-Speaker Williams: The Chair would like to extend the courtesy to recognize Dr. Ottaviano. Does that meet with the approval of the House?

. . . There was no dissent . . .

Vice-Speaker Williams: Dr. Ottaviano has the floor.

Dr. Ottaviano: Mr. Speaker and members of the House, I sat in this House when we rather gaily took this thing on. I am wondering tonight what the attitude would be if the report was that this had been a howling success, whether the resignations would be as many and as frequent. I heard all the discussion, and I am afraid we are not assuming our full responsibility here. Dr. Schussheim referred to his friend, and I should like to go along with the role of the bank. The committee has given us a pretty good solution. As bankers, we are giving to January 1 and calling in the notes. Let us go along with it.

Dr. Wolff: Gentleman, much has been said about my being a neophyte on the board. I admit it. I was on the board three months. The things that I told you, plus a lot more, I learned in three months. Can you imagine what I would have found out if I had been on for a year? Dr. Curphey's arithmetic may be a little bit better than mine. He says that I am very pessimistic. He feels a little better about it. He is quite certain that they will realize 25,000 certificates by the end of the year. In four and one-half months, gentlemen, there have been 500 certificates gotten, and that with the campaign under full blast. I am willing to bet Dr. Curphey a hat that they will not get, not 25,000, but 15,000 certificates. I will also tell Dr. Curphey that if he wins, there is no payoff; I don't wear a hat. Thank you!

Vice-Speaker Williams: The Chair would like to close the general discussion and proceed with the recommendations of the reference committee. Does this meet with any objection from any member of the House?

Dr. Kenney: Mr. Speaker, as chairman of the Blood Banks Association, I think I have a right—

Vice-Speaker Williams: Will you take a microphone? You have spoken once, Dr. Kenney.

Dr. Kenney: I have not spoken a word.

Vice-Speaker Williams: To introduce someone, I remember very well.

Dr. Kenney: That is all I did.

Vice-Speaker Williams: You have the microphone, sir.

Dr. Kenney: I will not consume time except for about three or four minutes to correct a few statements that I think should be corrected. This whole subject was belabored before the reference committee in a very logical and sane manner for about nine or ten hours. Most of the gentlemen that have spoken strongly against this program did not appear before the reference committee and reserved all their remarks for now.

I would like to correct one or two things. Dr. Reuling made the statement a little while ago that at no time did a request come to the trustees—I am a trustee; I feel my responsibility equally as much as he does—through the medium of the Blood Banks Commission. Gentlemen, when the Blood Banks Commission was established in 1952, it met for one solid year and upwards of eight or nine meetings. It was under the chairmanship of Dr. Eggston. They brought in a brochure with great detail outlining the recommendations to the Medical Society of how this operation should be financed. Among their recommendations was a budgetary need for the Blood Banks Association of $48,000. That was supposed to cover the first year of the organization. That came to the Council through the medium of the Blood Banks Commission. That $48,000 the trustees in their wisdom decided to allocate on a quarterly basis, with an initial payment of $12,000 and to give additional funds as the need appeared from that $48,000. That carried us over nearly a year and one-half. The next appropriation that we had to have came through the commission under Dr. Azzari's chairmanship. One emergency appropriation that I had to ask for was under the conditions that Dr. Reuling cited. I was called into the accountant's office while the trustees were already in session and told there was an emergency situation. That is my only recollection of such a request made without going through the commission.

To go through the long history of trouble we have had during the past eight or nine months, particularly since December, would be presuming on your time. They have been very real troubles. They were predicated very largely on conditions within the structure of the Society, conditions on the board of directors involving control by one of us caused great delays, personality conflicts, etc., which kept the overhead going but stopped the progress. The second and the more important was the attitude of the Greater New York Hospital Association. In justice to the board of directors we made a mistake. I am the first person to admit it. We are inexperienced, we are learning, and I am happy to get out of this thing tomorrow. I am merely interested in seeing it go along. It must go along. I will contribute what I can. In justice to the board of directors I want to say that we made attempts ever since August of 1954. We negotiated originally with the individual hospitals in the New York area sounding out their administrators, both the blood bank administration and the hospital administrator in ten or a dozen of the representative hospitals. We went before the executive committee of the Greater New York Hospital Association in October and outlined our plans in detail. We had every reason to believe from the reception we had that there was going to be no trouble until we received a telegram on December 11, stating that it could not approve the program. The grass did not grow under our feet. I spent a lot of time, being president of the association, traveling back and forth, and ultimately as a result of these efforts we finally did succeed in getting the Hospital Association to sit down and negotiate with us. Only during the past six weeks as a result of the negotiation has their attitude changed as you heard yesterday morning.

There is a lot more I could get up and say, but I am not going to take up your time because this thing was very thoroughly discussed before the reference committee.

I want to thank the members of the reference committee and the delegates for their attention and the patience they gave to it, after which they came up with a report that I feel under all the circumstances is reasonable. If this Society does not want to suffer very bad public relations, with the commitments that we have already agreed to and the legal responsibilities we have, we must carry on. It is definitely certain there is going to be reorganization, and I hope the broad base community program will be consummated, not completely on the terms you heard outlined by the Hospital Association but based on recommendations which both sides in the question will have an equal voice in.

Vice-Speaker Williams: Now I would like to close the general debate and proceed with the recommendations of the reference committee.

Dr. Wurzbach: Mr. Vice-Speaker and members of the House of Delegates, your committee has read in toto the five recommendations. I now propose that we present these, one recommendation at a time, to be acted upon individually by this House.

Vice-Speaker Williams: That is approved.

Dr. Ottaviano: I move we adopt the report as a whole.

Dr. Benjamin F. Glasser, *Queens:* I second it.

Vice-Speaker Williams: The motion on the floor is to adopt the report of the reference committee as a whole. It has been seconded. Is there any discussion of the motion to adopt the report as a whole. Dr. Angrist, of Queens, is recognized. Be sure and limit your discussion to the motion on the floor.

Dr. Alfred A. Angrist, *Queens*: I would want to take exception to one particular aspect of the recommendations as brought out by the discussion here recently by some facts given to me after the presentation before the reference committee. I do think in adopting this report as a whole we are in effect negating the program, and if we cannot obtain 25,000 subscribers by the end of the year, then we are using a finer stiletto to accomplish the objective that we want to avoid. I would, therefore, want to amend the report as a whole to the extent—

Vice-Speaker Williams: To amend the report as a whole or amend the motion that you are discussing?

Dr. Angrist: The report.

Vice-Speaker Williams: You are here to discuss the motion that we vote on this as a whole.

Dr. Angrist: I do not think we can vote on this problem as a whole.

Vice-Speaker Williams: You will have to limit your discussion, sir. We cannot amend the previous recommendation of the reference committee at this time. You will have to limit any amendment to an amendment of the motion that we adopt this report.

Dr. Angrist: I stand corrected. I, therefore, move that and recommend in my discussion that we do not adopt this report as a whole because in so doing we are in effect defeating the purpose of promoting the life of this organization.

Dr. d'Angelo: I have one question to ask. Would the chairman please reread the first recommendation because I think there is a legal question involved.

Vice-Speaker Williams: I think this is out of order. We are now discussing—

Dr. d'Angelo: It is on that motion—

Vice-Speaker Williams: Will you let me finish? We are now discussing Dr. Ottaviano's resolution or motion that we adopt the report as a whole.

Dr. d'Angelo: I cannot vote on that resolution unless I get some information, and I am asking for the information. I am asking that the first one be read because I think there is a legal question involved.

Vice-Speaker Williams: On a point of information the Chair recognizes you. Then read the first point, Mr. Chairman.

Dr. Wurzbach: "Your committee recommends: 1. That the original Blood Banks Association be continued in its original intent under the supervision of the Blood Banks Commission."

Dr. d'Angelo: That is exactly it. Gentlemen, if you put the Blood Assurance Program under the supervision of the Blood Banks Commission, which is directly a Council committee, I would like Mr. Martin to explain what the legal implications would be concerning any indebtedness that this organization would have if it should liquidate.

Vice-Speaker Williams: I still think your debate argument limits us to discussion of one point, and the motion before the House is whether we should accept this as a whole or whether we should go through it one point at a time, so I am afraid I will have to rule you out of order.

Dr. Samuel Z. Freedman, *New York:* I would like to speak to the particular motion as to whether to vote on the report as a whole. I, for one, have not taken part in the discussion of the subject in its entirety because there are certain particular ideas advocated by the reference committee that I did wish to discuss. There must be other individuals who did not want to pass any opinion on the subject as a whole but did on the individual recommendations. For that reason I think that this motion to accept the report as a whole should not be passed.

. . . There were calls for the question . . .

Vice-Speaker Williams: The question before the House is whether we should accept—

Dr. Reuling: Mr. Speaker—

Vice-Speaker Williams: Is this a point of order?

Dr. Reuling: No, sir.

Vice-Speaker Williams: Is this discussion of the motion?

Dr. Reuling: It is.

Vice-Speaker Williams: You are recognized, sir.

Dr. Reuling: Gentlemen, I called to your attention a bit ago that you must keep clearly in mind that you are sitting here as the Medical Society of the State of New York, which is a membership corporation. In that report, if you adopt it as a whole, you are directing another corporation, incorporated under the laws of this State, to do certain things. You have not that right or that privilege. That motion should be defeated.

Vice-Speaker Williams: Is there any further discussion?

. . . There were calls for the question . . .

Vice-Speaker Williams: I hear calls for the question. You have before you the question whether we should vote on the acceptance of this report as a whole or not. Is it clear in the minds of every delegate what we are voting on? A vote "aye" here means that you are in favor of adopting the report as a whole.

. . . The motion was put to a vote and was defeated . . .

Vice-Speaker Williams: Dr. Ottaviano's motion is defeated. We will proceed with the report of the reference committee taking up one item at a time. Please give your attention to the chairman of the reference committee.

Dr. Wurzbach: "Your committee recommends: 1. That the original Blood Banks Association be continued in its original intent under the supervision of the Blood Banks Commission." I ask that Dr. Reuling's comment be considered.

I move the adoption of this recommendation number 1.

Vice-Speaker Williams: Is there a second?

Dr. Gervais W. McAuliffe, *New York:* I second it.

Vice-Speaker Williams: The motion has been regularly moved and seconded to adopt recommendation number 1. Is there any discussion? Does Dr. Reuling wish to discuss this?

Dr. d'Angelo: I now ask the legal counsel to advise us whether or not the Medical Society of the State of New York would be responsible for the debts of this Blood Banks Association corporation if it should liquidate at a future House.

Vice-Speaker Williams: Is Mr. Martin in the House?

Mr. William F. Martin, *Counsel:* There have been so many questions asked. Just what is it that you want to know?

Vice-Speaker Williams: Mr. Martin, for your information the chairman of the reference committee's first recommendation is that the original Blood Banks Association be continued in its original intent under the supervision of the Blood Banks Commission. Dr. d'Angelo has said, can the Medical Society legally do this. Will we be responsible for any debts of the Blood Banks Association?

Mr. Martin: By the form of its stationery and all of its other actions, I would say that we are morally responsible and probably legally responsible to see that its obligations are fulfilled. Off the record—

. . . Mr. Martin spoke off the record . . .

Vice-Speaker Williams: Gentlemen, you have heard the advice of counsel. Is there any discussion of the first recommendation?

. . . The question was called, and the motion was put to a viva voce vote; there being doubt, the motion was put to a standing vote, with 118 members arising . . .

Vice-Speaker Williams: With 118 members of the 230 delegates standing in favor, surely those that are standing now are definitely under 118, so the recommendation of the reference committee stands adopted.

Proceed with the second recommendation.

Dr. Wurzbach: "2. That the national blood clearinghouse program be under the control of the Blood Banks Association. Many state medical societies are already part of this program."

This is something somewhat new, but we felt that it was part of the over-all program and should be immediately considered at this time.

We move the adoption of number 2 recommendation.

Vice-Speaker Williams: Do I hear a second?

Dr. Edwin A. Griffin, *Kings:* I second it.

Dr. Wolff: I have a question.

Vice-Speaker Williams: Take the microphone please, Ezra.

Dr. Wolff: I want to know if this is the national clearinghouse program and if there is one, how can our association take control of it?

Dr. Wurzbach: What?

Vice-Speaker Williams: Dr. Wolff, will you be good enough to take the microphone? I don't think the House heard you.

Dr. Wolff: The recommendation is that the national blood clearinghouse program be under the control of the Blood Banks Association. If this is a national program, I fail to see how our Blood Banks Association can take control of it?

Dr. Wurzbach: I will accept that and after the words "clearinghouse program" will add "in New York State."

Vice-Speaker Williams: Can Dr. Kenney clarify this for us?

Dr. Kenney: Gentlemen, there is to be launched very shortly a national clearinghouse program. The American Association of Blood Banks has been in this for a long time. It is the intent of this national clearinghouse program to have a regional clearinghouse in every part of the country to act as the regional clearinghouses and to report to the central clearinghouse. As this national program operates, it is purely a reciprocity program so that people who are assured under any blood program in any state and need blood in another state will be able to get it through the medium of the national clearinghouse. We have been invited to be the clearinghouse, the regional clearinghouse, of this area. I think that is why it was put in.

Vice-Speaker Williams: With the amendment that the chairman of the reference committee has made, is it clear that it will be this regional clearinghouse for this area that is referred to? Is there any other discussion?

. . . The question was called, and the motion as amended was put to a vote and was adopted . . .

Dr. Wurzbach: "3. Study and report to the Blood Commission by the Blood Assurance Program of the advisability of raising the $3.00 per pint fee to a proper cost estimate fee."

Vice-Speaker Williams: Do you move its adoption?

Dr. Wurzbach: I move the adoption of this recommendation.

Dr. Griffin: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wurzbach: "4. That the Blood Assurance Program be continued with the following controls: (*a*) Support must show a minimum of 25,000 certificate holders by January 1, 1956; (*b*) economies must be shown to the Blood Banks Commission to have been effected by July 1, 1955; (*c*) evidence of reorganization must be shown to the Blood Banks Commission by July 1, 1955; (*d*) the limit of deficit by January 1, 1956, must not exceed the estimated $18,000 deficit as described in this report."

I move the adoption of this recommendation.

Dr. Griffin: I second it.

Vice-Speaker Williams: Is there any discussion?

Dr. Angrist: For the record, I wish to reiterate the statements I made previously when they were out of order. By expressing a distinct and arbitrary limitation of 25,000 you may well be asking the impossible. If you mean to approve this report, then do so without adding an impossible condition or feature to it.

I am informed—and, as I stated earlier, this was information gleaned after presentations before the reference committee—that 25,000 total represents more than a simple optimistic figure; it approaches an impossible figure. Therefore, in approving this portion of the report you are in effect defeating the continuation of this banking on January 1. I think that is not your intention. That is not your objective by your actions thus far in voting the approval of the various portions of this report. I, therefore, would amend this portion of the report and state a suitable figure which would be agreeable to the Council of the State Society.

Vice-Speaker Williams: Is there a second to this amendment?

Voices: What is the amendment?

Vice-Speaker Williams: The amendment is to scratch out "25,000 certificate holders" and substitute a suitable number satisfactory to the Council. Is that right?

Dr. Angrist: That is right.

Vice-Speaker Williams: Is there a second to this amendment?

Dr. Frank J. Cerniglia, *Queens:* I second it.

Dr. Maurice J. Dattelbaum, *Treasurer:* All the money that has been so far loaned has come from your dues income. We have no more money left to give. If you make a motion, because you are a policy-making body as a whole, that it come from capital, and give a sum, even $1,000, or whatever you wish, I can and will go along, but I say from your dues you have not got a cent to give. Now it is for you to decide what action to take, and you can close this meeting in five minutes.

Vice-Speaker Williams: I don't think the discussion of fees comes under this part. It came under part 1. Is there any further discussion on the amendment of Dr. Angrist?

Dr. George: Dr. Angrist was also on the reference committee, and so was I. The figure of 25,000 that we set was based on information supplied by Dr. Curphey. Dr. Curphey said that 40,000 certificates could be obtained. Now since that meeting, in talking to other men, I have come to the same conclusion as Dr. Angrist, and I want to express concurrence in his amendment.

Vice-Speaker Williams: The wording was figures suitable to the Council, which is rather vague.

Dr. Schussheim: Mr. Speaker and delegates, those 25,000 pints of blood, if obtained, are going to be drawn in the metropolitan area. As the chairman of the executive committee of that metropolitan area, I cannot see where you are going to get that amount of blood. At the present, at the rate we have been going down there, you are going to fold up before January 1. Let us be practical. You have made up your minds to continue with the program. You cannot set a definite figure on the number of pints to be drawn. It is impossible to do it.

Vice-Speaker Williams: The amendment is that a figure should be set suitable to the Council. Does anybody want to discuss a suitable figure to the Council?

. . . There being no further discussion, the amendment was put to a vote and was carried . . .

Vice-Speaker Williams: Now the original motion as amended is up for discussion.

Dr. Wolff: At the risk of being unpopular but with the hope of effecting a compromise, I should like to offer a substitute motion that we recommend to the Blood Banks Association that they continue the program for Genesee and Orange Counties but suspend the Blood Assurance Program in New York City until a satisfactory reorganization is effectuated—and Richmond—may I include Richmond County?

Vice-Speaker Williams: A substitute motion by Dr. Wolff. This evidently would exclude all the rest of the reference committee's report. This is not a substitute motion for part 4.

Dr. Wolff: I believe it is.

Vice-Speaker Williams: Do you think so?

Dr. Wurzbach: I don't think it has anything to do with this.

Vice-Speaker Williams: As the Chair sees it, gentlemen, the substitute motion would exclude all of the rest of the recommendations which you have heard.

Dr. Wolff: That is exactly its purpose.

Vice-Speaker Williams: I want the delegates to realize fully as they discuss the substitute motion that they are now discussing a substitute motion to eliminate all of the rest of the recommendations of the reference committee.

Dr. Wolff: Only the recommendation number 4, Mr. Speaker.

Vice-Speaker Williams: The maker of the motion as a matter of clarification has said to the speaker that his substitute motion is just to take the place of recommendation number 4. Is that clear in the minds of the House?

Voices: No.

Vice-Speaker Williams: I call on Dr. Wolff to clarify his substitute motion at a microphone, please.

Dr. Wolff: Number 4 includes recommendations which have to do essentially with the Blood Assurance Program in New York City.

Dr. Wurzbach: No, sir.

Dr. Wolff: I am sorry, you are not going to get 25,000 outside of New York City. I feel that.

Vice-Speaker Williams: Dr. Wolff has the floor. Let's have no private debates.

Dr. Wolff: I feel that the concern of recommendation number 4 is primarily with the New York City program and that unless the New York City program follows through, none of these recommendation will hold up. Therefore, I offered my substitute motion.

Dr. Wurzbach: Mr. Chairman, may I state that the amendment that was just passed to proposition (*a*) in recommendation 4, reads, "Support must show certificate holders in suitable number satisfactory to the Council by January 1, 1956." I do not see that this is only applicable to New York City.

Voices: Right.

Vice-Speaker Williams: That amendment was passed. That was Dr. Angrist's amendment. Dr. Wolff's amendment was that the program in New York be discontinued. Was it not, Dr. Wolff?

Dr. Wolff: That is correct, with the exception of Richmond.

Vice-Speaker Williams: His substitute motion was to eliminate the Blood Assurance Program in New York City except in Richmond.

Dr. Leo F. Schiff, *Trustee:* What is the substitute for?

Vice-Speaker Williams: That was not clear. I asked the man who made the motion to clarify it. I thought if adopted, that substitute resolution would eliminate all the recommendations of the reference committee. That is what I said, and he said no, it applied only to point 4.

Dr. Wolff: Mr. Speaker, I have failed to effect a compromise. May I withdraw my substitute motion?

Vice-Speaker Williams: The speaker thanks you. We are up to point 4 (*b*).

Dr. Parnall: The treasurer just stated a short time ago that we have no money whatever to allot to the project. If that is the case, should not the recommendation contain a statement as to where the $18,000 limit is going to come from?

Vice-Speaker Williams: Dr. Parnall, may I point out to you that I anticipate this will be discussed when we come to 4(*d*). 4(*a*) was amended—just a moment, gentlemen, please—4(*a*) was amended by Dr. Angrist, where he changed the 25,000 certificate holders to a number suitable to the Council. That amendment was passed. We then reverted to the reference committee's original recommendation, which you must pass. Then the substitute motion was offered and withdrawn, so now you have before you this: "That the Blood Assurance Program be continued with the following controls: (*a*) Support must show a minimum"—

Dr. Wurzbach: "Must show certificate holders in suitable numbers satisfactory to the Council by January 1, 1956."

Vice-Speaker Williams: This is as amended. Is there any discussion of this portion of the report?

Dr. Griffin: We have already voted that.

Vice-Speaker Williams: You voted the amendment to it. You must now vote on it as amended.

. . . The question was called, and the motion to adopt 4(*a*) as amended was put to a vote and was carried . . .

Vice-Speaker Williams: Now we will proceed to 4(*b*).

Dr. Wurzbach: "Economies must be shown to the Blood Banks Commission to have been effected by July 1, 1955." I move the adoption of this portion.

Dr. Griffin: I second it.

. . . There being no discussion, the motion was put to a vote and was carried . . .

Dr. Wurzbach: "(*c*) Evidence of reorganization must be shown to the Blood Banks Commission by July 1, 1955." I move the adoption of this portion of the report.

Dr. Dorman: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wurzbach: "(*d*) The limit of deficit by January 1, 1956, must not exceed the estimated $18,000 as described in this report."

Vice-Speaker Williams: That is $18,000, the deficit.

Dr. Dorman: In addition to the present.

Dr. Wurzbach: $18,000 further. I move its adoption.

Dr. Dorman: I will second it.

Vice-Speaker Williams: It is not 18,000 certificate holders, it is dollars—$18,000 deficit—gentlemen.

Dr. Wurzbach: Further deficit.

Vice-Speaker Williams: Is there any discussion of this? Does Dr. Dattelbaum want to discuss this?

Dr. Parnall: May I reiterate the remark which I made out of order? Dr. Dattelbaum stated before that we did not have the $18,000 to give them. If that is the case, should it not be stated where it is going to come from before we vote?

Dr. Wurzbach: I believe that the Constitution of the Society states that requests for funds shall come through the Council to the trustees, which is the usual procedure when funds are needed. That is covered by a procedure that is in effect.

Vice-Speaker Williams: That is true. It has also been decided by the deliberations of this House within the last two days that recommendations have to provide where the money is coming from. Isn't that so? Dr. Parnall, is that not what you mean?

Dr. Parnall: Yes.

Vice-Speaker Williams: Is there any further discussion?

Dr. d'Angelo: The only way that I can see for this money to be secured, since the trustees will undoubtedly refuse to take any moneys from the capital, is for us again to go to the bank and borrow. We can borrow, of course, by putting up securities as collateral. That is the only way I can see at present. We can borrow this year and pay off on next year's dues.

Vice-Speaker Williams: Who knows better where money comes from than the chairman of the

Board of Trustees? Dr. Bauckus is recognized.

Dr. Bauckus: I think the treasurer knows better. I would like to be clear on this point, a point of information. As I understand it, the resolution specifies the deficit shall not be more than $18,000. That does not say that we may loan that amount of money. However, I understand it is the wish of the House that the Board of Trustees make a loan of $18,000 if that is needed. Also, I would like to ask what is your wish in case after that is used, we are asked for a further loan? Are we in order to refuse?

Voices: Yes.

Dr. Bauckus: That was not quite clear.

Vice-Speaker Williams: The chairman of the reference committee says that is included under recommendation 5, which we still have not considered tonight yet.

Are you ready for the question on recommendation 4 (*d*), the limit of the deficit by January 1, 1956, must not exceed the estimated $18,000—

Dr. Wurzbach: Further deficit.

Vice-Speaker Williams: As described in this report, further deficit.

Dr. James Greenough, *Councillor:* Earlier in the day we turned down an increase in dues—

Voices: We can't hear.

Dr. Greenough: We turned down—

Vice-Speaker Williams: Talk into the microphone. I can't hear you up here.

Dr. Greenough: Earlier in the day we turned down the request of the Council to increase the dues by $5.00. We are now $59,000 in debt, that is, the Blood Banks Association is, and we anticipate another $18,000, which will be $77,000. I would like to make a motion that the Society be assessed $5.00 this year in order to assure that our commitments are carried out. That is far different from a raise of dues of $5.00.

Vice-Speaker Williams: I cannot accept that motion at this time. I will have to rule that out of order. Is there any further discussion? You are fully aware now what you are voting on?

. . . There were calls for the question . . .

Vice-Speaker Williams: I hear a call for the question and no further request for discussion. You are fully aware that approval of this recommendation of the reference committee's is a directive to the Board of Trustees to underwrite this to the tune of $18,000 and no more. That is the gist of the resolution. Every delegate has it clear in his mind?

. . . The question was called, and the motion was put to a vote and was carried . . .

Dr. Wurzbach: Mr. Chairman, I move the adoption of the recommendation number 4 of our report as amended.

Dr. Griffin: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wurzbach: "5. We recommend that if these recommendations (4 *a*, *b*, *c*, and *d*) are not met"—

Vice-Speaker Williams: As amended.

Dr. Wurzbach: "As amended are not met: (*a*) that the Blood Assurance Program be discontinued; (*b*) that no further certificates of assurance be issued; (*c*) that certificates of assurance then in effect be continued to their expiration date and then not renewed; (*d*) claims of blood be arranged to be paid by blood banks at the local level at a fee to be arranged between these blood banks and the Blood Banks Association, Inc.; (*e*) that no additional loans be made to the Blood Assurance Program after this date; (*f*) that sufficient funds be allocated to close out these Blood Assurance Program debts; (*g*) that the Council and trustees be authorized to carry out these recommendations."

I move the adoption of recommendation number 5.

Dr. Harry Golembe, *Section Delegate:* I second the motion.

Vice-Speaker Williams: Is there any discussion?

Dr. Reuling: Mr. Speaker, the remarks that I had to make a short while ago are certainly applicable at this point. This House of Delegates cannot direct a corporation incorporated under the laws of the State of New York to do anything. This House also, even when it passed 4(*c*) directing the Board of Trustees to appropriate $18,000, is acting contrary to our Constitution and Bylaws.

Mr. Speaker, I believe that I am not anxious to see this thing close up at all. We are going to have very bad press relations, very bad public relations. We are the founder of this thing. Our reference committee has done a wonderful job. I hope they are very much less confused than I am, and I am wondering what Dr. Anderton is going to do when he comes to separate these motions. It seems to me—and this is not on the motion, Mr. Chairman—that it would be very well if this House indicated one, two, three things: indicated whether they think the work of the clearinghouse should be continued. I think it would be very well for this House to indicate whether they think the Blood Assurance Program should be continued, and I think then it would be very wise to refer this matter to the Council to implement those decisions. When that time comes, Mr. Chairman, I think that I shall make such a motion.

Vice-Speaker Williams: Dr. Reuling, I would like to call to your attention that we have passed the original recommendation, and I think that covered some of the remarks you made.

Dr. Reuling: Could I have that read, Mr. Chairman?

Dr. Wurzbach: Numbers 1 and 2 I think cover that.

Dr. Reuling: Can I have number 1 read please?

Dr. Wurzbach: "That the original Blood Banks Association be continued in its original intent under the supervision of the Blood Banks Commission."

Dr. Reuling: Is that the five numbers that I read originally in your report?

Dr. Wurzbach: Yes.

Dr. Reuling: That does not include the Blood Assurance Program.

Vice-Speaker Williams: Number 2 does.

Dr. Wurzbach: It does not include the Blood Assurance either. That is, "That the national blood clearinghouse program in New York State be under the control of the Blood Banks Association."

Vice-Speaker Williams: Number 4.

Dr. Wurzbach: Number 4 was that the Blood Assurance Program be continued under the four controls this House voted upon.

Vice-Speaker Williams: Does that satisfy you, Dr. Reuling?

Dr. Reuling: Number 1 satisfies me very much. I will take one, and I will buy the whole bunch.

Dr. Louis H. Bauer, *Ex-President:* This House is so tired it does not know what it is doing and does not care very much. It will vote anything, and this is not the program for us to go through in this fashion. I move we adjourn.

Vice-Speaker Williams: This motion to the best of my recollection is always in order.

A motion to adjourn is before the House. Is it seconded?

. . . The motion was seconded by several, and as there was no discussion, it was put to a vote and was lost . . .

Vice-Speaker Williams: Dr. Bauer, your motion is definitely defeated. We seem to be so near the end. Are you willing to stick out these last ten or fifteen minutes so tomorrow we can devote the full time to the election? We are up to part 5, and Dr. Wurzbach has recommended the adoption of his recommendation number 5 in toto.

Dr. Wurzbach: May I state that these (*a*), (*b*), (*c*), and (*d*) are explanatory of what the committee believed would be the necessary follow-ups if the program were discontinued. You might say to save face and cover any assurance certificates that would still be in force.

Dr. William B. Rawls, *New York*: I think, as Dr. Bauer said, there has been an awful lot of confusion here. I am quite sure some have not noticed what was originally passed. Number 1 said, for instance, we return to the original intent of the House of Delegates, which did not include a Blood Assurances Program. Furthermore, in the last recommendations here of the reference committee I would like to suggest that this be made in the form of a suggestion and be left to the wisdom of the Council when the time comes. We are not going to be in session. There may be extenuating circumstances, and I think we should not completely close this program without letting someone else who knows exactly what is going on on January 1 act. We cannot at this moment see what may be taking place on January 1. It may be that the Council can see that this program may succeed even though we have not reached the requirements set forth here by the reference committee. I would like to see the complete closing of this left to the wisdom of the Council. I so move.

Dr. Wurzbach: That is covered here.

Vice-Speaker Williams: He is making a substitute.

Dr. Wurzbach: We suggest that the Council be authorized.

Vice-Speaker Williams: Is there a second to that?

Dr. Rawls: I suggest—

Dr. Curphey: I second it.

Vice-Speaker Williams: This is a substitution to refer to the Council with these suggestions. Is that true? Is that the gist of your motion?

Dr. Rawls: That is my motion.

Vice-Speaker Williams: Is that clear to the House? Is there any discussion?

Dr. Edward P. Flood, *Bronx:* Does this include the entire five points in the report of the reference committee or the report of the reference committee as a whole?

Dr. Rawls: It only includes the final recommendation where it says that this organization shall be closed unless it meets all the certain specifications laid down by this committee. I do not see how this House sitting here on the first of May can pass judgment on something that may be closed on the first of January. I have got faith enough in my officers and the Council of this State Society to leave it to their judgment knowing what the discussion has been on the floor of this House. That is what prompted me to make the motion that this be referred to the Council with the suggestions that have been made by the reference committee.

Dr. Curphey: I seconded that.

Dr. Wurzbach: Before that is put to a vote, may I ask Dr. Rawls if this wording will carry out the intent of his amendment: "We suggest to the Council that if these recommendations are not met," and then the rest?

Vice-Speaker Williams: There is no leaving it to the judgment of the Council then. Does that meet with your approval, Dr. Rawls? That does not reflect the substitute motion.

Dr. Rawls: I don't think that suggested that the Council close this out. If he would make the wording this way, that we suggest this be referred to the Council for action with these suggestions in mind I would accept it, and I think that would carry out the intent of my motion.

Dr. Wurzbach: That would be no good here. The last paragraph of these recommendations states that the Council and trustees be authorized to carry out these recommendations.

Dr. Rawls: Your recommendations are to close this up on January 1 unless they meet specific recommendations that you have laid down. I think there should be some leeway for the judgment of the Council. That is what I am after.

Dr. Wurzbach: What is the language then of your amendment, please?

Dr. Rawls: That this be referred to the Council for action with the recommendations of the reference committee in mind. In other words, do not close the door entirely, gentlemen, but leave something open for some judgment to be exercised seven months from now.

Vice-Speaker Williams: Dr. Rawls's substitute motion is before the House. It has been seconded. Is there any discussion of the substitute motion?

. . . The question was called, and the substitute motion was put to a vote and was carried . . .

Vice-Speaker Williams: The substitute motion has just been adopted that refers this to the judgment of the Council, suggesting that the Council use the reference committee's recommendations as a guide, we will say.

Dr. Wurzbach: I am just trying to get the wording. I move that recommendation number 5 be accepted as amended.

Dr. Griffin: I second it.

Vice-Speaker Williams: We have just passed the substitute motion. We don't need to adopt that fifth one. We passed a substitute motion for that. We don't need to adopt that or reject that. It carries with it rejection of the original.

Dr. Wurzbach: I move the adoption of this part of the reference committee's report.

Vice-Speaker Williams: As amended.

. . . The motion was seconded, and as there was no discussion, it was put to a vote and was unanimously carried . . .

Vice-Speaker Williams: Now the report as a whole.

Dr. Wurzbach: I move the adoption of the reference committee's report as a whole, as amended.

Dr. Golembe: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Vice-Speaker Williams: We stand—

Dr. Wurzbach: Wait a minute! Give me another minute. I can't let this go by without thanking the gentlemen who appeared before this reference committee, and a wonderful group of gentlemen they were. They endured nine hours of tough, hard debate. There was never a word out of line. No one lost his temper, and the meetings were wonderfully smooth and proper.

In addition to that, may I say for the record that no reference committee chairman ever had better, more willing, harder, and more brilliant assistants than my coworkers on this committee.

Voices: Hear! Hear!

Dr. Wurzbach: My special thanks for such unselfish help goes to Drs. Frank J. McGowan, Alfred A. Angrist, Harry Golembe, and Alfred L. George. Also, I thank this House! (*Applause*)

Vice-Speaker Williams: Dr. Wurzbach, I don't have to tell you that you do carry the appreciation of every delegate in this House and the speaker.

We will now adjourn until tomorrow morning at nine o'clock.

. . . The meeting adjourned at 11:45 p.m. . . .

Morning Session

Wednesday, May 11, 1955

The meeting convened at 9:20 a.m.

Speaker Holcomb: The House will please come to order at this time.

Section 146

Address of Dr. Dudley P. Walker

Speaker Holcomb: Members of the House, we have with us a very distinguished visitor from the neighboring state of Pennsylvania, Dr. Dudley P. Walker, who is president of the Medical Society of Pennsylvania. He is with us, and we welcome him very heartily. I would like to ask Dr. Greenough and Dr. Dorman to escort Dr. Walker to the rostrum.

. . . Dr. James Greenough and Dr. Gerald D. Dorman escorted Dr. Dudley P. Walker to the rostrum amid applause . . .

Dr. Dudley P. Walker: It is a very great pleasure for me to be here to observe and to watch and to talk with you a few moments. I know you don't want to hear very much about some of the problems that I think are facing us at this particular time. Sometimes I think as the years go by, the problems seem to multiply and become more severe and more serious.

I just had the pleasure of attending the New Jersey annual meeting and the Ohio within the past few weeks. I heard some of their discussions and deliberations about some of these things. We have, of course, the insurance programs. We have worked out some of these problems, and others I think still have a great deal of solution to be achieved before we are happy and satisfied with our results. I am thinking of the problem that we have in Pennsylvania. I don't know that you have it too much. We have the problem with the coal miners. The Health and Welfare Fund of the Bituminous Miners is a very pressing problem, and has been with us for about five or seven years, and we are far from a satisfactory solution to it.

Another problem that I know faces all of us is the question of the veterans and the veterans' care; how far are we going to permit the government to extend this care that already seems to me well beyond what that care should be as granted by the government.

There are other problems, too. We have, of course, the question now of shall the Federal government subsidize education. The nurses seem to feel it is something that they want. The medical schools so far have expressed the opposite view. I know if we don't support the American Medical Education Foundation to the ability that we agreed, and should, Federal subsidization of the schools is a thing that will come unquestionably.

I am very much interested in some of the recent announcements that the A.M.A. committee who studied this problem of ethics, and more particularly of fee-splitting, have brought forth. I expect that there will be quite a bit to be said about that at the meeting at Atlantic City in June.

Finally, I feel very strongly that the machinery of organized medicine that we have had in the past, and which has been very adequate for most of our purposes up to now, has one shortcoming, and that is that we have almost no means of policing ourselves. We take a member in the county society, and that makes him automatically a member of the state society after a very brief inspection by some committeeman, and then he is in. We don't know anything about him really until he has been in practice, and then if he turns out to be somebody that we don't want, there is very little that we can do about it. It seems to me we have got to find some method of admitting a man, perhaps under probation, or at least some way of getting rid of him at some later date if the need for that seems to arise. I think unquestionably there is a small minority group, two, three, four per cent of the men who are doing us more harm than good, yet who are members in good standing because we have no means of doing anything about it. I think these are the problems that the organized medical profession has to consider and find some solution for.

It is a great pleasure to be here. I expect to be here for the dinner tonight. Thank you very much.

Speaker Holcomb: Thank you, Dr. Walker.

I shall ask Dr. Anderton to report on the Special Committee on Prize Essays.

Section 147

Report of the Special Committee on Prize Essays

Secretary Anderton: Report of the Special Committee:

"*To the House of Delegates, Gentlemen:*

"The Special Committee on Prize Essays consists of:

R. Townley Paton, M.D., *Chairman* . . . . New York City
David Kimball Miller, M.D. . . . . Buffalo
Leo F. Simpson, M.D. . . . . Rochester

"The committee received seven essays in competition for the Merrit H. Cash prize and two for the Lucien Howe prize.

"After consideration by the members of the committee and consultation with specialists in the fields covered, we feel that none of the essays submitted for the Merrit H. Cash prize is worthy of that distinction.

"The committee recommends that the Lucien Howe prize be awarded to an author who uses the pseudonym 'clinician' for his essay, 'Peripheral Iris Crypts in Relation to Medical and Surgical Therapy of Narrow Angle Glaucoma.'

Respectfully submitted,
David Kimball Miller
Leo F. Simpson
R. Townley Paton, *Chairman*"

Speaker Holcomb: A motion is in order to approve the report of the Prize Essay Committee.

Dr. Gerald D. Dorman, *Councillor:* I so move.

Dr. Herbert Berger, *Richmond:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: The winner of the essay prize, Mr. Speaker, is Dr. Adolph Posner, 667 Madison Avenue, New York 21, New York. (*Applause*)

After the adjourned session the Board of Trustees and the Council will meet immediately after this meeting, unless an objection is made to the contrary later, depending upon the length of time here, in Rooms 1808 and adjoining. That is the office of the Medical Society of the County of Erie. That will probably be immediately after this session is adjourned, and the trustees will meet immediately after the Council meeting.

Section 148 (See 154)

Elections: Nominations and Balloting

Speaker Holcomb: The next order of business is the matter of elections. This is our first regular order of business in this last final session. Mr. Secretary, is there a quorum present?

Secretary Anderton: Yes, sir. Dr. McCarty has had everybody checked at the door. There is a full quorum present, sir.

Speaker Holcomb: Thank you, Dr. Anderton. The table for the tellers will be in the foyer. Is that true, Dr. McCarty?

Dr. Charles F. McCarty, *Kings:* Yes, sir.

Speaker Holcomb: Dr. Anderton will announce the list of tellers.

Secretary Anderton: You have appointed the following gentlemen to act as tellers:

Leo T. Flood
John H. Wadsworth
Gilbert M. Palen
Vincent J. Collins
Frank J. Borelli
Arthur J. Sullivan
Henry J. Barrow
Frank LaGattuta
Samuel Leo
James A. Lynch
Leonard J. Flanagan
Edward S. Platt
Clyde L. Wilson
R. Scott Howland
Leonard J. Schiff
Orin Q. Flint
E. Gordon MacKenzie

John C. Brady
Samuel Sanes
Thomas R. Cummins
Carl G. Merkel
George A. Burgin
Leo S. Drexler
David Kershner
Isaac Levine
David B. Monheit
Milton B. Spiegel
Joseph A. Lane
Eli A. Leven
Gerard V. Farinola
E. Kenneth Horton
A. Wilbur Duryee
Frances A. Harmatuk
George Himler
Frank J. McGowan
Henry T. Randall
Frederic D. Zeman
John C. Kinzly
Harold L. Pender
Irving L. Ershler
William E. Pelow
Robert J. Hewson
Angelo F. Leone
Robert S. Cleaver
Sol Axelrad
William Benenson
Frank J. Cerniglia
Anthony A. Mira
Gilbert A. Clark
Walter T. Heldmann
George Gordon Knight
Webster M. Moriarta
Donald C. Walker
Stanley B. Folts
Maynard W. Gurnsey
Philip J. Rafle
John L. Sengstack
Frederick Elias
C. Stewart Wallace
Edward F. Shea
Edwin L. Harmon
W. Alex Newlands
Willard J. Chapin
William G. Roberts

If I pronounced anybody's name incorrectly, please accept my apology.

Speaker Holcomb: The Chair wishes to announce at this time, while the list may seem to be a long one, we sometimes foresee some of the delegates may be absent, and Dr. McCarty feels that.

At this time we will call on Dr. Bauckus for the report of the Nominating Committee.

Dr. Herbert H. Bauckus, *Trustee:* Mr. Speaker and members of the House, the Nominating Committee met Thursday evening, January 13, 1955, at the Harvard Club, 27 West 44th Street, New York City. All members were present. The following nominations were voted to be submitted to the House of Delegates at the annual election, May 11, 1955. At this reading I shall read the entire list, and then turn this over to the speaker:

President-Elect—James Greenough, Otsego
Vice-President—Herbert Berger, Richmond
Secretary—W. P. Anderton, New York
Assistant Secretary—Ezra A. Wolff, Queens
Treasurer—Maurice J. Dattelbaum, Kings
Assistant Treasurer—Samuel Z. Freedman, New York
Speaker—Frederic W. Holcomb, Ulster
Vice-Speaker—Frederick W. Williams, Bronx
Councillors (*three years*)—Harold F. Brown, Erie; Theodore J. Curphey, Nassau; Norman S. Moore, Tompkins; Denver M. Vickers, Washington
Trustee (*five years*)—Herbert H. Bauckus, Erie
Delegates (*two years*)– A. H. Aaron, Erie; Renato J. Azzari, Bronx; Maurice J. Dattelbaum, Kings; Thomas M. d'Angelo, Queens; Peter J. Di Natale, Genesee; Andrew A. Eggston, Westchester; Leo E. Gibson, Onondaga; James Greenough, Otsego; Frederic W. Holcomb, Ulster; J. Stanley Kenney, New York; John J. Masterson, Kings; Dan Mellen, Oneida; Norman S. Moore, Tompkins; Peter M. Murray, New York; William B. Rawls, New York; Frederick W. Williams, Bronx.

Of the nominees for delegates, the eight receiving the largest number of votes will be elected. The second eight will be alternates. They will take office January 1, 1956.

Speaker Holcomb: Thank you, Dr. Bauckus.

Vice-Speaker Williams: Gentlemen, I would like to ask that my name as a nominee for delegate to the A.M.A. be withdrawn.

Dr. Gerald D. Dorman, *Councillor:* The announcement was that eight will be elected to the A.M.A. House of Delegates. I believe it is nine.

Speaker Holcomb: That is a correction. Thank you! That is true. It will be nine.

The Chair will entertain a motion that the report of the Nominating Committee be approved, with the withdrawal of Dr. Williams' name.

Dr. A. W. Martin Marino, *Kings:* I move its approval.

Dr. Gervais W. McAuliffe, *New York:* I second it.

Speaker Holcomb: The Chair has a very definite request to make. It has been moved and seconded that the report of the Nominating Committee be approved.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: Are there any other nominations?

. . . Dr. James R. Reuling, *Trustee*, nominated Dr. Thomas M. d'Angelo for assistant treasurer, and Dr. Frank A. Gagan, *Dutchess*, seconded . . .

Dr. Dorman: I would like to second the nomination of the Nominating Committee. Dr. Freedman, Sam Freedman, has been treasurer of New York County. He is coming up as president-elect of New York County. He has served as our chairman of economics. He has served as the chairman of our membership and grievance committee. He has been a member of this House for many years, and in 1951 he was one of those members who in discussing the blood banks insisted that a limit be placed on the amount of money that was to be spent on blood banks. I second him particularly because at the present time New York County has only two voices on the Council, although they have 25 per cent of the membership of the State Society. They have Dr. Anderton, who you know belongs to all of us, and they have my weak voice on the Council, which may at any minute be stilled with laryngitis. We are very anxious, therefore, to have a third voice on the Council, and I strongly urge that our friends in the Society vote for Sam Freedman.

Dr. George J. Lawrence, Jr., *Queens:* I would like to add my voice to those who have seconded the nomination of Dr. Tom d'Angelo, who does not need any introduction to this House. We all know the many years of service he has given to us here. We all know that he has done a wonderful job as assistant treasurer. We feel that the House owes him the honor to be re-elected to the job that he has shown he can fulfill well. Therefore, for Queens County I wish to second the nomination of Tom d'Angelo.

Speaker Holcomb: Are there any other seconding speeches?

Dr. McAuliffe: I move the nominations be closed for assistant treasurer.

Dr. Edwin A. Griffin, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: The Chair will now entertain nominations for further candidates for the office of delegate to the American Medical Association. I want to remind you that you have to vote for one more to take Dr. Williams' place.

Dr. Dorman: You need three more.

Speaker Holcomb: We need three more names for delegates to the American Medical Association. We need three more. Gentlemen, the job is not very popular right now. Are there any further nominations?

Dr. Joseph H. Cornell, *Schenectady:* I want to nominate Dr. James M. Blake, of Schenectady County.

Dr. Donald C. Walker, *Schenectady:* I second that nomination of Dr. Blake.

Dr. Louis H. Bauer, *Ex-President:* I nominate Dr. John M. Galbraith, of Nassau.

Dr. Joseph G. Zimring, *Nassau:* I second the nomination of Dr. Galbraith.

Dr. Walter W. Mott, *Trustee:* I would like to nominate Dr. McGarvey of Westchester.

Dr. David Fertig, *Westchester:* I second the nomination of Dr. Henry E. McGarvey.

Dr. Moses H. Krakow, *Bronx*: I move the nominations be closed.

Dr. Dorman: I second that motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: We will now proceed to the election, and Dr. Wolff will read the list of those entitled to vote. Are you ready to proceed?

Dr. Bauer: There being no contest for the offices of president-elect, vice-president, secretary, assistant secretary, treasurer, speaker, vice-speaker, trustee, and councillors, I move that they be elected by acclamation, so it will not be necessary to vote for them.

Dr. McAuliffe: I second that motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried amid applause . . .

Speaker Holcomb: The speaker at this time is, of course, very appreciative of the confidence that you have imposed on him, and I know I also speak for the rest of the officers. Thank you!

Dr. Wolff, will you take over?

The Chair will give you about five minutes to make out your ballots.

It is requested that the voters come up the center aisle. That will facilitate a more orderly procedure. That is Dr. McCarty's suggestion.

The Chair recognizes Dr. Anderton.

Secretary Anderton: Mr. Speaker, as a matter of courtesy to the members of the Judicial Council, who desire to meet during the balloting, I move that the House invite the members of the Judicial Council to be the first to cast their ballots. The reason for that is so that they can hold their meeting while the rest of us are voting.

Dr. Dorman: I second that motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: The members of the Judicial Council will vote first.

. . . The names of nominees in alphabetic order were placed on blackboards in view of the delegates . . .

. . . When the assistant secretary read the following list of those entitled to vote their ballots were cast into the ballot box . . .

OFFICERS, COUNCILLORS, TRUSTEES

Dan Mellen
Renato J. Azzari
Charles A. Prudhon
W. P. Anderton
Ezra A. Wolff
Maurice J. Dattelbaum
Thomas M. d'Angelo
Frederic W. Holcomb
Frederick W. Williams
Harold F. Brown
Theodore J. Curphey
James Greenough
Denver M. Vickers
Henry I. Fineberg
Peter J. Di Natale
Scott Lord Smith
Floyd S. Winslow
Gerald D. Dorman
Leo E. Gibson
Thurman B. Givan
Raymond S. McKeeby
Herbert H. Bauckus
Edward R. Cunniffe
John J. Masterson
J. Stanley Kenney
Leo F. Schiff
Walter W. Mott
James R. Reuling

EX-PRESIDENTS

Thomas H. Halsted
Orrin Sage Wightman
Chas. Gordon Heyd
Arthur J. Bedell
Thomas A. McGoldrick
Louis H. Bauer
Leo F. Simpson
Carlton E. Wertz
Edward T. Wentworth
Andrew A. Eggston

COMMISSIONER, NEW YORK STATE DEPARTMENT OF HEALTH

Herman E. Hilleboe

DISTRICT DELEGATES

Charles W. Mueller
Leo T. Flood
John H. Wadsworth
J. Frederick Sarno
Richard B. Cuthbert, Jr.
Gilbert M. Palen
Glenn C. Hatch
Sydney L. McLouth
John F. Rogers

SECTION DELEGATES

Harry Leibowitz
Vincent J. Collins
Harry Golembe
George M. Lewis
Lester S. Knapp
Floyd C. Bratt
C. Douglas Sawyer
Thomas R. Frawley
Harold R. Merwarth
Albert W. Van Ness
Franklin R. Webster
Frederick Lee Liebolt
Martin L. Gerstner
Harry P. Smith
Harold W. Dargeon
Burke Diefendorf
Frank J. Borrelli
Edward J. Donovan
Oscar J. Oberkircher

Delegates from Component County Societies

Albany (4)

William C. Rausch
John F. Mosher
Francis A. Stephens
Arthur J. Sullivan

Allegany (1)

Irwin Felsen

Bronx (13)

Joseph P. Alvich
Henry J. Barrow
Edward P. Flood
Charles W. Frank
Moses H. Krakow
Frank LaGattuta
Samuel Leo
James A. Lynch
Charles Sandler
George Schwartz
Abraham B. Tamis
Samuel Wagreich
Frederick A. Wurzbach, Jr.

Broome (3)

Elton R. Dickson
Leonard J. Flanagan
John A. Kalb

Cattaraugus (1)

Joseph A. Wintermantel

Cayuga (1)

Edward S. Platt

Chautauqua (2)

Edward L. Schwabe
Clyde L. Wilson

Chemung (2)

William T. Boland
R. Scott Howland

Chenango (1)

Norman C. Lyster

Clinton (1)

Leonard J. Schiff

Columbia (1)

John L. Edwards

Cortland (1)

George F. Nevin

Delaware (1)

Orin Q. Flint

Dutchess (3)

Frank A. Gagan
Chester H. Golding, Jr.
E. Gordon MacKenzie

Erie (8)

E. Dean Babbage
Antonio F. Bellanca
John C. Brady
Thomas S. Bumbalo
Stephen A. Graczyk
A. H. Aaron
William J. Orr
Samuel Sanes

Essex (1)

Thomas R. Cummins

Franklin (1)

Carl G. Merkel

Fulton (1)

Sylvester C. Clemans

Genesee (1)

Alfred L. George

Greene (1)

Kenneth F. Bott

Herkimer (1)

George A. Burgin

Jefferson (1)

Howard F. Drayer

Kings (24)

Julius E. Stolfi
Arthur E. Lamb
Benjamin M. Bernstein
Ben A. Borkow
Leo S. Drexler
Irving M. Pallin
John J. Flynn
Edwin A. Griffin
Alfred P. Ingegno
David Kershner
Aaron Kottler
Frederic E. Elliott
Charles H. Loughran
Harry A. Mackler
A. W. Martin Marino
John G. Masterson
Charles F. McCarty
David B. Monheit
Irving J. Sands
Solomon Schussheim
Abraham D. Segal
Milton B. Spiegel
Charles E. Spratt
Robert F. Warren

Lewis (1)

Edgar O. Boggs

Livingston (1)

George E. Lynch

Madison (1)

Felix Ottaviano

Monroe (6)

Maurice M. Maltinsky
Donovan M. Jenkins
Joseph A. Lane
Eli A. Leven
Christopher Parnall, Jr.
Roland E. Stevens

Montgomery (1)

Roman R. Violyn

Nassau (7)

Ray McCune Bowles
Gerard V. Farinola
John M. Galbraith
Stephen F. Gerde
E. Kenneth Horton
Percival A. Robin
Joseph G. Zimring

New York (25)

Philip D. Allen
Norton S. Brown
Gordon P. McNeer
Peter G. Denker
A. Wilbur Duryee
James H. Ewing
Seymour Fiske
Samuel Z. Freedman
Frances A. Harmatuk
George Himler
Ely Elliott Lazarus
William Hall Lewis, Jr.
John L. Madden
Gervais W. McAuliffe
Thomas H. McGavack
Frank J. McGowan
Peter M. Murray
Herbert S. Ogden
Henry T. Randall
William B. Rawls
Adelaide Romaine
Theresa Scanlan
Charles F. Stewart
David M. Weeks
Frederic D. Zeman

Niagara (2)

John C. Kinzly
Guy S. Philbrick

Oneida (3)

Arthur F. Gaffney
John F. Kelley
Harold L. Pender

Onondaga (5)

Irving L. Ershler
William J. Michaels, Jr.
Donald E. Moore
William E. Pelow
W. Walter Street

Ontario (1)

Philip M. Standish

Orange (3)

Robert J. Hewson
Earl C. Waterbury
Theodore R. Proper

Orleans (1)

Angelo F. Leone

Oswego (1)

Olin J. Mowry

Otsego (1)

John W. Latcher

Putnam (1)

Robert S. Cleaver

Queens (13)

Alfred A. Angrist
Sol Axelrad
William Benenson
Frank J. Cerniglia
Meyeron Coe
Albert H. Douglas
John L. Finnegan
Benjamin F. Glasser
Ferdinand H. Herrmann
George J. Lawrence, Jr.
John Edward Lowry
Anthony A. Mira
Tobias M. Watson

Rensselaer (2)

Gilbert A. Clark
Richard P. Doody

Richmond (3)

Herbert Berger
Walter T. Heldmann
Frank Tellefsen

Rockland (2)

Harold W. Grosselfinger
George Gordon Knight

St. Lawrence (1)

Henry Vinicor

Saratoga (1)

Webster M. Moriarta

Schenectady (3)

James M. Blake
Joseph H. Cornell
Donald C. Walker

Schoharie (1)

David W. Beard

Schuyler (1)

Milton J. Daus

Seneca (1)

Stanley B. Folts

Steuben (2)

Thomas S. Cotton
Maynard W. Gurnsey

Suffolk (4)

Richard M. Arkwright
Philip J. Rafle
John L. Sengstack
Sol Shlimbaum

Sullivan (1)

Sirkka E. Vuornos

Tioga (1)

Frederick K. Shaw

Tompkins (1)

C. Stewart Wallace

Ulster (2)

Eugene F. Galvin
Edward F. Shea

Warren (1)

Morris Maslon

Washington (1)

Walter S. Bennett

Wayne (1)

James H. Arseneau

Westchester (7)

David Fertig
Edwin L. Harmon
Reid R. Heffner
Henry E. McGarvey
Hollis K. Russell
Waring Willis
Christopher Wood

Wyoming (1)

Willard J. Chapin

Yates (1)

William G. Roberts

Dr. Wolff: Is there anyone whose name I have not called?

Vice-Speaker Williams: Is there any delegate whose name has not been called? Has every delegate whose name has been called cast his ballot?

Speaker Holcomb: Thank you, Dr. Wolff! Gentlemen, are all the ballots cast? We are about ready to close the ballot box. Is there anyone in the House eligible to cast a ballot whose name has not been called?

Dr. Brady: I have not voted yet.

Speaker Holcomb: While we are waiting for the late Dr. Brady to cast his ballot, Dr. Kenney has a brief announcement.

Dr. J. Stanley Kenney: Mr. Speaker and gentlemen of the House, the Blood Banks Association annual meeting, for those of you who are either institutional or individual members, will be held this afternoon at 2 P.M. in the St. Louis Room on the mezzanine—2 P.M. in the St. Louis Room on the mezzanine.

While I am here I would like to express the thanks of the board for the tolerance of this House during the debate last night. Thank you!

Vice-Speaker Williams: The speaker has been asked to announce there will be a meeting of the Planning Committee on adjournment of this meeting at the rear of the House.

If the delegates will resume their places, we have some business to transact while the tellers count the ballots.

I am reminded by the secretary this is an ideal opportunity to announce that the tickets for the dinner dance are still on sale.

Now that Dr. Brady's ballot has been cast, I declare the ballot box closed.

There are a few items of business that the House still wants to transact, and one of course is to take official recognition of our very outstanding guest, our member, and our most eminent past speaker, Dr. Louis H. Bauer. Take a bow, Louis. (*Applause*) On behalf of the speaker and vice-speaker we thank you for all of your assistance.

The tellers will meet in the foyer at the far end. Will the other members who are not tellers come to the front of the House, and we will proceed with the business.

The Chair now recognizes Dr. Willis, of Westchester, on a motion to reconsider.

Section 149 (See 51, 105)

Reconsideration of Report of Reference Committee on Report of Council, Part IX: Amendment to New York State Education Law

Dr. Waring Willis, *Westchester:* Mr. Speaker, as one of the delegates who voted affirmatively on the report of the Reference Committee, Council Part IX, I request a reconsideration of that part of the report relative to resolution 55-18 which concerns itself with advertising in the newspapers.

Dr. Irving J. Sands, *Kings:* I second it.

Vice-Speaker Williams: Have you a copy of the resolution? Will you the first thing in the discussion read the resolution so everybody knows what it is about? It might be better, Dr. McGarvey, if you came up to the rostrum.

The purpose of reconsideration is that there is still more information to be submitted to you which was not submitted to the reference committee.

Dr. Henry E. McGarvey, *Westchester:* Mr. Speaker, this resolution is presented by the Medical Society of the County of Westchester, subject: "Amendment to New York State Education Law":

Whereas, the New York State Education Law specifically provides that a practitioner of dentistry, dental hygiene, or podiatry may be censured, reprimanded, or otherwise disciplined or his license suspended, revoked, or annulled upon due hearing in any of the following cases: "That the practitioner has advertised for patronage by means of handbills, posters, circulars, stereopticon slides, motion pictures, radio, television, newspapers, magazines, or other articles, or any other printed publications, or mediums, etc." but does not apply the same restrictions to practitioners of osteopathy, physiotherapy, or medicine, who are considered conjointly by the statute; and

Whereas, this limitation of the statute's purview leaves osteopathy, physiotherapy, and medicine, the father of all the healing arts professions, with no recourse against this form of cheap commercialism despite the fact that their practitioners deem advertising or solicitation for patronage in any form whatsoever to be highly objectionable, improper, and unethical; therefore be it hereby

Resolved, that the Medical Society of the State of New York foster legislation to amend Section 6514, Subdivision 2 (d) of the New York State Education Law to read as follows: "(d) That a physician, osteopath, or physiotherapist, offered, undertook, or agreed to cure, or treat, disease by a secret method, procedure, treatment, or medicine, or that he treat, operate, and prescribe for any human condition by a method, means, or procedure which he refuses to divulge upon demand to the Committee on Grievances; or that he has solicited or advertised for patronage, by means of handbills, posters, circulars, letters, stereopticon slides, motion pictures, radio, television, newspapers, magazines, display advertising in telephone directories, or by any other printed publications, means or mediums"; and be it further

Resolved, that fosterage of the proposed amendment by the Medical Society of the State of New York be in the form of a mandate to its Committee on Legislation which shall include the following behests:

(*a*) That a bill, or comprehensive memorandum, be drafted for introduction to the forthcoming session of the New York State Legislature which would, if approved by that body, effectuate the desired amendment;

(*b*) That a determined effort be made to maintain and further the sympathetic and supportive liaison with the New York State Societies of Osteopathy and Physiotherapy, already established by the Medical Society of the County of Westchester regarding this mutually beneficial legislative effort;

(*c*) That as soon as the bill is introduced to the lawmakers, the proper officials of the component county medical societies, of organized osteopathy and physiotherapy, and of the Woman's Auxiliary be alerted so that they may

> employ every facility at their disposal to influence the legislators from their respective districts and all involved committees to vote the proposed measure favorably; and be it further
>
> *Resolved*, that a copy of this resolution be sent to the Chancellor of the Board of Regents and the Commissioner for Professional Education of the University of the State of New York.

I want to apologize to you gentlemen for having to take this time. Due to inadvertence on my part I did not meet with Dr. Freedman's committee because at that moment—I thought nobody would have any objection to calling advertising unethical—at that moment I was trying to convince the Malpractice Insurance and Defense Board that we in Westchester still drive a horse and buggy, so they should move our rate upstate. That was a very difficult job.

I would like to explain this. I happen to be a member of the Medical Grievance Committee, and in this audience is Dr. Street who is the chairman of it, and Dr. Griffin who is a member of it, and I think Dr. Stiles B. Ezell is here from the State Education Department. The State Department of Education put this bill in the Legislature some years ago, and presumably a newspaper lobby defeated it. We had a case that came up not long ago, and the doctor's defense was that he thought the medium that he used to advertise was a newspaper. Unfortunately, it was a magazine. That is O.K. for a doctor to advertise in. Anyway, you get him at the county level, and of course at the hospital level, but there can be nothing done about censure, reprimand, suspension, or revocation of license.

At the last meeting of the Grievance Committee, the State Education Department practically requested and took a hand vote of this Grievance Committee—"Let Westchester (because I always do it) take this to the House of Delegates and make the State Medical Society sponsor a law. We can do nothing with it." I have letters from the Attorney General and other people high up in the Department—I have not permission to read them, nor has it been asked for—strongly supporting this bill, and they will strongly support it. It is a medical procedure. I think that the men misunderstood all this because they did not vote in favor, although they did not turn it down. That is the reason we have asked for a reconsideration.

Thank you!

Vice-Speaker Williams: Thank you, Dr. McGarvey!

Do you move the adoption of the resolution?

Dr. McGarvey: Yes, I do.

Dr. Edwin A. Griffin, *Kings*: I second it.

Vice-Speaker Williams: Is there any discussion?

Dr. Frederick A. Wurzbach, Jr., *Bronx:* As a matter of information, what was the action of the House?

Vice-Speaker Williams: Dr. Freedman was chairman of the Reference Committee on Legislation, and it was referred to them. Dr. Freedman will read the action.

Dr. Samuel Z. Freedman, *New York:* I recall what the action was. Might I explain that the action was not to do anything about it because—and this is what happened—the committee was very favorably impressed with this resolution, but then we heard just the reverse. Some people were around and said, "In view of the fact that the Board of Regents is now considering amplifying the matter of unprofessional conduct, and there is a committee out in this House which is working on the revision of the entire Medical Practice Act, do nothing about it." We assumed that they would take care of it. We were advised to leave it alone, and it was on that basis that we came in with the recommendation that nothing be done about it. Of course, it was unfortunate that Dr. McGarvey could not appear before the committee because we were impressed with the resolution as we read it.

This morning we had a meeting of four members out of five—I could not get in touch with Dr. Galvin—and the four out of five definitely recommend that this be passed, and I so move for the reference committee.

Vice-Speaker Williams: Is there any further discussion?

Dr. A. W. Martin Marino, *Kings:* I would like this resolution to be amended for this reason: We are interested in the health of the public as individuals. We are not permitted in our ethics to consult with the osteopaths. In this resolution there are three references to osteopathy as helpers to us in the passage of this resolution or its implementation. Therefore, I move that all reference to osteopathy be removed.

Vice-Speaker Williams: You move an amendment?

Dr. Marino: Yes.

Vice-Speaker Williams: Does anybody second that, that all reference to osteopathy be deleted.

Dr. Arthur E. Lamb, *Kings:* I second it.

Vice-Speaker Williams: Is there any discussion of the amendment?

Dr. Christopher Parnall, Jr., *Monroe:* Mr. Speaker, since osteopathy is legally recognized in this State, would it be proper to pass such an amendment? It seems to me that it would be best to leave the original resolution as it is.

Dr. McGarvey: I would like to reiterate what Dr. Parnall said. Osteopathy is recognized by the State Education Department, and they are licensed, and they are brought up. There is an osteopath who sits on the Grievance Committee. A lot of the physical therapy gentlemen are M.D.'s. The only reason that I included them is that they are included in the same paragraph of the State Education Law, and I knew no way that we could take them out.

Dr. William B. Rawls, *New York:* I would like to second what Dr. Marino has said. We do not have to ask the help of the osteopaths. If the osteopaths want to bring in a similar resolution from their own group, all right. I am in favor of the Medical Society of the State of New York going on record against advertising but not inviting the aid and help of the osteopaths in doing this. Let us do it on our own, that we don't have advertising. I would like to support the amendment that this be completely eliminated, and we can eliminate the osteopaths. If we can't eliminate them, I would be against the resolution as a whole.

Dr. Thomas H. McGavack, *New York:* I was raising the question whether we ought not to rescind the previous action before taken instead of to reconsider.

Dr. Freedman: May I say a word? That matter was brought up before the reference committee, and the question of not getting too close to the osteopaths was considered, and it was threshed out quite a bit. In order to prevent anybody from thinking we are doing something that might by some stretch of the imagination be considered unethical—and you would have to have quite a good deal of imagination to think you are doing anything that is unethical—I would suggest that the second resolved—

Vice-Speaker Williams: We are on the amendment.

Dr. Freedman: The amendment was accepted to cut out the osteopaths, not to cut them off.

Vice-Speaker Williams: We have not voted on that yet. It was moved and seconded, and we are on the discussion of the amendment to eliminate the osteopath.

Dr. Freedman: That is exactly what I am discussing. That section (b) of the second resolved which requires, "that a determined effort be made to maintain the further the sympathetic and supportive liaison with the New York State Societies of Osteopathy and Physiotherapy"; and also in section (c) of that second resolved where it asks the help of organized osteopathy, I see no objection to cutting those parts out, and that will not hurt the bill and at the same time will take care of any possible unpleasantness on our part in dealing with the osteopaths. I would so suggest.

Dr. W. Walter Street, *Onondaga:* As chairman of the committee, I would like to call your attention to the fact that the State Education Law very specifically includes osteopaths as well as allopaths in the law so what we are trying to do is to amend or to change the wording so as to include newspapers. I think the amendment of the provisions as suggested by the chairman of the reference committee in reference to the osteopaths could be carried out and the osteopaths omitted, but fundamentally in the law the term is there. They are licensed, and we cannot change that part. What we are after is to eliminate the ability of you gentlemen to advertise in the newspapers.

Vice-Speaker Williams: The amendment was to eliminate any reference of osteopathy as far as we are concerned, not to try to limit the law to doctors. Was that not so, Dr. Marino?

Dr. Marino: Right.

Dr. Street: I think Dr. Marino's point is well taken.

Dr. McGavack: I would like to accept the amendment.

Vice-Speaker Williams: The amendment stands accepted. We will vote on the amendment. It will make it easier and proper. Is there any further discussion on the amendment?

... The question was called, and the motion was put to a vote and was unanimously carried...

Dr. Freedman: I move the adoption of the resolution as amended.

Dr. Griffin: I second it.

... There being no discussion, the motion was put to a vote and was unanimously carried...

Section 150

Motion To Edit Minutes

Dr. Gerald D. Dorman, *Councillor:* I would like to move you that the secretary have the power to edit the minutes of this meeting.

Dr. A. W. Martin Marino, *Kings:* I second that.

... There being no discussion, the motion was put to a vote and was unaminously carried...

Section 151

Votes of Thanks

Dr. A. W. Martin Marino, *Kings:* Mr. Speaker and members of the House, anyone who has had experience at conducting a convention such as the one we are now attending, and will continue for the next few days, knows what a terrific job it is to assemble all the talent and all the gimmicks that are necessary for a thing such as this. I would like to take this opportunity to thank Dr. d'Angelo, the chairman of the committee, and his committee for the wonderful job they have done thus far, and are continuing to do.

... The motion was seconded from various parts of the House, and as there was no discussion, it was put to a vote and was unanimously carried...

Dr. Percival A. Robin, *Nassau:* Could you tell me for a point of information what action was taken on 55-16, discontinuance of annual scientific meeting of the Ninth District Branch?

Delegate: It was passed.

Vice-Speaker Williams: Hold that in abeyance until we can get the information.

Dr. Frederick A. Wurzbach, Jr., *Bronx:* Mr. Speaker, I want to make a motion that the House extend a vote of thanks to Dr. Alfred Ingegno for his work in the preparation and presentation of the scientific program.

Dr. Gerald D. Dorman, *Councillor:* I second that.

Dr. Marino: I would like to amend that. I would like to include the name of the cochairman, on whom Dr. Ingegno depended so much, Dr. Julius E. Stolfi.

Dr. Wurzbach: I accept that as part of the original motion.

... There being no discussion, the motion was put to a vote and was unanimously carried...

Dr. Arthur Lamb, *Kings:* Mr. Chairman and members of the House, I move you that the House extend our thanks to the chairman, William L. Watson, and the cochairman, Beverly C. Smith, of the Committee on Scientific Exhibits.

Dr. Marino: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Samuel Leo, *Bronx:* I would like to move you a vote of thanks be given to Mr. Alexander, the office manager, for the help given in conducting our meeting.

Dr. Gerald D. Dorman, *Councillor:* I second that.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Vice-Speaker Williams: Dr. Robin, the secretary will read the disposition of the resolution you inquired about.

Secretary Anderton: Report of the Reference Committee on the Reports of the Secretary, Judicial Council, and District Branches:

> "Regarding the reports of the district branches, your committee was in accord with the resolution of the Ninth District Branch relative to discontinuance of its annual scientific meeting. We recommend approval of this resolution."

That was passed.

Dr. Robin: Thank you.

Dr. Alfred P. Ingegno, *Kings:* I know these things are usually prearranged, but there seems to have been an omission. I think everybody in this House appreciates very much what a difficult job it is to preside and control a session such as this, which at times can become very hectic. I, therefore, move a rising vote of thanks for the tremendous way in which our speaker and vice-speaker conducted this meeting.

. . . The members arose and applauded . . .

Speaker Holcomb: For Dr. Williams and myself, I certainly thank this House from the bottom of my heart. We appreciate the long suffering of the delegates having to go through this session. You have displayed a wonderful spirit of cooperation and patience, and we are very happy about it.

I certainly at this time would like to entertain a motion to thank our staff, Dr. Anderton, Miss Dougherty, Miss Lewis, and all the staff that have done such splendid work—Miss Buckley, all of them. I think we should extend a very deep vote of thanks for their splendid work to this most capable group.

Dr. Dorman: I so move.

Dr. Gervais W. McAuliffe, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: Is there any other business at this time?

Secretary Anderton: Election of retired members.

Section 152

Election of Retired Members

Speaker Holcomb: Dr. Anderton will read the list of retired members.

Secretary Anderton: I move that this House elect to retired membership of the Medical Society of the State of New York the gentlemen whose names are listed in the booklet program of this 149th Annual Meeting on pages 8, 9, 10, and 11 and in addition the following doctors:

Oscar T. Barber, *Fredonia*
Murray Harold Bass, *New York City*
John C. Dessloch, *Rochester*
Valerio A. DiSant'Agnese, *New York City*
Louis Drosin, *New York City*
Russell S. Fowler, *Brooklyn*
John Munn Hanford, *New York City*
Charles Gordon Heyd, *New York City*
Irwin Johnston, *Lathams*
Fred S. Julius, *New York City*
Charles A. Krauss, *Watervliet*
Joseph Francis McCarthy, *New York City*
John J. McGowan, *New York City*
Sutherland Miller, *Brooklyn*
Herbert Mohan, *New York City*
Clarence Clark Nesbitt, *Palmyra*
Paul Pick, *New York City*
Benjamin Rosenbluth, *New York City*
Isadore Williams, *New York City*

Dr. Gerald D. Dorman, *Councillor:* I second that motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried, the list in the booklet program being as follows:

Benjamin Abramowitz, *Monticello*
Samuel D. Abrams, *Inwood*
David Adler, *New York City*
Ludwig Adler, *New York City*
Harvey S. Albertson, *Oswego*
Harry Eugene Anthony, *Moravia* (retroactive to May, 1954)
Horace E. Ayers, *New York City*
Cameron Vernon Bailey, *Newtown, Connecticut*
Frederic Wolcott Bancroft, *New York City*
Clarence G. Bandler, *New York City*
James H. Bennett, *Baldwinsville*
Inez A. Bentley, *New York City*
Benjamin Berger, *New York City*
Morris Bobrow, *New York City*
Theron B. Bond, *Geneva*
Eugene N. Boudreau, *Syracuse*
Margaret Powell Brewster, *Elsinore, California*
George E. Brockway, *Brooklyn*
Mortimer G. Brown, *Syracuse*
E. Howard Burnes, *Rochester*
Judson Murl Burt, *Caledonia*
Arthur Freeborn Chace, *New York City*
Noble R. Chambers, *Syracuse*
Willi Cohen, *New York City*
Franz A. Colmers, *New York City*
William G. Cooper, *Ogdensburg*
Mary M. Crawford, *New York City*
Thomas S. Cusack, *Brooklyn*
Harold Post Denniston, *Ithaca*
John Victor Donnet, *Phoenix, Arizona*
George J. Doyle, *Brooklyn*
Fred F. Drury, *Gouverneur*
Peter James Dulligan, *Brooklyn*
Cameron Duncan, *Brooklyn*
Eugene A. Dupin, *New York City*
Cary Eggleston, *New York City*
Charles E. Elkins, *Massena*
John A. Faiella, *Yonkers*
John F. Fairbairn, *Buffalo*
Alfred George Feitler, *Elmhurst*
Pauline Feldmann, *New York City*
Morris R. Fischbein, *Rochester*
Theodore E. Flemming, *Gardenville*
Nathan Chandler Foot, *Bronxville*
Morton L. Funk, *Brooklyn*
William F. Gallivan, *Buffalo*
John Ernest Gignoux, *New York City*
Henry B. Gillen, *Cohoes*
David F. Gillette, *Syracuse*
Charles Ginsberg, *New York City*

Henry William Gissel, *Brooklyn*
Emil Goetsch, *Brooklyn*
S. Philip Goodhart, *New York City*
Ernest Grafenberg, *New York City*
Willard S. Hastings, *Canandaigua*
Julian Hawthorne, *Rye*
Sigmund Hecht, *New York City*
Joseph Heine, *New York City*
Walter Heinemann, *New York City* (retroactive to May, 1954)
Sara Hirsdansky, *Poughkeepsie*
Seymour L. Homrighouse, *Amsterdam*
Frank A. Johnston, *Kingston* (retroactive to January 1, 1953)
Harry Isaac Johnston, *Binghamton*
Thyra H. Josselyn, *Staten Island*
L. Jean Kaplan, *Brooklyn*
William G. Keens, *Albany*
Josephine H. Kenyon, *Boulder, Colorado*
John D. Kernan, *New York City*
Harry E. Kleinschmidt, *Manhasset*
John Rudolph Knapp, *North Wales, Pennsylvania*
Vera H. Koshkin, *New York City*
Frank Kruse, *Buffalo*
Frederic Joseph Labruier, *San Diego, California*
T. Irvin Lane, *Ossining*
Dorothy Lang, *White Plains*
Harold W. Lathrop, *New York City*
Carl Henry Laws, *Brooklyn*
William Lehrich, *Brooklyn*
Elise Strang L'Esperance, *Pelham Manor*
Hyman L. Levin, *Buffalo*
Thomas A. Lewis, *Hammond*
Abraham Lightstone, *New York City*
Marion Franklin Loew, *New York City*
Morris Sheldon Lord, *Schenectady*
D. Philip MacGuire, *Staten Island*
M. Douglas MacLeod, *New York City*
Max Maier, *New York City*
M. Joseph Mandelbaum, *New York City*
Herbert D. Manley, *New York City*
Heman Royce Marvin, *Lyon Mountain*
Howard Harris Mason, *New York City*
Harvey B. Matthews, *Brooklyn*
Ewing C. MacBeath, *New York City*
Maurice J. McGrath, *Oswego*
Walter Austin McLaren, *Norwalk, Connecticut*
Charles Mehlmann, *Bronx*
Karl G. M. Meyer, *New York City*
Frederick C. Meyers, *Briarcliff Manor*
Clyde Kennedy Miller, *Staatsburg*
Joseph Mistretta, *New York City*
Joseph L. Moore, *Brooklyn*
Richard W. Moriarty, *Bradenton, Florida*
Ashley B. Morrill, *Bronxville*
Austin G. Morris, *Rochester*
Carl E. Muench, *Syracuse*
Samuel Archer Munford, *Clifton Springs*
David H. Orgel, *New York City*
John Randolph Page, *New York City*
Louis Allen Parmenter, *Corinth*
Emil A. Pascal, *New York City*
Jesse R. Pawling, *Melbourne, Florida*
Roy E. Platner, *Liverpool*
Samuel J. Post, *Center Moriches*
Samuel A. Preiser, *New York City*
Giuseppe Previtali, *New York City*
Joseph Raphael, *Brooklyn*
Clarence A. Read, *New Rochelle*
John David Richards, *New York City*
Willy Rieser, *New York City*
George L. Rohdenburg, *New York City*
Isadore Rosen, *New York City*
Jacob Rosenbluth, *New York City*
Samuel Rosenzweig, *Bronx*
Meyer M. Rotkin, *Flushing*
Clarence O. Rottger, *Buffalo*
David Sackin, *New York City*
Sebastian Saladino, *Stuart, Florida*
Aaron Samuelson, *Woodside*
Lincoln M. Saulpaugh, *Ancramdale*
Kaufman Schlivek, *New York City* (*deceased*)
Henry W. Schoeneck, Sr., *Syracuse*
Frederick Schroeder, Jr., *Brooklyn*
Moses H. Seley, *Brooklyn*
Samuel Shaftel, *Brooklyn*
Grace J. Shaver, *Elma*
William Sherwood, *New York City*
Daniel F. Shields, *Bronx*
Vernon J. Snyder, *Syracuse*
Shirley E. Sprague, *New York City*
Edgar E. Stewart, *Great Neck*
John G. Stowe, *Buffalo*
Charles L. Suttles, *Tuckahoe*
William Thalhimer, *New York City*
W. S. Thomas, *Rochester*
Henrietta S. Tienken, *New York City*
Joseph H. Toomey, *New York City*
Robert E. Walsh, *West Redding, Connecticut*
Abraham Walzer, *Brooklyn*
Frank Keen T. Warrick, *Inlet*
Raymond G. Wearne, *Poughkeepsie*
Aaron V. Weinberger, *New York City*
Sigmund Weinberger, *Jackson Heights*
Claude C. Williamson, *Gorham*
Joseph R. Wiseman, *Syracuse*
Henry Wolfer, *Monterey, Massachusetts*
Melvin Woodhead, *Amsterdam*
Joseph Ziporkes, *New York City*

Dr. George J. Lawrence, Jr., *Queens:* Mr. Speaker, I move that the name of Dr. Robert Vincent Williams be included, and that he be elected to retired membership. Dr. Williams has recently become very ill. His age is sixty-nine, but he will soon be seventy. He was voted for retired membership last Friday night too late to be added to the list, so I move he be added.

Dr. Frank J. Cerniglia, *Queens:* I second that.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 153

Votes of Thanks

Dr. Thomas M. d'Angelo, *Assistant Treasurer:* Mr. Chairman and members of the House, although we voted to extend a vote of thanks to our staff for arranging this convention, I particularly want to add the names of Miss Mollie Pesikoff and Mr. Charles L. Baldwin for a vote of thanks for the excellent work they did in particular.

Dr. Alfred P. Ingegno, *Brooklyn:* I second that.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: Inadvertently we have not mentioned the hospitality and cooperation of the management of our hotel. The Chair will entertain such a motion.

Secretary Anderton: Mr. Speaker, I have composed the following motion:

> *Resolved,* that the management of the Hotel Statler, Buffalo, is hereby extended a vote of thanks for the way they have taken care of us.

Dr. Thomas H. McGavack, *New York:* I second that.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Samuel Sanes, *Erie:* The Medical Society of the County of Erie is very happy to have the meeting here this year. We hope you will enjoy your stay and do so for the rest of the week. We want to express our appreciation to the House for voting Buffalo as the meeting place in 1957. We will do everything we can to make that a better meeting even than this and will extend our best hospitality at that time.

SPEAKER HOLCOMB: Thank you, Dr. Sanes.

I think every delegate will echo my thought that we have always enjoyed our meetings very much in Buffalo. We get together and have a very pleasant time here.

The Chair will call a few minutes recess at this time until the tellers complete their work.

. . . Recess . . .

Section 154 (See 148)

Election: Results

SPEAKER HOLCOMB: The House will please come to order.

Dr. McCarty, will you please present your report to the House?

DR. CHARLES F. MCCARTY, *Kings:* There were 223 ballots cast.

Assistant Treasurer

Samuel Z. Freedman	107
Thomas M. d'Angelo	78

SPEAKER HOLCOMB: I declare Dr. Freedman elected to the office of assistant treasurer.

DR. MCCARTY:

Delegates to the A.M.A.

Dan Mellen	166
A. H. Aaron	158
James Greenough	155
Peter J. Di Natale	149
Peter Murray	145
J. Stanley Kenney	137
Norman S. Moore	134
Renato J. Azzari	134
Frederic W. Holcomb	121

SPEAKER HOLCOMB: That is nine. The speaker declares the names as read to be the nine A.M.A. delegates. Now for the alternates.

DR. MCCARTY:

Alternate Delegates to A.M.A.

Maurice J. Dattelbaum	111
Leo E. Gibson	111

That is a tie for tenth place.

John J. Masterson	100
William B. Rawls	99
Andrew A. Eggston	69
Thomas M. d'Angelo	45
John M. Galbraith	24
Henry E. McGarvey	20
James M. Blake	18

SPEAKER HOLCOMB: The speaker declares the list elected as alternate delegates to the A.M.A.

Thank you, Dr. McCarty. My thanks to Dr. McCarty and the tellers.

Is there any further business to come before the members of the House of Delegates before adjourning this 149th meeting of the House of Delegates?

If not, I would like to express my thanks to Dr. Fred Williams, our very capable, calm, and efficient vice-speaker. He has been, as I know you realize, invaluable to me in conducting this meeting. I cannot tell him how deeply I thank him.

I particularly wish to thank at this time the work of the reference committees of this House of Delegates. Without their hours of work and the very capable preparation of the reports by the chairmen of the respective reference committees I believe that every member of this House realizes that our sessions would have been very much more difficult. To the chairmen of these respective reference committees I wish to extend my deep appreciation.

I also at this time again wish to thank our staff, Dr. Anderton, Miss Dougherty, and all our assistants for the work that they have done. We have had a trying session, and I expected, very frankly, lots more difficulty than we had.

In adjourning the House, I hope for a successful year, and I thank you again for my election not only as speaker but as a delegate to the A.M.A. house.

. . . The meeting was adjourned at 11:37 A.M., sine die . . .

Medical Society of the State of New York
Schedule of District Branch Meetings, 1955

District	*Date*	*Town*	*Place*	*Time*
First	(during Annual Meeting of Medical Society of the State of New York)			
Second	Wednesday, September 14	Smithtown	Riverside Inn	Dinner Evening
Third	Thursday, September 15	Hudson	Elks Club	Morning Lunch Afternoon
Fourth*	Wednesday, October 19	Glens Falls	Queensbury Hotel	Luncheon
Fifth	Thursday, October 27	Utica	Hotel Utica	Afternoon
Sixth	Wednesday, October 26	Elmira	Arnot-Ogden Hospital	Afternoon Dinner Evening
Seventh	Thursday, September 29	Rochester	Oak Hill Country Club	Morning Lunch Afternoon
Eighth	Wednesday, September 28	Niagara Falls	Hotel Niagara	Afternoon Dinner
Ninth	Wednesday, October 5	West Point	Hotel Thayer	Dinner Evening

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* Executive committee only.

MEDICAL SOCIETY
OF THE
STATE OF NEW YORK

150th

ANNUAL CONVENTION

- **House of Delegates**
- **Annual Meeting and Banquet**
- **Scientific Program**
- **Scientific Exhibits**
- **Scientific Motion Pictures**
- **Special Events**
- **Technical Exhibits**
- **Woman's Auxiliary**

May 7 to 11, 1956

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New York State Journal of Medicine

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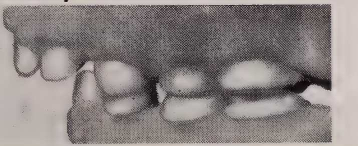

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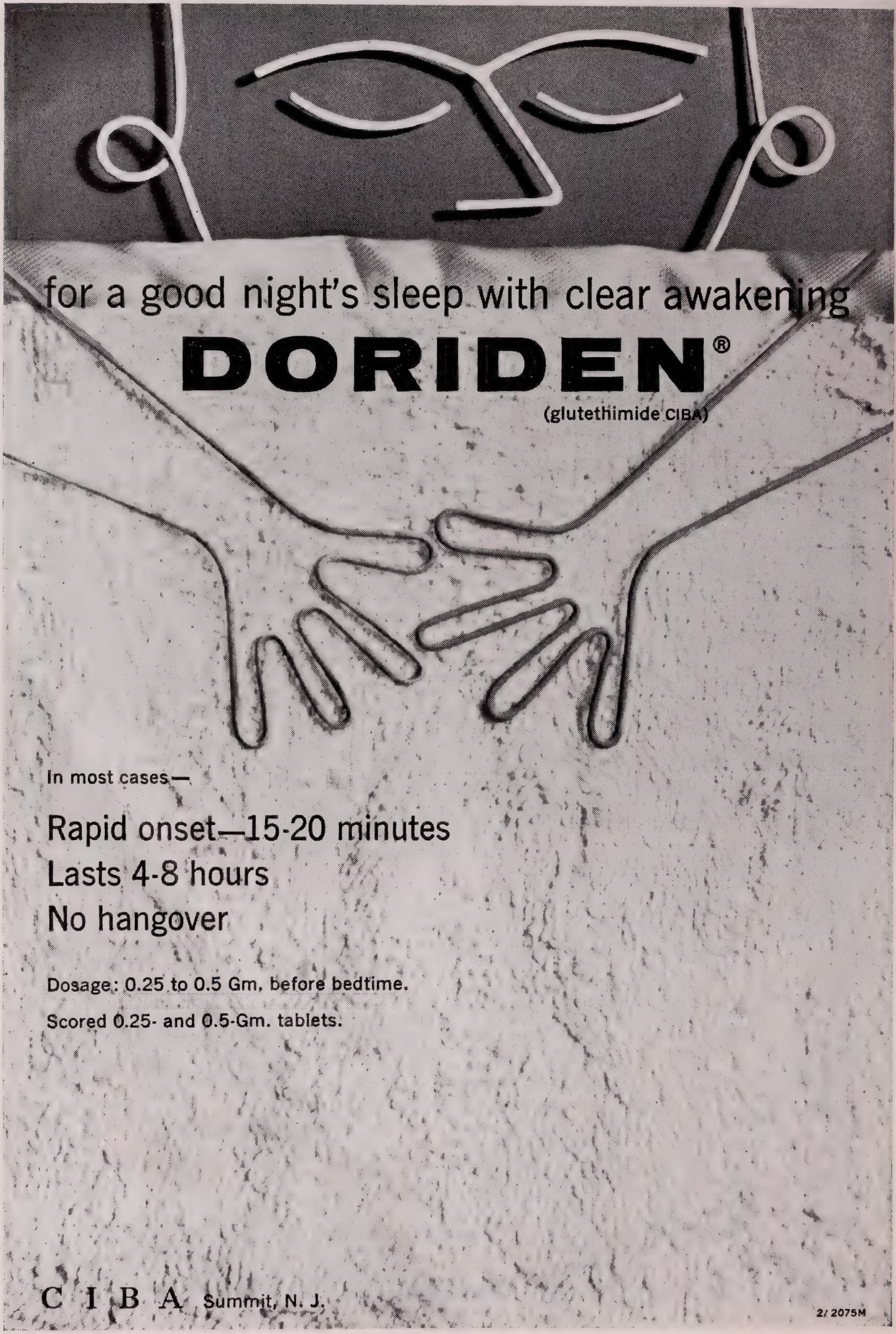

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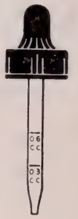

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